

Company Aylward Drilling Company Lease & Well No. Doherty #3
Elevation 1475 Kelly Bushing Formation Mississippi Effective Pay -- Ft. Ticket No. 5719
Date 4/10/80 Sec. 12 Twp. 32S Range 12W County Barber State Kansas
Test Approved by Frank Hamlin Western Representative Stuart Stover-Jeff Piotrowski

Formation Test No. 1 Interval Tested from 4233 ft. to 4265 ft. Total Depth 4265 ft.
Packer Depth 4228 ft. Size 6 3/4 in. Packer Depth -- ft. Size -- in.
Packer Depth 4233 ft. Size 6 3/4 in. Packer Depth -- ft. Size -- in.
Depth of Selective Zone Set --

Top Recorder Depth (Inside) 4230 ft. Recorder Number 11018 Cap. 4425
Bottom Recorder Depth (Outside) 4265 ft. Recorder Number 11019 Cap. 4500
Below Straddle Recorder Depth -- ft. Recorder Number -- Cap. --
Drilling Contractor Graves Drilling Co. Drill Collar Length 90 I. D. 2.2 in.
Mud Type Dris. Lig. Viscosity 39 Weight Pipe Length -- I. D. -- in.
Weight 9.4 Water Loss 39 cc. Drill Pipe Length 4165 I. D. 3.8 in.
Chlorides 17,000 P.P.M. Test Tool Length 21 ft. Tool Size 3 1/2 in.
Jars: Make -- Serial Number -- Anchor Length 32 ft. Size 4 1/2 in.
Did Well Flow? -- 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 in.

Blow: Strong initial blow: Gas to surface on final flow in forty-five minutes.
Not measureable.

Recovered 75 ft. of gas cut drilling mud
Recovered 60 ft. of slightly gas and oil cut mud
Recovered ft. of
Recovered ft. of
Recovered ft. of

Remarks:

Time Set Packer(s) 7:22 ~~AM~~ P.M. Time Started Off Bottom 9:52 ~~AM~~ P.M. Maximum Temperature 108°
Initial Hydrostatic Pressure 2153 P.S.I.
Initial Flow Period 30 Minutes (B) 78 P.S.I. to (C) 78 P.S.I.
Initial Closed In Period 33 Minutes (D) 739 P.S.I.
Final Flow Period 60 Minutes (E) 93 P.S.I. to (F) 84 P.S.I.
Final Closed In Period 30 Minutes (G) 224 P.S.I.
Final Hydrostatic Pressure 2140 P.S.I. (H)

WESTERN TESTING CO., INC.

Pressure Data

Date 4/10/80 Recorder No. 11018 Capacity 4425 Test Ticket No. 5719
 Clock No. -- Elevation 1473 Kelly Bushing Location 4230 Ft. 108
 Well Temperature 108 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2153	P.S.I.	7:22P	M
B First Initial Flow Pressure	78	P.S.I.	30	Mins.
C First Final Flow Pressure	78	P.S.I.	30	Mins.
D Initial Closed-in Pressure	739	P.S.I.	60	Mins.
E Second Initial Flow Pressure	93	P.S.I.	30	Mins.
F Second Final Flow Pressure	84	P.S.I.		
G Final Closed-in Pressure	224	P.S.I.		
H Final Hydrostatic Mud	2140	P.S.I.		

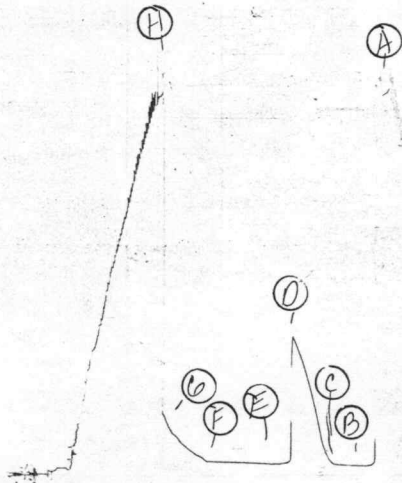
PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>11</u> Inc.		Breakdown: <u>12</u> Inc.		Breakdown: <u>10</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>78</u>	<u>0</u>	<u>78</u>	<u>0</u>	<u>93</u>	<u>0</u>	<u>84</u>
P 2 <u>5</u>	<u>76</u>	<u>3</u>	<u>80</u>	<u>5</u>	<u>89</u>	<u>3</u>	<u>182</u>
P 3 <u>10</u>	<u>73</u>	<u>6</u>	<u>100</u>	<u>10</u>	<u>84</u>	<u>6</u>	<u>191</u>
P 4 <u>15</u>	<u>73</u>	<u>9</u>	<u>113</u>	<u>15</u>	<u>84</u>	<u>9</u>	<u>207</u>
P 5 <u>20</u>	<u>76</u>	<u>12</u>	<u>198</u>	<u>20</u>	<u>85</u>	<u>12</u>	<u>216</u>
P 6 <u>25</u>	<u>78</u>	<u>15</u>	<u>409</u>	<u>25</u>	<u>85</u>	<u>15</u>	<u>220</u>
P 7 <u>30</u>	<u>78</u>	<u>18</u>	<u>502</u>	<u>30</u>	<u>86</u>	<u>18</u>	<u>224</u>
P 8		<u>21</u>	<u>573</u>	<u>35</u>	<u>87</u>	<u>21</u>	<u>224</u>
P 9		<u>24</u>	<u>628</u>	<u>40</u>	<u>88</u>	<u>24</u>	<u>224</u>
P10		<u>27</u>	<u>673</u>	<u>45</u>	<u>89</u>	<u>27</u>	<u>224</u>
P11		<u>30</u>	<u>708</u>	<u>50</u>	<u>87</u>	<u>30</u>	<u>224</u>
P12		<u>33</u>	<u>739</u>	<u>55</u>	<u>85</u>		
P13				<u>60</u>	<u>84</u>		
P14							
P15							
P16							
P17							
P18							
P19							
P20							

11018-5720

DS7 #2

TK4 # 5720
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Company Aylward Drilling Company Lease & Well No. Doherty #3
 Elevation 1473 Kelly Bushing Mississippi Effective Pay ----- Ft. Ticket No. 5720
 Date 4/11/80 Sec. 12 Twp. 32S Range 12W County Barber State Kansas
 Test Approved by Frank Hamlin Western Representative Stuart Stover-Jeff
 Formation Test No. 2 Interval Tested from 4265 ft. to 4285 ft. Total Depth 4285 ft.
 Packer Depth 4260 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Packer Depth 4265 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set -
 Top Recorder Depth (Inside) 4268 ft. Recorder Number 11018 Cap. 4425
 Bottom Recorder Depth (Outside) 4285 ft. Recorder Number 11019 Cap. 4500
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
 Drilling Contractor Graves Drilling Co. Drill Collar Length 90 I. D. 2.2 in.
 Mud Type Dris.Lig. Viscosity 63 Weight Pipe Length - I. D. - in.
 Weight 9.6 Water Loss 20 cc. Drill Pipe Length 4195 I. D. 3.8 in.
 Chlorides 20,000 P.P.M. Test Tool Length 21 ft. Tool Size 3 1/2 in.
 Jars: Make -- Serial Number - Anchor Length 20 ft. Size 4 1/2 in.
 Did Well Flow? - 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 in.

Blow: Initial blow strong: final blow strong with gas to surface after
flow period.

Recovered 85 ft. of heavy oil and gas cut mud
 Recovered 60 ft. of gas cut muddy oil
 Recovered ft. of
 Recovered ft. of
 Recovered ft. of

Remarks:

Time Set Packer(s) 7:10 A.M. Time Started Off Bottom 9:40 A.M. Maximum Temperature 106°
 Initial Hydrostatic Pressure 2160 P.S.I.
 Initial Flow Period 30 Minutes (B) 60 P.S.I. to (C) 67 P.S.I.
 Initial Closed In Period 33 Minutes (D) 792 P.S.I.
 Final Flow Period 60 Minutes (E) 76 P.S.I. to (F) 84 P.S.I.
 Final Closed In Period 33 Minutes (G) 351 P.S.I.
 Final Hydrostatic Pressure 2153 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 4/11/80 Recorder No. 11018 Capacity 4425 Test Ticket No. 5720
 Clock No. ----- Elevation 1473 Kelly Bushing Location 4268 Ft. 106 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2160	P.S.I.	7:10A	M
B First Initial Flow Pressure	60	P.S.I.	30	Mins. 30 Mins.
C First Final Flow Pressure	67	P.S.I.	30	Mins. 33 Mins.
D Initial Closed-in Pressure	792	P.S.I.	60	Mins. 60 Mins.
E Second Initial Flow Pressure	76	P.S.I.	30	Mins. 33 Mins.
F Second Final Flow Pressure	84	P.S.I.		
G Final Closed-in Pressure	351	P.S.I.		
H Final Hydrostatic Mud	2153	P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>11</u> Inc.		Breakdown: <u>12</u> Inc.		Breakdown: <u>11</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>60</u>	<u>0</u>	<u>67</u>	<u>0</u>	<u>76</u>	<u>0</u>	<u>84</u>
P 2 <u>5</u>	<u>56</u>	<u>3</u>	<u>84</u>	<u>5</u>	<u>71</u>	<u>3</u>	<u>100</u>
P 3 <u>10</u>	<u>56</u>	<u>6</u>	<u>120</u>	<u>10</u>	<u>69</u>	<u>6</u>	<u>111</u>
P 4 <u>15</u>	<u>58</u>	<u>9</u>	<u>196</u>	<u>15</u>	<u>71</u>	<u>9</u>	<u>127</u>
P 5 <u>20</u>	<u>58</u>	<u>12</u>	<u>300</u>	<u>20</u>	<u>72</u>	<u>12</u>	<u>144</u>
P 6 <u>25</u>	<u>60</u>	<u>15</u>	<u>396</u>	<u>25</u>	<u>74</u>	<u>15</u>	<u>160</u>
P 7 <u>30</u>	<u>67</u>	<u>18</u>	<u>478</u>	<u>30</u>	<u>76</u>	<u>18</u>	<u>180</u>
P 8		<u>21</u>	<u>558</u>	<u>35</u>	<u>77</u>	<u>21</u>	<u>209</u>
P 9		<u>24</u>	<u>631</u>	<u>40</u>	<u>78</u>	<u>24</u>	<u>233</u>
P10		<u>27</u>	<u>690</u>	<u>45</u>	<u>78</u>	<u>27</u>	<u>264</u>
P11		<u>30</u>	<u>748</u>	<u>50</u>	<u>80</u>	<u>30</u>	<u>307</u>
P12		<u>33</u>	<u>792</u>	<u>55</u>	<u>82</u>	<u>33</u>	<u>351</u>
P13				<u>60</u>	<u>84</u>		
P14							
P15							
P16							
P17							
P18							
P19							
P20							

11018 - 5719

QST #1

TKT # 5719
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