



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

Company Thunderbird Drilling Inc. Lease & Well No. McNair #1
Elevation 2454 Kelly Bushings Formation Marmaton Effective Pay _____ Ft. Ticket No. 18738
Date 5-29-73 Sec. 10 Twp. 22S Range 24W County Hodgeman State Kansas
Test Approved by H.F. Filson Western Representative Jimmie Loftis

Formation Test No. 1 O.K. Misrun _____ Interval Tested From 4400' to 4500' Total Depth 4500'
Size Main Hole 7 7/8" Rat Hole _____ Conv. _____ B.T. Damaged Yes No Conv. B.T. _____ Damaged Yes No
Packer Depth 4395 Ft. Size 6 3/4" Packer Depth 4400 Ft. Size 6 3/4"
Straddle Yes _____ No Conv. _____ B.T. _____ Damaged Yes _____ No

Tool Size 5 1/2" O.D. Tool Jt. Size 4 1/2" F.H. Anchor Length 100 Ft. Size 5 1/2" O.D.
Packer Depth _____ Ft. Size _____

RECORDERS Depth 4430 Ft. Clock No. 9103 Depth 4432 Ft. Clock No. 6892
Top Make Kuster Cap. 4150 No. 2607 ~~Inside~~ Outside Bottom Make Kuster Cap. 4150 No. 1558 ~~Inside~~ Outside
Below Straddle: Depth _____ Clock No. _____ Inside _____ Outside _____
Top Make _____ Cap. _____ No. _____ Inside _____ Outside _____
Bottom Make _____ Cap. _____ No. _____ Inside _____ Outside _____

Time Set Packer 6:23 P.M.
Tool Open I.F.P. From 6:25 M. to 7:10P. M. Hr. 45 Min. From (B) 27 P.S.I. To (C) 29 P.S.I.
Tool Closed I.C.I.P. From 7:10 M. to 7:55P. M. Hr. 45 Min. (D) 349 P.S.I.
Tool Open F.F.P. From 7:55 M. to 8:40P. M. Hr. 45 Min. From (E) 31 P.S.I. To (F) 31 P.S.I.
Tool Closed F.C.I.P. From 8:40 M. to 9:25P. M. Hr. 45 Min. (G) 90 P.S.I.
Initial Hydrostatic Pressure (A) 2400 P.S.I. Final Hydrostatic Pressure (H) 2366 P.S.I.

SURFACE Size Choke 3/8 In. Max. Press. P.S.I. _____ Time _____ Description of Flow _____
INFORMATION _____ M. _____
_____ M. _____
_____ M. _____

BLOW Weak blow-decreasing blow on I.F.P. Never came back on F.F.P. Bottom Choke Size 3/4 In.
Did Well Flow Yes No _____ Recovery Total Ft. 15 feet mud

Reversed Out Yes No _____ Mud Type Starch Viscosity 41 Weight 9.6 Water Loss 18.2 cc. Maximum Temp. _____ °F
Type Circ. Sub. Plug Safety Joint No Jars: Size _____ Make _____ Ser. No. _____
EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where? _____
Length Drill Pipe 4380 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe _____ ft. I.D. Weight Pipe _____ in. Length Drill Collars 58 ft.
I.D. Drill Collars 2.7 in. Length D.S.T. Tool 62 ft.

Remarks _____

WESTERN TESTING CO., INC.

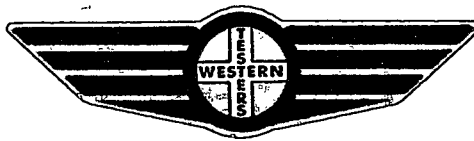
Pressure Data

Date 5-29-73 Test Ticket No. 18738
 Recorder No. 2607 Capacity 4150 Location 4430 Ft.
 Clock No. 9103 Elevation 2454 Kelly Bushings Well Temperature _____ °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	2400 P.S.I.	6:23 P. M.	
B First Initial Flow Pressure	27 P.S.I.	45 Mins.	45 Mins.
C First Final Flow Pressure	29 P.S.I.	45 Mins.	45 Mins.
D Initial Closed-in Pressure	349 P.S.I.	45 Mins.	45 Mins.
E Second Initial Flow Pressure	31 P.S.I.	45 Mins.	45 Mins.
F Second Final Flow Pressure	31 P.S.I.		
G Final Closed-in Pressure	90 P.S.I.		
H Final Hydrostatic Mud	2366 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>15</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>27</u>	<u>0</u> <u>29</u>	<u>0</u> <u>31</u>	<u>0</u> <u>31</u>	<u>0</u> <u>31</u>	<u>0</u> <u>31</u>	<u>31</u>
P 2	<u>5</u> <u>27</u>	<u>3</u> <u>30</u>	<u>5</u> <u>31</u>	<u>5</u> <u>31</u>	<u>3</u> <u>31</u>	<u>3</u> <u>31</u>	<u>31</u>
P 3	<u>10</u> <u>27</u>	<u>6</u> <u>31</u>	<u>10</u> <u>31</u>	<u>10</u> <u>31</u>	<u>6</u> <u>31</u>	<u>6</u> <u>31</u>	<u>31</u>
P 4	<u>15</u> <u>28</u>	<u>9</u> <u>33</u>	<u>15</u> <u>31</u>	<u>15</u> <u>31</u>	<u>9</u> <u>31</u>	<u>9</u> <u>31</u>	<u>32</u>
P 5	<u>20</u> <u>28</u>	<u>12</u> <u>40</u>	<u>20</u> <u>31</u>	<u>20</u> <u>31</u>	<u>12</u> <u>31</u>	<u>12</u> <u>31</u>	<u>33</u>
P 6	<u>25</u> <u>29</u>	<u>15</u> <u>50</u>	<u>25</u> <u>31</u>	<u>25</u> <u>31</u>	<u>15</u> <u>31</u>	<u>15</u> <u>31</u>	<u>35</u>
P 7	<u>30</u> <u>29</u>	<u>18</u> <u>59</u>	<u>30</u> <u>31</u>	<u>30</u> <u>31</u>	<u>18</u> <u>31</u>	<u>18</u> <u>31</u>	<u>37</u>
P 8	<u>35</u> <u>29</u>	<u>21</u> <u>71</u>	<u>35</u> <u>31</u>	<u>35</u> <u>31</u>	<u>21</u> <u>31</u>	<u>21</u> <u>31</u>	<u>42</u>
P 9	<u>40</u> <u>29</u>	<u>24</u> <u>88</u>	<u>40</u> <u>31</u>	<u>40</u> <u>31</u>	<u>24</u> <u>31</u>	<u>24</u> <u>31</u>	<u>46</u>
P10	<u>45</u> <u>29</u>	<u>27</u> <u>112</u>	<u>45</u> <u>31</u>	<u>45</u> <u>31</u>	<u>27</u> <u>31</u>	<u>27</u> <u>31</u>	<u>50</u>
P11		<u>30</u> <u>143</u>			<u>30</u> <u>31</u>	<u>30</u> <u>31</u>	<u>54</u>
P12		<u>33</u> <u>179</u>			<u>33</u> <u>31</u>	<u>33</u> <u>31</u>	<u>60</u>
P13		<u>36</u> <u>218</u>			<u>36</u> <u>31</u>	<u>36</u> <u>31</u>	<u>67</u>
P14		<u>39</u> <u>264</u>			<u>39</u> <u>31</u>	<u>39</u> <u>31</u>	<u>74</u>
P15		<u>42</u> <u>307</u>			<u>42</u> <u>31</u>	<u>42</u> <u>31</u>	<u>82</u>
P16		<u>45</u> <u>349</u>			<u>45</u> <u>31</u>	<u>45</u> <u>31</u>	<u>90</u>
P17							
P18							
P19							
P20							



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

Company Thunderbird Drilling Inc. Lease & Well No. McNair #1
Elevation 2454 Kelly Bushings Formation Ft. Scott Effective Pay _____ Ft. Ticket No. 18739
Date 5-30-73 Sec. 10 Twp. 22S Range 24W County Hodgeman State Kansas
Test Approved by H. F. Filson Western Representative Jimmie Loftis

Formation Test No. 2 O.K. Misrun _____ Interval Tested From 4553' to 4598' Total Depth 4598'
Size Main Hole 7 7/8" Rat Hole _____ Conv. _____ B.T. Damaged Yes No Conv. B.T. Damaged Yes No
Packer Depth 4548 Ft. Size 6 3/4" Packer Depth 4553 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" F.H. Anchor Length 45 Ft. Size 5 1/2" O.D.

RECORDERS Depth 4590 Ft. Clock No. 9103 Depth 4592 Ft. Clock No. 6892
Top Make Kuster Cap. 4150 No. 2607 ~~Inside~~ Outside Bottom Make Kuster Cap. 4150 No. 1558 ~~Inside~~ Outside
Below Straddle: Depth _____ Clock No. _____ Inside _____ Outside _____
Top Make _____ Cap. _____ No. _____ Inside _____ Outside _____

Time Set Packer 9:57 P_M
Tool Open I.F.P. From 10:00 M. to 10:45P M. Hr. 45 Min. From (B) 48 P.S.I. To (C) 54 P.S.I.
Tool Closed I.C.I.P. From 10:45 M. to 11:30P M. Hr. 45 Min. (D) 502 P.S.I.
Tool Open F.F.P. From 11:30 M. to 12:15A M. Hr. 45 Min. From (E) 59 P.S.I. To (F) 70 P.S.I.
Tool Closed F.C.I.P. From 12:15 M. to 1:00A M. Hr. 45 Min. (G) 545 P.S.I.
Initial Hydrostatic Pressure (A) 2491 P.S.I. Final Hydrostatic Pressure (H) 2472 P.S.I.

SURFACE Size Choke 3/8 In. Max. Press. P.S.I. _____ Time _____ Description of Flow _____
INFORMATION _____ M. _____
_____ M. _____
_____ M. _____

BLOW Strong blow Bottom Choke Size 3/4 In.
Did Well Flow Yes No _____ Recovery Total Ft. 130 feet total fluid
60 feet heavy gassy oil cut mud-10% mud 6% water 84% oil
70 feet oil cut mud (gassy) 25% mud 6% water 69% oil

Reversed Out Yes No _____ Mud Type Starch Viscosity 43 Weight 9.5 Water Loss 12.4 cc. Maximum Temp. 131 °F
Type Circ. Sub Plug Safety Joint No Jars: Size _____ Make _____ Ser. No. _____
EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where? _____
Length Drill Pipe 4473 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe _____ ft. I.D. Weight Pipe _____ in. Length Drill Collars 60 ft.
I.D. Drill Collars 2.7 in. Length D.S.T. Tool 65 1/2 ft.

Remarks _____

WESTERN TESTING CO., INC.
Pressure Data

Date 5-30-73

Test Ticket No. 18739

Recorder No. 2607 Capacity 4150

Location 4590 Ft.

Clock No. 9103 Elevation 2454 Kelly Bushings

Well Temperature 131 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2491</u> P.S.I.	Open Tool	<u>9:57 P_M</u>	
B First Initial Flow Pressure	<u>48</u> P.S.I.	First Flow Pressure	<u>45</u> Mins.	<u>45</u> Mins.
C First Final Flow Pressure	<u>54</u> P.S.I.	Initial Closed-in Pressure	<u>45</u> Mins.	<u>45</u> Mins.
D Initial Closed-in Pressure	<u>502</u> P.S.I.	Second Flow Pressure	<u>45</u> Mins.	<u>45</u> Mins.
E Second Initial Flow Pressure	<u>59</u> P.S.I.	Final Closed-in Pressure	<u>45</u> Mins.	<u>45</u> Mins.
F Second Final Flow Pressure	<u>70</u> P.S.I.			
G Final Closed-in Pressure	<u>545</u> P.S.I.			
H Final Hydrostatic Mud	<u>2472</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: 15 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>48</u>	<u>0</u> <u>54</u>	<u>0</u> <u>59</u>	<u>0</u> <u>70</u>			
P 2	<u>5</u> <u>49</u>	<u>3</u> <u>61</u>	<u>5</u> <u>59</u>	<u>3</u> <u>78</u>			
P 3	<u>10</u> <u>50</u>	<u>6</u> <u>71</u>	<u>10</u> <u>59</u>	<u>6</u> <u>90</u>			
P 4	<u>15</u> <u>50</u>	<u>9</u> <u>86</u>	<u>15</u> <u>59</u>	<u>9</u> <u>109</u>			
P 5	<u>20</u> <u>51</u>	<u>12</u> <u>103</u>	<u>20</u> <u>60</u>	<u>12</u> <u>129</u>			
P 6	<u>25</u> <u>52</u>	<u>15</u> <u>124</u>	<u>25</u> <u>61</u>	<u>15</u> <u>148</u>			
P 7	<u>30</u> <u>52</u>	<u>18</u> <u>150</u>	<u>30</u> <u>63</u>	<u>18</u> <u>171</u>			
P 8	<u>35</u> <u>53</u>	<u>21</u> <u>175</u>	<u>35</u> <u>65</u>	<u>21</u> <u>196</u>			
P 9	<u>40</u> <u>54</u>	<u>24</u> <u>203</u>	<u>40</u> <u>68</u>	<u>24</u> <u>224</u>			
P10	<u>45</u> <u>54</u>	<u>27</u> <u>228</u>	<u>45</u> <u>70</u>	<u>27</u> <u>254</u>			
P11		<u>30</u> <u>262</u>		<u>30</u> <u>285</u>			
P12		<u>33</u> <u>294</u>		<u>33</u> <u>321</u>			
P13		<u>36</u> <u>336</u>		<u>36</u> <u>366</u>			
P14		<u>39</u> <u>385</u>		<u>39</u> <u>419</u>			
P15		<u>42</u> <u>442</u>		<u>42</u> <u>476</u>			
P16		<u>45</u> <u>502</u>		<u>45</u> <u>545</u>			
P17							
P18							
P19							
P20							



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

Company Thunderbird Drilling Inc. Lease & Well No. McNair #1
Elevation 2459 Kelly Bushings Formation Cherokee Effective Pay _____ Ft. Ticket No. 18740
Date 5-31-73 Sec. 10 Twp. 22S Range 24W County Hodgeman State Kansas
Test Approved by H. F. Filson Western Representative Jimmie Loftis

Formation Test No. 3 O.K. Misrun _____ Interval Tested From 4602' to 4662' Total Depth 4662'
Size Main Hole 7 7/8" Rat Hole _____ Conv. _____ B.T. Damaged Yes No Conv. B.T. Damaged Yes No
Packer Depth 4598 Ft. Size 6 3/4" Packer Depth 4602 Ft. Size 6 3/4"
Straddle Yes _____ No Conv. _____ B.T. Damaged Yes _____ No

Tool Size 5 1/2" O.D. Tool Jt. Size 4 1/2" F.H. Anchor Length 60 Ft. Size 5 1/2" O.D.
Packer Depth _____ Ft. Size _____

RECORDERS Depth 4623 Ft. Clock No. 9103 Depth 4625 Ft. Clock No. 6812
Top Make Kuster Cap. 4150 No. 2607 ~~Inside~~ Outside Bottom Make Kuster Cap. 4150 No. 1558 ~~Inside~~ Outside
Below Straddle: Depth _____ Clock No. _____ Inside _____ Outside _____
Top Make _____ Cap. _____ No. _____ Inside _____ Outside _____
Bottom Make _____ Cap. _____ No. _____ Inside _____ Outside _____

Time Set Packer 8:12 P. M
Tool Open I.F.P. From 8:15 M. to 9:00P. M. Hr. 45 Min. From (B) 16 P.S.I. To (C) 16 P.S.I.
Tool Closed I.C.I.P. From 9:00 M. to 9:45P. M. Hr. 45 Min. (D) 107 P.S.I.
Tool Open F.F.P. From 9:45 M. to 10:30P. M. Hr. 45 Min. From (E) 25 P.S.I. To (F) 125 P.S.I.
Tool Closed F.C.I.P. From 10:30 M. to 11:15P. M. Hr. 45 Min. (G) 44 P.S.I.
Initial Hydrostatic Pressure (A) 2491 P.S.I. Final Hydrostatic Pressure (H) 2396 P.S.I.

SURFACE Size Choke 3/8 In. Max. Press. P.S.I. _____ Time _____ Description of Flow _____
INFORMATION _____ M. _____
_____ M. _____
_____ M. _____

BLOW Weak blow for 40 min. on I.F.P. then died Bottom Choke Size 3/4 In.
Did Well Flow Yes No _____ Recovery Total Ft. 15 feet oil specked mud

Reversed Out Yes No _____ Mud Type Starch Viscosity 47 Weight 9.6 Water Loss 9.6 cc. Maximum Temp. 132 °F
Type Circ. Sub. Plug Safety Joint No Jars: Size _____ Make _____ Ser. No. _____
EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where? _____
Length Drill Pipe 4582 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe _____ ft. I.D. Weight Pipe _____ in. Length Drill Collars 29 ft.
I.D. Drill Collars 2.7 in. Length D.S.T. Tool 51 ft.

Remarks _____

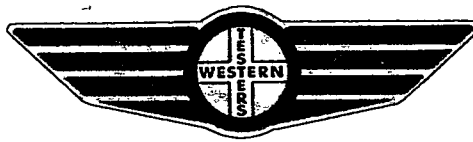
WESTERN TESTING CO., INC.
Pressure Data

Date 5-31-73 Test Ticket No. 18740
 Recorder No. 2607 Capacity 4150 Location 4623 Ft.
 Clock No. 9103 Elevation 2459 Kelly Bushings Well Temperature 132 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2491</u>	P.S.I.	<u>8:12 P.</u>	<u>M</u>
B First Initial Flow Pressure	<u>16</u>	P.S.I.	<u>45</u> Mins.	<u>45</u> Mins.
C First Final Flow Pressure	<u>16</u>	P.S.I.	<u>45</u> Mins.	<u>45</u> Mins.
D Initial Closed-in Pressure	<u>107</u>	P.S.I.	<u>45</u> Mins.	<u>45</u> Mins.
E Second Initial Flow Pressure	<u>25</u>	P.S.I.	<u>45</u> Mins.	<u>45</u> Mins.
F Second Final Flow Pressure	<u>25</u>	P.S.I.		
G Final Closed-in Pressure	<u>44</u>	P.S.I.		
H Final Hydrostatic Mud	<u>2396</u>	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>15</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>0</u>	<u>16</u>	<u>0</u>	<u>25</u>	<u>0</u>	<u>25</u>
P 2	<u>5</u>	<u>3</u>	<u>17</u>	<u>5</u>	<u>25</u>	<u>3</u>	<u>25</u>
P 3	<u>10</u>	<u>6</u>	<u>19</u>	<u>10</u>	<u>25</u>	<u>6</u>	<u>25</u>
P 4	<u>15</u>	<u>9</u>	<u>21</u>	<u>15</u>	<u>25</u>	<u>9</u>	<u>26</u>
P 5	<u>20</u>	<u>12</u>	<u>25</u>	<u>20</u>	<u>25</u>	<u>12</u>	<u>26</u>
P 6	<u>25</u>	<u>15</u>	<u>29</u>	<u>25</u>	<u>25</u>	<u>15</u>	<u>27</u>
P 7	<u>30</u>	<u>18</u>	<u>33</u>	<u>30</u>	<u>25</u>	<u>18</u>	<u>28</u>
P 8	<u>35</u>	<u>21</u>	<u>37</u>	<u>35</u>	<u>25</u>	<u>21</u>	<u>30</u>
P 9	<u>40</u>	<u>24</u>	<u>44</u>	<u>40</u>	<u>25</u>	<u>24</u>	<u>32</u>
P10	<u>45</u>	<u>27</u>	<u>50</u>	<u>45</u>	<u>25</u>	<u>27</u>	<u>33</u>
P11		<u>30</u>	<u>59</u>			<u>30</u>	<u>35</u>
P12		<u>33</u>	<u>65</u>			<u>33</u>	<u>37</u>
P13		<u>36</u>	<u>73</u>			<u>36</u>	<u>39</u>
P14		<u>39</u>	<u>82</u>			<u>39</u>	<u>41</u>
P15		<u>42</u>	<u>95</u>			<u>42</u>	<u>43</u>
P16		<u>45</u>	<u>107</u>			<u>45</u>	<u>44</u>
P17							
P18							
P19							
P20							



Home Office: Great Bend, Kansas
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Company Thunderbird Drilling Inc. Lease & Well No. McNair #1
Elevation 2959 Kelly Bushings Formation Mississippian Effective Pay _____ Ft. Ticket No. 18741
Date 6-1-73 Sec. 10 Twp. 22S Range 24W County Hodgeman State Kansas
Test Approved by H. F. Filson Western Representative Jimmie Loftis

Formation Test No. 4 O.K. Misrun _____ Interval Tested From 4674' to 4695' Total Depth 4695'
Size Main Hole 7 7/8" Rat Hole _____ Conv. _____ B.T. Damaged Yes No Conv. B.T. _____ Damaged Yes 6 3/4"
Packer Depth 4669 Ft. Size 6 3/4" Packer Depth ~~4674~~ 4674 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" F.H. Anchor Length 21 Ft. Size 5 1/2" O.D.

RECORDERS Depth 4686 Ft. Clock No. 9103 Depth 4688 Ft. Clock No. 6812
Top Make Kuster Cap. 4150 No. 2607 Inside ~~Outside~~ Bottom Make Kuster Cap. 4150 No. 1558 ~~Inside~~ Outside
Below Straddle: Depth _____ Clock No. _____ Inside _____ Outside _____
Top Make _____ Cap. _____ No. _____ Inside _____ Outside _____
Bottom Make _____ Cap. _____ No. _____ Inside _____ Outside _____

Time Set Packer 1:28 P. M.
Tool Open I.F.P. From 1:30 M. to 2:15P. M. Hr. 45 Min. From (B) 14 P.S.I. To (C) 14 P.S.I.
Tool Closed I.C.I.P. From 2:15 M. to 3:00P. M. Hr. 45 Min. (D) 25 P.S.I.
Tool Open F.F.P. From 3:00 M. to 3:45P. M. Hr. 45 Min. From (E) 16 P.S.I. To (F) 16 P.S.I.
Tool Closed F.C.I.P. From 3:45 M. to 4:30P. M. Hr. 45 Min. (G) 19 P.S.I.
Initial Hydrostatic Pressure (A) 2571 P.S.I. Final Hydrostatic Pressure (H) 2539 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 blow for 40 min. on I. F. P. Bottom Choke Size 3/4 In.
Did Well Flow Yes No _____ Recovery Total Ft. 5 feet mud with few oil specks

Reversed Out Yes No _____ Mud Type Starch Viscosity 54 Weight 9.6 Water Loss 12.2 cc. Maximum Temp. 133 °F
Type Circ. Sub. Plug Safety Joint No Jars: Size _____ Make _____ Ser. No. _____
EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where? _____
Length Drill Pipe 4596 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe _____ ft. I.D. Weight Pipe _____ in. Length Drill Collars 58 ft.
I.D. Drill Collars 2.8 in. Length D.S.T. Tool 41 ft.

Remarks _____

WESTERN TESTING CO., INC.
Pressure Data

Date 6-1-73 Test Ticket No. 18741
 Recorder No. 2607 Capacity 4150 Location 4686 Ft.
 Clock No. 9103 Elevation 2459 Kelly Bushings Well Temperature 133 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2571</u> P.S.I.	Open Tool	<u>1:28 P.</u> M	
B First Initial Flow Pressure	<u>14</u> P.S.I.	First Flow Pressure	<u>45</u> Mins.	<u>45</u> Mins.
C First Final Flow Pressure	<u>14</u> P.S.I.	Initial Closed-in Pressure	<u>45</u> Mins.	<u>45</u> Mins.
D Initial Closed-in Pressure	<u>25</u> P.S.I.	Second Flow Pressure	<u>45</u> Mins.	<u>45</u> Mins.
E Second Initial Flow Pressure	<u>16</u> P.S.I.	Final Closed-in Pressure	<u>45</u> Mins.	<u>45</u> Mins.
F Second Final Flow Pressure	<u>16</u> P.S.I.			
G Final Closed-in Pressure	<u>19</u> P.S.I.			
H Final Hydrostatic Mud	<u>2539</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: <u>9</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Initial Shut-In Breakdown: <u>15</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	Second Flow Pressure Breakdown: <u>9</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Final Shut-In Breakdown: <u>15</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.
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Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>14</u>	<u>0</u>	<u>14</u>	<u>0</u>	<u>16</u>	<u>0</u>	<u>16</u>
P 2 <u>5</u>	<u>14</u>	<u>3</u>	<u>14</u>	<u>5</u>	<u>16</u>	<u>3</u>	<u>16</u>
P 3 <u>10</u>	<u>14</u>	<u>6</u>	<u>14</u>	<u>10</u>	<u>16</u>	<u>6</u>	<u>16</u>
P 4 <u>15</u>	<u>14</u>	<u>9</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>9</u>	<u>16</u>
P 5 <u>20</u>	<u>14</u>	<u>12</u>	<u>14</u>	<u>20</u>	<u>16</u>	<u>12</u>	<u>16</u>
P 6 <u>25</u>	<u>14</u>	<u>15</u>	<u>14</u>	<u>25</u>	<u>16</u>	<u>15</u>	<u>16</u>
P 7 <u>30</u>	<u>14</u>	<u>18</u>	<u>14</u>	<u>30</u>	<u>16</u>	<u>18</u>	<u>16</u>
P 8 <u>35</u>	<u>14</u>	<u>21</u>	<u>14</u>	<u>35</u>	<u>16</u>	<u>21</u>	<u>16</u>
P 9 <u>40</u>	<u>14</u>	<u>24</u>	<u>15</u>	<u>40</u>	<u>16</u>	<u>24</u>	<u>17</u>
P10 <u>45</u>	<u>14</u>	<u>27</u>	<u>16</u>	<u>45</u>	<u>16</u>	<u>27</u>	<u>17</u>
P11		<u>30</u>	<u>17</u>			<u>30</u>	<u>18</u>
P12		<u>33</u>	<u>18</u>			<u>33</u>	<u>18</u>
P13		<u>36</u>	<u>19</u>			<u>36</u>	<u>18</u>
P14		<u>39</u>	<u>21</u>			<u>39</u>	<u>18</u>
P15		<u>42</u>	<u>23</u>			<u>42</u>	<u>18</u>
P16		<u>45</u>	<u>25</u>			<u>45</u>	<u>19</u>
P17							
P18							
P19							
P20							



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

Company Thunderbird Drilling Inc. Lease & Well No. McNair #1
Elevation 2459 Kelly Bushings Formation Mississippian Effective Pay _____ Ft. Ticket No. 18742
Date 6-2-73 Sec. 10 Twp. 22S Range 24W County Hodgeman State Kansas
Test Approved by H. F. Filson Western Representative Jimmie Loftis

Formation Test No. 5 O.K. Misrun _____ Interval Tested From 4694' to 4705' Total Depth 4705'
Size Main Hole 7 7/8" Rat Hole _____ Conv. _____ B.T. Damaged Yes No Conv. B.T. _____ Damaged Yes No
Packer Depth 4689 Ft. Size 6 3/4" Packer Depth 4694 Ft. Size 6 3/4"
Straddle Yes _____ No Conv. _____ B.T. _____ Damaged Yes _____ No

Tool Size 5 1/2" O.D. Tool Jt. Size 4 1/2" F.H. Anchor Length 11 Ft. Size 5 1/2" O.D.
RECORDERS Depth 4697 Ft. Clock No. 9103 Depth 4699 Ft. Clock No. 6812
Top Make Kuster Cap. 4150 No. 2607 Inside Outside Bottom Make Kuster Cap. 4150 No. 1558 Inside Outside
Below Straddle: Depth _____ Clock No. _____ Inside _____ Outside _____
Top Make _____ Cap. _____ No. _____ Inside _____ Outside _____
Bottom Make _____ Cap. _____ No. _____ Inside _____ Outside _____

Time Set Packer 1:58 A.M.
Tool Open I.F.P. From 2:00 M. to 2:45A.M. Hr. 45 Min. From (B) 16 P.S.I. To (C) 19 P.S.I.
Tool Closed I.C.I.P. From 2:45 M. to 3:30A.M. Hr. 45 Min. (D) 1087 P.S.I.
Tool Open F.F.P. From 3:30 M. to 4:15A.M. Hr. 45 Min. From (E) 31 P.S.I. To (F) 31 P.S.I.
Tool Closed F.C.I.P. From 4:15 M. to 5:00A.M. Hr. 45 Min. (G) 891 P.S.I.
Initial Hydrostatic Pressure (A) 2599 P.S.I. Final Hydrostatic Pressure (H) 2541 P.S.I.

SURFACE Size Choke 3/8 In. Max. Press. P.S.I. _____ Time _____ Description of Flow _____
INFORMATION _____ M. _____
_____ M. _____
_____ M. _____

BLOW Weak blow for 30 min. on F.F.P. Bottom Choke Size 3/4 In.
Did Well Flow Yes No _____ Recovery Total Ft. 15 feet mud

Reversed Out Yes No _____ Mud Type Starch Viscosity 54 Weight 9.6 Water Loss 12.2 cc. Maximum Temp. 133 °F
Type Circ. Sub. Plug Safety Joint No Jars: Size _____ Make _____ Ser. No. _____
EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where? _____
Length Drill Pipe 4616 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe _____ ft. I.D. Weight Pipe _____ in. Length Drill Collars 58 ft.
I.D. Drill Collars 2.7 in. Length D.S.T. Tool 31 ft.

Remarks Read chart 1558

WESTERN TESTING CO., INC.

Pressure Data

Date 6-2-73

Test Ticket No. 18742

Recorder No. 2607 Capacity 4150 Location 4697 Ft.

Clock No. 9103 Elevation 2459 Kelly Bushings Well Temperature 133 °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	2599 P.S.I.	1:58 A. M.	
B First Initial Flow Pressure	16 P.S.I.	45 Mins.	45 Mins.
C First Final Flow Pressure	19 P.S.I.	45 Mins.	42 Mins.
D Initial Closed-in Pressure	1087 P.S.I.	45 Mins.	45 Mins.
E Second Initial Flow Pressure	31 P.S.I.	45 Mins.	43 Mins.
F Second Final Flow Pressure	31 P.S.I.		
G Final Closed-in Pressure	901 P.S.I.		
H Final Hydrostatic Mud	2541 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: 14 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: 14 Inc.
of 3 mins. and a
final inc. of 1 Min.

Point Mins.	First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1	0	16	0	19	0	31	0	31
P 2	5	16	3	25	5	31	3	33
P 3	10	16	6	42	10	31	6	42
P 4	15	17	9	107	15	31	9	54
P 5	20	17	12	279	20	31	12	101
P 6	25	18	15	472	25	31	15	218
P 7	30	18	18	628	30	31	18	364
P 8	35	18	21	743	35	31	21	491
P 9	40	19	24	834	40	31	24	597
P10	45	19	27	905	45	31	27	678
P11			30	964			30	737
P12			33	1004			33	784
P13			36	1039			36	822
P14			39	1071			39	855
P15			42	1087			42	887
P16							43	891
P17								
P18								
P19								
P20								



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

Company Thunderbird Drilling Inc. Lease & Well No. McNair #1
Elevation 2459 Kelly Bushings Formation Mississippian Effective Pay _____ Ft. Ticket No. 18622
Date 6-2-73 Sec. 10 Twp. 22S Range 24W County Hodgeman State Kansas
Test Approved by H. F. Filson Western Representative C. F. Bigheart

Formation Test No. 6 O.K. Misrun _____ Interval Tested From 4701' to 4715' Total Depth 4715'
Size Main Hole 7 7/8" Rat Hole _____ Conv. B.T. _____ Damaged Yes No Conv. _____ B.T. Damaged Yes No
Packer Depth 4696 Ft. Size 6 3/4" Packer Depth 4701 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" F.H. Anchor Length 14 Ft. Size 5 1/2" O.D.

RECORDERS Depth 4706 Ft. Clock No. 6834 Depth 4709 Ft. Clock No. 10168
Top Make Kuster Cap. 4150 No. 2605 ~~Inside~~ Outside Bottom Make Kuster Cap. 4300 No. 1566 ~~Inside~~ Outside
Below Straddle: Depth _____ Clock No. _____ Inside _____ Outside _____
Top Make _____ Cap. _____ No. _____ Inside _____ Outside _____
Bottom Make _____ Cap. _____ No. _____ Inside _____ Outside _____

Time Set Packer 2:52 P.M.
Tool Open I.F.P. From 2:55 M. to 3:40P M. Hr. 45 Min. From (B) 14 P.S.I. To (C) 16 P.S.I.
Tool Closed I.C.I.P. From 3:40 M. to 4:25P M. Hr. 45 Min. (D) 810 P.S.I.
Tool Open F.F.P. From 4:25 M. to 5:10P M. Hr. 45 Min. From (E) 23 P.S.I. To (F) 23 P.S.I.
Tool Closed F.C.I.P. From 5:10 M. to 5:55P M. Hr. 45 Min. (G) 642 P.S.I.
Initial Hydrostatic Pressure (A) 2480 P.S.I. Final Hydrostatic Pressure (H) 2456 P.S.I.

SURFACE	Size Choke	In.	Max. Press. P.S.I.	Time	Description of Flow
INFORMATION	<u>3/4</u>			M.	
				M.	
				M.	

BLOW Weak for initial flow - no blow on second flow Bottom Choke Size 3/4 In.
Did Well Flow Yes No _____ Recovery Total Ft. 15 feet thin mud

Reversed Out Yes No _____ Mud Type Salt Viscosity 54 Weight 9.6 Water Loss 12.2 cc. Maximum Temp. 133 °F
Type Circ. Sub. Pin Safety Joint No Jars: Size _____ Make _____ Ser. No. _____

EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where? _____
Length Drill Pipe 4681 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe _____ ft. I.D. Weight Pipe _____ in. Length Drill Collars 58 ft.
I.D. Drill Collars 2.7 in. Length D.S.T. Tool 34 ft.

Remarks _____

WESTERN TESTING CO., INC.

Pressure Data

Date 6-2-73

Test Ticket No. 18622

Recorder No. 2605 Capacity 4150 Location 4706 Ft.

Clock No. 6834 Elevation 2459 Kelly Bushings Well Temperature 133 °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	2480 P.S.I.	2:52 P. M	
B First Initial Flow Pressure	14 P.S.I.	45 Mins.	45 Mins.
C First Final Flow Pressure	16 P.S.I.	45 Mins.	45 Mins.
D Initial Closed-in Pressure	810 P.S.I.	45 Mins.	45 Mins.
E Second Initial Flow Pressure	23 P.S.I.	45 Mins.	45 Mins.
F Second Final Flow Pressure	23 P.S.I.		
G Final Closed-in Pressure	642 P.S.I.		
H Final Hydrostatic Mud	2456 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: 15 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	0	14	0	16	0	23	0	23
P 2	5	14	3	25	5	23	3	33
P 3	10	14	6	59	10	23	6	56
P 4	15	14	9	137	15	23	9	101
P 5	20	15	12	243	20	23	12	173
P 6	25	15	15	341	25	23	15	241
P 7	30	16	18	423	30	23	18	302
P 8	33	16	21	491	35	23	21	360
P 9	40	16	24	547	40	23	24	406
P10	45	16	27	601	45	23	27	476
P11			30	646			30	502
P12			33	684			33	535
P13			36	723			36	566
P14			39	756			39	595
P15			42	787			42	620
P16			45	810			45	642
P17								
P18								
P19								
P20								