



Home Office: Wichita, Kansas 67201
 P.O. Box 1599 (316) 262-5861

Company Thunderbird Drilling, Inc. Lease & Well No. Haltom #1
 Elevation 1752 Kelly Bushing Formation Kansas City Effective Pay. --- Ft. Ticket No. 5088
 Date 1/23/80 Sec. 31 Twp. 21S Range 9W County Rice State Kansas
 Test Approved by Stanton Cox Western Representative Denis Wondra

Formation Test No. 1 Interval Tested from 3131 ft. to 3170 ft. Total Depth 3170 ft.
 Packer Depth 3165 ft. Size 6 3/4 in. Packer Depth 3170 ft. Size 6 3/4 in.
 Packer Depth - ft. Size - in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -
 Top Recorder Depth (Inside) 3160 ft. Recorder Number 3474 Cap. 3000
 Bottom Recorder Depth (Outside) 3163 ft. Recorder Number 3659 Cap. 4000
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Thunderbird Drilling Rig #2 Drill Collar Length -- I. D. -- in.
 Mud Type starch Viscosity 39 Weight Pipe Length 558 I. D. 2.8 in.
 Weight 9.9 Water Loss 8.4 cc. Drill Pipe Length 2551 I. D. 3.8 in.
 Chlorides 52,000 P.P.M. Test Tool Length 22 ft. Tool Size 5 1/2 OD in.
 Jars: Make -- Serial Number -- Anchor Length 39 ft. Size 5 1/2 OD 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 XH in.

Blow: Very weak. Died in twenty minutes on first flow period. No blow on second opening.

Recovered 50 ft. of mud Few spots of oil on top of tool.
 Recovered ft. of
 Recovered ft. of
 Recovered ft. of
 Recovered ft. of

Remarks: Slid tool four feet to bottom.

Time Set Packer(s) 1:18 A.M. Time Started Off Bottom 3:20 P.M. Maximum Temperature 103⁰
 Initial Hydrostatic Pressure (A) 1628 P.S.I.
 Initial Flow Period Minutes 30 (B) 53 P.S.I. to (C) 51 P.S.I.
 Initial Closed In Period Minutes 30 (D) 198 P.S.I.
 Final Flow Period .. Minutes 30 (E) 69 P.S.I. to (F) 59 P.S.I.
 Final Closed In Period .. Minutes 30 (G) 117 P.S.I.
 Final Hydrostatic Pressure (H) 1622 P.S.I.

WESTERN TESTING CO., INC.
Pressure Data

Date 1/23/80 Test Ticket No. 5088
 Recorder No. 3474 Capacity 3000 Location 3160 Ft.
 Clock No. -- Elevation 1752 Kelly Bushing Well Temperature 103 °F

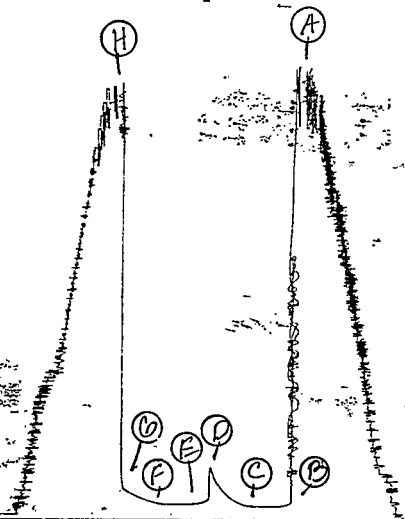
Point	Pressure		Time Given	Time Computed
A. Initial Hydrostatic Mud	<u>1628</u>	P.S.I.	<u>1:18A</u>	<u>M</u>
B First Initial Flow Pressure	<u>53</u>	P.S.I.	<u>30</u>	<u>Mins. 30</u> Mins.
C First Final Flow Pressure	<u>51</u>	P.S.I.	<u>30</u>	<u>Mins. 30</u> Mins.
D Initial Closed-in Pressure	<u>198</u>	P.S.I.	<u>30</u>	<u>Mins. 30</u> Mins.
E Second Initial Flow Pressure	<u>69</u>	P.S.I.	<u>30</u>	<u>Mins. 30</u> Mins.
F Second Final Flow Pressure	<u>59</u>	P.S.I.		
G Final Closed-in Pressure	<u>117</u>	P.S.I.		
H Final Hydrostatic Mud	<u>1622</u>	P.S.I.		

PRESSURE BREAKDOWN

Point Mins.	First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
	Breakdown:	Inc.	Breakdown:	Inc.	Breakdown:	Inc.	Breakdown:	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>53</u>	<u>0</u>	<u>51</u>	<u>0</u>	<u>69</u>	<u>0</u>	<u>59</u>	
P 2 <u>5</u>	<u>53</u>	<u>3</u>	<u>53</u>	<u>5</u>	<u>65</u>	<u>3</u>	<u>61</u>	
P 3 <u>10</u>	<u>51</u>	<u>6</u>	<u>57</u>	<u>10</u>	<u>61</u>	<u>6</u>	<u>64</u>	
P 4 <u>15</u>	<u>51</u>	<u>9</u>	<u>62</u>	<u>15</u>	<u>59</u>	<u>9</u>	<u>68</u>	
P 5 <u>20</u>	<u>51</u>	<u>12</u>	<u>70</u>	<u>20</u>	<u>59</u>	<u>12</u>	<u>71</u>	
P 6 <u>25</u>	<u>51</u>	<u>15</u>	<u>80</u>	<u>25</u>	<u>59</u>	<u>15</u>	<u>76</u>	
P 7 <u>30</u>	<u>51</u>	<u>18</u>	<u>92</u>	<u>30</u>	<u>59</u>	<u>18</u>	<u>82</u>	
P 8		<u>21</u>	<u>103</u>			<u>21</u>	<u>89</u>	
P 9		<u>24</u>	<u>126</u>			<u>24</u>	<u>97</u>	
P10		<u>27</u>	<u>148</u>			<u>27</u>	<u>106</u>	
P11		<u>30</u>	<u>198</u>			<u>30</u>	<u>117</u>	
P12								
P13								
P14								
P15								
P16								
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Company Thunderbird Drilling, Inc. Lease & Well No. Haltom #1
Elevation 1747 Ground Level Formation Simpson Effective Pay --- Ft. Ticket No. 5295
Date 1/25/80 Sec. 31 Twp. 21S Range 9W County Rice State Kansas
Test Approved by Stanton Cox Western Representative Dan Delaney-Darrell Claphan

Formation Test No. 2 Interval Tested from 3602 ft. to 3625 ft. Total Depth 3625 ft.
Packer Depth 3602 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) 3621 ft. Recorder Number 10265 Cap. 4650
Bottom Recorder Depth (Outside) 3625 ft. Recorder Number 6077 Cap. 4700
Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Thunderbird Drilling Drill Collar Length - I. D. - in.
Mud Type starch Viscosity 44 Weight Pipe Length 567 I. D. 2.7 in.
Weight 10 Water Loss 10 cc. Drill Pipe Length 3019 I. D. 3.8 in.
Chlorides -- P.P.M. Test Tool Length 16 ft. Tool Size 4 1/2 in.
Jars: Make -- Serial Number -- Anchor Length 23 ft. Size 5 1/2 in.
Did Well Flow? No Reversed Out _____ Surface Choke Size 1/2 in. Bottom Choke Size 1/2 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 XH in.

Blow: First flow, weak building to strong:Second flow, fair building to strong.

Recovered 240 ft. of water
Recovered 500 ft. of very slightly oil and gas cut water
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____

Remarks: _____

Time Set Packer(s) 7:50 ~~AM~~ AM P.M. Time Started Off Bottom 10:50 ~~AM~~ AM P.M. Maximum Temperature 103°
Initial Hydrostatic Pressure (A) 1926 P.S.I.
Initial Flow Period Minutes 45 (B) 58 P.S.I. to (C) 253 P.S.I.
Initial Closed In Period Minutes 45 (D) 621 P.S.I.
Final Flow Period Minutes 45 (E) 272 P.S.I. to (F) 329 P.S.I.
Final Closed In Period Minutes 45 (G) 609 P.S.I.
Final Hydrostatic Pressure (H) 1923 P.S.I.

WESTERN TESTING CO., INC.
Pressure Data

Date 1/25/80 Test Ticket No. 5295
 Recorder No. 10265 Capacity 4650 Location 3621 Ft.
 Clock No. ----- Elevation 1747 Ground Level Well Temperature 103 °F

Point	Pressure	Open Tool	Time Given	Time Computed
A. Initial Hydrostatic Mud	<u>1926</u> P.S.I.		<u>7:50P</u>	<u>M</u>
B First Initial Flow Pressure	<u>58</u> P.S.I.	First Flow Pressure	<u>45</u> Mins.	<u>45</u> Mins.
C First Final Flow Pressure	<u>253</u> P.S.I.	Initial Closed-in Pressure	<u>45</u> Mins.	<u>45</u> Mins.
D Initial Closed-in Pressure	<u>621</u> P.S.I.	Second Flow Pressure	<u>45</u> Mins.	<u>45</u> Mins.
E Second Initial Flow Pressure	<u>272</u> P.S.I.	Final Closed-in Pressure	<u>45</u> Mins.	<u>45</u> Mins.
F Second Final Flow Pressure	<u>329</u> P.S.I.			
G Final Closed-in Pressure	<u>609</u> P.S.I.			
H Final Hydrostatic Mud	<u>1923</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure
 Breakdown: 9 Inc.
 of 5 mins. and a
 final inc. of 0 Min.

Initial Shut-In
 Breakdown: 15 Inc.
 of 3 mins. and a
 final inc. of 0 Min.

Second Flow Pressure
 Breakdown: 9 Inc.
 of 5 mins. and a
 final inc. of 0 Min.

Final Shut-In
 Breakdown: 45 Inc.
 of 3 mins. and a
 final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>58</u>	<u>0</u>	<u>253</u>	<u>0</u>	<u>372</u>	<u>0</u>	<u>329</u>
P 2 <u>5</u>	<u>74</u>	<u>3</u>	<u>579</u>	<u>5</u>	<u>276</u>	<u>3</u>	<u>530</u>
P 3 <u>10</u>	<u>113</u>	<u>6</u>	<u>560</u>	<u>10</u>	<u>286</u>	<u>6</u>	<u>560</u>
P 4 <u>15</u>	<u>143</u>	<u>9</u>	<u>691</u>	<u>15</u>	<u>293</u>	<u>9</u>	<u>574</u>
P 5 <u>20</u>	<u>168</u>	<u>12</u>	<u>588</u>	<u>20</u>	<u>302</u>	<u>12</u>	<u>580</u>
P 6 <u>25</u>	<u>191</u>	<u>15</u>	<u>593</u>	<u>25</u>	<u>309</u>	<u>15</u>	<u>586</u>
P 7 <u>30</u>	<u>214</u>	<u>18</u>	<u>597</u>	<u>30</u>	<u>316</u>	<u>18</u>	<u>589</u>
P 8 <u>35</u>	<u>227</u>	<u>21</u>	<u>600</u>	<u>35</u>	<u>320</u>	<u>21</u>	<u>592</u>
P 9 <u>40</u>	<u>240</u>	<u>24</u>	<u>604</u>	<u>40</u>	<u>325</u>	<u>24</u>	<u>595</u>
P10 <u>45</u>	<u>253</u>	<u>27</u>	<u>608</u>	<u>45</u>	<u>329</u>	<u>27</u>	<u>598</u>
P11		<u>30</u>	<u>612</u>			<u>30</u>	<u>600</u>
P12		<u>33</u>	<u>614</u>			<u>33</u>	<u>602</u>
P13		<u>36</u>	<u>616</u>			<u>36</u>	<u>604</u>
P14		<u>39</u>	<u>618</u>			<u>39</u>	<u>606</u>
P15		<u>42</u>	<u>620</u>			<u>42</u>	<u>608</u>
P16		<u>45</u>	<u>621</u>			<u>45</u>	<u>609</u>
P17							
P18							
P19							
P20							

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