



Home Office: Wichita, Kansas 67201

P.O. Box 1599

(316) 262-5861

Company Thunderbird Drilling, Inc. Lease & Well No. Brooks #1

Elevation 2496 Kelly Bushing Formation Lansing Effective Pay ---- Ft. Ticket No. 4482

Date 4/22/80 Sec. 4 Twp. 4S Range 25W County Norton State Kansas

Test Approved by Stanton Cox Western Representative Steve Michellich

Formation Test No. 1 Interval Tested from 3452 ft. to 3500 ft. Total Depth 3500 ft.

Packer Depth 3451 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth - ft. Size - in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3454 ft. Recorder Number 4331 Cap. 4150

Bottom Recorder Depth (Outside) 3497 ft. Recorder Number 13240 Cap. 4500

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Thunderbird Drilling Drill Collar Length - I. D. - in.

Mud Type drispac Viscosity 44 Weight Pipe Length 565 I. D. 2.76 in.

Weight 9.0 Water Loss 8 cc. Drill Pipe Length 2903 I. D. 3.8 in.

Chlorides 1,400 P.P.M. Test Tool Length 16 ft. Tool Size 5 1/4 in.

Jars: Make None Serial Number - Anchor Length 49 ft. Size 5 1/4 in.

Did Well Flow? No Reversed Out No Surface Choke Size 3/4 in. Bottom Choke Size 3/4

Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 FH

Blow: _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____ MISRUN

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Remarks: SLID TWENTY FEET TO BOTTOM:PACKERS DID NOT HOLD

Time Set Packer(s) 2:00 ~~P.M.~~ A.M. Time Started Off Bottom 2:30 ~~P.M.~~ A.M. Maximum Temperature -

Initial Hydrostatic Pressure (A) 1705 P.S.I.

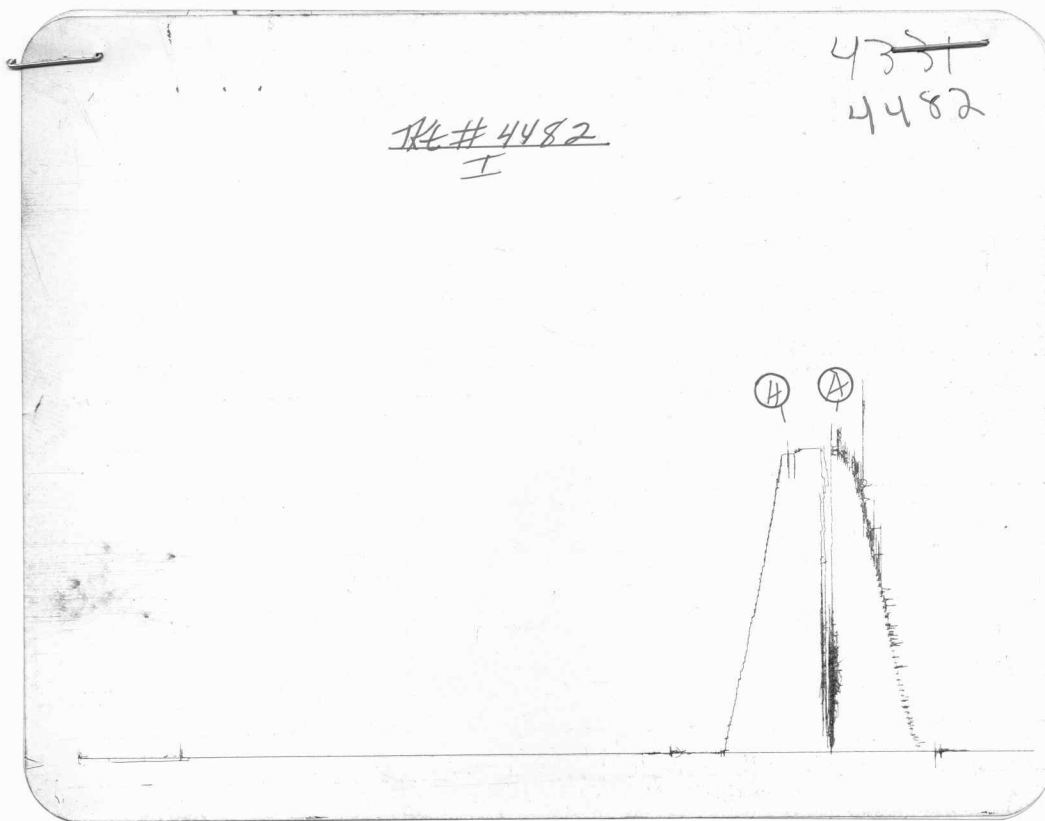
Initial Flow Period Minutes (B) -- P.S.I. to (C) -- P.S.I.

Initial Closed In Period Minutes (D) -- P.S.I.

Final Flow Period Minutes (E) -- P.S.I. to (F) -- P.S.I.

Final Closed In Period Minutes (G) -- P.S.I.

Final Hydrostatic Pressure (H) 1694 P.S.I.



This is an actual photograph of recorder chart.

POINT	PRESSURE		PSI
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	--	1705	PSI
(B) First Initial Flow Pressure	--	--	PSI
(C) First Final Flow Pressure	--	--	PSI
(D) Initial Closed-in Pressure	--	--	PSI
(E) Second Initial Flow Pressure	--	--	PSI
(F) Second Final Flow Pressure	--	--	PSI
(G) Final Closed-in Pressure	--	--	PSI
(H) Final Hydrostatic Mud	--	1694	PSI

MISRUN



Home Office: Wichita, Kansas 67201

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Company Thunderbird Drilling, Inc. Lease & Well No. Brooks #1
Elevation 2496 Kelly Bushing Formation Lansing Effective Pay -- Ft. Ticket No. 4481
Date 4/23/80 Sec. 4 Twp 4S Range 25W County Norton State Kansas
Test Approved by Stanton Cox Western Representative Steve Michellich
Formation Test No. 2 Interval Tested from 3425 ft. to 3500 ft. Total Depth 3500 ft.
Packer Depth 3425 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
Packer Depth 3520 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
Depth of Selective Zone Set -
Top Recorder Depth (Inside) 3426 ft. Recorder Number 4331 Cap 4150
Bottom Recorder Depth (Outside) 3497 ft. Recorder Number 13240 Cap 4500
Below Straddle Recorder Depth - ft. Recorder Number - Cap -
Drilling Contractor Thunderbird Drilling Drill Collar Length - I. D. - in.
Mud Type drispac Viscosity 44 Weight Pipe Length 565 I. D. 2.76 in.
Weight 9.0 Water Loss 8 cc. Drill Pipe Length 2903 I. D. 3.8 in.
Chlorides 1,400 P.P.M. Test Tool Length 21 ft. Tool Size 5 1/2 in.
Jars: Make None Serial Number - Anchor Length 75 ft. Size 5 1/2 in.
Did Well Flow? No Reversed Out No Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 FH in.

Blow: Fair blow throughout both openings.

Recovered 570 ft. of muddy salt water with a few oil specks.

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 11:40 A.M. Time Started Off Bottom 1:40 A.M. Maximum Temperature 98°
Initial Hydrostatic Pressure (A) 1658 P.S.I.
Initial Flow Period Minutes 45 (B) 50 P.S.I. to (C) 159 P.S.I.
Initial Closed In Period Minutes 45 (D) 1165 P.S.I.
Final Flow Period Minutes 45 (E) 207 P.S.I. to (F) 279 P.S.I.
Final Closed In Period Minutes 57 (G) 1152 P.S.I.
Final Hydrostatic Pressure (H) 1652 P.S.I.

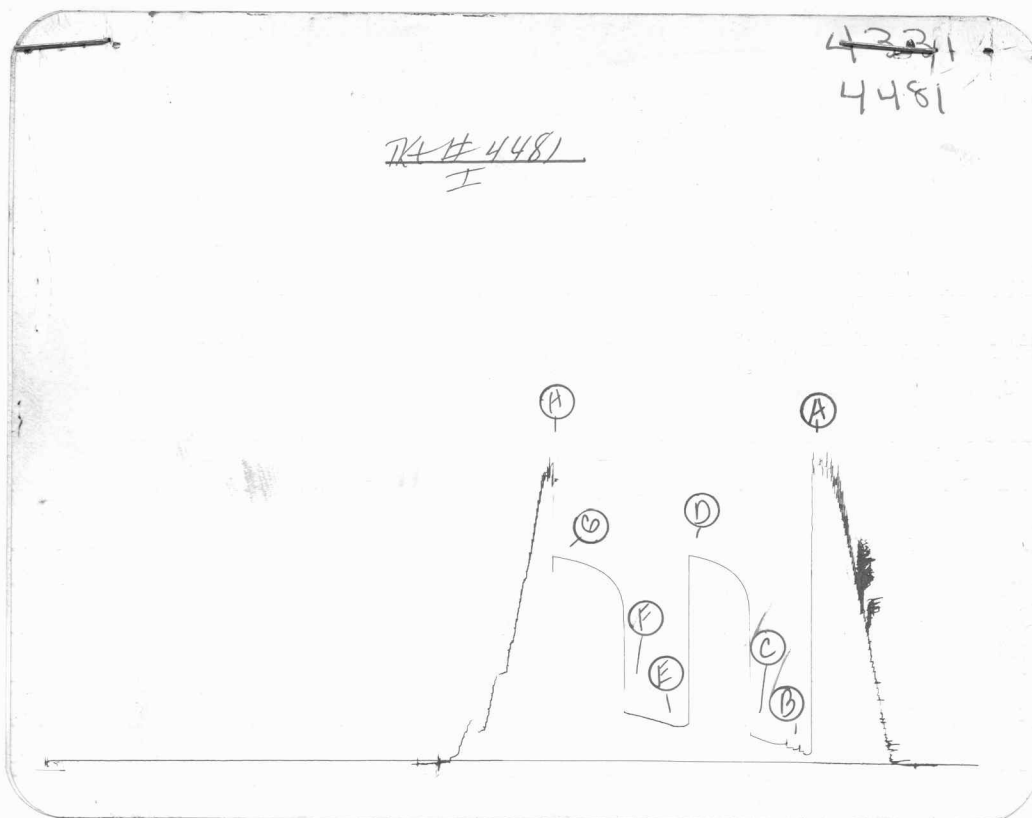
WESTERN TESTING CO., INC.

Pressure Data

Date 4/23/80 Test Ticket No. 4481
 Recorder No. 4331 Capacity 4150 Location 3426 Ft.
 Clock No. - Elevation 2446 Kelly Bushing Well Temperature 98 °F
 Point Pressure Time Given Time Computed
 A Initial Hydrostatic Mud 1658 P.S.I. Open Tool 11:40A M
 B First Initial Flow Pressure 50 P.S.I. First Flow Pressure 45 Mins. 45 Mins.
 C First Final Flow Pressure 159 P.S.I. Initial Closed-in Pressure 45 Mins. 45 Mins.
 D Initial Closed-in Pressure 1165 P.S.I. Second Flow Pressure 45 Mins. 45 Mins.
 E Second Initial Flow Pressure 207 P.S.I. Final Closed-in Pressure 45 Mins. 57 Mins.
 F Second Final Flow Pressure 279 P.S.I.
 G Final Closed-in Pressure 1152 P.S.I.
 H Final Hydrostatic Mud 1652 P.S.I.

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>9</u> Inc.		Breakdown: <u>15</u> Inc.		Breakdown: <u>9</u> Inc.		Breakdown: <u>19</u> Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>50</u>	<u>0</u>	<u>159</u>	<u>0</u>	<u>207</u>	<u>0</u>	<u>279</u>
P 2 <u>5</u> Plugging action		<u>3</u>	<u>929</u>	<u>5</u>	<u>207</u>	<u>3</u>	<u>892</u>
P 3 <u>10</u> Plugging action		<u>6</u>	<u>987</u>	<u>10</u>	<u>207</u>	<u>6</u>	<u>961</u>
P 4 <u>15</u> Plugging action		<u>9</u>	<u>1026</u>	<u>15</u>	<u>221</u>	<u>9</u>	<u>1002</u>
P 5 <u>20</u>	<u>109</u>	<u>12</u>	<u>1051</u>	<u>20</u>	<u>231</u>	<u>12</u>	<u>1026</u>
P 6 <u>25</u>	<u>109</u>	<u>15</u>	<u>1072</u>	<u>25</u>	<u>240</u>	<u>15</u>	<u>1051</u>
P 7 <u>30</u>	<u>118</u>	<u>18</u>	<u>1090</u>	<u>30</u>	<u>251</u>	<u>18</u>	<u>1063</u>
P 8 <u>35</u>	<u>132</u>	<u>21</u>	<u>1104</u>	<u>35</u>	<u>262</u>	<u>21</u>	<u>1076</u>
P 9 <u>40</u>	<u>146</u>	<u>24</u>	<u>1115</u>	<u>40</u>	<u>271</u>	<u>24</u>	<u>1087</u>
P10 <u>45</u>	<u>159</u>	<u>27</u>	<u>1126</u>	<u>45</u>	<u>279</u>	<u>27</u>	<u>1097</u>
P11		<u>30</u>	<u>1134</u>			<u>30</u>	<u>1109</u>
P12		<u>33</u>	<u>1141</u>			<u>33</u>	<u>1115</u>
P13		<u>36</u>	<u>1149</u>			<u>36</u>	<u>1121</u>
P14		<u>39</u>	<u>1154</u>			<u>39</u>	<u>1128</u>
P15		<u>42</u>	<u>1160</u>			<u>42</u>	<u>1134</u>
P16		<u>45</u>	<u>1165</u>			<u>45</u>	<u>1140</u>
P17						<u>48</u>	<u>1143</u>
P18						<u>51</u>	<u>1146</u>
P19						<u>54</u>	<u>1149</u>
P20						<u>57</u>	<u>1152</u>



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	1667	1658	PSI
(B) First Initial Flow Pressure	44	50	PSI
(C) First Final Flow Pressure	153	159	PSI
(D) Initial Closed-in Pressure	1157	1165	PSI
(E) Second Initial Flow Pressure	197	207	PSI
(F) Second Final Flow Pressure	273	279	PSI
(G) Final Closed-in Pressure	1147	1152	PSI
(H) Final Hydrostatic Mud	1656	1652	PSI

DATE 4-24-80

THUNDERBIRD DRILLING, INC.

TESTING DIVISION

TICKET **Nº** 1023SEC. 4 TWN 4 RG 25

BOX 18407 PHONE 316 685-1441

LEGAL DESCRIPTION NE-NW

WICHITA, KANSAS 67218

TEST NO. 3

COMPANY T-Bird Drilling
ADDRESS Box 18407 Wichita KS 67218
LEASE Brooks WELL NO. 1 COUNTY Monton STATE KANSAS
INVOICES SENT TO: SAME
DST COPIES SENT TO: 1111

GENERAL INFORMATION

TOOL JT. 4 1/2 HOLE SIZE 7 7/8 PACKER O.D. 6 3/4
ELEV. _____ TOTAL DEPTH 3550'
TESTED FROM 3502 TO 3550
ANCHOR LENGTH BELOW 48' BETWEEN _____
TOOL OPEN 1ST FLOW 5:50 A.M. _____ P.M.
TOOL CLOSED INITIAL SHUT-IN 6:20 A.M. _____ P.M.
TOOL OPEN 2ND FLOW 6:50 A.M. _____ P.M.
TOOL CLOSED FINAL SHUT-IN 7:20 A.M. _____ P.M.
MUD WT. 9.0 VISCOSITY 44 W.L. 8 C.C.
SP. GRAVITY OIL _____ BOTTOM HOLE TEMPERATURE 105°
LENGTH DRILL COLLAR _____ I.D. _____
LENGTH WEIGHT PIPE 565' I.D. 2.76
SUCCESSFUL TEST NO. _____ MISRUN NO. _____
CHOKES: TOP 1/2 BOTTOM 1/2

PRESSURE DATA & TIME

	FIELD READINGS	CORRECTED READINGS
INITIAL HYDROSTATIC	<u>1754</u>	<u>1754</u>
INITIAL 1ST FLOW	<u>72</u>	<u>73</u>
FINAL 1ST FLOW	<u>120</u>	<u>120</u>
INITIAL SHUT-IN	<u>1169</u>	<u>1168</u>
INITIAL 2ND FLOW	<u>169</u>	<u>169</u>
FINAL 2ND FLOW	<u>169</u>	<u>170</u>
FINAL SHUT-IN	<u>940</u>	<u>940</u>
FINAL HYDROSTATIC	<u>1731</u>	<u>1738</u>
TOOL OPEN: 1ST FLOW	_____	HR. <u>30</u> MIN.
INITIAL SHUT-IN	_____	HR. <u>30</u> MIN.
2ND FLOW	_____	HR. <u>30</u> MIN.
FINAL SHUT-IN	_____	HR. <u>30</u> MIN.
TOP RECORDER NO. <u>4333</u>	BOTTOM RECORDER NO. <u>2162</u>	

TYPE BLOW WEAK BLOW 1ST OPENING BLOW DIED IN 27 min
WEAK BLOW 2ND OPENING BLOW DIED IN 28 min
RECOVERY: _____

240 muddy WATER WITH VERY SLIGHT SHOW OF OIL

EXTRA EQUIPMENT NONE

APPROVED BY: _____

TESTER: William Weaver

FORMATION TESTED _____

OPERATOR TIME: _____

THUNDERBIRD DRILLING, INC.

SHALL NOT BE LIABLE FOR ANY 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 WAS MADE.

CHARGES

TEST CHARGE	\$ <u>575.00</u>
EXTRA PACKERS	\$ _____
JARS	\$ _____
SAFETY JOINT	\$ _____
HOOK WALL	\$ _____
MISRUN CHARGE	\$ _____
STAND-BY CHARGE	\$ _____
DST EVALUATION	\$ _____
STRADDLE	\$ _____
TOTAL	\$ <u>575.00</u>

Tool Open: 1st Flow hr. 30 mins: Shut-in Initial hr. 30 min: 2nd Flow hr. 30 min: Shut-in Final hr. 30 min.

	Field Reading	Corrected Reading
(A) Initial Hydrostatic Pressure	<u>1754</u>	<u>1754</u>
(B) Initial 1st Flow Pressure	<u>72</u>	<u>73</u>
(C) Final 1st Flow Pressure	<u>120</u>	<u>120</u>
(D) Initial Shut-in Pressure	<u>1169</u>	<u>1168</u>
(E) Initial 2nd Flow Pressure	<u>169</u>	<u>169</u>
(F) Final 2nd Flow Pressure	<u>169</u>	<u>170</u>
(G) Final Shut-in Pressure	<u>940</u>	<u>940</u>
(H) Final Hydrostatic Pressure	<u>1731</u>	<u>1738</u>

THUNDERBIRD DRLG., INC.

TESTING DIVISION

Box 18407

WICHITA, KANSAS

Company T-Bird Drilling

Lease and Well No. Brooks #1

County Norton State Kansas

Date 4-24-80

Formation Test No. 3 Total Depth 3550ft. Elev. 2496 KB
 Interval Tested 3502ft. To 3550ft. Anchor Length 48ft.
 Size Hole 7-7/8 Size Drill Pipe 4 1/2 Size Packer 6-3/4
 Mud Weight 9.0 Viscosity 44 Water Loss 8. c.c. Bottom Hole Temp. 105 °F
 Chokes: Top 1/2 Bottom 1/2 Ticket No. 1023

RECOVERY

240ft. muddy water with very slight show of oil

Lease and Well No. Brooks #1 NE NW 4-4-85

Formation Test No. 4

DATE 4-24-80

THUNDERBIRD DRILLING, INC.

TESTING DIVISION

TICKET N^o 1024SEC. 4 TWN 4 RG 25

BOX 18407 PHONE 316 685-1441

LEGAL DESCRIPTION NE NW

WICHITA, KANSAS 67218

TEST NO. 4COMPANY T-Bird Drilling Inc.ADDRESS Box 18407 WICHITA KANSAS 67218LEASE Brooks WELL NO. 1 COUNTY Norton STATE KANSASINVOICES SENT TO: SAMEDST COPIES SENT TO: 11

GENERAL INFORMATION

TOOL JT. 4 1/2 HOLE SIZE 7 7/8 PACKER O.D. 6 3/4
ELEV. 2496 KB TOTAL DEPTH 3630
TESTED FROM 3578 TO 3630
ANCHOR LENGTH BELOW 52' BETWEEN —
TOOL OPEN 1ST FLOW — A.M. 10:15 P.M. —
TOOL CLOSED INITIAL SHUT-IN — A.M. 11:00 P.M. —
TOOL OPEN 2ND FLOW — A.M. 11:45 P.M. —
TOOL CLOSED FINAL SHUT-IN — A.M. 12:30 P.M. —
MUD WT 9 VISCOSITY 50 W.L. 8 C.C. —
SP. GRAVITY OIL 34 BOTTOM HOLE TEMPERATURE 104°
LENGTH DRILL COLLAR — I.D. —
LENGTH WEIGHT PIPE 565' I.D. 2 7/8
SUCCESSFUL TEST NO. — MISRUN NO. —
CHOKES: TOP 1/2 BOTTOM 1/2

PRESSURE DATA & TIME

	FIELD READINGS	CORRECTED READINGS
INITIAL HYDROSTATIC	<u>1820</u>	<u>1820</u>
INITIAL 1ST FLOW	<u>60</u>	<u>77</u>
FINAL 1ST FLOW	<u>103</u>	<u>121</u>
INITIAL SHUT-IN	<u>1237</u>	<u>1228</u>
INITIAL 2ND FLOW	<u>155</u>	<u>155</u>
FINAL 2ND FLOW	<u>190</u>	<u>190</u>
FINAL SHUT-IN	<u>1176</u>	<u>1176</u>
FINAL HYDROSTATIC	<u>1820</u>	<u>1820</u>
TOOL OPEN: 1ST FLOW		HR. <u>45</u> MIN.
INITIAL SHUT-IN		HR. <u>45</u> MIN.
2ND FLOW		HR. <u>45</u> MIN.
FINAL SHUT-IN		HR. <u>45</u> MIN.
TOP RECORDER NO. <u>4333</u>		BOTTOM RECORDER NO. <u>2162</u>

TYPE BLOW WEAK BLOW 1ST OPENING, THRU-OUT 45 MIN OPENING
WEAK BLOW 2ND OPENING, THRU-OUT 45 MIN OPENING

RECOVERY:

200' gassy oil 300'
80' muddy water.
380' TOTAL RECOVERY

EXTRA EQUIPMENT NONEAPPROVED BY: Shanton Co THUNDERBIRD DRILLING, INC.TESTER: William WeaverFORMATION TESTED —OPERATOR TIME: —

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CHARGES

TEST CHARGE	\$ <u>575.00</u>
EXTRA PACKERS	\$ <u>—</u>
JARS	\$ <u>—</u>
SAFETY JOINT	\$ <u>—</u>
HOOK WALL	\$ <u>—</u>
MISRUN CHARGE	\$ <u>—</u>
STAND-BY CHARGE	\$ <u>—</u>
DST EVALUATION	\$ <u>—</u>
STRADDLE	\$ <u>—</u>
TOTAL	\$ <u>575.00</u>

Tool Open: 1st Flow hr. 45 mins: Shut-in Initial hr. 45 min: 2nd Flow hr. 45 min: Shut-in Final hr. 45 min.

	Field Reading	Corrected Reading
(A) Initial Hydrostatic Pressure	<u>1820</u>	<u>1820</u>
(B) Initial 1st Flow Pressure	<u>60</u>	<u>77</u>
(C) Final 1st Flow Pressure	<u>103</u>	<u>121</u>
(D) Initial Shut-in Pressure	<u>1237</u>	<u>1237</u>
(E) Initial 2nd Flow Pressure	<u>155</u>	<u>155</u>
(F) Final 2nd Flow Pressure	<u>190</u>	<u>190</u>
(G) Final Shut-in Pressure	<u>1176</u>	<u>1176</u>
(H) Final Hydrostatic Pressure	<u>1820</u>	<u>1820</u>

THUNDERBIRD DRLG., INC.

TESTING DIVISION

Box 18407

WICHITA, KANSAS

Company T-Bird Drilling

Lease and Well No. Brooks #1

County Norton

State Kansas

Date 4-24-80

Formation Test No. 4 Total Depth 3630ft. Elev. 2496 KB
Interval Tested 3578ft. To 3630ft. Anchor Length 52ft.
Size Hole 7-7/8 Size Drill Pipe 4 1/2 Size Packer 6-3/4
Mud Weight 9. Viscosity 50 Water Loss 8. c.c. Bottom Hole Temp. 104 ° F
Chokes: Top 1/2 Bottom 1/2 Ticket No. 1024

RECOVERY

300ft. gassey oil

80ft. muddy water

380ft. total recovery

Lease and Well No. Brooks #1 NE NW 4-4-25

Formation Test No. 4

COMPANY T-Bird Drilling DATE 4-24-80
 LEASE Brooks WELL NO. 1 TEST NO. 4 TICKET NO. 1024

	TIME	PSI
INITIAL HYDRO MUD PRESSURE		1820
INITIAL CLOSED IN PRESSURE	45	1237
INITIAL FLOW	45	77 to 721
FINAL FLOW	45	155 to 190
FINAL CLOSED IN PRESSURE	45	1176
FINAL HYDRO MUD PRESSURE		1820

TOTAL DEPTH 3630
 PACKER DEPTH 3578
 BT. NO. 2162 DEPTH 3627

1ST FLOW PRESSURE		INITIAL CIP		2ND FLOW PRESSURE		FINAL CIP	
	77		121		155		190
	77		942		155		948
	95		1055		173		994
	121		1133		190		1064
			1165				1089
			1185				1115
			1202				1133
			1211				1150
			1219				1159
			1228				1176
15	MINUTE INTERVAL	5	MINUTE INTERVAL	15	MINUTE INTERVAL	5	MINUTE INTERVAL

REMARKS 300ft. gassey oil
80ft. muddy water

SPECIAL PRESSURE DATA