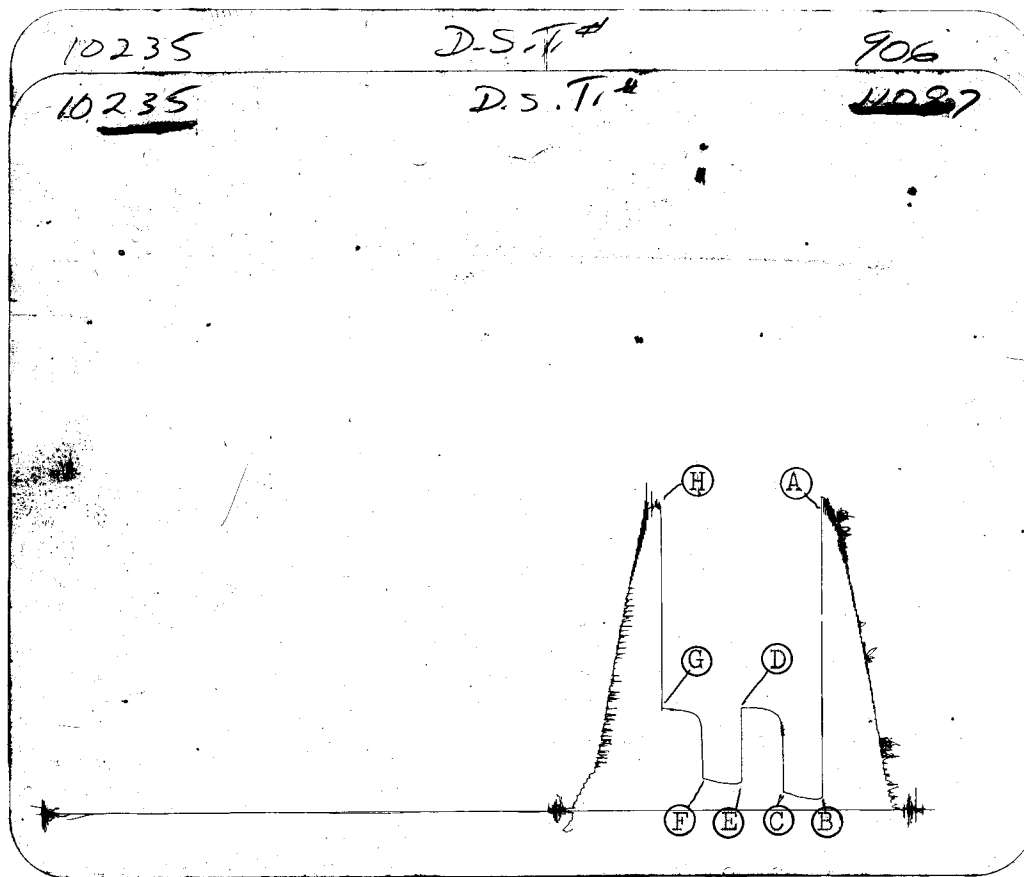


(316) 792-6902

Superior Testers Enterprises, Inc. shall not be liable for damage of any kind to the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	1781	1778	P.S.I.
(B) First Initial Flow Pressure	59	66	P.S.I.
(C) First Final Flow Pressure	99	95	P.S.I.
(D) Initial Closed-in Pressure	585	579	P.S.I.
(E) Second Initial Flow Pressure	151	154	P.S.I.
(F) Second Final Flow Pressure	176	177	P.S.I.
(G) Final Closed-in Pressure	585	580	P.S.I.
(H) Final Hydrostatic Mud	1770	1719	P.S.I.

SUPERIOR TESTERS ENTERPRISES INC.

WELL IDENTIFICATION DATA

COMPANY : McNAMES & PATTERSON WELL NAME : DRIELING #1
ADDRESS : P.O. BOX 20058, WICHITA LOCATION : NE-SW-NE 21-13-20
STATE & COUNTY : KANSAS, ELLIS FIELD :
ELEV. (GR) : 2184 (KB) : 2189 TEST DATE : 9-15-1988

EQUIPMENT AND HOLE DATA

FORMATION TESTED : LANSING "A" ZONE DRILL PIPE LENGTH(ft) : 2666
TEST INT. KB : 3451 to 3475 DRILL PIPE O.D. (in) : 3.82
ANCHOR LENGTH(ft) : 24 WEIGHT PIPE LENGTH(ft) : 766
TYPE OF TEST : Conventional WEIGHT PIPE ID : 2.75
TOTAL DEPTH(ft-kb) : 3475 DRILL COLLAR LENGTH(ft) :
MAIN HOLE SIZE(in) : 7 7/8 DRILL COLLAR I.D. (in) : 2.259
MUD WEIGHT : 9.5 TOP PACKER DEPTH(kb) : 3446
MUD VISCOSITY : 41 BOTTOM PACKER DEPTH(kb) : 3451
MUD CHLORIDES : DUAL PACKERS :
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) : 98 TEST TICKET NUMBER : 10235

EXTRA EQUIPMENT :

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

SURFACE BLOW

1st Opening : FAIR BLOW BUILT TO BOTTOM OF THE BUCKET IN 20 MIN.
2nd Opening : FAIR BLOW BUILT TO 1/2 INCH FROM BOTTOM OF BUCKET

RECOVERY

Recovered 15 feet of OIL CUT MUDDY WATER
Recovered 170 feet of SLIGHTLY OIL CUT MUDDY WATER
Recovered 180 feet of MUDDY WATER WITH A TRACE OF OIL

REMARKS :

WITNESSED BY : JERRY HONAS

TOOL OPERATOR : GENE BUDIG

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES INC.

SUPERIOR TESTERS ENTERPRISES INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : McNAMES & PATTERSON
 DATE OF TEST : 9-15-1988
 DEPTH : 3472.0

WELL NAME : DRIELING #1
 LOCATION : NE-SW-NE 21-13-20
 SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			CALC	CORR	CORRECTED
TEST NO.:1					
Depth : 3472.0 ft-kb					
-1ST HYDROSTATIC	0.0	1.616	1773.35	4.67	1778.02
-2:00 1ST FLOW	0.0	.054	64.15	-4.68	59.47
- 2:05	5.0	.055	65.24	-4.67	60.57
- 2:10	10.0	.059	69.62	-4.64	64.98
- 2:15	15.0	.063	74.00	-4.62	69.38
- 2:20	20.0	.068	79.47	-4.58	74.89
- 2:25	25.0	.080	92.60	-4.49	88.11
- 2:28	28.0	.087	100.26	-4.45	95.81
-2:28 END FLOW	0.0	.087	100.26	-4.45	95.81
- 2:31	3.0	.477	527.01	-1.68	525.33
- 2:34	6.0	.496	547.80	-1.55	546.26
- 2:37	9.0	.510	563.12	-1.45	561.67
- 2:40	12.0	.519	572.97	-1.38	571.59
- 2:43	15.0	.524	578.44	-1.35	577.09
- 2:46	18.0	.525	579.54	-1.34	578.19
- 2:49	21.0	.526	580.63	-1.33	579.30
- 2:52	24.0	.526	580.63	-1.33	579.30
- 2:55	27.0	.526	580.63	-1.33	579.30
- 2:59	31.0	.526	580.63	-1.33	579.30
-2:29 1ST SHUT-IN	0.0	.526	580.63	-1.33	579.30
-2:29 2ND FLOW	0.0	.138	156.07	-4.08	151.98
- 2:34	5.0	.138	156.07	-4.08	151.98
- 2:39	10.0	.138	156.07	-4.08	151.98
- 2:44	15.0	.141	159.35	-4.06	155.29
- 2:49	20.0	.148	167.01	-4.01	163.00
- 2:54	25.0	.156	175.76	-3.96	171.81
- 2:57	28.0	.161	181.23	-3.92	177.31
-3:27 END FLOW	0.0	.161	181.23	-3.92	177.31
- 3:30	3.0	.477	527.01	-1.68	525.33
- 3:33	6.0	.493	544.52	-1.57	542.95
- 3:36	9.0	.501	553.27	-1.51	551.76
- 3:39	12.0	.506	558.75	-1.48	557.27
- 3:42	15.0	.511	564.22	-1.44	562.78
- 3:45	18.0	.513	566.40	-1.43	564.98
- 3:48	21.0	.516	569.69	-1.41	568.28
- 3:51	24.0	.517	570.78	-1.40	569.38
- 3:54	27.0	.520	574.06	-1.38	572.69
- 3:57	30.0	.527	581.72	-1.33	580.40
-3:57 2ND SHUT-IN	0.0	.527	581.72	-1.33	580.40
-2ND HYDROSTATIC	0.0	1.563	1715.35	4.43	1719.78

CALCULATED RECOVERY ANALYSIS

DST Number:1

Test ticket number:10235

Sample #	Total Feet	***** Gas ***** %	***** Oil ***** Feet	***** Mud ***** %	***** Feet
1	15	7.00	1.05	21.00	3.15
2	170	2.00	3.40	4.00	6.80
3	180	0.00	0.00	0.00	0.00
TOTAL	365	1.22	4.45	2.73	9.95

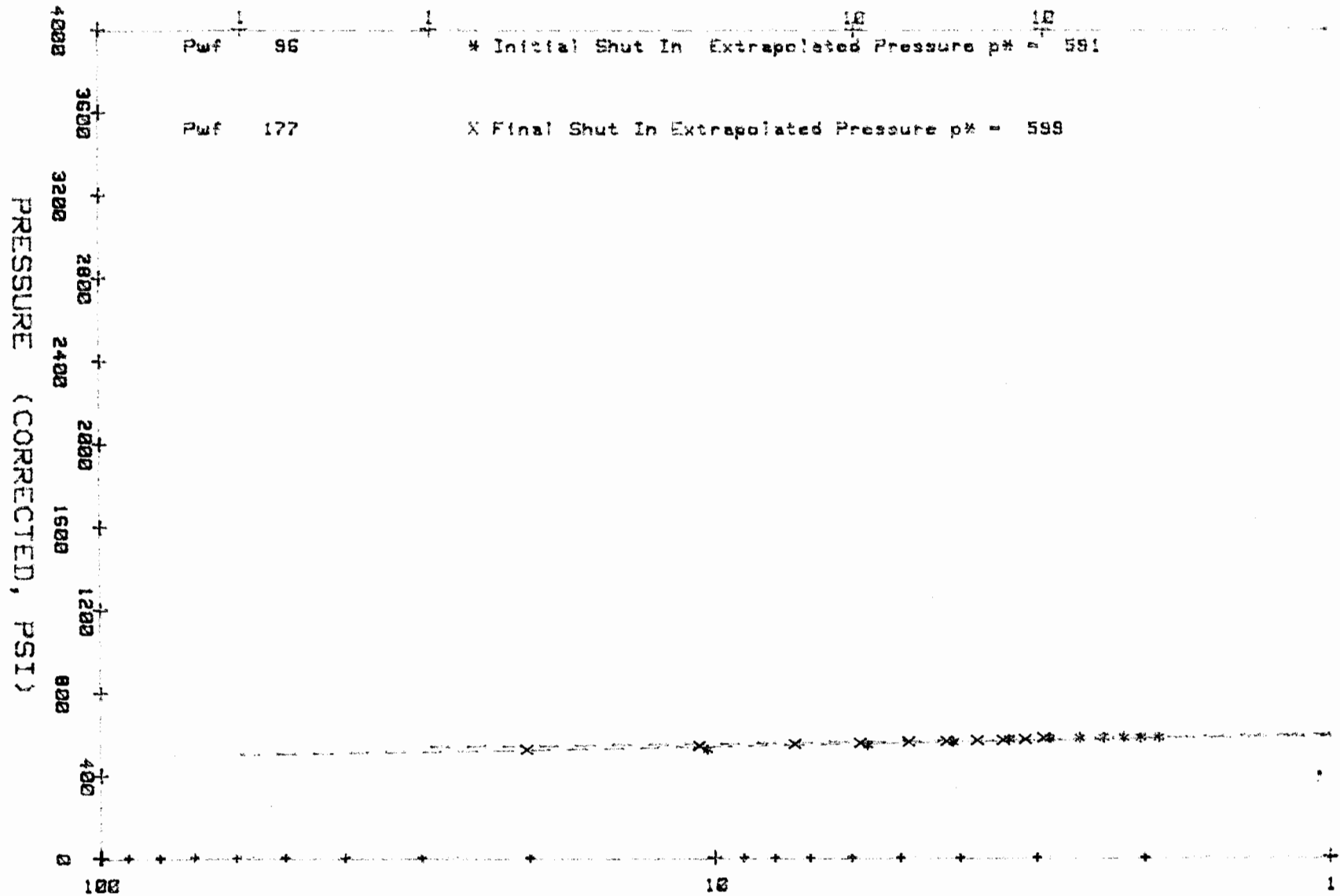
Sample #	Total Feet	***** WATER ***** %	***** Feet	Chlorides (ppm)	Resistivity (ohms)	Temperature (deg)
1	15	42.00	6.30	0.00	0.00	0.00
2	170	62.00	105.40	0.00	0.00	0.00
3	180	95.00	171.00	27000.00	0.00	0.00
TOTAL	365	77.45	282.70			

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

LOCATION : NE-SW-NE 21-13-20

DATE : 9-15-1988

GAUGE # : 11087



TIME (MINUTES) : $(T+dt)/dt$ - (Semilog scale)

SUPERIOR TESTERS ENTERPRISES INC.

DATA SUMMARY

COMPANY : McNAMES & PATTERSON
DATE OF TEST : 9-15-1988
DST. NO : 1

WELL NAME : DRIELING #1
LOCATION : NE-SW-NE 21-13-20
SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	591.00
Slope of Build-up Curve (psi/log cycle):	33.91
Effective Producing Time (min):	28.00

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

HORNER ANALYSIS

COMPANY : McNAMES & PATTERSON
 WELL NAME : DRIELING #1
 LOCATION : NE-SW-NE 21-13-20
 STATE & COUNTY : KANSAS, ELLIS
 DATE OF TEST : 9-15-1988
 TEST INT. KB : 3451 to 3475
 TOTAL INTERVAL (ft) K.B. : 24.00
 ELEV. (GR) : 2184 (KB) : 2189
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES ----- CORR PSIG
Refer. depth : 3472.0 ft-kb			
-2:28 END FLOW	0.00	0.00	95.81
	3.00	10.33	525.33
	6.00	5.67	546.26
	9.00	4.11	561.67
	12.00	3.33	571.59
	15.00	2.87	577.09
	18.00	2.56	578.19
	21.00	2.33	579.30
	24.00	2.17	579.30
	27.00	2.04	579.30
	31.00	1.90	579.30
-2:29 1ST SHUT-IN	0.00	0.00	579.30

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

HORNER ANALYSIS

COMPANY : McNAMES & PATTERSON
 WELL NAME : DRIELING #1
 LOCATION : NE-SW-NE 21-13-20
 STATE & COUNTY : KANSAS, ELLIS
 DATE OF TEST : 9-15-1988
 TEST INT. KB : 3451 to 3475
 TOTAL INTERVAL (ft) K.B. : 24.00
 ELEV. (GR) : 2184 (KB) : 2189
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES ----- CORR PSIG
Refer. depth : 3472.0 ft-kb			
-3:27 END FLOW	0.00	0.00	177.31
	3.00	19.67	525.33
	6.00	10.33	542.95
	9.00	7.22	551.76
	12.00	5.67	557.27
	15.00	4.73	562.78
	18.00	4.11	564.98
	21.00	3.67	568.28
	24.00	3.33	569.38
	27.00	3.07	572.69
	30.00	2.87	580.40
-3:57 2ND SHUT-IN	0.00	0.00	580.40

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

DATA SUMMARY

COMPANY : McNAMES & PATTERSON
DATE OF TEST : 9-15-1988
DST. NO : 1

WELL NAME : DRIELING #1
LOCATION : NE-SW-NE 21-13-20
SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

TRANSMISSIBILITY

Oil (md.ft/cp):	5.22
Gas (md.ft/cp):	0.00

EFFECTIVE PERMEABILITY

Oil (md):	.51
Gas (md):	0.00

TOTAL MOBILITY (md/cp):	15.48
-------------------------	-------

TOTAL COMPRESSIBILITY (psi-1):	4.65E-06
--------------------------------	----------

ESTIMATED DAMAGE RATIO:	1.76
-------------------------	------

CALCULATED DAMAGE RATIO:	1.56
--------------------------	------

Reservoir Temperature (F):	98.00
Formation Porosity :	.18
Formation Thickness (ft):	10.00
Wellbore Radius (in):	3.94
Reservoir Compressibility (psi-1):	4.80E-07
Calculated Skin Factor :	3.21

PRODUCTION WITH DAMAGE REMOVED (bbl/D):	2.71
---	------

PRODUCTIVITY INDEX (bbl/psi):	0.00
-------------------------------	------

Final Flow Pressure (psi):	177.00
----------------------------	--------

APPROXIMATE RADIUS OF INVESTIGATION (ft):	136.47
---	--------

Total Flowing Time (min):	58.00
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EXTRAPOLATED RESERVOIR PRESSURE (psi):	599.00
--	--------

Slope of Build-up Curve (psi/log cycle):	54.22
--	-------

Effective Producing Time (min):	58.00
---------------------------------	-------

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

Superior Testers Enterprises, Inc.

R.R. 3, Box 295B, Great Bend, Kansas 67530

(316) 792-6902

Date 9-16-1988 Location NE-SW-NE 21-13-20 Elevation 2184.6 County Ellis

Company McNamee & Patterson Number of Copies 5

Charts Mailed to P.O. Box 20058 Wichita, Kansas 67208

Drilling Contractor Shields Drilling Company #4

Length Drill Pipe 2737 I.D. Drill Pipe 5.30 Tool Joint Size 4 1/2" F.H.

Length Weight Pipe 766 I.D. Weight Pipe 8.75 Tool Joint Size 4 1/2" F.H.

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

Top Packer Depth 3517 Bottom Packer Depth 3522 Number of Packers 2 Packer Size 6 3/4"

TESTED FROM 3522 TO 3540 ANCHOR LENGTH 18 TOTAL DEPTH 3540 Hole Size 7 7/8"

LEASE & WELL NO. Drilling #1 FORMATION TESTED Leasing TEST NO. 2

Mud Weight 9.8 Viscosity 42 Water Loss 15.0 Chlorides - Pits None D.S.T. None

Maximum Temp. 119 °F Initial Hydrostatic Pressure (A) 1814 P.S.I. Final Hydrostatic Pressure (H) 1792 P.S.I.

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

Tool Closed I.C.I.P. from 7:30 A.m to 8:00 A.m 30 min

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

Tool Closed F.C.I.P. from 8:30 A.m to 9:00 A.m 30 min

Initial Blow Good blow - Built to the bottom of a 5 gallon bucket in 4 min.

Final Blow Good blow - Built to the bottom of a 5 gallon bucket in 9 min.

Total Feet Recovered 880 Gravity of Oil None Corrected

300 Feet of Gas in the Pipe % Gas None % Oil None % Mud None % Water None

70 Feet of Oil & Gas cut muddy water 20 % Gas 15 % Oil 28 % Mud 37 % Water

90 Feet of Slightly Oil & Gas cut muddy water 18 % Gas 7 % Oil 17 % Mud 58 % Water

180 Feet of Very Slightly oil cut water 5 % Gas 3 % Oil 2 % Mud 90 % Water

240 Feet of Very Slightly oil cut water 0 % Gas 1 % Oil 1 % Mud 98 % Water

300 Feet of water with a trace of oil 0 % Gas Trace % Oil 1 % Mud 99 % Water

Feet of None % Gas None % Oil None % Mud None % Water

Feet of None % Gas None % Oil None % Mud None % Water

Feet of None % Gas None % Oil None % Mud None % Water

Remarks None

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

Top Recorder No. 11087 Clock No. 47441 Depth 3534 Cir. Sub None Sampler None

Bottom Recorder No. 906 Clock No. 47442 Depth 3537 Insurance None

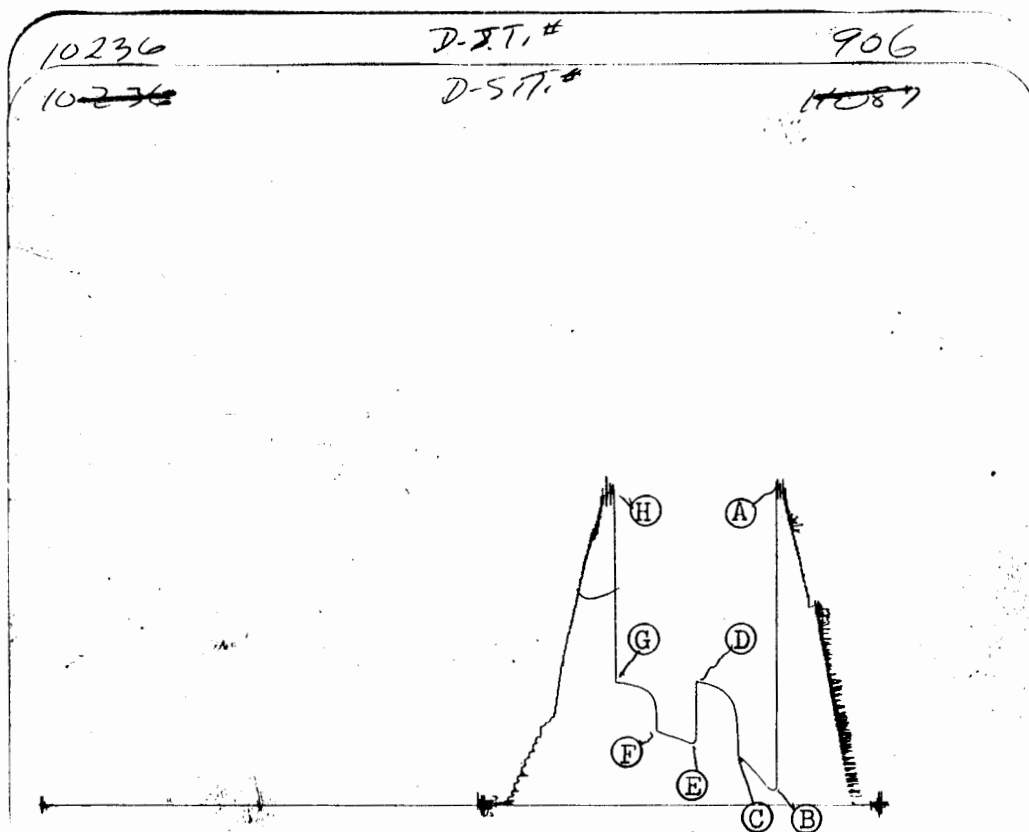
Price of Job None

Tool Operator Jane Rudy

Approved By None

No 10236

Superior Testers Enterprises, Inc. shall not be liable for damage of any kind to the property or personnel 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		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	1814	1812	P.S.I.
(B) First Initial Flow Pressure	88	83	P.S.I.
(C) First Final Flow Pressure	276	276	P.S.I.
(D) Initial Closed-in Pressure	706	694	P.S.I.
(E) Second Initial Flow Pressure	342	350	P.S.I.
(F) Second Final Flow Pressure	431	421	P.S.I.
(G) Final Closed-in Pressure	706	694	P.S.I.
(H) Final Hydrostatic Mud	1792	1781	P.S.I.

SUPERIOR TESTERS ENTERPRISES INC.

WELL IDENTIFICATION DATA

COMPANY : McNAMES & PATTERSON
ADDRESS : P.O. BOX 20058, WICHITA
STATE & COUNTY : KANSAS, ELLIS
ELEV. (GR) : 2184 (KB) : 2189
WELL NAME : DRIELING #1
LOCATION : NE-SW-NE 21-13-20
FIELD :
TEST DATE : 9-16-1988

EQUIPMENT AND HOLE DATA

FORMATION TESTED : LANSING
TEST INT. KB : 3522 to 3540
ANCHOR LENGTH(ft) : 18
TYPE OF TEST : Conventional
TOTAL DEPTH(ft-kb) : 3540
MAIN HOLE SIZE(in) : 7 7/8
MUD WEIGHT : 9.4
MUD VISCOSITY : 42
MUD CHLORIDES :
SURFACE CHOKE : 3/4
BOTTOM CHOKE(in) : 3/4
TOOL SIZE(O.D.) : 5 1/2
TOOL JOINT SIZE(F.H.) : 4 1/2
RESERVOIR TEMPERATURE(F) : 119
DRILL PIPE LENGTH(ft) : 2737
DRILL PIPE O.D.(in) : 3.82
WEIGHT PIPE LENGTH(ft) : 766
WEIGHT PIPE ID : 2.75
DRILL COLLAR LENGTH(ft) :
DRILL COLLAR I.D.(in) : 2.259
TOP PACKER DEPTH(kb) : 3617
BOTTOM PACKER DEPTH(kb) : 3522
DUAL PACKERS :
PACKER SIZE(in) : 6 3/4
PACKER HOLD : Yes
TOOL PLUG : No
REVERSED OUT : No
TEST TICKET NUMBER : 10236

EXTRA EQUIPMENT :

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

SURFACE BLOW

1st Opening : GOOD BLOW BOTTOM OF THE BUCKET IN 4 MIN.
2nd Opening : GOOD BLOW BOTTOM OF THE BUCKET IN 9 MIN.

RECOVERY

Recovered 300 feet of GAS IN THE PIPE
Recovered 880 feet of SLIGHTLY OIL AND GAS CUT MUDDY WATER

REMARKS :

WITNESSED BY : JERRY HONAS

TOOL OPERATOR : GENE BUDIG

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES INC.

SUPERIOR TESTERS ENTERPRISES INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : McNAMES & PATTERSON
 DATE OF TEST : 9-16-1988
 DEPTH : 3534.0

WELL NAME : DRIELING #1
 LOCATION : NE-SW-NE 21-13-20
 SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			CALC	CORR	CORRECTED
TEST NO.: 2					
Depth : 3534.0 ft-kb					
-1ST HYDROSTATIC	0.0	1.647	1807.27	4.82	1812.09
-7:00 1ST FLOW	0.0	.076	88.22	-4.52	83.70
- 7:05	5.0	.082	94.79	-4.48	90.31
- 7:10	10.0	.122	138.56	-4.20	134.36
- 7:15	15.0	.164	184.52	-3.90	180.62
- 7:20	20.0	.199	222.81	-3.65	219.16
- 7:25	25.0	.236	263.30	-3.39	259.91
- 7:29	29.0	.251	279.71	-3.28	276.43
-7:29 END FLOW	0.0	.251	279.71	-3.28	276.43
- 7:32	3.0	.519	572.97	-1.38	571.59
- 7:35	6.0	.549	605.80	-1.17	604.63
- 7:38	9.0	.570	628.78	-1.02	627.75
- 7:41	12.0	.588	648.47	-.90	647.58
- 7:44	15.0	.603	664.89	-.79	664.10
- 7:47	18.0	.609	671.45	-.75	670.70
- 7:50	21.0	.617	680.21	-.69	679.52
- 7:53	24.0	.623	686.77	-.65	686.12
- 7:56	27.0	.627	691.15	-.62	690.53
- 7:59	30.0	.631	695.52	-.59	694.93
-7:59 1ST SHUT-IN	0.0	.631	695.52	-.59	694.93
-7:59 2ND FLOW	0.0	.318	353.03	-2.81	350.22
- 8:04	5.0	.323	358.50	-2.77	355.73
- 8:09	10.0	.335	371.63	-2.69	368.94
- 8:14	15.0	.349	386.95	-2.59	384.36
- 8:19	20.0	.357	395.70	-2.53	393.17
- 8:24	25.0	.371	411.02	-2.43	408.59
- 8:28	29.0	.383	424.15	-2.35	421.81
-8:28 END FLOW	0.0	.383	424.15	-2.35	421.81
- 8:31	3.0	.560	617.83	-1.09	616.74
- 8:34	6.0	.582	641.91	-.94	640.97
- 8:37	9.0	.599	660.51	-.82	659.69
- 8:40	12.0	.609	671.45	-.75	670.70
- 8:43	15.0	.615	678.02	-.70	677.31
- 8:46	18.0	.617	680.21	-.69	679.52
- 8:49	21.0	.622	685.68	-.65	685.02
- 8:52	24.0	.626	690.05	-.63	689.43
- 8:55	27.0	.628	692.24	-.61	691.63
- 8:58	30.0	.631	695.52	-.59	694.93
-8:58 2ND SHUT-IN	0.0	.631	695.52	-.59	694.93
-2ND HYDROSTATIC	0.0	1.619	1776.63	4.69	1781.32

CALCULATED RECOVERY ANALYSIS

DST Number:2

Test ticket number:10236

Sample #	Total Feet	***** Gas **** %	***** Gas **** Feet	***** Oil **** %	***** Oil **** Feet	***** Mud **** %	***** Mud **** Feet
1	300	100.00	300.00	0.00	0.00	0.00	0.00
2	70	20.00	14.00	15.00	10.50	28.00	19.60
3	90	18.00	16.20	7.00	6.30	17.00	15.30
4	180	5.00	9.00	3.00	5.40	2.00	3.60
5	240	0.00	0.00	1.00	2.40	1.00	2.40
6	300	0.00	0.00	0.00	0.00	1.00	3.00
TOTAL	1180	28.75	339.20	2.08	24.60	3.72	43.90

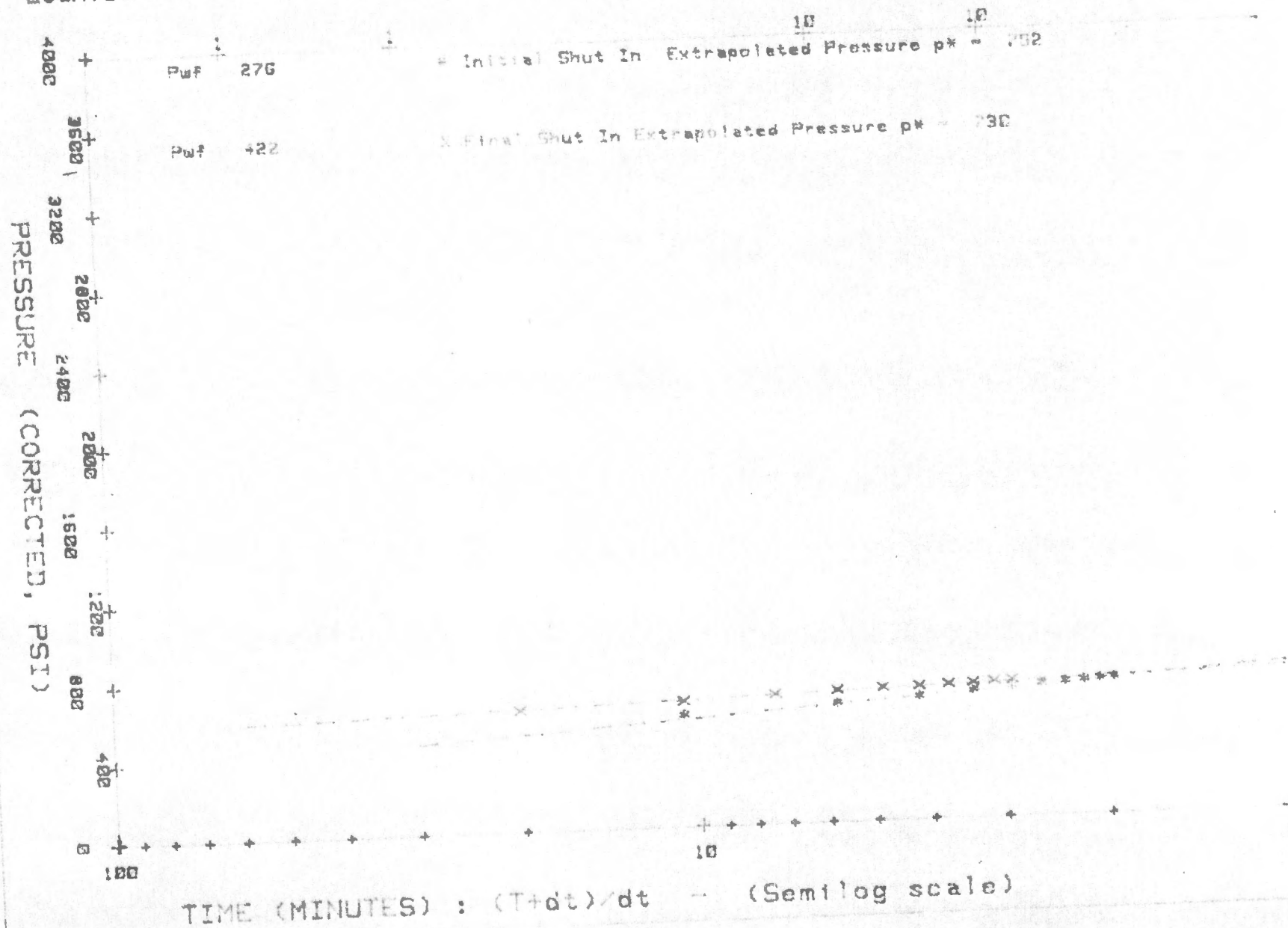
Sample #	Total Feet	***** WATER **** %	***** WATER **** Feet	Chlorides (ppm)	Resistivity (ohms)	Temperature (deg)
1	300	0.00	0.00	0.00	0.00	0.00
2	70	37.00	25.90	0.00	0.00	0.00
3	90	58.00	52.20	0.00	0.00	0.00
4	180	90.00	162.00	0.00	0.00	0.00
5	240	98.00	235.20	37000.00	0.00	0.00
6	300	99.00	297.00	37000.00	0.00	0.00
TOTAL	1180	65.45	772.30			

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

LOCATION : NE-SW-NE 21-13-20

DATE : 9-16-1988

GAUGE # : 11087



SUPERIOR TESTERS ENTERPRISES INC.

DATA SUMMARY

COMPANY : McNAMES & PATTERSON
DATE OF TEST : 9-16-1988
DST. NO : 2

WELL NAME : DRIELING #1
LOCATION : NE-SW-NE 21-13-20
SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	752.00
Slope of Build-up Curve (psi/log cycle):	194.94
Effective Producing Time (min):	29.00

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

HORNER ANALYSIS

COMPANY : McNAMES & PATTERSON
 WELL NAME : DRIELING #1
 LOCATION : NE-SW-NE 21-13-20
 STATE & COUNTY : KANSAS, ELLIS
 DATE OF TEST : 9-16-1988
 TEST INT. KB : 3522 to 3540
 TOTAL INTERVAL (ft) K.B. : 18.00
 ELEV. (GR) : 2184 (KB) : 2189
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES ----- CORR PSIG
Refer. depth : 3534.0 ft-kb			
-7:29 END FLOW	0.00	0.00	276.43
	3.00	10.67	571.59
	6.00	5.83	604.63
	9.00	4.22	627.75
	12.00	3.42	647.58
	15.00	2.93	664.10
	18.00	2.61	670.70
	21.00	2.38	679.52
	24.00	2.21	686.12
	27.00	2.07	690.53
	30.00	1.97	694.93
-7:59 1ST SUT-IN	0.00	0.00	694.93

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

HORNER ANALYSIS

COMPANY : McNAMES & PATTERSON
 WELL NAME : DRIELING #1
 LOCATION : NE-SW-NE 21-13-20
 STATE & COUNTY : KANSAS, ELLIS
 DATE OF TEST : 9-16-1988
 TEST INT. KB : 3522 to 3540
 TOTAL INTERVAL (ft) K.B. : 18.00
 ELEV. (GR) : 2184 (KB) : 2189
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG -----
Refer. depth : 3534.0 ft-ke			
-8:28 END FLOW	0.00	0.00	421.81
	3.00	20.33	616.74
	6.00	10.67	640.97
	9.00	7.44	659.69
	12.00	5.83	670.70
	15.00	4.87	677.31
	18.00	4.22	679.52
	21.00	3.76	685.02
	24.00	3.42	689.43
	27.00	3.15	691.63
	30.00	2.93	694.93
-8:58 2ND SHUT-IN	0.00	0.00	694.93

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

DATA SUMMARY

COMPANY : McNAMES & PATTERSON
DATE OF TEST : 9-16-1988
DST. NO : 2

WELL NAME : DRIELING #1
LOCATION : NE-SW-NE 21-13-20
SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

TRANSMISSIBILITY

Oil (md.ft/cp):	11.40
Gas (md.ft/cp):	0.00

EFFECTIVE PERMEABILITY

Oil (md):	.92
Gas (md):	0.00

TOTAL MOBILITY (md/cp):	19.21
-------------------------	-------

TOTAL COMPRESSIBILITY (psi ⁻¹):	8.62E-06
---	----------

ESTIMATED DAMAGE RATIO:	.89
-------------------------	-----

CALCULATED DAMAGE RATIO:	.79
--------------------------	-----

Reservoir Temperature (F):	119.00
Formation Porosity :	.18
Formation Thickness (ft):	10.00
Wellbore Radius (in):	3.94
Reservoir Compressibility (psi ⁻¹):	4.80E-07
Calculated Skin Factor :	-1.23

PRODUCTION WITH DAMAGE REMOVED (bbl/D):	5.50
---	------

PRODUCTIVITY INDEX (bbl/psi):	.02
-------------------------------	-----

Final Flow Pressure (psi):	422.00
----------------------------	--------

*APPROXIMATE RADIUS OF INVESTIGATION (ft):	137.67
--	--------

Total Flowing Time (min):	58.00
---------------------------	-------

EXTRAPOLATED RESERVOIR PRESSURE (psi):	730.00
--	--------

Slope of Build-up Curve (psi/log cycle):	79.42
--	-------

Effective Producing Time (min):	58.00
---------------------------------	-------

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

Superior Testers Enterprises, Inc.

R.R. 3, Box 295B, Great Bend, Kansas 67530

(316) 792-6902

Date 9-16-1988 Location NE-34-NE 21-13-20 Elevation 2189 A.B. County Ellis
Company McNamee & Patterson Number of Copies 5
Charts Mailed to P.O. Box 2058 Wichita, Kansas 67208
Drilling Contractor Shields Drilling Company Inc. Rig #82
Length Drill Pipe 2768 I.D. Drill Pipe 3.80 Tool Joint Size 4 1/4"
Length Weight Pipe 766 I.D. Weight Pipe 2.75 Tool Joint Size 4 1/2"
Length Drill Collars none I.D. Drill Collars none Tool Joint Size None
Top Packer Depth 3548 Bottom Packer Depth 3553 Number of Packers 2 Packer Size 6 3/4"
TESTED FROM 3553 TO 3567 ANCHOR LENGTH 14 TOTAL DEPTH 3567 Hole Size 7 7/8"
LEASE & WELL NO. Driehing #1 FORMATION TESTED Kansas City TEST NO. 3
Mud Weight 9.31 Viscosity 43 Water Loss 18.4 Chlorides - Pits _____ D.S.T. _____
Maximum Temp. 118 °F Initial Hydrostatic Pressure (A) 1836 P.S.I. Final Hydrostatic Pressure (H) 1825 P.S.I.
Tool Open I.F.P. from 8:00 p.m. to 8:30 p.m. 30 min
Tool Closed I.C.I.P. from 8:30 p.m. to 9:00 p.m. 30 min
Tool Open F.F.P. from 9:00 p.m. to 9:30 p.m. 30 min
Tool Closed F.C.I.P. from 9:30 p.m. to 10:00 p.m. 30 min
Initial Blow Good blow - built to the bottom of a 5 gallon bucket in 3 min.
Final Blow Good blow - built to the bottom of a 5 gallon bucket in 7 min.
Total Feet Recovered 1000 Gravity of Oil _____ Corrected _____

80 Feet of	<u>Gas in the pipe</u>	% Gas	_____	% Oil	_____	% Mud	_____	% Water	_____
100 Feet of	<u>Slightly oil & gas cut muddy water</u>	% Gas	<u>8</u>	% Oil	<u>17</u>	% Mud	<u>18</u>	% Water	<u>57</u>
180 Feet of	<u>Very slightly oil & mud cut water</u>	% Gas	<u>0</u>	% Oil	<u>2</u>	% Mud	<u>3</u>	% Water	<u>95</u>
300 Feet of	<u>Very very slightly oil & mud cut water</u>	% Gas	<u>0</u>	% Oil	<u>1</u>	% Mud	<u>1</u>	% Water	<u>98</u>
420 Feet of	<u>water with a trace of mud & oil</u>	% Gas	<u>TRACE</u>	% Oil	<u>TRACE</u>	% Mud	<u>100</u>	% Water	<u>100</u>
_____ Feet of	_____	% Gas	_____	% Oil	_____	% Mud	_____	% Water	_____
_____ Feet of	_____	% Gas	_____	% Oil	_____	% Mud	_____	% Water	_____
_____ Feet of	_____	% Gas	_____	% Oil	_____	% Mud	_____	% Water	_____
_____ Feet of	_____	% Gas	_____	% Oil	_____	% Mud	_____	% Water	_____

Remarks _____

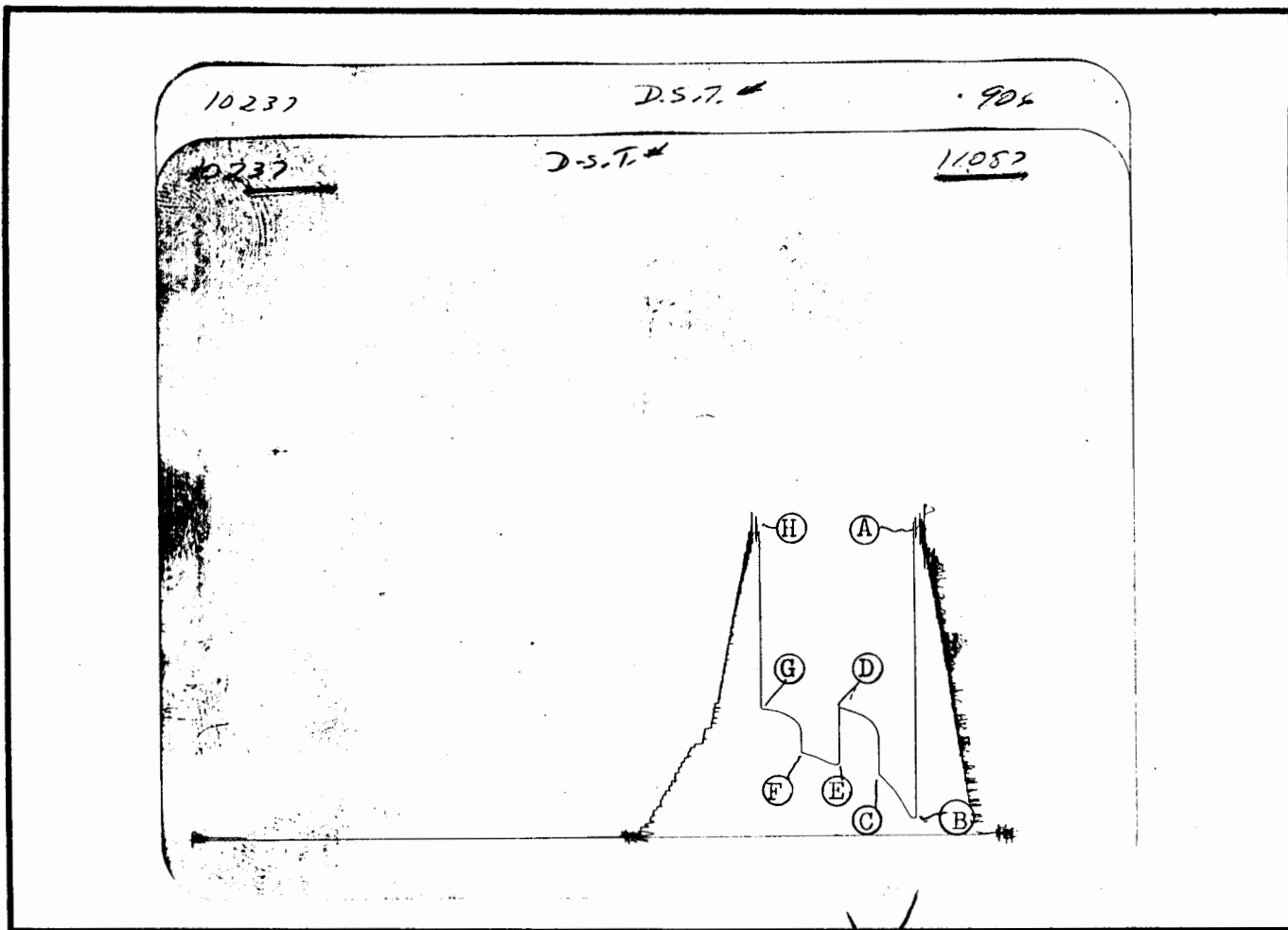
from [B] 99 P.S.I. to [C] 364 P.S.I.
[D] 771 P.S.I.
from [E] 420 P.S.I. to [F] 497 P.S.I.
[G] 761 P.S.I.

Extra Equipment - Jars none Safety Joint none Extra Packer none Straddle none Hook Wall none
Top Recorder No. 11087 Clock No. 47441 Depth 3561 Cir. Sub none Sampler none
Bottom Recorder No. 906 Clock No. 47442 Depth 3564 Insurance none

Price of Job _____
Tool Operator Gene Sudig
Approved By _____

No 10237

Superior Testers Enterprises, Inc. shall not be liable for damage of any kind to the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	1836	1828	P.S.I.
(B) First Initial Flow Pressure	99	100	P.S.I.
(C) First Final Flow Pressure	364	364	P.S.I.
(D) Initial Closed-in Pressure	771	768	P.S.I.
(E) Second Initial Flow Pressure	420	426	P.S.I.
(F) Second Final Flow Pressure	497	505	P.S.I.
(G) Final Closed-in Pressure	761	770	P.S.I.
(H) Final Hydrostatic Mud	1825	1804	P.S.I.

SUPERIOR TESTERS ENTERPRISES INC.

WELL IDENTIFICATION DATA

COMPANY : McNAMES & PATTERSON
ADDRESS : P.O. BOX 20058, WICHITA
STATE & COUNTY : KANSAS, ELLIS
ELEV. (GR) : 2184 (KB) : 2189
WELL NAME : DRIELING #1
LOCATION : NE-SW-NE 21-13-20
FIELD :
TEST DATE : 9-16-1988

EQUIPMENT AND HOLE DATA

FORMATION TESTED : KANSAS CITY
TEST INT. KB : 3553 to 3567
ANCHOR LENGTH(ft) : 14
TYPE OF TEST : Conventional
TOTAL DEPTH(ft-~~kb~~) : 3567
MAIN HOLE SIZE(in) : 7 7/8
MUD WEIGHT : 9.3
MUD VISCOSITY : 43
MUD CHLORIDES :
SURFACE CHOKE : 3/4
BOTTOM CHOKE(in) : 3/4
TOOL SIZE(O.D.) : 5 1/2
TOOL JOINT SIZE(F.H.) : 4 1/2
RESERVOIR TEMPERATURE(F) : 118
DRILL PIPE LENGTH(ft) : 2768
DRILL PIPE O.D.(in) : 3.82
WEIGHT PIPE LENGTH(ft) : 766
WEIGHT PIPE ID : 2.75
DRILL COLLAR LENGTH(ft) :
DRILL COLLAR I.D.(in) : 2.259
TOP PACKER DEPTH(kb) : 3548
BOTTOM PACKER DEPTH(kb) : 3553
DUAL PACKERS :
PACKER SIZE(in) : 6 3/4
PACKER HOLD : Yes
TOOL PLUG : No
REVERSED OUT : No
TEST TICKET NUMBER : 10237

EXTRA EQUIPMENT :

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

SURFACE BLOW

1st Opening : GOOD BLOW BUILT TO BOTTOM OF THE BUCKET IN 3 MIN.
2nd Opening : GOOD BLOW BUILT TO BOTTOM OF THE BUCKET IN 7 MIN.

RECOVERY

Recovered 80 feet of GAS IN THE PIPE
Recovered 1000 feet of SLIGHTLY OIL AND GAS CUT MUDDY WATER

REMARKS :

WITNESSED BY : JERRY HONAS

TOOL OPERATOR : GENE BUDIG

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES INC.

SUPERIOR TESTERS ENTERPRISES INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : McNAMEES & PATTERSON
 DATE OF TEST : 9-16-1988
 DEPTH : 3561.0

WELL NAME : DRIELING #1
 LOCATION : NE-SW-NE 21-13-20
 SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			----- CALC	CORR	CORRECTED
TEST NO.: 3					
Depth : 3561.0 ft-kb					
-1ST HYDROSTATIC	0.0	1.662	1823.68	4.89	1828.57
-8:00 1ST FLOW	0.0	.091	104.64	-4.42	100.22
- 8:05	5.0	.110	125.43	-4.28	121.15
- 8:10	10.0	.171	192.18	-3.85	188.33
- 8:15	15.0	.228	254.55	-3.45	251.10
- 8:20	20.0	.271	301.60	-3.14	298.46
- 8:25	25.0	.312	346.46	-2.85	343.61
- 8:28	28.0	.331	367.25	-2.72	364.54
-8:28 END FLOW	0.0	.331	367.25	-2.72	364.54
- 8:03	3.0	.597	658.32	-.83	657.49
- 8:06	6.0	.622	685.68	-.65	685.02
- 8:09	9.0	.640	705.37	-.53	704.85
- 8:12	12.0	.653	719.60	-.43	719.16
- 8:15	15.0	.663	730.54	-.36	730.18
- 8:18	18.0	.671	739.29	-.31	738.99
- 8:21	21.0	.678	746.95	-.26	746.70
- 8:24	24.0	.684	753.52	-.22	753.30
- 8:27	27.0	.691	761.18	-.17	761.01
- 8:31	31.0	.698	768.84	-.12	768.72
-8:59 1ST SHUT-IN	0.0	.698	768.84	-.12	768.72
--8:59 2ND FLOW	0.0	.387	428.53	-2.32	426.21
- -7:04	5.0	.392	434.00	-2.28	431.72
- -7:09	10.0	.401	443.85	-2.22	441.63
- -7:14	15.0	.420	464.64	-2.09	462.56
- -7:19	20.0	.436	482.15	-1.97	480.18
- -7:24	25.0	.447	494.19	-1.89	492.29
- -7:29	30.0	.459	507.32	-1.81	505.51
-9:29 END FLOW	0.0	.459	507.32	-1.81	505.51
- 9:32	3.0	.620	683.49	-.67	682.82
- 9:35	6.0	.640	705.37	-.53	704.85
- 9:38	9.0	.653	719.60	-.43	719.16
- 9:41	12.0	.665	732.73	-.35	732.38
- 9:44	15.0	.674	742.58	-.29	742.29
- 9:47	18.0	.681	750.24	-.24	750.00
- 9:50	21.0	.686	755.71	-.20	755.51
- 9:53	24.0	.689	758.99	-.18	758.81
- 9:56	27.0	.692	762.27	-.16	762.11
- 10:00	31.0	.700	771.03	-.10	770.93
-10:00 2ND SHUT-IN	0.0	.700	771.03	-.10	770.93
-2ND HYDROSTATIC	0.0	1.640	1799.61	4.79	1804.40

CALCULATED RECOVERY ANALYSIS

DST Number:3

Test ticket number:10237

Sample #	Total Feet	***** Gas *****	***** Oil *****	***** Mud *****
		% Feet	% Feet	% Feet
1	80	100.00 80.00	0.00 0.00	0.00 0.00
2	200	8.00 16.00	17.00 34.00	18.00 36.00
3	180	0.00 0.00	2.00 3.60	3.00 5.40
4	300	0.00 0.00	1.00 3.00	1.00 3.00
5	420	0.00 0.00	0.00 0.00	0.00 0.00
TOTAL	1180	8.14 96.00	3.44 40.60	3.76 44.40

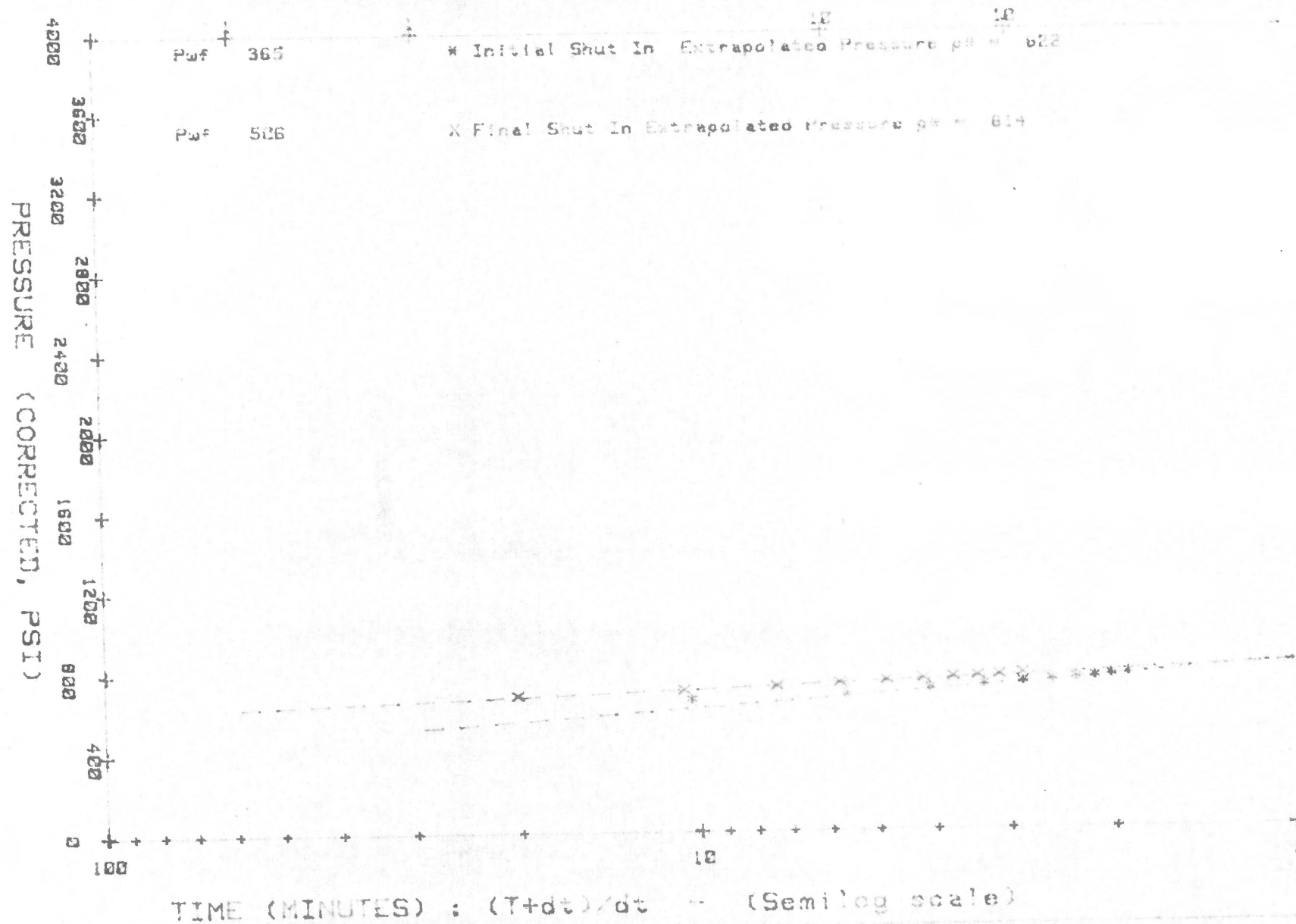
Sample #	Total Feet	**** WATER ****	Chlorides (ppm)	Resistivity (ohms)	Temperature (deg)
1	80	0.00 0.00	0.00	0.00	0.00
2	200	57.00 114.00	0.00	0.00	0.00
3	180	95.00 171.00	0.00	0.00	0.00
4	300	98.00 294.00	32000.00	0.00	0.00
5	420	100.00 420.00	32000.00	0.00	0.00
TOTAL	1180	64.66 999.00			

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

LOCATION : NE-SW-NE 21-13-20

DATE : 9-16-1988

GAUGE # : 11087



SUPERIOR TESTERS ENTERPRISES INC.

DATA SUMMARY

COMPANY : McNAMES & PATTERSON
DATE OF TEST : 9-16-1988
WELL NO : 3

WELL NAME : DRIELING #1
LOCATION : NE-SW-NE 21-13-20
SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

INITIAL RESERVOIR PRESSURE (psi):	822.00
Slope of Build-up Curve (psi/log cycle):	204.14
Effective Producing Time (min):	28.00

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

HORNER ANALYSIS

COMPANY : McNAMES & PATTERSON	20.33	505.51
WELL NAME : DRIELING #1	10.60	682.82
LOCATION : NE-SW-NE 21-13-20	7.44	704.85
COUNTY : KANSAS		719.16

SUPERIOR TESTERS ENTERPRISES INC.

HORNER ANALYSIS

BY : McNAMES & PATTERSON

NAME : DRIELING #1

ION : NE-SW-NE 21-13-20

& COUNTY : KANSAS, ELLIS

OF TEST : 9-16-1988

INT. KB : 3553 to 3567

INTERVAL (ft) K.B. : 14.00

GR) : 2184 (KB) : 2189

AT SERIAL NO. : 11087

CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG -----
depth : 3561.0 ft-kb			
END FLOW	0.00	0.00	364.54
	3.00	10.33	657.49
	6.00	5.67	685.02
	9.00	4.11	704.85
	12.00	3.33	719.16
	15.00	2.87	730.18
	18.00	2.56	738.99
	21.00	2.33	746.70
	24.00	2.17	753.30
	27.00	2.04	761.01
	31.00	1.90	768.72
1ST SHUT-IN	0.00	0.00	768.72

PRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

HORNER ANALYSIS

PANY : McNAMES & PATTERSON
 NAME : DRIELING #1
 ATION : NE-SW-NE 21-13-20
 TE & COUNTY : KANSAS, ELLIS
 E OF TEST : 9-16-1988
 INT. KB : 3553 to 3567
 AL INTERVAL (ft) K.B. : 14.00
 A. (GR) : 2184 (KB) : 2189
 LD :

WENT SERIAL NO. : 11087
 EST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
er. depth : 3561.0 ft-kb				
09 END FLOW	0.00	0.00	505.51	
	3.00	20.33	682.82	
	6.00	10.67	704.85	
	9.00	7.44	719.16	
	12.00	5.83	732.38	
	15.00	4.87	742.29	
	18.00	4.22	750.00	
	21.00	3.76	755.51	
	24.00	3.42	758.81	
	27.00	3.15	762.11	
	31.00	2.87	770.93	
00 2ND SHUT-IN	0.00	0.00	770.93	

PRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

UPERIOR TESTERS ENTERPRISES INC.

DATA SUMMARY

ANY : McNAMES & PATTERSON
OF TEST : 9-16-1988
NO : 3

WELL NAME : DRIELING #1
LOCATION : NE-SW-NE 21-13-20
SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

ANSMISSIBILITY

(md.ft/cp):	6.57
(md.ft/cp):	0.00

EFFECTIVE PERMEABILITY

(md):	.53
(md):	0.00

L MOBILITY (md/cp):	26.47
---------------------------	-------

L COMPRESSIBILITY (psi-1):	6.79E-06
----------------------------------	----------

MATED DAMAGE RATIO:	.67
---------------------------	-----

ULATED DAMAGE RATIO:	.59
----------------------------	-----

ervoir Temperature (F):	118.00
-------------------------------	--------

ation Porosity :	.18
------------------------	-----

ation Thickness (ft):	10.00
-----------------------------	-------

bore Radius (in):	3.94
-------------------------	------

ervoir Compressibility (psi-1):	4.80E-07
---------------------------------------	----------

ulated Skin Factor :	-2.41
----------------------------	-------

DUCTION WITH DAMAGE REMOVED (bbl/D):	4.20
--	------

DUCTIVITY INDEX (bbl/psi):	.01
----------------------------------	-----

l Flow Pressure (psi):	506.00
------------------------------	--------

OXIMATE RADIUS OF INVESTIGATION (ft):	147.66
---	--------

l Flowing Time (min):	58.00
-----------------------------	-------

APOLATED RESERVOIR PRESSURE (psi):	814.00
--	--------

se of Build-up Curve (psi/log cycle):	104.00
---	--------

ective Producing Time (min):	58.00
------------------------------------	-------

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

Superior Testers Enterprises, Inc.

R.R. 3, Box 295B, Great Bend, Kansas 67530

(316) 792-6902

7-88 Location NE-SW NE 21-13-20 Elevation 2187' ± County Ellis

ed to McNamee & Patterson Number of Copies 2

tractor P.O. Box 20058 Wichita, Kansas 67208

Pipe 2830 I.D. Drill Pipe 3.80 Tool Joint Size 4 1/2" FH

ght Pipe 766 I.D. Weight Pipe 2.75 Tool Joint Size 4 1/2" FH

Collars none I.D. Drill Collars none Tool Joint Size none

Depth 3610 Bottom Packer Depth 3615 Number of Packers 2 Packer Size 6 3/4"

FROM 3615 TO 3640 ANCHOR LENGTH 25 TOTAL DEPTH 3640 Hole Size 7 7/8"

VELL NO. Drilling #1 FORMATION TESTED Kansas City TEST NO. 4

Viscosity 39 Water Loss 12.4 Chlorides - Pits none D.S.T. none

Temp. 113 °F Initial Hydrostatic Pressure (A) 1880 P.S.I. Final Hydrostatic Pressure (H) 1852 P.S.I.

I.F.P. from 2:00 p.m. to 2:20 p.m. 30 min

I.C.I.P. from 2:20 p.m. to 2:50 p.m. 30 min

F.F.P. from 2:50 p.m. to 3:10 p.m. 30 min

F.C.I.P. from 3:10 p.m. to 3:40 p.m. 30 min

from [B] 77 P.S.I. to [C] 254 P.S.I.

[D] 706 P.S.I.

from [E] 320 P.S.I. to [F] 408 P.S.I.

[G] 695 P.S.I.

Good Below - Built to the bottom of a 5 gallon bucket in 4 min.

Good Below - Built to the bottom of a 3 gallon bucket in 7 min.

Recovered 850 Gravity of Oil none Corrected

set of As in the pipe % Gas 1 % Oil 1 % Mud 1 % Water

set of Very Slightly oil has cut water % Gas 5 % Oil 30 % Mud 60 % Water

set of Very Very Slightly Oil has cut water % Gas 0 % Oil 2 % Mud 2 % Water

set of Water with a trace of oil & mud % Gas 0 % Oil 1 % Mud 4 % Water

set of water with a trace of oil & mud % Gas 0 % Oil 1/2 % Mud 27 % Water

set of none % Gas 0 % Oil 0 % Mud 0 % Water

set of none % Gas 0 % Oil 0 % Mud 0 % Water

set of none % Gas 0 % Oil 0 % Mud 0 % Water

set of none % Gas 0 % Oil 0 % Mud 0 % Water

set of none % Gas 0 % Oil 0 % Mud 0 % Water

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

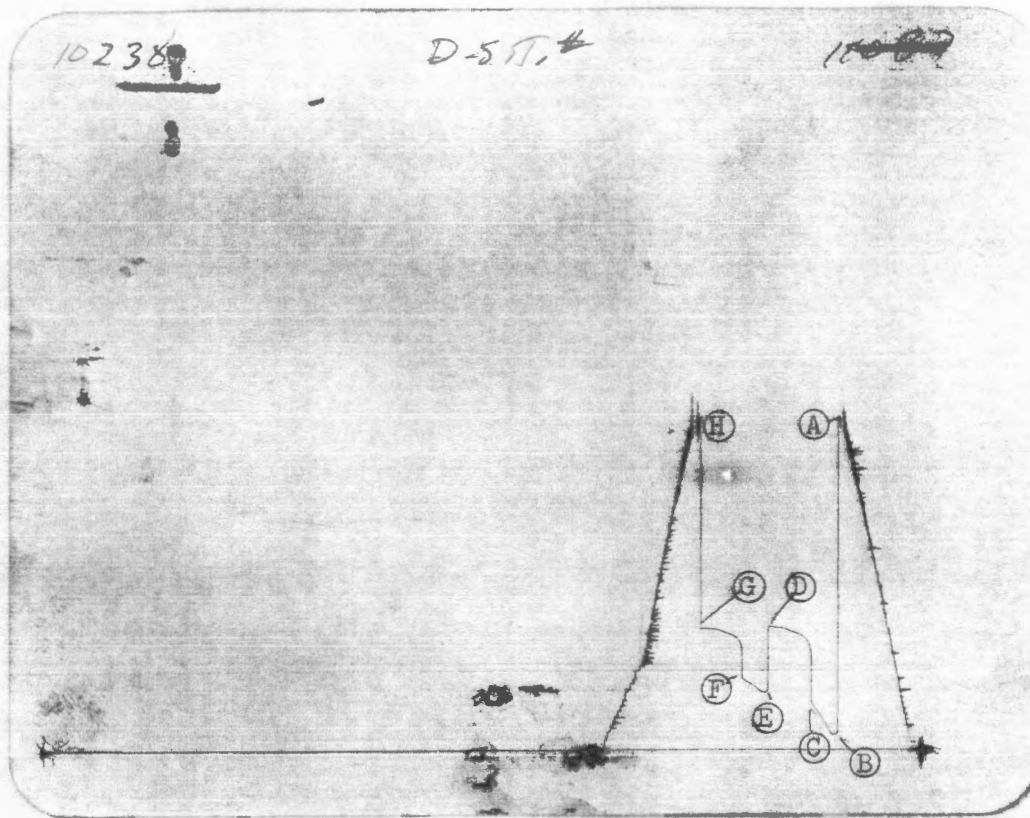
Order No. 11087 Clock No. 47441 Depth 3634 Cir. Sub none Sampler none

Recorder No. 906 Clock No. 47442 Depth 3637 Insurance none

By None

By None

Superior Testers Enterprises, Inc. shall not be liable for damage of any kind to the property or personnel 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		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	1880	1876	P.S.I.
(B) First Initial Flow Pressure	77	82	P.S.I.
(C) First Final Flow Pressure	254	265	P.S.I.
(D) Initial Closed-in Pressure	706	701	P.S.I.
(E) Second Initial Flow Pressure	320	327	P.S.I.
(F) Second Final Flow Pressure	408	404	P.S.I.
(G) Final Closed-in Pressure	695	692	P.S.I.
(H) Final Hydrostatic Mud	1858	1841	P.S.I.

SUPERIOR TESTERS ENTERPRISES INC.

WELL IDENTIFICATION DATA

COMPANY : McNAMES & PATTERSON WELL NAME : DRIELING #1
ADDRESS : P.O.BOX 20058, WICHITA LOCATION : NE-SW-NE 21-13-20
STATE & COUNTY : KANSAS, ELLIS FIELD :
ELEV. (GR) : 2184 (KB) : 2189 TEST DATE : 9-17-1988

EQUIPMENT AND HOLE DATA

FORMATION TESTED : KANSAS CITY DRILL PIPE LENGTH(ft) : 2830
TEST INT. KB : 3615 to 3640 DRILL PIPE O.D. (in) : 3.82
ANCHOR LENGTH(ft) : 25 WEIGHT PIPE LENGTH(ft) : 766
TYPE OF TEST : Conventional WEIGHT PIPE ID : 2.75
TOTAL DEPTH(ft-kg) : 3640 DRILL COLLAR LENGTH(ft) :
MAIN HOLE SIZE(in) : 7 7/8 DRILL COLLAR I.D. (in) : 2.259
MUD WEIGHT : 9.3 TOP PACKER DEPTH(kb) : 3610
MUD VISCOSITY : 39 BOTTOM PACKER DEPTH(kb) : 3615
MUD CHLORIDES : DUAL PACKERS :
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) : 113 TEST TICKET NUMBER : 10238

EXTRA EQUIPMENT :

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

SURFACE BLOW

1st Opening : GOOD BLOW BUILT TO BOTTOM OF THE BUCKET IN 4 MIN.
2nd Opening : GOOD BLOW BUILT TO BOTTOM OF THE BUCKET IN 7 MIN.

RECOVERY

Recovered 60 feet of GAS IN THE PIPE
Recovered 850 feet of SLIGHTLY OIL AND GAS CUT MUDDY WATER

REMARKS :

WITNESSED BY : JERRY HONAS

TOOL OPERATOR : GENE BUDIG

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES INC.

SUPERIOR TESTERS ENTERPRISES INC.

SUBSURFACE PRESSURE MEASUREMENTS

PANY : McNAMES & PATTERSON
E OF TEST : 9-17-1988
TH : 3534.0

WELL NAME : DRIELING #1
LOCATION : NE-SW-NE 21-13-20
SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			----- CALC	CORR	CORRECTED
T NO.: 4					
th : 3534.0 ft-kb					
HYDROSTATIC	0.0	1.706	1871.83	5.09	1876.92
00 1ST FLOW	0.0	.075	87.13	-4.53	82.60
- 2:05	5.0	.083	95.88	-4.47	91.41
- 2:10	10.0	.144	162.63	-4.04	158.59
- 2:15	15.0	.193	216.25	-3.69	212.56
- 2:20	20.0	.241	268.77	-3.35	265.42
20 END FLOW	0.0	.241	268.77	-3.35	265.42
- 2:23	3.0	.562	620.02	-1.08	618.94
- 2:26	6.0	.583	643.00	-.93	642.07
- 2:29	9.0	.597	658.32	-.83	657.49
- 2:32	12.0	.607	669.26	-.76	668.50
- 2:35	15.0	.612	674.73	-.73	674.01
- 2:38	18.0	.622	685.68	-.65	685.02
- 2:41	21.0	.630	694.43	-.60	693.83
- 2:44	24.0	.633	697.71	-.58	697.14
- 2:47	27.0	.636	701.00	-.56	700.44
- 2:50	30.0	.637	702.09	-.55	701.54
- 2:52	32.0	.637	702.09	-.55	701.54
:52 1ST SHUT-IN	0.0	.637	702.09	-.55	701.54
:52 2ND FLOW	0.0	.297	330.05	-2.96	327.09
- 2:57	5.0	.304	337.71	-2.91	334.80
- 3:02	10.0	.330	366.16	-2.72	363.44
- 3:07	15.0	.353	391.33	-2.56	388.77
- 3:11	19.0	.367	406.65	-2.46	404.19
:11 END FLOW	0.0	.367	406.65	-2.46	404.19
- 3:14	3.0	.577	636.44	-.97	635.46
- 3:17	6.0	.589	649.57	-.89	648.68
- 3:20	9.0	.599	660.51	-.82	659.69
- 3:23	12.0	.609	671.45	-.75	670.70
- 3:26	15.0	.617	680.21	-.69	679.52
- 3:29	18.0	.623	686.77	-.65	686.12
- 3:32	21.0	.627	691.15	-.62	690.53
- 3:35	24.0	.628	692.24	-.61	691.63
- 3:38	27.0	.629	693.34	-.61	692.73
- 3:41	30.0	.629	693.34	-.61	692.73
:41 2ND SHUT-IN	0.0	.629	693.34	-.61	692.73
END HYDROSTATIC	0.0	1.674	1836.81	4.94	1841.76

CALCULATED RECOVERY ANALYSIS

DST Number:4

Test ticket number:10238

Sample #	Total Feet	***** Gas ***** %	***** Gas ***** Feet	***** Oil ***** %	***** Oil ***** Feet	***** Mud ***** %	***** Mud ***** Feet
1	60	100.00	60.00	0.00	0.00	0.00	0.00
2	90	5.00	4.50	5.00	4.50	30.00	27.00
3	240	0.00	0.00	2.00	4.80	2.00	4.80
4	240	0.00	0.00	1.00	2.40	4.00	9.60
5	280	0.00	0.00	.05	.14	.05	.14
TOTAL	910	7.09	64.50	1.30	11.84	4.56	41.54

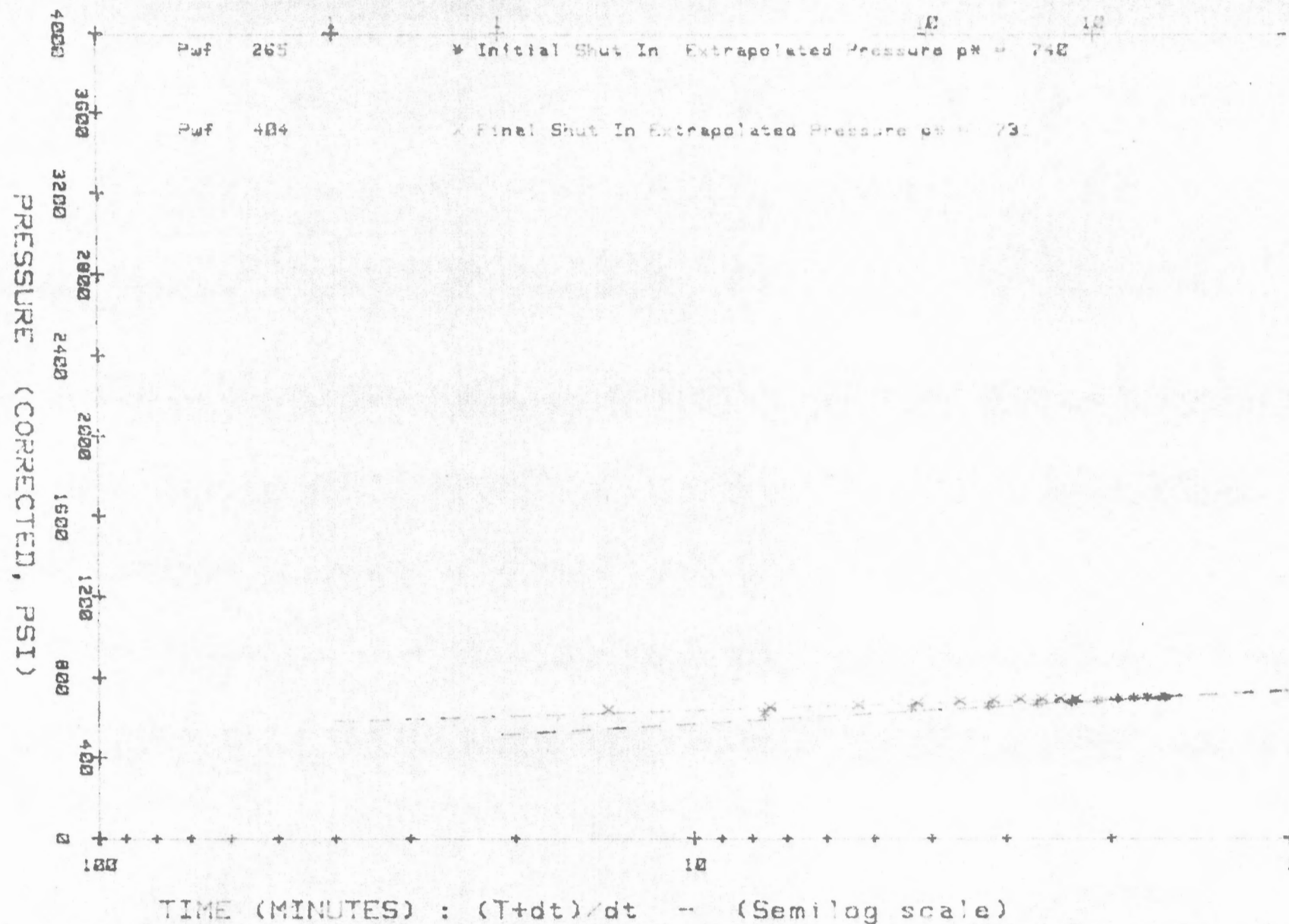
Sample #	Total Feet	**** WATER **** %	**** WATER **** Feet	Chlorides (ppm)	Resistivity (ohms)	Temperature (deg)
1	60	0.00	0.00	0.00	0.00	0.00
2	90	60.00	54.00	0.00	0.00	0.00
3	240	96.00	230.40	0.00	0.00	0.00
4	240	95.00	228.00	34000.00	0.00	0.00
5	280	99.00	277.20	34000.00	0.00	0.00
TOTAL	910	86.77	789.60			

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

LOCATION : NE-SW-NE 21-13-20

DATE : 9-17-1988

GAUGE # : 11087



SUPERIOR TESTERS ENTERPRISES INC.

DATA SUMMARY

PANY : McNAMES & PATTERSON
E OF TEST : 9-17-1988
. NO : 4

WELL NAME : DRIELING #1
LOCATION : NE-SW-NE 21-13-20
SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

RAPOLATED RESERVOIR PRESSURE (psi):	740.00
se of Build-up Curve (psi/log cycle):	169.94
ective Producing Time (min):	20.00

ERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

HORNER ANALYSIS

COMPANY : McNAMES & PATTERSON
 WELL NAME : DRIELING #1
 LOCATION : NE-SW-NE 21-13-20
 STATE & COUNTY : KANSAS, ELLIS
 DATE OF TEST : 9-17-1988
 TEST INT. KB : 3615 to 3640
 TOTAL INTERVAL (ft) K.B. : 25.00
 ELEV. (GR) : 2184 (KB) : 2189
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES ----- CORR PSIG
Refer. depth : 3534.0 ft-kb			
-2:20 END FLOW	0.00	0.00	265.42
	3.00	7.67	618.94
	6.00	4.33	642.07
	9.00	3.22	657.49
	12.00	2.67	668.50
	15.00	2.33	674.01
	18.00	2.11	685.02
	21.00	1.95	693.83
	24.00	1.83	697.14
	27.00	1.74	700.44
	30.00	1.67	701.54
	32.00	1.63	701.54
-2:52 1ST SHUT-IN	0.00	0.00	701.54

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

HORNER ANALYSIS

COMPANY : McNAMES & PATTERSON
 WELL NAME : DRIELING #1
 LOCATION : NE-SW-NE 21-13-20
 STATE & COUNTY : KANSAS, ELLIS
 DATE OF TEST : 9-17-1988
 TEST INT. KB : 3615 to 3640
 TOTAL INTERVAL (ft) K.B. : 25.00
 ELEV. (GR) : 2184 (KB) : 2189
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG
Refer. depth : 3534.0 ft-kb			
-3:11 END FLOW	0.00	0.00	404.19
	3.00	14.00	635.46
	6.00	7.50	648.68
	9.00	5.33	659.69
	12.00	4.25	670.70
	15.00	3.60	679.52
	18.00	3.17	686.12
	21.00	2.84	690.53
	24.00	2.63	691.63
	27.00	2.44	692.73
	30.00	2.30	692.73
-3:41 2ND SHUT-IN	0.00	0.00	692.73

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

PERIOR TESTERS ENTERPRISES INC.

DATA SUMMARY

Y : McNAMES & PATTERSON
F TEST : 9-17-1988
D : 4

WELL NAME : DRIELING #1
LOCATION : NE-SW-NE 21-13-20
SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

SMISSIBILITY	
d.ft/cp):	4.72
d.ft/cp):	0.00
CTIVE PERMEABILITY	
d):	.38
d):	0.00
MOBILITY (md/cp):	36.38
COMPRESSIBILITY (psi-1):	5.72E-06
TED DAMAGE RATIO:	.82
ATED DAMAGE RATIO:	.68
oir Temperature (F):	113.00
ion Porosity :	.18
ion Thickness (ft):	10.00
re Radius (in):	3.94
oir Compressibility (psi-1):	4.80E-07
ated Skin Factor :	-1.86
TION WITH DAMAGE REMOVED (bbl/D):	2.73
TIVITY INDEX (bbl/psi):	.01
Flow Pressure (psi):	404.00
IMATE RADIUS OF INVESTIGATION (ft):	154.68
Flowing Time (min):	39.00
OLATED RESERVOIR PRESSURE (psi):	731.00
of Build-up Curve (psi/log cycle):	93.96
ive Producing Time (min):	39.00

RETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

Superior Testers Enterprises, Inc.

R.R. 3, Box 295B, Great Bend, Kansas 67530

(316) 792-6902

Date 9-17-1988 Location NE-SW-NE 21-13-20 Elevation 2189 K.B. County Ellis

Company McThomas & Patterson Number of Copies 5

Charts Mailed to P.O. Box 20058 Wichita Kansas 67208

Drilling Contractor Shielder Drilling Company Rig #2

Length Drill Pipe 2850 I.D. Drill Pipe 13.50 Tool Joint Size 4 1/2" F.d.

Length Weight Pipe 766 I.D. Weight Pipe 8.75 Tool Joint Size 4 1/2" F.d.

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

Top Packer Depth 3636 Bottom Packer Depth 3641 Number of Packers 2 Packer Size 6 3/4"

TESTED FROM 3641 TO 3660 ANCHOR LENGTH 19 TOTAL DEPTH 3660 Hole Size 7 7/8"

LEASE & WELL NO. Drilling #1 FORMATION TESTED Kansas City TEST NO. 5

Mud Weight 93 Viscosity 39 Water Loss 17.5 Chlorides - Pits None D.S.T. None

Maximum Temp. 116 °F Initial Hydrostatic Pressure (A) 1891 P.S.I. Final Hydrostatic Pressure (H) 1880 P.S.I.

Tool Open I.F.P. from 2:00 A.m. to 2:30 A.m. 30 min

Tool Closed I.C.I.P. from 2:30 A.m. to 3:00 A.m. 30 min

Tool Open F.F.P. from 3:00 A.m. to 3:30 A.m. 30 min

Tool Closed F.C.I.P. from 3:30 A.m. to 4:00 A.m. 30 min

Initial Blow Fair blow - built to the bottom of a 5 gallon bucket in 25 min

Final Blow Fair blow - built to 1 inch from the bottom of the bucket

Total Feet Recovered 210 Gravity of Oil None Corrected

30 Feet of Very heavy oil & gas cut mud 18% Gas 22% Oil 50% Mud 10% Water

60 Feet of Very heavy gas cut oil & mud 58% Gas 25% Oil 7% Mud 10% Water

60 Feet of Heavy oil & gas cut mud 30% Gas 33% Oil 15% Mud 22% Water

30 Feet of Oil & gas cut watery mud 30% Gas 15% Oil 20% Mud 35% Water

30 Feet of Slightly oil & gas cut mud/water 7% Gas 5% Oil 20% Mud 68% Water

300 Feet of Gas in the pipe % Gas % Oil % Mud % Water

Feet of % Gas % Oil % Mud % Water

Feet of % Gas % Oil % Mud % Water

Feet of % Gas % Oil % Mud % Water

Remarks

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

Top Recorder No. 11087 Clock No. 3654 Depth 47441 Cir. Sub None Sampler None

Bottom Recorder No. 906 Clock No. 3657 Depth 47442 Insurance None

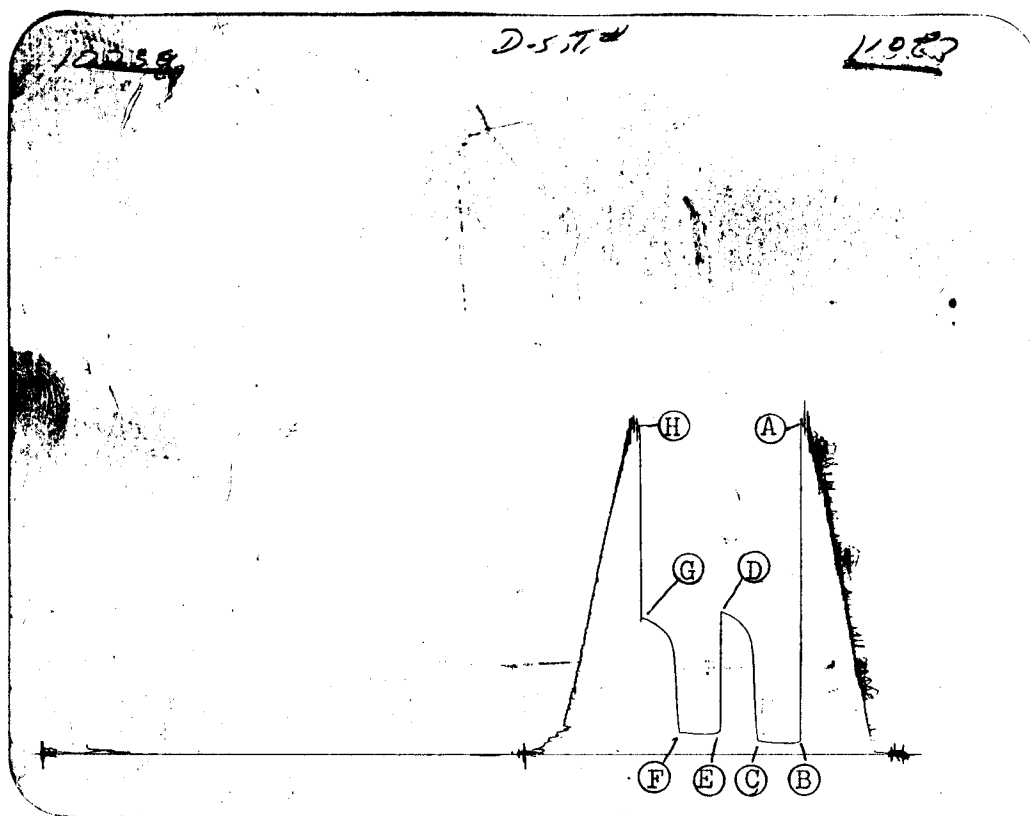
Price of Job

Tool Operator Gene Sudig

Approved By

No. 10239

Superior Testers Enterprises, Inc. shall not be liable for damage of any kind to the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	1891	1875	P.S.I.
(B) First Initial Flow Pressure	55	63	P.S.I.
(C) First Final Flow Pressure	77	73	P.S.I.
(D) Initial Closed-in Pressure	815	808	P.S.I.
(E) Second Initial Flow Pressure	110	121	P.S.I.
(F) Second Final Flow Pressure	132	123	P.S.I.
(G) Final Closed-in Pressure	782	770	P.S.I.
(H) Final Hydrostatic Mud	1880	1864	P.S.I.

SUPERIOR TESTERS ENTERPRISES INC.

WELL IDENTIFICATION DATA

COMPANY : McNAMES & PATTERSON WELL NAME : DRIELING #1
ADDRESS : P.O.BOX 20058, WICHITA LOCATION : NE-SW-NE 21-13-20
STATE & COUNTY : KANSAS, ELLIS FIELD :
ELEV.(GR) : 2184 (KB) : 2189 TEST DATE : 9-17-1988

EQUIPMENT AND HOLE DATA

FORMATION TESTED : KANSAS CITY DRILL PIPE LENGTH(ft) : 2850
TEST INT. KB : 3641 to 3660 DRILL PIPE O.D.(in) : 3.82
ANCHOR LENGTH(ft) : 19 WEIGHT PIPE LENGTH(ft) : 766
TYPE OF TEST : Conventional WEIGHT PIPE ID : 2.75
TOTAL DEPTH(ft-kb) : 3660 DRILL COLLAR LENGTH(ft) :
MAIN HOLE SIZE(in) : 7 7/8 DRILL COLLAR I.D.(in) : 2.259
MUD WEIGHT : 9.3 TOP PACKER DEPTH(kb) : 3636
MUD VISCOSITY : 39 BOTTOM PACKER DEPTH(kb) : 3641
MUD CHLORIDES : DUAL PACKERS :
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) : 116 TEST TICKET NUMBER : 10239

EXTRA EQUIPMENT :

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

SURFACE BLOW

1st Opening : FAIR BLOW BUILT TO BOTTOM OF THE BUCKET IN 25 MIN.
2nd Opening : FAIR BLOW TO 1 INCH FROM BOTTOM OF THE BUCKET

RECOVERY

Recovered 300 feet of GAS IN THE PIPE
Recovered 210 feet of OIL AND GAS CUT MUDDY WATER

REMARKS :

WITNESSED BY : JERRY HONAS

TOOL OPERATOR : GENE BUDIG

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES INC.

SUPERIOR TESTERS ENTERPRISES INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : McNAMES & PATTERSON
 DATE OF TEST : 9-17-1988
 DEPTH : 3654.0

WELL NAME : DRIELING #1
 LOCATION : NE-SW-NE 21-13-20
 SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			CALC	CORR	CORRECTED
TEST NO.: 5					
Depth : 3654.0 ft-kb					
-1ST HYDROSTATIC	0.0	1.705	1870.73	5.09	1875.82
-2:00 1ST FLOW	0.0	.058	68.53	-4.65	63.88
- 2:05	5.0	.058	68.53	-4.65	63.88
- 2:10	10.0	.058	68.53	-4.65	63.88
- 2:15	15.0	.059	69.62	-4.64	64.98
- 2:20	20.0	.060	70.72	-4.64	66.08
- 2:25	25.0	.063	74.00	-4.62	69.38
- 2:30	30.0	.067	78.38	-4.59	73.79
-2:30 END FLOW	0.0	.067	78.38	-4.59	73.79
- 2:33	3.0	.327	362.88	-2.74	360.13
- 2:36	6.0	.587	647.38	-.90	646.48
- 2:39	9.0	.638	703.18	-.54	702.64
- 2:42	12.0	.662	729.45	-.37	729.07
- 2:45	15.0	.686	755.71	-.20	755.51
- 2:48	18.0	.698	768.84	-.12	768.72
- 2:51	21.0	.711	783.06	-.02	783.04
- 2:54	24.0	.724	797.29	.07	797.36
- 2:57	27.0	.732	806.04	.12	806.17
- 2:58	28.0	.734	808.23	.14	808.37
-2:58 1ST SHUT-IN	0.0	.734	808.23	.14	808.37
-2:58 2ND FLOW	0.0	.110	123.43	-4.28	121.15
- 3:03	5.0	.107	122.14	-4.30	117.84
- 3:08	10.0	.105	119.96	-4.32	115.64
- 3:13	15.0	.105	119.96	-4.32	115.64
- 3:18	20.0	.107	122.14	-4.30	117.84
- 3:23	25.0	.110	123.43	-4.28	121.15
- 3:28	30.0	.112	127.62	-4.27	123.35
-3:28 END FLOW	0.0	.112	127.62	-4.27	123.35
- 3:31	3.0	.392	434.00	-2.28	431.72
- 3:34	6.0	.571	629.87	-1.02	628.85
- 3:37	9.0	.611	673.64	-.73	672.91
- 3:40	12.0	.637	702.09	-.55	701.54
- 3:43	15.0	.654	720.69	-.43	720.26
- 3:46	18.0	.667	734.92	-.34	734.58
- 3:49	21.0	.680	749.14	-.24	748.90
- 3:52	24.0	.690	760.08	-.17	759.91
- 3:55	27.0	.697	767.74	-.12	767.62
- 3:57	29.0	.700	771.03	-.10	770.93
- 3:28	0.0	.700	771.03	-.10	770.93
- 3:28	0.0	.700	771.03	-.10	770.93

CALCULATED RECOVERY ANALYSIS

Number:5

Test ticket number:10239

ole	Total	***** Gas ****	***** Oil ****	***** Mud ****			
#	Feet	%	Feet	%	Feet	%	Feet
1	300	100.00	300.00	0.00	0.00	0.00	0.00
2	30	18.00	5.40	22.00	6.60	50.00	15.00
3	60	58.00	34.80	25.00	15.00	7.00	4.20
4	60	30.00	18.00	33.00	19.80	15.00	9.00
5	30	30.00	9.00	15.00	4.50	20.00	6.00
6	30	7.00	2.10	5.00	1.50	20.00	6.00

AL	510	72.41	369.30	9.29	47.40	7.88	40.20
----	-----	-------	--------	------	-------	------	-------

ole	Total	**** WATER ****	Chlorides	Resistivity	Temperature
#	Feet	%	Feet	(ohms)	(deg)
1	300	0.00	0.00	0.00	0.00
2	30	10.00	3.00	0.00	0.00
3	60	10.00	6.00	0.00	0.00
4	60	22.00	13.20	0.00	0.00
5	30	35.00	10.50	35000.00	0.00
6	30	58.00	20.40	35000.00	0.00

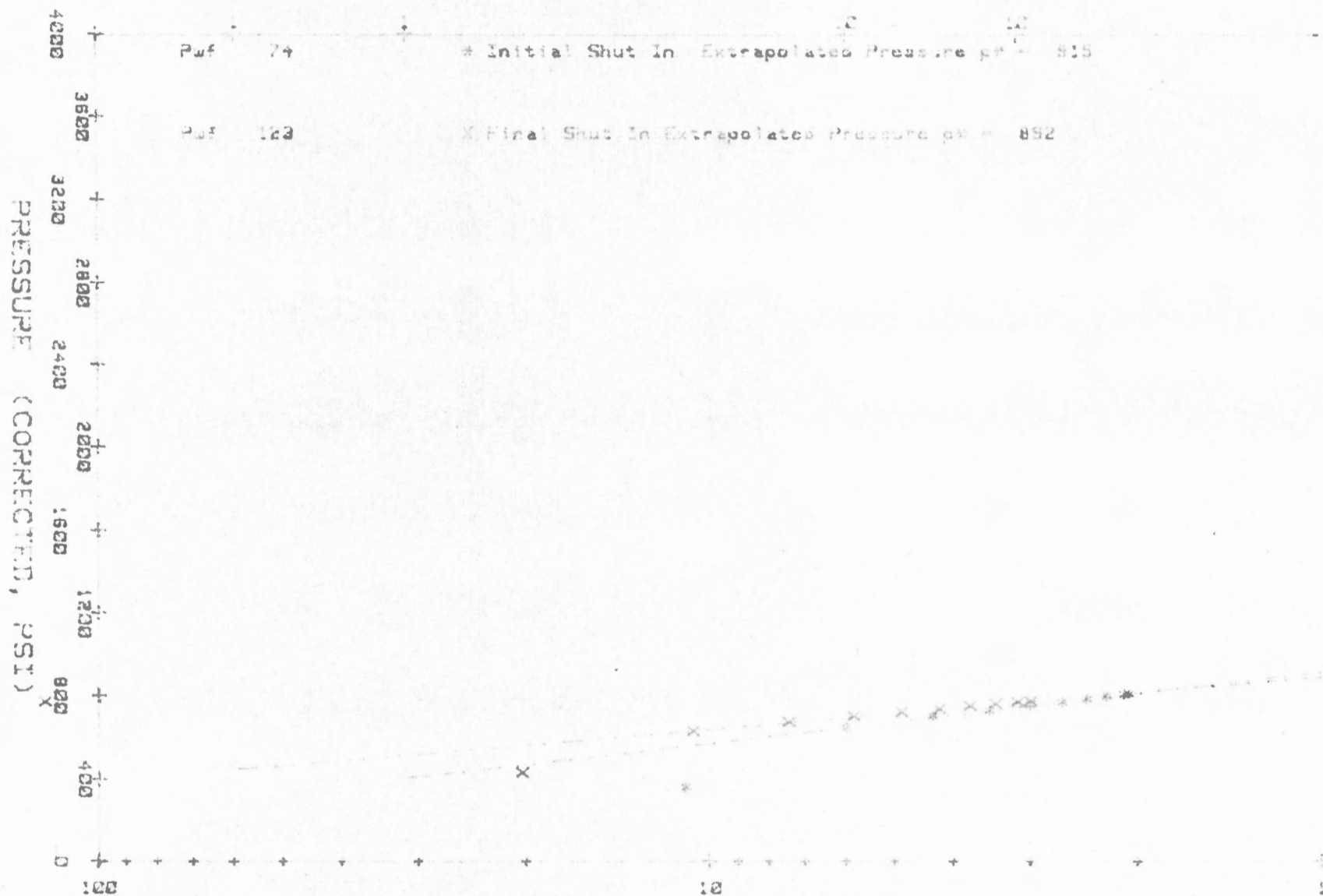
AL	510	10.41	53.10
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INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

LOCATION : NE-SW-NE 21-13-20

DATE : 9-17-1988

GAUGE # : 11087



TIME (MINUTES) : $(T+dt)/dt$ - (Semi-log scale)

SUPERIOR TESTERS ENTERPRISES INC.

DATA SUMMARY

COMPANY : McNAMES & PATTERSON
DATE OF TEST : 9-17-1988
DST. NO : 5

WELL NAME : DRIELING #1
LOCATION : NE-SW-NE 21-13-20
SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	915.00
Slope of Build-up Curve (psi/log cycle):	339.98
Effective Producing Time (min):	30.00

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

HORNER ANALYSIS

COMPANY : McNAMES & PATTERSON
 WELL NAME : DRIELING #1
 LOCATION : NE-SW-NE 21-13-20
 STATE & COUNTY : KANSAS, ELLIS
 DATE OF TEST : 9-17-1988
 TEST INT. KB : 3641 to 3660
 TOTAL INTERVAL (ft) K.B. : 19.00
 ELEV. (GR) : 2184 (KB) : 2189
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CURR PSIG -----
Refer. depth : 3654.0 ft-kb			
-2:30 END FLOW	0.00	0.00	73.79
	3.00	11.00	360.13
	6.00	6.00	646.48
	9.00	4.33	702.64
	12.00	3.50	729.07
	15.00	3.00	755.51
	18.00	2.67	768.72
	21.00	2.43	783.04
	24.00	2.25	797.36
	27.00	2.11	806.17
	28.00	2.07	808.37
-2:58 1ST SHUT-IN	0.00	0.00	808.37

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

PERIOR TESTERS ENTERPRISES INC.

HORNER ANALYSIS

Y : McNAMES & PATTERSON
 AME : DRIELING #1
 ON : NE-SW-NE 21-13-20
 & COUNTY : KANSAS, ELLIS
 F TEST : 9-17-1988
 NT. KB : 3641 to 3660
 INTERVAL (ft) K.B. : 19.00
 SR) : 2184 (KB) : 2189
 :
 :

T SERIAL NO. : 11087
 CALIBRATION :

COMMENTS	TIME min	(f+dt)/dt min	----- PRESSURES CORR PSIG
depth : 3654.0 ft-kb			
END FLOW	0.00	0.00	123.35
	3.00	20.33	431.72
	6.00	10.67	628.85
	9.00	7.44	672.91
	12.00	5.83	701.54
	15.00	4.87	720.26
	18.00	4.22	734.58
	21.00	3.76	748.90
	24.00	3.42	759.91
	27.00	3.15	767.62
	29.00	3.00	770.93
	0.00	0.00	770.93
	0.00	0.00	770.93
2ND SHUT-IN	0.00	0.00	770.93

RETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

DATA SUMMARY

COMPANY : McNAMES & PATTERSON
DATE OF TEST : 9-17-1988
DST. NO : 5

WELL NAME : DRIELING #1
LOCATION : NE-SW-NE 21-13-20
SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

TRANSMISSIBILITY

Oil (md.ft/cp):	5.17
Gas (md.ft/cp):	0.00

EFFECTIVE PERMEABILITY

Oil (md):	.42
Gas (md):	0.00

TOTAL MOBILITY (md/cp):	1.10
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TOTAL COMPRESSIBILITY (psi-1):	5.72E-06
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ESTIMATED DAMAGE RATIO:	.70
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CALCULATED DAMAGE RATIO:	.82
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Reservoir Temperature (F):	116.00
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Formation Porosity :	.13
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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 :	-.78
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PRODUCTION WITH DAMAGE REMOVED (bbl/D):	7.96
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PRODUCTIVITY INDEX (bbl/psi):	.01
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Final Flow Pressure (psi):	123.00
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APPROXIMATE RADIUS OF INVESTIGATION (ft):	32.81
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Total Flowing Time (min):	58.00
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EXTRAPOLATED RESERVOIR PRESSURE (psi):	892.00
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Slope of Build-up Curve (psi/log cycle):	250.31
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Effective Producing Time (min):	58.00
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INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

Superior Testers Enterprises, Inc.

R.R. 3, Box 295B, Great Bend, Kansas 67530

(316) 792-6902

Date 9-19-1988 Location NE-SW-NE 21-13-20 Elevation 2189 K.B. County Edis

Company McNamee & Patterson Number of Copies 5

Charts Mailed to P.O. Box 20058 Wichita Kansas 67208

Drilling Contractor Shields Drilling Company Rig #4

Length Drill Pipe 3032 I.D. Drill Pipe 3.80 Tool Joint Size 4 1/2" F.H.

Length Weight Pipe 766 I.D. Weight Pipe 2.75 Tool Joint Size 4 1/2" F.H.

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

Top Packer Depth 3812 Bottom Packer Depth 3817 Number of Packers 2 Packer Size 6 3/4"

TESTED FROM 3817 TO 3830 ANCHOR LENGTH 13 TOTAL DEPTH 3830 Hole Size 7 7/8"

LEASE & WELL NO. Drilling #1 FORMATION TESTED Arbuckle TEST NO. 6

Mud Weight 9.6 Viscosity 44 Water Loss 12.9 Chlorides - Pits _____ D.S.T. _____

Maximum Temp. 116 °F Initial Hydrostatic Pressure (A) 2012 P.S.I. Final Hydrostatic Pressure (H) 1990 P.S.I.

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

Tool Closed I.C.I.P. from 8:30 A.M. to 9:15 A.M. 45 min

Tool Open F.F.P. from 9:15 A.M. to 10:15 A.M. 60 min

Tool Closed F.C.I.P. from 10:15 A.M. to 11:15 A.M. 60 min

Initial Blow Fair blow - built to the bottom of a 5 gallon bucket in 30 min

Final Blow weak to fair blow built to 8 1/2 inches into the water

Total Feet Recovered 220 Gravity of Oil _____ Corrected

300 Feet of Gas in the Pipe % Gas _____ % Oil _____ % Mud _____ % Water _____

40 Feet of 2 % Gas 86 % Oil 10 % Mud 8 % Water

60 Feet of 1 % Gas 90 % Oil 5 % Mud 4 % Water

60 Feet of 8 % Gas 80 % Oil 4 % Mud 8 % Water

60 Feet of 20 % Gas 68 % Oil 4 % Mud 8 % Water

Feet of _____ % Gas _____ % Oil _____ % Mud _____ % Water

Feet of _____ % Gas _____ % Oil _____ % Mud _____ % Water

Feet of _____ % Gas _____ % Oil _____ % Mud _____ % Water

Feet of _____ % Gas _____ % Oil _____ % Mud _____ % Water

Feet of _____ % Gas _____ % Oil _____ % Mud _____ % Water

Feet of _____ % Gas _____ % Oil _____ % Mud _____ % Water

Remarks _____

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

Top Recorder No. 11087 Clock No. 47441 Depth 3824 Cir. Sub None Sampler None

Bottom Recorder No. 906 Clock No. 47442 Depth 3827 Insurance None

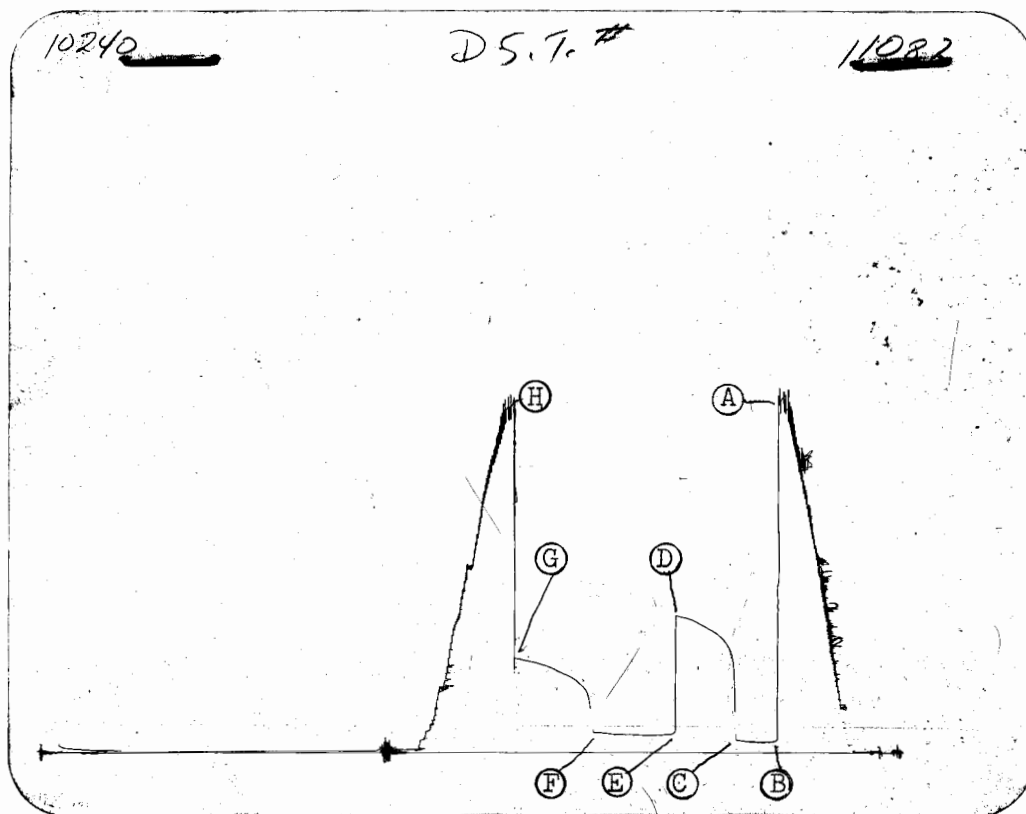
Price of Job _____

Tool Operator Gene Budig

Approved By _____

No 10240

Superior Testers Enterprises, Inc. shall not be liable for damage of any kind to the property or personnel 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		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	2012	2002	P.S.I.
(B) First Initial Flow Pressure	66	62	P.S.I.
(C) First Final Flow Pressure	88	68	P.S.I.
(D) Initial Closed-in Pressure	793	769	P.S.I.
(E) Second Initial Flow Pressure	99	103	P.S.I.
(F) Second Final Flow Pressure	121	109	P.S.I.
(G) Final Closed-in Pressure	541	527	P.S.I.
(H) Final Hydrostatic Mud	1990	1967	P.S.I.

SUPERIOR TESTERS ENTERPRISES INC.

WELL IDENTIFICATION DATA

COMPANY : McNAMES & PATTERSON WELL NAME : DRIELING #1
ADDRESS : P.O.BOX 20058, WICHITA LOCATION : NE-SW-NE 21-13-20
STATE & COUNTY : KANSAS, ELLIS FIELD :
ELEV. (GR) : 2184 (KB) : 2189 TEST DATE : 9-19-1988

EQUIPMENT AND HOLE DATA

FORMATION TESTED : ARBUCKLE DRILL PIPE LENGTH(ft) : 3032
TEST INT. KB : 3817 to 3830 DRILL PIPE O.D.(in) : 3.82
ANCHOR LENGTH(ft) : 13 WEIGHT PIPE LENGTH(ft) : 766
TYPE OF TEST : Conventional WEIGHT PIPE ID : 2.75
TOTAL DEPTH(ft-kb) : 3830 DRILL COLLAR LENGTH(ft) :
MAIN HOLE SIZE(in) : 7 7/8 DRILL COLLAR I.D.(in) : 2.259
MUD WEIGHT : 9.6 TOP PACKER DEPTH(kb) : 3812
MUD VISCOSITY : 44 BOTTOM PACKER DEPTH(kb) : 3817
MUD CHLORIDES : DUAL PACKERS :
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) : 116 TEST TICKET NUMBER : 10240

EXTRA EQUIPMENT :

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

SURFACE BLOW

1st Opening : FAIR BLOW BUILT TO BOTTOM OF THE BUCKET IN 30 MIN.
2nd Opening : WEAK TO FAIR BUILT TO 8 1/2 INCHES INTO THE WATER

RECOVERY

Recovered 220 feet of SLIGHTLY MUDDY FROTHY OIL-80% OIL
Recovered 300 feet of GAS IN THE PIPE

REMARKS :

WITNESSED BY : JERRY HONAS

TOOL OPERATOR : GENE BUDIG

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES INC.

SUPERIOR TESTERS ENTERPRISES INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : McNAMES & PATTERSON
 DATE OF TEST : 9-19-1988
 DEPTH : 3824.0

WELL NAME : DRIELING #1
 LOCATION : NE-SW-NE 21-13-20
 SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			CALC	CORR	CORRECTED
TEST NO.: 6					
Depth : 3824.0 ft-kb					
-1ST HYDROSTATIC	0.0	1.820	1996.57	5.61	2002.18
-8:00 1ST FLOW	0.0	.057	67.43	-4.66	62.78
- 8:05	5.0	.057	67.43	-4.66	62.78
- 8:10	10.0	.057	67.43	-4.66	62.78
- 8:15	15.0	.057	67.43	-4.66	62.78
- 8:20	20.0	.057	67.43	-4.66	62.78
- 8:25	25.0	.060	70.72	-4.64	66.08
- 8:30	30.0	.062	72.90	-4.62	68.28
-8:30 END FLOW	0.0	.062	72.90	-4.62	68.28
- 8:33	3.0	.467	516.07	-1.75	514.32
- 8:36	6.0	.527	581.72	-1.33	580.40
- 8:39	9.0	.565	623.31	-1.06	622.25
- 8:42	12.0	.590	650.66	-.88	649.78
- 8:45	15.0	.606	668.17	-.77	667.40
- 8:48	18.0	.622	685.68	-.65	685.02
- 8:51	21.0	.629	693.34	-.61	692.73
- 8:54	24.0	.644	709.75	-.50	709.25
- 8:57	27.0	.656	722.88	-.41	722.47
- 9:00	30.0	.664	731.63	-.36	731.28
- 9:03	33.0	.675	743.67	-.28	743.39
- 9:06	36.0	.682	751.33	-.23	751.10
- 9:09	39.0	.688	757.90	-.19	757.71
- 9:12	42.0	.691	761.18	-.17	761.01
- 9:15	45.0	.699	769.93	-.11	769.82
- 8:30	0.0	.699	769.93	-.11	769.82
-9:15 1ST SHUT-IN	0.0	.699	769.93	-.11	769.82
-9:15 2ND FLOW	0.0	.094	107.92	-4.40	103.52
- 9:20	5.0	.092	105.73	-4.41	101.32
- 9:25	10.0	.080	92.60	-4.49	88.11
- 9:30	15.0	.089	102.45	-4.43	98.02
- 9:35	20.0	.087	100.26	-4.45	95.81
- 9:40	25.0	.088	101.35	-4.44	96.92
- 9:45	30.0	.089	102.45	-4.43	98.02
- 9:50	35.0	.090	103.54	-4.42	99.12
- 9:55	40.0	.090	103.54	-4.42	99.12
- 10:00	45.0	.090	103.54	-4.42	99.12
- 10:05	50.0	.095	109.01	-4.39	104.63
- 10:10	55.0	.098	112.30	-4.37	107.93
- 10:15	60.0	.099	113.39	-4.36	109.03
-10:15 END FLOW	0.0	.099	113.39	-4.36	109.03

SUPERIOR TESTERS ENTERPRISES INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : McNAMES & PATTERSON
 DATE OF TEST : 9-19-1988
 DEPTH : 3824.0

WELL NAME : DRIELING #1
 LOCATION : NE-SW-NE 21-13-20
 SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			CALC	CORR	CORRECTED
TEST NO.: 6					
- 10:18	3.0	.253	281.90	-3.27	278.63
- 10:21	6.0	.314	348.65	-2.84	345.81
- 10:24	9.0	.342	379.29	-2.64	376.65
- 10:27	12.0	.360	398.99	-2.51	396.48
- 10:30	15.0	.374	414.31	-2.41	411.89
- 10:33	18.0	.385	426.34	-2.33	424.01
- 10:36	21.0	.394	436.19	-2.27	433.92
- 10:39	24.0	.402	444.94	-2.21	442.73
- 10:42	27.0	.409	452.60	-2.16	450.44
- 10:45	30.0	.421	465.74	-2.08	463.66
- 10:48	33.0	.432	477.77	-2.00	475.77
- 10:51	36.0	.442	488.71	-1.93	486.78
- 10:54	39.0	.448	495.28	-1.89	493.39
- 10:57	42.0	.454	501.84	-1.84	500.00
- 11:00	45.0	.460	508.41	-1.80	506.61
- 11:03	48.0	.463	511.69	-1.78	509.91
- 11:06	51.0	.467	516.07	-1.75	514.32
- 11:09	54.0	.470	519.35	-1.73	517.62
- 11:12	57.0	.477	527.01	-1.68	525.33
- 11:14	59.0	.479	529.20	-1.67	527.53
-11:14 2ND SHUT-IN	0.0	.479	529.20	-1.67	527.53
- 11:14	0.0	1.788	1961.56	5.48	1967.03
- 11:14	0.0	1.788	1961.56	5.48	1967.03
- 11:14	0.0	1.788	1961.56	5.48	1967.03
- 11:14	0.0	1.788	1961.56	5.48	1967.03
-2ND HYDROSTATIC	0.0	1.788	1961.56	5.48	1967.03

CALCULATED RECOVERY ANALYSIS

DST Number: **6**

Test ticket number: 10240

Sample #	Total Feet	***** Gas ***** %	***** Gas ***** Feet	***** Oil ***** %	***** Oil ***** Feet	***** Mud ***** %	***** Mud ***** Feet
1	300	100.00	300.00	0.00	0.00	0.00	0.00
2	40	2.00	.80	80.00	32.00	10.00	4.00
3	60	1.00	.60	90.00	54.00	5.00	3.00
4	60	8.00	4.80	80.00	48.00	4.00	2.40
5	60	20.00	12.00	68.00	40.80	4.00	2.40
TOTAL	520	61.19	318.20	33.62	174.80	2.27	11.80

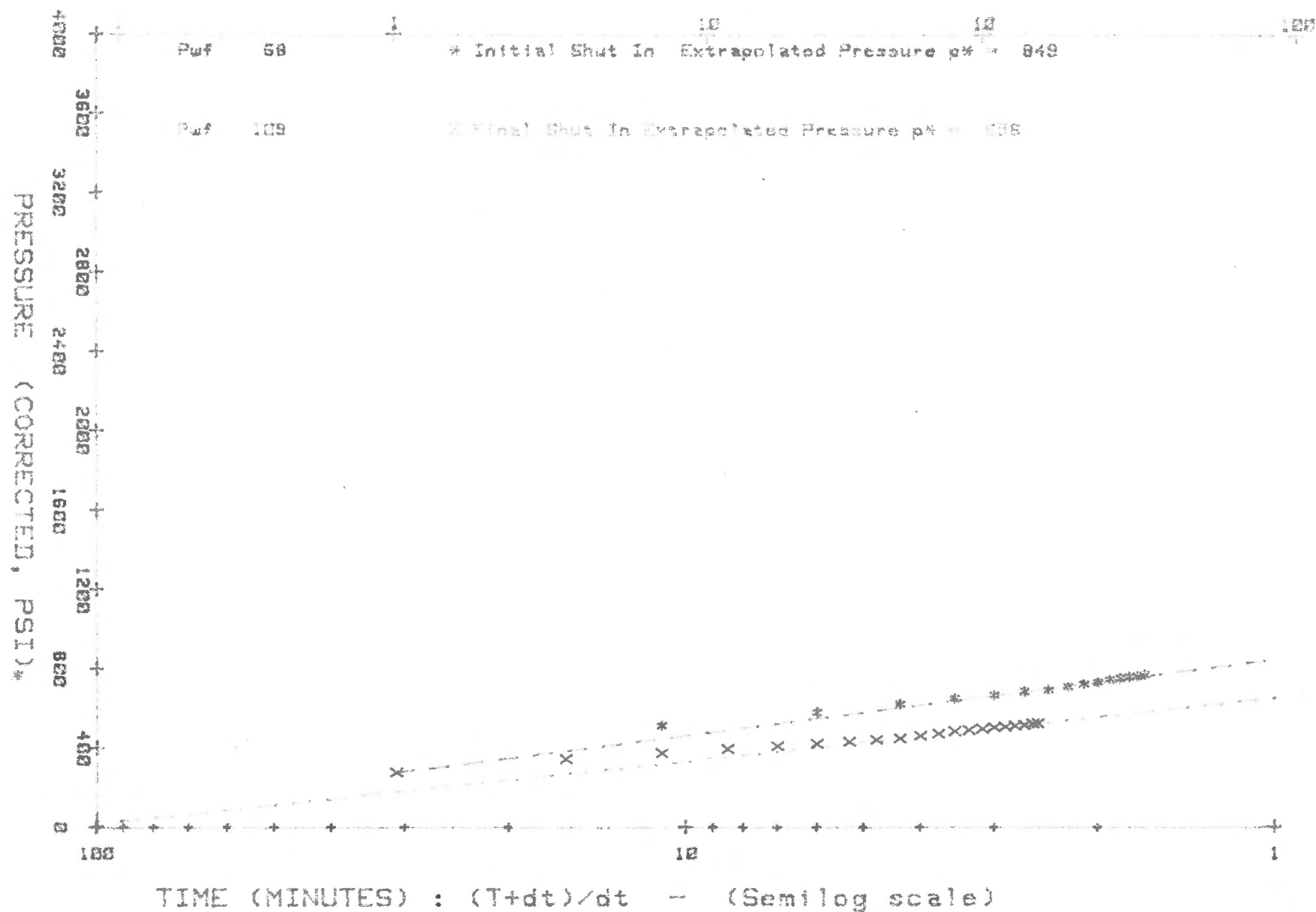
Sample #	Total Feet	***** WATER ***** %	***** WATER ***** Feet	Chlorides (ppm)	Resistivity (ohms)	Temperature (deg)
1	300	0.00	0.00	0.00	0.00	0.00
2	40	8.00	3.20	0.00	0.00	0.00
3	60	4.00	2.40	0.00	0.00	0.00
4	60	8.00	4.80	0.00	0.00	0.00
5	60	8.00	4.80	0.00	0.00	0.00
TOTAL	520	2.92	15.20			

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

LOCATION : NE-SW-NE 21-13-20

DATE : 9-19-1988

GAUGE # : 11087



SUPERIOR TESTERS ENTERPRISES INC.

DATA SUMMARY

COMPANY : McNAMES & PATTERSON
DATE OF TEST : 9-19-1988
DST. NO : 6

WELL NAME : DRIELING #1
LOCATION : NE-SW-NE 21-13-20
SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	849.00
Slope of Build-up Curve (psi/log cycle):	382.06
Effective Producing Time (min):	30.00

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

HORNER ANALYSIS

COMPANY : McNAMES & PATTERSON
 WELL NAME : DRIELING #1
 LOCATION : NE-SW-NE 21-13-20
 STATE & COUNTY : KANSAS, ELLIS
 DATE OF TEST : 9-19-1988
 TEST INT. KB : 3817 to 3830
 TOTAL INTERVAL (ft) K.B. : 13.00
 ELEV. (GR) : 2184 (KB) : 2189
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES ----- CORR PSIG
Refer. depth : 3824.0 ft-kb			
-8:30 END FLOW	0.00	0.00	68.28
	3.00	11.00	514.32
	6.00	6.00	580.40
	9.00	4.33	622.25
	12.00	3.50	649.78
	15.00	3.00	667.40
	18.00	2.67	685.02
	21.00	2.43	692.73
	24.00	2.25	709.25
	27.00	2.11	722.47
	30.00	2.00	731.28
	33.00	1.91	743.39
	36.00	1.83	751.10
	39.00	1.77	757.71
	42.00	1.71	761.01
	45.00	1.67	769.82
	0.00	0.00	769.82
-9:15 1ST SHUT-IN	0.00	0.00	769.82

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

HORNER ANALYSIS

COMPANY : McNAMES & PATTERSON
 WELL NAME : DRIELING #1
 LOCATION : NE-SW-NE 21-13-20
 STATE & COUNTY : KANSAS, ELLIS
 DATE OF TEST : 9-19-1988
 TEST INT. KB : 3817 to 3830
 *TOTAL INTERVAL (ft) K.B. : 13.00
 ELEV. (GR) : 2184 (KB) : 2189
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
Refer. depth : 3824.0 ft-kb				
-10:15 END FLOW	0.00	0.00	109.03	
	3.00	31.00	278.63	
	6.00	16.00	345.81	
	9.00	11.00	376.65	
	12.00	8.50	396.48	
	15.00	7.00	411.89	
	18.00	6.00	424.01	
	21.00	5.29	433.92	
	24.00	4.75	442.73	
	27.00	4.33	450.44	
	30.00	4.00	463.66	
	33.00	3.73	475.77	
	36.00	3.50	486.78	
	39.00	3.31	493.39	
	42.00	3.14	500.00	
	45.00	3.00	506.61	
	48.00	2.88	509.91	
	51.00	2.76	514.32	
	54.00	2.67	517.62	
	57.00	2.58	525.33	
	59.00	2.53	527.53	
-11:14 2ND SHUT-IN	0.00	0.00	527.53	
	0.00	0.00	1969.16	
	0.00	0.00	1969.16	
	0.00	0.00	1969.16	
	0.00	0.00	1969.16	

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES INC.

DATA SUMMARY

COMPANY : McNAMES & PATTERSON
DATE OF TEST : 9-19-1988
DST. NO : 6

WELL NAME : DRIELING #1
LOCATION : NE-SW-NE 21-13-20
SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

TRANSMISSIBILITY

Oil (md.ft/cp):	9.68
Gas (md.ft/cp):	0.00

EFFECTIVE PERMEABILITY

Oil (md):	.94
Gas (md):	0.00

TOTAL MOBILITY (md/cp):	1.18
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TOTAL COMPRESSIBILITY (psi-1):	7.86E-06
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ESTIMATED DAMAGE RATIO:	.37
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CALCULATED DAMAGE RATIO:	.45
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Reservoir Temperature (F):	116.00
Formation Porosity :	.18
Formation Thickness (ft):	10.00
Wellbore Radius (in):	3.94
Reservoir Compressibility (psi-1):	4.80E-07
Calculated Skin Factor :	-2.43

PRODUCTION WITH DAMAGE REMOVED (bbl/D):	18.92
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PRODUCTIVITY INDEX (bbl/psi):	.03
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Final Flow Pressure (psi):	109.00
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*APPROXIMATE RADIUS OF INVESTIGATION (ft):	36.11
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Total Flowing Time (min):	90.00
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EXTRAPOLATED RESERVOIR PRESSURE (psi):	656.00
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Slope of Build-up Curve (psi/log cycle):	317.87
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Effective Producing Time (min):	90.00
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INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.