

FORMATION TEST REPORT



HOME OFFICE: GREAT BEND, KANSAS
P. O. BOX 793 PHONE 793-7903

COMPANY Ferguson Oil Co. LEASE AND WELL NO. Cooper # 1 SEC. 7 TWP. 33 RGE. 33 TEST NO. 1 DATE 11-



Home Office: Great Bend, Kansas
P. O. Box 793 (316) 793-7903

Company Ferguson Oil Co. Lease & Well No. Cooper # 1
Elevation 2843 Kelly Bushing Formation Lansing Effective Pay 6 Ft. Ticket No. 12989
Date 11-13-69 Sec. 7 Twp. 33 Range 33 County Seward State Kansas
Test Approved by W. R. Atkinson Western Representative George Tew
Formation Test No. 1 O.K. ☒ Misrun ☐ Interval Tested From 4374' to 4386' Total Depth 4386'
Size Main Hole 7 7/8 Rat Hole ☐ Conv. ☒ B.T. ☐ Damaged Yes ☒ No Conv. ☐ B.T. ☒ Damaged Yes ☒ No
Packer Depth 4374 Ft. Size 6 3/4 Packer Depth 4363 Ft. Size 6 3/4
Straddle Yes ☐ No ☒ Conv. ☐ B.T. ☐ Damaged Yes ☐ No
Packer Depth Ft. Size
Tool Size 5 1/2" OD Tool Jt. Size 4 1/2" PHX H Anchor Length 12 Ft. Size 5 1/2" OD
RECORDERS Depth 4380 Ft. Clock No. 9727 Depth 4383 Ft. Clock No. 6896
Top Make Kuster Cap. 4500 No. 3086 Inside Bottom Make Kuster Cap. 4300 No. 1556 Inside
Below Straddle: Depth Clock No. Inside Depth Ft. Clock No. Inside
Top Make Cap. No. Outside Bottom Make Cap. No. Outside
Time Set Packer 9:58P M
Tool Open I.F.P. From 10:00 M. to 10:45P M. Hr. 45 Min. From (B) 11 P.S.I. To (C) 94 P.S.I.
Tool Closed I.C.I.P. From 10:45 M. to 11:15P M. Hr. 30 Min. (D) 1176 P.S.I.
Tool Open F.F.P. From 11:15 M. to 12:00P M. Hr. 45 Min. From (E) 125 P.S.I. To (F) 182 P.S.I.
Tool Closed F.C.I.P. From 12:00 M. to 12:45A M. Hr. 45 Min. (G) 1190 P.S.I.
Initial Hydrostatic Pressure (A) 2105 P.S.I. Final Hydrostatic Pressure (H) 2100 P.S.I.
SURFACE Size Choke 3/4 In. Max. Press. P.S.I. Time Description of Flow
INFORMATION M.
 M.
 M.
BLOW G Fair Bottom Choke Size 3/4 In.
Did Well Flow Yes ☒ No ☐ Recovery Total Ft. 365 feet total-- 5 feet slight oil and gas out mud--
90 feet muddy water-- 270 feet salt water
Reversed Out Yes ☒ No ☐ Mud Type starch Viscosity 36 Weight 9.1 Water Loss 12.8 cc. Maximum Temp. 118 °F
Type Circ. Sub. plug Did Tool Plug? Jars: Size 4 1/2" OD Make WTC Ser. No. 407
EXTRA EQUIPMENT: Dual Packers yes Safety Joint yes Did Packer Hold? yes Where?
Length Drill Pipe 3047 ft. I.D. Drill Pipe 3.6 in. Length Weight Pipe 890 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars 300 ft.
I. D. Drill Collar 2.25 in. Length D.S.T. Tool ft.

Remarks

WESTERN TESTING CO., INC. Pressure Data

Date 11-13-69 Test Ticket No. 12989
Recorder No. 3086 Capacity 4500 Location 4380 Ft.
Clock No. 9727 Elevation 2843 KB Well Temperature 118 °F

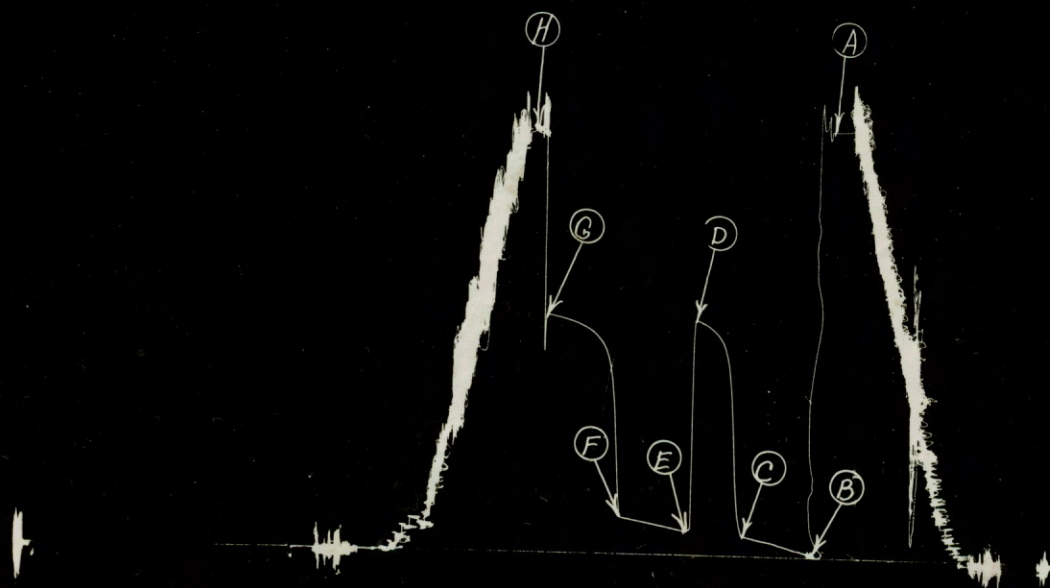
Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2195</u> P.S.I.	Open Tool	<u>9:58A</u> M	
B First Initial Flow Pressure	<u>23</u> P.S.I.	First Flow Pressure	<u>45</u> Mins.	<u>45</u> Mins.
C First Final Flow Pressure	<u>94</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>1176</u> P.S.I.	Second Flow Pressure	<u>45</u> Mins.	<u>43</u> Mins.
E Second Initial Flow Pressure	<u>125</u> P.S.I.	Final Closed-in Pressure	<u>45</u> Mins.	<u>45</u> Mins.
F Second Final Flow Pressure	<u>182</u> P.S.I.			
G Final Closed-in Pressure	<u>1190</u> P.S.I.			
H Final Hydrostatic Mud	<u>2100</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: <u>8</u> Inc. of <u>5</u> mins. and a final inc. of _____ Min.		Initial Shut-In Breakdown: <u>10</u> Inc. of <u>3</u> mins. and a final inc. of _____ Min.		Second Flow Pressure Breakdown: <u>8</u> Inc. of <u>5</u> mins. and a final inc. of _____ Min.		Final Shut-In Breakdown: <u>14</u> Inc. of <u>3</u> mins. and a final inc. of _____ Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>11</u>	<u>0</u>	<u>43</u>	<u>0</u>	<u>125</u>	<u>0</u>	<u>182</u>
P 2 <u>5</u>	<u>23</u>	<u>3</u>	<u>208</u>	<u>5</u>	<u>127</u>	<u>3</u>	<u>478</u>
P 3 <u>10</u>	<u>37</u>	<u>9</u>	<u>488</u>	<u>10</u>	<u>135</u>	<u>6</u>	<u>836</u>
P 4 <u>15</u>	<u>49</u>	<u>12</u>	<u>876</u>	<u>15</u>	<u>144</u>	<u>9</u>	<u>988</u>
P 5 <u>20</u>	<u>59</u>	<u>15</u>	<u>1028</u>	<u>20</u>	<u>153</u>	<u>12</u>	<u>1060</u>
P 6 <u>25</u>	<u>71</u>	<u>18</u>	<u>1111</u>	<u>25</u>	<u>163</u>	<u>15</u>	<u>1090</u>
P 7 <u>30</u>	<u>78</u>	<u>21</u>	<u>1141</u>	<u>30</u>	<u>170</u>	<u>21</u>	<u>1125</u>
P 8 <u>35</u>	<u>85</u>	<u>24</u>	<u>1153</u>	<u>35</u>	<u>177</u>	<u>24</u>	<u>1141</u>
P 9 <u>40</u>	<u>92</u>	<u>27</u>	<u>1169</u>	<u>40</u>	<u>180</u>	<u>27</u>	<u>1153</u>
P10 <u>43</u>	<u>94</u>	<u>30</u>	<u>1176</u>	<u>43</u>	<u>182</u>	<u>30</u>	<u>1162</u>
P11 _____	_____	_____	_____	_____	_____	<u>33</u>	<u>1170</u>
P12 _____	_____	_____	_____	_____	_____	<u>36</u>	<u>1174</u>
P13 _____	_____	_____	_____	_____	_____	<u>39</u>	<u>1181</u>
P14 _____	_____	_____	_____	_____	_____	<u>42</u>	<u>1186</u>
P15 _____	_____	_____	_____	_____	_____	<u>45</u>	<u>1190</u>
P16 _____	_____	_____	_____	_____	_____	_____	_____
P17 _____	_____	_____	_____	_____	_____	_____	_____
P18 _____	_____	_____	_____	_____	_____	_____	_____
P19 _____	_____	_____	_____	_____	_____	_____	_____
P20 _____	_____	_____	_____	_____	_____	_____	_____

Ferguson Oil Co.
Cooper #1

T.K.T. # 12987
Test # 1



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	2107	2105	PSI
(B) First Initial Flow Pressure	11	11	PSI
(C) First Final Flow Pressure	94	94	PSI
(D) Initial Closed-in Pressure	1176	1176	PSI
(E) Second Initial Flow Pressure	130	125	PSI
(F) Second Final Flow Pressure	183	182	PSI
(G) Final Closed-in Pressure	1188	1190	PSI
(H) Final Hydrostatic Mud	2100	2100	PSI

FORMATION TEST REPORT



HOME OFFICE:
P. O. BOX 793

GREAT BEND, KANSAS
PHONE 793-7903

COMPANY Ferguson Oil Co. LEASE AND WELL NO. Cooper # 1 SEC. 7 TWP. 33 RGE. 33 TEST NO. 2 DATE 11.



Home Office: Great Bend, Kansas
P. O. Box 793 (316) 793-7903

Company Ferguson Oil Company Lease & Well No. Cooper # 1
Elevation 2843 Kelly Bushing Formation Harmaton Effective Pay 7 Ft. Ticket No. 12990
Date 11-17-69 Sec. 7 Twp. 33 Range 33 County Seward State Kansas
Test Approved by W. R. Atkinson Western Representative George Tew
Formation Test No. 2 O.K. ☒ Misrun ☐ Interval Tested From 5023' to 5030' Total Depth 5030'
Size Main Hole 7 7/8 Nat Hole ☐ Conv. ☒ B.T. ☐ Damaged Yes ☒ No ☐ Conv. ☒ B.T. ☐ Damaged Yes ☒ No ☐
Packer Depth 5023 Ft. Size 6 3/4 Packer Depth 5018 Ft. Size 6 3/4
Straddle Yes ☐ No ☒ Conv. ☐ B.T. ☐ Damaged Yes ☐ No ☐
Packer Depth 5023 Ft. Size 6 3/4
Tool Size 5 1/2" OD Tool Jt. Size 4 1/2" FINE XH Anchor Length 7 Ft. Size 5 1/2" OD
RECORDERS Depth 5012 Ft. Clock No. 9727 Depth 5027 Ft. Clock No. 6896
Top Make Kuster Cap. 4500 No. 3086 Inside Outside Bottom Make Kuster Cap. 4300 No. 1556 Inside Outside
Below Straddle: Depth 5012 Clock No. 9727 Inside Outside Depth 5027 Ft. Clock No. 6896 Inside Outside
Top Make Kuster Cap. 4500 No. 3086 Inside Outside Bottom Make Kuster Cap. 4300 No. 1556 Inside Outside
Time Set Packer 11:27A M
Tool Open I.F.P. From 11:30 M. to 12:00A M. Hr. 30 Min. From (B) 11 P.S.I. To (C) 37 P.S.I.
Tool Closed I.C.I.P. From 12:00 M. to 12:00A M. Hr. 30 Min. (D) 1570 P.S.I.
Tool Open F.F.P. From 12:30 M. to 1:00A M. Hr. 30 Min. From (E) 49 P.S.I. To (F) 82 P.S.I.
Tool Closed F.C.I.P. From 1:00 M. to 1:30A M. Hr. 30 Min. (G) 1560 P.S.I.
Initial Hydrostatic Pressure (A) 2368 P.S.I. Final Hydrostatic Pressure (H) 2343 P.S.I.
SURFACE Size Choke 3/4 In. Max. Press. P.S.I. Time Description of Flow
INFORMATION Weak-- Steady Bottom Choke Size 3/4 In.
Did Well Flow Yes ☒ No ☐ Recovery Total Ft. 180 feet muddy salt water
Reversed Out Yes ☒ No ☐ Mud Type starch Viscosity 34 Weight 8.8 Water Loss 10.2 cc. Maximum Temp. 131 °F
Type Circ. Sub. plug Did Tool Plug? no Jars: Size 4 1/2" OD Make WTC Ser. No. 407
EXTRA EQUIPMENT: Dual Packers yes Safety Joint yes Did Packer Hold? yes Where? 407
Length Drill Pipe 3690 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe 990 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars 300 ft.
I. D. Drill Collars 2 1/2 in. Length D.S.T. Tool 44 ft.

Remarks

WESTERN TESTING CO., INC. Pressure Data

Date 11-17-69 Test Ticket No. 12990
Recorder No. 3086 Capacity 4500 Location 5012 Ft.
Clock No. 9727 Elevation 2843 Kelly Bushing Well Temperature 131 °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2368</u> P.S.I.	<u>11:27A</u>	<u>M</u>
B First Initial Flow Pressure	<u>11</u> P.S.I.	<u>30</u> Mins.	<u>28</u> Mins.
C First Final Flow Pressure	<u>37</u> P.S.I.	<u>30</u> Mins.	<u>28</u> Mins.
D Initial Closed-in Pressure	<u>1570</u> P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
E Second Initial Flow Pressure	<u>49</u> P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
F Second Final Flow Pressure	<u>82</u> P.S.I.		
G Final Closed-in Pressure	<u>1560</u> P.S.I.		
H Final Hydrostatic Mud	<u>2343</u> P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure
Breakdown: 5 Inc.
of 5 mins. and a
final inc. of 3 Min.

Initial Shut-In
Breakdown: 9 Inc.
of 3 mins. and a
final inc. of 1 Min.

Second Flow Pressure
Breakdown: 6 Inc.
of 5 mins. and a
final inc. of 1 Min.

Final Shut-In
Breakdown: 10 Inc.
of 3 mins. and a
final inc. of 1 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>11</u>	<u>0</u>	<u>37</u>	<u>0</u>	<u>49</u>	<u>0</u>	<u>82</u>
P 2 <u>5</u>	<u>26</u>	<u>3</u>	<u>553</u>	<u>5</u>	<u>49</u>	<u>3</u>	<u>336</u>
P 3 <u>10</u>	<u>21</u>	<u>6</u>	<u>1406</u>	<u>10</u>	<u>49</u>	<u>6</u>	<u>1278</u>
P 4 <u>15</u>	<u>21</u>	<u>9</u>	<u>1497</u>	<u>15</u>	<u>71</u>	<u>9</u>	<u>1474</u>
P 5 <u>20</u>	<u>28</u>	<u>12</u>	<u>1515</u>	<u>20</u>	<u>74</u>	<u>12</u>	<u>1520</u>
P 6 <u>25</u>	<u>28</u>	<u>15</u>	<u>1543</u>	<u>25</u>	<u>78</u>	<u>15</u>	<u>1534</u>
P 7 <u>28</u>	<u>37</u>	<u>18</u>	<u>1550</u>	<u>30</u>	<u>82</u>	<u>18</u>	<u>1546</u>
P 8		<u>21</u>	<u>1562</u>			<u>21</u>	<u>1552</u>
P 9		<u>24</u>	<u>1566</u>			<u>24</u>	<u>1558</u>
P10		<u>27</u>	<u>1570</u>			<u>27</u>	<u>1559</u>
P11		<u>28</u>	<u>1570</u>			<u>30</u>	<u>1560</u>
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

Ferguson Oil Co.
Cooper #1

TKT# 12990
Test #2



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	2348	2368	PSI
(B) First Initial Flow Pressure	11	11	PSI
(C) First Final Flow Pressure	35	37	PSI
(D) Initial Closed-in Pressure	1560	1570	PSI
(E) Second Initial Flow Pressure	51	49	PSI
(F) Second Final Flow Pressure	82	82	PSI
(G) Final Closed-in Pressure	1560	1560	PSI
(H) Final Hydrostatic Mud	2338	2343	PSI

FORMATION TEST REPORT



HOME OFFICE: GREAT BEND, KANSAS
P. O. BOX 793 PHONE 793-7903

COMPANY Ferguson Oil Co. LEASE AND WELL NO. Cooper #1 SEC. 7 TWP. 33S RGE. 33W TEST NO. 3 DATE 11-



Home Office: Great Bend, Kansas
P. O. Box 793 (316) 793-7903

Company Ferguson Oil Company Lease & Well No. Cooper #1
Elevation 2843 Kelly Bushings Formation Morrow Effective Pay _____ Ft. Ticket No. 13487
Date 11-19-69 Sec. 7 Twp. 33S Range 33W County Seward State Kansas
Test Approved by W. R. Atkinson Western Representative Kenneth Cheney
Formation Test No. 3 O.K. X Misrun _____ Interval Tested From 5616' to 5670' Total Depth 5670'
Size Main Hole 7 7/8 Rat Hole _____ Conv. X B.T. _____ Damaged _____ Yes X No Conv. X B.T. _____ Damaged _____ Yes X No
Packer Depth 5604 Ft. Size 6 3/4" Packer Depth 5616 Ft. Size 6 3/4"
Straddle _____ Yes _____ No X Conv. _____ B.T. _____ Damaged _____ Yes _____ No
Packer Depth _____ Ft. Size _____
Tool Size 5 1/2" O.D. Tool Jt. Size 4 1/2" F.H.-5X Anchor Length 54 Ft. Size 5 1/2" O.D.
RECORDERS Depth 5664 Ft. Clock No. 9103 Depth 5666 Ft. Clock No. 9726
Top Make Kuster Cap. 4200 No. 3354 Inside _____ Outside _____ Bottom Make Kuster Cap. 4200 No. 1051 Inside _____ Outside _____
Below Straddle: Depth _____ Clock No. _____ Inside _____ Outside _____
Top Make _____ Cap. _____ No. _____ Inside _____ Outside _____
Bottom Make _____ Cap. _____ No. _____ Inside _____ Outside _____
Time Set Packer 6:02 P. M.
Tool Open I.F.P. From 6:04 M. to 6:34P M. Hr. 30 Min. From (B) 65 P.S.I. To (C) 65 P.S.I.
Tool Closed I.C.I.P. From 6:34 M. to 7:04 P.M. Hr. 30 Min. (D) 73 P.S.I.
Tool Open F.F.P. From 7:04 M. to 7:34P M. Hr. 30 Min. From (E) 68 P.S.I. To (F) 84 P.S.I.
Tool Closed F.C.I.P. From 7:34 M. to 8:04P M. Hr. 30 Min. (G) 85 P.S.I.
Initial Hydrostatic Pressure (A) 2796 P.S.I. Final Hydrostatic Pressure (H) 2756 P.S.I.
SURFACE Size Choke 3/8 In. Max. Press. P.S.I. _____ Time _____ Description of Flow _____
INFORMATION _____ M. _____
_____ M. _____
_____ M. _____
BLOW Weak for 20 minutes Bottom Choke Size 3/4 In.
Did Well Flow _____ Yes X No _____ Recovery Total Ft. 10 feet mud
Reversed Out _____ Yes X No _____ Mud Type Starch Viscosity 46 Weight 8.9 Water Loss 6.0 cc. Maximum Temp. 126 °F
Type Circ. Sub. Plug Did Tool Plug? No Jars: Size 3 1/2 IF Make WTC Ser. No. 410
EXTRA EQUIPMENT: Dual Packers Yes Safety Joint Yes Did Packer Hold? Yes Where? _____
Length Drill Pipe 4259 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe 1023 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars 296 ft.
I. D. Drill Collars 2.7 in. Length D.S.T. Tool 92 ft.
Remarks Flush tool after 40 minutes

WESTERN TESTING CO., INC. Pressure Data

Date 11-19-69 Test Ticket No. 13487

Recorder No. 3354 Capacity 4200 Location 5664 Ft.

Clock No. 9103 Elevation 2843 Kelly Bushings Well Temperature 126 °F

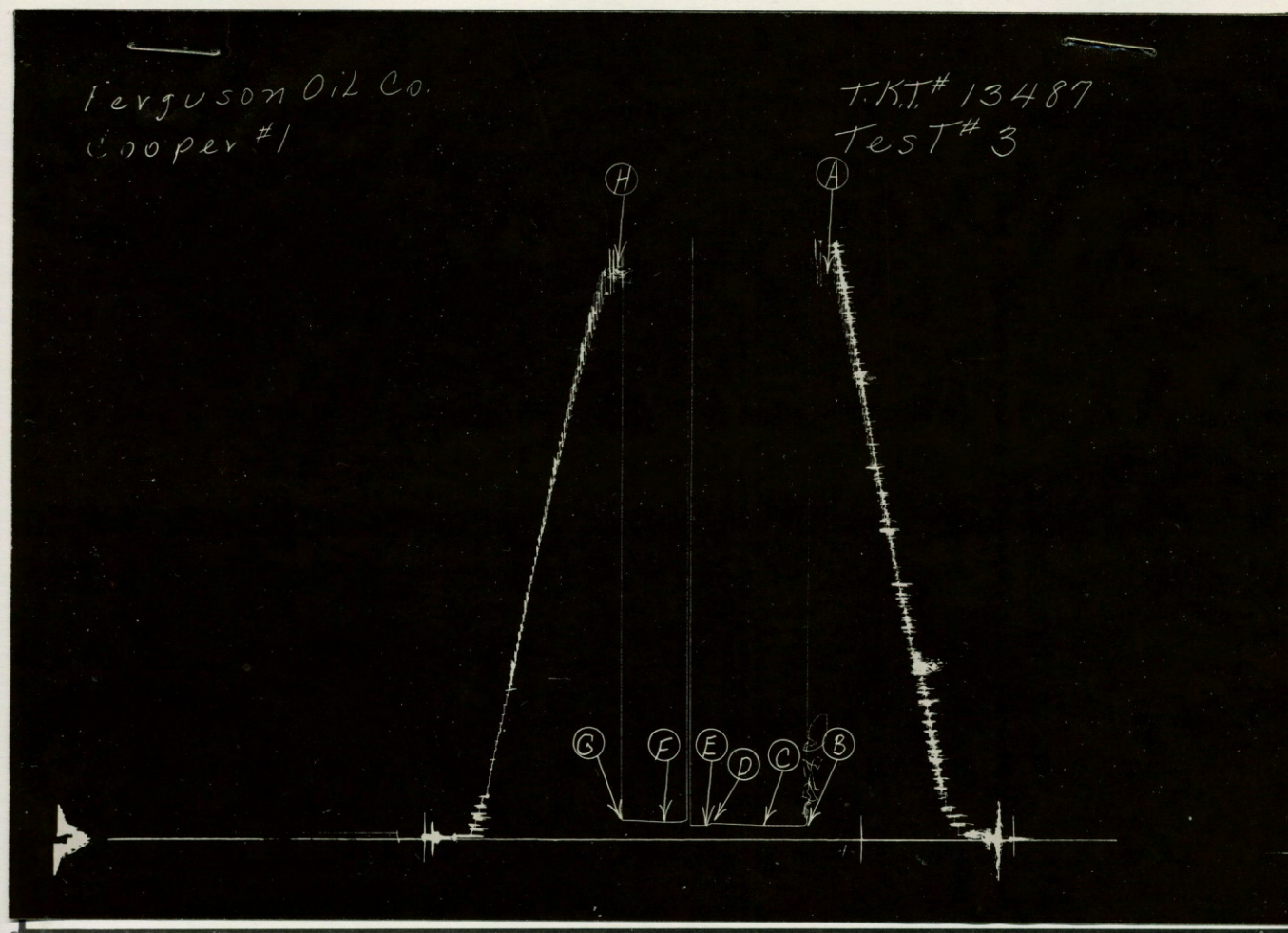
Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2796</u> P.S.I.	Open Tool	<u>6:02</u> P. M.	
B First Initial Flow Pressure	<u>65</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>28</u> Mins.
C First Final Flow Pressure	<u>65</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>73</u> P.S.I.	Second Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
E Second Initial Flow Pressure	<u>68</u> P.S.I.	Final Closed-in Pressure	<u>30</u> Mins.	<u>28</u> Mins.
F Second Final Flow Pressure	<u>84</u> P.S.I.			
G Final Closed-in Pressure	<u>85</u> P.S.I.			
H Final Hydrostatic Mud	<u>2756</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>5</u> Inc.		Breakdown: <u>10</u> Inc.		Breakdown: <u>6</u> Inc.		Breakdown: <u>9</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>3</u> Min.		final inc. of _____ Min.		final inc. of _____ Min.		final inc. of <u>1</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>65</u>	<u>0</u>	<u>65</u>	<u>0</u>	<u>68</u>	<u>0</u>	<u>84</u>
P 2 <u>5</u>	<u>65</u>	<u>3</u>	<u>69</u>	<u>5</u>	<u>68</u>	<u>3</u>	<u>84</u>
P 3 <u>10</u>	<u>65</u>	<u>6</u>	<u>69</u>	<u>10</u>	<u>68</u>	<u>6</u>	<u>84</u>
P 4 <u>15</u>	<u>65</u>	<u>9</u>	<u>69</u>	<u>15</u>	<u>68</u>	<u>9</u>	<u>84</u>
P 5 <u>20</u>	<u>65</u>	<u>12</u>	<u>69</u>	<u>20</u>	<u>82</u>	<u>12</u>	<u>84</u>
P 6 <u>25</u>	<u>65</u>	<u>15</u>	<u>69</u>	<u>25</u>	<u>83</u>	<u>15</u>	<u>84</u>
P 7 <u>28</u>	<u>65</u>	<u>18</u>	<u>73</u>	<u>30</u>	<u>84</u>	<u>18</u>	<u>84</u>
P 8 _____		<u>21</u>	<u>73</u>			<u>21</u>	<u>85</u>
P 9 _____		<u>24</u>	<u>73</u>			<u>24</u>	<u>85</u>
P10 _____		<u>27</u>	<u>73</u>			<u>27</u>	<u>85</u>
P11 _____		<u>30</u>	<u>73</u>			<u>28</u>	<u>85</u>
P12 _____							
P13 _____							
P14 _____							
P15 _____							
P16 _____							
P17 _____							
P18 _____							
P19 _____							
P20 _____							

Ferguson Oil Co.
Cooper #1

T.K.T.# 13487
Test # 3



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	2853	2796	PSI
(B) First Initial Flow Pressure	63	65	PSI
(C) First Final Flow Pressure	63	65	PSI
(D) Initial Closed-in Pressure	69	73	PSI
(E) Second Initial Flow Pressure	63	68	PSI
(F) Second Final Flow Pressure	84	84	PSI
(G) Final Closed-in Pressure	84	85	PSI
(H) Final Hydrostatic Mud	2800	2756	PSI

FORMATION TEST REPORT



HOME OFFICE:

P. O. BOX 793

GREAT BEND, KANSAS

PHONE 793-7903

COMPANY Ferguson Oil Company LEASE AND WELL NO. Cooper #1 SEC. 7 TWP. 33S RGE. 33W TEST NO. 4 DATE 11-



Home Office: Great Bend, Kansas
P. O. Box 793 (316) 793-7903

Company **Ferguson Oil Co.** Lease & Well No. **Cooper #1**
Elevation **2843 Kelly Bushings** Formation **Morrow** Effective Pay _____ Ft. Ticket No. **13488**
Date **11-20-69** Sec. **7** Twp. **33S** Range **33W** County **Seward** State **Kansas**
Test Approved by **W. R. Atkinson** Western Representative **Kenneth Cheney**
Formation Test No. **4** O.K. ☒ Misrun _____ Interval Tested From **5616'** to **5730'** Total Depth **5730'**
Size Main Hole **7 7/8** Rat Hole _____ Conv. ☒ B.T. _____ Damaged Yes ☒ No ☒ Conv. ☒ B.T. _____ Damaged Yes ☒ No
Packer Depth **5604** Ft. Size **6 3/4"** Packer Depth **5616** Ft. Size **6 3/4"**
Straddle _____ Yes _____ No ☒ Conv. _____ B.T. _____ Damaged _____ Yes _____ No
Packer Depth _____ Ft. Size _____
Tool Size **5 1/2" O.D.** Tool Jt. Size **4 1/2" FH-EX H.** Anchor Length **114** Ft. Size **3 Joints W.P. 5 1/2" O.D.**
RECORDERS Depth **5723** Ft. Clock No. **9103** Depth **5725** Ft. Clock No. **9726**
Top Make **Kuster** Cap. **4200** No. **3354** Inside _____ Outside _____ Bottom Make **Kuster** Cap. **4200** No. **1051** Inside _____ Outside _____
Below Straddle: Depth _____ Clock No. _____ Inside _____ Outside _____
Top Make _____ Cap. _____ No. _____ Inside _____ Outside _____
Bottom Make _____ Cap. _____ No. _____ Inside _____ Outside _____
Time Set Packer **2:35** P.M.
Tool Open I.F.P. From **2:37** M. to **3:07P.** M. Hr. **30** Min. From (B) **105** P.S.I. To (C) **108** P.S.I.
Tool Closed I.C.I.P. From **3:07** M. to **3:37P.** M. Hr. **30** Min. (D) **124** P.S.I.
Tool Open F.F.P. From **3:37** M. to **4:37P.** M. Hr. **1** Min. From (E) **107** P.S.I. To (F) **148** P.S.I.
Tool Closed F.C.I.P. From **4:37** M. to **5:22** M. Hr. **45** Min. (G) **189** P.S.I.
Initial Hydrostatic Pressure (A) **2811** P.S.I. Final Hydrostatic Pressure (H) **2800** P.S.I.
SURFACE Size Choke **3/8** In. Max. Press. P.S.I. _____ Time _____ Description of Flow _____
INFORMATION _____ M. _____
_____ M. _____
_____ M. _____
BLOW **Very weak for 27 minutes preflow-Weak for 5 minutes final flow-weak 45min** Bottom Choke Size **3/4** In.
Did Well Flow _____ Yes ☒ No _____ Recovery Total Ft. **90 feet mud**
Reversed Out _____ Yes ☒ No _____ Mud Type **Starch** Viscosity **47** Weight **9.0** Water Loss **8.6** cc. Maximum Temp. **129** °F
Type Circ. Sub. **Plug** Did Tool Plug? **No** Jars: Size **3 1/2"** I.F. Make **WTC** Ser. No. **410**
EXTRA EQUIPMENT: Dual Packers **Yes** Safety Joint **No** Yes _____ Did Packer Hold? **Yes** Where? _____
Length Drill Pipe **4259** ft. I.D. Drill Pipe **3.8** in. Length Weight Pipe **1023** ft. I.D. Weight Pipe **2.7** in. Length Drill Collars **296** ft.
I. D. Drill Collars **2.7** in. Length D.S.T. Tool **152** ft.
Remarks **Flush tool after 15 minutes on final flow**
Flush tool after 35 minutes on final flow

WESTERN TESTING CO., INC. Pressure Data

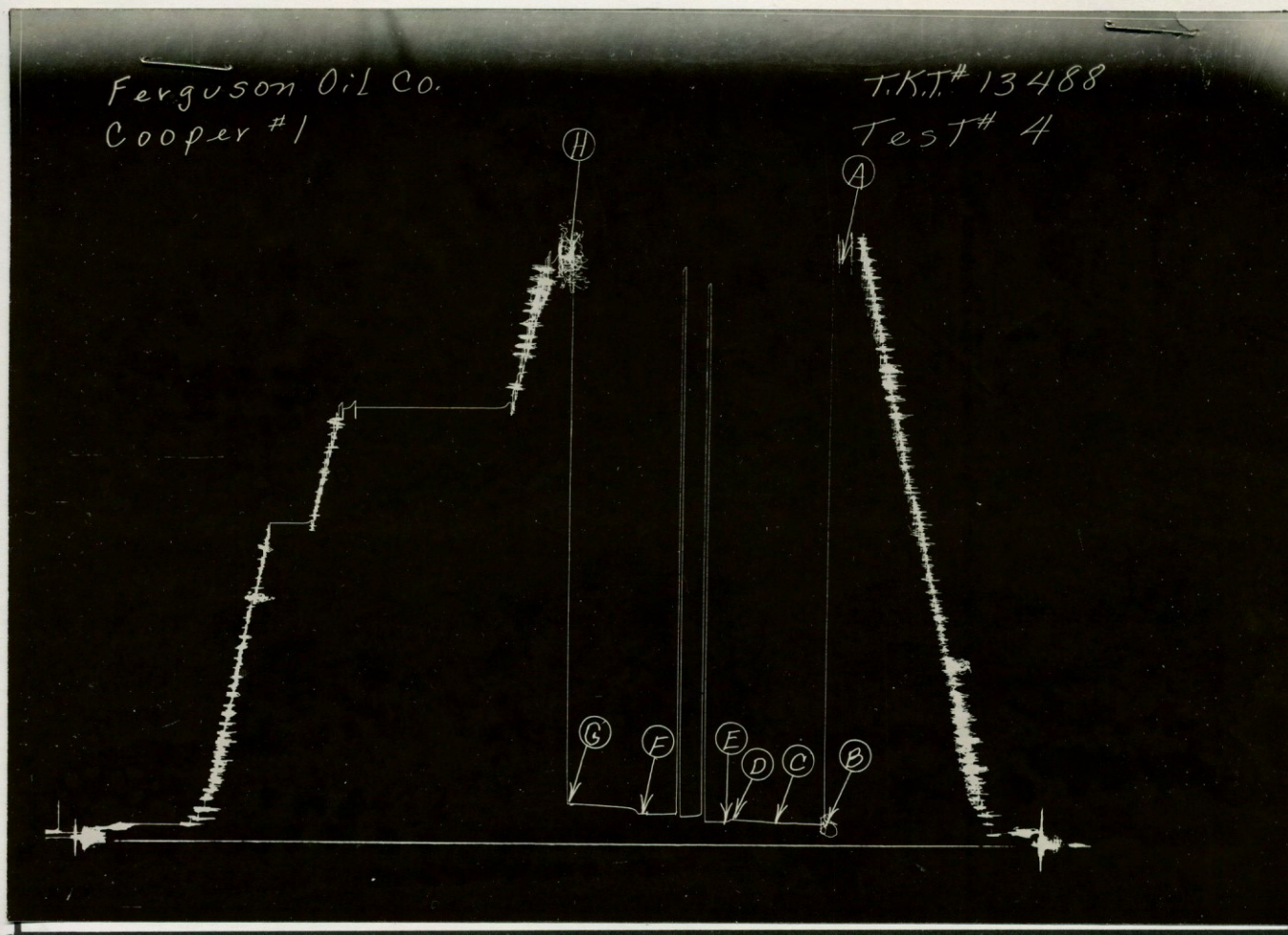
Date 11-20-69 Test Ticket No. 13488
 Recorder No. 3354 Capacity 4200 Location 5723 Ft.
 Clock No. 9103 Elevation 2843 Kelly Bushings Well Temperature 129 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2811</u>	P.S.I.	<u>2:35 P.</u>	<u>M</u>
B First Initial Flow Pressure	<u>105</u>	P.S.I.	<u>30</u>	Mins. <u>30</u> Mins.
C First Final Flow Pressure	<u>108</u>	P.S.I.	<u>30</u>	Mins. <u>30</u> Mins.
D Initial Closed-in Pressure	<u>124</u>	P.S.I.	<u>60</u>	Mins. <u>60</u> Mins.
E Second Initial Flow Pressure	<u>107</u>	P.S.I.	<u>45</u>	Mins. <u>45</u> Mins.
F Second Final Flow Pressure	<u>148</u>	P.S.I.		
G Final Closed-in Pressure	<u>189</u>	P.S.I.		
H Final Hydrostatic Mud	<u>2800</u>	P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u> </u> Min.	Initial Shut-In Breakdown: <u>10</u> Inc. of <u>3</u> mins. and a final inc. of <u> </u> Min.	Second Flow Pressure Breakdown: <u>12</u> Inc. of <u>5</u> mins. and a final inc. of <u> </u> Min.	Final Shut-In Breakdown: <u>15</u> Inc. of <u>3</u> mins. and a final inc. of <u> </u> Min.
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Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>105</u>	<u>0</u>	<u>108</u>	<u>0</u>	<u>107</u>	<u>0</u>	<u>148</u>
P 2 <u>5</u>	<u>105</u>	<u>3</u>	<u>108</u>	<u>5</u>	<u>107</u>	<u>3</u>	<u>152</u>
P 3 <u>10</u>	<u>105</u>	<u>6</u>	<u>108</u>	<u>10</u>	<u>107</u>	<u>6</u>	<u>152</u>
P 4 <u>15</u>	<u>106</u>	<u>9</u>	<u>108</u>	<u>15</u>	<u>Plugging Action</u>	<u>9</u>	<u>173</u>
P 5 <u>20</u>	<u>106</u>	<u>12</u>	<u>109</u>	<u>20</u>	<u>137</u>	<u>12</u>	<u>179</u>
P 6 <u>25</u>	<u>107</u>	<u>15</u>	<u>109</u>	<u>25</u>	<u>137</u>	<u>15</u>	<u>181</u>
P 7 <u>30</u>	<u>108</u>	<u>18</u>	<u>109</u>	<u>30</u>	<u>137</u>	<u>18</u>	<u>182</u>
P 8 <u> </u>	<u> </u>	<u>21</u>	<u>111</u>	<u>35</u>	<u>Plugging Action</u>	<u>21</u>	<u>184</u>
P 9 <u> </u>	<u> </u>	<u>24</u>	<u>114</u>	<u>40</u>	<u>148</u>	<u>24</u>	<u>189</u>
P10 <u> </u>	<u> </u>	<u>27</u>	<u>118</u>	<u>45</u>	<u>148</u>	<u>27</u>	<u>189</u>
P11 <u> </u>	<u> </u>	<u>30</u>	<u>124</u>	<u>50</u>	<u>148</u>	<u>30</u>	<u>189</u>
P12 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>55</u>	<u>148</u>	<u>33</u>	<u>189</u>
P13 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>60</u>	<u>148</u>	<u>36</u>	<u>189</u>
P14 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>39</u>	<u>189</u>
P15 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>42</u>	<u>189</u>
P16 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u>45</u>	<u>189</u>
P17 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
P18 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
P19 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
P20 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	2853	2811	PSI
(B) First Initial Flow Pressure	105	105	PSI
(C) First Final Flow Pressure	109	108	PSI
(D) Initial Closed-in Pressure	122	124	PSI
(E) Second Initial Flow Pressure	109	107	PSI
(F) Second Final Flow Pressure	147	148	PSI
(G) Final Closed-in Pressure	189	189	PSI
(H) Final Hydrostatic Mud	2853	2800	PSI