



Home Office: Wichita, Kansas 67201
P. O. Box 1599 (316) 838-0601

Company Graves Drilling Co., Inc. Lease & Well No. Krase #1
Elevation - Formation - Effective Pay - Ft. Ticket No. 21745
Date 11-24-76 Sec. 17 Twp. 28S Range 5W County Kingman State Kansas
Test Approved by Fredrick W. Stump Western Representative Lonnie J. Cline
Formation Test No. 1 O.K. X Misrun - Interval Tested From 3816' to 3846' Total Depth 3846'
Size Main Hole 7 7/8 Rat Hole - Conv. X B.T. - Damaged - Yes X No Conv. - B.T. X Damaged X Yes - No
Top Packer Depth 3811 Ft. Size 6 3/4 Bottom Packer Depth 3816 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 3838 Ft. Clock No. 6799 Depth 3841 Ft. Clock No. 8376
Top Make Kuster Cap. 4150 No. 2606 Inside Inside Bottom Make Kuster Cap. 4000 No. 3351 ~~Inside~~ Outside
Below Straddle: Depth - Rec. No. - Clock No. - Inside Inside Depth - Ft. Rec. No. - Clock No. - Inside Inside Outside
Time Set Packer 7:55P. M
Tool Open I.F.P. From 8:04P. M. to 8:19P. M. - Hr. 15 Min. From (B) 58 P.S.I. To (C) 54 P.S.I.
Tool Closed I.C.I.P. From 8:19P. M. to 9:04P. M. - Hr. 45 Min (D) 1126 P.S.I.
Tool Open F.F.P. From 9:04P. M. to 10:04P. M. - Hr. 60 Min. From (E) 69 P.S.I. To (F) 89 P.S.I.
Tool Closed F.C.I.P. From 10:04P. M. to 10:40P. M. - Hr. 45 Min. (G) 973 P.S.I.
Initial Hydrostatic Pressure (A) 2025 P.S.I. Final Hydrostatic Pressure (H) 2025 P.S.I. Maximum Temp. 119

INFORMATION

BLOW Strong blow throughout test. Gas to surface in 17 minutes.

Did Well Flow - Yes X No Recovery Total Ft. 190' of gas cut mud.

Reversed Out - Yes X No Mud Type Impermex Viscosity 58 Weight 9.6 Water Loss 16.8 cc. Chlorides 53,000 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 Drllg. Co., Inc. Length Drill Pipe? 3367 Ft. I.D. Drill Pipe 3.9 In. Tool Joint Size 4 1/2 FH In.

Length Weight Pipe 305 Ft. I.D. Weight Pipe 3.9 In. Tool Joint Size 4 1/2 XH Length Drill Collars 122 Ft. I.D. Drill Collars 2 1/4 In.

Tool Joint Size 4 1/2 H-90 Length D.S.T. Tool 52 Ft.

Remarks:

WESTERN TESTING CO., INC.

Pressure Data

Date 11-24-76 Test Ticket No. 21745
 Recorder No. 2606 Capacity 4150 Location 3838 Ft.
 Clock No. 6799 Elevation - Well Temperature 119 °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	2025 P.S.I.	7:55P. M	
B First Initial Flow Pressure	58 P.S.I.	15 Mins.	15 Mins.
C First Final Flow Pressure	54 P.S.I.	45 Mins.	45 Mins.
D Initial Closed-in Pressure	1126 P.S.I.	60 Mins.	55 Mins.
E Second Initial Flow Pressure	69 P.S.I.	45 Mins.	48 Mins.
F Second Final Flow Pressure	89 P.S.I.		
G Final Closed-in Pressure	973 P.S.I.		
H Final Hydrostatic Mud	2025 P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>3</u> Inc.		Breakdown: <u>15</u> Inc.		Breakdown: <u>12</u> Inc.		Breakdown: <u>16</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>58</u>	<u>0</u>	<u>54</u>	<u>0</u>	<u>69</u>	<u>0</u>	<u>89</u>
P 2 <u>5</u>	<u>48</u>	<u>3</u>	<u>258</u>	<u>5</u>	<u>54</u>	<u>3</u>	<u>191</u>
P 3 <u>10</u>	<u>52</u>	<u>6</u>	<u>410</u>	<u>10</u>	<u>56</u>	<u>6</u>	<u>293</u>
P 4 <u>15</u>	<u>54</u>	<u>9</u>	<u>560</u>	<u>15</u>	<u>58</u>	<u>9</u>	<u>385</u>
P 5 _____		<u>12</u>	<u>684</u>	<u>20</u>	<u>59</u>	<u>12</u>	<u>469</u>
P 6 _____		<u>15</u>	<u>780</u>	<u>25</u>	<u>62</u>	<u>15</u>	<u>546</u>
P 7 _____		<u>18</u>	<u>865</u>	<u>30</u>	<u>67</u>	<u>18</u>	<u>616</u>
P 8 _____		<u>21</u>	<u>929</u>	<u>35</u>	<u>71</u>	<u>21</u>	<u>680</u>
P 9 _____		<u>24</u>	<u>971</u>	<u>40</u>	<u>75</u>	<u>24</u>	<u>734</u>
P10 _____		<u>27</u>	<u>1010</u>	<u>45</u>	<u>79</u>	<u>27</u>	<u>777</u>
P11 _____		<u>30</u>	<u>1041</u>	<u>50</u>	<u>82</u>	<u>30</u>	<u>819</u>
P12 _____		<u>33</u>	<u>1064</u>	<u>55</u>	<u>87</u>	<u>33</u>	<u>854</u>
P13 _____		<u>36</u>	<u>1085</u>	<u>60</u>	<u>89</u>	<u>36</u>	<u>886</u>
P14 _____		<u>39</u>	<u>1101</u>			<u>39</u>	<u>915</u>
P15 _____		<u>42</u>	<u>1116</u>			<u>42</u>	<u>938</u>
P16 _____		<u>45</u>	<u>1126</u>			<u>45</u>	<u>958</u>
P17 _____						<u>48</u>	<u>973</u>
P18 _____							
P19 _____							
P20 _____							



GAS FLOW REPORT

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
PRE FLOW						
Gas to	surface	in 17 minutes.				

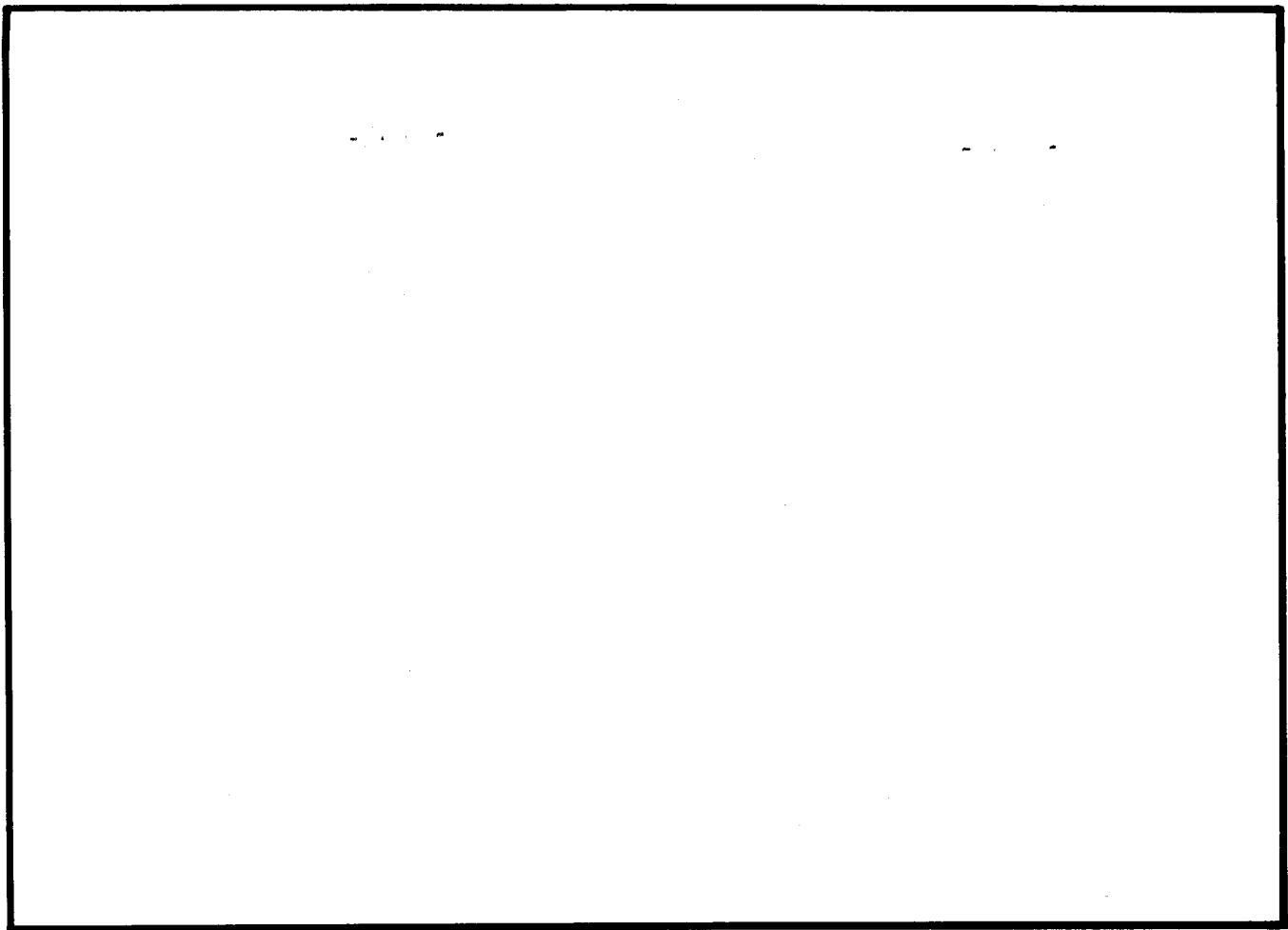
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Serial No. _____ - Date Bottle Filled 11-24-76 Date to be Invoiced 11-24-76

All charges subject to 1% per month, equal to 12% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Graves Drilling Co., Inc.

Authorized by Fredrick W. Stump



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	1978	2025
(B) First Initial Flow Pressure	52	58
(C) First Final Flow Pressure	62	54
(D) Initial Closed-in Pressure	1132	1126
(E) Second Initial Flow Pressure	62	69
(F) Second Final Flow Pressure	93	89
(G) Final Closed-in Pressure	966	973
(H) Final Hydrostatic Mud	1978	2025



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P. O. Box 1599 (316) 838-0601

Company Graves Drilling Co., Inc. Lease & Well No. Kruse #1
Elevation - Formation - Effective Pay - Ft. Ticker No. 21746
Date 11-25-76 Sec. 17 Twp. 28S Range 5W County Kingman State Kansas
Test Approved by Fredrick W. Stump Western Representative Lonnie Cline
Formation Test No. 2 O.K. ☒ Misrun ☐ Interval Tested From 3848' to 3875' Total Depth 3875'
Size Main Hole 7 7/8 Hole ☐ Conv. ☒ B.T. ☐ Damaged ☐ Yes ☒ No Conv. ☐ B.T. ☒ Damaged ☒ Yes ☐ No
Top Packer Depth 3843 Ft. Size 6 3/4 Bottom Packer Depth 3848 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 27 Ft. Size 5 1/2 OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.
RECORDERS Depth 3867 Ft. Clock No. 6799 Depth 3870 Ft. Clock No. 8376
Top Make Kuster Cap. 4150 No. 2606 Inside Inside Bottom Make Kuster Cap. 4000 No. 3351 Inside Inside
Below Straddle: Depth - Rec. No. - Clock No. - Inside Inside Depth - Ft. Rec. No. - Clock No. - Inside Inside
Time Set Packer 12:37P. M
Tool Open I.F.P. From 12:40P M. to 12:55P M. - Hr. 15 Min. From (B) 60 P.S.I. To (C) 48 P.S.I.
Tool Closed I.C.I.P. From 12:55P M. to 1:40P M. - Hr. 45 Min (D) 1101 P.S.I.
Tool Open F.F.P. From 1:40P M. to 2:40P M. - Hr. 60 Min. From (E) 93 P.S.I. To (F) 100 P.S.I.
Tool Closed F.C.I.P. From 2:40P M. to 3:25P M. - Hr. 45 Min. (G) 925 P.S.I.
Initial Hydrostatic Pressure (A) 2038 P.S.I. Final Hydrostatic Pressure (H) 2019 P.S.I. Maximum Temp. 120

INFORMATION

BLOW Strong Blow throughout test.

Did Well Flow ☒ Yes ☐ No Recovery Total Ft. 185' total recovery. 65' of thin oil and gas cut mud
65' of thin oil and gas cut watery mud, 60' of watery mud.

Reversed Out ☒ Yes ☐ No Mud Type Impermex Viscosity 58 Weight 9.6 Water Loss 16.8 cc. Chlorides 53,000 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 Drllg. Co., Inc. Length Drill Pipe? 3399 Ft. I.D. Drill Pipe 3.9 In. Tool Joint Size 4 1/2 FH In.
Length Weight Pipe 305 Ft. I.D. Weight Pipe 3 In. Tool Joint Size 4 1/2 XH In. Length Drill Collars 122 Ft. I.D. Drill Collars 2 1/4 In.
Tool Joint Size 4 1/2 In. Length D.S.T. Tool 49 Ft.

Remarks:

WESTERN TESTING CO., INC.

Pressure Data

Date 11-25-76 Test Ticket No. 21746

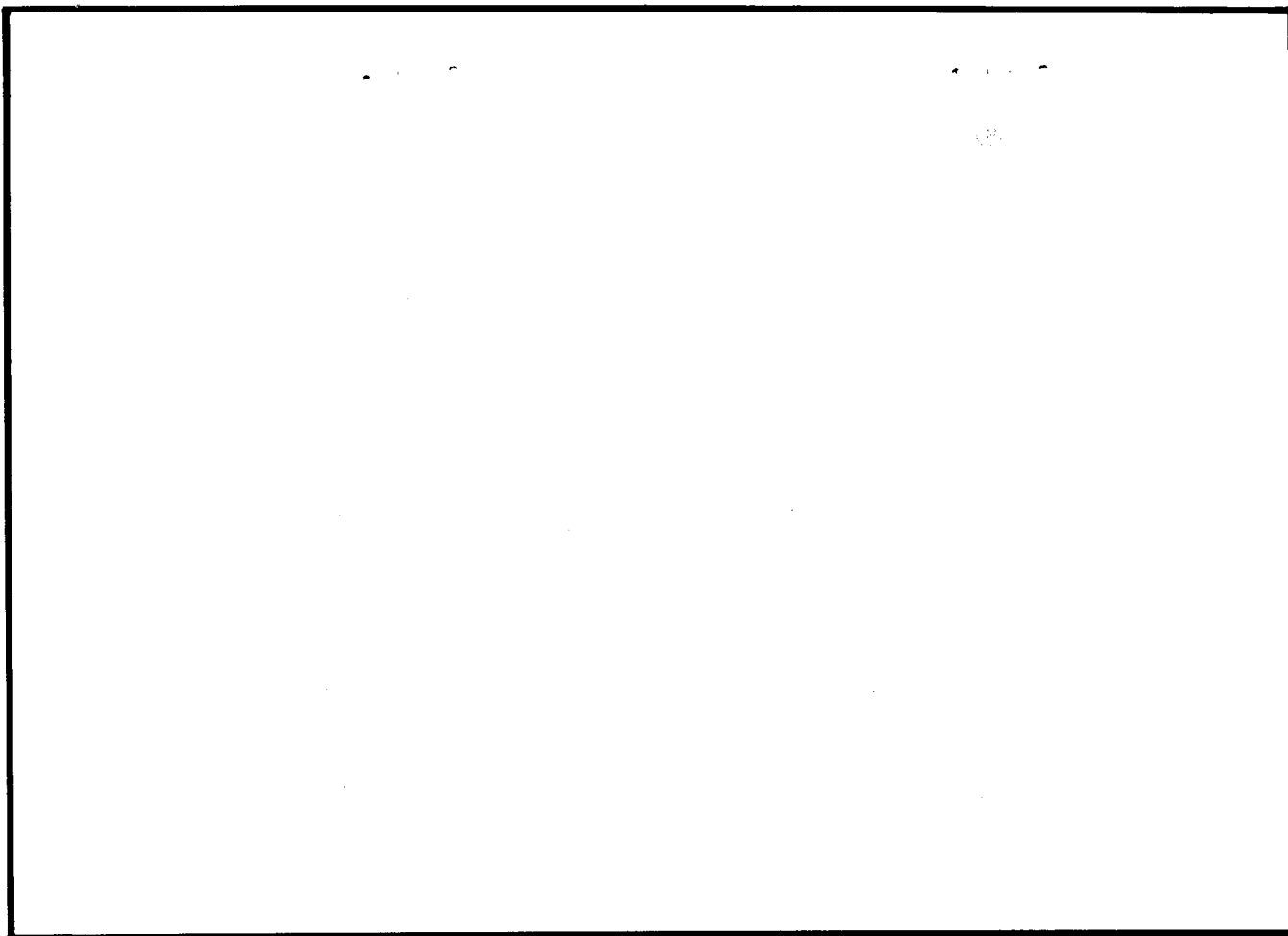
Recorder No. 2606 Capacity 4150 Location 3867 Ft.

Clock No. 6799 Elevation - Well Temperature 120 °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	2038 P.S.I.	12:37P.	M
B First Initial Flow Pressure	60 P.S.I.	15 Mins.	15 Mins.
C First Final Flow Pressure	48 P.S.I.	45 Mins.	48 Mins.
D Initial Closed-in Pressure	1101 P.S.I.	60 Mins.	60 Mins.
E Second Initial Flow Pressure	94 P.S.I.	45 Mins.	48 Mins.
F Second Final Flow Pressure	100 P.S.I.		
G Final Closed-in Pressure	925 P.S.I.		
H Final Hydrostatic Mud	2019 P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>3</u> Inc.		Breakdown: <u>16</u> Inc.		Breakdown: <u>12</u> Inc.		Breakdown: <u>16</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>48</u>	<u>0</u>	<u>94</u>	<u>0</u>	<u>100</u>
P 2 <u>5</u>	<u>46</u>	<u>3</u>	<u>100</u>	<u>5</u>	<u>77</u>	<u>3</u>	<u>135</u>
P 3 <u>10</u>	<u>47</u>	<u>6</u>	<u>171</u>	<u>10</u>	<u>79</u>	<u>6</u>	<u>183</u>
P 4 <u>15</u>	<u>48</u>	<u>9</u>	<u>262</u>	<u>15</u>	<u>83</u>	<u>9</u>	<u>233</u>
P 5		<u>12</u>	<u>370</u>	<u>20</u>	<u>87</u>	<u>12</u>	<u>283</u>
P 6		<u>15</u>	<u>494</u>	<u>25</u>	<u>88</u>	<u>15</u>	<u>337</u>
P 7		<u>18</u>	<u>606</u>	<u>30</u>	<u>88</u>	<u>18</u>	<u>398</u>
P 8		<u>21</u>	<u>717</u>	<u>35</u>	<u>89</u>	<u>21</u>	<u>462</u>
P 9		<u>24</u>	<u>821</u>	<u>40</u>	<u>92</u>	<u>24</u>	<u>521</u>
P10		<u>27</u>	<u>898</u>	<u>45</u>	<u>94</u>	<u>27</u>	<u>583</u>
P11		<u>30</u>	<u>954</u>	<u>50</u>	<u>96</u>	<u>30</u>	<u>643</u>
P12		<u>33</u>	<u>996</u>	<u>55</u>	<u>98</u>	<u>33</u>	<u>703</u>
P13		<u>36</u>	<u>1027</u>	<u>60</u>	<u>100</u>	<u>36</u>	<u>761</u>
P14		<u>39</u>	<u>1056</u>			<u>39</u>	<u>811</u>
P15		<u>42</u>	<u>1075</u>			<u>42</u>	<u>854</u>
P16		<u>45</u>	<u>1091</u>			<u>45</u>	<u>892</u>
P17		<u>48</u>	<u>1101</u>			<u>48</u>	<u>925</u>
P18							
P19							
P20							



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud	2031	2038
(B) First Initial Flow Pressure	62	60
(C) First Final Flow Pressure	62	48
(D) Initial Closed-in Pressure	1111	1101
(E) Second Initial Flow Pressure	93	94
(F) Second Final Flow Pressure	114	100
(G) Final Closed-in Pressure	935	925
(H) Final Hydrostatic Mud	2031	2019