

SUPERIOR TESTERS

368 West Second, Holsington, Kansas

COMPANY Thunderbird Drilling STATE Kansas COUNTY Ellis

LEASE & WELL NO Groff # 1 ELEVATION _____ DATE 6/22/81 FORMATION TESTED Topeka

SEC 29 TWP 14 RANGE 20 INTERVAL TESTED 3296 TO 3327 TOTAL DEPTH 3327

TEST NO. # 1 O.K. yes TOP PACKER DEPTH 3291 FT. BOTTOM PACKER DEPTH 3296 FT. PACKER SIZE 6 & 3/4

STRADDLE no CONV. yes TOOL SIZE 5 1/2 OD. TOOL JOINT SIZE 4 1/2 FH. ANCHOR LENGTH 31

HOLE SIZE 7 & 7/8 EXTRA EQUIPMENT none SURFACE CHOKE SIZE 1/2 IN. BOTTOM CHOKE SIZE 1/2

REVERSED OUT no VISCOSITY 47 WEIGHT 9.8 DUAL PACKERS yes DID PACKER HOLD yes DID TOOL PLUG no

DRILLING CONTRACTOR T-Bind #2

TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH DRILL PIPE 2709 FT I D. DRILL PIPE 3.8

TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH WEIGHT PIPE 566 FT I D. WEIGHT PIPE 3.5

TOOL JOINT SIZE ----- IN. LENGTH DRILL COLLARS ----- FT I D. DRILL COLLARS -----

TOOL OPEN I.F.P. FROM 1:10 p. m to 1:55 p. m Hr. 45 min From (B) 100 P.S.I. to (C) 173 P.

TOOL CLOSED I.C.I.P. FROM 1:55 p. m to 2:40 p. Hr. 45 min (D) 1091 P.

TOOL OPEN F.F.P. FROM 2:40 p. m to 3:25 p. m Hr. 45 min From (E) 228 P.S.I. to (F) 274 P.

TOOL CLOSED F.C.I.P. FROM 3:25 p. m to 4:10 p. m Hr. 45 min (G) 1073 P.S.

INITIAL HYDROSTATIC PRESSURE (A) 1773 P.S.I. FINAL HYDROSTATIC PRESSURE (H) 1755 MAXIMUM TEMPERATURE _____

BLOW Good building blow 1st opening.

Good blow 2nd opening.

RECOVERY - TOTAL FEET 405 ft.

RECOVERED 360 FEET OF Oil cut muddy water.

RECOVERED 45 FEET OF Heavy Oil.

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

REMARKS None.

TICKET NO. 5772

WITNESSED BY: _____ TOOL OPERATOR Kevin Riegel

5772

DST# 1

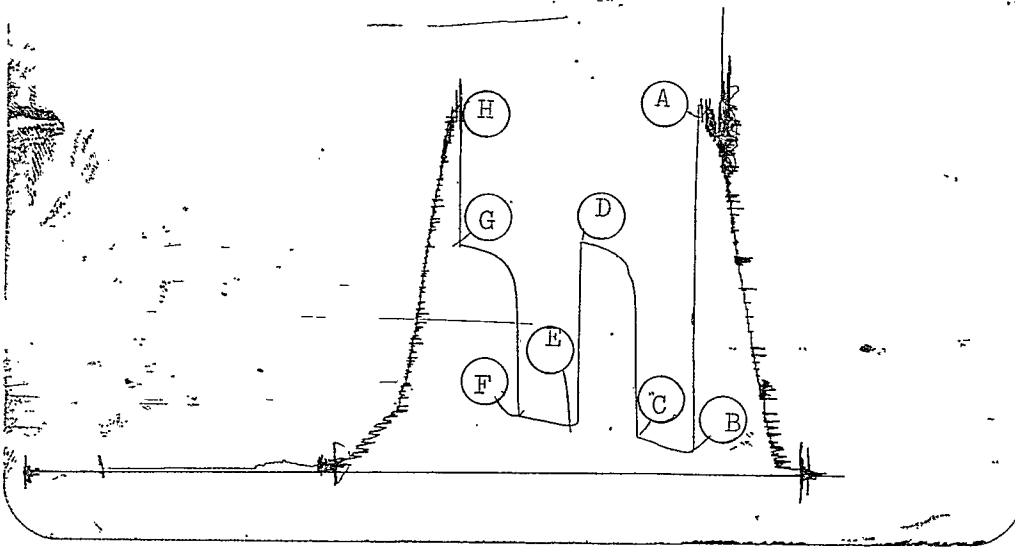
3463

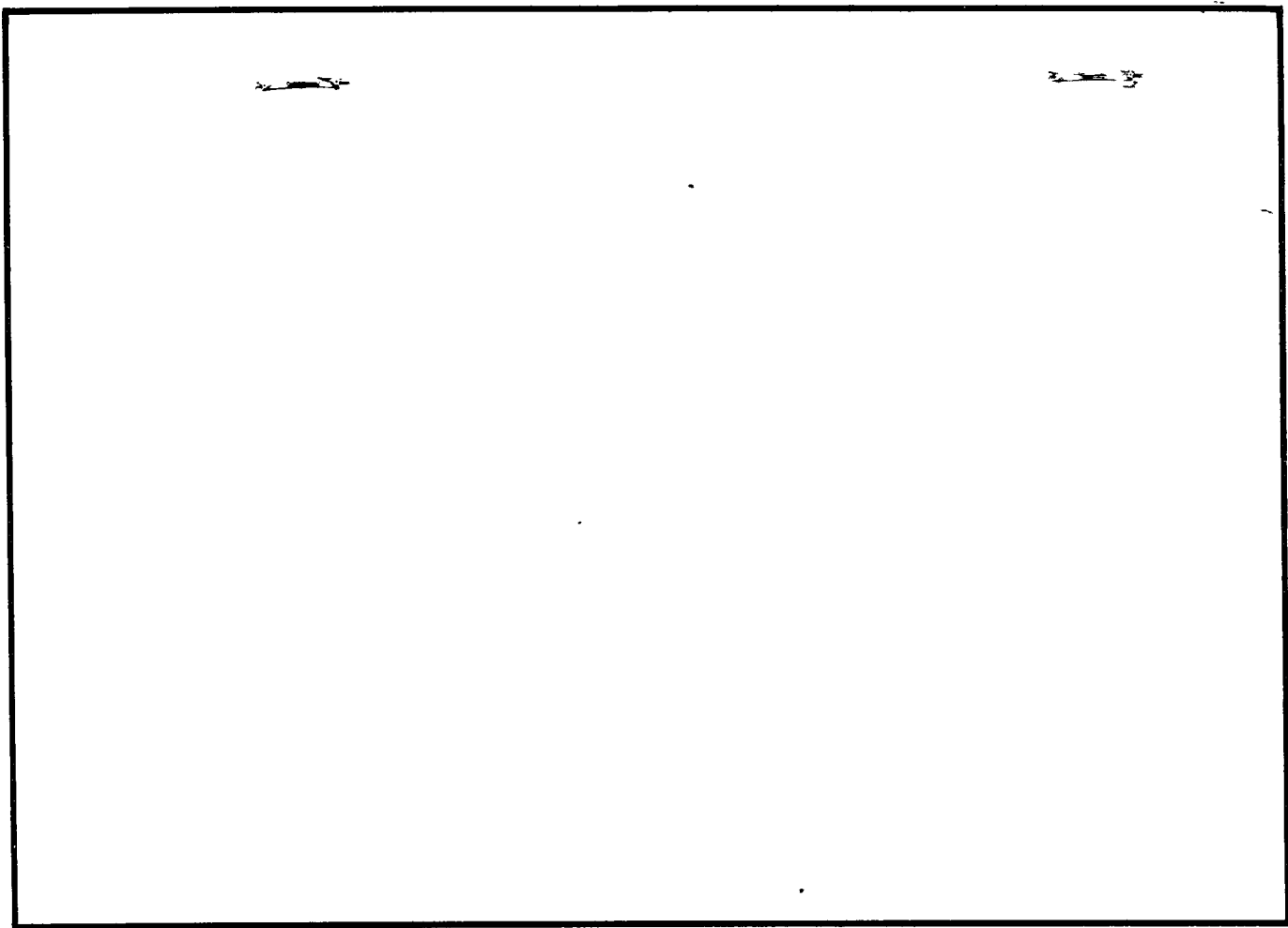
Thunderbird

Groff #1

3296-3327 Topeka

6/22/81





This is an actual photograph of recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	<u>1773</u> <u>100</u>	<u>1755</u> <u>100</u>	P.S.I.
(B) First Initial Flow Pressure	<u>173</u>	<u>173</u>	P.S.I.
(C) First Final Flow Pressure	<u>1091</u>	<u>1091</u>	P.S.I.
(D) Initial Closed-in Pressure	<u>228</u> <u>274</u>	<u>219</u> <u>265</u>	P.S.I.
(E) Second Initial Flow Pressure	<u>1073</u>	<u>1073</u>	P.S.I.
(F) Second Final Flow Pressure	<u>1755</u>	<u>1737</u>	P.S.I.
(G) Final Closed-in Pressure			
(H) Final Hydrostatic Mud			

SUPERIOR TESTERS
368 West Second, Hoisington, Kansas

COMPANY Thunderbird Drilling STATE Kansas COUNTY Ellis
LEASE & WELL NO. Groff # 1 ELEVATION _____ DATE 6/23/81 FORMATION TESTED Kansas City
SEC 29 TWP 14 RANGE 20 INTERVAL TESTED 3406 TO 3437 TOTAL DEPTH 3437
TEST NO. #2 O.K. yes TOP PACKER DEPTH 3401 FT. BOTTOM PACKER DEPTH 3406 FT. PACKER SIZE 6 & 3/4
STRADDLE no CONV. yes TOOL SIZE 5 1/2 OD. TOOL JOINT SIZE 4 1/2 FH. ANCHOR LENGTH 31 FT.
HOLE SIZE 7 & 7/8 EXTRA EQUIPMENT none SURFACE CHOKE SIZE 1/2 IN. BOTTOM CHOKE SIZE 1/2 IN.
REVERSED OUT no VISCOSITY 39 WEIGHT 9.8 DUAL PACKERS yes DID PACKER HOLD yes DID TOOL PLUG no
DRILLING CONTRACTOR T-Bird # 2
TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH DRILL PIPE 2819 FT. I.D. DRILL PIPE 3.8 IN.
TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH WEIGHT PIPE 566 FT. I.D. WEIGHT PIPE 3.5 IN.
TOOL JOINT SIZE ----- IN. LENGTH DRILL COLLARS ----- FT. I.D. DRILL COLLARS ----- IN.
TOOL OPEN I.F.P. FROM 9:15 a. m to 9:45 a. m Hr 30 min From (B) 91 P.S.I. to (C) 91 P.S.I.
TOOL CLOSED I.C.I.P. FROM 9:45 a. m to 10:15 a. m Hr 30 min (D) 678 P.S.I.
TOOL OPEN F.F.P. FROM 10:15 a. m to 10:45 a. m Hr 30 min From (E) 100 P.S.I. to (F) 100 P.S.I.
TOOL CLOSED F.C.I.P. FROM 10:45 a. m to 11:15 a. m Hr 30 min (G) 623 P.S.I.
INITIAL HYDROSTATIC PRESSURE (A) 1838 P.S.I. FINAL HYDROSTATIC PRESSURE (H) 1811 MAXIMUM TEMPERATURE _____ °F
BLOW Weak blow died in 14 minutes 1st opening.
No blow 2nd opening.

RECOVERY - TOTAL FEET 30 ft.
RECOVERED 30 FEET OF Mud with few specks Oil.
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____

REMARKS Flushed tool 2nd opening.

TICKET NO. 5773

WITNESSED BY 1 TOOL OPERATOR Kevin Riegel

3773

OST#2

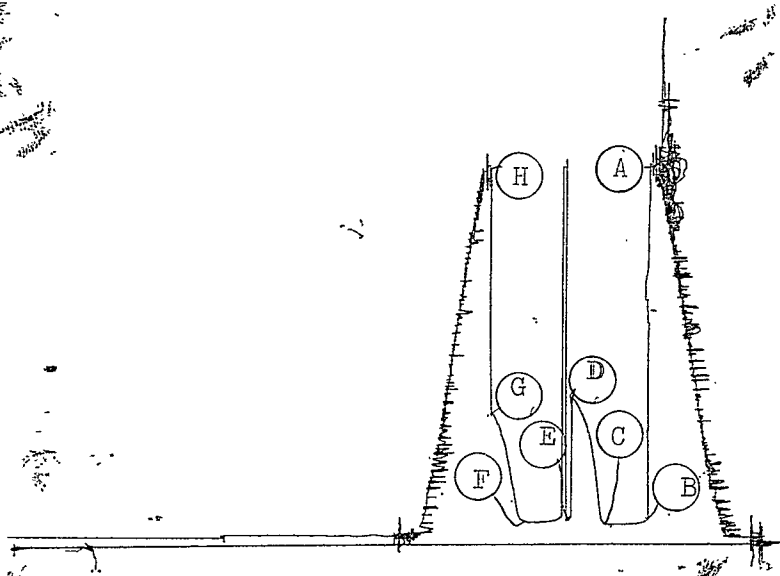
5-11-81

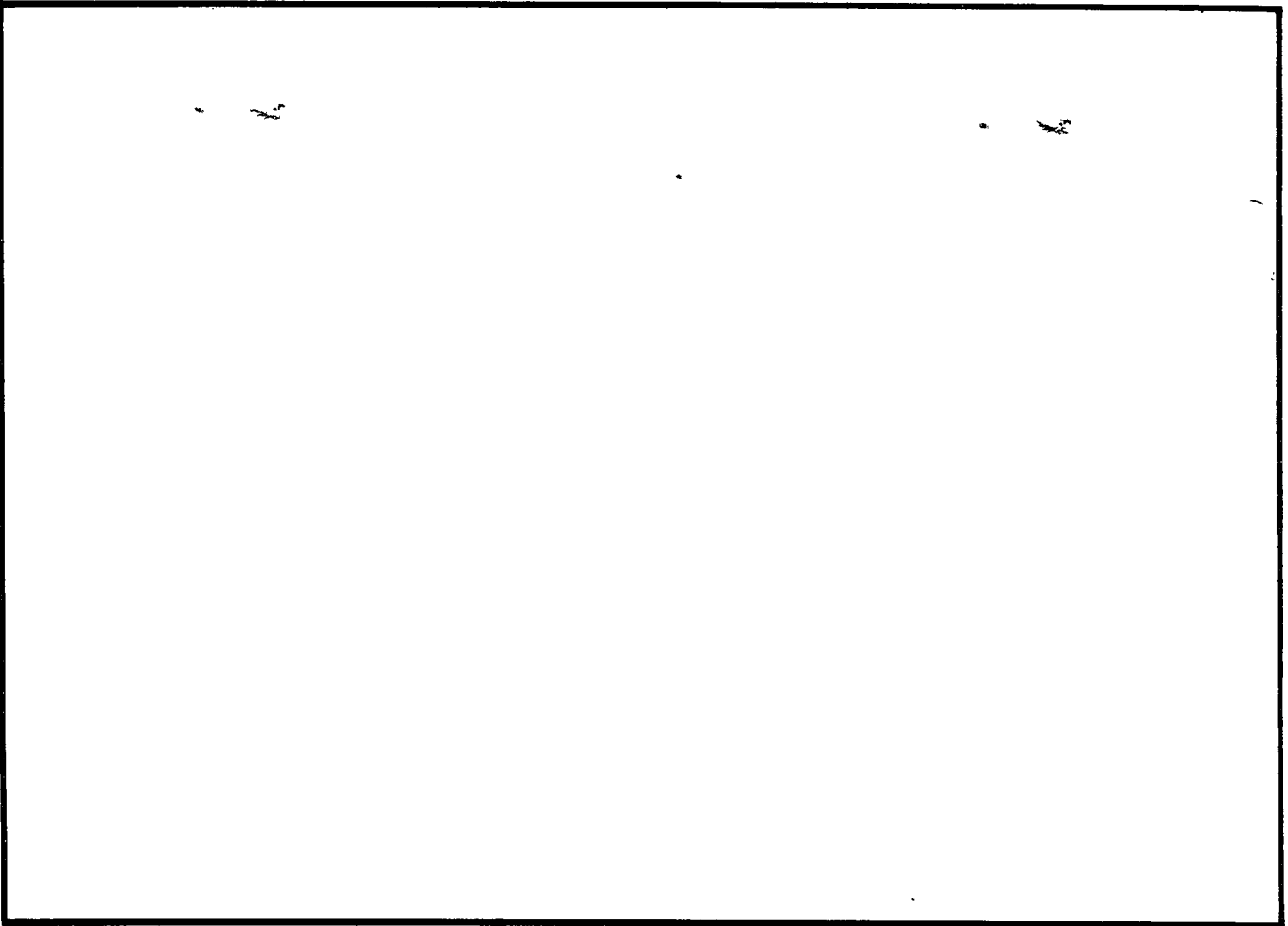
Thunderbird

Groff #1.

3406-3437 K. City

6/23/81





This is an actual photograph of recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	1838	1801	P.S.I.
(B) First Initial Flow Pressure	91	100	P.S.I.
(C) First Final Flow Pressure	91	91	P.S.I.
(D) Initial Closed-in Pressure	678	687	P.S.I.
(E) Second Initial Flow Pressure	100	109	P.S.I.
(F) Second Final Flow Pressure	100	109	P.S.I.
(G) Final Closed-in Pressure	623	623	P.S.I.
(H) Final Hydrostatic Mud	1811	1764	P.S.I.

SUPERIOR TESTERS
368 West Second, Hoisington, Kansas

COMPANY Thunderbird Drilling STATE Kansas COUNTY Ellis

LEASE & WELL NO. Groff # 1 ELEVATION _____ DATE 6/23/81 FORMATION TESTED Kansas City

SEC 29 TWP 14 RANGE 20 INTERVAL TESTED 3437 TO 3460 TOTAL DEPTH 3460

TEST NO. # 5 D.K. yes TOP PACKER DEPTH 3432 FT. BOTTOM PACKER DEPTH 3437 FT. PACKER SIZE 6 & 3/4

STRADDLE no CONV. yes TOOL SIZE 5 1/2 OD. TOOL JOINT SIZE 4 1/2 FH. ANCHOR LENGTH 23 FT.

HOLE SIZE 7 & 7/8 EXTRA EQUIPMENT none SURFACE CHOKE SIZE 1/2 IN. BOTTOM CHOKE SIZE 1/2 IN.

REVERSED OUT no VISCOSITY 38 WEIGHT 917 DUAL PACKERS yes DID PACKER HOLD yes DID TOOL PLUG no

DRILLING CONTRACTOR T-Bird # 2

TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH DRILL PIPE 2850 FT. I.D. DRILL PIPE 3.8 IN.

TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH WEIGHT PIPE 566 FT. I.D. WEIGHT PIPE 3.5 IN.

TOOL JOINT SIZE _____ IN. LENGTH DRILL COLLARS _____ FT. I.D. DRILL COLLARS _____ IN.

TOOL OPEN I.F.P. FROM 10:00 p. m to 10:30 p. m Hr. 30 min From (B) 109 P.S.I. to (C) 100 P.S.I.

TOOL CLOSED I.C.I.P. FROM 10:30 p. m to 11:00 p. m Hr. 30 min (D) 944 P.S.I.

TOOL OPEN F.F.P. FROM _____ m to _____ m Hr. ____ min From (E) ____ P.S.I. to (F) ____ P.S.I.

TOOL CLOSED F.C.I.P. FROM _____ m to _____ m Hr. ____ min (G) _____ P.S.I.

INITIAL HYDROSTATIC PRESSURE (A) 1921 P.S.I. FINAL HYDROSTATIC PRESSURE (H) 1885 MAXIMUM TEMPERATURE _____ °F

BLOW Weak blow died in 8 minutes

RECOVERY - TOTAL FEET 15 ft.

RECOVERED 15 FEET OF Mud.

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

REMARKS None, slid tool 8 ft to bottom Flushed tool 1st opening.

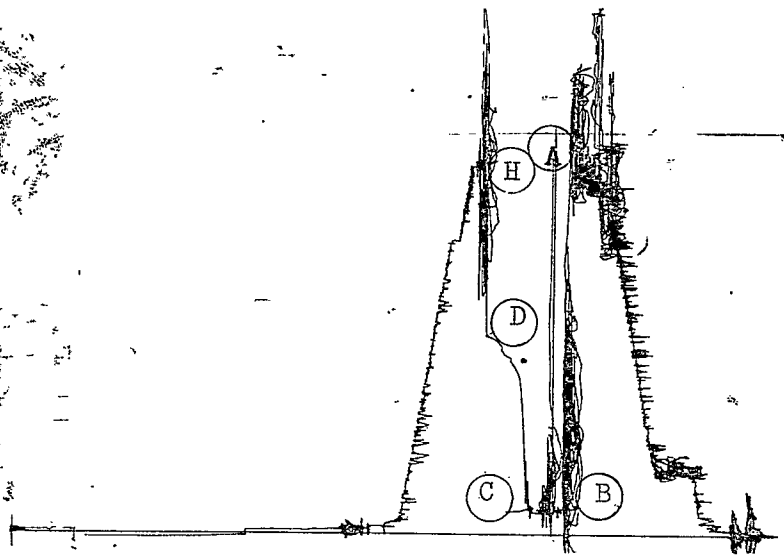
TICKET NO. 5774

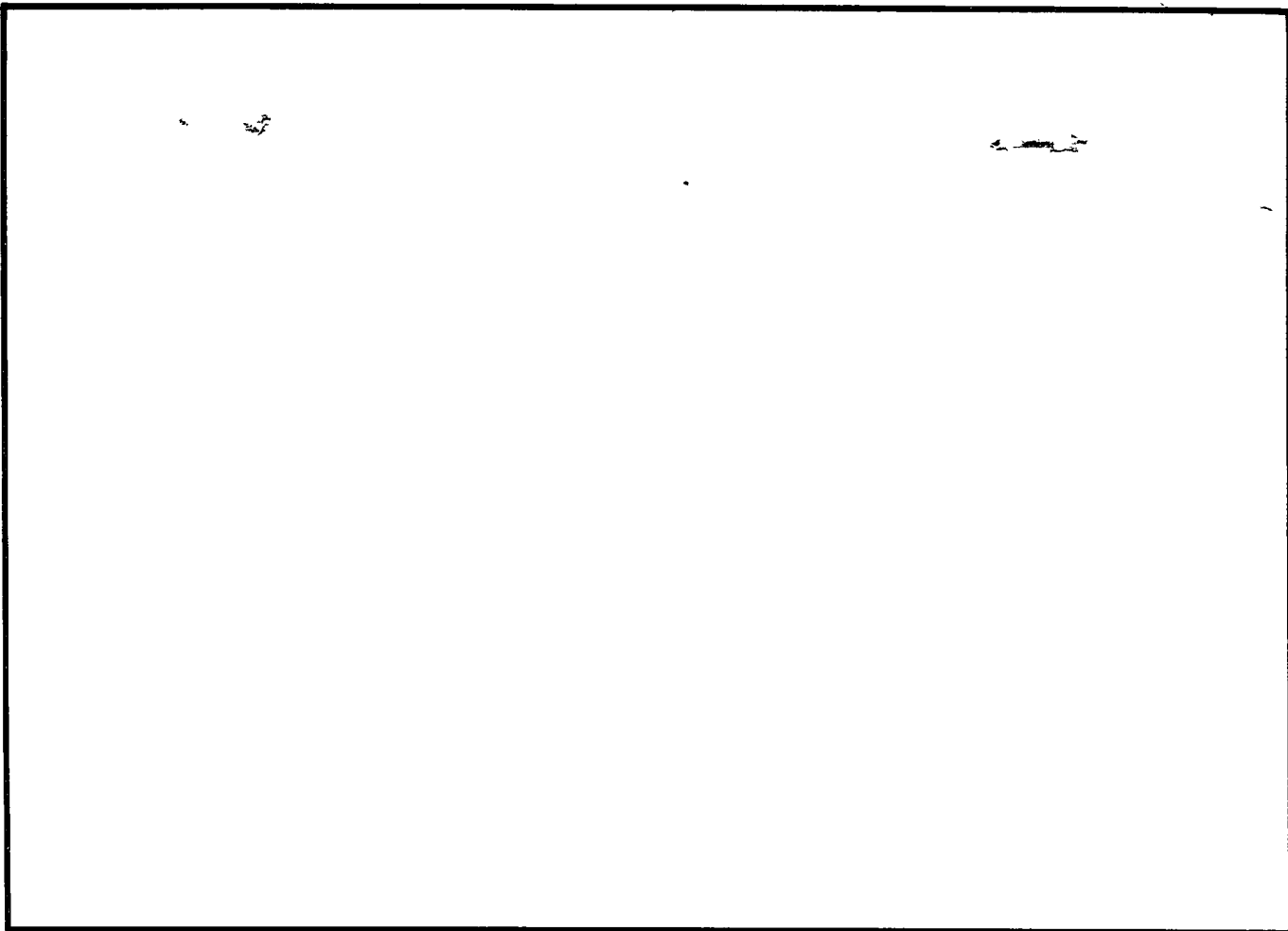
WITNESSED BY _____ TOOL OPERATOR Kevin Riegel

ST 3

543

Thunderbird
Groff #1
3437-3460K.city
6/23/81





This is an actual photograph of recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	<u>1921</u>	<u>1848</u>	P.S.I.
(B) First Initial Flow Pressure	<u>109</u>	<u>109</u>	P.S.I.
(C) First Final Flow Pressure	<u>100</u>	<u>106</u>	P.S.I.
(D) Initial Closed-in Pressure	<u>944</u>	<u>944</u>	P.S.I.
(E) Second Initial Flow Pressure	<u>--</u>	<u>--</u>	P.S.I.
(F) Second Final Flow Pressure	<u>--</u>	<u>--</u>	P.S.I.
(G) Final Closed-in Pressure	<u>--</u>	<u>--</u>	P.S.I.
(H) Final Hydrostatic Mud	<u>1885</u>	<u>1783</u>	P.S.I.

SUPERIOR TESTERS
368 West Second, Hoisington, Kansas

COMPANY Thunderbird Drilling STATE Kansas COUNTY Ellis
 LEASE & WELL NO. Groff # 1 ELEVATION _____ DATE 6/24/81 FORMATION TESTED Kansas City
 SEC 29 TWP 14 RANGE 20 INTERVAL TESTED 3452 TO 3484 TOTAL DEPTH 3484
 TEST NO. #4 D.K. yes TOP PACKER DEPTH 3447 FT BOTTOM PACKER DEPTH 3452 FT PACKER SIZE 6 & 3/4
 STRADDLE no CONV. yes TOOL SIZE 5 1/2 OD. TOOL JOINT SIZE 4 1/2 TH. ANCHOR LENGTH 32 FT.
 HOLE SIZE 7 & 7/8 EXTRA EQUIPMENT none SURFACE CHOKE SIZE 1/2 IN. BOTTOM CHOKE SIZE 1/2 IN.
 REVERSED OUT no VISCOSITY 45 WEIGHT 9.5 DUAL PACKERS yes DID PACKER HOLD yes DID TOOL PLUG no
 DRILLING CONTRACTOR T-Bird # 2

TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH DRILL PIPE 2864 FT. I.D. DRILL PIPE 3.8 IN.
 TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH WEIGHT PIPE 566 FT I.D. WEIGHT PIPE 3.5 IN.
 TOOL JOINT SIZE _____ IN. LENGTH DRILL COLLARS _____ FT I.D. DRILL COLLARS _____ IN.

TOOL OPEN I.F.P. FROM 10:55 p. m to 12:55 p. Hr 120 min From (B) 84 P.S.I. to (C) 96 P.S.I.

TOOL CLOSED I.C.I.P. FROM 12:55 a. m to 1:25 a. Hr 30 min (D) 120 P.S.I.

TOOL OPEN F.F.P. FROM 1:25 a. m to 1:55 a. Hr 30 min From (E) 108 P.S.I. to (F) 108 P.S.I.

TOOL CLOSED F.C.I.P. FROM 1:55 a. m to 2:25 a. Hr 30 min (G) 157 P.S.I.

INITIAL HYDROSTATIC PRESSURE (A) 1948 P.S.I. FINAL HYDROSTATIC PRESSURE (H) 1910 MAXIMUM TEMPERATURE _____ °F

BLOW Weak intermitten blow 1st opening.

Same blow 2nd opening.

RECOVERY - TOTAL FEET 75 ft.

RECOVERED 75' FEET OF _____ 15% Oil, 43% water, 42% mud.

RECOVERED _____ FEET OF Oily cut muddy water.

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

RECOVERED _____ FEET OF _____

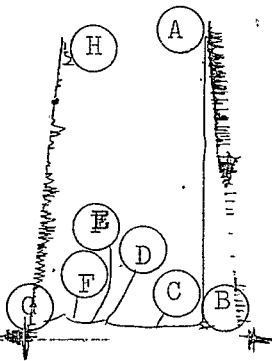
REMARKS None.

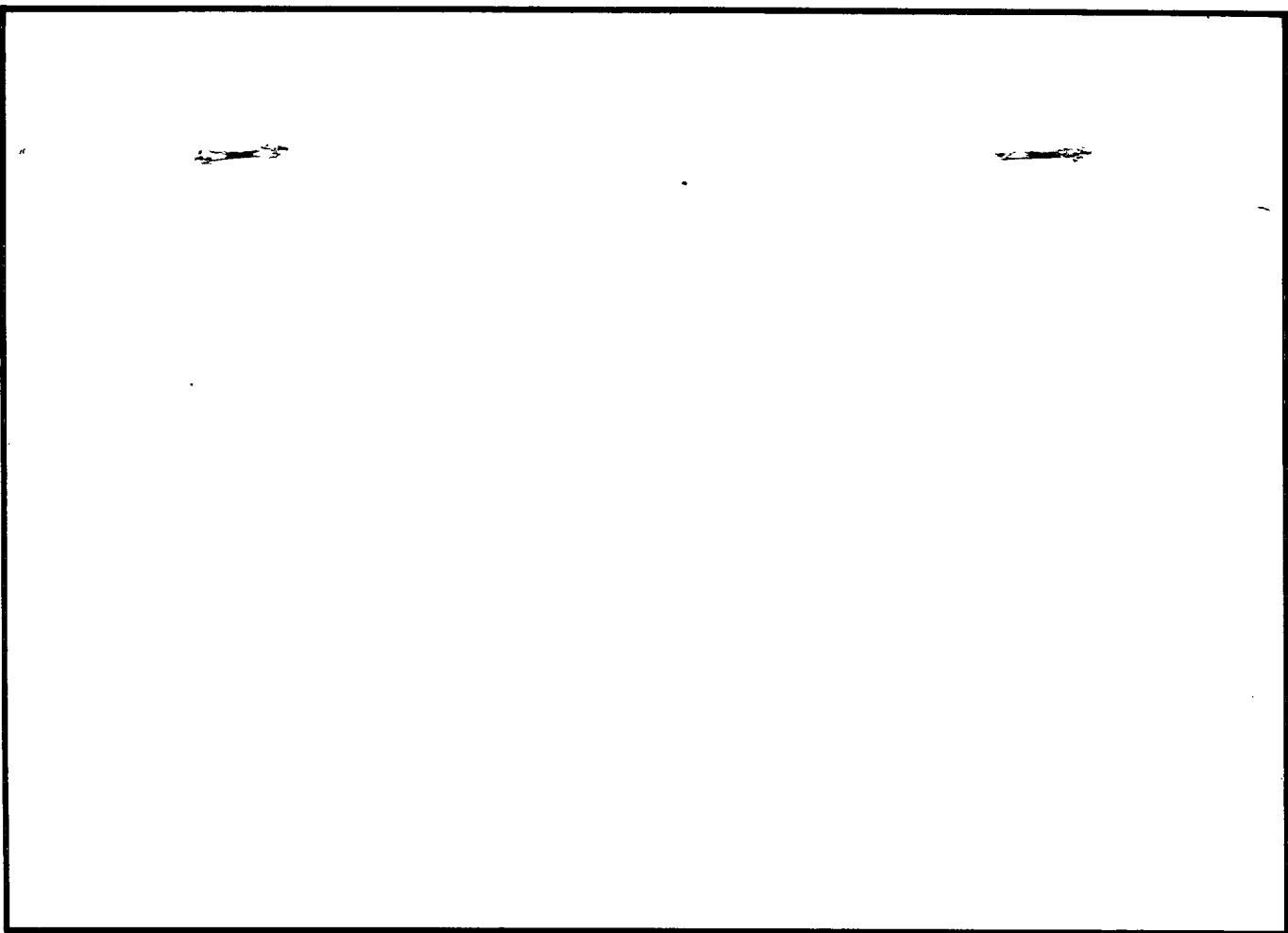
TICKET NO 5775

WITNESSED BY _____ TOOL OPERATOR Kevin Reigel

577
4333
4

Thunderbird
Groff #1
3452-3484 K. city
6/24/81





This is an actual photograph of recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	<u>1948</u>	<u>1848</u>	P.S.I.
(B) First Initial Flow Pressure	<u>84</u>	<u>84</u>	P.S.I.
(C) First Final Flow Pressure	<u>96</u>	<u>72</u>	P.S.I.
(D) Initial Closed-in Pressure	<u>120</u>	<u>120</u>	P.S.I.
(E) Second Initial Flow Pressure	<u>108</u>	<u>108</u>	P.S.I.
(F) Second Final Flow Pressure	<u>108</u>	<u>115</u>	P.S.I.
(G) Final Closed-in Pressure	<u>157</u>	<u>144</u>	P.S.I.
(H) Final Hydrostatic Mud	<u>1910</u>	<u>1813</u>	P.S.I.

SUPERIOR TESTERS

368 West Second, Hoisington, Kansas

COMPANY Thunderbird Drilling STATE Kansas COUNTY Ellis
LEASE & WELL NO. Groff # 1 ELEVATION _____ DATE 6/25/81 FORMATION TESTED Kansas City
SEC 29 TWP 14 RANGE 20 INTERVAL TESTED 3518 TO 3545 TOTAL DEPTH 3545
TEST NO. #5 D.K. yes TOP PACKER DEPTH 3513 FT. BOTTOM PACKER DEPTH 3518 FT. PACKER SIZE 6 & 3/4
STRADDLE no CONV. yes TOOL SIZE 5 1/2 OD TOOL JOINT SIZE 4 1/2 FH ANCHOR LENGTH 27 FT.
HOLE SIZE 7 & 7/8 EXTRA EQUIPMENT none SURFACE CHOKE SIZE 1/2 IN. BOTTOM CHOKE SIZE 1/2 IN.
REVERSED OUT no VISCOSITY 41 WEIGHT 9.7 DUAL PACKERS yes DID PACKER HOLD yes DID TOOL PLUG no
DRILLING CONTRACTOR t-bird # 2
TOOL JOINT SIZE 4 1/2 XH IN. LENGTH DRILL PIPE 2931 FT. I. D. DRILL PIPE 3.8 IN.
TOOL JOINT SIZE 4 1/2 XH IN. LENGTH WEIGHT PIPE 566 FT. I. D. WEIGHT PIPE 3.5 IN.
TOOL JOINT SIZE ----- IN. LENGTH DRILL COLLARS ----- FT. I. D. DRILL COLLARS ----- IN.
TOOL OPEN I.F.P. FROM 4:25 a. m to 4:55 a. m Hr 30 min From (B) 109 P.S.I. to (C) 128 P.S.I.
TOOL CLOSED I.C.I.P. FROM 4:55 a. m to 5:25 a. m Hr 30 min (D) 954 P.S.I.
TOOL OPEN F.F.P. FROM 5:25 a. m to 6:25 a. m Hr 60 min From (E) 146 P.S.I. to (F) 173 P.S.I.
TOOL CLOSED F.C.I.P. FROM 6:25 a. m to 6:55 a. m Hr 30 min (G) .871 P.S.I.
INITIAL HYDROSTATIC PRESSURE (A) 1866 P.S.I. FINAL HYDROSTATIC PRESSURE (H) 1848 MAXIMUM TEMPERATURE _____ °F

BLOW Fair to good blow 1st opening.
Good blow 2nd opening.

RECOVERY - TOTAL FEET 230 ft.
RECOVERED 50 FEET OF Heavy Oil & gas cut mud.
RECOVERED 120 FEET OF Muddy gasy oil.
RECOVERED 60 FEET OF Oil & gas cut muddywater.
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
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RECOVERED _____ FEET OF _____

REMARKS None.

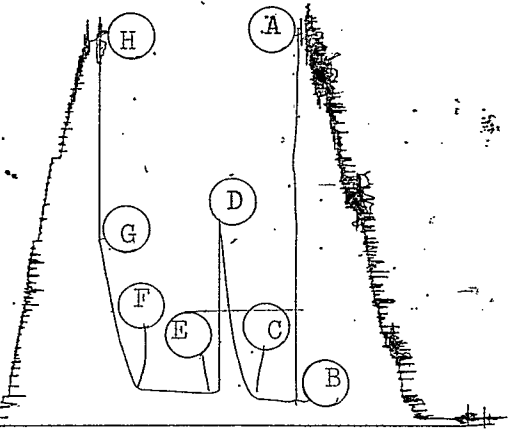
TICKET NO. 5852
WITNESSED BY _____ TOOL OPERATOR Kevin Riegel

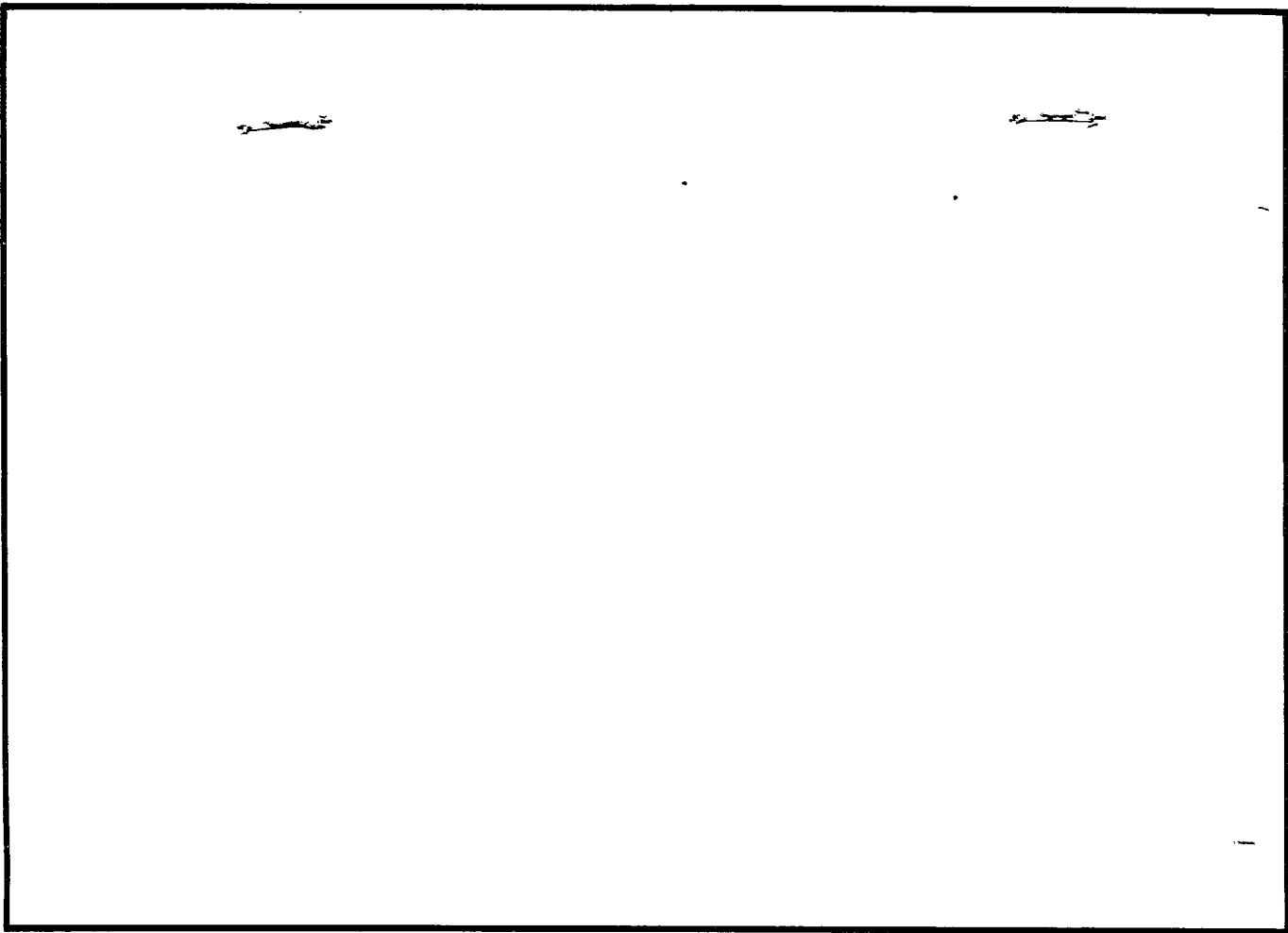
~~5483~~

DSF 5

~~5483~~

Thunderbird
-Groff, #1
3518-3545K. city
6/25/81





This is an actual photograph of recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	<u>1866</u>	<u>1848</u>	P.S.I.
(B) First Initial Flow Pressure	<u>109</u>	<u>109</u>	P.S.I.
(C) First Final Flow Pressure	<u>128</u>	<u>128</u>	P.S.I.
(D) Initial Closed-in Pressure	<u>954</u>	<u>935</u>	P.S.I.
(E) Second Initial Flow Pressure	<u>146</u>	<u>146</u>	P.S.I.
(F) Second Final Flow Pressure	<u>173</u>	<u>164</u>	P.S.I.
(G) Final Closed-in Pressure	<u>871</u>	<u>875</u>	P.S.I.
(H) Final Hydrostatic Mud	<u>1848</u>	<u>1829</u>	P.S.I.

SUPERIOR TESTERS

368 West Second, Holsington, Kansas

COMPANY Thunderbird Drilling STATE kansas COUNTY Ellis
LEASE & WELL NO. Groff # 1 ELEVATION _____ DATE 6/25/81 FORMATION TESTED Kansas City
SEC. 29 TWP. 14 RANGE 20 INTERVAL TESTED 3543 TO 3568 TOTAL DEPTH 3568
TEST NO. #6 D.K. yes TOP PACKER DEPTH 3538 FT. BOTTOM PACKER DEPTH 3543 FT. PACKER SIZE 6 & 3/4
STRADDLE no CONV. yes TOOL SIZE 5 1/2 OD. TOOL JOINT SIZE 4 1/2 FH. ANCHOR LENGTH 25 FT.
HOLE SIZE 7 & 7/8 EXTRA EQUIPMENT none SURFACE CHOKE SIZE 1/2 IN. BOTTOM CHOKE SIZE 1/2 IN.
REVERSED OUT no VISCOSITY 43 WEIGHT 9.6 DUAL PACKERS yes DID PACKER HOLD yes DID TOOL PLUG no
DRILLING CONTRACTOR T-Bird #2
TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH DRILL PIPE 2956 FT I.D. DRILL PIPE 3.8 IN.
TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH WEIGHT PIPE 566 FT I.D. WEIGHT PIPE 3.5 IN.
TOOL JOINT SIZE _____ IN. LENGTH DRILL COLLARS _____ FT I.D. DRILL COLLARS _____ IN.
TOOL OPEN I.F.P. FROM 7:00 p. m to 7:30 p. m Hr. 30 min From (B) 64 P.S.I. to (C) 64 P.S.I.
TOOL CLOSED I.C.I.P. FROM 7:30 p. m to 8:00 p. m Hr. 30 min (D) 64 P.S.I.
TOOL OPEN F.F.P. FROM _____ m to _____ m Hr. ____ min From (E) _____ P.S.I. to (F) _____ P.S.I.
TOOL CLOSED F.C.I.P. FROM _____ m to _____ m Hr. ____ min (G) _____ P.S.I.
INITIAL HYDROSTATIC PRESSURE (A) 1910 P.S.I. FINAL HYDROSTATIC PRESSURE (H) 1890 MAXIMUM TEMPERATURE _____ °F
BLOW Weak blow died in 5 minutes 1st opening.

RECOVERY - TOTAL FEET 5 ft.
RECOVERED 5 FEET OF Mud.
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
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RECOVERED _____ FEET OF _____

REMARKS Flushed tool 1st opening.

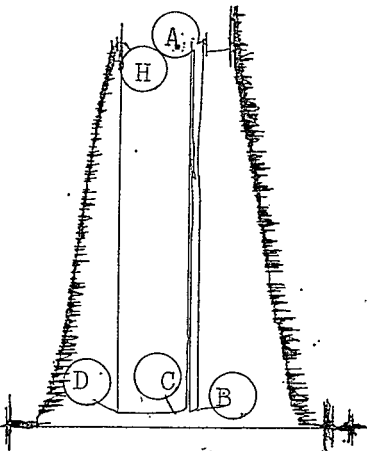
TICKET NO. 5853
WITNESSED BY: _____ TOOL OPERATOR Kevin Riegel

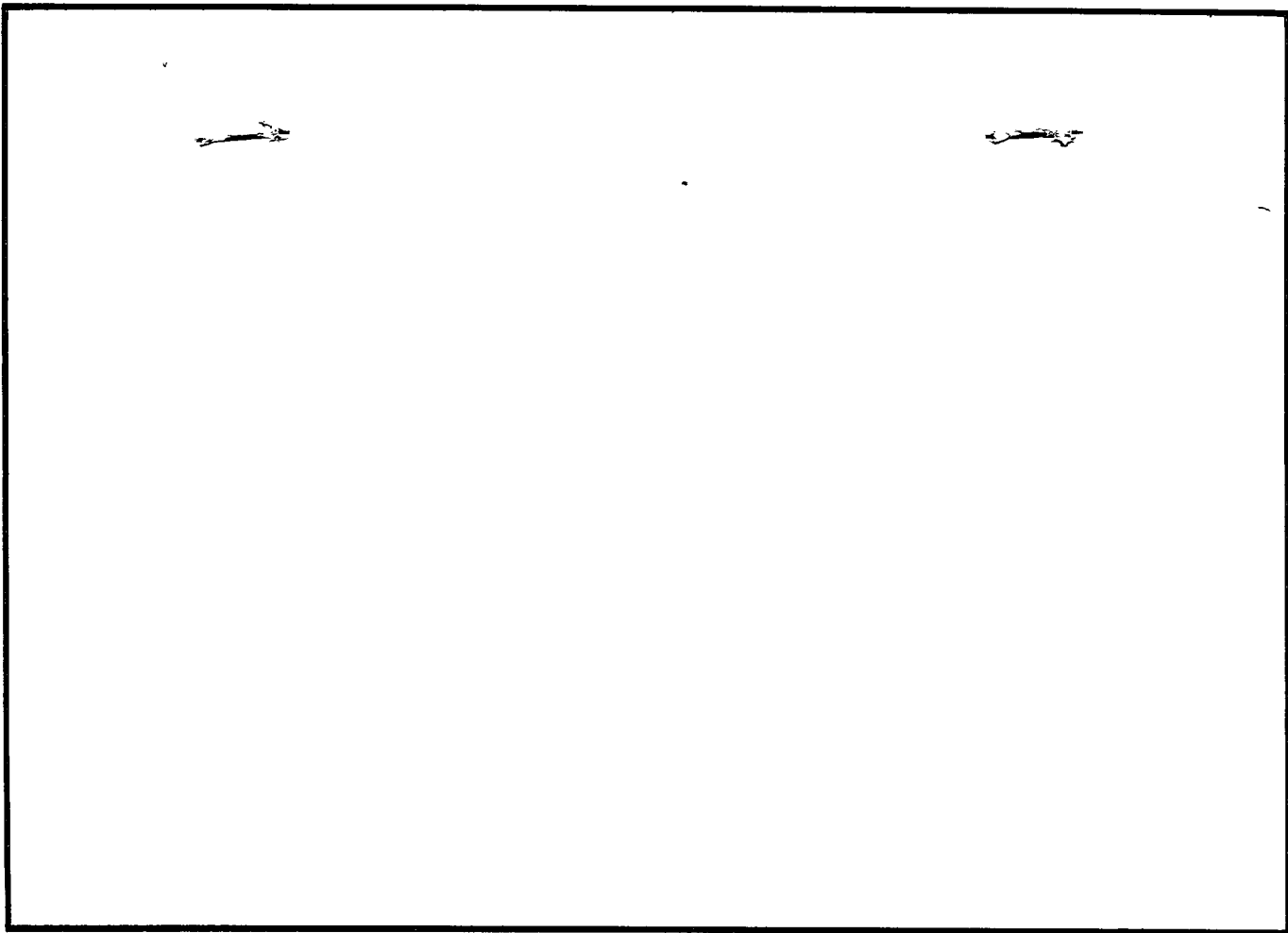
5853

DT # 6

5853

Thunderbird
Groff # 1
3543-3568K. City
6/25/81





This is an actual photograph of recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	<u>1910</u>	<u>1857</u>	P.S.I.
(B) First Initial Flow Pressure	<u>64</u>	<u>73</u>	P.S.I.
(C) First Final Flow Pressure	<u>64</u>	<u>73</u>	P.S.I.
(D) Initial Closed-in Pressure	<u>64</u>	<u>69</u>	P.S.I.
(E) Second Initial Flow Pressure	<u>--</u>	<u>--</u>	P.S.I.
(F) Second Final Flow Pressure	<u>--</u>	<u>--</u>	P.S.I.
(G) Final Closed-in Pressure	<u>--</u>	<u>--</u>	P.S.I.
(H) Final Hydrostatic Mud	<u>1890</u>	<u>1838</u>	P.S.I.

SUPERIOR TESTERS
368 West Second, Holsington, Kansas

COMPANY Thunderbird Drilling STATE Kansas COUNTY Ellis
LEASE & WELL NO Groff # 1 ELEVATION _____ DATE 6/26/81 FORMATION TESTED Kansas City
SEC 29 TWP 14 RANGE 20 INTERVAL TESTED 3564 TO 3640 TOTAL DEPTH 3640
TEST NO. # 7 O.K. yes TOP PACKER DEPTH 3559 FT. BOTTOM PACKER DEPTH 3564 FT. PACKER SIZE 6 & 3/4
STRADDLE no CONV. yes TOOL SIZE 5 1/2 OD. TOOL JOINT SIZE 4 1/2 FH. ANCHOR LENGTH 76 FT.
HOLE SIZE 7 & 7/8 EXTRA EQUIPMENT none SURFACE CHOKE SIZE 1/2 IN. BOTTOM CHOKE SIZE 1/2 IN.
REVERSED OUT no VISCOSITY 39 WEIGHT 9.8 DUAL PACKERS yes DID PACKER HOLD yes DID TOOL PLUG no
DRILLING CONTRACTOR T-bird # 2
TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH DRILL PIPE 3038 FT. I.D. DRILL PIPE 3.8 IN.
TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH WEIGHT PIPE 505 FT. I.D. WEIGHT PIPE 3.5 IN.
TOOL JOINT SIZE _____ IN. LENGTH DRILL COLLARS _____ FT. I.D. DRILL COLLARS _____ IN.
TOOL OPEN I.F.P. FROM 10:55 a. m to 11:25 a. m Hr 30 min From (B) 100 P.S.I. to (C) 100 P.S.I.
TOOL CLOSED I.C.I.P. FROM 11:25 a. m to 11:55 a. m Hr 30 min (D) 137 P.S.I.
TOOL OPEN F.F.P. FROM _____ m to _____ m Hr _____ min From (E) _____ P.S.I. to (F) _____ P.S.I.
TOOL CLOSED F.C.I.P. FROM _____ m to _____ m Hr _____ min (G) _____ P.S.I.
INITIAL HYDROSTATIC PRESSURE (A) 1921 P.S.I. FINAL HYDROSTATIC PRESSURE (H) 1894 MAXIMUM TEMPERATURE _____ °F
BLOW Weak blow died in 7 minutes 1st opening.

RECOVERY - TOTAL FEET 5 ft.
RECOVERED 5 FEET OF Mud.
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
RECOVERED _____ FEET OF _____
REMARKS Flushed tool 1st opening.

TICKET NO. 5854

WITNESSED BY: _____ TOOL OPERATOR Kevin Reigel

DOT # 17

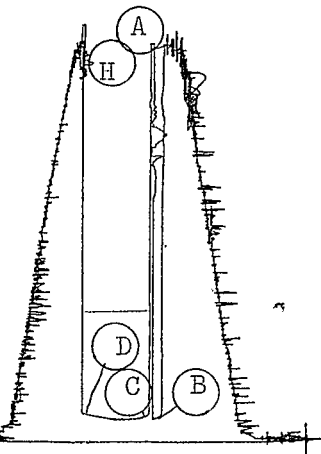
5463

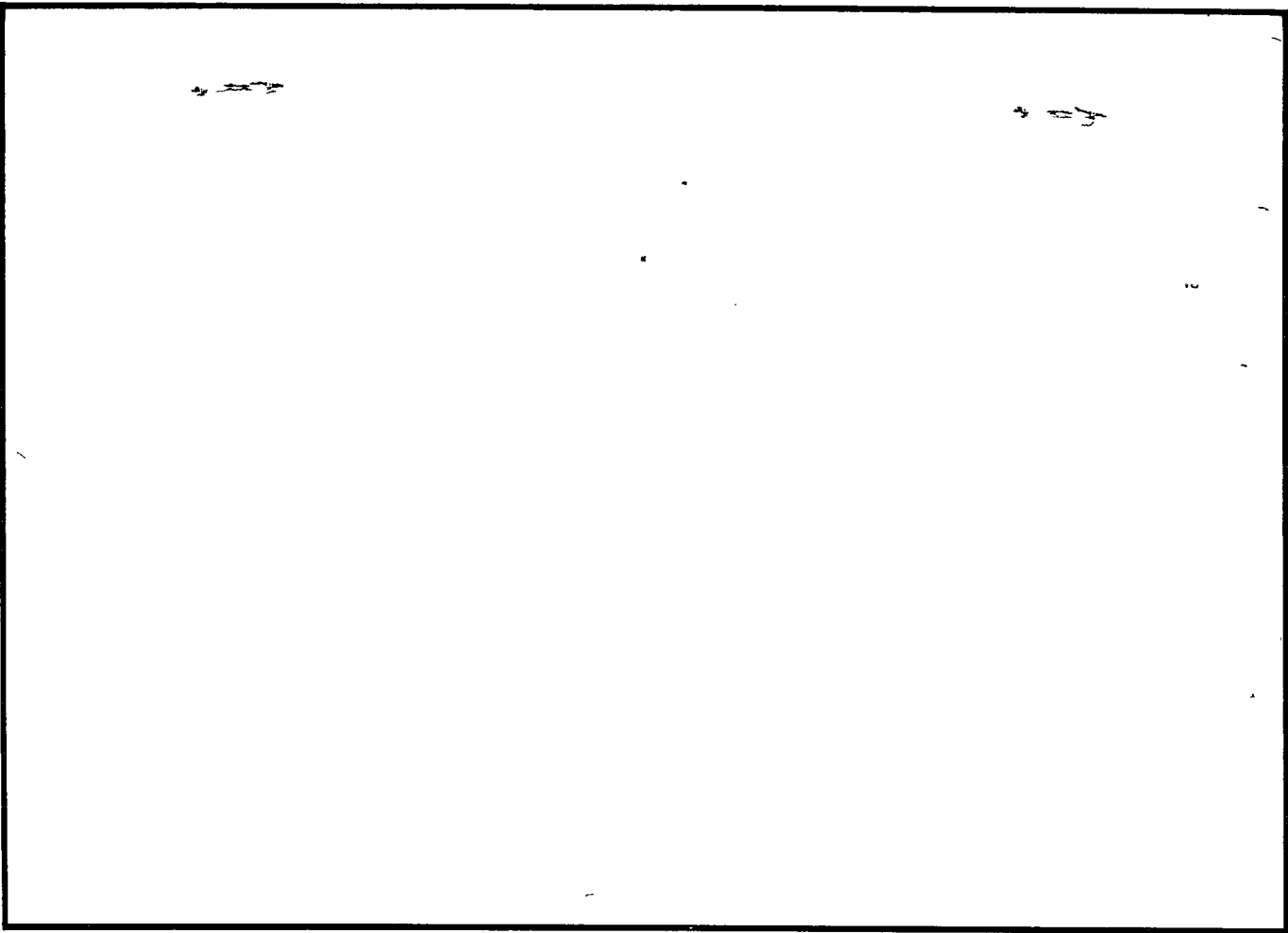
Thunderbird

Groff #1

3564-3640 Kansas City

6/26/81.





This is an actual photograph of recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	<u>1921</u>	<u>1894</u>	P.S.I.
(B) First Initial Flow Pressure	<u>100</u>	<u>119</u>	P.S.I.
(C) First Final Flow Pressure	<u>100</u>	<u>109</u>	P.S.I.
(D) Initial Closed-in Pressure	<u>137</u>	<u>137</u>	P.S.I.
(E) Second Initial Flow Pressure	<u>--</u>	<u>--</u>	P.S.I.
(F) Second Final Flow Pressure	<u>--</u>	<u>--</u>	P.S.I.
(G) Final Closed-in Pressure	<u>--</u>	<u>--</u>	P.S.I.
(H) Final Hydrostatic Mud	<u>1894</u>	<u>1875</u>	P.S.I.