



INC.

P. O. Box 1599  
Wichita, Kansas 67201

Company Graves Drilling Co., Inc. Lease & Well No. Jones #1  
Elevation - Formation - Effective Pay - Ft. Ticket No. 21635  
Date 7-29-76 Sec. 12 Twp. 28 Range 5W County Kingman State KS  
Test Approved by Clyde R. Kuhn Western Representative C. Wayne Fredrick  
Formation Test No. #1 O.K. X Misrun - Interval Tested From 986' to 1016' Total Depth 1016'  
Size Main Hole 7 7/8 Rat Hole - Conv. - B.T. - Damaged - Yes - No - Conv. - B.T. - Damaged - Yes - No -  
Top Packer Depth 981 Ft. Size 6 1/2 Bottom Packer Depth 986 Ft. Size 6 1/2  
Straddle - Conv. - B.T. - Damaged - Yes - No - Packer Depth - Ft. Size -  
Tool Size 5 1/2 OD Tool Joint Size 4 1/2 XH Anchor Length 30 Ft. Size 5 1/2 OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.  
RECORDERS Depth 1008 Ft. Clock No. 6799 Depth 1010 Ft. Clock No. 9736  
Top Make Kuster Cap. 4150 No. 2606 Inside Bottom Make Kuster Cap. 4000 No. 3351 Inside  
Below Straddle: Depth - Rec. No. - Clock No. - Inside Depth - Ft. Rec. No. - Clock No. - Inside  
Time Set Packer 7:21P. M  
Tool Open I.F.P. From 7:25P M. to 7:40PM - Hr. 15 Min. From (B) 30 P.S.I. To (C) 27 P.S.I.  
Tool Closed I.C.I.P. From 7:40P M. to 8:10P M. - Hr. 30 Min (D) 107 P.S.I.  
Tool Open F.F.P. From 8:10 M. to 9:10PM 1 Hr. - Min. From (E) 36 P.S.I. To (F) 36 P.S.I.  
Tool Closed F.C.I.P. From 9:10PM to 9:40P M. - Hr. 30 Min. (G) 91 P.S.I.  
Initial Hydrostatic Pressure (A) 475 P.S.I. Final Hydrostatic Pressure (H) 461 P.S.I. Maximum Temp. 101

#### INFORMATION

BLOW Medium blow throughout test  
Did Well Flow Yes X No Recovery Total Ft. 15' drilling mud  
Reversed Out - Yes X No - Mud Type Starch Viscosity 47 Weight 9.1 Water Loss - cc. Chlorides 83,000 PPM  
EXTRA EQUIPMENT: Type Circ. Sub. Pin Safety Joint - Jars: Size - In. Make - Ser. No. -  
Dual Packer Yes Did Packers Hold? Yes Did Tool Plug? No Where? -  
DRILLING CONTRACTOR Graves Drilling Co., Inc. Length Drill Pipe? 844 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 XH  
Length Weight Pipe - Ft. I.D. Weight Pipe - In. Tool Joint Size - In. Length Drill Collars 124 Ft. I.D. Drill Collars - In.  
Tool Joint Size 4 1/2 XH In. Length D.S.T. Tool 48 Ft.

Remarks:

# WESTERN TESTING CO., INC.

## Pressure Data

Date 7-29-76 Test Ticket No. 21635  
 Recorder No. 2606 Capacity 4150 Location 1008 Ft.  
 Clock No. 6799 Elevation - Well Temperature 101 °F

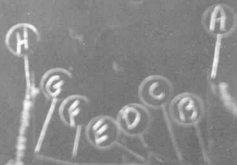
| Point                          | Pressure          |                            | Time Given      | Time Computed   |
|--------------------------------|-------------------|----------------------------|-----------------|-----------------|
| A Initial Hydrostatic Mud      | <u>475</u> P.S.I. | Open Tool                  | <u>7:21P</u> M  |                 |
| B First Initial Flow Pressure  | <u>30</u> P.S.I.  | First Flow Pressure        | <u>15</u> Mins. | <u>15</u> Mins. |
| C First Final Flow Pressure    | <u>27</u> P.S.I.  | Initial Closed-in Pressure | <u>30</u> Mins. | <u>30</u> Mins. |
| D Initial Closed-in Pressure   | <u>107</u> P.S.I. | Second Flow Pressure       | <u>60</u> Mins. | <u>60</u> Mins. |
| E Second Initial Flow Pressure | <u>36</u> P.S.I.  | Final Closed-in Pressure   | <u>30</u> Mins. | <u>30</u> Mins. |
| F Second Final Flow Pressure   | <u>36</u> P.S.I.  |                            |                 |                 |
| G Final Closed-in Pressure     | <u>91</u> P.S.I.  |                            |                 |                 |
| H Final Hydrostatic Mud        | <u>461</u> P.S.I. |                            |                 |                 |

## PRESSURE BREAKDOWN

| First Flow Pressure         |           | Initial Shut-In             |            | Second Flow Pressure        |           | Final Shut-In               |           |
|-----------------------------|-----------|-----------------------------|------------|-----------------------------|-----------|-----------------------------|-----------|
| Breakdown: <u>3</u> Inc.    |           | Breakdown: <u>10</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>30</u> | <u>0</u>                    | <u>27</u>  | <u>0</u>                    | <u>36</u> | <u>0</u>                    | <u>36</u> |
| P 2 <u>5</u>                | <u>27</u> | <u>3</u>                    | <u>33</u>  | <u>5</u>                    | <u>33</u> | <u>3</u>                    | <u>41</u> |
| P 3 <u>10</u>               | <u>26</u> | <u>6</u>                    | <u>42</u>  | <u>10</u>                   | <u>33</u> | <u>6</u>                    | <u>45</u> |
| P 4 <u>15</u>               | <u>27</u> | <u>9</u>                    | <u>50</u>  | <u>15</u>                   | <u>33</u> | <u>9</u>                    | <u>50</u> |
| P 5                         |           | <u>12</u>                   | <u>57</u>  | <u>20</u>                   | <u>34</u> | <u>12</u>                   | <u>55</u> |
| P 6                         |           | <u>15</u>                   | <u>67</u>  | <u>25</u>                   | <u>34</u> | <u>15</u>                   | <u>61</u> |
| P 7                         |           | <u>18</u>                   | <u>76</u>  | <u>30</u>                   | <u>34</u> | <u>18</u>                   | <u>68</u> |
| P 8                         |           | <u>21</u>                   | <u>84</u>  | <u>35</u>                   | <u>35</u> | <u>21</u>                   | <u>73</u> |
| P 9                         |           | <u>24</u>                   | <u>94</u>  | <u>40</u>                   | <u>35</u> | <u>24</u>                   | <u>79</u> |
| P10                         |           | <u>27</u>                   | <u>103</u> | <u>45</u>                   | <u>35</u> | <u>27</u>                   | <u>85</u> |
| P11                         |           | <u>30</u>                   | <u>107</u> | <u>50</u>                   | <u>36</u> | <u>30</u>                   | <u>91</u> |
| P12                         |           |                             |            | <u>55</u>                   | <u>36</u> |                             |           |
| P13                         |           |                             |            | <u>60</u>                   | <u>36</u> |                             |           |
| P14                         |           |                             |            |                             |           |                             |           |
| P15                         |           |                             |            |                             |           |                             |           |
| P16                         |           |                             |            |                             |           |                             |           |
| P17                         |           |                             |            |                             |           |                             |           |
| P18                         |           |                             |            |                             |           |                             |           |
| P19                         |           |                             |            |                             |           |                             |           |
| P20                         |           |                             |            |                             |           |                             |           |

TAT # 21635

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INC.

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Company Graves Drilling Co., Inc. Lease & Well No. Jones #1  
Elevation - Formation Indian Cave Effective Pay - Ft. Ticket No. 21636  
Date 7-30-76 Sec. 12 Twp. 28S Range 5W County Kingman State Kansas  
Test Approved by Fredrich W. Stump Western Representative Bill Hager  
Formation Test No. 2 O.K. ☒ Misrun ☐ Interval Tested From 1684' to 1714' Total Depth 1714'  
Size Main Hole 7 7/8 Rat Hole ☐ Conv. ☐ B.T. ☒ Damaged ☐ Yes ☒ No Conv. ☐ B.T. ☒ Damaged ☒ Yes ☐ No  
Top Packer Depth 1679 Ft. Size 6 3/4 Bottom Packer Depth 1684 Ft. Size 6 3/4  
Straddle ☐ Conv. ☐ B.T. ☐ Damaged ☐ Yes ☐ No Packer Depth - Ft. Size -  
Tool Size 5 1/2 OD Tool Joint Size 4 1/2 FH Anchor Length 30 Ft. Size 5 1/2 OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.  
RECORDERS Depth 1694 Ft. Clock No. 6799 Depth 1697 Ft. Clock No. 9726  
Top Make Kuster Cap. ☐ No. 2606 Inside ☐ Outside ☐ Bottom Make Kuster Cap. ☐ No. 3351 Inside ☐ Outside ☐  
Below Straddle: Depth - Rec. No. - Clock No. - Inside ☐ Outside ☐ Depth - Ft. Rec. No. - Clock No. - Inside ☐ Outside ☐  
Time Set Packer 8:25 P. M  
Tool Open I.F.P. From 8:27P M. to 8:42P M. ☐ Hr. 15 Min. From (B) 48 P.S.I. To (C) 63 P.S.I.  
Tool Closed I.C.I.P. From 8:42P M. to 9:12P M. ☐ Hr. 30 Min. (D) 514 P.S.I.  
Tool Open F.F.P. From 9:12P M. to 10:12P M. ☐ Hr. 60 Min. From (E) 79 P.S.I. To (F) 132 P.S.I.  
Tool Closed F.C.I.P. From 10:12 M. to 10:42P M. ☐ Hr. 30 Min. (G) 476 P.S.I.  
Initial Hydrostatic Pressure (A) 834 P.S.I. Final Hydrostatic Pressure (H) 828 P.S.I. Maximum Temp. 114

## INFORMATION

BLOW Strong blow throughout test. Gas to surface in 3 minutes in final flow period, gas to small to gauge.

Did Well Flow ☐ Yes ☒ No Recovery Total Ft. 270' of salt water.

Reversed Out ☐ Yes ☒ No Mud Type Omix Viscosity 33 Weight 9.1 Water Loss - cc. Chlorides 41,000 PPM  
EXTRA EQUIPMENT: Type Circ. Sub. Pin Safety Joint ☐ Jars: Size - In. Make - Ser. No. -  
Dual Packer Yes Did Packers Hold? Yes Did Tool Plug? No Where? -  
DRILLING CONTRACTOR Graves Drlg. Co., Inc. Length Drill Pipe? 1546 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 XH In.  
Length Weight Pipe - Ft. I.D. Weight Pipe - In. Tool Joint Size - In. Length Drill Collars 120 Ft. I.D. Drill Collars 2 1/4 In.  
Tool Joint Size 4 1/2 H-90 In. Length D.S.T. Tool 48 Ft.

Remarks:

# WESTERN TESTING CO., INC.

## Pressure Data

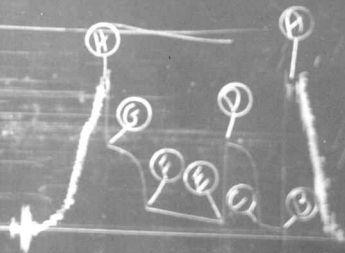
Date 7-30-76 Test Ticket No. 21636  
 Recorder No. 2606 Capacity 4150 Location 1694 Ft.  
 Clock No. 6799 Elevation - Well Temperature 114 °F

| Point                          | Pressure |        | Time Given | Time Computed |
|--------------------------------|----------|--------|------------|---------------|
| A Initial Hydrostatic Mud      | 834      | P.S.I. | 8:25P      | M             |
| B First Initial Flow Pressure  | 48       | P.S.I. | 15         | 15 Mins.      |
| C First Final Flow Pressure    | 63       | P.S.I. | 30         | 27 Mins.      |
| D Initial Closed-in Pressure   | 514      | P.S.I. | 60         | 60 Mins.      |
| E Second Initial Flow Pressure | 79       | P.S.I. | 30         | 33 Mins.      |
| F Second Final Flow Pressure   | 132      | P.S.I. |            |               |
| G Final Closed-in Pressure     | 476      | P.S.I. |            |               |
| H Final Hydrostatic Mud        | 828      | P.S.I. |            |               |

### PRESSURE BREAKDOWN

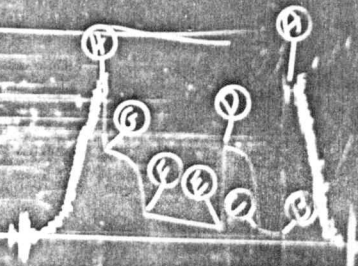
| First Flow Pressure         |           | Initial Shut-In             |            | Second Flow Pressure        |            | Final Shut-In               |            |
|-----------------------------|-----------|-----------------------------|------------|-----------------------------|------------|-----------------------------|------------|
| Breakdown: <u>3</u> Inc.    |           | Breakdown: <u>9</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>48</u> | <u>0</u>                    | <u>63</u>  | <u>0</u>                    | <u>79</u>  | <u>0</u>                    | <u>132</u> |
| P 2 <u>5</u>                | <u>48</u> | <u>3</u>                    | <u>314</u> | <u>5</u>                    | <u>77</u>  | <u>3</u>                    | <u>275</u> |
| P 3 <u>10</u>               | <u>54</u> | <u>6</u>                    | <u>404</u> | <u>10</u>                   | <u>81</u>  | <u>6</u>                    | <u>358</u> |
| P 4 <u>15</u>               | <u>63</u> | <u>9</u>                    | <u>448</u> | <u>15</u>                   | <u>86</u>  | <u>9</u>                    | <u>392</u> |
| P 5                         |           | <u>12</u>                   | <u>473</u> | <u>20</u>                   | <u>91</u>  | <u>12</u>                   | <u>416</u> |
| P 6                         |           | <u>15</u>                   | <u>489</u> | <u>25</u>                   | <u>95</u>  | <u>15</u>                   | <u>432</u> |
| P 7                         |           | <u>18</u>                   | <u>499</u> | <u>30</u>                   | <u>100</u> | <u>18</u>                   | <u>445</u> |
| P 8                         |           | <u>21</u>                   | <u>506</u> | <u>35</u>                   | <u>105</u> | <u>21</u>                   | <u>454</u> |
| P 9                         |           | <u>24</u>                   | <u>510</u> | <u>40</u>                   | <u>111</u> | <u>24</u>                   | <u>461</u> |
| P10                         |           | <u>27</u>                   | <u>514</u> | <u>45</u>                   | <u>116</u> | <u>27</u>                   | <u>468</u> |
| P11                         |           |                             |            | <u>50</u>                   | <u>123</u> | <u>30</u>                   | <u>473</u> |
| P12                         |           |                             |            | <u>55</u>                   | <u>129</u> | <u>33</u>                   | <u>476</u> |
| P13                         |           |                             |            | <u>60</u>                   | <u>132</u> |                             |            |
| P14                         |           |                             |            |                             |            |                             |            |
| P15                         |           |                             |            |                             |            |                             |            |
| P16                         |           |                             |            |                             |            |                             |            |
| P17                         |           |                             |            |                             |            |                             |            |
| P18                         |           |                             |            |                             |            |                             |            |
| P19                         |           |                             |            |                             |            |                             |            |
| P20                         |           |                             |            |                             |            |                             |            |

747<sup>th</sup> 21636

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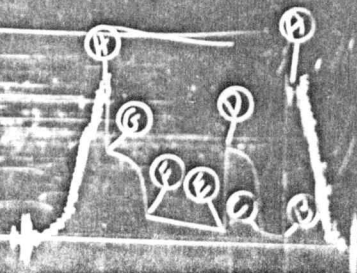
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