



Home Office: Great Bend, Kansas
P. O. Box 793 (316) 793-7903

Company Graves Drilling Co., Inc. Lease & Well No. Strong #1
Elevation 1757 Kelly Bushings Formation Mississippian Effective Pay _____ Ft. Ticket No. 16836
Date 2-28-72 Sec. 3 Twp. 31S Range 10W County Barber State Kansas
Test Approved by Harold Steincamp. Western Representative Ralph Hammock

Formation Test No. 2 O.K. ☒ Misrun _____ Interval Tested From 4490' to 4518' Total Depth 4518'
Size Main Hole 7 7/8" Rat Hole _____ Conv. _____ B.T. ☒ Damaged _____ Yes ☒ No Conv. _____ B.T. ☒ Damaged _____ Yes ☒ No
Packer Depth 4487 Ft. Size 6 3/4" Packer Depth 4490 Ft. Size 6 3/4"
Straddle _____ Yes _____ No ☒ Conv. _____ B.T. _____ Damaged _____ Yes _____ No

Tool Size 5 1/2" O.D. Tool Jt. Size 4 1/2" F.H. Anchor Length 18 Ft. Size 5 1/2" O.D.
Packer Depth _____ Ft. Size _____

RECORDERS Depth 4510 Ft. Clock No. 6995 Depth 4513 Ft. Clock No. 6897
Top Make Kuster Cap 4200 No. 3354 Inside Outside Bottom Make Kuster Cap 4200 No. 1558 Inside Outside
Below Straddle: Depth _____ Clock No. _____ Inside _____ Outside _____
Top Make _____ Cap _____ No. _____ Inside _____ Outside _____

Time Set Packer 7:02 A.M.
Tool Open I.F.P. From 7:05 M. to 7:20A M. Hr. 15 Min. From (B) 44 P.S.I. To (C) 65 P.S.I.
Tool Closed I.C.I.P. From 7:20 M. to 7:50A M. Hr. 30 Min. (D) 1487 P.S.I.
Tool Open F.F.P. From 7:50 M. to 9:50A M. Hr. 2 Min. From (E) 84 P.S.I. To (F) 187 P.S.I.
Tool Closed F.C.I.P. From 9:50 M. to 10:35A M. Hr. 45 Min. (G) 1432 P.S.I.
Initial Hydrostatic Pressure (A) 2258 P.S.I. Final Hydrostatic Pressure (H) 2239 P.S.I.

SURFACE Size Choke 3/4 In. Max. Press. P.S.I. _____ Time _____ Description of Flow _____
INFORMATION _____ M. _____
_____ M. _____
_____ M. _____

BLOW Strong blow thru out test Bottom Choke Size 3/4 In.
Did Well Flow _____ Yes ☒ No _____ Recovery Total Ft. 3,180 feet gas in pipe
45 feet thin watery mud
300 feet muddy water

Reversed Out _____ Yes _____ No Mud Type Starch Viscosity 30 Weight 9.4 Water Loss 9.3 cc. Maximum Temp. 132 °F
Type Circ. Sub. Pin Safety Joint No Jars: Size _____ Make _____ Ser. No. _____
EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No Where? _____
Length Drill Pipe 4389 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe _____ ft. I.D. Weight Pipe _____ in. Length Drill Collars 91 ft.
I.D. Drill Collars 2 1/4 in. Length D.S.T. Tool 38 ft.

Remarks

WESTERN TESTING CO., INC.

Pressure Data

Date 2-28-72 Recorder No. 3354 Capacity 4200 Test Ticket No. 16836
 Clock No. 6995 Elevation 1757 Kelly Bushings Location 4510 Ft. 132 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2258	P.S.I.	7:02	A M
B First Initial Flow Pressure	44	P.S.I.	15	Mins.
C First Final Flow Pressure	65	P.S.I.	30	Mins.
D Initial Closed-in Pressure	1487	P.S.I.	120	Mins.
E Second Initial Flow Pressure	84	P.S.I.	45	Mins.
F Second Final Flow Pressure	187	P.S.I.		
G Final Closed-in Pressure	1432	P.S.I.		
H Final Hydrostatic Mud	2239	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>24</u> Inc.		Breakdown: <u>15</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 _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>44</u>	<u>0</u>	<u>65</u>	<u>0</u>	<u>84</u>	<u>0</u>	<u>184</u>
P 2 <u>5</u>	<u>50</u>	<u>3</u>	<u>210</u>	<u>5</u>	<u>86</u>	<u>3</u>	<u>377</u>
P 3 <u>10</u>	<u>59</u>	<u>6</u>	<u>476</u>	<u>10</u>	<u>92</u>	<u>6</u>	<u>594</u>
P 4 <u>15</u>	<u>65</u>	<u>9</u>	<u>808</u>	<u>15</u>	<u>96</u>	<u>9</u>	<u>791</u>
P 5 _____		<u>12</u>	<u>1023</u>	<u>20</u>	<u>101</u>	<u>12</u>	<u>917</u>
P 6 _____		<u>15</u>	<u>1179</u>	<u>25</u>	<u>106</u>	<u>15</u>	<u>1016</u>
P 7 _____		<u>18</u>	<u>1291</u>	<u>30</u>	<u>111</u>	<u>18</u>	<u>1099</u>
P 8 _____		<u>21</u>	<u>1371</u>	<u>35</u>	<u>116</u>	<u>21</u>	<u>1164</u>
P 9 _____		<u>24</u>	<u>1428</u>	<u>40</u>	<u>121</u>	<u>24</u>	<u>1221</u>
P10 _____		<u>27</u>	<u>1464</u>	<u>45</u>	<u>126</u>	<u>27</u>	<u>1265</u>
P11 _____		<u>30</u>	<u>1487</u>	<u>50</u>	<u>130</u>	<u>30</u>	<u>1303</u>
P12 _____				<u>55</u>	<u>135</u>	<u>33</u>	<u>1339</u>
P13 _____				<u>60</u>	<u>141</u>	<u>36</u>	<u>1367</u>
P14 _____				<u>65</u>	<u>146</u>	<u>39</u>	<u>1392</u>
P15 _____				<u>70</u>	<u>150</u>	<u>42</u>	<u>1413</u>
P16 _____				<u>75</u>	<u>155</u>	<u>45</u>	<u>1432</u>
P17 _____				<u>80</u>	<u>160</u>		
P18 _____				<u>85</u>	<u>164</u>		
P19 _____				<u>90</u>	<u>167</u>		
P20 _____				<u>95</u>	<u>170</u>		
				<u>100</u>	<u>173</u>		
				<u>105</u>	<u>177</u>		
				<u>110</u>	<u>181</u>		
				<u>115</u>	<u>184</u>		
				<u>120</u>	<u>187</u>		

COMPANY Graves Drilling Co., Inc.LEASE AND WELL NO. Strong #1SEC. 3 TWP. 31S RGE. 10W TEST NO. 2 DATE 2-

This is an actual photograph of recorder chart.

POINT	PRESSURE		PSI
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	2260	2258	PSI
(B) First Initial Flow Pressure	42	44	PSI
(C) First Final Flow Pressure	52	65	PSI
(D) Initial Closed-in Pressure	1487	1487	PSI
(E) Second Initial Flow Pressure	84	84	PSI
(F) Second Final Flow Pressure	189	187	PSI
(G) Final Closed-in Pressure	1424	1432	PSI
(H) Final Hydrostatic Mud	2235	2239	PSI



Home Office: Great Bend, Kansas
P. O. Box 793 (316) 793-7903

Company Graves Drilling Co., Inc. Lease & Well No. Strong #1
Elevation 1757 Kelly Bushings Formation Mississippian Effective Pay 9 Ft. Ticket No. 16835
Date 2-27-72 Sec 3 Twp. 31S Range 10W County Barber State Kansas
Test Approved by Harold Steincamp Western Representative Ralph Hammock
Formation Test No. 1 O.K. ☒ Misrun Interval Tested From 4452' to 4490' Total Depth 4490'
Size Main Hole 7 7/8" Rat Hole Conv. B.T. ☒ Damaged Yes ☒ No Conv. B.T. ☒ Damaged Yes ☒ No
Packer Depth 4447 Ft. Size 6 3/4" Packer Depth 4452 Ft. Size 6 3/4"
Straddle Yes ☒ No ☒ Conv. B.T. Damaged Yes No
Tool Size 5 1/2" O.D. Tool Jt. Size 4 1/2" F.H. Anchor Length 38 Ft. Size 5 1/2" O.D.
RECORDERS Depth 4482 Ft. Clock No. 6995 Depth 4485 Ft. Clock No. 6897
Top Make Kuster Cap 4200 No. 3354 Inside Outside Bottom Make Kuster Cap 4200 No. 1558 Inside Outside
Below Straddle: Depth Clock No. Inside Outside Depth Ft. Clock No. Inside Outside
Top Make Cap No. Outside Bottom Make Cap No. Outside
Time Set Packer 1:12 P.M.
Tool Open I.F.P. From 1:15 M. to 1:30P M. Hr. 15 Min. From (B) 48 P.S.I. To (C) 54 P.S.I.
Tool Closed I.C.I.P. From 1:30 M. to 2:00P M. Hr. 30 Min. (D) 491 P.S.I.
Tool Open F.F.P. From 2:00 M. to 4:00 P M. Hr. 2 Min. From (E) 61 P.S.I. To (F) 61 P.S.I.
Tool Closed F.C.I.P. From 4:00 M. to 4:45P M. Hr. 45 Min. (G) 843 P.S.I.
Initial Hydrostatic Pressure (A) 2255 P.S.I. Final Hydrostatic Pressure (H) 2221 P.S.I.
SURFACE Size Choke 3/4 In. Max. Press. P.S.I. Time Description of Flow
INFORMATION See attached sheet M.
See attached sheet M.
See attached sheet M.
BLOW Strong gas to surface in 58 min. Bottom Choke Size 3/4 In.
Did Well Flow ☒ Yes ☒ No Recovery Total Ft. 98 feet gas cut mud
Reversed Out Yes ☒ No Mud Type Starch Viscosity 47 Weight 9.5 Water Loss 8.4 cc. Maximum Temp. 124 °F
Type Circ. Sub. Pin Safety Joint No Jars: Size Make Se. o.
EXTRA EQUIPMENT: Dual Packers Yes Did Packer Hold? Yes Did Tool Plug? No here?
Length Drill Pipe 4351 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe ft. I.D. Weight Pipe in. Length Drill Collars 91 ft.
I.D. Drill Collars 2 1/4 in. Length D.S.T. Tool 58 ft.
Remarks

WESTERN TESTING CO., INC.

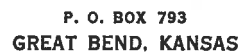
Pressure Data

Date 2-27-72 Recorder No. 3354 Capacity 4200 Test Ticket No. 16835
 Clock No. 6995 Elevation 1757 Kelly Bushings Location 4482 Ft. 124 °F
 Well Temperature 124 °F

Point	Pressure	Time Given	P.	M.	Time Computed
A Initial Hydrostatic Mud	2255 P.S.I.	1:12			
B First Initial Flow Pressure	48 P.S.I.	15			15
C First Final Flow Pressure	54 P.S.I.	30			30
D Initial Closed-in Pressure	491 P.S.I.	120			120
E Second Initial Flow Pressure	61 P.S.I.	45			45
F Second Final Flow Pressure	61 P.S.I.				
G Final Closed-in Pressure	843 P.S.I.				
H Final Hydrostatic Mud	2221 P.S.I.				

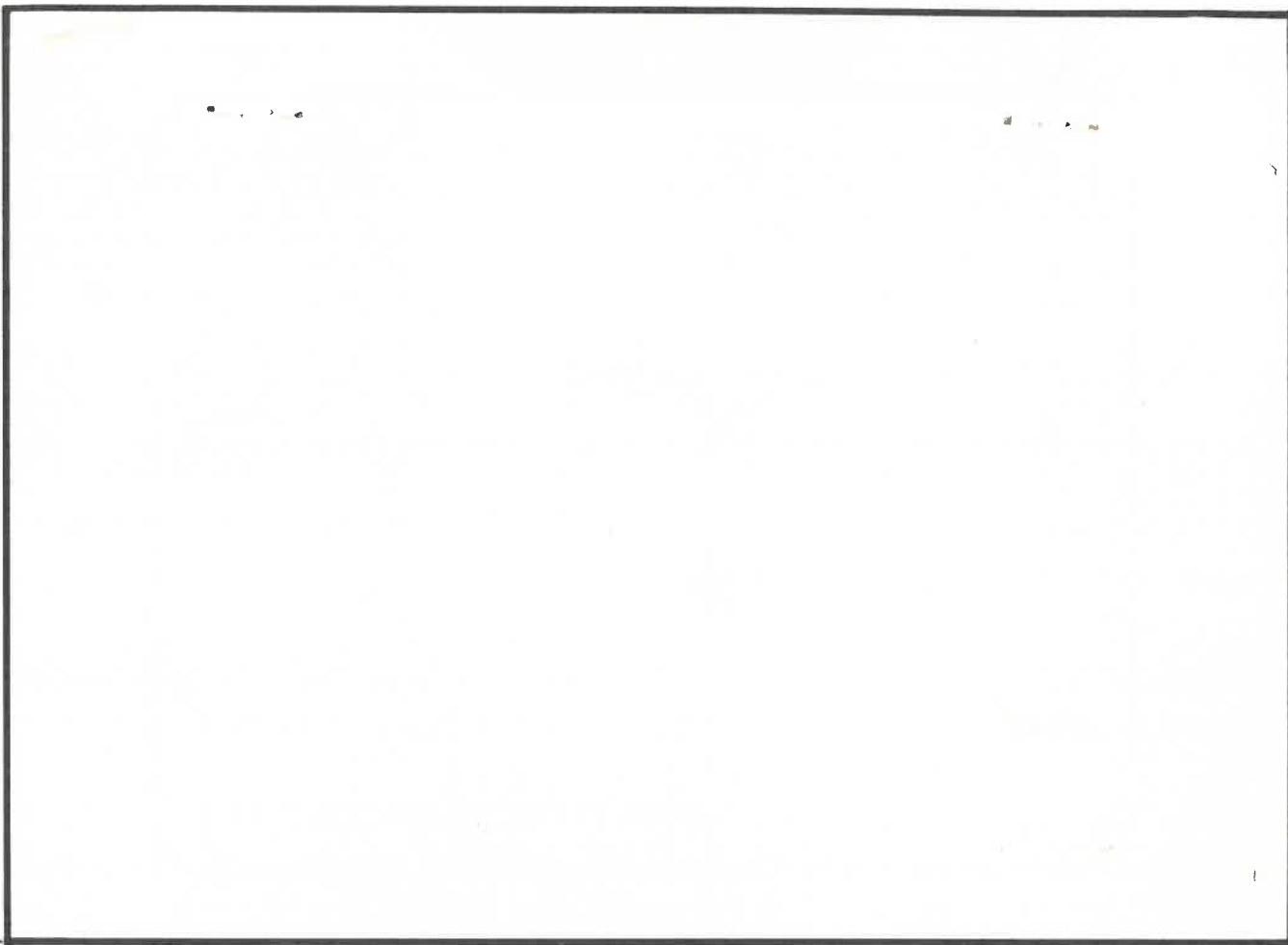
PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>3</u> Inc.		Breakdown: <u>10</u> Inc.		Breakdown: <u>24</u> Inc.		Breakdown: <u>15</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 _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ 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>54</u>	<u>0</u>	<u>61</u>	<u>0</u>	<u>61</u>
P 2 <u>5</u>	<u>49</u>	<u>3</u>	<u>61</u>	<u>5</u>	<u>61</u>	<u>3</u>	<u>156</u>
P 3 <u>10</u>	<u>50</u>	<u>6</u>	<u>65</u>	<u>10</u>	<u>61</u>	<u>6</u>	<u>242</u>
P 4 <u>15</u>	<u>54</u>	<u>9</u>	<u>67</u>	<u>15</u>	<u>61</u>	<u>9</u>	<u>316</u>
P 5 _____		<u>12</u>	<u>118</u>	<u>20</u>	<u>61</u>	<u>12</u>	<u>388</u>
P 6 _____		<u>15</u>	<u>179</u>	<u>25</u>	<u>61</u>	<u>15</u>	<u>455</u>
P 7 _____		<u>18</u>	<u>248</u>	<u>30</u>	<u>61</u>	<u>18</u>	<u>516</u>
P 8 _____		<u>21</u>	<u>312</u>	<u>35</u>	<u>61</u>	<u>21</u>	<u>567</u>
P 9 _____		<u>24</u>	<u>390</u>	<u>40</u>	<u>61</u>	<u>24</u>	<u>611</u>
P10 _____		<u>27</u>	<u>438</u>	<u>45</u>	<u>61</u>	<u>27</u>	<u>656</u>
P11 _____		<u>30</u>	<u>491</u>	<u>50</u>	<u>61</u>	<u>30</u>	<u>696</u>
P12 _____				<u>55</u>	<u>61</u>	<u>33</u>	<u>734</u>
P13 _____				<u>60</u>	<u>61</u>	<u>36</u>	<u>763</u>
P14 _____				<u>65</u>	<u>61</u>	<u>39</u>	<u>797</u>
P15 _____				<u>70</u>	<u>61</u>	<u>42</u>	<u>827</u>
P16 _____				<u>75</u>	<u>61</u>	<u>45</u>	<u>843</u>
P17 _____				<u>80</u>	<u>61</u>		
P18 _____				<u>85</u>	<u>61</u>		
P19 _____				<u>90</u>	<u>61</u>		
P20 _____				<u>95</u>	<u>61</u>		
				<u>100</u>	<u>61</u>		
				<u>105</u>	<u>61</u>		
				<u>110</u>	<u>61</u>		
				<u>115</u>	<u>61</u>		
				<u>120</u>	<u>61</u>		



TEST NO. 1 INTERVAL TESTED FROM 4452' TO 4490'

SIZE CHOKE _____ SURFACE _____ IN. $\frac{3}{4}$ BOTTOM _____ IN. $\frac{3}{4}$
REMARKS Gas to surface in 58 min.



This is an actual photograph of recorder chart.

POINT	PRESSURE		PSI
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	2250	2255	PSI
(B) First Initial Flow Pressure	52	48	PSI
(C) First Final Flow Pressure	63	54	PSI
(D) Initial Closed-in Pressure	485	491	PSI
(E) Second Initial Flow Pressure	63	61	PSI
(F) Second Final Flow Pressure	63	61	PSI
(G) Final Closed-in Pressure	833	843	PSI
(H) Final Hydrostatic Mud	2218	2221	PSI