

MILLER TESTING COMPANY

Box 547

GREAT BEND, KANSAS

Company THUNDERBIRD DRILLING CO., INC.

Lease and Well No. STANDISH #1

County NESS

State KANSAS

Date NOVEMBER 11, 1971

Formation Test No. <u>1</u>	Total Depth <u>4340</u>	Elev. <u>2546 G.L.</u>
Interval Tested <u>4260</u>	To <u>4340</u>	Anchor Length <u>80'</u>
Size Hole <u>7 7/8</u>	Size Drill Pipe <u>4 1/2 F.H. & X.H.</u>	Size Packer <u>6 3/4</u>
Mud Weight <u>9.9</u>	Viscosity <u>54</u>	Water Loss <u>10.8</u> c.c.
Bottom Hole Temp. <u>116</u> °F		
Chokes: Top <u>1/2</u>	Bottom <u>1/2</u>	Ticket No. <u>11994</u>
Length of Drill Collar _____	I. D. _____	Length Flexweight <u>1328</u>
		I. D. <u>2.76</u>

RECOVERY

WEAK BLOW FOR 7 MINUTES. FLUSHED TOOL IN 5 MINUTES ON SECOND OPENING.
NO BLOW.

10 FEET OF MUD.

Lease and Well No.

STANDISH #1

8-19S-25W

SW SE

Formation Test No.

1

DATE 11-11-71

SEC. 8 TWN 19S RG 25W

LEGAL DESCRIPTION SW/SE



P. O. BOX 547 PHONE (316) 793-3370
GREAT BEND, KANSAS

TICKET N^o 11994

TEST NO. 1

COMPANY Thunderbird
ADDRESS 4328 E. Kellogg Wichita Kans.
LEASE Standish WELL NO. 1 COUNTY Ness STATE Kans.
INVOICES SENT TO: SAME
DST COPIES SENT TO: "

GENERAL INFORMATION			
TOOL JT. <u>4 1/2 F.H. 5 1/4</u>	HOLE SIZE <u>7 7/8</u>	PACKER O.D. <u>6 3/4</u>	
ELEV. <u>2546 G.L.</u>	TOTAL DEPTH <u>4340'</u>		
TESTED FROM <u>4260'</u>	TO <u>4340'</u>		
ANCHOR LENGTH BELOW <u>80'</u>	BETWEEN		
TOOL OPEN 1ST FLOW	A.M. <u>4:00</u>	P.M.	
TOOL CLOSED INITIAL SHUT-IN	A.M. <u>4:30</u>	P.M.	
TOOL OPEN 2ND FLOW	A.M. <u>5:00</u>	P.M.	
TOOL CLOSED FINAL SHUT-IN	A.M. <u>5:15</u>	P.M.	
MUD WT. <u>99</u>	VISCOSITY <u>54</u>	W.L. <u>108</u>	C.C.
SP. GRAVITY OIL	BOTTOM HOLE TEMPERATURE <u>116°</u>		
LENGTH DRILL COLLAR	I.D.		
LENGTH WEIGHT PIPE <u>1328'</u>	I.D. <u>2.76</u>		
SUCCESSFUL TEST NO.	MISRUN NO.		
CHOKES: TOP <u>1/2"</u>	BOTTOM <u>1/2"</u>		

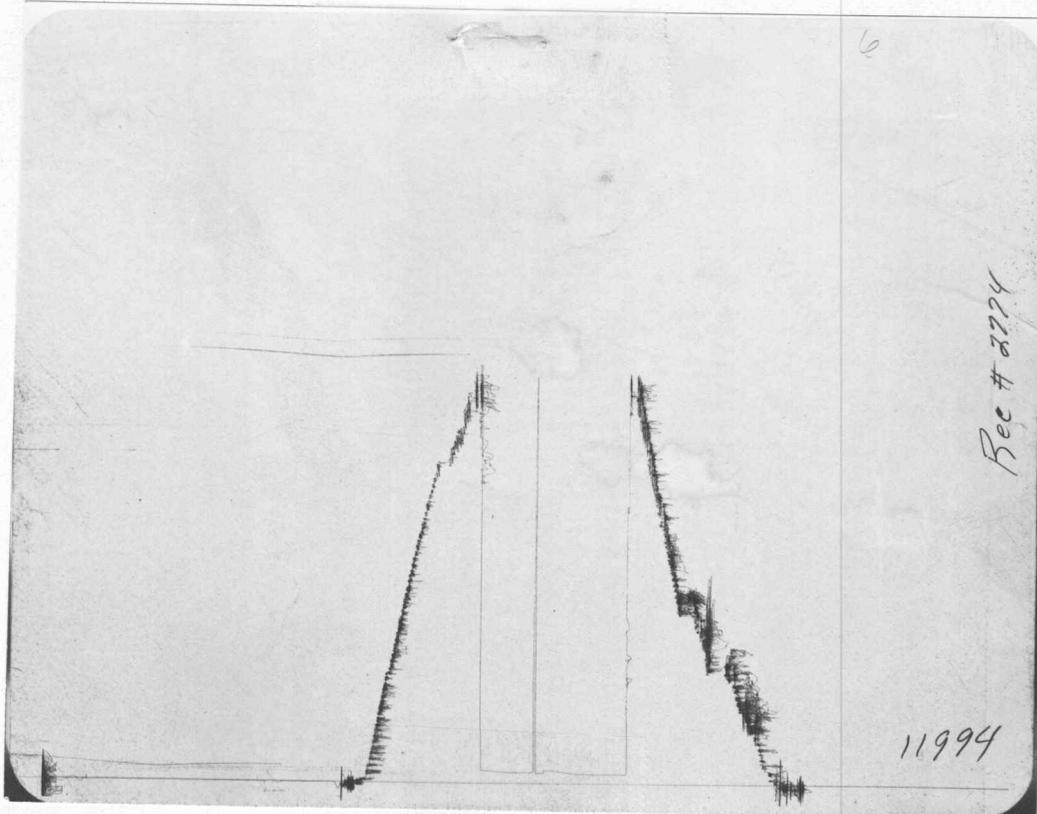
	PRESSURE DATA & TIME	
	FIELD READINGS	CORRECTED READINGS
INITIAL HYDROSTATIC	<u>2256</u>	<u>2267</u>
INITIAL 1ST FLOW	<u>45</u>	<u>57</u>
FINAL 1ST FLOW	<u>45</u>	<u>57</u>
INITIAL SHUT-IN	<u>79</u>	<u>79</u>
INITIAL 2ND FLOW	<u>56</u>	<u>59</u>
FINAL 2ND FLOW	<u>65</u>	<u>66</u>
FINAL SHUT-IN	<u>79</u>	<u>77</u>
FINAL HYDROSTATIC	<u>2240</u>	<u>2252</u>
TOOL OPEN: 1ST FLOW	HR. <u>30</u>	MIN.
INITIAL SHUT-IN	HR. <u>30</u>	MIN.
2ND FLOW	HR. <u>15</u>	MIN.
FINAL SHUT-IN	HR. <u>30</u>	MIN.
TOP RECORDER NO. <u>2774</u>	BOTTOM RECORDER NO. <u>4</u>	

TYPE BLOW WEAK Blow 7 MIN. (Flushed Tool in 5 min. on 2nd opening) - NO BLOW -
RECOVERY: 10' Mud.

EXTRA EQUIPMENT NONE
APPROVED BY: [Signature]
TESTER: Gary Marshall
FORMATION TESTED: MARMATON
OPERATOR TIME: 14 HRS.

MILLER TESTING COMPANY
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>210.⁰⁰</u>
EXTRA PACKERS	\$
JARS	\$
SAFETY JOINT	\$
HOOK WALL	\$
MISRUN CHARGE	\$
STAND-BY CHARGE	\$
DST EVALUATION	\$
TOTAL	\$ <u>210.⁰⁰</u>



Tool Open: 1st Flow hr. 30 mins: Shut-in Initial hr. 30 min: 2nd Flow hr. 15 min: Shut-in Final hr. 30 min.

	Field Reading	Corrected Reading
(A) Initial Hydrostatic Pressure	<u>2256</u>	<u>2267</u>
(B) Initial 1st Flow Pressure	<u>45</u>	<u>57</u>
(C) Final 1st Flow Pressure	<u>45</u>	<u>57</u>
(D) Initial Shut-in Pressure	<u>79</u>	<u>79</u>
(E) Initial 2nd Flow Pressure	<u>56</u>	<u>59</u>
(F) Final 2nd Flow Pressure	<u>65</u>	<u>66</u>
(G) Final Shut-in Pressure	<u>79</u>	<u>77</u>
(H) Final Hydrostatic Pressure	<u>2240</u>	<u>2252</u>

11994

MILLER TESTING COMPANY

Box 547

GREAT BEND, KANSAS

Company THUNDERBIRD DRILLING CO., INC.

Lease and Well No. STANDISH #1

County NESS

State KANSAS

Date NOVEMBER 12, 1971

Formation Test No. <u>2</u>	Total Depth <u>4375</u>	Elev. <u>2546 G.L.</u>
Interval Tested <u>4340</u>	To <u>4375</u>	Anchor Length <u>35'</u>
Size Hole <u>7 7/8</u>	Size Drill Pipe <u>4 1/2 F.H. & X.H.</u>	Size Packer <u>6 3/4</u>
Mud Weight <u>9.9</u>	Viscosity <u>54</u>	Water Loss <u>10.8</u> c.c.
Chokes: Top <u>1/2</u>	Bottom <u>1/2</u>	Bottom Hole Temp. <u>116</u> °F
		Ticket No. <u>11995</u>
Length of Drill Collar	I. D.	Length Flexweight <u>1328</u> I. D. <u>2.76</u>

RECOVERY

WEAK BLOW FOR 12 MINUTES. FLUSHED TOOL IN 5 MINUTES ON SECOND OPENING.
NO BLOW.

20 FEET OF MUD.

Lease and Well No.

STANDISH #1

8-19S-25W

SW SE

Formation Test No.

2

DATE 11-12-71
 SEC. 8 TWN 19S RG 25W
 LEGAL DESCRIPTION SW/SE



TICKET N^o 11995
 TEST NO. 2

COMPANY Thunderbird
 ADDRESS 4328 E. Kell 1099 Wichita, Kans.
 LEASE Standish WELL NO. 1 COUNTY Ness STATE Kans.
 INVOICES SENT TO: SAME
 DST COPIES SENT TO: "

GENERAL INFORMATION

TOOL JT. WELLS HOLE SIZE 7 7/8 PACKER O.D. 6 3/4
 ELEV. 2546 G.L. TOTAL DEPTH 4375'
 TESTED FROM 4340' TO 4375'
 ANCHOR LENGTH BELOW 35' BETWEEN _____
 TOOL OPEN 1ST FLOW 8:45 A.M. _____ P.M.
 TOOL CLOSED INITIAL SHUT-IN 9:15 A.M. _____ P.M.
 TOOL OPEN 2ND FLOW 9:45 A.M. _____ P.M.
 TOOL CLOSED FINAL SHUT-IN 10:15 A.M. _____ P.M.
 MUD WT 99 VISCOSITY 54 W.L. 10² C.C.
 SP. GRAVITY OIL _____ BOTTOM HOLE TEMPERATURE 116^o
 LENGTH DRILL COLLAR _____ I.D. _____
 LENGTH WEIGHT PIPE 1328 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>2277</u>	<u>2299</u>
INITIAL 1ST FLOW	<u>27</u>	<u>25</u>
FINAL 1ST FLOW	<u>27</u>	<u>32</u>
INITIAL SHUT-IN	<u>1238</u>	<u>1243</u>
INITIAL 2ND FLOW	<u>43</u>	<u>45</u>
FINAL 2ND FLOW	<u>43</u>	<u>48</u>
FINAL SHUT-IN	<u>1183</u>	<u>1195</u>
FINAL HYDROSTATIC	<u>2264</u>	<u>2278</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>2774</u>	_____	BOTTOM RECORDER NO. <u>4</u>

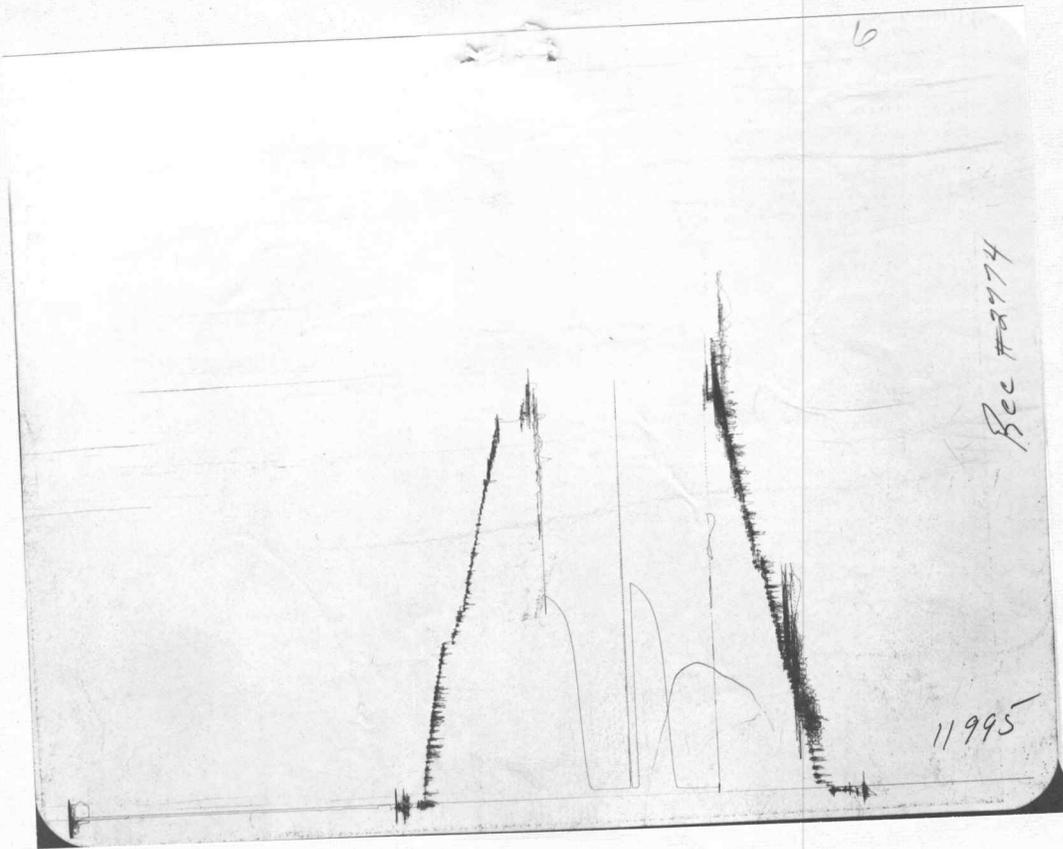
TYPE BLOW WEAK Blow 12 min, (Flushed Tool in 5 min on 2nd opening) - NO BLOW
 RECOVERY: 20' - mud

EXTRA EQUIPMENT NONE
 APPROVED BY: Geo. Miller
 TESTER: Gay Marshall
 FORMATION TESTED: Marmaton
 OPERATOR TIME: 14 HRS.

MILLER TESTING COMPANY
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CHARGES

TEST CHARGE	\$ <u>210.⁰⁰</u>
EXTRA PACKERS	\$ _____
JARS	\$ _____
SAFETY JOINT	\$ _____
HOOK WALL	\$ _____
MISRUN CHARGE	\$ _____
STAND-BY CHARGE	\$ _____
DST EVALUATION	\$ _____
TOTAL	\$ <u>210.⁰⁰</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>2277</u>	<u>2299</u>
(B) Initial 1st Flow Pressure	<u>27</u>	<u>25</u>
(C) Final 1st Flow Pressure	<u>27</u>	<u>32</u>
(D) Initial Shut-in Pressure	<u>1238</u>	<u>1243</u>
(E) Initial 2nd Flow Pressure	<u>43</u>	<u>45</u>
(F) Final 2nd Flow Pressure	<u>43</u>	<u>48</u>
(G) Final Shut-in Pressure	<u>1183</u>	<u>1195</u>
(H) Final Hydrostatic Pressure	<u>2264</u>	<u>2278</u>

11995

MILLER TESTING COMPANY

Box 547

GREAT BEND, KANSAS

Company THUNDERBIRD DRILLING CO., INC.

Lease and Well No. STANDISH #1

County NESS State KANSAS Date NOVEMBER 13, 1971

Formation Test No. <u>3</u>	Total Depth <u>4475</u>	Elev. <u>2546 G.L.</u>
Interval Tested <u>4437</u>	To <u>4475</u>	Anchor Length <u>38'</u>
Size Hole <u>7 7/8</u>	Size Drill Pipe <u>4 1/2 F.H. & X.H.</u>	Size Packer <u>6 3/4</u>
Mud Weight <u>9.8</u>	Viscosity <u>52</u>	Water Loss <u>8.2</u> c.c. Bottom Hole Temp. <u>118</u> °F
Chokes: Top <u>1/2</u>	Bottom <u>1/2</u>	Ticket No. <u>11996</u>
Length of Drill Collar	I. D.	Length Flexweight <u>1328</u> I. D. <u>2.76</u>

RECOVERY

WEAK BLOW FOR 5 MINUTES. FLUSHED TOOL IN 5 MINUTES ON SECOND OPENING.
NO BLOW.
10 FEET OF MUD.

Lease and Well No. STANDISH #1 9-19S-25W SW SE Formation Test No. 3

DATE 11-13-71

SEC. 8 TWN 19S RG 25W

LEGAL DESCRIPTION SW/SE



MILLER TESTING COMPANY
P. O. BOX 547 PHONE (316) 793-3370
GREAT BEND, KANSAS

TICKET No 11996

TEST NO. 3

COMPANY Thunderbird
ADDRESS 4328 E. Kellogg Wichita, Kans.
LEASE Standish WELL NO. 1 COUNTY Ness STATE Kans.
INVOICES SENT TO: same
DST COPIES SENT TO: "

GENERAL INFORMATION

TOOL JT. 4 1/2 FH. 3 1/2 H. 7 1/8 Packer O.D. 6 3/4
ELEV. 2546 G.L. TOTAL DEPTH 4475'
TESTED FROM 4437' TO 4475'
ANCHOR LENGTH BELOW 38' BETWEEN _____
TOOL OPEN 1ST FLOW 10:45 A.M. _____ P.M.
TOOL CLOSED INITIAL SHUT-IN 11:15 A.M. _____ P.M.
TOOL OPEN 2ND FLOW 11:45 A.M. _____ P.M.
TOOL CLOSED FINAL SHUT-IN 12:00 A.M. _____ P.M.
MUD WT 9.8 VISCOSITY 52 W.L. 8 3/4 C.C.
SP. GRAVITY OIL _____ BOTTOM HOLE TEMPERATURE 118°
LENGTH DRILL COLLAR _____ I.D. _____
LENGTH WEIGHT PIPE 1328' 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>2299</u>	<u>2354</u>
INITIAL 1ST FLOW	<u>36</u>	<u>23</u>
FINAL 1ST FLOW	<u>36</u>	<u>27</u>
INITIAL SHUT-IN	<u>984</u>	<u>987</u>
INITIAL 2ND FLOW	<u>36</u>	<u>38</u>
FINAL 2ND FLOW	<u>36</u>	<u>20</u>
FINAL SHUT-IN	<u>964</u>	<u>958</u>
FINAL HYDROSTATIC	<u>2286</u>	<u>2321</u>
TOOL OPEN: 1ST FLOW	_____	HR. <u>30</u> MIN.
INITIAL SHUT-IN	_____	HR. <u>30</u> MIN.
2ND FLOW	_____	HR. <u>15</u> MIN.
FINAL SHUT-IN	_____	HR. <u>30</u> MIN.
TOP RECORDER NO. <u>2774</u>	BOTTOM RECORDER NO. <u>4</u>	

TYPE BLOW WEAK BLOW 5MIN. (Flushed Tool IN 5MIN ON 2nd opening) - NO BLOW -
RECOVERY: 10' mud.

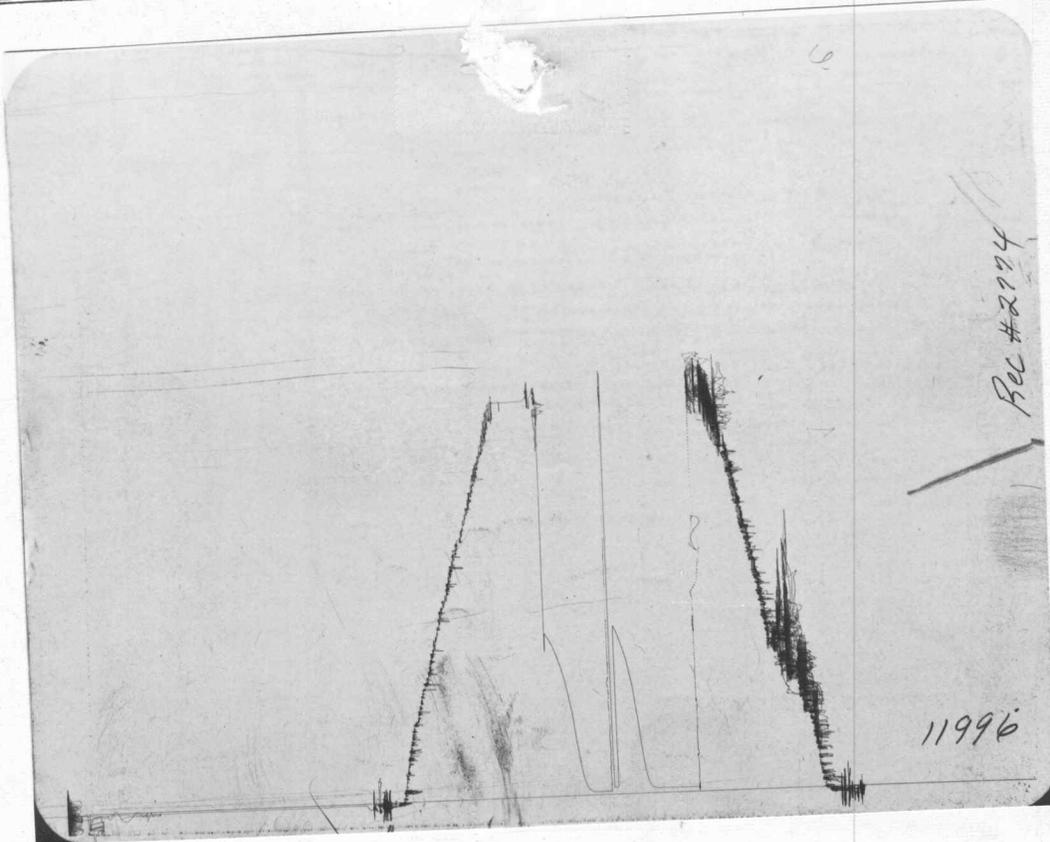
EXTRA EQUIPMENT NONE
APPROVED BY: Geo. Muller
TESTER: Gary Marshall
FORMATION TESTED H. Scott
OPERATOR TIME: 14 HRS.

MILLER TESTING COMPANY

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CHARGES

TEST CHARGE	\$ <u>210.⁰⁰</u>
EXTRA PACKERS	\$ _____
JARS	\$ _____
SAFETY JOINT	\$ _____
HOOK WALL	\$ _____
MISRUN CHARGE	\$ _____
STAND-BY CHARGE	\$ _____
DST EVALUATION	\$ _____
TOTAL	\$ <u>210.⁰⁰</u>



Tool Open: 1st Flow hr. 30 mins: Shut-in Initial hr. 30 min: 2nd Flow hr. 15 min: Shut-in Final hr. 30 min.

	Field Reading	Corrected Reading
(A) Initial Hydrostatic Pressure	<u>2299</u>	<u>2354</u>
(B) Initial 1st Flow Pressure	<u>36</u>	<u>23</u>
(C) Final 1st Flow Pressure	<u>36</u>	<u>27</u>
(D) Initial Shut-in Pressure	<u>984</u>	<u>987</u>
(E) Initial 2nd Flow Pressure	<u>36</u>	<u>38</u>
(F) Final 2nd Flow Pressure	<u>36</u>	<u>20</u>
(G) Final Shut-in Pressure	<u>964</u>	<u>958</u>
(H) Final Hydrostatic Pressure	<u>2286</u>	<u>2321</u>

11996

MILLER TESTING COMPANY

Box 547

GREAT BEND, KANSAS

Company THUNDERBIRD DRILLING CO., INC.

Lease and Well No. STANDISH #1

County NESS State KANSAS

Date NOVEMBER 14, 1971

Formation Test No. 4 Total Depth 4561 Elev. 2546 G.L.
Interval Tested 4518 To 4561 Anchor Length 43'
Size Hole 7 7/8 Size Drill Pipe 4 1/2 F.H. & X.H. Size Packer 6 3/4
Mud Weight 10 Viscosity 53 Water Loss 8.2 c.c. Bottom Hole Temp. 118 °F
Chokes: Top 1/2 Bottom 1/2 Ticket No. 11998
Length of Drill Collar I. D. Length Flexweight 1328 I. D. 2.76

RECOVERY

GOOD BLOW, DECREASING SOME BY END OF TEST.

682 FEET OF VERY HEAVY OIL CUT MUD.

Lease and Well No. STANDISH #1

8-19S-25W

SW SE

Formation Test No. 4

DATE 11-14-71
 SEC. 8 TWN 19S RG 25W
 LEGAL DESCRIPTION SW/SE



TICKET No 11998

TEST NO. 4

COMPANY Thunderbird
 ADDRESS 4328 E. Kellogg, Wichita
 LEASE Standish WELL NO. 1 COUNTY Ness STATE KANS.
 INVOICES SENT TO: Same
 DST COPIES SENT TO: "

GENERAL INFORMATION		PRESSURE DATA & TIME	
		FIELD READINGS	CORRECTED READINGS
TOOL JT. <u>4 1/2 FH 7.4</u>	HOLE SIZE <u>7 7/8</u> PACKER O.D. <u>6 3/4</u>	INITIAL HYDROSTATIC	<u>2344</u> <u>2365</u>
ELEV. <u>2546 G.L.</u>	TOTAL DEPTH <u>4561'</u>	INITIAL 1ST FLOW	<u>79</u> <u>70</u>
TESTED FROM <u>4518'</u>	TO <u>4561'</u>	FINAL 1ST FLOW	<u>249</u> <u>254</u>
ANCHOR LENGTH BELOW <u>43</u>	BETWEEN _____	INITIAL SHUT-IN	<u>590</u> <u>593</u>
TOOL OPEN 1ST FLOW _____	<u>11:45</u> A.M. _____ P.M.	INITIAL 2ND FLOW	<u>272</u> <u>284</u>
TOOL CLOSED INITIAL SHUT-IN _____	A.M. <u>12:15</u> P.M.	FINAL 2ND FLOW	<u>317</u> <u>313</u>
TOOL OPEN 2ND FLOW _____	A.M. <u>12:45</u> P.M.	FINAL SHUT-IN	<u>502</u> <u>498</u>
TOOL CLOSED FINAL SHUT-IN _____	A.M. <u>1:15</u> P.M.	FINAL HYDROSTATIC	<u>2323</u> <u>2332</u>
MUD WT. <u>10</u>	VISCOSITY <u>53</u> W.L. <u>82</u> C.C. _____	TOOL OPEN: 1ST FLOW _____	HR. <u>30</u> MIN.
SP. GRAVITY OIL _____	BOTTOM HOLE TEMPERATURE <u>118°</u>	INITIAL SHUT-IN _____	HR. <u>30</u> MIN.
LENGTH DRILL COLLAR _____	I.D. _____	2ND FLOW _____	HR. <u>30</u> MIN.
LENGTH WEIGHT PIPE <u>1328</u>	I.D. <u>2.76</u>	FINAL SHUT-IN _____	HR. <u>30</u> MIN.
SUCCESSFUL TEST NO. _____	MISRUN NO. _____	TOP RECORDER NO. <u>2774</u>	BOTTOM RECORDER NO. <u>4</u>
CHOKES: TOP <u>1/2"</u>	BOTTOM <u>1/2"</u>		

TYPE BLOW Good Blow; Decreasing some by end of test.

RECOVERY: 682' - very heavy oil cut mud.

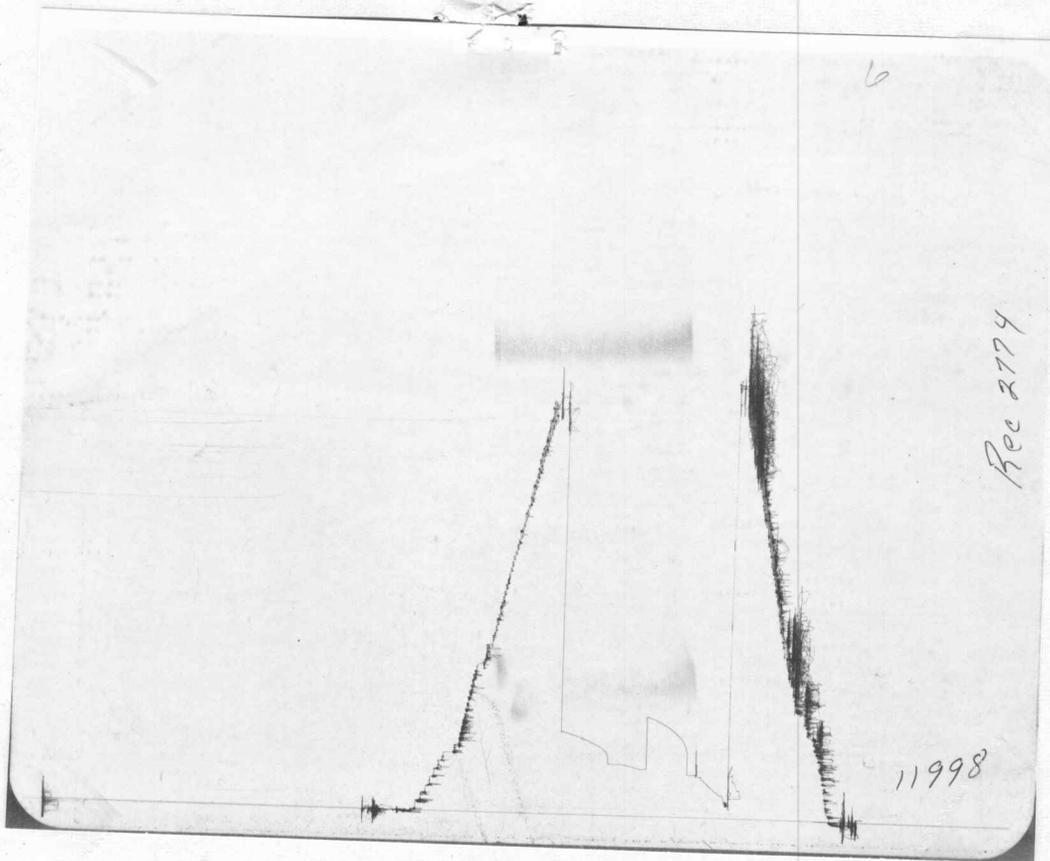
EXTRA EQUIPMENT NONE
 APPROVED BY: Geo. Mueller
 TESTER: Gay Marshall
 FORMATION TESTED MISS.
 OPERATOR TIME: 14 HRS.

MILLER TESTING COMPANY

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>210.⁰⁰</u>
EXTRA PACKERS	\$ _____
JARS	\$ _____
SAFETY JOINT	\$ _____
HOOK WALL	\$ _____
MISRUN CHARGE	\$ _____
STAND-BY CHARGE	\$ _____
DST EVALUATION	\$ _____
TOTAL	\$ <u>210.⁰⁰</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	2344	2365
(B) Initial 1st Flow Pressure	79	70
(C) Final 1st Flow Pressure	249	254
(D) Initial Shut-in Pressure	590	593
(E) Initial 2nd Flow Pressure	272	284
(F) Final 2nd Flow Pressure	317	313
(G) Final Shut-in Pressure	502	498
(H) Final Hydrostatic Pressure	2323	2332

11998