

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

Date 8-30-85 Location NE 50 140 Elevation 1963 KB County Rush
Company Thunderbird Number of Copies _____
Address P.O. Box 18407 Wichita KS. 67218
Charts Mailed to P.O. Box 18407 Wichita KS. 67218
Invoice Mailed to P.O. Box 18407 Wichita KS. 67218
Lease Funk Well No. C-1 Formation Tested Lansing Test No. 1
Depth 3285 Tested from 3260 to 3285 Packer Size 6 3/4 Anchor Length 25'
Top Packer Depth 3255 ft. Bottom Packer Depth 3260 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 Thunderbird Drilling Rig #1
Length Drill Pipe 2674' I.D. Drill Pipe 3.80" Tool Joint Size 4 1/2 F. H. 66
Length Weight Pipe 585' I.D. Weight Pipe 2.75" Tool Joint Size 4 1/2 X-hole
Length Drill Collars none I.D. Drill Collars none Tool Joint Size none
Tool Open I.F.P. from 8:45 p.m. to 9:15 p.m. 30 min
Tool Closed I.C.I.P. from 9:15 p.m. to 9:45 p.m. 30 min
Tool Open F.F.P. from 9:45 p.m. to 10:15 p.m. 30 min
Tool Closed F.C.I.P. from 10:15 p.m. to 10:45 p.m. 30 min
Initial Hydrostatic Pressure [A] 1748 P.S.I. Final Hydrostatic Pressure [H] 1704 P.S.I. Maximum Temp 131 °F
Initial Blow U. Weak top of water blow
Final Blow V. Weak
Gas to Surface none Min. Oil to Surface none Min. Mut Weight 9.7 Viscosity 42
Gas Guaged none
Recovery 45' Watery Mud
Remarks _____
Extra Equipment-Jars no Safety Joint no Extra Packer no Straddle no Hook Wall no
Top Recorder No. 11087 Clock no. 17577 Depth 3279 Ctr. Sub no Sampler no
Bottom Recorder No. 11088 Clock No. 23914 Depth 3282 Chlorides - plts 72.030 D.S.T. _____
Price of Job _____
Tool Operator Don Dehn
Approved By _____

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

Ticket N° 9573

COMPANY THUNDERBOLT DRILLING

LEASE - WELL NO

FUNK #0-1SEC 20

TWP

16

RGE

16

TEST NO

1

DATE

8-30-85

POINT	PRESSURE		P.S.I.
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	<u>1748</u>	<u>1759</u>	P.S.I.
(B) First Initial Flow Pressure	<u>66</u>	<u>60</u>	P.S.I.
(C) First Final Flow Pressure	<u>22</u>	<u>27</u>	P.S.I.
(D) Initial Closed-in Pressure	<u>1013</u>	<u>1013</u>	P.S.I.
(E) Second Initial Flow Pressure	<u>77</u>	<u>96</u>	P.S.I.
(F) Second Final Flow Pressure	<u>44</u>	<u>48</u>	P.S.I.
(G) Final Closed-in Pressure	<u>1002</u>	<u>1003</u>	P.S.I.
(H) Final Hydrostatic Mud	<u>1704</u>	<u>1748</u>	P.S.I.

SUPERIOR TESTERS ENTERPRISES, INC.

WELL IDENTIFICATION DATA

COMPANY : THUNDERBIRD DRILLING WELL NAME : FUNK #C-1
ADDRESS : BOX 18407, WICHITA, KS LOCATION : 20-16-16
STATE & COUNTY : KANSAS, RUSH FIELD :
ELEV.(GR) : (KB) : 1963 TEST DATE : 8-30-85

EQUIPMENT AND HOLE DATA

FORMATION TESTED : LANSING	DRILL PIPE LENGTH(ft) : 2674
TEST INT. KB : 3260 to 3285	DRILL PIPE O.D.(in) : 3.82
ANCHOR LENGTH(ft) : 25	WEIGHT PIPE LENGTH(ft) : 565
TYPE OF TEST : Conventional	WEIGHT PIPE ID : 2.75
TOTAL DEPTH(ft-kb) : 3285	DRILL COLLAR LENGTH(ft) : NONE
MAIN HOLE SIZE(in) : 7 7/8	DRILL COLLAR I.D.(in) : NONE
MUD WEIGHT : 9.9	TOP PACKER DEPTH(kb) : 3255
MUD VISCOSITY : 42	BOTTOM PACKER DEPTH(kb) : 3260
MUD CHLORIDES : 72000	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) : 131	TEST TICKET NUMBER : 9573

EXTRA EQUIPMENT :

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

SURFACE BLOW

1st Opening : VERY WEAK TOP OF WATER BLOW
2nd Opening : VERY WEAK

RECOVERY

Recovered 45 feet of MUD

REMARKS :

0
0

WITNESSED BY :

TOOL OPERATOR : DAN OCHS

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 8-30-85
DEPTH : 3279.0

WELL NAME : FUNK #C-1
LOCATION : 20-16-16
SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	----- CALC	PRESSURE PSIG CORR	----- CORRECTED
TEST NO.:1					
Depth : 3279.0 ft-kb					
-1ST HYDROSTATIC	0.0	1.599	1754.75	4.59	1759.34
-20:45 1ST FLOW	0.0	.055	65.24	-4.67	60.57
- 20:49	4.0	.044	53.21	-4.75	48.46
- 20:54	9.0	.037	45.55	-4.80	40.75
- 20:58	13.0	.032	40.08	-4.83	35.24
- 21:03	18.0	.028	35.70	-4.86	30.84
- 21:07	22.0	.025	32.42	-4.88	27.53
- 21:11	26.0	.025	32.42	-4.88	27.53
- 21:14	29.0	.025	32.42	-4.88	27.53
-21:14 END FLOW	0.0	.025	32.42	-4.88	27.53
- 21:17	3.0	.073	84.94	-4.54	80.40
- 21:20	6.0	.710	781.97	-.03	781.94
- 21:23	9.0	.855	940.63	1.00	941.63
- 21:26	12.0	.877	964.71	1.15	965.86
- 21:28	14.0	.888	976.74	1.23	977.97
- 21:31	17.0	.897	986.59	1.29	987.89
- 21:34	20.0	.904	994.25	1.34	995.59
- 21:37	23.0	.910	1000.82	1.38	1002.20
- 21:40	26.0	.914	1005.19	1.40	1006.59
- 21:43	29.0	.920	1011.76	1.43	1013.19
- 21:44	30.0	.920	1011.76	1.43	1013.19
-21:44 1ST SHUT-IN	0.0	.920	1011.76	1.43	1013.19
-21:44 2ND FLOW	0.0	.088	101.35	-4.44	96.92
- 21:49	5.0	.066	77.28	-4.59	72.69
- 21:53	9.0	.058	68.53	-4.65	63.88
- 21:57	13.0	.053	63.06	-4.69	58.37
- 22:02	18.0	.049	58.68	-4.71	53.96
- 22:06	22.0	.046	55.40	-4.74	50.66
- 22:10	26.0	.044	53.21	-4.75	48.46
- 22:14	30.0	.044	53.21	-4.75	48.46
-22:14 END FLOW	0.0	.044	53.21	-4.75	48.46
- 22:17	3.0	.070	81.66	-4.57	77.09
- 22:20	6.0	.617	680.21	-.69	679.52
- 22:23	9.0	.835	918.75	.85	919.60
- 22:26	12.0	.864	950.48	1.06	951.54
- 22:28	14.0	.876	963.61	1.14	964.76
- 22:31	17.0	.887	975.65	1.22	976.87
- 22:34	20.0	.896	985.50	1.29	986.78
- 22:37	23.0	.903	993.16	1.34	994.49
- 22:40	26.0	.907	997.53	1.36	998.90

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 8-30-85
DEPTH : 3279.0

WELL NAME : FUNK #C-1
LOCATION : 20-16-16
SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			----- CALC	CORR	CORRECTED
TEST NO.:1					
- 22:43	29.0	.911	1001.91	1.39	1003.30
-22:43 2ND SHUT-IN	0.0	.911	1001.91	1.39	1003.30
-2ND HYDROSTATIC	0.0	1.589	1743.80	4.55	1748.35

SUPERIOR TESTERS ENTERPRISES, INC.

D A T A S U M M A R Y

COMPANY : THUNDERBIRD DRILLING WELL NAME : FUNK #C-1
DATE OF TEST : 8-30-85 LOCATION : 20-16-16

RECOVERY INFORMATION

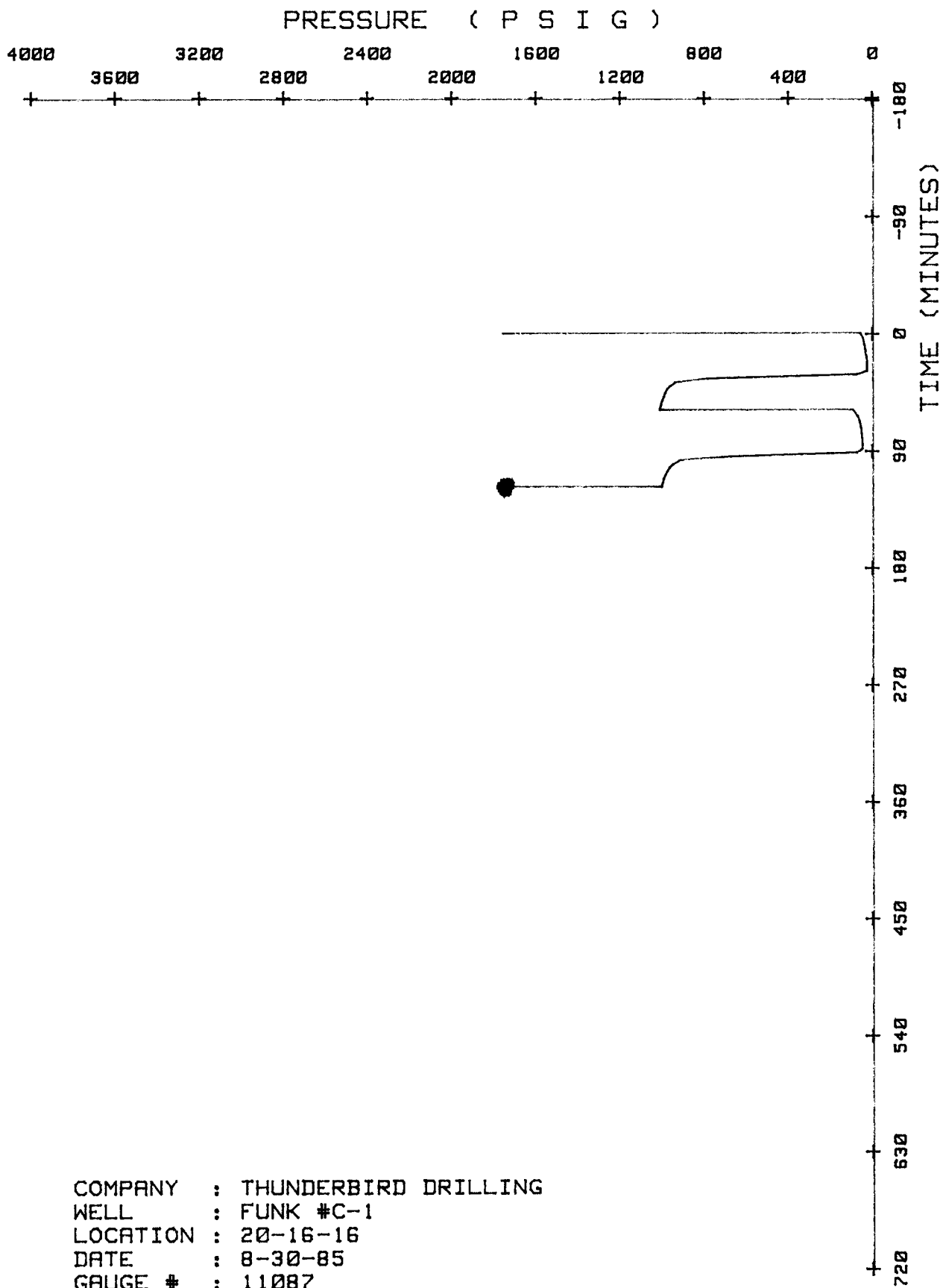
LIQUID RECOVERY Total Fluid Recovered : 45

Recovered 45 feet of WATERY MUD

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

FLUID PROPERTIES

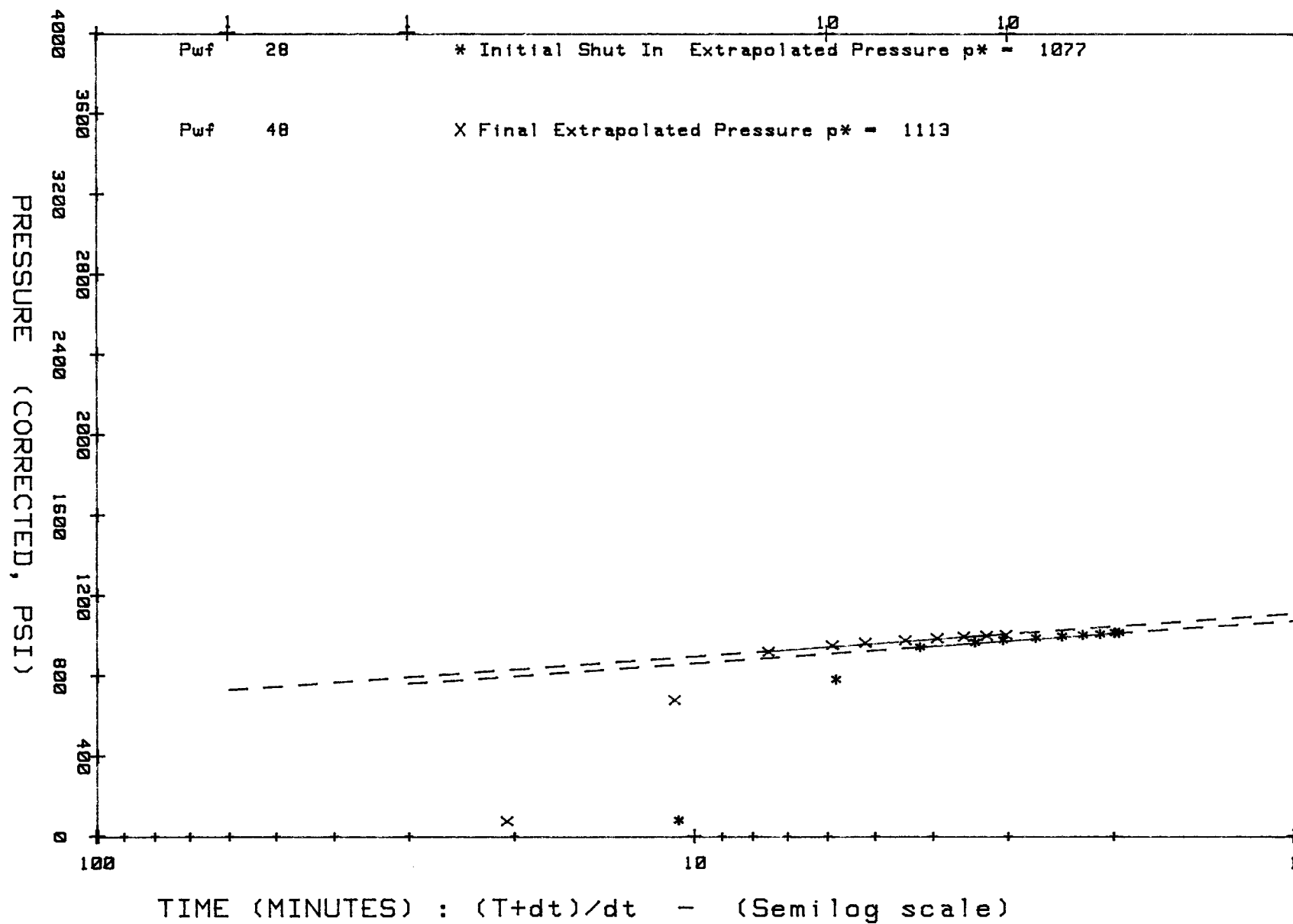
	Viscosity (cp)	Compressibility (psi-1)	Pore Space Saturation
Oil			
Gas			
Water			



LOCATION : 20-16-16

DATE : 8-30-85

GAUGE # : 11087



SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : THUNDERBIRD DRILLING
 WELL NAME : FUNK #C-1
 LOCATION : 20-16-16
 STATE & COUNTY : KANSAS, RUSH
 DATE OF TEST : 8-30-85
 TEST INT. KB : 3260 to 3285
 TOTAL INTERVAL (ft) K.B. : 25.00
 ELEV.(GR) : (KB) : 1963
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
Refer. depth : 3279.0 ft-kb				
-21:14 END FLOW	0.00	0.00	27.53	
	3.00	10.67	80.40	
	6.00	5.83	781.94	
	9.00	4.22	941.63	
	12.00	3.42	965.86	
	14.00	3.07	977.97	
	17.00	2.71	987.89	
	20.00	2.45	995.59	
	23.00	2.26	1002.20	
	26.00	2.12	1006.61	
	29.00	2.00	1013.22	
	30.00	1.97	1013.22	
-21:44 1ST SHUT-IN	0.00	0.00	1013.22	

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : THUNDERBIRD DRILLING	WELL NAME : FUNK #C-1
DATE OF TEST : 8-30-85	LOCATION : 20-16-16
DST. NO : 1	SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	1077.00
Slope of Build-up Curve (psi/log cycle):	212.15
Effective Producing Time (min):	29.00

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : THUNDERBIRD DRILLING
 WELL NAME : FUNK #C-1
 LOCATION : 20-16-16
 STATE & COUNTY : KANSAS, RUSH
 DATE OF TEST : 8-30-85
 TEST INT. KB : 3260 to 3285
 TOTAL INTERVAL (ft) K.B. : 25.00
 ELEV.(GR) : (KB) : 1963
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
Refer. depth : 3279.0 ft-kb				
-22:14 END FLOW	0.00	0.00	48.46	
	3.00	20.67	77.09	
	6.00	10.83	679.52	
	9.00	7.56	919.60	
	12.00	5.92	951.54	
	14.00	5.21	964.76	
	17.00	4.47	976.87	
	20.00	3.95	986.78	
	23.00	3.57	994.49	
	26.00	3.27	998.90	
	29.00	3.03	1003.30	
-22:43 2ND SHUT-IN	0.00	0.00	1003.30	

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

D A T A S U M M A R Y

COMPANY : THUNDERBIRD DRILLING	WELL NAME : FUNK #C-1
DATE OF TEST : 8-30-85	LOCATION : 20-16-16
DST. NO : 1	SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	1113.00
Slope of Build-up Curve (psi/log cycle):	213.99
Effective Producing Time (min):	59.00

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : THUNDERBIRD DRILLING WELL NAME : FUNK #C-1
 DATE OF TEST : 8-30-85 LOCATION : 20-16-16
 DST. NO : 1 SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

TRANSMISSIBILITY

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

EFFECTIVE PERMEABILITY

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

TOTAL MOBILITY (md/cp): 0.00

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

ESTIMATED DAMAGE RATIO: 1.13

CALCULATED DAMAGE RATIO: 0.00

Reservoir Temperature (F): 131.00
 Formation Porosity : 0.00
 Formation Thickness (ft): 10.00
 Wellbore Radius (in): 3.94
 Reservoir Compressibility (psi⁻¹): 0.00E+00
 Calculated Skin Factor : 0.00

PRODUCTION WITH DAMAGE REMOVED (bbl/D): 0.00

PRODUCTIVITY INDEX (bbl/psi): 0.00

Final Flow Pressure (psi): 48.46

APPROXIMATE RADIUS OF INVESTIGATION (ft): 0.00

Total Flowing Time (min): 59.00

EXTRAPOLATED RESERVOIR PRESSURE (psi): 1113.00

Slope of Build-up Curve (psi/log cycle): 213.99

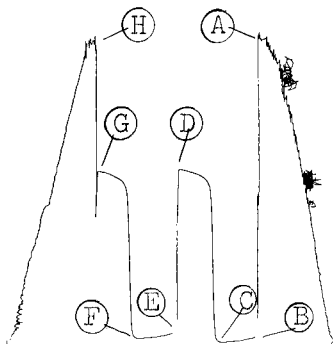
Effective Producing Time (min): 59.00

INTERPRETATION BY : SUPERIOR TESTERS INC.

9573. m

Rec # 11087

DST # 1



9573

Rec # 1108B

DST # 1



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

Date 8-31-85 Location NE-SW-NE 20-16-16 Elevation 1763' ± County RUSH
Company Thunderbird Drilling Number of Copies 5
Address P.O. Box 18407 Wichita KS 67218
Charts Mailed to P.O. Box 18407 Wichita KS 67218
Invoice Mailed to P.O. Box 18407 Wichita KS 67218
Lease Funk Well No. HC-1 Formation Tested Lansing Test No. 2
Depth 3335 Tested from 3314 to 3335 Packer Size 6 3/4" Anchor Length 21'
Top Packer Depth 3309 ft. Bottom Packer Depth 3314 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 Thunderbird Drilling Rig #1
Length Drill Pipe 2728' I.D. Drill Pipe 3.80" Tool Joint Size 4 1/2" F.H.
Length Weight Pipe 565' I.D. Weight Pipe 2.75" Tool Joint Size 4 1/2" X-hole
Length Drill Collars none I.D. Drill Collars none Tool Joint Size none

Tool Open I.F.P. from 11:30 A. m to 12:00 p m 30 min
Tool Closed I.C.I.P. from 12:00 p m to 12:45 p m 45 min
Tool Open F.F.P. from 12:45 p m to 1:15 p m 30 min
Tool Closed F.C.I.P. from 1:15 p m to 2:00 p m 45 min

from [B]	<u>66</u>	P.S.I. to [C]	<u>55</u>	P.S.I.
[D]	<u>958</u>			P.S.I.
from [E]	<u>110</u>	P.S.I. to [F]	<u>99</u>	P.S.I.
[G]	<u>936</u>			P.S.I.

Initial Hydrostatic Pressure [A] _____ P.S.I. Final Hydrostatic Pressure [H] _____ P.S.I. Maximum Temp 129 °F
Initial Blow Weak to Fair 1/4" in water built to 5" in water
Final Blow Weak 1/4" blow in water
Gas to Surface _____ Min. Oil to Surface _____ Min. Mut Weight 10.0 Viscosity 42
Gas Guaged _____

Recovery 160' Muddy Water

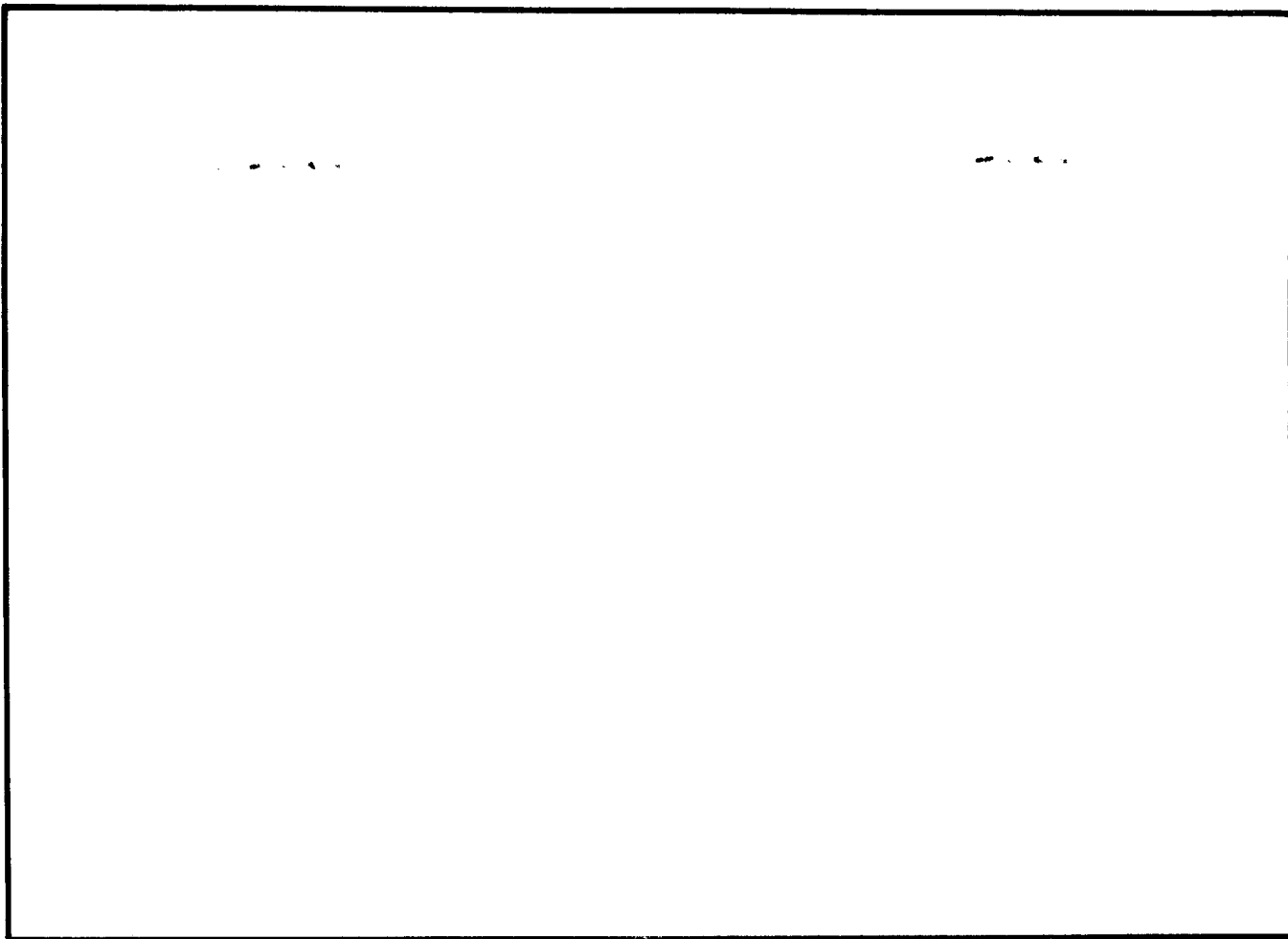
Remarks _____

Extra Equipment-Jars NO Safety Joint NO Extra Packer NO Straddle NO Hook Wall NO
Top Recorder No. 11087 Clock no. 23914 Depth 3329 Ctr. Sub _____ Sampler NO
Bottom Recorder No. 11088 Clock No. 26182 Depth 3332 Chlorides - plts 2,000 D.S.T. _____

Price of Job _____
Tool Operator [Signature]
Approved By _____

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Ticket N° 9574



POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud		1780	P.S.I.
(B) First Initial Flow Pressure	66	89	P.S.I.
(C) First Final Flow Pressure	55	62	P.S.I.
(D) Initial Closed-in Pressure	958	963	P.S.I.
(E) Second Initial Flow Pressure	110	129	P.S.I.
(F) Second Final Flow Pressure	99	105	P.S.I.
(G) Final Closed-in Pressure	936	935	P.S.I.
(H) Final Hydrostatic Mud		1751	P.S.I.

SUPERIOR TESTERS ENTERPRISES, INC.

WELL IDENTIFICATION DATA

COMPANY : THUNDERBIRD DRILLING WELL NAME : FUNK #C-1
ADDRESS : BOX 18407, WICHITA LOCATION : 20-16-16
STATE & COUNTY : KANSAS, RUSH FIELD :
ELEV.(GR) : (KB) : 1963 TEST DATE : 8-31-85

EQUIPMENT AND HOLE DATA

FORMATION TESTED : LANSING DRILL PIPE LENGTH(ft) : 2728
TEST INT. KB : 3314 to 3335 DRILL PIPE O.D.(in) : 3.82
ANCHOR LENGTH(ft) : 21 WEIGHT PIPE LENGTH(ft) : 565
TYPE OF TEST : Conventional WEIGHT PIPE ID : 2.75
TOTAL DEPTH(ft-kb) : 3335 DRILL COLLAR LENGTH(ft) : NONE
MAIN HOLE SIZE(in) : 7 7/8 DRILL COLLAR I.D.(in) : NONE
MUD WEIGHT : 10.0 TOP PACKER DEPTH(kb) : 3309
MUD VISCOSITY : 42 BOTTOM PACKER DEPTH(kb) : 3314
MUD CHLORIDES : 72000 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) : 129 TEST TICKET NUMBER : 9574

EXTRA EQUIPMENT :

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

SURFACE BLOW

1st Opening : WEAK TO FAIR 1/4 IN. IN WATER-BUILT TO 5 IN.
2nd Opening : WEAK 1/4 IN. IN WATER

RECOVERY

Recovered 160 feet of MUDDY WATER

REMARKS :

WITNESSED BY : TOOL OPERATOR : DAN OCHS

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 8-31-85
DEPTH : 3329.0

WELL NAME : FUNK #C-1
LOCATION : 20-16-16
SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	----- CALC	PRESSURE PSIG CORR	----- CORRECTED
TEST NO.:2					
Depth : 3329.0 ft-kb					
-1ST HYDROSTATIC	0.0	1.618	1775.54	4.68	1780.22
-11:30 1ST FLOW	0.0	.081	93.69	-4.49	89.21
- 11:34	4.0	.061	71.81	-4.63	67.18
- 11:39	9.0	.055	65.24	-4.67	60.57
- 11:43	13.0	.055	65.24	-4.67	60.57
- 11:47	17.0	.055	65.24	-4.67	60.57
- 11:51	21.0	.056	66.34	-4.66	61.67
- 11:56	26.0	.057	67.43	-4.66	62.78
- 11:57	27.0	.057	67.43	-4.66	62.78
-11:58 END FLOW	0.0	.057	67.43	-4.66	62.78
- 12:01	3.0	.233	260.02	-3.41	256.61
- 12:04	6.0	.383	424.15	-2.35	421.81
- 12:07	9.0	.501	553.27	-1.51	551.76
- 12:10	12.0	.590	650.66	-.88	649.78
- 12:12	14.0	.656	722.88	-.41	722.47
- 12:15	17.0	.705	776.50	-.07	776.43
- 12:18	20.0	.740	814.80	.18	814.98
- 12:21	23.0	.767	844.34	.37	844.71
- 12:24	26.0	.788	867.32	.52	867.84
- 12:27	29.0	.806	887.02	.65	887.67
- 12:29	31.0	.822	904.52	.76	905.29
- 12:32	34.0	.835	918.75	.85	919.60
- 12:35	37.0	.848	932.97	.95	933.92
- 12:38	40.0	.857	942.82	1.01	943.83
- 12:41	43.0	.866	952.67	1.07	953.74
- 12:44	46.0	.875	962.52	1.14	963.66
-12:44 1ST SHUT-IN	0.0	.875	962.52	1.14	963.66
-12:44 2ND FLOW	0.0	.118	134.18	-4.23	129.96
- 12:48	4.0	.099	113.39	-4.36	109.03
- 12:53	9.0	.093	106.83	-4.40	102.42
- 12:57	13.0	.091	104.64	-4.42	100.22
- 13:01	17.0	.092	105.73	-4.41	101.32
- 13:06	22.0	.093	106.83	-4.40	102.42
- 13:10	26.0	.094	107.92	-4.40	103.52
- 13:12	28.0	.095	109.01	-4.39	104.63
-13:12 END FLOW	0.0	.096	110.11	-4.38	105.73
- 13:15	3.0	.237	264.40	-3.38	261.01
- 13:18	6.0	.366	405.55	-2.47	403.08
- 13:21	9.0	.487	537.95	-1.61	536.34
- 13:24	12.0	.572	630.96	-1.01	629.96

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : THUNDERBIRD DRILLING
 DATE OF TEST : 8-31-85
 DEPTH : 3329.0

WELL NAME : FUNK #C-1
 LOCATION : 20-16-16
 SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	----- CALC	PRESSURE PSIG CORR	----- CORRECTED
TEST NO.:2					
- 13:26	14.0	.626	690.05	-.63	689.43
- 13:29	17.0	.676	744.77	-.27	744.49
- 13:32	20.0	.712	784.16	-.02	784.14
- 13:35	23.0	.734	808.23	.14	808.37
- 13:38	26.0	.759	835.59	.32	835.90
- 13:41	29.0	.780	858.57	.46	859.03
- 13:44	32.0	.794	873.89	.56	874.45
- 13:47	35.0	.808	889.20	.66	889.87
- 13:49	37.0	.820	902.34	.75	903.08
- 13:52	40.0	.830	913.28	.82	914.10
- 13:55	43.0	.839	923.13	.88	924.01
- 13:58	46.0	.847	931.88	.94	932.82
- 13:58	46.0	.849	934.07	.95	935.02
-13:59 2ND SHUT-IN	0.0	.849	934.07	.95	935.02
-2ND HYDROSTATIC	0.0	1.592	1747.09	4.56	1751.65

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 8-31-85

WELL NAME : FUNK #C-1
LOCATION : 20-16-16

RECOVERY INFORMATION

LIQUID RECOVERY

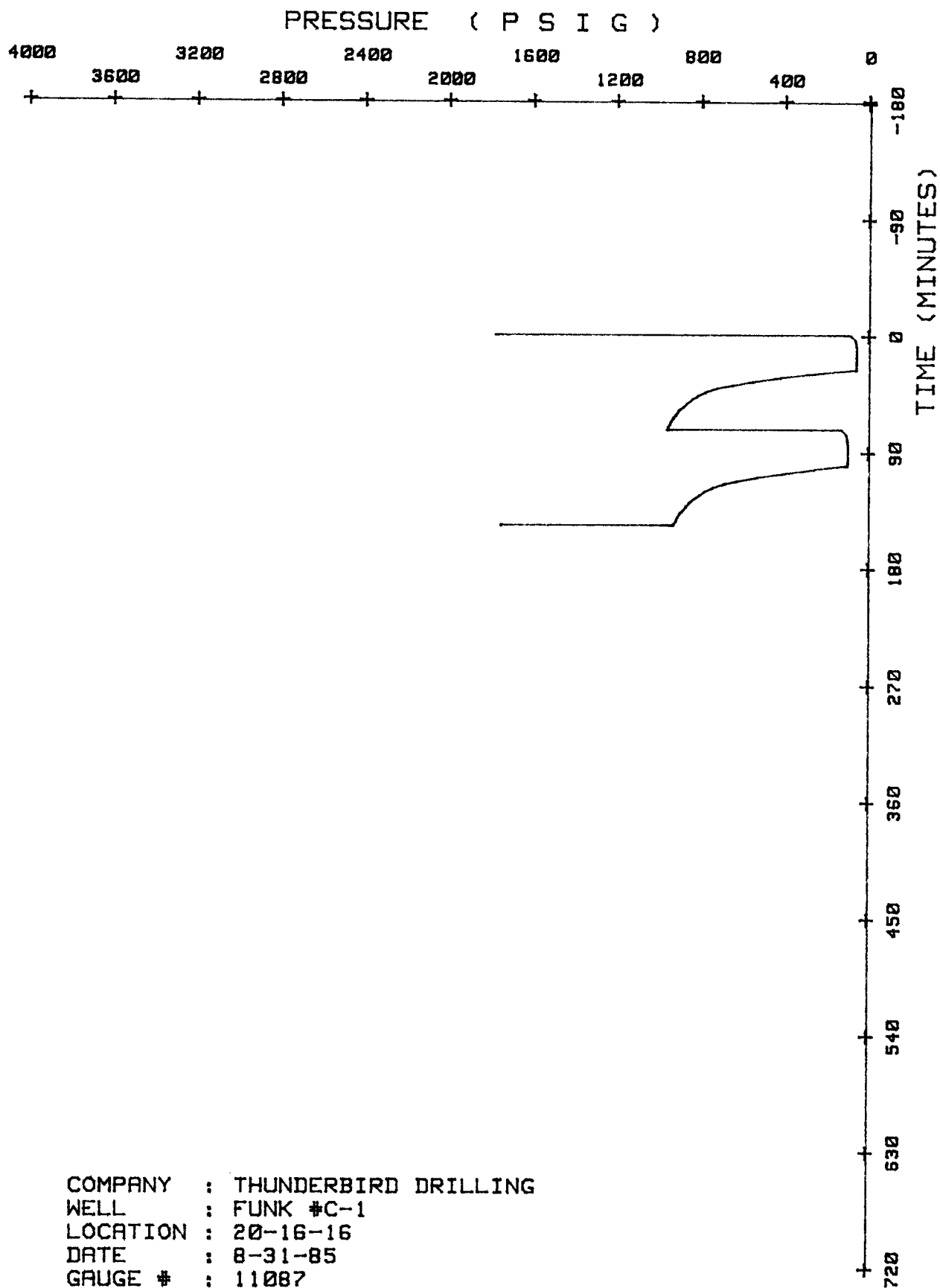
Total Fluid Recovered : 160

Recovered 160 feet of MUDDY WATER

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

FLUID PROPERTIES

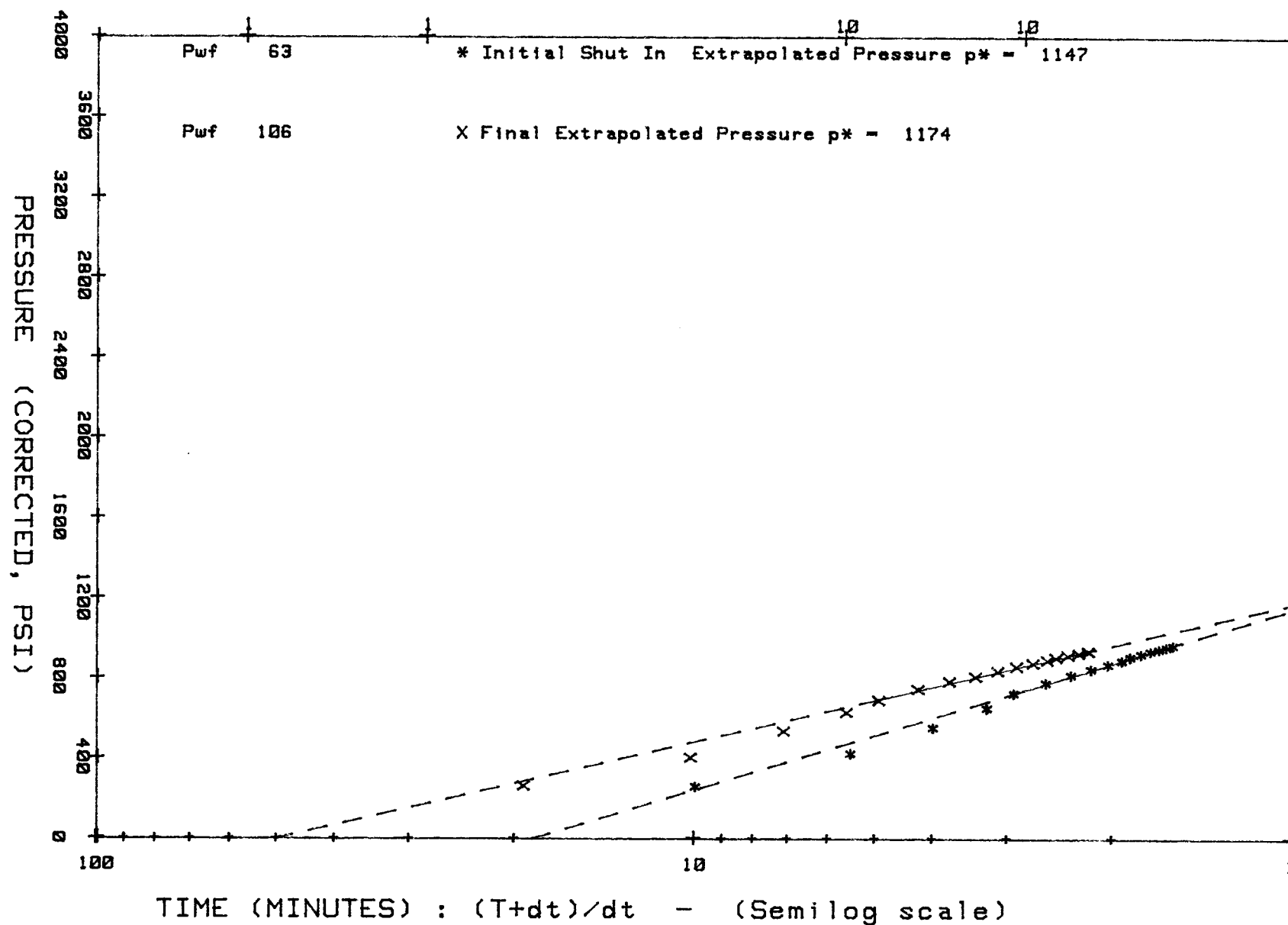
	Viscosity (cp)	Compressibility (psi-1)	Pore Space Saturation
Oil			
Gas			
Water			



LOCATION : 20-16-16

DATE : 8-31-85

GAUGE # : 11087



SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : THUNDERBIRD DRILLING
 WELL NAME : FUNK #C-1
 LOCATION : 20-16-16
 STATE & COUNTY : KANSAS, RUSH
 DATE OF TEST : 8-31-85
 TEST INT. KB : 3314 to 3335
 TOTAL INTERVAL (ft) K.B. : 21.00
 ELEV.(GR) : (KB) : 1963
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG
Refer. depth :	3329.0 ft-kb		
-11:58 END FLOW	0.00	0.00	62.78
	3.00	10.00	256.61
	6.00	5.50	421.81
	9.00	4.00	551.76
	12.00	3.25	649.78
	14.00	2.93	722.47
	17.00	2.59	776.43
	20.00	2.35	814.98
	23.00	2.17	844.71
	26.00	2.04	867.84
	29.00	1.93	887.67
	31.00	1.87	905.29
	34.00	1.79	919.60
	37.00	1.73	933.92
	40.00	1.68	943.83
	43.00	1.63	953.74
	46.00	1.59	963.66
-12:44 1ST SHUT-IN	0.00	0.00	963.66

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : THUNDERBIRD DRILLING	WELL NAME : FUNK #C-1
DATE OF TEST : 8-31-85	LOCATION : 20-16-16
DST. NO : 2	SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	1147.00
Slope of Build-up Curve (psi/log cycle):	903.69
Effective Producing Time (min):	27.00

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : THUNDERBIRD DRILLING
 WELL NAME : FUNK #C-1
 LOCATION : 20-16-16
 STATE & COUNTY : KANSAS, RUSH
 DATE OF TEST : 8-31-85
 TEST INT. KB : 3314 to 3335
 TOTAL INTERVAL (ft) K.B. : 21.00
 ELEV.(GR) : (KB) : 1963
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
Refer. depth : 3329.0 ft-kb				
-13:12 END FLOW	0.00	0.00	105.73	
	3.00	19.33	261.01	
	6.00	10.17	403.08	
	9.00	7.11	536.34	
	12.00	5.58	629.96	
	14.00	4.93	689.43	
	17.00	4.24	744.49	
	20.00	3.75	784.14	
	23.00	3.39	808.37	
	26.00	3.12	835.90	
	29.00	2.90	859.03	
	32.00	2.72	874.45	
	35.00	2.57	889.87	
	37.00	2.49	903.08	
	40.00	2.38	914.10	
	43.00	2.28	924.01	
	46.00	2.20	932.82	
	46.00	2.20	935.02	
-13:59 2ND SHUT-IN	0.00	0.00	935.02	

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

D A T A S U M M A R Y

COMPANY : THUNDERBIRD DRILLING	WELL NAME : FUNK #C-1
DATE OF TEST : 8-31-85	LOCATION : 20-16-16
DST. NO : 2	SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	1174.00
Slope of Build-up Curve (psi/log cycle):	690.66
Effective Producing Time (min):	55.00

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : THUNDERBIRD DRILLING WELL NAME : FUNK #C-1
 DATE OF TEST : 8-31-85 LOCATION : 20-16-16
 DST. NO : 2 SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

TRANSMISSIBILITY

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

EFFECTIVE PERMEABILITY

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

TOTAL MOBILITY (md/cp): 0.00

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

ESTIMATED DAMAGE RATIO:35

CALCULATED DAMAGE RATIO: 0.00

Reservoir Temperature (F): 129.00

Formation Porosity : 0.00

Formation Thickness (ft): 10.00

Wellbore Radius (in): 3.94

Reservoir Compressibility (psi⁻¹): 0.00E+00

Calculated Skin Factor : 0.00

PRODUCTION WITH DAMAGE REMOVED (bbl/D): 0.00

PRODUCTIVITY INDEX (bbl/psi): 0.00

Final Flow Pressure (psi): 105.73

APPROXIMATE RADIUS OF INVESTIGATION (ft): 0.00

Total Flowing Time (min): 55.00

EXTRAPOLATED RESERVOIR PRESSURE (psi): 1174.00

Slope of Build-up Curve (psi/log cycle): 690.66

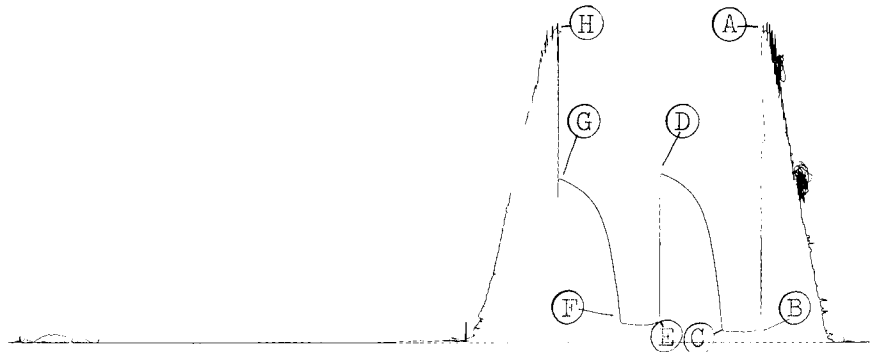
Effective Producing Time (min): 55.00

INTERPRETATION BY : SUPERIOR TESTERS INC.

9574

Rec # 11087

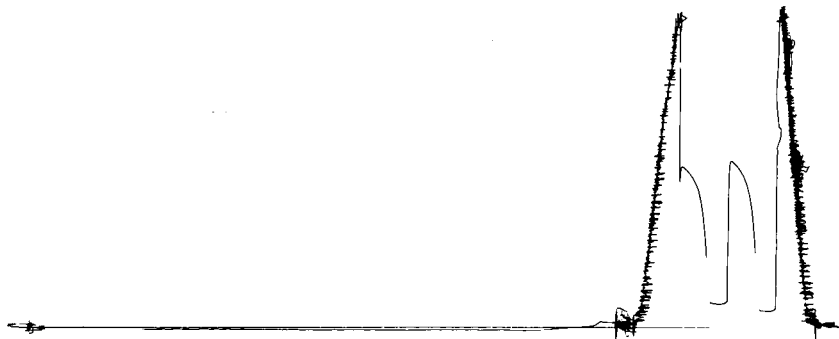
Ost # 2



9574

Rec # 11088

DST # 2



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

Date 9-1-85 Location NE SW NE 20-16-16 Elevation 1963KB County Rush
Company Thunderbird Drilling Number of Copies 5
Address P.O. Box 18407 Wichita Ks. 67218
Charts Mailed to P.O. Box 18407 Wichita Ks. 67218
Invoice Mailed to P.O. Box 18407 Wichita Ks. 67218
Lease Funk Well No. C-1 Formation Tested Lansing Test No. 3
Depth 3365 Tested from 3335 to 3365 Packer Size 6 3/4" Anchor Length 30
Top Packer Depth 3330 ft. Bottom Packer Depth 3335 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 T-Bird Drilling
Length Drill Pipe 2749 I.D. Drill Pipe 3.80" Tool Joint Size 4 1/2" F.H.
Length Weight Pipe 565' I.D. Weight Pipe 2.75 Tool Joint Size 4 1/2" X 4 1/2"
Length Drill Collars _____ I.D. Drill Collars _____ Tool Joint Size _____
Tool Open I.F.P. from 11:45 p.m. to 12:15 a.m. 30 min from [B] 99 P.S.I. to [C] 55 P.S.I.
Tool Closed I.C.I.P. from 12:15 A.m. to 12:45 A.m. 30 min [D] 563 P.S.I.
Tool Open F.F.P. from 12:45 A.m. to 1:15 A.m. 30 min from [E] 77 P.S.I. to [F] 55 P.S.I.
Tool Closed F.C.I.P. from 1:15 A.m. to 1:45 A.m. 30 min [G] 342 P.S.I.
Initial Hydrostatic Pressure [A] 1814 P.S.I. Final Hydrostatic Pressure [H] 1770 P.S.I. Maximum Temp 129 °F
Initial Blow Weak 1/4" in water died in 28 min
Final Blow No Blow
Gas to Surface _____ Min. Oil to Surface _____ Min. Mut Weight 10.0 Viscosity 42
Gas Guaged _____

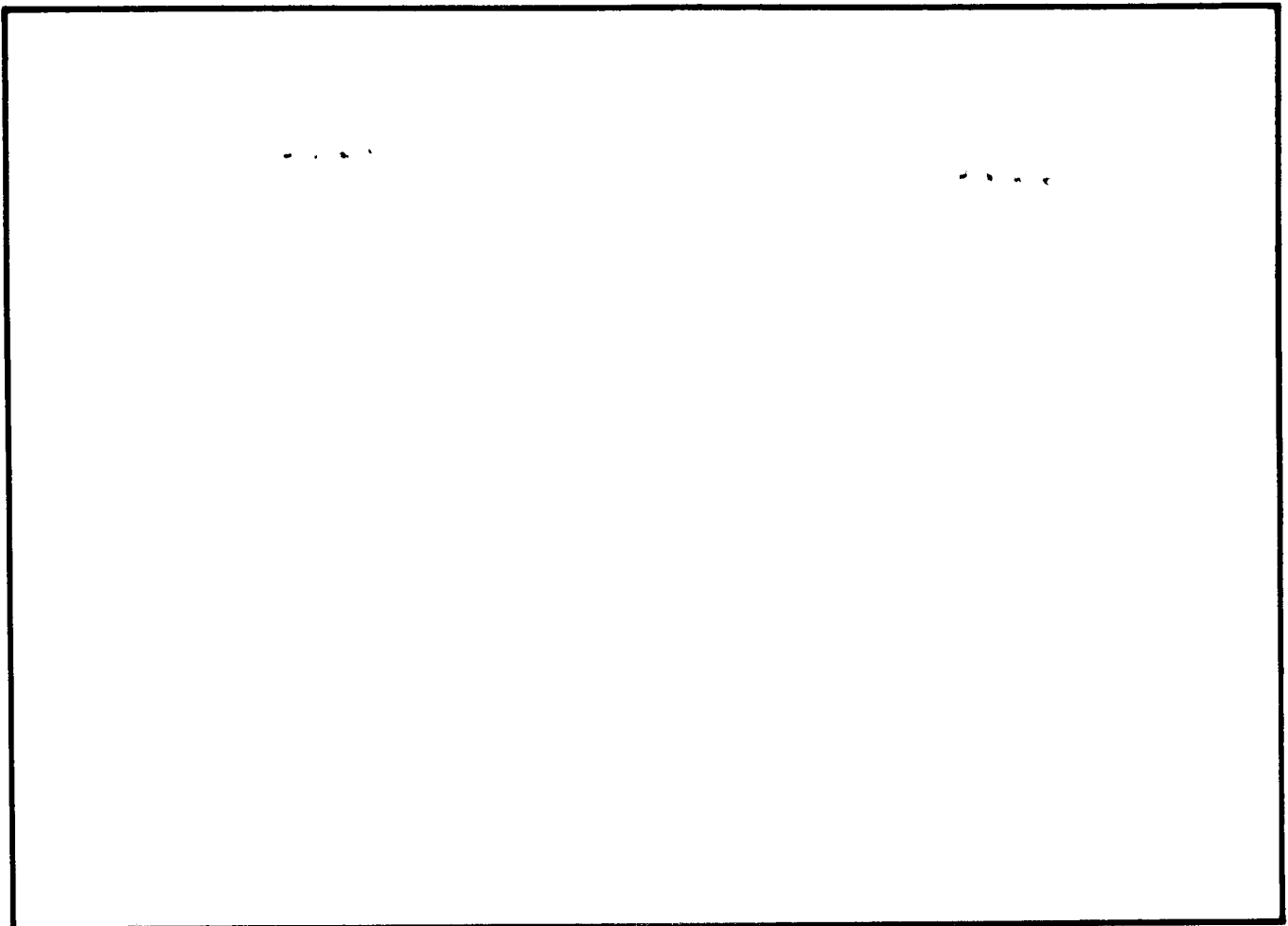
Recovery 20' Mud

Remarks Flush tool 2nd Flow no help

Extra Equipment-Jars _____ Safety Joint _____ Extra Packer _____ Straddle _____ Hook Wall _____
Top Recorder No. 11087 Clock no. 23914 Depth 3359 Ctr. Sub _____ Sampler _____
Bottom Recorder No. 11088 Clock No. 26182 Depth 3362 Chlorides - pits 72,000 D.S.T. _____
Price of Job _____
Tool Operator Alan Clark
Approved By _____

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

Ticket N° 9575



POINT	PRESSURE		P.S.I.
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	1814	1834	P.S.I.
(B) First Initial Flow Pressure	99	106	P.S.I.
(C) First Final Flow Pressure	55	51	P.S.I.
(D) Initial Closed-in Pressure	563	563	P.S.I.
(E) Second Initial Flow Pressure	77	99	P.S.I.
(F) Second Final Flow Pressure	55	57	P.S.I.
(G) Final Closed-in Pressure	342	337	P.S.I.
(H) Final Hydrostatic Mud	1770	1796	P.S.I.

SUPERIOR TESTERS ENTERPRISES, INC.

WELL IDENTIFICATION DATA

COMPANY : THUNDERBIRD DRILLING WELL NAME : FUNK #C-1
ADDRESS : BOX 18407, WICHITA LOCATION : 20-16-16
STATE & COUNTY : KANSAS, RUSH FIELD :
ELEV.(GR) : (KB) : 1963 TEST DATE : 9-1-85

EQUIPMENT AND HOLE DATA

FORMATION TESTED : LANSING DRILL PIPE LENGTH(ft) : 2749
TEST INT. KB : 3335 to 3365 DRILL PIPE O.D.(in) : 3.82
ANCHOR LENGTH(ft) : 30 WEIGHT PIPE LENGTH(ft) : 565
TYPE OF TEST : Conventional WEIGHT PIPE ID : 2.75
TOTAL DEPTH(ft-kb) : 3365 DRILL COLLAR LENGTH(ft) : NONE
MAIN HOLE SIZE(in) : 7 7/8 DRILL COLLAR I.D.(in) : 2.259
MUD WEIGHT : 10.0 TOP PACKER DEPTH(kb) : 3330
MUD VISCOSITY : 42 BOTTOM PACKER DEPTH(kb) : 3335
MUD CHLORIDES : 72000 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) : 129 TEST TICKET NUMBER : 9575

EXTRA EQUIPMENT :

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

SURFACE BLOW

1st Opening : WEAK 1/4 IN. IN WATER-DIED 28 MIN.
2nd Opening : NO BLOW - FLUSHED TOOL-NO HELP

RECOVERY

Recovered 20 feet of MUD

REMARKS :

WITNESSED BY : TOOL OPERATOR : DAN OCHS

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : THUNDERBIRD DRILLING
 DATE OF TEST : 9-1-85
 DEPTH : 3359.0

WELL NAME : FUNK #C-1
 LOCATION : 20-16-16
 SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			----- CALC	CORR	CORRECTED
TEST NO.:3					
Depth : 3359.0 ft-kb					
-1ST HYDROSTATIC	0.0	1.667	1829.15	4.91	1834.07
-23:45 1ST FLOW	0.0	.097	111.20	-4.37	106.83
- 23:50	5.0	.074	86.03	-4.54	81.50
- 23:54	9.0	.065	76.19	-4.60	71.59
- 23:58	13.0	.060	70.72	-4.64	66.08
- 0:03	18.0	.053	63.06	-4.69	58.37
- 0:07	22.0	.049	58.68	-4.71	53.96
- 0:11	26.0	.047	56.49	-4.73	51.76
- 0:15	30.0	.047	56.49	-4.73	51.76
-00:15 END FLOW	0.0	.047	56.49	-4.73	51.76
- 0:18	3.0	.045	54.30	-4.74	49.56
- 0:21	6.0	.046	55.40	-4.74	50.66
- 0:24	9.0	.046	55.40	-4.74	50.66
- 0:27	12.0	.047	56.49	-4.73	51.76
- 0:29	14.0	.056	66.34	-4.66	61.67
- 0:33	18.0	.080	92.60	-4.49	88.11
- 0:35	20.0	.129	146.22	-4.15	142.07
- 0:38	23.0	.232	258.92	-3.42	255.51
- 0:41	26.0	.337	373.82	-2.67	371.15
- 0:44	29.0	.474	523.73	-1.70	522.03
- 0:45	30.0	.512	565.31	-1.43	563.88
-00:45 1ST SHUT-IN	0.0	.512	565.31	-1.43	563.88
-00:45 2ND FLOW	0.0	.090	103.54	-4.42	99.12
- 0:46	1.0	1.647	1807.27	4.82	1812.09
- 0:46	1.0	.100	114.49	-4.35	110.13
- 0:46	1.0	1.602	1758.03	4.61	1762.64
- 0:48	3.0	.105	119.96	-4.32	115.64
- 0:49	4.0	.092	105.73	-4.41	101.32
- 0:54	9.0	.074	86.03	-4.54	81.50
- 0:58	13.0	.067	78.38	-4.59	73.79
- 1:03	18.0	.059	69.62	-4.64	64.98
- 1:07	22.0	.056	66.34	-4.66	61.67
- 1:11	26.0	.053	63.06	-4.69	58.37
- 1:15	30.0	.052	61.96	-4.69	57.27
-01:15 END FLOW	0.0	.052	61.96	-4.69	57.27
- 1:18	3.0	.052	61.96	-4.69	57.27
- 1:21	6.0	.053	63.06	-4.69	58.37
- 1:24	9.0	.053	63.06	-4.69	58.37
- 1:27	12.0	.057	67.43	-4.66	62.78
- 1:29	14.0	.066	77.28	-4.59	72.69

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 9-1-85
DEPTH : 3359.0

WELL NAME : FUNK #C-1
LOCATION : 20-16-16
SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	----- PRESSURE PSIG -----		
			CALC	CORR	CORRECTED
TEST NO.:3					
- 1:32	17.0	.083	95.88	-4.47	91.41
- 1:35	20.0	.112	127.62	-4.27	123.35
- 1:38	23.0	.159	179.05	-3.93	175.11
- 1:41	26.0	.251	279.71	-3.28	276.43
- 1:44	29.0	.306	339.90	-2.89	337.00
-01:44 2ND SHUT-IN	0.0	.306	339.90	-2.89	337.00
-2ND HYDROSTATIC	0.0	1.633	1791.95	4.75	1796.70

SUPERIOR TESTERS ENTERPRISES, INC.

ERROR IN SUMMARY CALCULATIONS

***** C A U T I O N ; D A T A I N C O M P L E T E
 D A T A S U M M A R Y

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 9-1-85

WELL NAME : FUNK #C-1
LOCATION : 20-16-16

RECOVERY INFORMATION

LIQUID RECOVERY

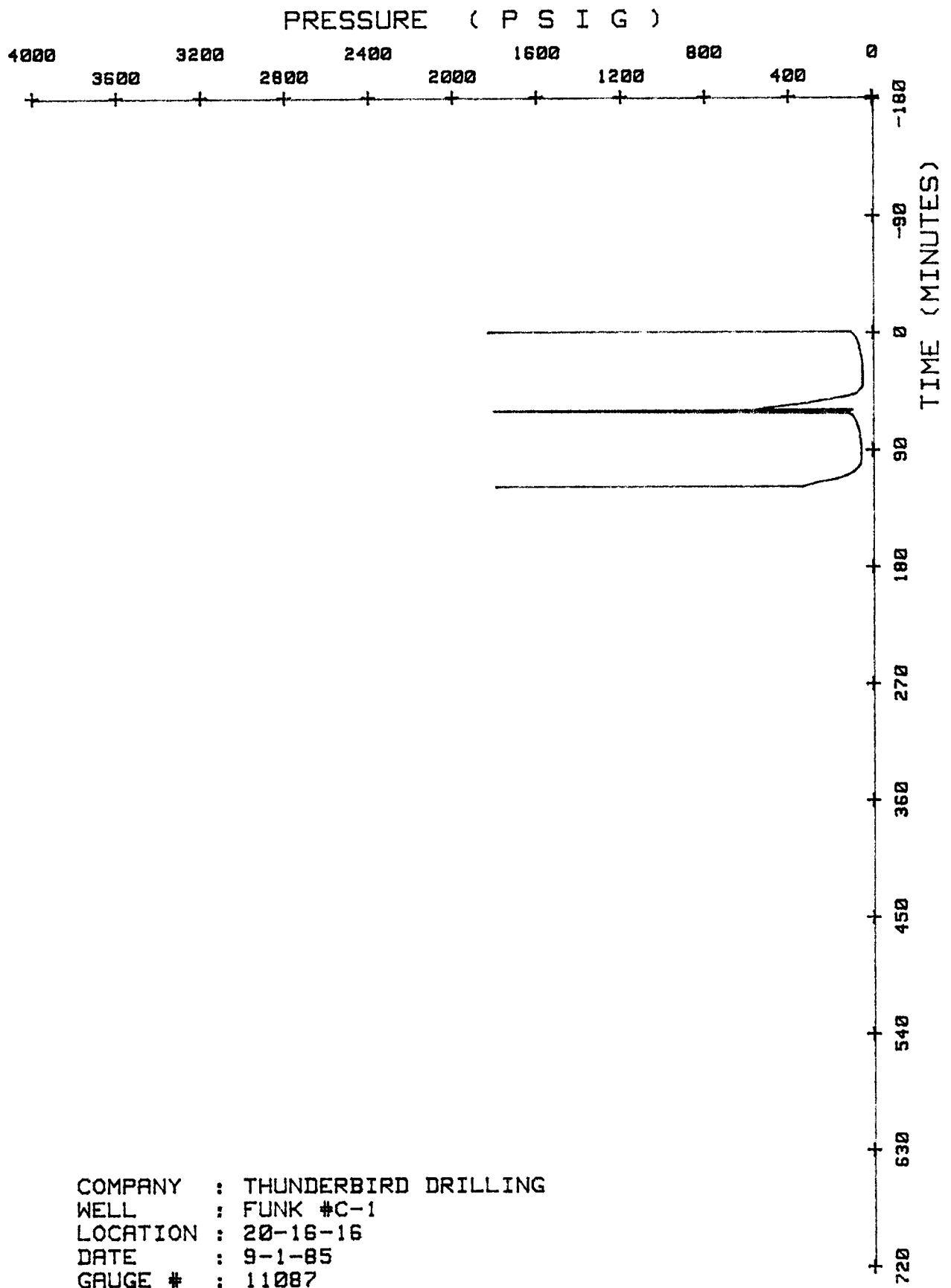
Total Fluid Recovered : 20

Recovered 20 feet of 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			
Gas			
Water			



SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : THUNDERBIRD DRILLING
 DATE OF TEST : 9-1-85
 DST. NO : 3

WELL NAME : FUNK #C-1
 LOCATION : 20-16-16
 SHUT-IN PERIOD :

INTERPRETIVE DATA

TRANSMISSIBILITY

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

EFFECTIVE PERMEABILITY

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

TOTAL MOBILITY (md/cp):	0.00
-------------------------------	------

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

ESTIMATED DAMAGE RATIO:	0.00
-------------------------------	------

CALCULATED DAMAGE RATIO:	0.00
--------------------------------	------

Reservoir Temperature (F):	129.00
Formation Porosity :	0.00
Formation Thickness (ft):	10.00
Wellbore Radius (in):	3.94
Reservoir Compressibility (psi-1):	0.00E+00
Calculated Skin Factor :	0.00

PRODUCTION WITH DAMAGE REMOVED :	0.00
--	------

PRODUCTIVITY INDEX :	0.00
----------------------------	------

Final Flow Pressure (psi):	0.00
----------------------------------	------

APPROXIMATE RADIUS OF INVESTIGATION (ft):	0.00
---	------

Total Flowing Time (min):	0.00
---------------------------------	------

EXTRAPOLATED RESERVOIR PRESSURE (psi):	0.00
--	------

Slope of Build-up Curve (psi/log cycle):	0.00
--	------

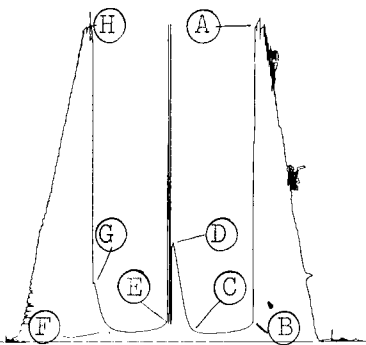
Effective Producing Time (min):	0.00
---------------------------------------	------

INTERPRETATION BY : SUPERIOR TESTERS INC.

9575

Rec # 11287

OST # 3



9575

Rec # 11088

OST # 3



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

Date 9-1-85 Location NE 1/4 Sec 20 T16N R16E Elevation 1963 KB County Rush
Company Thompson Drilling Number of Copies 5
Address P.O. Box 18467 Wichita KS 67218
Charts Mailed to P.O. Box 18467 Wichita KS 67218
Invoice Mailed to P.O. Box 18467 Wichita KS 67218
Lease Lease Well No. #01 Formation Tested Lansing Test No. 4
Depth 22' Tested from 22' to 22' Packer Size 3369 Anchor Length 60'
Top Packer Depth 3364 ft. Bottom Packer Depth 3369 ft. Dual Packers Yes
Tool Joint Size 4 1/2" Tool Size 5 1/2" Hole Size 4 1/2" Did Packer Hold Yes
Drilling Contractor Thompson Drilling
Length Drill Pipe 2783' I.D. Drill Pipe 3.8" Tool Joint Size 4 1/2" T.H.B.
Length Weight Pipe 565' I.D. Weight Pipe 5.25" Tool Joint Size 4 1/2" T.H.B.
Length Drill Collars None I.D. Drill Collars None Tool Joint Size None
Tool Open I.F.P. from 3:45 p.m. to 4:15 p.m. 50 min
Tool Closed I.C.I.P. from 4:15 p.m. to 4:45 p.m. 30 min
Tool Open F.F.P. from 4:45 p.m. to 5:00 p.m. 15 min
Tool Closed F.C.I.P. from 5:00 p.m. to 5:30 p.m. 30 min
Initial Hydrostatic Pressure [A] 1792 P.S.I. Final Hydrostatic Pressure [H] 1770 P.S.I. Maximum Temp 129 °F
Initial Blow Weak died in 5 min
Final Blow No Blow
Gas to Surface — Min. Oil to Surface — Min. Mut Weight 10.0 Viscosity 47
Gas Guaged —

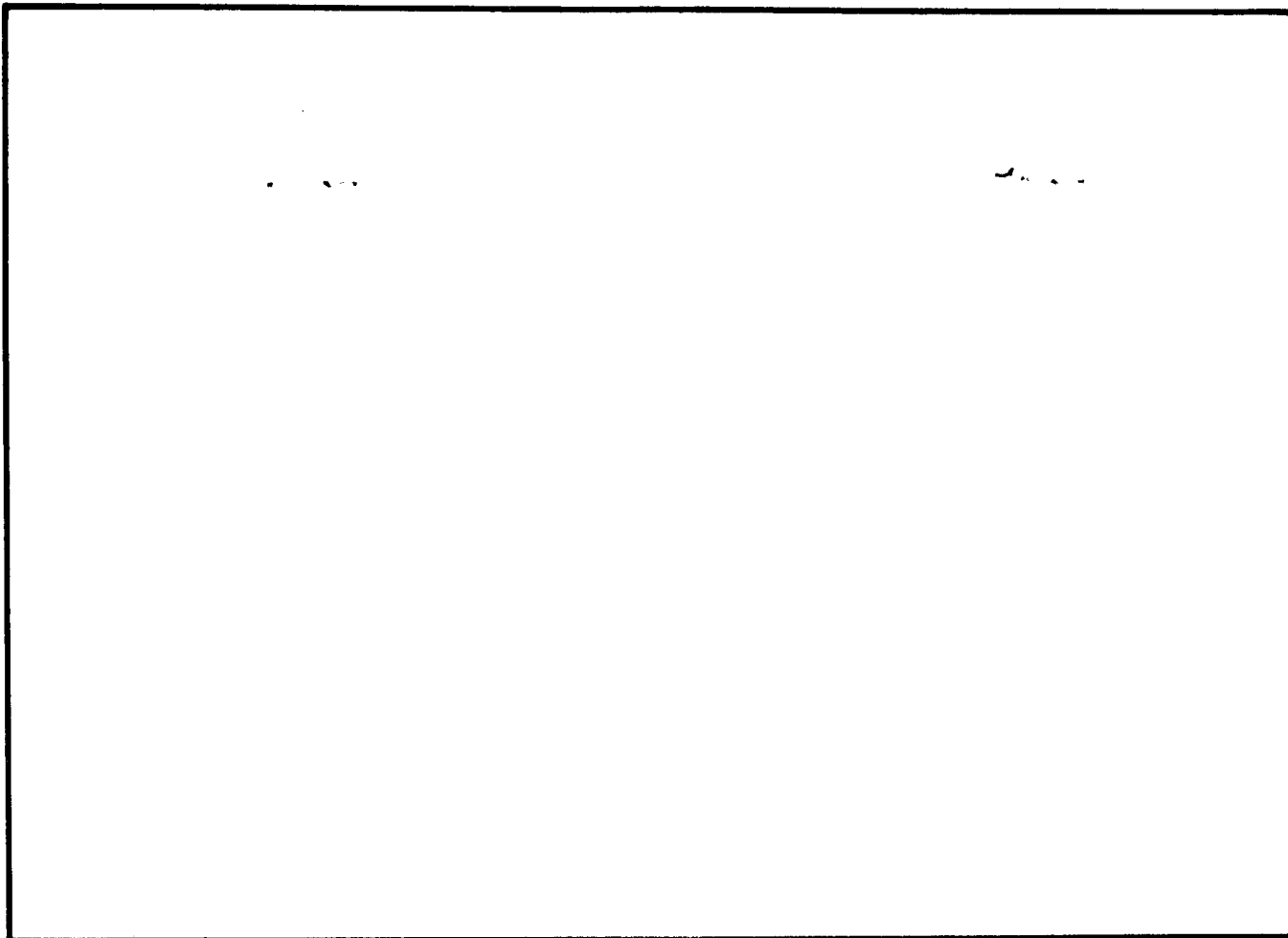
from [B]	<u>66</u>	P.S.I. to [C]	<u>55</u>	P.S.I.
[D]	<u>66</u>			P.S.I.
from [E]	<u>44</u>	P.S.I. to [F]	<u>44</u>	P.S.I.
[G]	<u>55</u>			P.S.I.

Recovery 10' Mud
Remarks —

Extra Equipment-Jars — Safety Joint — Extra Packer — Straddle — Hook Wall —
Top Recorder No. 11087 Clock no. 23914 Depth 3423 Ctr. Sub — Sampler —
Bottom Recorder No. 11088 Clock No. 26182 Depth 3426 Chlorides - plts 74000 D.S.T. —
Price of Job —
Tool Operator Rose Chs
Approved By —

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

Ticket N^o 8926



POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	1792	1810	P.S.I.
(B) First Initial Flow Pressure	66	93	P.S.I.
(C) First Final Flow Pressure	55	53	P.S.I.
(D) Initial Closed-in Pressure	66	55	P.S.I.
(E) Second Initial Flow Pressure	44	53	P.S.I.
(F) Second Final Flow Pressure	44	46	P.S.I.
(G) Final Closed-in Pressure	55	49	P.S.I.
(H) Final Hydrostatic Mud	1770	1789	P.S.I.

SUPERIOR TESTERS ENTERPRISES, INC.

WELL IDENTIFICATION DATA

COMPANY : THUNDERBIRD DRILLING WELL NAME : FUNK #C-1
ADDRESS : BOX 18407, WICHITA LOCATION : 20-16-16
STATE & COUNTY : KANSAS, RUSH FIELD :
ELEV.(GR) : (KB) : 1963 TEST DATE : 9-1-85

EQUIPMENT AND HOLE DATA

FORMATION TESTED : LANSING DRILL PIPE LENGTH(ft) : 2783
TEST INT. KB : 3379 to 3429 DRILL PIPE O.D.(in) : 3.82
ANCHOR LENGTH(ft) : 60 WEIGHT PIPE LENGTH(ft) : 565
TYPE OF TEST : Conventional WEIGHT PIPE ID : 2.75
TOTAL DEPTH(ft-kb) : 3429 DRILL COLLAR LENGTH(ft) : NONE
MAIN HOLE SIZE(in) : 7 7/8 DRILL COLLAR I.D.(in) : NONE
MUD WEIGHT : 10.0 TOP PACKER DEPTH(kb) : 3364
MUD VISCOSITY : 47 BOTTOM PACKER DEPTH(kb) : 3369
MUD CHLORIDES : 74000 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) : 129 TEST TICKET NUMBER : 8926

EXTRA EQUIPMENT :

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

SURFACE BLOW

1st Opening : WEAK - DIED IN 5 MIN.
2nd Opening : NO BLOW

RECOVERY

Recovered 10 feet of MUD

REMARKS :

WITNESSED BY : TOOL OPERATOR : DAN OCHS

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 9-1-85
DEPTH : 3423.0

WELL NAME : FUNK #C-1
LOCATION : 20-16-16
SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	----- CALC	PRESSURE PSIG CORR	----- CORRECTED
TEST NO.:4					
Depth : 3423.0 ft-kb					
-1ST HYDROSTATIC	0.0	1.646	1806.18	4.81	1810.99
-15:45 1ST FLOW	0.0	.085	98.07	-4.46	93.61
- 15:49	4.0	.071	82.75	-4.56	78.19
- 15:54	9.0	.059	69.62	-4.64	64.98
- 15:58	13.0	.054	64.15	-4.68	59.47
- 16:03	18.0	.051	60.87	-4.70	56.17
- 16:07	22.0	.049	58.68	-4.71	53.96
- 16:12	27.0	.049	58.68	-4.71	53.96
- 16:15	30.0	.049	58.68	-4.71	53.96
-16:15 END FLOW	0.0	.049	58.68	-4.71	53.96
- 16:18	3.0	.048	57.58	-4.72	52.86
- 16:21	6.0	.048	57.58	-4.72	52.86
- 16:24	9.0	.047	56.49	-4.73	51.76
- 16:27	12.0	.047	56.49	-4.73	51.76
- 16:30	15.0	.045	54.30	-4.74	49.56
- 16:33	18.0	.044	53.21	-4.75	48.46
- 16:36	21.0	.045	54.30	-4.74	49.56
- 16:39	24.0	.046	55.40	-4.74	50.66
- 16:42	27.0	.047	56.49	-4.73	51.76
- 16:43	28.0	.050	59.77	-4.71	55.07
-16:43 1ST SHUT-IN	0.0	.050	59.77	-4.71	55.07
-16:43 2ND FLOW	0.0	.049	58.68	-4.71	53.96
- 16:48	5.0	.047	56.49	-4.73	51.76
- 16:52	9.0	.045	54.30	-4.74	49.56
- 16:56	13.0	.042	51.02	-4.76	46.26
- 16:57	14.0	.042	51.02	-4.76	46.26
- 16:58	15.0	.042	51.02	-4.76	46.26
-16:58 END FLOW	0.0	.042	51.02	-4.76	46.26
- 17:01	3.0	.042	51.02	-4.76	46.26
- 17:04	6.0	.040	48.83	-4.78	44.05
- 17:07	9.0	.040	48.83	-4.78	44.05
- 17:10	12.0	.040	48.83	-4.78	44.05
- 17:13	15.0	.040	48.83	-4.78	44.05
- 17:16	18.0	.040	48.83	-4.78	44.05
- 17:19	21.0	.041	49.93	-4.77	45.15
- 17:22	24.0	.041	49.93	-4.77	45.15
- 17:25	27.0	.042	51.02	-4.76	46.26
- 17:28	30.0	.043	52.11	-4.76	47.36
- 17:29	31.0	.045	54.30	-4.74	49.56
-17:30 2ND SHUT-IN	0.0	.045	54.30	-4.74	49.56

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 9-1-85
DEPTH : 3423.0

WELL NAME : FUNK #C-1
LOCATION : 20-16-16
SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	----- PRESSURE PSIG -----		
			CALC	CORR	CORRECTED
TEST NO.: 4					
-2ND HYDROSTATIC	0.0	1.626	1784.29	4.72	1789.01
- 17:30	0.0	1.626	1784.29	4.72	1789.01
- 17:30	0.0	1.626	1784.29	4.72	1789.01

SUPERIOR TESTERS ENTERPRISES, INC.

ERROR IN SUMMARY CALCULATIONS

***** C A U T I O N ; D A T A I N C O M P L E T E
 D A T A S U M M A R Y

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 9-1-85

WELL NAME : FUNK #C-1
LOCATION : 20-16-16

RECOVERY INFORMATION

LIQUID RECOVERY

Total Fluid Recovered : 10

Recovered 10 feet of MUD

GAS RECOVERY

Measured With :

Riser :

Time (min.)

(

Reading

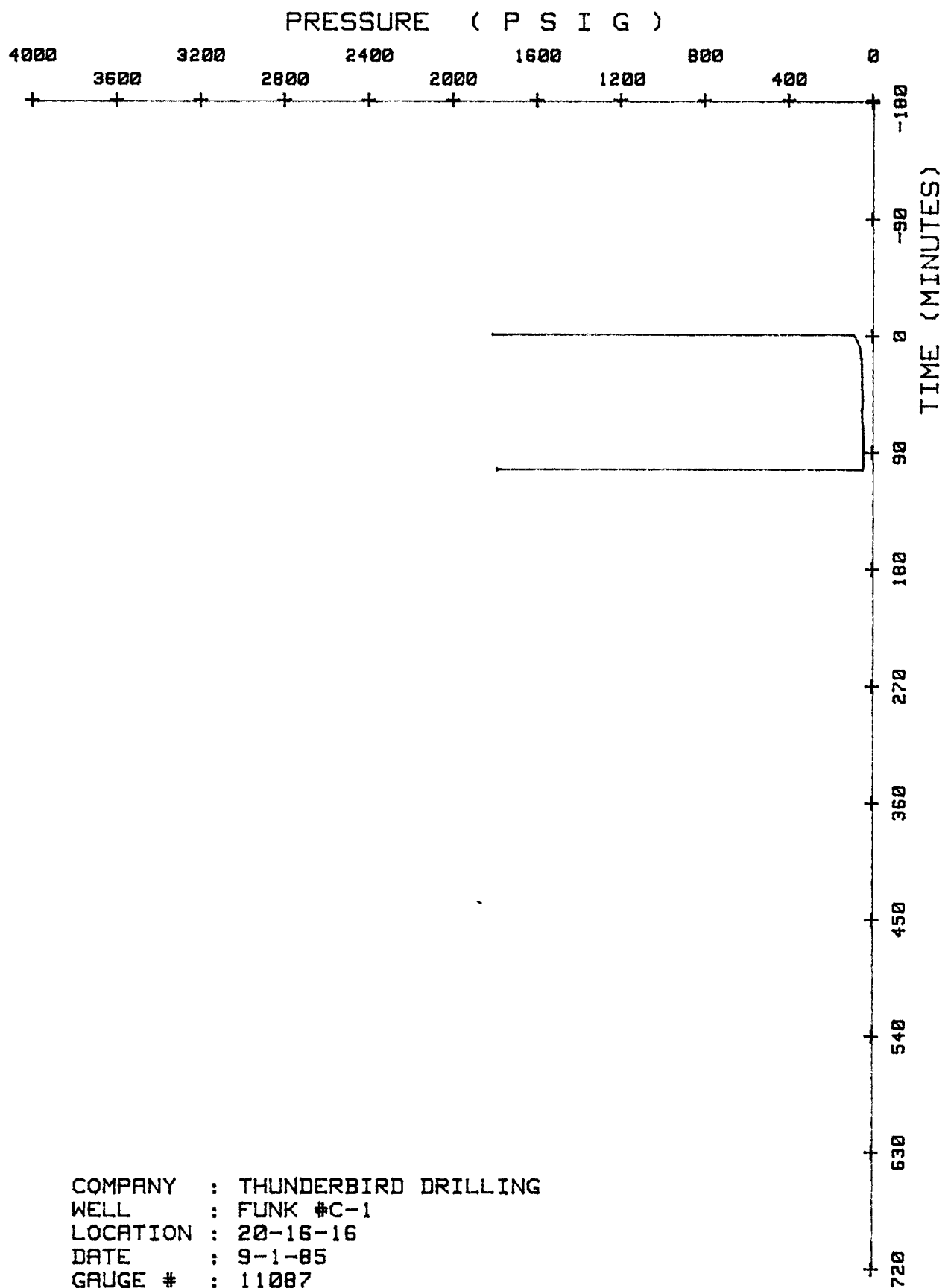
)

Surface Choke (in.)

Cubic feet/day

FLUID PROPERTIES

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



SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : THUNDERBIRD DRILLING WELL NAME : FUNK #C-1
 DATE OF TEST : 9-1-85 LOCATION : 20-16-16
 DST. NO : 4 SHUT-IN PERIOD :

INTERPRETIVE DATA

TRANSMISSIBILITY

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

EFFECTIVE PERMEABILITY

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

TOTAL MOBILITY (md/cp): 0.00

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

ESTIMATED DAMAGE RATIO: 0.00

CALCULATED DAMAGE RATIO: 0.00

Reservoir Temperature (F): 129.00
 Formation Porosity : 0.00
 Formation Thickness (ft): 10.00
 Wellbore Radius (in): 3.94
 Reservoir Compressibility (psi-1): 0.00E+00
 Calculated Skin Factor : 0.00

PRODUCTION WITH DAMAGE REMOVED : 0.00

PRODUCTIVITY INDEX : 0.00

Final Flow Pressure (psi): 0.00

APPROXIMATE RADIUS OF INVESTIGATION (ft): 0.00

Total Flowing Time (min): 0.00

EXTRAPOLATED RESERVOIR PRESSURE (psi): 0.00

Slope of Build-up Curve (psi/log cycle): 0.00

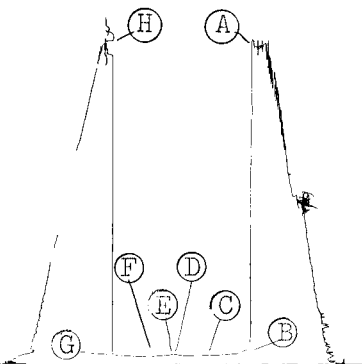
Effective Producing Time (min): 0.00

INTERPRETATION BY : SUPERIOR TESTERS INC.

8926

Rec # 11087

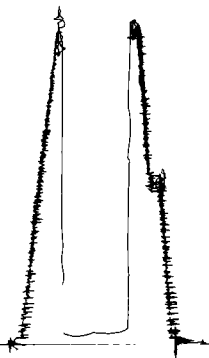
LST # 4



8926

Rec #11088

DST #4



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

Date 7-2-85 Location NE 5th NE 20 16 16 Elevation 1963' X B County Rush
Company Thunderbird Drilling Number of Copies 5
Address P.O. Box 18407 Wichita Ks. 67218
Charts Mailed to P.O. Box 18407 Wichita Ks. 67218
Invoice Mailed to P.O. Box 18407 Wichita Ks. 67218
Lease Funk Well No. #2-1 Formation Tested Lansing Test No. 5
Depth 3490 Tested from 3432 to 3490 Packer Size 6 3/4" Anchor Length 58'
Top Packer Depth 3427 ft. Bottom Packer Depth 3432 ft. Dual Packers yes
Tool Joint Size 4 1/2" F.H. Tool Size 5 1/2" O.D. Hole Size 2 7/8" Did Packer Hold yes
Drilling Contractor Thunderbird Drilling Rig #1
Length Drill Pipe 2846' I.D. Drill Pipe 3.50" Tool Joint Size 4 1/2" F-hole
Length Weight Pipe 565' I.D. Weight Pipe 2.75" Tool Joint Size 4 1/2" X-hole
Length Drill Collars none I.D. Drill Collars none Tool Joint Size none
Tool Open I.F.P. from 7:45 a m to 8:15a m 30 min
Tool Closed I.C.I.P. from 8:15 a m to 8:45a m 30 min
Tool Open F.F.P. from 8:45 a m to 9:00a m 15 min
Tool Closed F.C.I.P. from 9:00 a m to 9:30a m 30 min
Initial Hydrostatic Pressure [A] 1847 P.S.I. Final Hydrostatic Pressure [H] 1825 P.S.I. Maximum Temp 130 °F
Initial Blow 11.000 cu ft in 17 min.
Final Blow No Blow
Gas to Surface none Min. Oil to Surface none Min. Mut Weight 10.0 Viscosity 43
Gas Guaged none

from [B] <u>99</u> P.S.I. to [C] <u>66</u> P.S.I.
[D] <u>66</u> P.S.I.
from [E] <u>66</u> P.S.I. to [F] <u>55</u> P.S.I.
[G] <u>55</u> P.S.I.

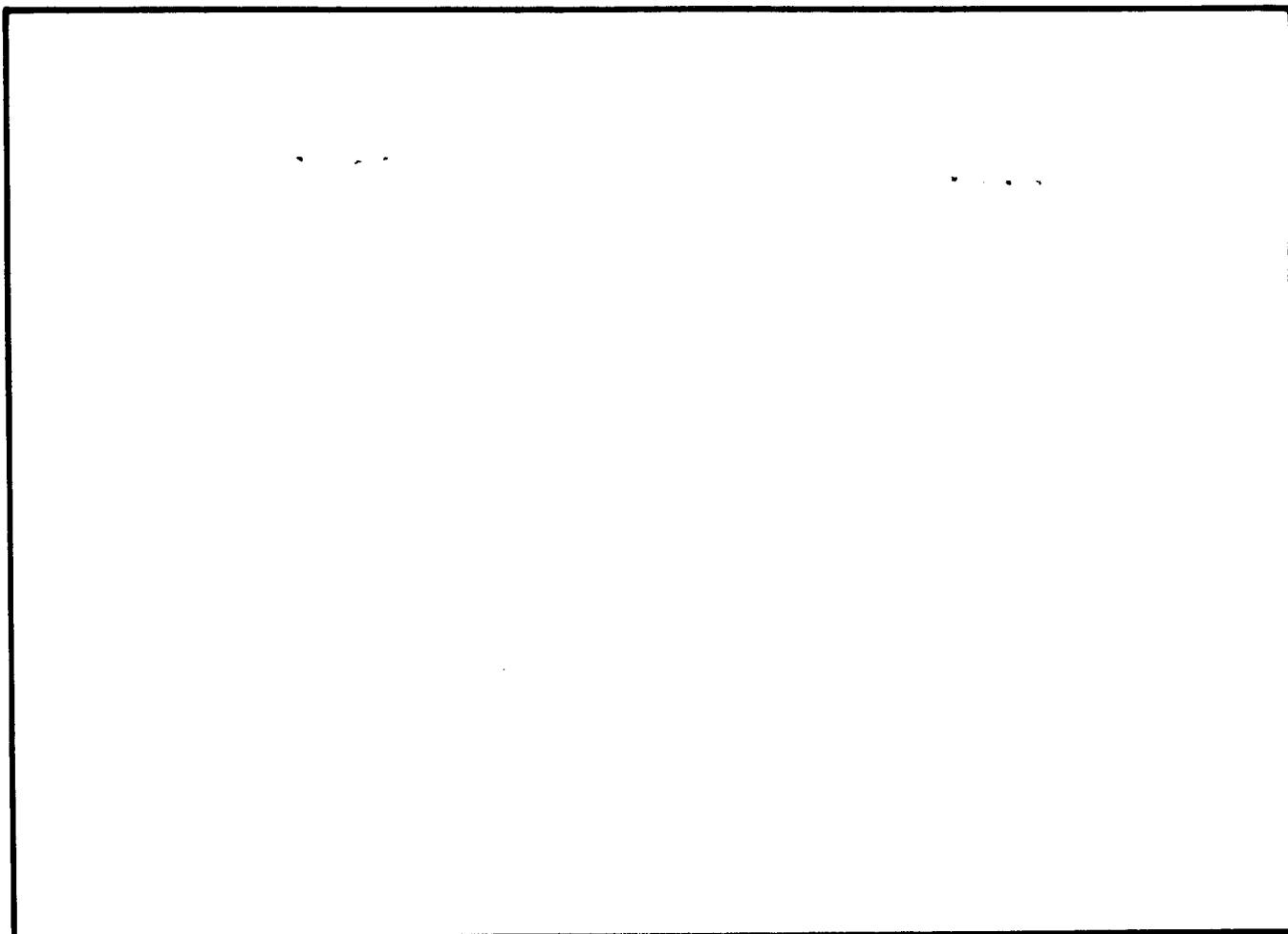
Recovery 10' Mud

Remarks _____

Extra Equipment-Jars no Safety Joint no Extra Packer no Straddle no Hook Wall no
Top Recorder No. 11087 Clock no. 23914 Depth 3484 Clr. Sub no Sampler no
Bottom Recorder No. 11088 Clock No. 26182 Depth 3487 Chlorides - ppts 69000 D.S.T. _____
Price of Job _____
Tool Operator Sam Oke
Approved By _____

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

Ticket N^o 8927



POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	1847	1915	P.S.I.
(B) First Initial Flow Pressure	99	106	P.S.I.
(C) First Final Flow Pressure	66	68	P.S.I.
(D) Initial Closed-in Pressure	66	62	P.S.I.
(E) Second Initial Flow Pressure	66	61	P.S.I.
(F) Second Final Flow Pressure	55	60	P.S.I.
(G) Final Closed-in Pressure	55	59	P.S.I.
(H) Final Hydrostatic Mud	1825	1879	P.S.I.

SUPERIOR TESTERS ENTERPRISES, INC.

WELL IDENTIFICATION DATA

COMPANY : THUNDERBIRD DRILLING WELL NAME : FUNK #C-1 ...
ADDRESS : BOX 18407, WICHITA, KS LOCATION : 20-16-16
STATE & COUNTY : KANSAS, RUSH FIELD :
ELEV.(GR) : (KB) : 1963 TEST DATE : 9-2-85

EQUIPMENT AND HOLE DATA

FORMATION TESTED : LANSING	DRILL PIPE LENGTH(ft) : 2846
TEST INT. KB : 3432 to 3490	DRILL PIPE O.D.(in) : 3.82
ANCHOR LENGTH(ft) : 58	WEIGHT PIPE LENGTH(ft) : 565
TYPE OF TEST : Conventional	WEIGHT PIPE ID : 2.75
TOTAL DEPTH(ft-kb) : 3490	DRILL COLLAR LENGTH(ft) : NONE
MAIN HOLE SIZE(in) : 7 7/8	DRILL COLLAR I.D.(in) : NONE
MUD WEIGHT : 10.0	TOP PACKER DEPTH(kb) : 3427
MUD VISCOSITY : 43	BOTTOM PACKER DEPTH(kb) : 3432
MUD CHLORIDES : 69000	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) : 130	TEST TICKET NUMBER : 8927

EXTRA EQUIPMENT :

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

SURFACE BLOW

1st Opening : VERY WEAK DIED IN 17 MIN.
2nd Opening : NO BLOW

RECOVERY

Recovered 10 feet of MUD

REMARKS :

0
0

WITNESSED BY :

TOOL OPERATOR : DAN OCHS

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 9-2-85
DEPTH : 3484.0

WELL NAME : FUNK #C-1
LOCATION : 20-16-16
SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			----- CALC	CORR	CORRECTED
TEST NO.:5					
Depth : 3484.0 ft-kb					
-1ST HYDROSTATIC	0.0	1.741	1910.13	5.26	1915.38
-07:45 1ST FLOW	0.0	.097	111.20	-4.37	106.83
- 7:50	5.0	.082	94.79	-4.48	90.31
- 7:54	9.0	.073	84.94	-4.54	80.40
- 7:59	14.0	.066	77.28	-4.59	72.69
- 8:04	19.0	.063	74.00	-4.62	69.38
- 8:08	23.0	.062	72.90	-4.62	68.28
- 8:13	28.0	.062	72.90	-4.62	68.28
- 8:16	31.0	.062	72.90	-4.62	68.28
-08:16 END FLOW	0.0	.062	72.90	-4.62	68.28
- 8:19	3.0	.061	71.81	-4.63	67.18
- 8:22	6.0	.059	69.62	-4.64	64.98
- 8:25	9.0	.057	67.43	-4.66	62.78
- 8:28	12.0	.057	67.43	-4.66	62.78
- 8:31	15.0	.057	67.43	-4.66	62.78
- 8:35	19.0	.057	67.43	-4.66	62.78
- 8:37	21.0	.057	67.43	-4.66	62.78
- 8:41	25.0	.057	67.43	-4.66	62.78
- 8:44	28.0	.057	67.43	-4.66	62.78
- 8:47	31.0	.057	67.43	-4.66	62.78
-08:47 1ST SHUT-IN	0.0	.057	67.43	-4.66	62.78
-08:47 2ND FLOW	0.0	.056	66.34	-4.66	61.67
- 8:52	5.0	.055	65.24	-4.67	60.57
- 8:56	9.0	.055	65.24	-4.67	60.57
- 9:01	14.0	.055	65.24	-4.67	60.57
-09:01 END FLOW	0.0	.055	65.24	-4.67	60.57
- 9:04	3.0	.056	66.34	-4.66	61.67
- 9:07	6.0	.056	66.34	-4.66	61.67
- 9:10	9.0	.056	66.34	-4.66	61.67
- 9:13	12.0	.056	66.34	-4.66	61.67
- 9:16	15.0	.055	65.24	-4.67	60.57
- 9:19	18.0	.054	64.15	-4.68	59.47
- 9:23	22.0	.054	64.15	-4.68	59.47
- 9:26	25.0	.054	64.15	-4.68	59.47
- 9:29	28.0	.054	64.15	-4.68	59.47
- 9:31	30.0	.054	64.15	-4.68	59.47
-09:31 2ND SHUT-IN	0.0	.054	64.15	-4.68	59.47
-2ND HYDROSTATIC	0.0	1.708	1874.02	5.10	1879.12

SUPERIOR TESTERS ENTERPRISES, INC.

ERROR IN SUMMARY CALCULATIONS

***** C A U T I O N ; D A T A I N C O M P L E T E
 D A T A S U M M A R Y

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 9-2-85

WELL NAME : FUNK #C-1
LOCATION : 20-16-16

RECOVERY INFORMATION

LIQUID RECOVERY

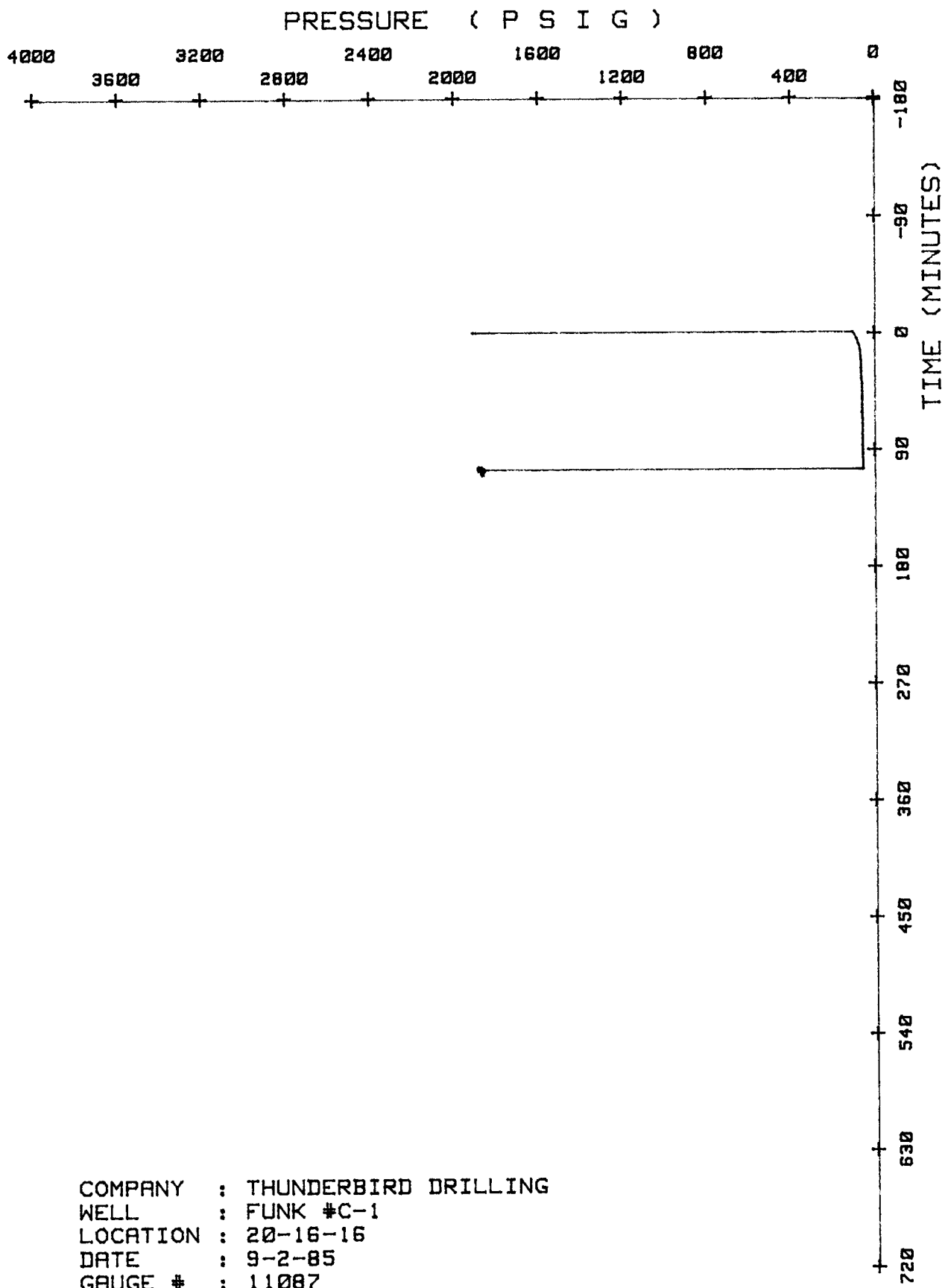
Total Fluid Recovered : 10

Recovered 10 feet of 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			
Gas			
Water			



COMPANY : THUNDERBIRD DRILLING
WELL : FUNK #C-1
LOCATION : 20-16-16
DATE : 9-2-85
GAUGE # : 11087

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : THUNDERBIRD DRILLING WELL NAME : FUNK #C-1
 DATE OF TEST : 9-2-85 LOCATION : 20-16-16
 DST. NO : 5 SHUT-IN PERIOD :

INTERPRETIVE DATA

TRANSMISSIBILITY

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

EFFECTIVE PERMEABILITY

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

TOTAL MOBILITY (md/cp): 0.00

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

ESTIMATED DAMAGE RATIO: 0.00

CALCULATED DAMAGE RATIO: 0.00

Reservoir Temperature (F): 130.00
 Formation Porosity : 0.00
 Formation Thickness (ft): 10.00
 Wellbore Radius (in): 3.94
 Reservoir Compressibility (psi⁻¹): 0.00E+00
 Calculated Skin Factor : 0.00

PRODUCTION WITH DAMAGE REMOVED : 0.00

PRODUCTIVITY INDEX : 0.00

Final Flow Pressure (psi): 0.00

APPROXIMATE RADIUS OF INVESTIGATION (ft): 0.00

Total Flowing Time (min): 0.00

EXTRAPOLATED RESERVOIR PRESSURE (psi): 0.00

Slope of Build-up Curve (psi/log cycle): 0.00

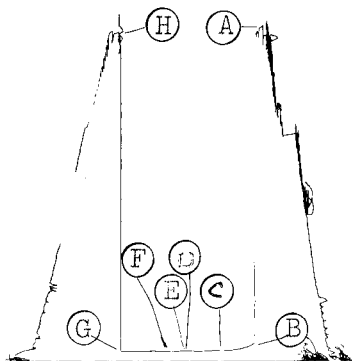
Effective Producing Time (min): 0.00

INTERPRETATION BY : SUPERIOR TESTERS INC.

8927

Rec # 11087

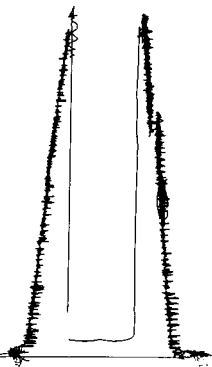
DST# 5



8927

Rec #11088

RST#5



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

Date 9-3-85 Location N.E. 50 N.E. 20 16. N Elevation 1638 County Rush

Company Thunderbird Dlg. Number of Copies _____

Address P.O. Box 18407 Wichita Ks. 67218

Charts Mailed to P.O. Box 18407 Wichita Ks. 67218

Invoice Mailed to P.O. Box 18407 Wichita Ks. 67218

Lease Fank Well No. #C-1 Formation Tested Arkockle Test No. 6

Depth 3552 Tested from 3482 to 3552 Packer Size 6 3/4" Anchor Length 70'

Top Packer Depth 3477 ft. Bottom Packer Depth 3482 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 Thunderbird Dlg. Rig #1

Length Drill Pipe 2876' I.D. Drill Pipe 3.50" Tool Joint Size 4 1/2" F.H.

Length Weight Pipe 565' I.D. Weight Pipe 2.75" Tool Joint Size 4 1/2" X.H.

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

Tool Open I.F.P. from 3:45 a.m. to 4:15 a.m. 30 min

Tool Closed I.C.I.P. from 4:15 a.m. to 5:00 a.m. 45 min

Tool Open F.F.P. from 5:00 a.m. to 5:30 a.m. 30 min

Tool Closed F.C.I.P. from 5:30 a.m. to 6:15 a.m. 45 min

Initial Hydrostatic Pressure [A] 1891 P.S.I. Final Hydrostatic Pressure [H] 1858 P.S.I. Maximum Temp 139 °F

Initial Blow Strong built to bottom of bucket in 1 1/2 min.

Final Blow Strong built to bottom of bucket in 4 min.

Gas to Surface _____ Min. Oil to Surface _____ Min. Mut Weight 90.1 Viscosity 45

Gas Guaged _____

Recovery 1740' Muddy water 1876 Mud 8326 water

Remarks _____

Extra Equipment-Jars _____ Safety Joint _____ Extra Packer _____ Straddle _____ Hook Wall _____

Top Recorder No. 11087 Clock no. 23914 Depth 3546 Ctr. Sub 405 Sampler _____

Bottom Recorder No. 11088 Clock No. 36182 Depth 3549 Chlorides - plts 6900 D.S.T. 49000

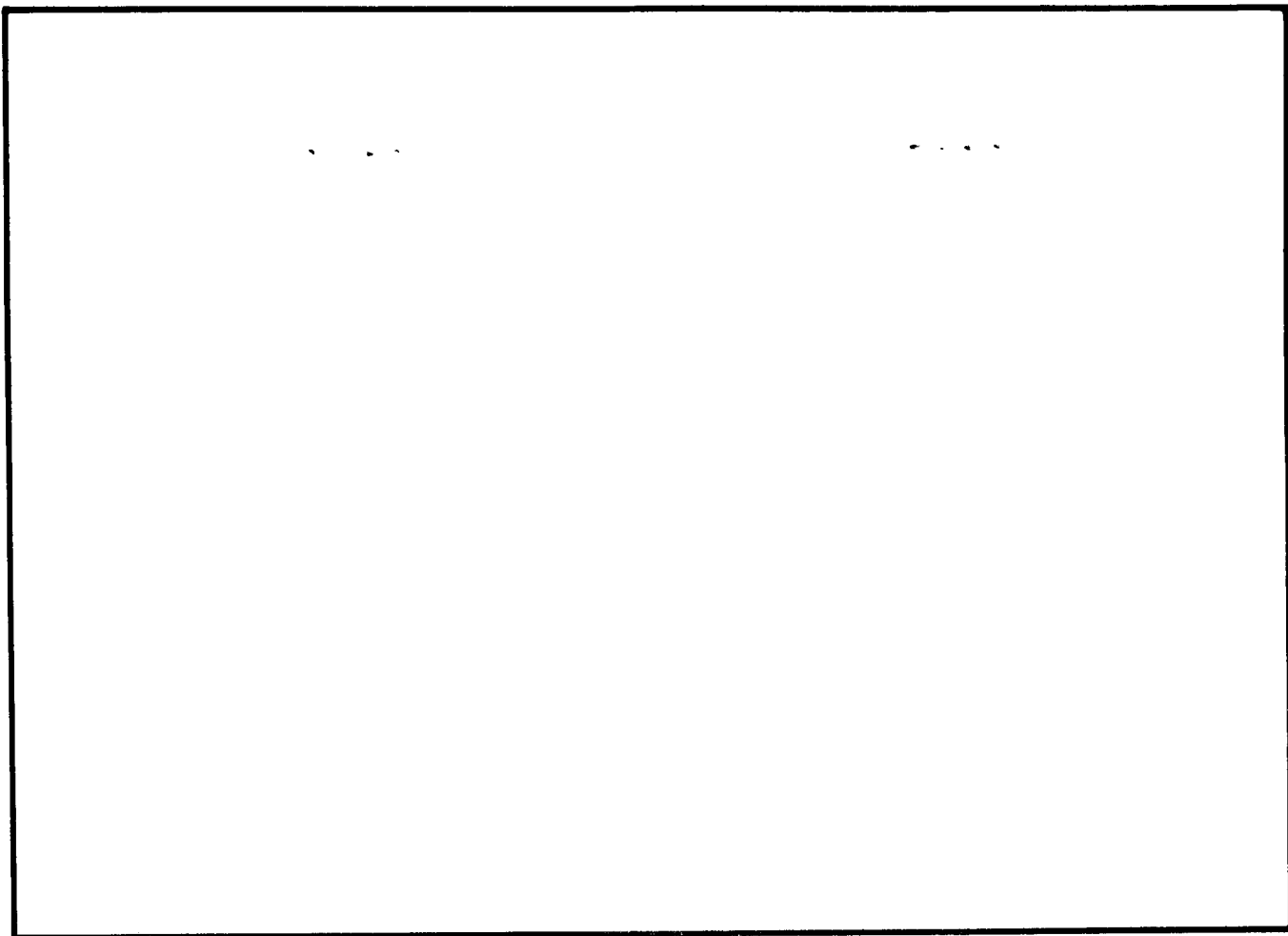
Price of Job _____

Tool Operator Alan Pels

Approved By _____

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

Ticket N^o 8928



POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	1891	1902	P.S.I.
(B) First Initial Flow Pressure	187	190	P.S.I.
(C) First Final Flow Pressure	563	561	P.S.I.
(D) Initial Closed-in Pressure	1111	1107	P.S.I.
(E) Second Initial Flow Pressure	673	685	P.S.I.
(F) Second Final Flow Pressure	815	809	P.S.I.
(G) Final Closed-in Pressure	1089	1090	P.S.I.
(H) Final Hydrostatic Mud	1858	1867	P.S.I.

SUPERIOR TESTERS ENTERPRISES, INC.

WELL IDENTIFICATION DATA

COMPANY : THUNDERBIRD DRILLING WELL NAME : FUNK #C-1
ADDRESS : BOX 18407, WICHITA, KS LOCATION : 20-16-16
STATE & COUNTY : KANSAS, RUSH FIELD :
ELEV.(GR) : (KB) : 1963 TEST DATE : 9-3-85

EQUIPMENT AND HOLE DATA

FORMATION TESTED : ARBUCKLE	DRILL PIPE LENGTH(ft) : 2896
TEST INT. KB : 3482 to 3552	DRILL PIPE O.D.(in) : 3.82
ANCHOR LENGTH(ft) : 70	WEIGHT PIPE LENGTH(ft) : 565
TYPE OF TEST : Conventional	WEIGHT PIPE ID : 2.75
TOTAL DEPTH(ft-kb) : 3552	DRILL COLLAR LENGTH(ft) : NONE
MAIN HOLE SIZE(in) : 7 7/8	DRILL COLLAR I.D.(in) : NONE
MUD WEIGHT : 9.1	TOP PACKER DEPTH(kb) : 3477
MUD VISCOSITY : 45	BOTTOM PACKER DEPTH(kb) : 3482
MUD CHLORIDES : 69000	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) : 139	TEST TICKET NUMBER : 8928

EXTRA EQUIPMENT : -CIRC.SUB

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

SURFACE BLOW

1st Opening : STRONG BUILT TO BOTTOM OF BUCKET IN 1 1/2 MIN.
2nd Opening : STRONG BUILT TO BOTTOM OF BUCKET IN 4 MIN.

RECOVERY

Recovered 1740 feet of MUDDY WATER - 18%MUD - 82%WATER

REMARKS :

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WITNESSED BY : TOOL OPERATOR : DAN OCHS

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 9-3-85
DEPTH : 3546.0

WELL NAME : FUNK #C-1
LOCATION : 20-16-16
SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	----- CALC	PRESSURE PSIG CORR	----- CORRECTED
TEST NO.:6					
Depth : 3546.0 ft-kb					
-1ST HYDROSTATIC	0.0	1.729	1897.00	5.20	1902.20
-03:45 1ST FLOW	0.0	.173	194.36	-3.84	190.53
- 3:47	2.0	.173	194.36	-3.84	190.53
- 3:49	4.0	.194	217.34	-3.69	213.66
- 3:53	8.0	.286	318.01	-3.04	314.98
- 3:57	12.0	.333	369.44	-2.70	366.74
- 4:02	17.0	.383	424.15	-2.35	421.81
- 4:06	21.0	.428	473.39	-2.03	471.37
- 4:10	25.0	.472	521.54	-1.72	519.82
- 4:14	29.0	.510	563.12	-1.45	561.67
-04:14 END FLOW	0.0	.510	563.12	-1.45	561.67
- 4:17	3.0	.865	951.58	1.07	952.64
- 4:19	5.0	.902	992.06	1.33	993.39
- 4:22	8.0	.922	1013.95	1.44	1015.38
- 4:25	11.0	.939	1032.55	1.52	1034.07
- 4:28	14.0	.952	1046.77	1.58	1048.35
- 4:31	17.0	.961	1056.62	1.62	1058.24
- 4:33	19.0	.969	1065.38	1.66	1067.03
- 4:36	22.0	.976	1073.04	1.69	1074.73
- 4:39	25.0	.983	1080.70	1.72	1082.42
- 4:42	28.0	.988	1086.17	1.74	1087.91
- 4:44	30.0	.992	1090.54	1.76	1092.31
- 4:47	33.0	.996	1094.92	1.78	1096.70
- 4:50	36.0	.999	1098.20	1.80	1100.00
- 4:53	39.0	1.001	1100.39	1.81	1102.20
- 4:56	42.0	1.004	1103.68	1.82	1105.49
- 4:57	43.0	1.006	1105.86	1.83	1107.69
-04:57 1ST SHUT-IN	0.0	1.006	1105.86	1.83	1107.69
-04:57 2ND FLOW	0.0	.622	685.68	-.65	685.02
- 5:01	4.0	.618	681.30	-.68	680.62
- 5:05	8.0	.624	687.87	-.64	687.22
- 5:10	13.0	.643	708.66	-.51	708.15
- 5:14	17.0	.667	734.92	-.34	734.58
- 5:18	21.0	.690	760.08	-.17	759.91
- 5:22	25.0	.713	785.25	-.01	785.24
- 5:26	29.0	.732	806.04	.12	806.17
- 5:27	30.0	.735	809.33	.15	809.47
-05:27 END FLOW	0.0	.735	809.33	.15	809.47
- 5:30	3.0	.863	949.39	1.05	950.44
- 5:33	6.0	.896	985.50	1.29	986.78

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 9-3-85
DEPTH : 3546.0

WELL NAME : FUNK #C-1
LOCATION : 20-16-16
SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	----- CALC	PRESSURE PSIG CORR	----- CORRECTED
TEST NO.:6					
- 5:35	8.0	.913	1004.10	1.39	1005.49
- 5:38	11.0	.928	1020.51	1.46	1021.98
- 5:41	14.0	.937	1030.36	1.51	1031.87
- 5:44	17.0	.947	1041.30	1.55	1042.86
- 5:46	19.0	.954	1048.96	1.59	1050.55
- 5:49	22.0	.961	1056.62	1.62	1058.24
- 5:52	25.0	.966	1062.09	1.64	1063.74
- 5:55	28.0	.972	1068.66	1.67	1070.33
- 5:57	30.0	.976	1073.04	1.69	1074.73
- 6:00	33.0	.979	1076.32	1.70	1078.02
- 6:03	36.0	.982	1079.60	1.72	1081.32
- 6:06	39.0	.985	1082.88	1.73	1084.62
- 6:09	42.0	.987	1085.07	1.74	1086.81
- 6:11	44.0	.989	1087.26	1.75	1089.01
- 6:13	46.0	.990	1088.36	1.75	1090.11
-06:14 2ND SHUT-IN	0.0	.990	1088.36	1.75	1090.11
-2ND HYDROSTATIC	0.0	1.697	1861.98	5.05	1867.03

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 9-3-85

WELL NAME : FUNK #C-1
LOCATION : 20-16-16

RECOVERY INFORMATION

LIQUID RECOVERY

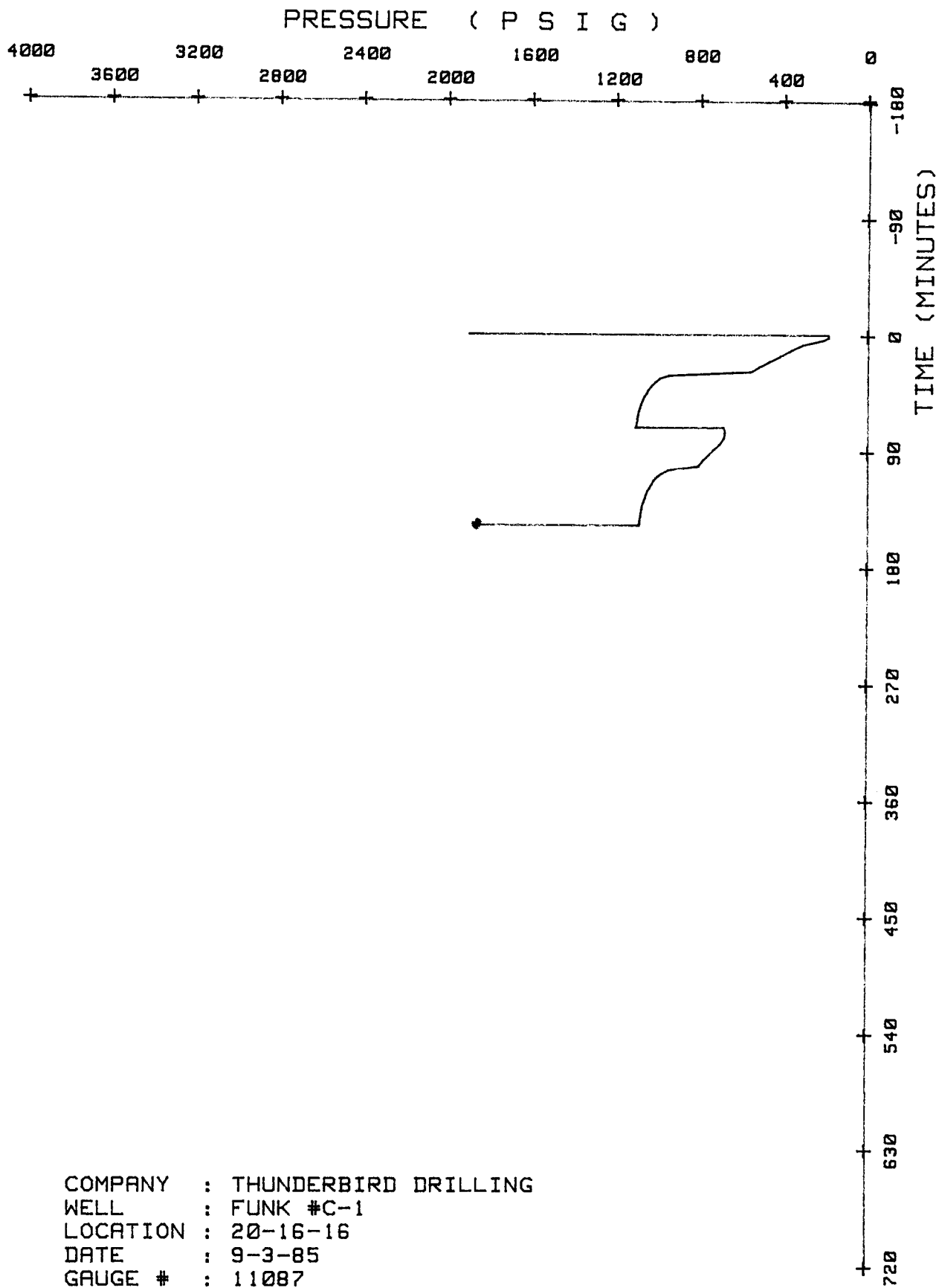
Total Fluid Recovered : 1740

Recovered 1740 feet of MUDDY WATER -- 18%MUD - 82%WATER

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

FLUID PROPERTIES

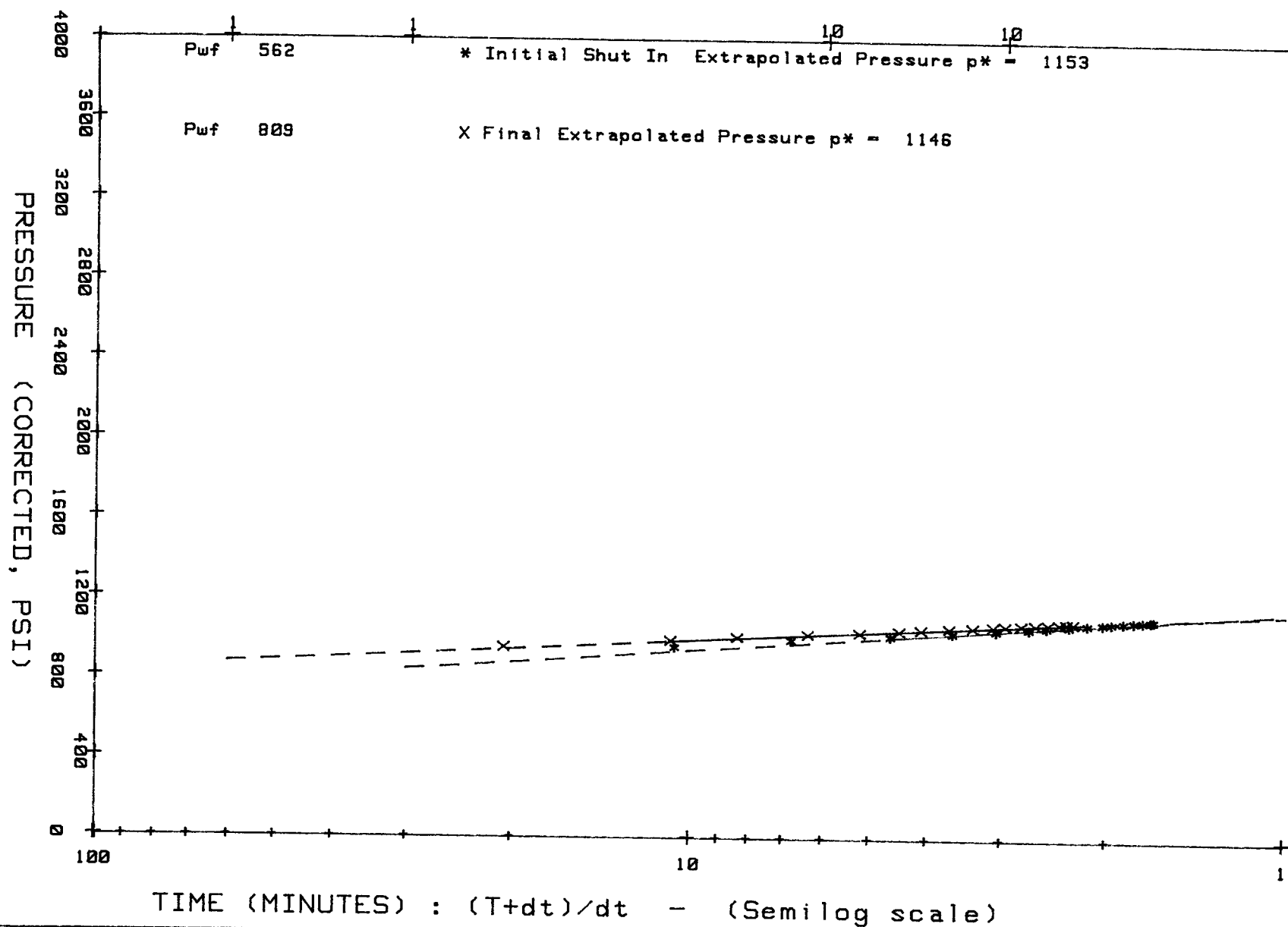
	Viscosity (cp)	Compressibility (psi-1)	Pore Space Saturation
Oil			
Gas			
Water			



LOCATION : 20-16-16

DATE : 9-3-85

GAUGE # : 11087



SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : THUNDERBIRD DRILLING
 WELL NAME : FUNK #C-1
 LOCATION : 20-16-16
 STATE & COUNTY : KANSAS, RUSH
 DATE OF TEST : 9-3-85
 TEST INT. KB : 3482 to 3552
 TOTAL INTERVAL (ft) K.B. : 70.00
 ELEV.(GR) : (KB) : 1963
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
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Refer. depth : 3546.0 ft-kb

-04:14 END FLOW	0.00	0.00	561.67	
	3.00	10.67	952.64	
	5.00	6.80	993.39	
	8.00	4.63	1015.42	
	11.00	3.64	1034.14	
	14.00	3.07	1048.46	
	17.00	2.71	1058.37	
	19.00	2.53	1067.18	
	22.00	2.32	1074.89	
	25.00	2.16	1082.60	
	28.00	2.04	1088.11	
	30.00	1.97	1092.51	
	33.00	1.88	1096.92	
	36.00	1.81	1100.22	
	39.00	1.74	1102.42	
	42.00	1.69	1105.73	
	43.00	1.67	1107.93	
-04:57 1ST SHUT-IN	0.00	0.00	1107.93	

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 9-3-85
DST. NO : 6

WELL NAME : FUNK #C-1
LOCATION : 20-16-16
SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	1153.00
Slope of Build-up Curve (psi/log cycle):	212.67
Effective Producing Time (min):	29.00

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : THUNDERBIRD DRILLING
 WELL NAME : FUNK #C-1
 LOCATION : 20-16-16
 STATE & COUNTY : KANSAS, RUSH
 DATE OF TEST : 9-3-85
 TEST INT. KB : 3482 to 3552
 TOTAL INTERVAL (ft) K.B. : 70.00
 ELEV.(GR) : (KB) : 1963
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG
Refer. depth :	3546.0 ft-kb		
-05:27 END FLOW	0.00	0.00	809.47
	3.00	20.67	950.44
	6.00	10.83	986.78
	8.00	8.38	1005.51
	11.00	6.36	1022.03
	14.00	5.21	1031.94
	17.00	4.47	1042.95
	19.00	4.11	1050.66
	22.00	3.68	1058.37
	25.00	3.36	1063.88
	28.00	3.11	1070.48
	30.00	2.97	1074.89
	33.00	2.79	1078.19
	36.00	2.64	1081.50
	39.00	2.51	1084.80
	42.00	2.40	1087.00
	44.00	2.34	1089.21
	46.00	2.28	1090.31
-06:14 2ND SHUT-IN	0.00	0.00	1090.31

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 9-3-85
DST. NO : 6

WELL NAME : FUNK #C-1
LOCATION : 20-16-16
SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	1146.00
Slope of Build-up Curve (psi/log cycle):	
Effective Producing Time (min):	154.78
	59.00

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : THUNDERBIRD DRILLING
DATE OF TEST : 9-3-85
DST. NO : 6

WELL NAME : FUNK #C-1
LOCATION : 20-16-16
SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

TRANSMISSIBILITY

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

EFFECTIVE PERMEABILITY

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

TOTAL MOBILITY (md/cp):	0.00
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TOTAL COMPRESSIBILITY (psi-1):	0.00E+00
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ESTIMATED DAMAGE RATIO:	.49
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CALCULATED DAMAGE RATIO:	0.00
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Reservoir Temperature (F):	139.00
Formation Porosity :	0.00
Formation Thickness (ft):	10.00
Wellbore Radius (in):	3.94
Reservoir Compressibility (psi-1):	0.00E+00
Calculated Skin Factor :	0.00

PRODUCTION WITH DAMAGE REMOVED (bbl/D):	0.00
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PRODUCTIVITY INDEX (bbl/psi):	0.00
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Final Flow Pressure (psi):	809.47
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APPROXIMATE RADIUS OF INVESTIGATION (ft):	0.00
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Total Flowing Time (min):	59.00
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EXTRAPOLATED RESERVOIR PRESSURE (psi):	1146.00
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Slope of Build-up Curve (psi/log cycle):	154.78
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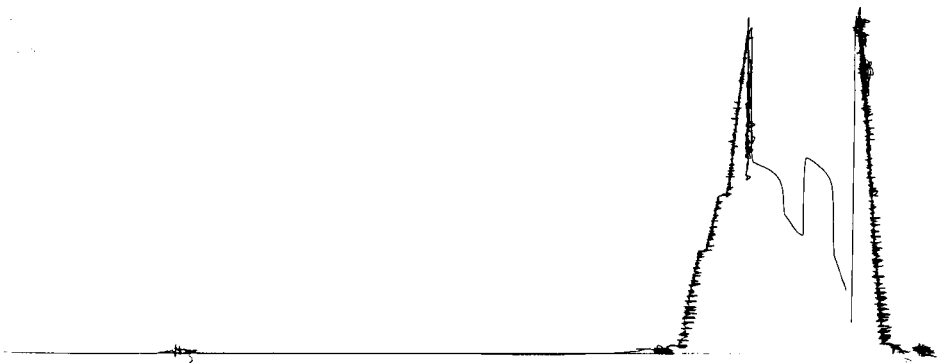
Effective Producing Time (min):	59.00
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INTERPRETATION BY : SUPERIOR TESTERS INC.

8928

Rec # 11088

DST #



8928

Rec # 11087

DST #

