

THUNDERBIRD DRLG., INC.
TESTING DIVISION
Box 18407
WICHITA, KANSAS

Company Thunderbird Drilling Inc.

Lease and Well No. Hawes No. 1

County Finney State Kansas Date 12-31-78

Formation Test No. 1 Total Depth 4640* Elev. _____

Interval Tested 4520* To 4640* Anchor Length 120*

Size Hole 7 7/8" Size Drill Pipe 4 1/2" XH FH Size Packer 6 3/4"

Mud Weight 9.3 Viscosity 46 Water Loss 5.4 c.c. Bottom Hole Temp. 117 °F

Chokes: Top 1/2" Bottom 1/2" Ticket No. 927

RECOVERY

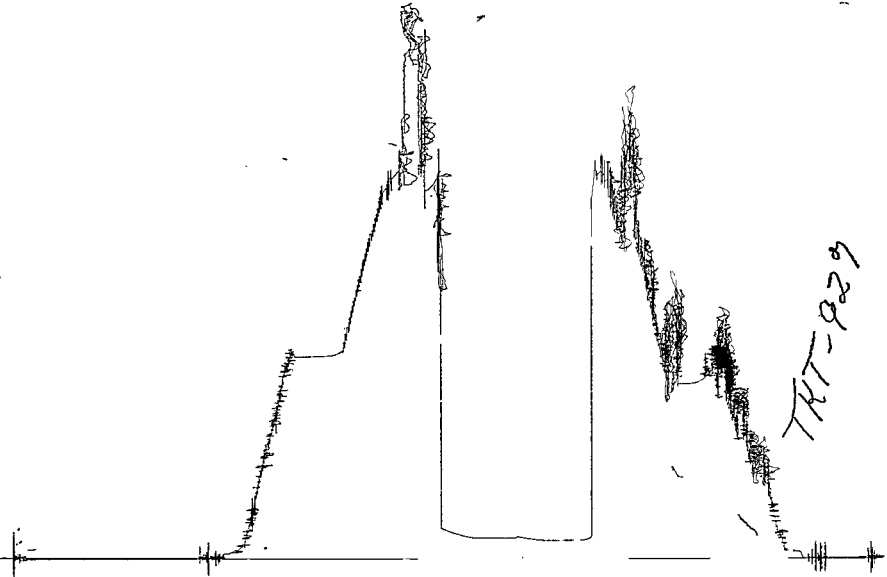
Blow: Fair to dead blow in 20 minutes.
Recovery: 80* of mud with few spots of oil.

Lease and Well No. Hawes No. 1 sec 24 Twn. 22-s Rg 31-W
S1W NW
Formation Test No. 1

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>2417</u>	<u>2420</u>
(B) Initial 1st Flow Pressure	<u>121</u>	<u>117</u>
(C) Final 1st Flow Pressure	<u>121</u>	<u>121</u>
(D) Initial Shut-in Pressure	<u>138</u>	<u>138</u>
(E) Initial 2nd Flow Pressure	<u>138</u>	<u>138</u>
(F) Final 2nd Flow Pressure	<u>138</u>	<u>138</u>
(G) Final Shut-in Pressure	<u>182</u>	<u>180</u>
(H) Final Hydrostatic Pressure	<u>2347</u>	<u>2355</u>

Ticket #927



TKT-929

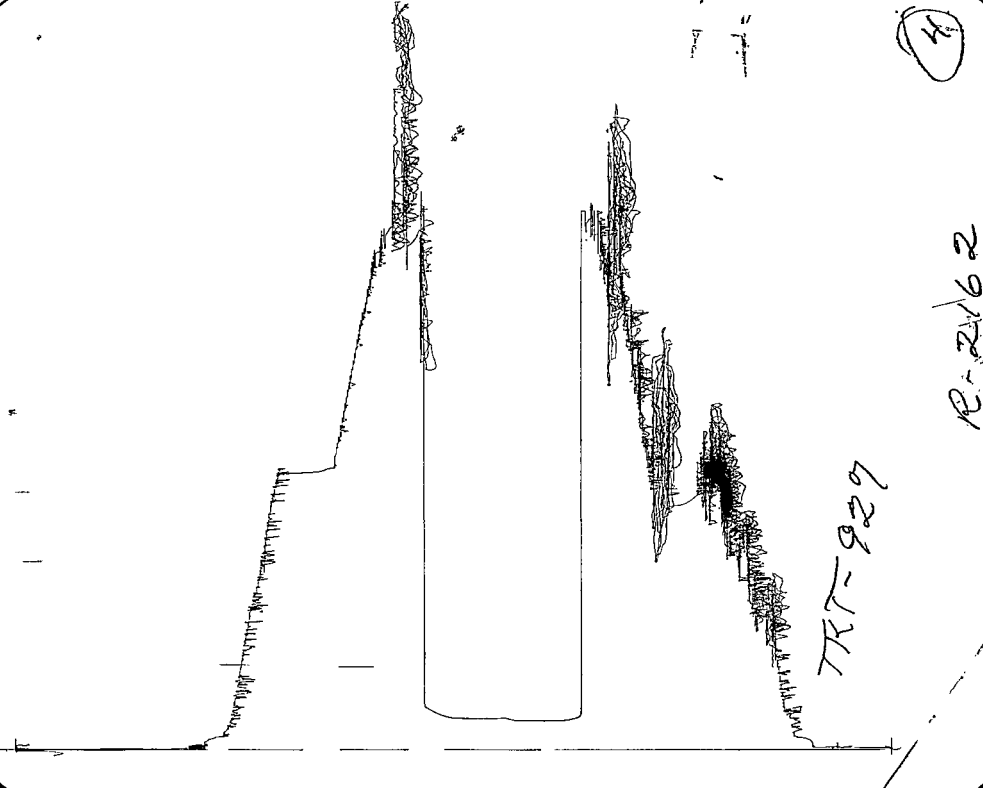
2-4号子

4

R-2162

TRT-929

2 feet
Down



THUNDERBIRD DRLG., INC.
TESTING DIVISION
Box 18407
WICHITA, KANSAS

Company Thunderbird Drilling Inc.

Lease and Well No. Hawes No. 1

County Finney State Kansas Date 12-31-78

Formation Test No. 2 Total Depth 4730* Elev. _____

Interval Tested 4672* To 4730* Anchor Length 58*

Size Hole 7 7/8" Size Drill Pipe 4 1/2" XH FH Size Packer 6 3/4"

Mud Weight 9.5 Viscosity 53 Water Loss 6. c.c. Bottom Hole Temp. 118 ° F

Chokes: Top 1/2" Bottom 1/2" Ticket No. 928

RECOVERY

Blow: Weak blow for 4 minutes.

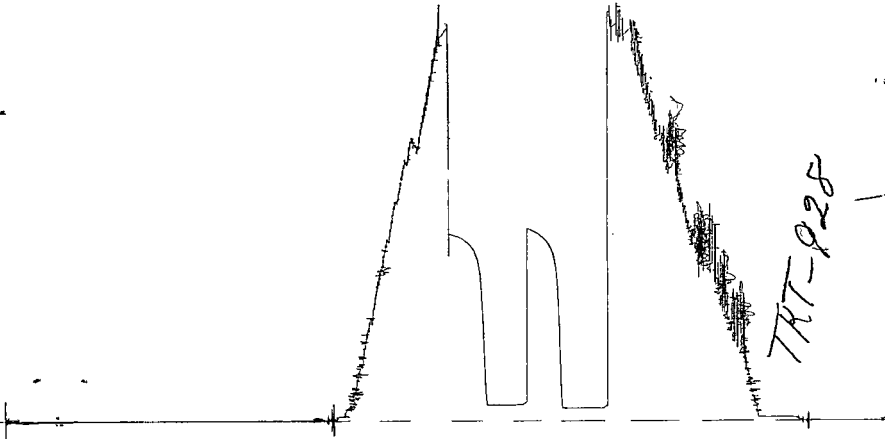
Recovery: 70* of mud.

Lease and Well No. Hawes 1 Sec 24 Twp 22-s Rg 31-w SW NW
Formation Test No. 2

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

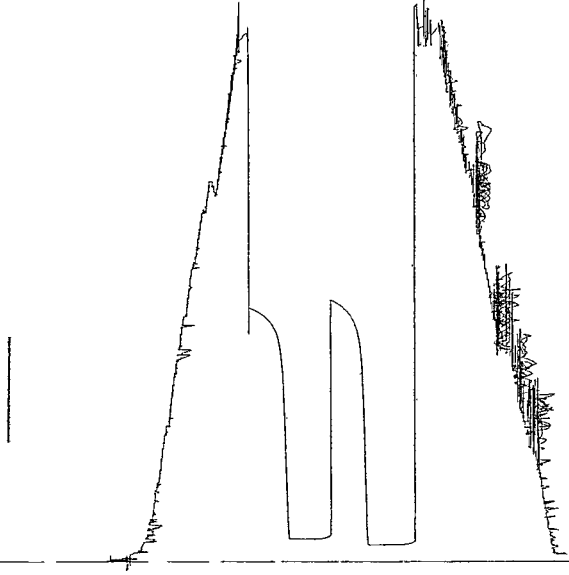
	Field Reading	Corrected Reading
(A) Initial Hydrostatic Pressure	<u>2400</u>	<u>2395</u>
(B) Initial 1st Flow Pressure	<u>69</u>	<u>69</u>
(C) Final 1st Flow Pressure	<u>69</u>	<u>69</u>
(D) Initial Shut-in Pressure	<u>1176</u>	<u>1175</u>
(E) Initial 2nd Flow Pressure	<u>95</u>	<u>94</u>
(F) Final 2nd Flow Pressure	<u>95</u>	<u>94</u>
(G) Final Shut-in Pressure	<u>1133</u>	<u>1135</u>
(H) Final Hydrostatic Pressure	<u>2400</u>	<u>2393</u>

Ticket #928



TRT-928

R-4333



TRT-928

R-2162

(4)

THUNDERBIRD DRLG., INC.
TESTING DIVISION
 Box 18407
WICHITA, KANSAS

Company Thunderbird Drilling Inc.

Lease and Well No. Hawes No. 1

County Finney State Kansas Date 1-2-79

Formation Test No. 3 Total Depth 4760* Elev. _____

Interval Tested 4716* To 4760* Anchor Length 44*

Size Hole 4 1/2" XH FH Size Drill Pipe 7 7/8" Size Packer 6 3/4"

Mud Weight 9.6 Viscosity 59 Water Loss 6. c.c. Bottom Hole Temp. 120 ° F

Chokes: Top 1/2" Bottom 1/2" Ticket No. 929

RECOVERY

Blow: Weak blow for 14 minutes.

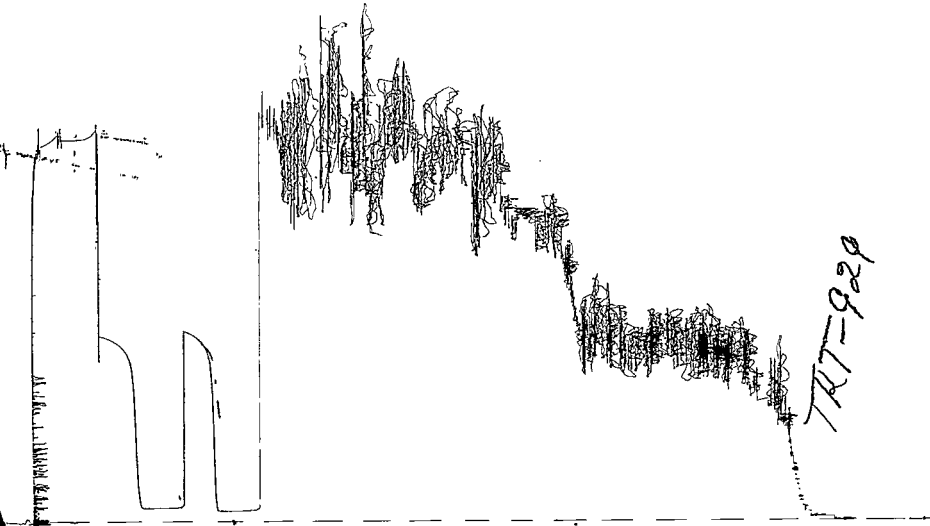
Recovery: 75* of thin mud.

Lease and Well No. Hawes 1 Sec 24 Twp 22-S Rg 31-W SW NW Formation Test No. 3

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

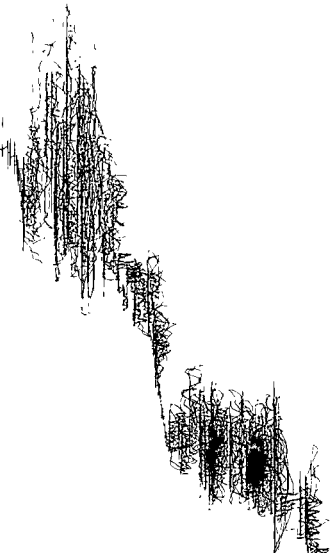
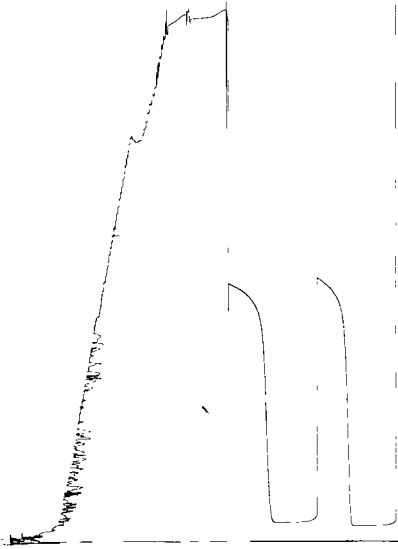
	Field Reading	Corrected Reading
(A) Initial Hydrostatic Pressure	<u>2470</u>	<u>2465</u>
(B) Initial 1st Flow Pressure	<u>69</u>	<u>67</u>
(C) Final 1st Flow Pressure	<u>69</u>	<u>70</u>
(D) Initial Shut-in Pressure	<u>1176</u>	<u>1176</u>
(E) Initial 2nd Flow Pressure	<u>87</u>	<u>87</u>
(F) Final 2nd Flow Pressure	<u>87</u>	<u>87</u>
(G) Final Shut-in Pressure	<u>1064</u>	<u>1167</u>
(H) Final Hydrostatic Pressure	<u>2435</u>	<u>2438</u>

Ticket #929



TAT-929

R-43333



TRT-929

R-2162

(4)

THUNDERBIRD DRLG., INC.
TESTING DIVISION
 Box 18407
WICHITA, KANSAS

Company Thunderbird Drilling Inc.
 Lease and Well No. Hawes No. 1
 County Finney State Kansas Date 1-3-79

Formation Test No. 4 Total Depth 4815' Elev. _____
 Interval Tested 4783' To 4815' Anchor Length _____
 Size Hole 4 1/2" KH FH Size Drill Pipe 7 7/8" Size Packer 6 3/4"
 Mud Weight 9.3 Viscosity 43 Water Loss 4/8 c.c. Bottom Hole Temp. 118 ° F
 Chokes: Top 1/2" Bottom 1/2" Ticket No. 930

RECOVERY

Blow: Weak blow for 8 minutes.
 Recovery: 4' of mud.

Lease and Well No. Hawes 1 Sec 24 Twp 22-S Rg 31-W SW NW Formation Test No. _____

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

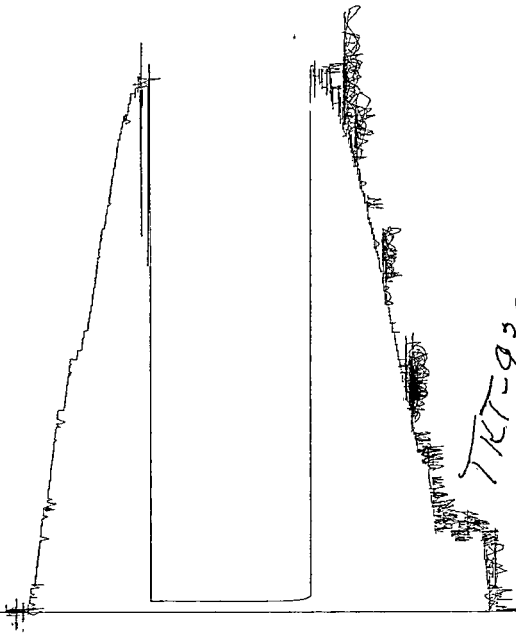
	Field Reading	Corrected Reading
(A) Initial Hydrostatic Pressure	<u>2452</u>	<u>2450</u>
(B) Initial 1st Flow Pressure	<u>43</u>	<u>43</u>
(C) Final 1st Flow Pressure	<u>43</u>	<u>43</u>
(D) Initial Shut-in Pressure	<u>43</u>	<u>43</u>
(E) Initial 2nd Flow Pressure	<u>43</u>	<u>43</u>
(F) Final 2nd Flow Pressure	<u>43</u>	<u>43</u>
(G) Final Shut-in Pressure	<u>43</u>	<u>43</u>
(H) Final Hydrostatic Pressure	<u>2435</u>	<u>2435</u>

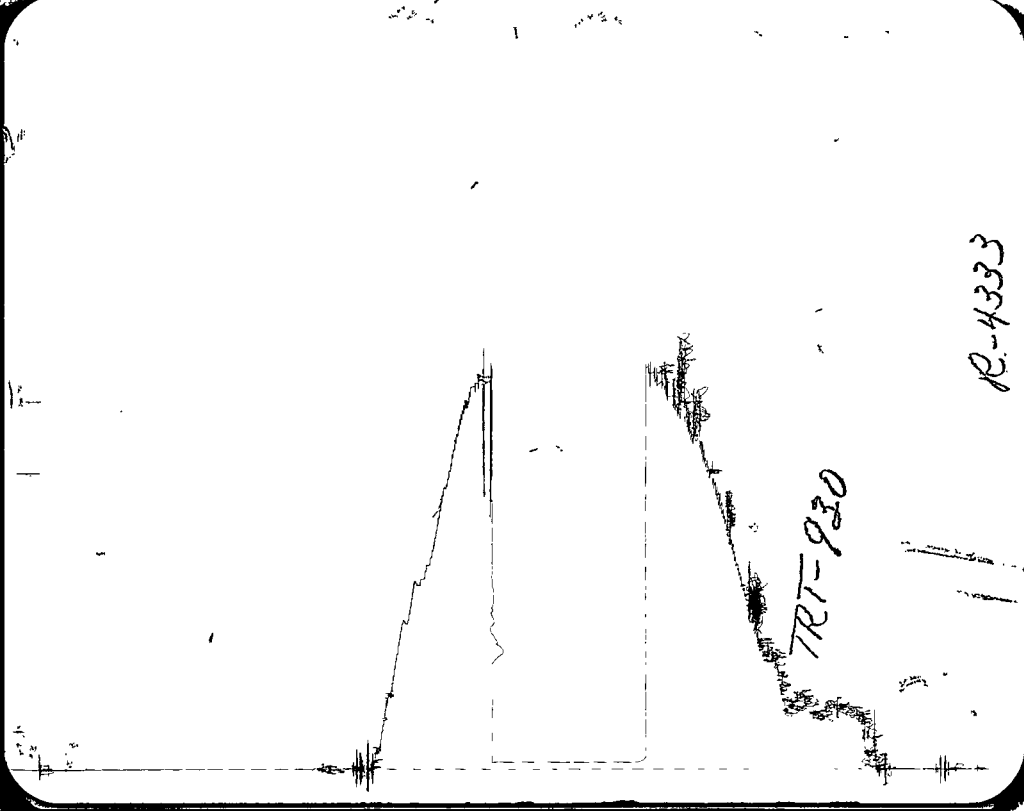
Ticket #930

(4)

R-2162

TKT-930





RT=930

R-4333

THUNDERBIRD DRLG., INC.
TESTING DIVISION
Box 18407
WICHITA, KANSAS

Company Thunderbird Drilling Inc.

Lease and Well No. Hawes No. 1

County Finney State Kansas Date 1-3-79

Formation Test No. 5 Total Depth 4853* Elev. _____

Interval Tested 4833* To 4853* Anchor Length 20*

Size Hole 4 1/2" XH FH Size Drill Pipe 7 7/8" Size Packer 6 3/4"

Mud Weight 9.3 Viscosity 46 Water Loss 5.8 c.c. Bottom Hole Temp. 118 ° F

Chokes: Top 1/2" Bottom 1/2" Ticket No. 931

RECOVERY

Blow: Weak blow for 6 minutes.

Recovery: 20* of mud with few spots of oil.

Lease and Well No. Hawes 1 Sec 24 Twn 22-s Rg 31-w Sw NW

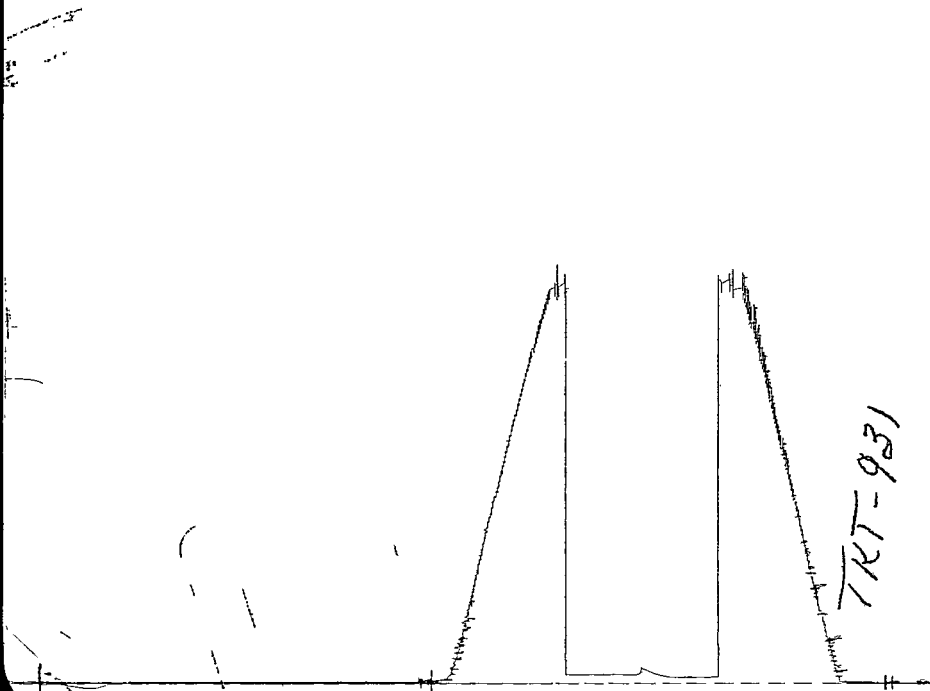
Formation Test No. _____

5

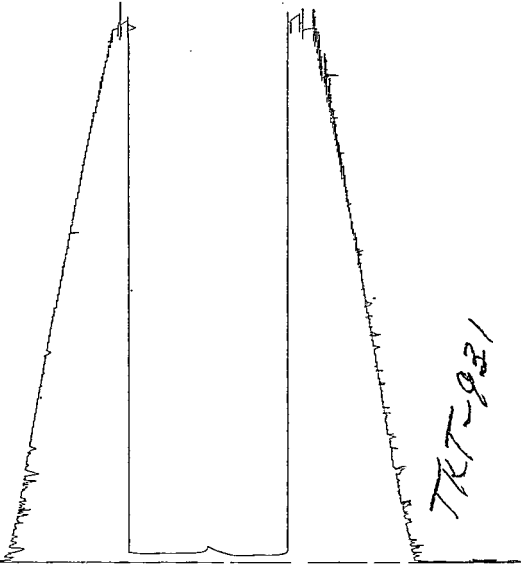
Tool Open: 1st Flow ___ hr. 30 mins: Shut-in Initial ___ hr. 30 min: 2nd Flow ___ hr. 30 min: Shut-in Final ___ hr. 30 min.

	Field Reading	Corrected Reading
(A) Initial Hydrostatic Pressure	<u>2435</u>	<u>2438</u>
(B) Initial 1st Flow Pressure	<u>35</u>	<u>33</u>
(C) Final 1st Flow Pressure	<u>35</u>	<u>35</u>
(D) Initial Shut-in Pressure	<u>69</u>	<u>69</u>
(E) Initial 2nd Flow Pressure	<u>43</u>	<u>42</u>
(F) Final 2nd Flow Pressure	<u>43</u>	<u>42</u>
(G) Final Shut-in Pressure	<u>43</u>	<u>42</u>
(H) Final Hydrostatic Pressure	<u>2435</u>	<u>2431</u>

Ticket #931



R-4333



TKT-921

R-2162

(4)