

Company Mull Drilling Company, Inc. Lease & Well No. Terwilliger "B" #1
Elevation ----- Formation Kansas City Effective Pay ----- Ft. Ticket No. 5517
Date 3/23/80 Sec. 5 Twp. 17S Range 28W County Lane State Kansas
Test Approved by Roger L. Martin Western Representative Vernon Wondra
Formation Test No. 1 Interval Tested from 4206 ft. to 4236 ft. Total Depth 4236 ft.
Packer Depth 4201 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
Packer Depth 4206 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
Depth of Selective Zone Set -
Top Recorder Depth (Inside) 4226 ft. Recorder Number 10979 Cap. 4100
Bottom Recorder Depth (Outside) 4229 ft. Recorder Number 1563 Cap. 4200
Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
Drilling Contractor Blue Goose Drilling Co. Rig #2 Drill Collar Length 249 I. D. 2 1/4 in.
Mud Type drispac-premix Viscosity 57 Weight Pipe Length - I. D. - in.
Weight 9.4 Water Loss ? cc. Drill Pipe Length 3936 I. D. 3.8 in.
Chlorides ? P.P.M. Test Tool Length 21 ft. Tool Size 5 1/2 OD in.
Jars: Make -- Serial Number - Anchor Length 30 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 FH in.

Blow: Fair blow throughout both flow periods.

Recovered 10 ft. of clean oil
Recovered 5 ft. of heavy oil cut mud
Recovered 61 ft. of slightly oil cut watery mud
Recovered 427 ft. of slightly muddy water (chlorides 38,000 ppm)
Recovered - ft. of -
Remarks: -

Time Set Packer(s) 1:35 ~~P.M.~~ ^{A.M.} Time Started Off Bottom 4:50 ~~P.M.~~ ^{A.M.} Maximum Temperature 123°
Initial Hydrostatic Pressure 2051 P.S.I. (A)
Initial Flow Period 30 Minutes (B) 52 P.S.I. to (C) 137 P.S.I.
Initial Closed In Period 45 Minutes (D) 1154 P.S.I.
Final Flow Period 60 Minutes (E) 193 P.S.I. to (F) 245 P.S.I.
Final Closed In Period 60 Minutes (G) 1131 P.S.I.
Final Hydrostatic Pressure 2028 P.S.I. (H)

WESTERN TESTING CO., INC.

Pressure Data

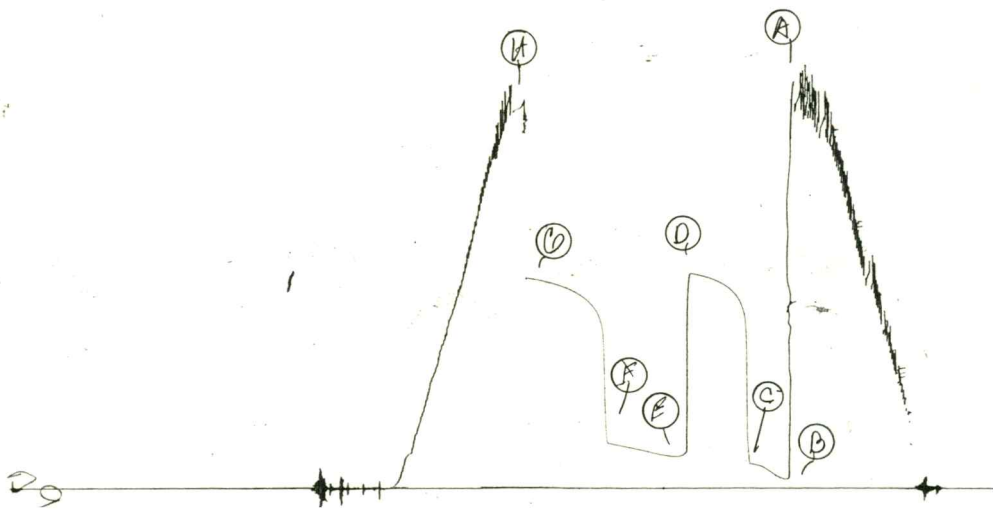
Date 3/23/80 Recorder No. 10979 Capacity 4100 Test Ticket No. 5517 Location 4226 Ft.
 Clock No. - Elevation - Well Temperature 123 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2051</u> P.S.I.	Open Tool	<u>1:35A</u> M	
B First Initial Flow Pressure	<u>52</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>137</u> P.S.I.	Initial Closed-in Pressure	<u>45</u> Mins.	<u>45</u> Mins.
D Initial Closed-in Pressure	<u>1154</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>193</u> P.S.I.	Final Closed-in Pressure	<u>60</u> Mins.	<u>60</u> Mins.
F Second Final Flow Pressure	<u>245</u> P.S.I.			
G Final Closed-in Pressure	<u>1131</u> P.S.I.			
H Final Hydrostatic Mud	<u>2028</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>15</u> Inc.		Breakdown: <u>12</u> Inc.		Breakdown: <u>20</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>52</u>	<u>0</u>	<u>137</u>	<u>0</u>	<u>193</u>	<u>0</u>	<u>245</u>
P 2 <u>5</u>	<u>57</u>	<u>3</u>	<u>567</u>	<u>5</u>	<u>176</u>	<u>3</u>	<u>718</u>
P 3 <u>10</u>	<u>78</u>	<u>6</u>	<u>956</u>	<u>10</u>	<u>174</u>	<u>6</u>	<u>912</u>
P 4 <u>15</u>	<u>99</u>	<u>9</u>	<u>1019</u>	<u>15</u>	<u>180</u>	<u>9</u>	<u>962</u>
P 5 <u>20</u>	<u>120</u>	<u>12</u>	<u>1049</u>	<u>20</u>	<u>186</u>	<u>12</u>	<u>993</u>
P 6 <u>25</u>	<u>130</u>	<u>15</u>	<u>1070</u>	<u>25</u>	<u>195</u>	<u>15</u>	<u>1016</u>
P 7 <u>30</u>	<u>137</u>	<u>18</u>	<u>1093</u>	<u>30</u>	<u>203</u>	<u>18</u>	<u>1031</u>
P 8		<u>21</u>	<u>1103</u>	<u>35</u>	<u>212</u>	<u>21</u>	<u>1047</u>
P 9		<u>24</u>	<u>1115</u>	<u>40</u>	<u>222</u>	<u>24</u>	<u>1057</u>
P10		<u>27</u>	<u>1123</u>	<u>45</u>	<u>228</u>	<u>27</u>	<u>1072</u>
P11		<u>30</u>	<u>1132</u>	<u>50</u>	<u>235</u>	<u>30</u>	<u>1080</u>
P12		<u>33</u>	<u>1137</u>	<u>55</u>	<u>243</u>	<u>33</u>	<u>1088</u>
P13		<u>36</u>	<u>1142</u>	<u>60</u>	<u>245</u>	<u>36</u>	<u>1092</u>
P14		<u>39</u>	<u>1146</u>			<u>39</u>	<u>1100</u>
P15		<u>42</u>	<u>1150</u>			<u>42</u>	<u>1106</u>
P16		<u>45</u>	<u>1154</u>			<u>45</u>	<u>1111</u>
P17						<u>48</u>	<u>1117</u>
P18						<u>51</u>	<u>1121</u>
P19						<u>54</u>	<u>1125</u>
P20						<u>57</u>	<u>1129</u>
						<u>60</u>	<u>1131</u>

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Company Mull Drilling Company, Inc. Lease & Well No. Terwilliger "B" #1
Elevation 2783 Kelly Bushing Formation Cherokee Effective Pay - Ft. Ticket No. 5518
Date 3/25/80 Sec. 5 Twp. 17S Range 28W County Lane State Kansas
Test Approved by Roger L. Martin Western Representative Vernon Wondra

Formation Test No. 2 Interval Tested from 4475 ft. to 4570 ft. Total Depth 4570 ft.

Packer Depth 4470 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 4475 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 4491 ft. Recorder Number 10979 Cap. 4100

Bottom Recorder Depth (Outside) 4494 ft. Recorder Number 1563 Cap. 4200

Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor Blue Goose Drllg. Co. Rig #2 Drill Collar Length 249 I. D. 2 1/4 in.

Mud Type premix-driscopac Viscosity 42 Weight Pipe Length - I. D. - in.

Weight 9.1 Water Loss 13.6 cc. Drill Pipe Length 4205 I. D. 3.8 in.

Chlorides 8,000 P.P.M. Test Tool Length 21 ft. Tool Size 5 1/2 OD in.

Jars: Make - Serial Number - Anchor Length 95 ft. Size 5 1/2 OD + 63' DC's 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 FH in.

Blow: Very weak blow; died in fifteen minutes on first flow period. No blow on second flow period.

Recovered 30 ft. of mud with few spots of oil

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks: Flushed tool on second flow period. Driller picked up tool high for final shut-in.

Time Set Packer(s) 8:35 ~~P.M.~~ A.M. Time Started Off Bottom 10:35 ~~P.M.~~ A.M. Maximum Temperature 126°

Initial Hydrostatic Pressure (A) 2156 P.S.I.

Initial Flow Period Minutes 30 (B) 39 P.S.I. to (C) 25 P.S.I.

Initial Closed In Period Minutes 30 (D) 1141 P.S.I.

Final Flow Period Minutes -- (E) -- P.S.I. to (F) -- P.S.I.

Final Closed In Period Minutes -- (G) -- P.S.I.

Final Hydrostatic Pressure (H) 2127 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 3/25/80 Recorder No. 10979 Capacity 4100 Test Ticket No. 5518
 Clock No. ----- Elevation 2783 Kelly Bushing Location 4491 Ft. Well Temperature 126 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2156</u> P.S.I.	Open Tool	<u>8:35P</u>	<u>M</u>
B First Initial Flow Pressure	<u>39</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>25</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>1141</u> P.S.I.	Second Flow Pressure	<u>--</u> Mins.	<u>--</u> Mins.
E Second Initial Flow Pressure	<u>--</u> P.S.I.	Final Closed-in Pressure	<u>--</u> Mins.	<u>--</u> Mins.
F Second Final Flow Pressure	<u>--</u> P.S.I.			
G Final Closed-in Pressure	<u>--</u> P.S.I.			
H Final Hydrostatic Mud	<u>2127</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>10</u> Inc.		Breakdown: <u>0</u> Inc.		Breakdown: <u>0</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>39</u>	<u>0</u>	<u>25</u>				
P 2 <u>5</u>	<u>33</u>	<u>3</u>	<u>105</u>				
P 3 <u>10</u>	<u>25</u>	<u>6</u>	<u>331</u>				
P 4 <u>15</u>	<u>25</u>	<u>9</u>	<u>568</u>				
P 5 <u>20</u>	<u>25</u>	<u>12</u>	<u>762</u>				
P 6 <u>25</u>	<u>25</u>	<u>15</u>	<u>895</u>				
P 7 <u>30</u>	<u>25</u>	<u>18</u>	<u>993</u>				
P 8		<u>21</u>	<u>1055</u>				
P 9		<u>24</u>	<u>1094</u>				
P10		<u>27</u>	<u>1123</u>				
P11		<u>30</u>	<u>1141</u>				
P12							
P13							
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