

Company A. Scott Ritchie Lease & Well No. Musgrave #1
 Elevation 2324 Kelly Bushing Lansing Formation --- Effective Pay --- Ft. Ticket No. 4081
 Date 4/23/80 Sec. 36 Twp. 11S Range 22W County Trego State Kansas
 Test Approved by Don D. Strong Western Representative Randy Lackey
 Formation Test No. 1 Interval Tested from 3660 ft. to 3718 ft. Total Depth 3718 ft.
 Packer Depth 3655 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Packer Depth 3660 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set -
 Top Recorder Depth (Inside) 3663 ft. Recorder Number 3473 Cap. 4000 PSI
 Bottom Recorder Depth (Outside) 3666 ft. Recorder Number 2608 Cap. 4150 PSI
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -
 Drilling Contractor Murfin Drlg. Rig #15 Drill Collar Length 456 I. D. 2.26 in.
 Mud Type starch Viscosity 43 Weight Pipe Length - I. D. - in.
 Weight 9.9 Water Loss 11.8 cc. Drill Pipe Length 3279 I. D. 3.8 in.
 Chlorides 46,000 P.P.M. Test Tool Length 15 ft. Tool Size 5 1/2 in.
 Jars: Make None Serial Number - Anchor Length 58 ft. Size 5 1/2 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 building to weak by end of Initial flow period.

Very weak building to weak by end of Final flow period.

Recovered 250 ft. of muddy water

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 7:12 ~~A.M.~~ P.M. Time Started Off Bottom 10:12 ~~A.M.~~ P.M. Maximum Temperature 112°
 Initial Hydrostatic Pressure 1904 (A) P.S.I.
 Initial Flow Period 30 Minutes (B) 49 P.S.I. to (C) 65 P.S.I.
 Initial Closed In Period 33 Minutes (D) 953 P.S.I.
 Final Flow Period 60 Minutes (E) 98 P.S.I. to (F) 141 P.S.I.
 Final Closed In Period 60 Minutes (G) 963 P.S.I.
 Final Hydrostatic Pressure 1884 (H) P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 4/23/80 Recorder No. 3473 Capacity 4000 Test Ticket No. 4081
 Clock No. ---- Elevation 2324 Kelly Bushing Location 3663 Ft.
 Well Temperature 112 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1904	P.S.I.	7:12P	M
B First Initial Flow Pressure	49	P.S.I.	30	Mins. 30
C First Final Flow Pressure	65	P.S.I.	30	Mins. 33
D Initial Closed-in Pressure	953	P.S.I.	60	Mins. 60
E Second Initial Flow Pressure	98	P.S.I.	60	Mins. 60
F Second Final Flow Pressure	141	P.S.I.		
G Final Closed-in Pressure	963	P.S.I.		
H Final Hydrostatic Mud	1884	P.S.I.		

PRESSURE BREAKDOWN

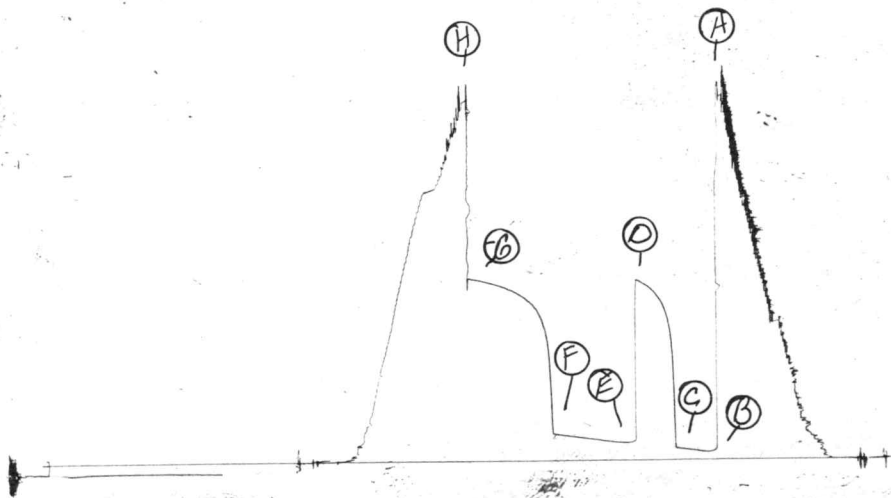
First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>11</u> Inc.		Breakdown: <u>12</u> Inc.		Breakdown: <u>20</u> Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</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>49</u>	<u>0</u>	<u>65</u>	<u>0</u>	<u>98</u>	<u>0</u>	<u>141</u>
P 2 <u>5</u>	<u>44</u>	<u>3</u>	<u>400</u>	<u>5</u>	<u>92</u>	<u>3</u>	<u>445</u>
P 3 <u>10</u>	<u>45</u>	<u>6</u>	<u>644</u>	<u>10</u>	<u>94</u>	<u>6</u>	<u>646</u>
P 4 <u>15</u>	<u>51</u>	<u>9</u>	<u>746</u>	<u>15</u>	<u>97</u>	<u>9</u>	<u>724</u>
P 5 <u>20</u>	<u>55</u>	<u>12</u>	<u>809</u>	<u>20</u>	<u>101</u>	<u>12</u>	<u>770</u>
P 6 <u>25</u>	<u>59</u>	<u>15</u>	<u>850</u>	<u>25</u>	<u>105</u>	<u>15</u>	<u>809</u>
P 7 <u>30</u>	<u>65</u>	<u>18</u>	<u>869</u>	<u>30</u>	<u>111</u>	<u>18</u>	<u>827</u>
P 8		<u>21</u>	<u>888</u>	<u>35</u>	<u>116</u>	<u>21</u>	<u>845</u>
P 9		<u>24</u>	<u>907</u>	<u>40</u>	<u>121</u>	<u>24</u>	<u>863</u>
P10		<u>27</u>	<u>926</u>	<u>45</u>	<u>125</u>	<u>27</u>	<u>880</u>
P11		<u>30</u>	<u>940</u>	<u>50</u>	<u>130</u>	<u>30</u>	<u>896</u>
P12		<u>33</u>	<u>953</u>	<u>55</u>	<u>136</u>	<u>33</u>	<u>905</u>
P13				<u>60</u>	<u>141</u>	<u>36</u>	<u>913</u>
P14						<u>39</u>	<u>921</u>
P15						<u>42</u>	<u>930</u>
P16						<u>45</u>	<u>937</u>
P17						<u>48</u>	<u>942</u>
P18						<u>51</u>	<u>947</u>
P19						<u>54</u>	<u>953</u>
P20						<u>57</u>	<u>958</u>
						<u>60</u>	<u>963</u>

DST #1

T-3473

T-4081

TRT # 4081
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Company A. Scott Ritchie Lease & Well No. Musgrave #1
Elevation 2324 Kelly Bushing Formation Kansas City Effective Pay - Ft. Ticket No. 4082
Date 4-24-80 Sec. 36 Twp. 11S Range 22W County Trego State KS
Test Approved by - Western Representative Randy Lackey

Formation Test No. 2 Interval Tested from 3736 ft. to 3860 ft. Total Depth - ft.

Packer Depth 3731 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Packer Depth 3736 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.

Depth of Selective Zone Set -

Top Recorder Depth (Inside) 3740 ft.

Recorder Number 3473 Cap. 4000

Bottom Recorder Depth (Outside) 3743 ft.

Recorder Number 2600 Cap. 4150

Below Straddle Recorder Depth - ft.

Recorder Number - Cap. -

Drilling Contractor Murfin Drilling

Drill Collar Length 398 I. D. 2.26 in.

Mud Type Starch Viscosity 43

Weight Pipe Length - I. D. - in.

Weight 9.9 Water Loss 16.2 cc.

Drill Pipe Length 3338 I. D. 3.8 in.

Chlorides 44000 P.P.M.

Test Tool Length 20 ft. Tool Size 5 1/2 OD in.

Jars: Make - Serial Number -

Anchor Length 124 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: Very weak blow, Dead after 18 minutes into initial flow period. Died throughout final flow period.

Recovered 10 ft. of Mud

Recovered - ft. of -

Recovered - ft. of -

Recovered - ft. of -

Recovered - ft. of -

Remarks: -

Time Set Packer(s) 7:30 ~~A.M.~~ P.M. Time Started Off Bottom 9:30 ~~A.M.~~ P.M. Maximum Temperature 118
Initial Hydrostatic Pressure - (A) 1971 P.S.I.
Initial Flow Period - Minutes 30 (B) 53 P.S.I. to (C) 33 P.S.I.
Initial Closed In Period - Minutes 30 (D) 539 P.S.I.
Final Flow Period - Minutes 30 (E) 51 P.S.I. to (F) 39 P.S.I.
Final Closed In Period - Minutes 30 (G) 439 P.S.I.
Final Hydrostatic Pressure - (H) 1953 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 4-24-80

Recorder No. 3473

Capacity 4000

Test Ticket No. 4082

Location 3740 Ft.

Clock No. _____ Elevation 2324 Kelly ushing

Well Temperature 118 °F

Point	Pressure	
A Initial Hydrostatic Mud	<u>1971</u>	P.S.I.
B First Initial Flow Pressure	<u>53</u>	P.S.I.
C First Final Flow Pressure	<u>33</u>	P.S.I.
D Initial Closed-in Pressure	<u>539</u>	P.S.I.
E Second Initial Flow Pressure	<u>51</u>	P.S.I.
F Second Final Flow Pressure	<u>39</u>	P.S.I.
G Final Closed-in Pressure	<u>439</u>	P.S.I.
H Final Hydrostatic Mud	<u>1953</u>	P.S.I.

Open Tool

First Flow Pressure

Initial Closed-in Pressure

Second Flow Pressure

Final Closed-in Pressure

Time
Given
7:30 P.

Time
Computed

M		
30	Mins.	30 Mins.
30	Mins.	30 Mins.
30	Mins.	30 Mins.
30	Mins.	30 Mins.

PRESSURE BREAKDOWN

First Flow Pressure

Breakdown: 6 Inc.
of 5 mins. and a
final inc. of 0 Min.

Initial Shut-In

Breakdown: 10 Inc.
of 3 mins. and a
final inc. of 0 Min.

Second Flow Pressure

Breakdown: 6 Inc.
of 5 mins. and a
final inc. of 0 Min.

Final Shut-In

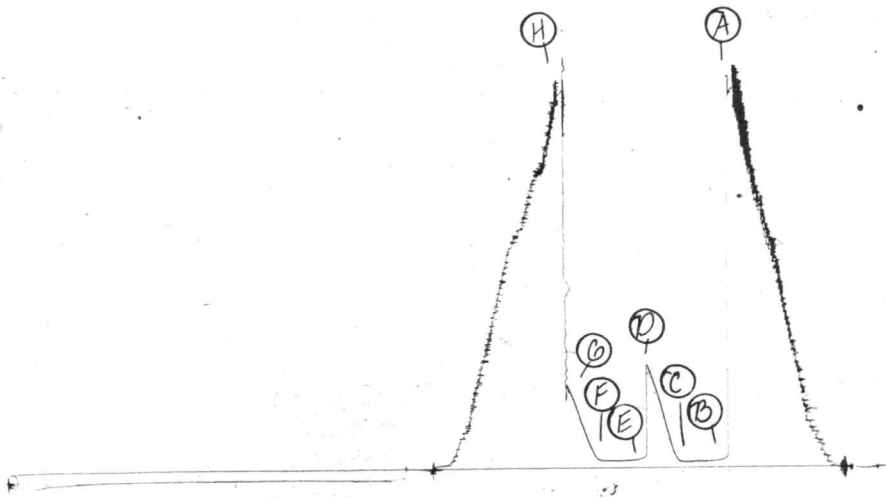
Breakdown: 10 Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>53</u>	<u>0</u>	<u>33</u>	<u>0</u>	<u>51</u>	<u>0</u>	<u>39</u>
P 2 <u>5</u>	<u>38</u>	<u>3</u>	<u>33</u>	<u>5</u>	<u>46</u>	<u>3</u>	<u>41</u>
P 3 <u>10</u>	<u>33</u>	<u>6</u>	<u>47</u>	<u>10</u>	<u>39</u>	<u>6</u>	<u>51</u>
P 4 <u>15</u>	<u>33</u>	<u>9</u>	<u>88</u>	<u>15</u>	<u>39</u>	<u>9</u>	<u>84</u>
P 5 <u>20</u>	<u>33</u>	<u>12</u>	<u>158</u>	<u>20</u>	<u>39</u>	<u>12</u>	<u>125</u>
P 6 <u>25</u>	<u>33</u>	<u>15</u>	<u>234</u>	<u>25</u>	<u>39</u>	<u>15</u>	<u>182</u>
P 7 <u>30</u>	<u>33</u>	<u>18</u>	<u>309</u>	<u>30</u>	<u>39</u>	<u>18</u>	<u>234</u>
P 8 _____		<u>21</u>	<u>385</u>		<u>39</u>	<u>21</u>	<u>295</u>
P 9 _____		<u>24</u>	<u>441</u>			<u>24</u>	<u>352</u>
P10 _____		<u>27</u>	<u>504</u>			<u>27</u>	<u>410</u>
P11 _____		<u>30</u>	<u>539</u>			<u>30</u>	<u>439</u>
P12 _____							
P13 _____							
P14 _____							
P15 _____							
P16 _____							
P17 _____							
P18 _____							
P19 _____							
P20 _____							

DSI #2

T4082

TK # 4082
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Company A. Scott Ritchie Lease & Well No. Musgrave #1
Elevation 2324 Kelly Bushing Marmaton Formation Effective Pay ----- Ft. Ticket No. 4083
Date 4/25/80 Sec. 36 Twp. 11S Range 22W County Trego State Kansas
Test Approved by Alan D. Strong Western Representative Randy Lackey

Formation Test No. 3 Interval Tested from 3933 ft. to 3970 ft. Total Depth 3970 ft.

Packer Depth 3933 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) 3935 ft. Recorder Number 3473 Cap. 4000 PSI

Bottom Recorder Depth (Outside) 3938 ft. Recorder Number 2608 Cap. 4150 PSI

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

Drilling Contractor Murfin Drilling Drill Collar Length 398 I. D. 2.26 in.

Mud Type starch Viscosity 9.4 Weight Pipe Length - I. D. - in.

Weight 10.1 Water Loss 14.2 cc. Drill Pipe Length 3525 I. D. 3.8 in.

Chlorides 43,000 P.P.M. Test Tool Length 15 ft. Tool Size 5 1/2 in.

Jars: Make None Serial Number - Anchor Length 37 ft. Size 5 1/2 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; dead sixteen minutes into Initial Flow Period. Dead throughout
Final Flow Period.

Recovered 10 ft. of mud

Recovered ft. of

Recovered ft. of

Recovered ft. of

Recovered ft. of

Remarks:

Time Set Packer(s) 3:12 ~~A.M.~~ P.M. Time Started Off Bottom 5:15 A.M. P.M. Maximum Temperature 118°

Initial Hydrostatic Pressure 2133 P.S.I.

Initial Flow Period 30 Minutes (B) 40 P.S.I. to (C) 31 P.S.I.

Initial Closed In Period 30 Minutes (D) 297 P.S.I.

Final Flow Period 30 Minutes (E) 48 P.S.I. to (F) 37 P.S.I.

Final Closed In Period 30 Minutes (G) 80 P.S.I.

Final Hydrostatic Pressure 2078 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 4/25/80 Recorder No. 3473 Capacity 4000 Test Ticket No. 4083
 Clock No. ----- Elevation 2324 Kelly Bushing Location 3935 Ft. 118 °F
 Well Temperature

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2133	P.S.I.	3:12P	M
B First Initial Flow Pressure	40	P.S.I.	30	30
C First Final Flow Pressure	31	P.S.I.	30	30
D Initial Closed-in Pressure	297	P.S.I.	30	30
E Second Initial Flow Pressure	48	P.S.I.	30	30
F Second Final Flow Pressure	37	P.S.I.	30	30
G Final Closed-in Pressure	80	P.S.I.		
H Final Hydrostatic Mud	2078	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>6</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>40</u>	<u>0</u>	<u>31</u>	<u>0</u>	<u>48</u>	<u>0</u>	<u>37</u>
P 2 <u>5</u>	<u>38</u>	<u>3</u>	<u>33</u>	<u>5</u>	<u>45</u>	<u>3</u>	<u>39</u>
P 3 <u>10</u>	<u>31</u>	<u>6</u>	<u>35</u>	<u>10</u>	<u>39</u>	<u>6</u>	<u>41</u>
P 4 <u>15</u>	<u>31</u>	<u>9</u>	<u>37</u>	<u>15</u>	<u>37</u>	<u>9</u>	<u>43</u>
P 5 <u>20</u>	<u>31</u>	<u>12</u>	<u>41</u>	<u>20</u>	<u>37</u>	<u>12</u>	<u>46</u>
P 6 <u>25</u>	<u>31</u>	<u>15</u>	<u>55</u>	<u>25</u>	<u>37</u>	<u>15</u>	<u>49</u>
P 7 <u>30</u>	<u>31</u>	<u>18</u>	<u>72</u>	<u>30</u>	<u>37</u>	<u>18</u>	<u>55</u>
P 8		<u>21</u>	<u>102</u>			<u>21</u>	<u>61</u>
P 9		<u>24</u>	<u>148</u>			<u>24</u>	<u>67</u>
P10		<u>27</u>	<u>218</u>			<u>27</u>	<u>73</u>
P11		<u>30</u>	<u>297</u>			<u>30</u>	<u>80</u>
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

AST#3

7-4083

REL# 4083
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