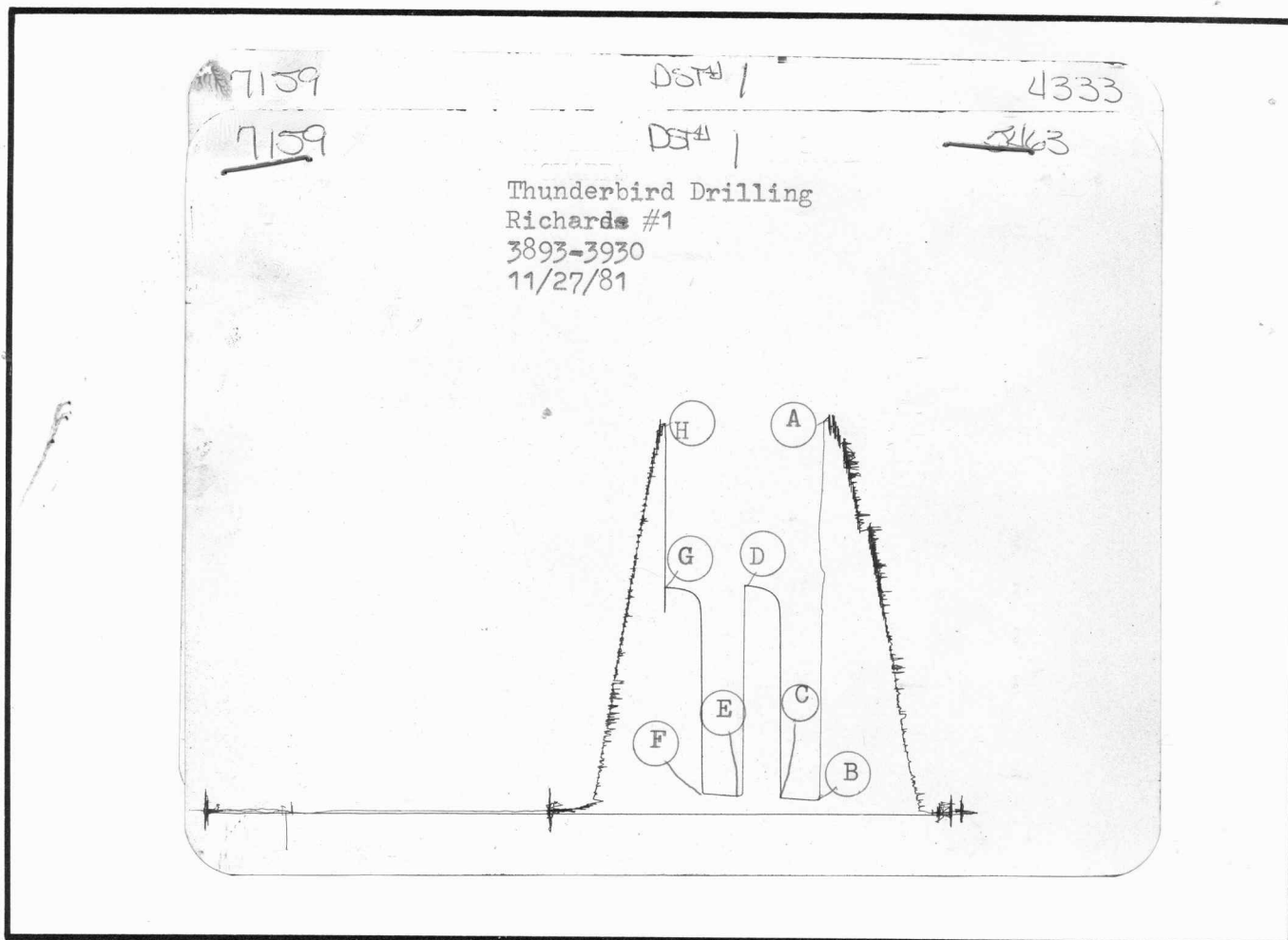


SUPERIOR TESTERS
368 West Second, Holsington, Kansas

COMPANY Thunderbird Drilling STATE Kansas COUNTY Lane
LEASE & WELL NO Richards # 1 ELEVATION 2724 KB. DATE 11/27/81 FORMATION TESTED Kansas City
SEC 20 TWP 16 RANGE 29 INTERVAL TESTED 3893 TO 3930 TOTAL DEPTH 3930
TEST NO. # 1 O.K. yes TOP PACKER DEPTH 38 FT. BOTTOM PACKER DEPTH 3893 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 37 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 9.3 DUAL PACKERS no DID PACKER HOLD yes DID TOOL PLUG no
DRILLING CONTRACTOR T-Bird #2
TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH DRILL PIPE 3878 FT. I.D. DRILL PIPE 3.8 IN.
TOOL JOINT SIZE _____ IN. LENGTH WEIGHT PIPE _____ FT. I.D. WEIGHT PIPE _____ IN.
TOOL JOINT SIZE _____ IN. LENGTH DRILL COLLARS _____ FT. I.D. DRILL COLLARS _____ IN.
TOOL OPEN I.F.P. FROM 8:00 a. m to 8:30 a. m Hr 30 min From (B) 73 P.S.I. to (C) 82 P.S.I.
TOOL CLOSED I.C.I.P. FROM 8:30 a. m to 9:00 a. m Hr 30 min (D) 1147 P.S.I.
TOOL OPEN F.F.P. FROM 9:00 a. m to 9:30 a. m Hr 30 min From (E) 91 P.S.I. to (F) 100 P.S.I.
TOOL CLOSED F.C.I.P. FROM 9:30 a. m to 10:00 a. m Hr 30 min (G) 1137 P.S.I.
INITIAL HYDROSTATIC PRESSURE (A) 1986 P.S.I. FINAL HYDROSTATIC PRESSURE (H) 1958 MAXIMUM TEMPERATURE _____ °F
BLOW Weak blow 1st opening
Weak blow 2nd opening,
RECOVERY - TOTAL FEET 75 ft.
RECOVERED 75 FEET OF Oil Specked 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 _____
RECOVERED _____ FEET OF _____
REMARKS None

TICKET NO. 7159

WITNESSED BY: Stanon Cox TOOL OPERATOR: Kevin Riegel



This is actual recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	1986	1996	P.S.I.
(B) First Initial Flow Pressure	73	73	P.S.I.
(C) First Final Flow Pressure	82	82	P.S.I.
(D) Initial Closed-in Pressure	1147	1147	P.S.I.
(E) Second Initial Flow Pressure	91	91	P.S.I.
(F) Second Final Flow Pressure	100	100	P.S.I.
(G) Final Closed-in Pressure	1137	1137	P.S.I.
(H) Final Hydrostatic Mud	1958	1959	P.S.I.

SUPERIOR TESTERS

368 West Second, Hoisington, Kansas

Date 11-27-81 Location 20-16-29 Elevation 2724 KB County LANE

Company THUNDERBIRD Drq Inc. Number of Copies 5

Address P.O. Box 18407 Wichita Kansas 67218

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

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

Lease Richards Well No. 1 Formation Tested KANSAS City Test No. 1

Depth 3930 Tested from 3893 To 3930 Packer Size 6 3/4 Anchor Length 37

Top Packer Depth — ft. Bottom Packer Depth 3893 ft. Dual Packers No

Tool Joint Size 4 1/2 xh Tool Size 5/200 Hole Size 7 7/8 Did Packer Hold —

Drilling Contractor T-BIRD Rig #2

Length Drill Pipe 3878 I.D. Drill Pipe 3.8 Tool Joint Size 4 1/2 xh

Length Weight Pipe — I.D. Weight Pipe — Tool Joint Size —

Length Drill Collars — I.D. Drill Collars — Tool Joint Size —

Tool Open I.F.P. from 8:00 a m to 8:30 a m 30 min from [B] 73 P.S.I. to [C] 82 P.S.I.

Tool Closed I.C.I.P. from 8:30 a m to 9:00 a m 30 min [D] 1147 P.S.I.

Tool Open F.F.P. from 9:00 a m to 9:30 a m 30 min from [E] 91 P.S.I. to [F] 100 P.S.I.

Tool Closed F.C.I.P. from 9:30 a m to 10:00 a m 30 min [G] 1137 P.S.I.

Initial Hydrostatic Pressure [A] 1986 P.S.I. Final Hydrostatic Pressure [H] 1958 P.S.I. Maximum Temp — °F

Blow Weak Blow 1st open

Weak Blow 2nd open

Gas to Surface — Min. Oil to Surface — Min. Mud Weight 93 Viscosity 45

Gas Gauged —

Recovery 75 foot oil speck mud

Remarks —

Extra Equipment-Jars — Safety Joint — Straddle — Hook Wall —

Top Recorder No. 5163 Clock No. 11395

Bottom Recorder No. 4333 Clock No. 25851

Price of Job —

Tool Operator Lynn Rigel

Approved By Stanley Cox

SUPERIOR TESTERS, 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.

Ticket No 7159

SUPERIOR TESTERS
368 West Second, Holsington, Kansas

COMPANY Thunderbird Drilling STATE Kansas COUNTY Lane
 LEASE & WELL NO. Richards # 1 ELEVATION 2724 KB. DATE 11/28/81 FORMATION TESTED Kansas City
 SEC. 20 TWP. 16 RANGE 29 INTERVAL TESTED 4023 TO 4058 TOTAL DEPTH 4058
 TEST NO. # 2 D.K. yes STOP PACKER DEPTH ----- FT. BOTTOM PACKER DEPTH 4023 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 35 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 _____ WEIGHT _____ DUAL PACKERS no DID PACKER HOLD yes DID TOOL PLUG no
 DRILLING CONTRACTOR T-Bird # 2

TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH DRILL PIPE 4005 FT. I.D. DRILL PIPE 3.8 IN.
 TOOL JOINT SIZE _____ IN. LENGTH WEIGHT PIPE _____ FT. I.D. WEIGHT PIPE _____ IN.
 TOOL JOINT SIZE _____ IN. LENGTH DRILL COLLARS _____ FT. I.D. DRILL COLLARS _____ IN.
 TOOL OPEN I.F.P. FROM 8:40 a. m to 9:10 a. m Hr. 30 min From (B) 64 P.S.I. to (C) 91 P.S.I.
 TOOL CLOSED I.C.I.P. FROM 9:10 a. m to 9:55 a. m Hr. 45 min (D) 1091 P.S.I.
 TOOL OPEN F.F.P. FROM 9:55 a. m to 10:55 a. m Hr. 60 min From (E) 119 P.S.I. to (F) 192 P.S.I.
 TOOL CLOSED F.C.I.P. FROM 10:55 a. m to 11:40 a. m Hr. 45 min (G) 1082 P.S.I.

INITIAL HYDROSTATIC PRESSURE (A) 2098 P.S.I. FINAL HYDROSTATIC PRESSURE (H) 2070 MAXIMUM TEMPERATURE _____ °F

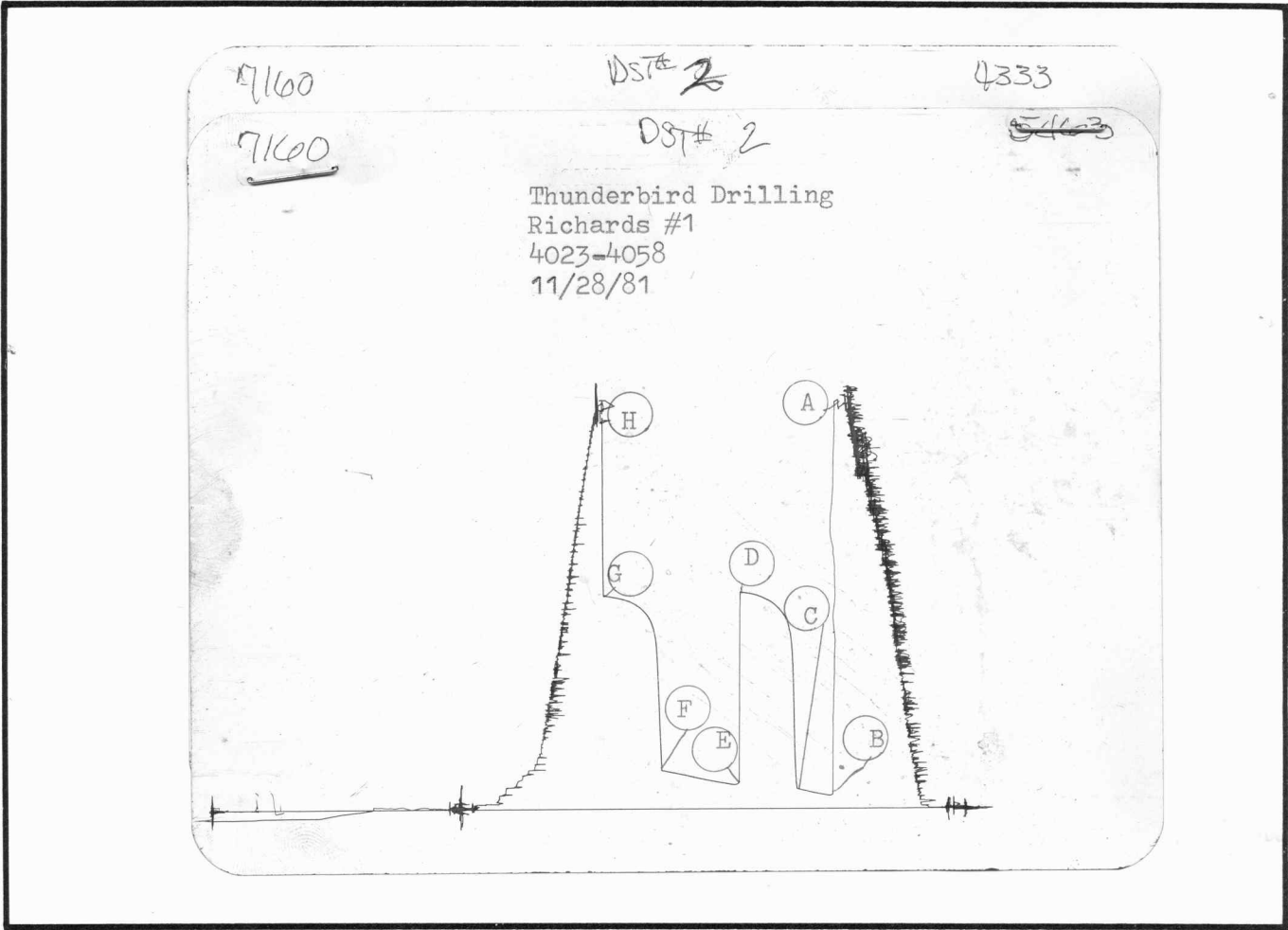
BLOW Fair to good bow 1st opening.
Strong blow 2nd opening.

RECOVERY - TOTAL FEET 325ft.
 RECOVERED 40 FEET OF Clean Gassy Oil.
 RECOVERED 135 FEET OF Muddy Oil.
 RECOVERED 30 FEET OF Oil cut muddy water.
 RECOVERED 120 FEET OF water.
 RECOVERED _____ FEET OF _____
 RECOVERED 285 FEET OF Gas in the pipe.
 RECOVERED _____ FEET OF _____
 RECOVERED _____ FEET OF _____
 RECOVERED _____ FEET OF _____
 RECOVERED _____ FEET OF _____
 RECOVERED _____ FEET OF _____
 RECOVERED _____ FEET OF _____

REMARKS Gravity 41 corrected.

TICKET NO. 7160

WITNESSED BY: Stanton Cox TOOL OPERATOR: Kevin Riegel



This is actual recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	2098	2061	P.S.I.
(B) First Initial Flow Pressure	64	64	P.S.I.
(C) First Final Flow Pressure	91	100	P.S.I.
(D) Initial Closed-in Pressure	1091	1091	P.S.I.
(E) Second Initial Flow Pressure	119	119	P.S.I.
(F) Second Final Flow Pressure	192	195	P.S.I.
(G) Final Closed-in Pressure	1082	1082	P.S.I.
(H) Final Hydrostatic Mud	2070	2042	P.S.I.

SUPERIOR TESTERS

368 West Second, Hoisington, Kansas

Date 11-28-81 Location 20-16-29 Elevation 2724 KB County LANG

Company THUNDERBIRD OIL INC Number of Copies 5

Address P.O. Box 18407 Wichita Kansas 67218

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

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

Lease RICHARDS Well No. 1 Formation Tested Kansas City Test No. 2

Depth 4058 Tested from 4023 To 4058 Packer Size 1 3/4 Anchor Length 35

Top Packer Depth — ft. Bottom Packer Depth 4023 ft. Dual Packers NO

Tool Joint Size 4 1/2 in Tool Size 5 1/2 00 Hole Size 7 7/8 Did Packer Hold —

Drilling Contractor T. BIRD Rig #2

Length Drill Pipe 4005 I.D. Drill Pipe 3.8 Tool Joint Size 4 1/2 in

Length Weight Pipe — I.D. Weight Pipe — Tool Joint Size —

Length Drill Collars — I.D. Drill Collars — Tool Joint Size —

Tool Open I.F.P. from 8:40 a.m. to 9:10 a.m. 30 min from [B] 64 P.S.I. to [C] 91 P.S.I.

Tool Closed I.C.I.P. from 9:10 a.m. to 9:55 a.m. 45 min [D] 1091 P.S.I.

Tool Open F.F.P. from 9:55 a.m. to 10:55 a.m. 60 min from [E] 119 P.S.I. to [F] 192 P.S.I.

Tool Closed F.C.I.P. from 10:55 a.m. to 11:40 a.m. 45 min [G] 1082 P.S.I.

Initial Hydrostatic Pressure [A] 2098 P.S.I. Final Hydrostatic Pressure [H] 2070 P.S.I. Maximum Temp — °F

Blow FAIR Top good Blow 1st open

Strong Blow 2nd open

Gas to Surface — Min. Oil to Surface — Min. Mud Weight — Viscosity —

Gas Gauged —

Recovery 285 Foot gas in pipe 40 foot clean gasly oil

135 Foot muddy oil 30 foot oil cut muddy water

120 Foot water

Remarks GRAVITY 41 corrected

Extra Equipment-Jars — Safety Joint — Straddle — Hook Wall —

Top Recorder No. 5463 Clock No. 11395

Bottom Recorder No. 4333 Clock No. 25821

Price of Job \$4675.00

Tool Operator Kerr Ruyel

Approved By Ron Nelson for Stanton Coy

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Ticket No 7160

SUPERIOR TESTERS

368 West Second, Holsington, Kansas

COMPANY Thunderbird Drilling STATE Kansas COUNTY Lane
LEASE & WELL NO. Richards # 1 ELEVATION 2724 KB. DATE 11/29/81 FORMATION TESTED Kansas City
SEC 20 TWP 16 RANGE 29 INTERVAL TESTED 4083 TO 4115 TOTAL DEPTH 4115
TEST NO. #3 O.K. yes TOP PACKER DEPTH ----- FT. BOTTOM PACKER DEPTH 4083 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 33 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 47 WEIGHT 9.1 DUAL PACKERS no DID PACKER HOLD yes DID TOOL PLUG no
DRILLING CONTRACTOR T-Bird # 2
TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH DRILL PIPE 4076 FT. I.D. DRILL PIPE 3.8 IN.
TOOL JOINT SIZE ----- IN. LENGTH WEIGHT PIPE ----- FT. I.D. WEIGHT PIPE ----- IN.
TOOL JOINT SIZE ----- IN. LENGTH DRILL COLLARS ----- FT. I.D. DRILL COLLARS ----- IN.
TOOL OPEN I.F.P. FROM 2:15 a. m to 2:45 a. m Hr 30 min From (B) 45 P.S.I. to (C) 45 P.S.I.
TOOL CLOSED I.C.I.P. FROM 2:45 a. m to 3:15 a. m Hr 30 min (D) 1000 P.S.I.
TOOL OPEN F.F.P. FROM 3:15 a. m to 3:45 a. m Hr 30 min From (E) 54 P.S.I. to (F) 54 P.S.I.
TOOL CLOSED F.C.I.P. FROM 3:45 a. m to 4:15 a. m Hr 30 min (G) 954 P.S.I.
INITIAL HYDROSTATIC PRESSURE (A) 2088 P.S.I. FINAL HYDROSTATIC PRESSURE (H) 2061 MAXIMUM TEMPERATURE ----- °F
BLOW Weak blow 1st opening.
Weak blow 2nd opening.
RECOVERY - TOTAL FEET 30 ft.
RECOVERED 30 FEET OF Slightly Oil specked 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 -----
REMARKS Flushed tool 2nd opening no help.

TICKET NO. 7161

WITNESSED BY: Stanton Cox TOOL OPERATOR: Kevin Riegel

SUPERIOR TESTERS
368 West Second, Hoisington, Kansas

Date 11-29-81 Location 20-16-29 Elevation 2724 KB County LANE
Company THUNDERBIRD Drilling Inc. Number of Copies 5
Address P.O. Box 18407 Wichita Kansas 67218
Charts Mailed to P.O. Box 18407 Wichita Kansas 67218
Invoice Mailed to P.O. Box 18407 Wichita Kansas 67218
Lease Richards Well No. 1 Formation Tested _____ Test No. 3
Depth 4115 Tested from 4083 To 4115 Packer Size 63/4 Anchor Length _____
Top Packer Depth _____ ft. Bottom Packer Depth 4083 ft. Dual Packers No
Tool Joint Size 4 1/2 Ph Tool Size 5 1/2 200 Hole Size 7 7/8 Did Packer Hold _____
Drilling Contractor T-BIRD Rig #2
Length Drill Pipe 4076 I.D. Drill Pipe 3.8 Tool Joint Size 4 1/2 x H
Length Weight Pipe _____ I.D. Weight Pipe _____ Tool Joint Size _____
Length Drill Collars _____ I.D. Drill Collars _____ Tool Joint Size _____
Tool Open I.F.P. from 2:15 A m to 2:45 A m 30 min from [B] 45 P.S.I. to [C] 45 P.S.I.
Tool Closed I.C.I.P. from 2:45 A m to 3:15 A m 30 min [D] 1000 P.S.I.
Tool Open F.F.P. from 3:15 A m to 3:45 A m 30 min from [E] 54 P.S.I. to [F] 54 P.S.I.
Tool Closed F.C.I.P. from 3:45 A m to 4:15 A m 30 min [G] 954 P.S.I.
Initial Hydrostatic Pressure [A] 2088 P.S.I. Final Hydrostatic Pressure [H] 2061 P.S.I. Maximum Temp _____ °F
Blow Weak Blow 1st open
Weak Blow 2nd open
Gas to Surface _____ Min. Oil to Surface _____ Min. Mud Weight 9.1 Viscosity 47
Gas Gauged _____
Recovery 30 Foot Slightly Oil Speck mud
Remarks Flushed Tool 2nd open
Extra Equipment-Jars _____ Safety Joint _____ Straddle _____ Hook Wall _____
Top Recorder No. 2463 Clock No. 11395
Bottom Recorder No. 4333 Clock No. 25851
Price of Job \$1675.00
Tool Operator Kevin Regal
Approved By Stanley Cox

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Ticket N° 7161

SUPERIOR TESTERS

368 West Second, Holsington, Kansas

COMPANY Thunderbird Drilling STATE Kansas COUNTY Lane
LEASE & WELL NO. Richards # 1 ELEVATION 2724 KB. DATE 11/29/81 FORMATION TESTED Ks. City
SEC 20 TWP 16 RANGE 19 INTERVAL TESTED 4119 TO 4150 TOTAL DEPTH 4150
TEST NO. #4 O.K. yes TOP PACKER DEPTH 4 FT. BOTTOM PACKER DEPTH 4119 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 yes VISCOSITY 44 WEIGHT 9.2 DUAL PACKERS no DID PACKER HOLD yes DID TOOL PLUG no
DRILLING CONTRACTOR T-Bird # 2

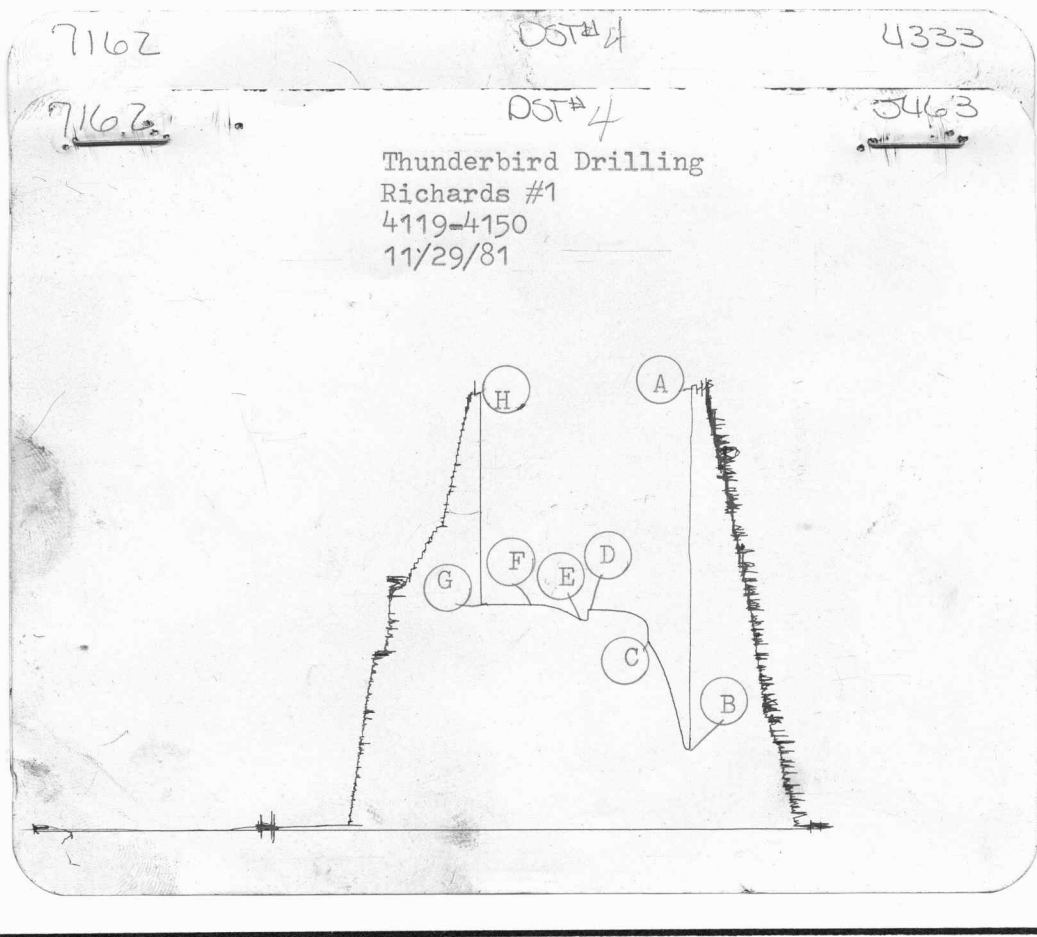
TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH DRILL PIPE 4098 FT. I.D. DRILL PIPE 3.8 IN.
TOOL JOINT SIZE _____ IN. LENGTH WEIGHT PIPE _____ FT. I.D. WEIGHT PIPE _____ IN.
TOOL JOINT SIZE _____ IN. LENGTH DRILL COLLARS _____ FT. I.D. DRILL COLLARS _____ IN.
TOOL OPEN I.F.P. FROM 5:00 p. m to 5:30 p. m Hr. 30 min From (B) 366 P.S.I. to (C) 889 P.S.I.
TOOL CLOSED I.C.I.P. FROM 5:30 p. m to 6:15 p. m Hr. 45 min (D) 1045 P.S.I.
TOOL OPEN F.F.P. FROM 6:15 p. m to 6:45 p. m Hr. 30 min From (E) 1000 P.S.I. to (F) 1055 P.S.I.
TOOL CLOSED F.C.I.P. FROM 6:45 p. m to 7:30 p. m Hr. 45 min (G) 1064 P.S.I.
INITIAL HYDROSTATIC PRESSURE (A) 2116 P.S.I. FINAL HYDROSTATIC PRESSURE (H) 2088 MAXIMUM TEMPERATURE _____ °F

BLOW Strong blow 1st opening.
Good decreasing to weal blow 2nd opening.

RECOVERY - TOTAL FEET 2875
RECOVERED 2875 FEET OF Clean gasy Oil.
RECOVERED 300 FEET OF Gas in the pipe.
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 Gravity Corrected 31 Reversed out. 1

WITNESSED BY: Ron Nelson TOOL OPERATOR: Kevin Riegel
TICKET NO. 7162



This is actual recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	2116	2125	P.S.I.
(B) First Initial Flow Pressure	366	375	P.S.I.
(C) First Final Flow Pressure	889	889	P.S.I.
(D) Initial Closed-in Pressure	1045	1045	P.S.I.
(E) Second Initial Flow Pressure	1000	1000	P.S.I.
(F) Second Final Flow Pressure	1055	1064	P.S.I.
(G) Final Closed-in Pressure	1064	1073	P.S.I.
(H) Final Hydrostatic Mud	2088	2088	P.S.I.

SUPERIOR TESTERS
368 West Second, Hoisington, Kansas

Date 11-29-81 Location 20-16-19 Elevation 2724 KB County LANE

Company THUNDERBIRD Orlg Inc Number of Copies 5

Address P.O. Box 18407 Wichita Kansas 67218

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

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

Lease RICHARDS Well No. 1 Formation Tested KANSAS CITY Test No. 4

Depth 4150 Tested from 4119 To 4150 Packer Size 6 3/4 Anchor Length 31

Top Packer Depth — ft. Bottom Packer Depth 4119 ft. Dual Packers NO

Tool Joint Size 4 1/2 th Tool Size 5 1/2 00 Hole Size 7 7/8 Did Packer Hold —

Drilling Contractor T-BIRD Rig #2

Length Drill Pipe 4098 I.D. Drill Pipe 3.8 Tool Joint Size 4 1/2 xh

Length Weight Pipe — I.D. Weight Pipe — Tool Joint Size —

Length Drill Collars — I.D. Drill Collars — Tool Joint Size —

Tool Open I.F.P. from 5:00 p.m. to 5:30 p.m. 30 min from [B] 366 P.S.I. to [C] 889 P.S.I.

Tool Closed I.C.I.P. from 5:30 p.m. to 6:15 p.m. 45 min [D] 1045 P.S.I.

Tool Open F.F.P. from 6:15 p.m. to 6:45 p.m. 30 min from [E] 1000 P.S.I. to [F] 1055 P.S.I.

Tool Closed F.C.I.P. from 6:45 p.m. to 7:30 p.m. 45 min [G] 1064 P.S.I.

Initial Hydrostatic Pressure [A] 2116 P.S.I. Final Hydrostatic Pressure [H] 2088 P.S.I. Maximum Temp — °F

Blow Strong Blow 1st open

GOOD DECREASING TO WEAK 2nd open

Gas to Surface — Min. Oil to Surface — Min. Mud Weight 9.2 Viscosity 44

Gas Gauged —

Recovery 300 foot gas in pipe 2875 foot clean gassy oil

Remarks gravity 31 corrected

REVERSED FLUID

Extra Equipment- Circ. Sub 35^{cc} Safety Joint — Straddle — Hook Wall —

Top Recorder No. 5463 Clock No. 11395

Bottom Recorder No. 4333 Clock No. 21851

Price of Job \$710⁰⁰

Tool Operator Turn Regel

Approved By Ron Nelson

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Ticket No 7162

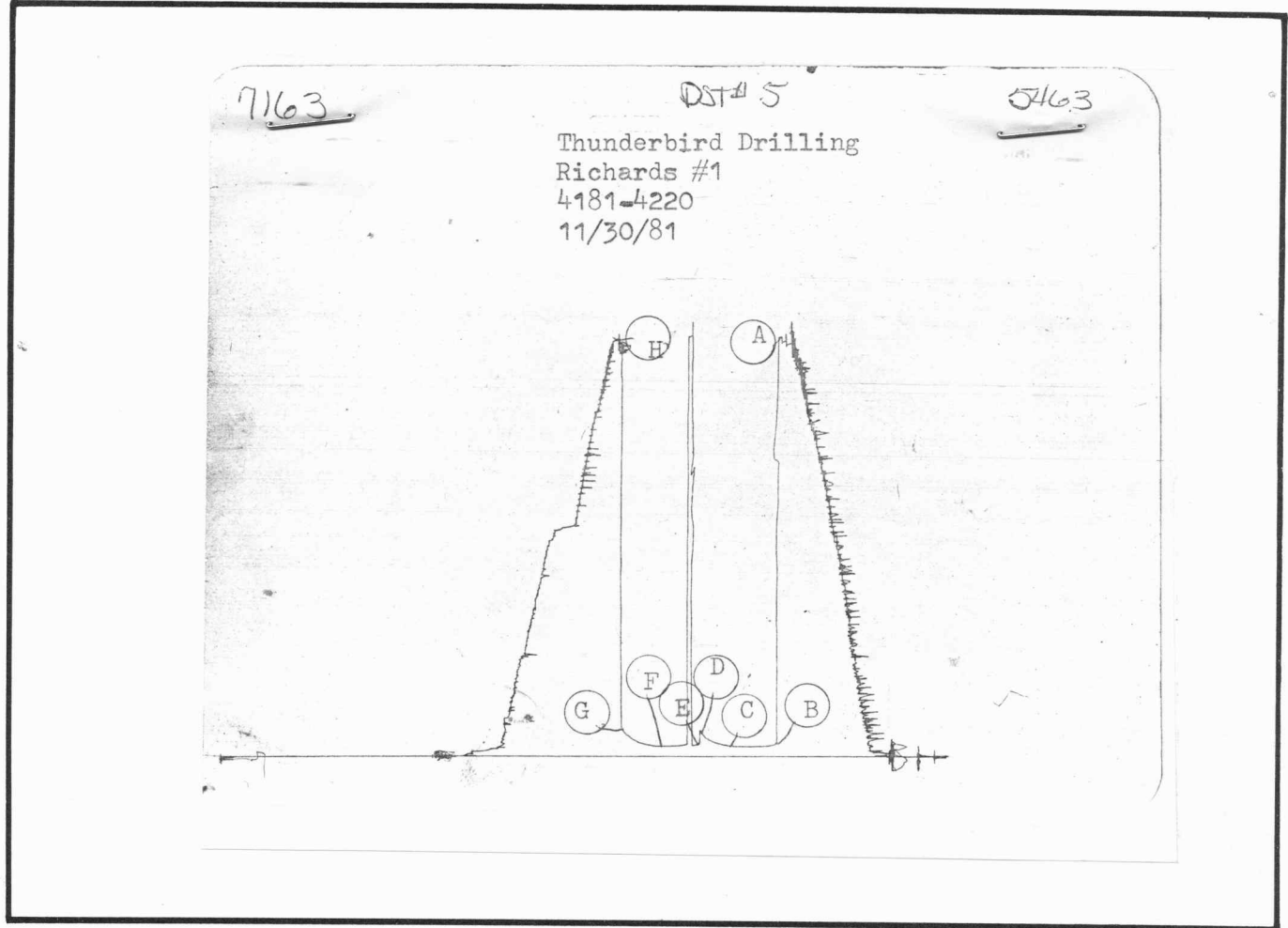
SUPERIOR TESTERS

368 West Second, Holsington, Kansas

COMPANY Thunderbird Drilling STATE Kansas COUNTY Lane
LEASE & WELL NO. Richards # 1 ELEVATION 2724 KB. DATE 12/30/81 FORMATION TESTED Marmaton
SEC 20 TWP 16 RANGE 29 INTERVAL TESTED 4181 TO 4220 TOTAL DEPTH 4220
TEST NO. # 5 O.K. yes TOP PACKER DEPTH ----- FT. BOTTOM PACKER DEPTH 4181 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 39 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 9.6 DUAL PACKERS no DID PACKER HOLD yes DID TOOL PLUG no
DRILLING CONTRACTOR t-Bird # 2
TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH DRILL PIPE 4163 FT. I.D. DRILL PIPE 3.8 IN.
TOOL JOINT SIZE ----- IN. LENGTH WEIGHT PIPE ----- FT. I.D. WEIGHT PIPE ----- IN.
TOOL JOINT SIZE ----- IN. LENGTH DRILL COLLARS ----- FT. I.D. DRILL COLLARS ----- IN.
TOOL OPEN I.F.P. FROM 2:45 p.m. to 3:15 p.m. Hr. 30 min From (B) 45 P.S.I. to (C) 45 P.S.I.
TOOL CLOSED I.C.I.P. FROM 3:15 p.m. to 3:45 p.m. Hr. 30 min (D) 137 P.S.I.
TOOL OPEN F.F.P. FROM 3:45 p.m. to 4:15 p.m. Hr. 30 min From (E) 64 P.S.I. to (F) 64 P.S.I.
TOOL CLOSED F.C.I.P. FROM 4:15 p.m. to 4:45 p.m. Hr. 30 min (G) 155 P.S.I.
INITIAL HYDROSTATIC PRESSURE (A) 2162 P.S.I. FINAL HYDROSTATIC PRESSURE (H) 2135 MAXIMUM TEMPERATURE ----- °F
BLOW Weak blow in 20 minutes.

RECOVERY - TOTAL FEET 10 ft.
RECOVERED 10 FEET OF Oil speck 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 -----
RECOVERED ----- FEET OF -----
REMARKS None.

TICKET NO. 7163
WITNESSED BY: Ron Nelson TOOL OPERATOR: Kevin Riegel



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	2162	2144	P.S.I.
(B) First Initial Flow Pressure	45	64	P.S.I.
(C) First Final Flow Pressure	45	45	P.S.I.
(D) Initial Closed-in Pressure	137	137	P.S.I.
(E) Second Initial Flow Pressure	64	64	P.S.I.
(F) Second Final Flow Pressure	64	64	P.S.I.
(G) Final Closed-in Pressure	155	146	P.S.I.
(H) Final Hydrostatic Mud	2135	2125	P.S.I.

SUPERIOR TESTERS
368 West Second, Holsington, Kansas

COMPANY Thunderbird Drilling STATE Kansas COUNTY Lane

LEASE & WELL NO. Richards # 1 ELEVATION 2724 KB. DATE 12/ 1/81 FORMATION TESTED Mississippi

SEC 20 TWP 16 RANGE 29 INTERVAL TESTED 4233 TO 4303 TOTAL DEPTH 4303

TEST NO. #6 D.K. yes TOP PACKER DEPTH ----- FT. BOTTOM PACKER DEPTH 4233 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 70 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 49 WEIGHT 9.6 DUAL PACKERS no DID PACKER HOLD yes DID TOOL PLUG no

DRILLING CONTRACTOR T-Bird # 2

TOOL JOINT SIZE 4 1/2 XH. IN. LENGTH DRILL PIPE 4215 FT. I.D. DRILL PIPE 3.8 IN.

TOOL JOINT SIZE _____ IN. LENGTH WEIGHT PIPE _____ FT. I.D. WEIGHT PIPE _____ IN.

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

TOOL OPEN I.F.P. FROM 1:25 p. m to 1:55 p. m Hr 30 min From (B) 82 P.S.I. to (C) 82 P.S.I.

TOOL CLOSED I.C.I.P. FROM 1:55 p. m to 2:25 p. m Hr 30 min (D) 293 P.S.I.

TOOL OPEN F.F.P. FROM 2:25 p. m to 2:55 p. m Hr 30 min From (E) 82 P.S.I. to (F) 82 P.S.I.

TOOL CLOSED F.C.I.P. FROM 2:55 p. m to 3:25 p. m Hr 30 min (G) 100 P.S.I.

INITIAL HYDROSTATIC PRESSURE (A) 2246 P.S.I. FINAL HYDROSTATIC PRESSURE (H) 2227 MAXIMUM TEMPERATURE _____ °F

BLOW Weak blow 1st opening.

RECOVERY - TOTAL FEET 10 ft.

RECOVERED 10 FEET OF Oil S^ecked mid.

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 _____

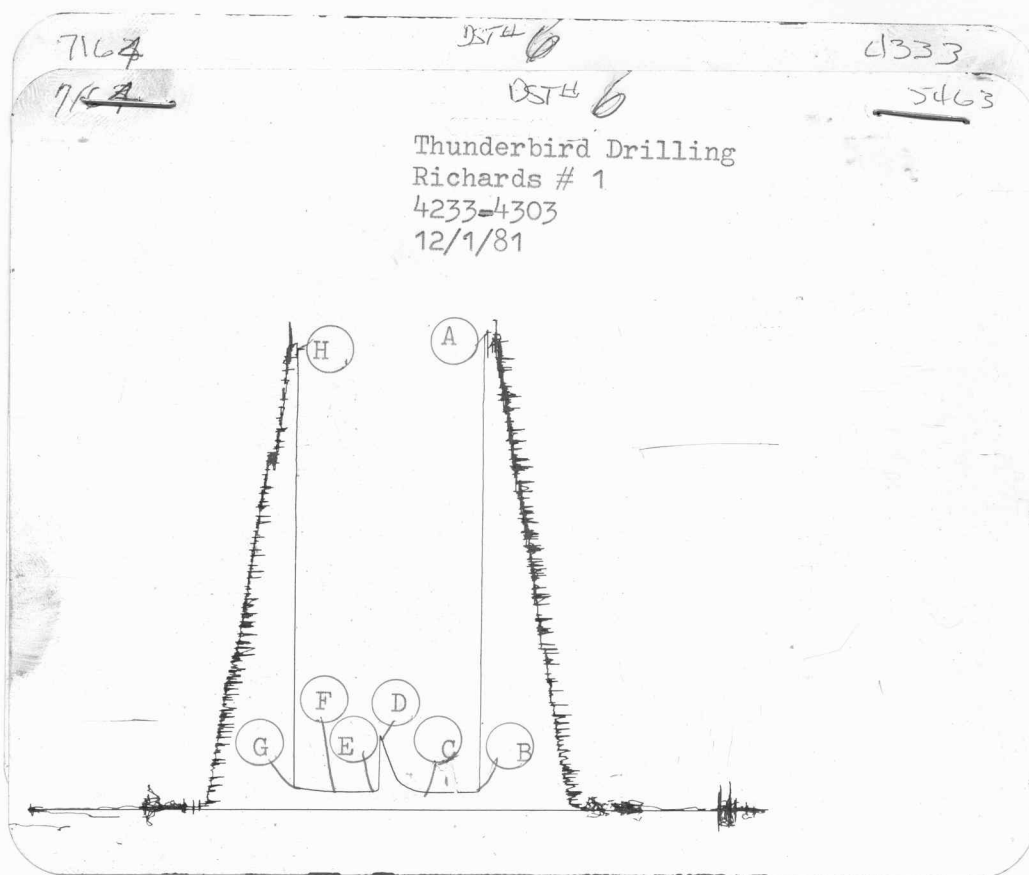
RECOVERED _____ FEET OF _____

REMARKS None.

TICKET NO. 7164

WITNESSED BY: Ron Nelson

TOOL OPERATOR: Kevin Riegel



This is actual recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	2246	2237	P.S.I.
(B) First Initial Flow Pressure	82	91	P.S.I.
(C) First Final Flow Pressure	82	82	P.S.I.
(D) Initial Closed-in Pressure	293	347	P.S.I.
(E) Second Initial Flow Pressure	82	82	P.S.I.
(F) Second Final Flow Pressure	82	82	P.S.I.
(G) Final Closed-in Pressure	100	109	P.S.I.
(H) Final Hydrostatic Mud	2227	2209	P.S.I.

SUPERIOR TESTERS
368 West Second, Hoisington, Kansas

Date 12-1-81 Location 20-16-29 Elevation 2724 K.B County Law
Company THUNDERBIRD DRG INC Number of Copies 5
Address P.O. Box 18407 Wichita Kansas 67218
Charts Mailed to P.O. Box 18407 Wichita Kansas 67218
Invoice Mailed to P.O. Box 18407 Wichita Kansas 67218
Lease Richard's Well No. 1 Formation Tested _____ Test No. 6
Depth 4303 Tested from 4233 To 4303 Packer Size 6 3/4 Anchor Length 70
Top Packer Depth _____ ft. Bottom Packer Depth 4233 ft. Dual Packers NO
Tool Joint Size 4 1/2 in Tool Size 5 1/2 in Hole Size 7 1/8 Did Packer Hold _____
Drilling Contractor T-Buro Rig # 2
Length Drill Pipe 4215 I.D. Drill Pipe 3.8 Tool Joint Size 4 1/2 in
Length Weight Pipe _____ I.D. Weight Pipe _____ Tool Joint Size _____
Length Drill Collars _____ I.D. Drill Collars _____ Tool Joint Size _____
Tool Open I.F.P. from 1.25 pm to 1.55 pm 30 min from [B] 82 P.S.I. to [C] 82 P.S.I.
Tool Closed I.C.I.P. from 1.55 pm to 2.25 pm 30 min [D] 293 P.S.I.
Tool Open F.F.P. from 2.25 pm to 2.55 pm 30 min from [E] 82 P.S.I. to [F] 82 P.S.I.
Tool Closed F.C.I.P. from 2.55 pm to 3.25 pm 30 min [G] 100 P.S.I.
Initial Hydrostatic Pressure [A] 2246 P.S.I. Final Hydrostatic Pressure [H] 2227 P.S.I. Maximum Temp _____ °F
Blow WEAK Blow 1st open

Gas to Surface _____ Min. Oil to Surface _____ Min. Mud Weight 96 Viscosity 49
Gas Gauged _____

Recovery 10 Foot Oil Speck mud

Remarks _____

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

Top Recorder No. 5463 Clock No. 11395

Bottom Recorder No. 4333 Clock No. 25821

Price of Job \$1675.00

Tool Operator Kevin King

Approved By Ron Nelson

SUPERIOR TESTERS, 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.

Ticket No 7164

SUPERIOR TESTERS

368 West Second, Holsington, Kansas

COMPANY Thunderbird Drilling STATE Kansas COUNTY Lane

LEASE & WELL NO. Richards # 1 ELEVATION 2724 KB. DATE 12/2/81 FORMATION TESTED Arbuckle

SEC. 20 TWP. 16 RANGE 29 INTERVAL TESTED 4393 TO 4443 TOTAL DEPTH 4443

TEST NO. #7 O.K. yes TOP PACKER DEPTH ----- FT. BOTTOM PACKER DEPTH 4393 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 50 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 58 WEIGHT 9.5 DUAL PACKERS no DID PACKER HOLD yes DID TOOL PLUG no

DRILLING CONTRACTOR T-Bird # 2

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

TOOL JOINT SIZE ----- IN. LENGTH WEIGHT PIPE ----- FT. I.D. WEIGHT PIPE ----- IN.

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

TOOL OPEN I.F.P. FROM 7:05 p.m. to 7:35 p.m. Hr. 30 min From (B) 64 P.S.I. to (C) 64 P.S.I.

TOOL CLOSED I.C.I.P. FROM 7:35 p.m. to 8:20 p.m. Hr. 45 min (D) 1018 P.S.I.

TOOL OPEN F.F.P. FROM 8:20 p.m. to 8:50 p.m. Hr. 30 min From (E) 73 P.S.I. to (F) 73 P.S.I.

TOOL CLOSED F.C.I.P. FROM 8:50 p.m. to 9:35 p.m. Hr. 45 min (G) 862 P.S.I.

INITIAL HYDROSTATIC PRESSURE (A) 2292 P.S.I. FINAL HYDROSTATIC PRESSURE (H) 2311 MAXIMUM TEMPERATURE ----- °F

BLOW Weak blow 1 st opening.

Weak blow 2nd opening.

RECOVERY - TOTAL FEET 15

RECOVERED 15 FEET OF Oil speck mud with good show of Oil in tool.

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 -----

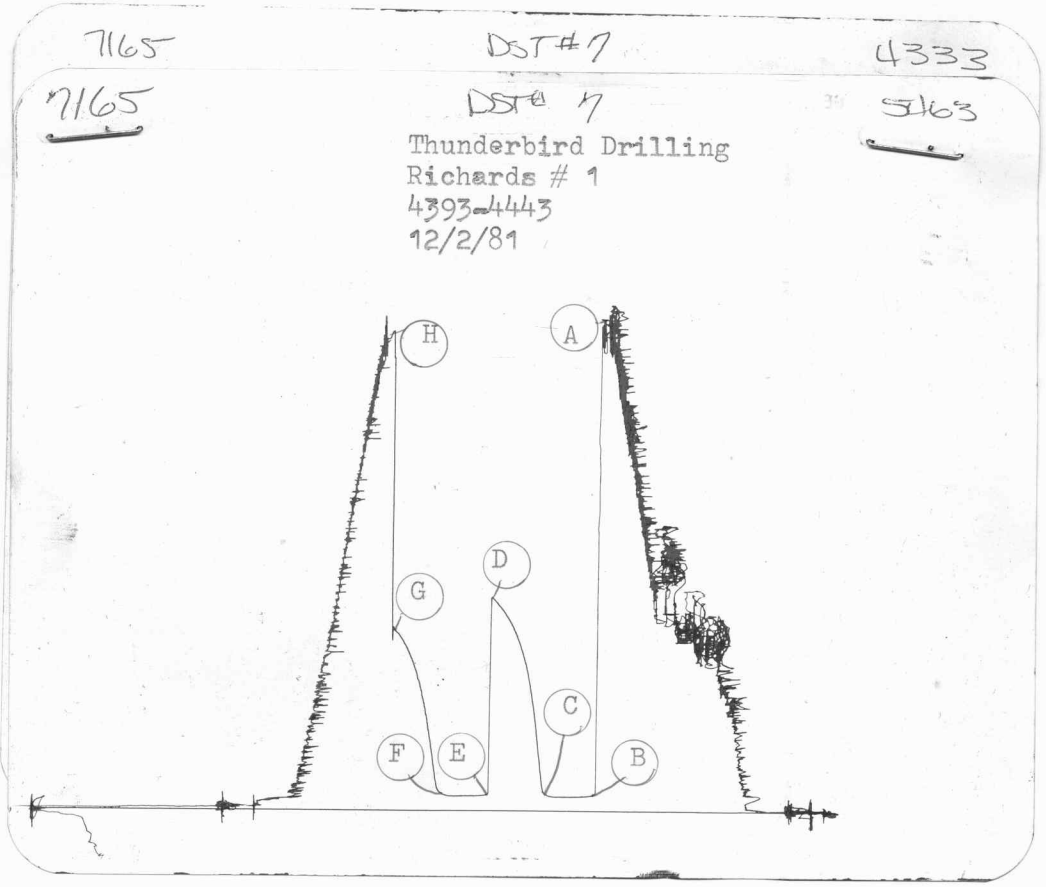
RECOVERED ----- FEET OF -----

RECOVERED ----- FEET OF -----

REMARKS None

TICKET NO. 7165

WITNESSED BY: Ron Nelson TOOL OPERATOR: Kevin Riegel



This is actual recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	2292	2301	P.S.I.
(B) First Initial Flow Pressure	64	73	P.S.I.
(C) First Final Flow Pressure	64	73	P.S.I.
(D) Initial Closed-in Pressure	1018	1009	P.S.I.
(E) Second Initial Flow Pressure	73	73	P.S.I.
(F) Second Final Flow Pressure	73	73	P.S.I.
(G) Final Closed-in Pressure	862	871	P.S.I.
(H) Final Hydrostatic Mud	2311	2255	P.S.I.

SUPERIOR TESTERS

368 West Second, Hoisington, Kansas

Date 12-2-81 Location 20-16-29 Elevation 2724 KB County LANE

Company THUNDERBIRD OIL INC. Number of Copies 5

Address P.O. Box 18407 Wichita Kansas 67218

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

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

Lease Richards Well No. 1 Formation Tested _____ Test No. 7

Depth 4443 Tested from 4393 To 4443 Packer Size 6 3/4 Anchor Length 50

Top Packer Depth _____ ft. Bottom Packer Depth 4393 ft. Dual Packers No

Tool Joint Size 4 1/2 x h Tool Size 5 1/2 200 Hole Size 7 7/8 Did Packer Hold _____

Drilling Contractor T-BIRD Rig #2

Length Drill Pipe _____ I.D. Drill Pipe 3.8 Tool Joint Size 4 1/2 x h

Length Weight Pipe _____ I.D. Weight Pipe _____ Tool Joint Size _____

Length Drill Collars _____ I.D. Drill Collars _____ Tool Joint Size _____

Tool Open I.F.P. from 7:05 am to 7:35 pm 30 min from [B] 64 P.S.I. to [C] 64 P.S.I.

Tool Closed I.C.I.P. from 7:35 am to 8:25 pm 45 min [D] 1018 P.S.I.

Tool Open F.F.P. from 8:20 pm to 8:50 pm 30 min from [E] 73 P.S.I. to [F] 73 P.S.I.

Tool Closed F.C.I.P. from 8:50 pm to 9:35 pm 45 min [G] 862 P.S.I.

Initial Hydrostatic Pressure [A] 2292 P.S.I. Final Hydrostatic Pressure [H] 2311 P.S.I. Maximum Temp _____ °F

Blow Weak Blow Weak Blow 2nd open

Gas to Surface _____ Min. Oil to Surface _____ Min. Mud Weight 95 Viscosity 58

Gas Gauged _____

Recovery 15 Feet oil Speck mud with 9000 show oil in Tool

Remarks _____

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

Top Recorder No. 5463 Clock No. 11395

Bottom Recorder No. 4333 Clock No. 25851

Price of Job #675⁰⁰

Tool Operator Kevin Riggs

Approved By Ron Tolant

SUPERIOR TESTERS, 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.

Ticket No 7165