



WESTERN TESTING CO., INC.
FORMATION TESTING

P. O. BOX 793 PHONE 793-7903
GREAT BEND, KANSAS

TICKET

25610

Formation Elgin Elevation 1928 ft. Bushing Eff. Pay Ft.

District Liberty

Date 9-2-76

Customer Order No.

COMPANY NAME Graves Drilling Co., Inc.

ADDRESS 910 Union Center Wichita Ks 67202

LEASE AND WELL NO. Mill #1

COUNTY Barber STATE Ks

Sec. 31 Twp. 31 Rge. 14 W

Mail Inv. To Same As Above

No. Copies Requested

Co. Name Address

No. Copies Requested

Formation Test No. 1 O.K. X Misrun Interval Tested From 3779' to 3816' Total Depth 3816'
Size Main Hole 7 7/8 Rat Hole Conv. B.T. X Damaged Yes X No Conv. B.T. X Damaged Yes X No
Top Packer Depth 3774 Ft. Size 6 3/4 Bottom Packer Depth 3779 Ft. Size 6 3/4
Straddle Conv. B.T. Damaged Yes No Packer Depth Ft. Size
Tool Size 5200 Tool Joint Size 4 1/2 FH Anchor Length 37 Ft. Size 5200 Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 3783 Ft. Clock No. 6897 Depth 3786 Ft. Clock No. 10163
Top Make Kuster Cap. 4250 No. 1051 Inside Bottom Make Kuster Cap. 4000 No. 3659 Inside
Below Straddle: Depth Rec. No. Clock No. Outside Depth Ft. Rec. No. Clock No. Outside

Time Set Packer 6:51 P M
Tool Open I.F.P. From 6:55 P to 7:10 P Hr. 15 Min. From (B) 290 P.S.I. To (C) 301 P.S.I.
Tool Closed I.C.I.P. From 7:10 P to 7:55 P Hr. 45 Min. (D) 1430 P.S.I. To (E) 1438 P.S.I.
Tool Open F.F.P. From 7:55 P to 8:55 P Hr. 1 Min. From (F) 740 P.S.I. To (G) 1302 P.S.I.
Tool Closed F.C.I.P. From 8:55 P to 9:40 P Hr. 45 Min. (G) 1419 P.S.I. To (H) 1436 P.S.I.
Initial Hydrostatic Pressure (A) 1824 P.S.I. Final Hydrostatic Pressure (H) 1771 P.S.I. Maximum Temp. 118

BLOW Strong blow throughout test.

Did Well Flow X Yes No Recovery Total Ft. 200' Gsy Very Sl. Oil Cut Mud - 2740' Water
(110,000 ppm Chlorides)

Reversed Out X Yes No Mud Type Chem Viscosity 42 Weight 9.1 Water Loss 39.2 cc. Chlorides 20,000 ppm
EXTRA EQUIPMENT: Type Circ. Sub. Pin Safety Joint Jars: Size In. Make Ser. No.

Dual Packers Yes Did Packers Hold? Yes Did Tool Plug? Where? 3638
DRILLING CONTRACTOR Graves Drilling #1 Length Drill Pipe 378 ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 FH
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 FH In. Length D.S.T. Tool 58 ft.

Remarks

RECEIVED
SEP 7 1976
RECEIVED

COMPANY TERMS

Western Testing Co., Inc., shall not be liable for damage of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, or its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 10% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By Clyde R. Kuhn
Signature of Customer or his
Authorized Representative Kuhn

Western Representative Wally Mack
Operator's Time 7:50 Hrs.

INVOICE SECTION

Open Hole Test	\$ <u>355</u>
Straddle Test	\$ <u> </u>
Jars	\$ <u> </u>
Selective Zone	\$ <u> </u>
Safety Joint	\$ <u> </u>
Misrun	\$ <u> </u>
Evaluation	\$ <u> </u>
Packer	\$ <u> </u>
Circ. Sub.	\$ <u>200</u>
Total	\$ <u>375</u>

WESTERN TESTING CO., INC.

Pressure Data

Date 9-2-76 Test Ticket No. 25610
 Recorder No. 1051 Capacity 4250 Location 3783 Ft.
 Clock No. 6897 Elevation 1928 K.B. Well Temperature 118 °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1850</u> P.S.I.	<u>6:51 P</u> M	
B First Initial Flow Pressure	<u>301</u> P.S.I.	<u>15</u> Mins.	<u>15</u> Mins.
C First Final Flow Pressure	<u>634</u> P.S.I.	<u>45</u> Mins.	<u>42</u> Mins.
D Initial Closed-in Pressure	<u>1438</u> P.S.I.	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>759</u> P.S.I.	<u>45</u> Mins.	<u>45</u> Mins.
F Second Final Flow Pressure	<u>1321</u> P.S.I.		
G Final Closed-in Pressure	<u>1436</u> P.S.I.		
H Final Hydrostatic Mud	<u>1803</u> P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure

Breakdown: 3 Inc.
 of 5 mins. and a
 final inc. of 0 Min.

Initial Shut-In

Breakdown: 14 Inc.
 of 3 mins. and a
 final inc. of 0 Min.

Second Flow Pressure

Breakdown: 12 Inc.
 of 5 mins. and a
 final inc. of 0 Min.

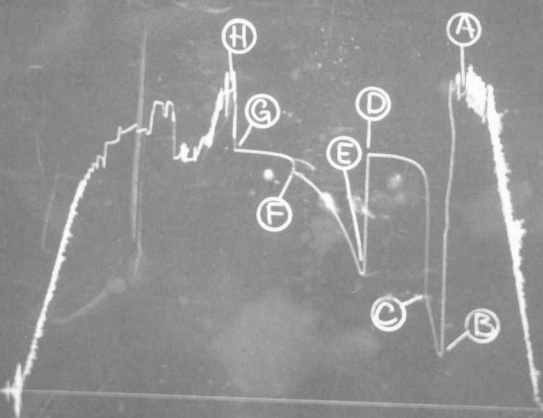
Final Shut-In

Breakdown: 15 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 0	<u>301</u>	0	<u>634</u>	0	<u>759</u>	0	<u>1321</u>
P 2 5	<u>366</u>	3	<u>1211</u>	5	<u>796</u>	3	<u>1398</u>
P 3 10	<u>513</u>	6	<u>1335</u>	10	<u>891</u>	6	<u>1409</u>
P 4 15	<u>634</u>	9	<u>1371</u>	15	<u>968</u>	9	<u>1416</u>
P 5 20		12	<u>1389</u>	20	<u>1038</u>	12	<u>1417</u>
P 6 25		15	<u>1405</u>	25	<u>1097</u>	15	<u>1422</u>
P 7 30		18	<u>1413</u>	30	<u>1148</u>	18	<u>1424</u>
P 8 35		21	<u>1419</u>	35	<u>1188</u>	21	<u>1426</u>
P 9 40		24	<u>1424</u>	40	<u>1228</u>	24	<u>1428</u>
P 10 45		27	<u>1430</u>	45	<u>1260</u>	27	<u>1430</u>
P 11 50		30	<u>1432</u>	50	<u>1286</u>	30	<u>1431</u>
P 12 55		33	<u>1436</u>	55	<u>1311</u>	33	<u>1432</u>
P 13 60		36	<u>1437</u>	60	<u>1321</u>	36	<u>1433</u>
P 14		39	<u>1438</u>	65		39	<u>1435</u>
P 15		42	<u>1438</u>	70		42	<u>1436</u>
P 16		45		75		45	
P 17		48		80		48	
P 18		51		85		51	
P 19		54		90		54	
P 20		57				57	
		60				60	

TKT # 25610

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INC.

P. O. Box 1599
Wichita, Kansas 67201

Company Graves Drilling Co., Inc. Lease & Well No. Mill #1
Elevation 1928 Kelly Bushing Formation Elgin Effective Pay - Ft. Ticket No. 25610
Date 9-2-76 Sec. 31 Twp. 31S Range 14W County Barber State Kansas
Test Approved by Clyde R. Kuhn Western Representative Guy Max Knipe
Formation Test No. 1 O.K. ☒ Misrun ☐ Interval Tested From 3779' to 3816' Total Depth 3816'
Size Main Hole 77/8 Rat Hole ☐ Conv. ☐ B.T. ☒ Damaged ☐ Yes ☒ No Conv. ☐ B.T. ☒ Damaged ☐ Yes ☒ No
Top Packer Depth 3774 Ft. Size 6 3/4 Bottom Packer Depth 3779 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 37 Ft. Size 5 1/2 OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.
RECORDERS Depth 3783 Ft. Clock No. 6897 Depth 3786 Ft. Clock No. 10163
Top Make Kuster Cap. 4250 No. 1051 Inside Outside Bottom Make Kuster Cap. 4000 No. 3659 Inside Outside
Below Straddle: Depth ☐ Rec. No. ☐ Clock No. ☐ Inside ☐ Outside Depth ☐ Ft. Rec. No. ☐ Clock No. ☐ Inside ☐ Outside
Time Set Packer 6:51 P M
Tool Open I.F.P. From 6:55 P M. to 7:10 P M. - Hr. 15 Min. From (B) 301 P.S.I. To (C) 634 P.S.I.
Tool Closed I.C.I.P. From 7:10 P M. to 7:55 P M. - Hr. 45 Min (D) 1438 P.S.I.
Tool Open F.F.P. From 7:55 P M. to 8:55 P M. 1 Hr. - Min. From (E) 759 P.S.I. To (F) 1321 P.S.I.
Tool Closed F.C.I.P. From 8:55 P M. to 9:40 P M. - Hr. 45 Min. (G) 1436 P.S.I.
Initial Hydrostatic Pressure (A) 1850 P.S.I. Final Hydrostatic Pressure (H) 1803 P.S.I. Maximum Temp. 118

INFORMATION

BLOW Strong blow throughout test.
Did Well Flow ☒ Yes ☐ No Recovery Total Ft. 200' gassey very slightly oil cut mud, 2740' water
(110,000 P.P.M. Chlorides)
Reversed Out ☒ Yes ☐ No Mud Type chem Viscosity 42 Weight 9.1 Water Loss 39.2 cc. Chlorides 20,000 P.P.M.
EXTRA EQUIPMENT: Type Circ. Sub. Pin Safety Joint ☐ Jars: Size ☐ In. Make ☐ Ser. No. ☐
Dual Packer Yes Did Packers Hold? Yes Did Tool Plug? ☐ Where? ☐
DRILLING CONTRACTOR Graves Drlg. Co., Inc. Length Drill Pipe? 3638 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 FH 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 H90 In. Length D.S.T. Tool 58 Ft.

Remarks:

WESTERN TESTING CO., INC.

Pressure Data

Date 9-2-76

Test Ticket No. 25610

Recorder No. 1051 Capacity 4250 Location 3783 Ft.

Clock No. 6897 Elevation 1928 Kelly Bushing Well Temperature 118 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1850</u> P.S.I.	Open Tool	<u>6:51</u> P M	
B First Initial Flow Pressure	<u>301</u> P.S.I.	First Flow Pressure	<u>15</u> Mins.	<u>15</u> Mins.
C First Final Flow Pressure	<u>634</u> P.S.I.	Initial Closed-in Pressure	<u>45</u> Mins.	<u>42</u> Mins.
D Initial Closed-in Pressure	<u>1438</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>759</u> P.S.I.	Final Closed-in Pressure	<u>45</u> Mins.	<u>45</u> Mins.
F Second Final Flow Pressure	<u>1321</u> P.S.I.			
G Final Closed-in Pressure	<u>1436</u> P.S.I.			
H Final Hydrostatic Mud	<u>1803</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>14</u> Inc.		Breakdown: <u>12</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 <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>301</u>	<u>0</u>	<u>634</u>	<u>0</u>	<u>759</u>	<u>0</u>	<u>1321</u>
P 2 <u>5</u>	<u>366</u>	<u>3</u>	<u>1211</u>	<u>5</u>	<u>796</u>	<u>3</u>	<u>1398</u>
P 3 <u>10</u>	<u>513</u>	<u>6</u>	<u>1335</u>	<u>10</u>	<u>891</u>	<u>6</u>	<u>1409</u>
P 4 <u>15</u>	<u>634</u>	<u>9</u>	<u>1371</u>	<u>15</u>	<u>968</u>	<u>9</u>	<u>1416</u>
P 5		<u>12</u>	<u>1389</u>	<u>20</u>	<u>1038</u>	<u>12</u>	<u>1417</u>
P 6		<u>15</u>	<u>1405</u>	<u>25</u>	<u>1097</u>	<u>15</u>	<u>1422</u>
P 7		<u>18</u>	<u>1415</u>	<u>30</u>	<u>1148</u>	<u>18</u>	<u>1424</u>
P 8		<u>21</u>	<u>1419</u>	<u>35</u>	<u>1188</u>	<u>21</u>	<u>1426</u>
P 9		<u>24</u>	<u>1424</u>	<u>40</u>	<u>1228</u>	<u>24</u>	<u>1428</u>
P10		<u>27</u>	<u>1430</u>	<u>45</u>	<u>1260</u>	<u>27</u>	<u>1430</u>
P11		<u>30</u>	<u>1432</u>	<u>50</u>	<u>1286</u>	<u>30</u>	<u>1431</u>
P12		<u>33</u>	<u>1436</u>	<u>55</u>	<u>1311</u>	<u>33</u>	<u>1432</u>
P13		<u>36</u>	<u>1437</u>	<u>60</u>	<u>1321</u>	<u>36</u>	<u>1433</u>
P14		<u>39</u>	<u>1438</u>			<u>39</u>	<u>1435</u>
P15		<u>42</u>	<u>1438</u>			<u>42</u>	<u>1436</u>
P16							
P17							
P18							
P19							
P20							



WESTERN TESTING CO., INC.
FORMATION TESTING

P. O. BOX 793 PHONE 793-7903
GREAT BEND, KANSAS

TICKET 25611

Formation K.C. Marmaton Elevation 1928 Ft. Pay 15.8 Eff. Pay 14.8 Ft.

District Pratt Date 9-6-76 Customer Order No.

COMPANY NAME Graves Drilling Co., Inc.

ADDRESS 910 Union Center Wichita Ks 67202

LEASE AND WELL NO. Mills #1 COUNTY Barber STATE Ks Sec. 31 Twp. 31 Rge. 14

Mail Inv. To Same As Above No. Copies Requested Reg

Co. Name Address

Mail Charts To Address No. Copies Requested Reg

Formation Test No. 2 O.K. ✓ Misrun Interval Tested From 4544' to 4569' Total Depth 4569'

Size Main Hole 7 7/8" Rat Hole Conv. B.T. ✓ Damaged Yes No Conv. B.T. Damaged Yes No

Top Packer Depth 4839 Ft. Size 6 3/4" Bottom Packer Depth 4544 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 25 Ft. Size 5 1/2 OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 4560 Ft. Clock No. 6897 Depth 4563 Ft. Clock No. 10163

Top Make Kuster Cap. 4250 No. 1051 Inside Bottom Make Kuster Cap. 4000 No. 3659 Outside

Below Straddle: Depth Rec. No. Clock No. Inside Outside

Time Set Packer 4:01 A M

Tool Open I.F.P. From 4:05 M. to 4:20 M. Hr. 15 Min. From (B) 58 P.S.I. To (C) 64 P.S.I.

Tool Closed I.C.I.P. From 4:20 M. to 5:05 M. Hr. 45 Min. (D) 1165 P.S.I. To 1167 P.S.I.

Tool Open F.F.P. From 5:05 M. to 7:10 M. 2 Hr. 5 Min. From (E) 6488 P.S.I. To (F) 64 P.S.I.

Tool Closed F.C.I.P. From 7:10 M. to 7:55 M. Hr. 45 Min. (G) 921 P.S.I. To 968 P.S.I.

Initial Hydrostatic Pressure (A) 2262 P.S.I. Final Hydrostatic Pressure (H) 2241 P.S.I. Maximum Temp. 128

INFORMATION

BLOW Strong Gas surf. in 65 min (15 min on PreFlow - 50 min on 2nd Flow)
(See A.H. Sheet)

Did Well Flow Yes ✓ No Recovery Total Ft. 60 Gas Cut Mud

Reversed Out Yes ✓ No Mud Type Chem Viscosity 46 Weight 9 Water Loss 48 cc. Chlorides 18,000 ppm

EXTRA EQUIPMENT: Type Circ. Sub. Pix Safety Joint Jars: Size In. Make Ser. No.

Dual Packers Yes Did Packers Hold? Yes Did Tool Plug? Where?

DRILLING CONTRACTOR Graves Drilling #1 Length Drill Pipe 4403 ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 FH In.

Length Weight Pipe 42 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 In. Length D.S.T. Tool 46 ft.

Remarks Tight Hole Reason For Short Shut-In
on Final Closed IN Pressure - Run out of Time
on Recorder

INVOICE SECTION

Open Hole Test	\$ 390.00
Straddle Test	\$
Jars	\$
Selective Zone	\$
Safety Joint	\$
Misrun	\$
Evaluation	\$
Packer	\$
Circ. Sub.	\$
Total	\$ 390.00

COMPANY TERMS

Western Testing Co., Inc., shall not be liable for damage of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, or its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 10% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By Fredrich W. Hump
Signature of Customer or his
Authorized Representative

Western Representative Willie Hemmings
Operator's Time Hrs.

WESTERN TESTING CO., INC.

Pressure Data

Date 7-6-76 Test Ticket No. 25611
 Recorder No. 1051 Capacity 4250 Location 4560 Ft.
 Lock No. 6897 Elevation 1928 K.B. Well Temperature 128 °F
 Point Pressure Time Given Time Computed
 Initial Hydrostatic Mud 1991 P.S.I. Open Tool 4:01 P M
 First Initial Flow Pressure 90 P.S.I. First Flow Pressure 15 Mins. 15 Mins.
 First Final Flow Pressure 77 P.S.I. Initial Closed-in Pressure 45 Mins. 45 Mins.
 Initial Closed-in Pressure 1167 P.S.I. Second Flow Pressure 125 Mins. 125 Mins.
 Second Initial Flow Pressure 88 P.S.I. Final Closed-in Pressure 45 Mins. 30 Mins.
 Second Final Flow Pressure 58 P.S.I.
 Final Closed-in Pressure 968 P.S.I.
 Final Hydrostatic Mud Not Available P.S.I.

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown:	Inc.	Breakdown:	Inc.	Breakdown:	Inc.	Breakdown:	Inc.
of	mins. and a	of	mins. and a	of	mins. and a	of	mins. and a
final inc. of	0 Min.	final inc. of	0 Min.	final inc. of	0 Min.	final inc. of	0 Min.
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
1 0	90	0	77	0	88	0	58
2 5	60 ~~flushed tool~~	3	243	5	67	3	230
3 10	80	6	299	10	67	6	396
4 15	77	9	545	15	67	9	504
5 20		12	655	20	66	12	598
6 25		15	751	25	66	15	685
7 30		18	825	30	66	18	755
8 35		21	889	35	65	21	810
9 40		24	945	40	65	24	859
10 45		27	991	45	65	27	889 ~~1002~~
11 50		30	1032	50	64	30	968
12 55		33	1068	55	64	33	
13 60		36	1093	60	63	36	
14		39	1116	65	63	39	
15		42	1140	70	62	42	
16		45	1152	75	62	45	
17		48	1167	80	61	48	
18		51		85	61	51	
19		54	115 - 58	90	60	54	
20		57	120 - 58	95	60	57	
		60	125 - 58	100	59	60	
				105	59		
				110	59		

Phone 316 262-5861
316 838-0601



P. O. Box 1599
WICHITA, KANSAS 67201

GAS FLOW REPORT

Nº 350

Date 9-6-76 Ticket 25611 Company Graves Drly Co.
Well Name and No. Mills #1 Dst No. 2 Interval Tested 4544-4569
County Barber State Ks Sec. 31 Twp. 31^s Rg. 14^w

Time Gauge Pre-Flow	Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	P.S.I. on Pilot Tester	P.S.I. on Side Static Tester	P.S.I. on U-Tube Tester	Description of Flow
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PRE FLOW

Gas Start 5:55 AM			Orifice	SECOND FLOW		
6:00	5 min	11" H ₂ O	1/4			5,600 C.F.P.D.
6:10	15	13 "	"			6,100 "
6:20	25	20 "	"			8,890 "
6:30	30	32 "	"			9,500 "
6:40	40	32 "	"			9,500 "
6:50	50	32 "	"			9,500
7:00	60	32 "	"			9,500
7:10	70	32 "	"			9,500

GAS BOTTLE

Serial No. 602 Date Bottle Filled Sept 6-76 Date to be Invoiced Oct 6-76

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of \$75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

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 Drly Co
Authorized by Fredrich W. Thompson

+K1#25611

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INC.

P. O. Box 1599
Wichita, Kansas 67201

Company Graves Drilling Co., Inc. Lease & Well No. Mills #1
Elevation 1928 Kelly Bushing Formation Ks. City-Marmaton Effective Pay - Ft. Ticker No. 25611
Date 9-6-76 Sec. 31 Twp. 31S Range 14W County Barber State Kansas
Test Approved by Fred W. Stump Western Representative Guy Max Knipe
Formation Test No. 2 O.K. ☒ Misrun ☐ Interval Tested From 4544' to 4569' Total Depth 4569'
Size Main Hole 7 7/8 Rat Hole ☐ Conv. ☐ B.T. ☒ Damaged ☐ Yes ☒ No Conv. ☐ B.T. ☒ Damaged ☐ Yes ☒ No
Top Packer Depth 4539 Ft. Size 6 3/4 Bottom Packer Depth 4544 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 25 Ft. Size 5 1/2 OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.
RECORDERS Depth 4560 Ft. Clock No. 6897 Depth 4563 Ft. Clock No. 10163
Top Make Kuster Cap. 4250 No. 1051 Inside Inside Bottom Make Kuster Cap. 4000 No. 3659 Inside Inside
Below Straddle: Depth ☐ Rec. No. ☐ Clock No. ☐ Inside ☐ Depth ☐ Ft. Rec. No. ☐ Clock No. ☐ Inside ☐
Time Set Packer 4:01 A M
Tool Open I.F.P. From 4:05 AM to 4:20 AM - Hr. 15 Min. From (B) 90 P.S.I. To (C) 77 P.S.I.
Tool Closed I.C.I.P. From 4:20 AM to 5:05 AM - Hr. 45 Min (D) 1167 P.S.I.
Tool Open F.F.P. From 5:05 AM to 7:10 AM 2 Hr. 05 Min. From (E) 88 P.S.I. To (F) 58 P.S.I.
Tool Closed F.C.I.P. From 7:10 AM to 7:55 AM - Hr. 45 Min. (G) 968 P.S.I.
Initial Hydrostatic Pressure (A) 1991 P.S.I. Final Hydrostatic Pressure (H) not available P.S.I. Maximum Temp. 128

INFORMATION

BLOW Strong blow throughout test. See attached sheet for gas measurements.

Did Well Flow - Yes ☒ No ☐ Recovery Total Ft. 60' gas cut mud.

Reversed Out - Yes ☒ No ☐ Mud Type chem Viscosity 46 Weight 9. Water Loss 48. cc. Chlorides 18,000 P.P.M.

EXTRA EQUIPMENT: Type Circ. Sub. Pin Safety Joint ☐ Jars: Size ☐ In. Make ☐ Ser. No. ☐

Dual Packer Yes Did Packers Hold? Yes Did Tool Plug? ☐ Where? ☐

DRILLING CONTRACTOR Graves Drlg. #1 Length Drill Pipe? 4403 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 FH 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 H90 In. Length D.S.T. Tool 46 Ft.

Remarks: TIGHT HOLE. Reason for short shut-in on final closed in pressure - run out of time on recorder.

WESTERN TESTING CO., INC.

Pressure Data

Date 9-6-76 Test Ticket No. 25611
 Recorder No. 1051 Capacity 4250 Location 4560 Ft.
 Clock No. 6897 Elevation 1928 Kelly Bushing Well Temperature 128 °F
 Point Pressure Time Given Time Computed
 A Initial Hydrostatic Mud 1991 P.S.I. Open Tool 4:01 A M
 B First Initial Flow Pressure 90 P.S.I. First Flow Pressure 15 Mins. 15 Mins
 C First Final Flow Pressure 77 P.S.I. Initial Closed-in Pressure 45 Mins. 45 Mins
 D Initial Closed-in Pressure 1167 P.S.I. Second Flow Pressure 125 Mins. 125 Mins
 E Second Initial Flow Pressure 88 P.S.I. Final Closed-in Pressure 45 Mins. 30 Mins
 F Second Final Flow Pressure 58 P.S.I.
 G Final Closed-in Pressure 968 P.S.I.
 H Final Hydrostatic Mud not available P.S.I.

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: <u>3</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Initial Shut-In Breakdown: <u>16</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.		Second Flow Pressure Breakdown: <u>25</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Final Shut-In Breakdown: <u>10</u> Inc. of <u>3</u> mins. and a 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>90</u>	<u>0</u>	<u>77</u>	<u>0</u>	<u>88</u>	<u>0</u>	<u>58</u>
P 2 <u>5</u>	<u>60</u>	<u>3</u>	<u>243</u>	<u>5</u>	<u>67</u>	<u>3</u>	<u>230</u>
P 3 <u>10</u>	<u>80</u>	<u>6</u>	<u>299</u>	<u>10</u>	<u>67</u>	<u>6</u>	<u>396</u>
P 4 <u>15</u>	<u>77</u>	<u>9</u>	<u>545</u>	<u>15</u>	<u>67</u>	<u>9</u>	<u>504</u>
P 5		<u>12</u>	<u>655</u>	<u>20</u>	<u>66</u>	<u>12</u>	<u>598</u>
P 6		<u>15</u>	<u>751</u>	<u>25</u>	<u>66</u>	<u>15</u>	<u>685</u>
P 7		<u>18</u>	<u>825</u>	<u>30</u>	<u>66</u>	<u>18</u>	<u>755</u>
P 8		<u>21</u>	<u>889</u>	<u>35</u>	<u>65</u>	<u>21</u>	<u>810</u>
P 9		<u>24</u>	<u>945</u>	<u>40</u>	<u>65</u>	<u>24</u>	<u>859</u>
P10		<u>27</u>	<u>991</u>	<u>45</u>	<u>65</u>	<u>27</u>	<u>889</u>
P11		<u>30</u>	<u>1032</u>	<u>50</u>	<u>64</u>	<u>30</u>	<u>968</u>
P12		<u>33</u>	<u>1068</u>	<u>55</u>	<u>64</u>		
P13		<u>36</u>	<u>1093</u>	<u>60</u>	<u>63</u>		
P14		<u>39</u>	<u>1116</u>	<u>65</u>	<u>63</u>		
P15		<u>42</u>	<u>1140</u>	<u>70</u>	<u>62</u>		
P16		<u>45</u>	<u>1152</u>	<u>75</u>	<u>62</u>		
P17		<u>48</u>	<u>1167</u>	<u>80</u>	<u>61</u>		
P18				<u>85</u>	<u>61</u>		
P19				<u>90</u>	<u>60</u>		
P20				<u>95</u>	<u>60</u>		
				<u>100</u>	<u>59</u>		
				<u>105</u>	<u>59</u>		
				<u>110</u>	<u>59</u>		
				<u>115</u>	<u>58</u>		
				<u>120</u>	<u>58</u>		
				<u>125</u>	<u>58</u>		



INC.

P. O. Box 1599

Wichita, Kansas 67201

GAS FLOW REPORT

Date 9-6-76 Ticket 25611 Company Graves Drilling Co., Inc.
Well Name and No. Mills #1 Dst No. 1 Interval Tested 4544' - 4569'
County Barber State Kansas Sec. 31 Twp. 31S Rg. 14W

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						

SECOND FLOW						
Gas to surface 5:55 AM						
6:00 AM	5 min.	11 inches	of water	1/4" choke		5,600 C.F.P.D.
6:10 AM	15 min.	13 inches	of water	1/4" choke		6,100 C.F.P.D.
6:20 AM	25 min.	20 inches	of water	1/4" choke		8,890 C.F.P.D.
6:30 AM	30 min.	32 inches	of water	1/4" choke		9,500 C.F.P.D.
6:40 AM	40 min.	32 inches	of water	1/4" choke		9,500 C.F.P.D.
6:50 AM	50 min.	32 inches	of water	1/4" choke		9,500 C.F.P.D.
7:00 AM	60 min.	32 inches	of water	1/4" choke		9,500 C.F.P.D.
7:10 AM	70 min.	32 inches	of water	1/4" choke		9,500 C.F.P.D.

GAS BOTTLE

Serial No. 602 Date Bottle Filled 9-6-76 Date to be Invoiced 9-6-76

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of \$75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

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 Fred W. Stump



P. O. BOX 793 PHONE 793-7903

GREAT BEND, KANSAS

WESTERN TESTING CO., INC. FORMATION TESTING

TICKET

21643

Formation Vilo Elevation _____ Eff. Pay _____ Ft.

District Barber PRATT Date Sept. 7, 1976 Customer Order No. _____

COMPANY NAME Graves Etc.

ADDRESS 910 Union Center Bldg. Wichita Ks.

LEASE AND WELL NO. #1 Mill COUNTY Barber STATE Kansas Sec. 31 Twp. 31 Rge. 14 W

Mail Inv. To same Co. Name _____ Address _____ No. Copies Requested usual

Mail Charts To same Address _____ No. Copies Requested usual

Formation Test No. 3 O.K. X Misrun _____ Interval Tested From 4753 to 4825 Total Depth 4825

Size Main Hole 7 3/8 Rat Hole _____ Conv. X B.T. _____ Damaged _____ Yes X No Conv. _____ B.T. X Damaged X Yes _____ No

Top Packer Depth 4748 Ft. Size 6 3/4 Bottom Packer Depth 4753 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 72 Ft. Size 3 1/2 OD Surface Choke Size 3 1/2 In. Bottom Choke Size 3 1/2 In.

RECORDERS Depth 4778 Ft. Clock No. 6799 Depth 4781 Ft. Clock No. 8474

Top Make Kuster Cap. 4150 No. 2606 Inside _____ Bottom Make Kuster Cap. 4000 No. 3351 Inside _____

Below Straddle: Depth _____ Rec. No. _____ Clock No. _____ Outside _____

Time Set Packer 7:38 P M

Tool Open I.F.P. From 7:40 M. to 7:55 M. Hr. 14 Min. From (B) 41 60 P.S.I. To (C) 41 42 P.S.I.

Tool Closed I.C.I.P. From 7:55 M. to 8:40 M. Hr. 45 Min. (D) 83 81 P.S.I.

Tool Open F.F.P. From 8:40 M. to 9:10 M. Hr. 30 Min. From (E) 41 81 P.S.I. To (F) 52 58 P.S.I.

Tool Closed F.C.I.P. From 9:10 M. to 9:55 M. Hr. 45 Min. (G) 83 91 P.S.I.

Initial Hydrostatic Pressure (A) 2428 P.S.I. Final Hydrostatic Pressure (H) 2428 P.S.I. Maximum Temp. 131

INFORMATION

BLOW weak blow to setting died in 15 min. Flued tool

Did Well Flow Yes X No _____ Recovery Total Ft. 30 ft. Only mud

Reversed Out Yes X No _____ Mud Type Drillpack Viscosity 54 Weight 9.1 Water Loss 12.4 cc. Chlorides 16,000

EXTRA EQUIPMENT: Type Circ. Sub. pin Safety Joint _____ Jars: Size 4 1/2 OD In. Make WTC Ser. No. 403

Dual Packers yes Did Packers Hold? yes Did Tool Plug? NO Where? _____

DRILLING CONTRACTOR Co Tools Length Drill Pipe 4614 ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 FH In.

Length Weight Pipe _____ ft. I.D. Weight Pipe _____ In. Tool Joint Size _____ In. Length Drill Collars 122 ft. I.D. Drill Collars 2 1/2 ID In.

Tool Joint Size 4 1/2 FH In. Length D.S.T. Tool 99 ft.

Remarks _____

RECEIVED
SEP 9 1976
RECEIVED

INVOICE SECTION

Open Hole Test	\$ <u>390.00</u>
Straddle Test	\$ _____
Jars	\$ <u>165.00</u>
Selective Zone	\$ _____
Safety Joint	\$ _____
Misrun	\$ _____
Evaluation	\$ _____
Packer	\$ _____
Circ. Sub.	\$ _____
Total	\$ <u>555.00</u>

COMPANY TERMS

Western Testing Co., Inc., shall not be liable for damage of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, or its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 10% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By Fred Stump Western Representative Lonnie Cline

Signature of Customer or his
Authorized Representative

Operator's Time Thank You Hrs.

WESTERN TESTING CO., INC.

Pressure Data

Date 9-7-76 Test Ticket No. 21643
 Recorder No. 2606 Capacity 4150 Location 4778 Ft.
 Clock No. 6799 Elevation _____ Well Temperature 131 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2450</u>	P.S.I.	<u>7:38 P</u>	<u>M</u>
B First Initial Flow Pressure	<u>60</u>	P.S.I.	<u>14</u>	Mins. <u>15</u> Mins.
C First Final Flow Pressure	<u>42</u>	P.S.I.	<u>45</u>	Mins. <u>45</u> Mins.
D Initial Closed-in Pressure	<u>81</u>	P.S.I.	<u>30</u>	Mins. <u>30</u> Mins.
E Second Initial Flow Pressure	<u>81</u>	P.S.I.	<u>45</u>	Mins. <u>45</u> Mins.
F Second Final Flow Pressure	<u>58</u>	P.S.I.		
G Final Closed-in Pressure	<u>91</u>	P.S.I.		
H Final Hydrostatic Mud	<u>2355</u>	P.S.I.		

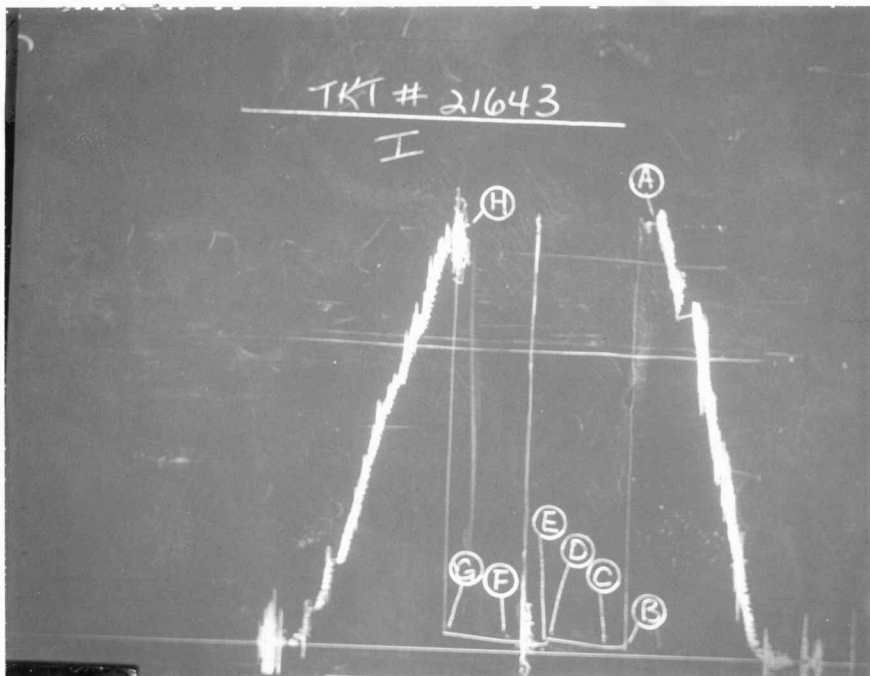
PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown:	Inc.	Breakdown:	Inc.	Breakdown:	Inc.	Breakdown:	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>42</u>	<u>0</u>	<u>81</u>	<u>0</u>	<u>58</u>
P 2 <u>5</u>	<u>44</u>	<u>3</u>	<u>43</u>	<u>5</u>	<u>56</u>	<u>3</u>	<u>58</u>
P 3 <u>10</u>	<u>42</u>	<u>6</u>	<u>48</u>	<u>10</u>	<u>46</u>	<u>6</u>	<u>60</u>
P 4 <u>15</u>	<u>42</u>	<u>9</u>	<u>50</u>	<u>15</u>	<u>47</u>	<u>9</u>	<u>62</u>
P 5 <u>20</u>	<u>45</u>	<u>12</u>	<u>52</u>	<u>20</u>	<u>48</u>	<u>12</u>	<u>64</u>
P 6 <u>25</u>		<u>15</u>	<u>54</u>	<u>25</u>	<u>56</u>	<u>15</u>	<u>67</u>
P 7 <u>30</u>		<u>18</u>	<u>58</u>	<u>30</u>	<u>58</u>	<u>18</u>	<u>69</u>
P 8 <u>35</u>		<u>21</u>	<u>60</u>	<u>35</u>	<u>58</u>	<u>21</u>	<u>71</u>
P 9 <u>40</u>		<u>24</u>	<u>64</u>	<u>40</u>		<u>24</u>	<u>75</u>
P10 <u>45</u>		<u>27</u>	<u>67</u>	<u>45</u>		<u>27</u>	<u>76</u>
P11 <u>50</u>		<u>30</u>	<u>69</u>	<u>50</u>		<u>30</u>	<u>77</u>
P12 <u>55</u>		<u>33</u>	<u>71</u>	<u>55</u>		<u>33</u>	<u>81</u>
P13 <u>60</u>		<u>36</u>	<u>73</u>	<u>60</u>		<u>36</u>	<u>83</u>
P14		<u>39</u>	<u>75</u>	<u>65</u>		<u>39</u>	<u>85</u>
P15		<u>42</u>	<u>79</u>	<u>70</u>		<u>42</u>	<u>87</u>
P16		<u>45</u>	<u>81</u>	<u>75</u>		<u>45</u>	<u>89</u>
P17		<u>48</u>		<u>80</u>		<u>48</u>	<u>91</u>
P18		<u>51</u>		<u>85</u>		<u>51</u>	
P19		<u>54</u>		<u>90</u>		<u>54</u>	
P20		<u>57</u>				<u>57</u>	
		<u>60</u>				<u>60</u>	

TKT # 21643

I





INC.

P. O. Box 1599
Wichita, Kansas 67201

Company Graves Drilling Co., Inc. Lease & Well No. Mills #1
Elevation - Formation Viola Effective Pay - Ft. Ticket No. 21643
Date 9-7-76 Sec. 31 Twp. 31S Range 14W County Barber State Kansas
Test Approved by Fred Stump Western Representative Lonnie Cline
Formation Test No. 3 O.K. ☒ Misrun ☐ Interval Tested From 4753' to 4825' Total Depth 4825'
Size Main Hole 7 7/8 Rat Hole ☐ Conv. ☒ B.T. ☐ Damaged ☐ Yes ☒ No Conv. ☐ B.T. ☒ Damaged ☒ Yes ☐ No
Top Packer Depth 4748 Ft. Size 6 3/4 Bottom Packer Depth 4753 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 72 Ft. Size 5 1/2 OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.
RECORDERS Depth 4778 Ft. Clock No. 6799 Depth 4781 Ft. Clock No. 8474
Top Make Kuster Cap. 4150 No. 2606 ☒ Inside ☐ Outside Bottom Make Kuster Cap. 4000 No. 3351 ☒ Inside ☐ Outside
Below Straddle: Depth ☐ Rec. No. ☐ Clock No. ☐ ☒ Inside ☐ Outside Depth ☐ Ft. Rec. No. ☐ Clock No. ☐ ☒ Inside ☐ Outside
Time Set Packer 7:38 P M
Tool Open I.F.P. From 7:40 P.M. to 7:55 P.M. - Hr. 15 Min. From (B) 60 P.S.I. To (C) 42 P.S.I.
Tool Closed I.C.I.P. From 7:55 M. to 8:40 P.M. - Hr. 45 Min (D) 81 P.S.I.
Tool Open F.F.P. From 8:40 P.M. to 9:10 P.M. - Hr. 30 Min. From (E) 81 P.S.I. To (F) 58 P.S.I.
Tool Closed F.C.I.P. From 9:10 M. to 9:55 P.M. - Hr. 45 Min. (G) 91 P.S.I.
Initial Hydrostatic Pressure (A) 2450 P.S.I. Final Hydrostatic Pressure (H) 2355 P.S.I. Maximum Temp. 131

INFORMATION

BLOW Weak blow, died in 15 minutes. Flushed tool.

Did Well Flow - Yes ☒ No ☐ Recovery Total Ft. 30' drilling mud.

Reversed Out - Yes ☒ No ☐ Mud Type drispac Viscosity 54 Weight 9.1 Water Loss 12.4 cc. Chlorides 16,000 P.P.M.

EXTRA EQUIPMENT: Type Circ. Sub. Pin Safety Joint ☐ Jars: Size 4 1/2 OD In. Make WTC Ser. No. 403

Dual Packer Yes Did Packers Hold? Yes Did Tool Plug? No Where? -

DRILLING CONTRACTOR Co. Tools Length Drill Pipe? 4614 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 FH In.

Length Weight Pipe ☐ Ft. I.D. Weight Pipe ☐ In. Tool Joint Size ☐ In. Length Drill Collars 122 Ft. I.D. Drill Collars 2 1/4 ID In.

Tool Joint Size 4 1/2 FH In. Length D.S.T. Tool 99 Ft.

Remarks:

WESTERN TESTING CO., INC.

Pressure Data

Date 9-7-76 Recorder No. 2606 Capacity 4150 Test Ticket No. 21643 Location 4778 Ft.
 Clock No. 6799 Elevation - Well Temperature 131 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2450 P.S.I.	Open Tool	7:38 P.M.	
B First Initial Flow Pressure	60 P.S.I.	First Flow Pressure	15 Mins.	15 Mins.
C First Final Flow Pressure	42 P.S.I.	Initial Closed-in Pressure	45 Mins.	45 Mins.
D Initial Closed-in Pressure	81 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
E Second Initial Flow Pressure	81 P.S.I.	Final Closed-in Pressure	45 Mins.	45 Mins.
F Second Final Flow Pressure	58 P.S.I.			
G Final Closed-in Pressure	91 P.S.I.			
H Final Hydrostatic Mud	2355 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>6</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>42</u>	<u>0</u>	<u>81</u>	<u>0</u>	<u>58</u>
P 2 <u>5</u>	<u>44</u>	<u>3</u>	<u>43</u>	<u>5</u>	<u>56</u>	<u>3</u>	<u>58</u>
P 3 <u>10</u>	<u>42</u>	<u>6</u>	<u>48</u>	<u>10</u>	<u>46</u>	<u>6</u>	<u>60</u>
P 4 <u>15</u>	<u>42</u>	<u>9</u>	<u>50</u>	<u>15</u>	<u>47</u>	<u>9</u>	<u>62</u>
P 5 _____	_____	<u>12</u>	<u>52</u>	<u>20</u>	<u>48</u>	<u>12</u>	<u>64</u>
P 6 _____	_____	<u>15</u>	<u>54</u>	<u>25</u>	<u>56</u>	<u>15</u>	<u>67</u>
P 7 _____	_____	<u>18</u>	<u>58</u>	<u>30</u>	<u>58</u>	<u>18</u>	<u>69</u>
P 8 _____	_____	<u>21</u>	<u>60</u>	_____	_____	<u>21</u>	<u>71</u>
P 9 _____	_____	<u>24</u>	<u>64</u>	_____	_____	<u>24</u>	<u>75</u>
P10 _____	_____	<u>27</u>	<u>67</u>	_____	_____	<u>27</u>	<u>76</u>
P11 _____	_____	<u>30</u>	<u>69</u>	_____	_____	<u>30</u>	<u>77</u>
P12 _____	_____	<u>33</u>	<u>71</u>	_____	_____	<u>33</u>	<u>81</u>
P13 _____	_____	<u>36</u>	<u>73</u>	_____	_____	<u>36</u>	<u>83</u>
P14 _____	_____	<u>39</u>	<u>75</u>	_____	_____	<u>39</u>	<u>85</u>
P15 _____	_____	<u>42</u>	<u>79</u>	_____	_____	<u>42</u>	<u>87</u>
P16 _____	_____	<u>45</u>	<u>81</u>	_____	_____	<u>45</u>	<u>89</u>
P17 _____	_____	_____	_____	_____	_____	<u>48</u>	<u>91</u>
P18 _____	_____	_____	_____	_____	_____	_____	_____
P19 _____	_____	_____	_____	_____	_____	_____	_____
P20 _____	_____	_____	_____	_____	_____	_____	_____

flushed tool



P. O. BOX 793 PHONE 793-7903
GREAT BEND, KANSAS

WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET 21644

Formation Simpson Elevation 1928 KB Eff. Pay _____ Ft.

District Pratt

Date Sept. 9, 1976 Customer Order No. _____

COMPANY NAME Graves Etal

ADDRESS 910 Union Center Wichita Ks.

LEASE AND WELL NO. #1 Mills COUNTY BARBER STATE Ks. Sec. 31 Twp. 31 Rge. 4N

Mail Inv. To same No. Copies Requested usual

Co. Name _____ Address _____

Mail Charts To same No. Copies Requested usual

Address _____

Formation Test No. 4 O.K. ☒ Misrun ☐ Interval Tested From 4893 to 4898 Total Depth 4898

Size Main Hole 7 3/8 Rat Hole — Conv. ☒ B.T. ☐ Damaged ☐ Yes ☒ No Conv. ☐ B.T. ☒ Damaged ☒ Yes ☐ No

Top Packer Depth 4888 Ft. Size 6 3/4 Bottom Packer Depth 4893 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 5 Ft. Size 5 1/2 OD Surface Choke Size 34 In. Bottom Choke Size 34 In.

RECORDERS Depth 4877 Ft. Clock No. 6799 Depth 4897 Ft. Clock No. 9726

Top Make Kuster Cap. 4150 No. 2606 Inside — Bottom Make Kuster Cap. 4000 No. 3351 Inside —

Below Straddle: Depth — Rec. No. — Clock No. — Outside — Depth — Ft. Rec. No. — Clock No. — Outside —

Time Set Packer 10:50 P M

Tool Open I.F.P. From 10:53 M. to 11:03 M. Hr. 10 Min. From (B) 41 8 P.S.I. To (C) 72 33 P.S.I.

Tool Closed I.C.I.P. From 11:03 M. to 11:33 M. Hr. 30 Min. (D) 1216 1675 P.S.I.

Tool Open F.F.P. From 11:33 M. to 12:33 M. Hr. 1 Min. From (E) 104 93 P.S.I. To (F) 187 148 P.S.I.

Tool Closed F.C.I.P. From 12:33 M. to 1:03 M. Hr. 30 Min. (G) 1716 1668 P.S.I.

Initial Hydrostatic Pressure (A) 2340 2427 P.S.I. Final Hydrostatic Pressure (H) 2340 2355 P.S.I. Maximum Temp. —

INFORMATION

BLOW GOOD BLOW DECREASING

Did Well Flow Yes ☒ No ☐ Recovery Total Ft. 345' H. - 45' H. O.C.M. - 300' H. WATER
300' H. G.I.P.

Reversed Out Yes ☒ No ☐ Mud Type Drispec Viscosity 4.5 Weight 9.0 Water Loss 16.0 cc. Chlorides 14000

EXTRA EQUIPMENT: Type Circ. Sub. pin Safety Joint — Jars: Size 4 1/2 OD Make WTC Ser. No. 403

Dual Packers yes Did Packers Hold? YES Did Tool Plug? NO Where? —

DRILLING CONTRACTOR Co. Tools Length Drill Pipe 4738 ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 FH

Length Weight Pipe — ft. I.D. Weight Pipe — In. Tool Joint Size — In. Length Drill Collars 122 ft. I.D. Drill Collars 2 1/2 ID

Tool Joint Size 4 1/2 FH Length D.S.T. Tool 38 ft.

Remarks _____

RECEIVED
SEP 11 1976

COMPANY TERMS

Western Testing Co., Inc., shall not be liable for damage of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, or its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 10% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

INVOICE SECTION

Open Hole Test	\$ <u>390.00</u>
Straddle Test	\$ <u>—</u>
Jars	\$ <u>165.00</u>
Selective Zone	\$ <u>—</u>
Safety Joint	\$ <u>—</u>
Misrun	\$ <u>—</u>
Evaluation	\$ <u>—</u>
Packer	\$ <u>—</u>
Circ. Sub.	\$ <u>—</u>
Total	\$ <u>555.00</u>

Test Approved By Fredrick W. Stump Western Representative Tomnie Cline

Signature of Customer or his
Authorized Representative

Operator's Time Thak You Hrs.

WESTERN TESTING CO., INC.

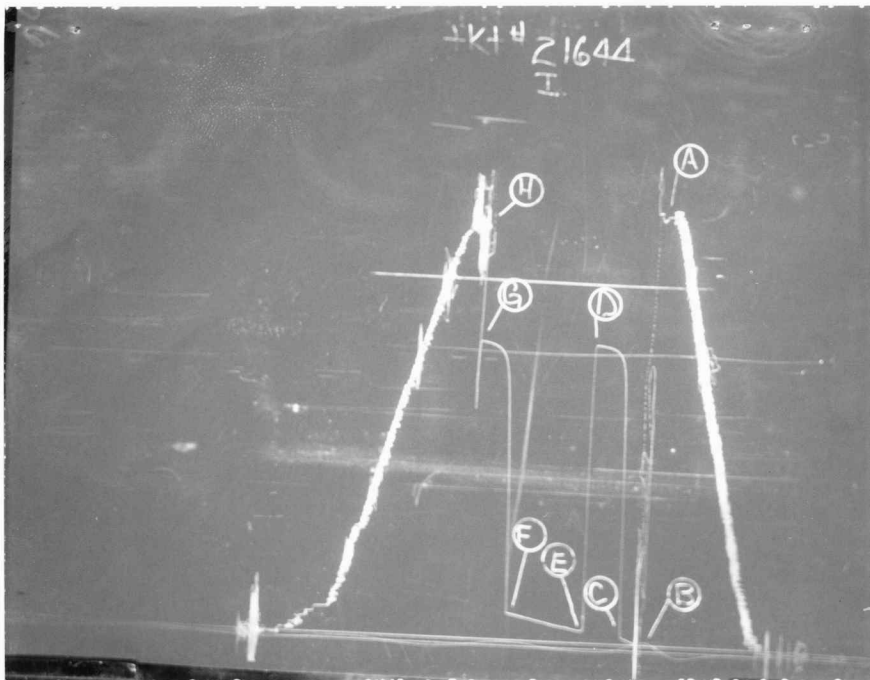
Pressure Data

Date 9-9-76 Test Ticket No. 21644
 Recorder No. 2606 Capacity 450 Location 4877 Ft.
 Clock No. 6799 Elevation 928 K.B Well Temperature _____ °F

Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2427</u> P.S.I.		<u>10:50 P</u> M	
B First Initial Flow Pressure	<u>8</u> P.S.I.	First Flow Pressure	<u>10</u> Mins.	<u>10</u> Mins.
C First Final Flow Pressure	<u>33</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>1675</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>73</u> P.S.I.	Final Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
F Second Final Flow Pressure	<u>148</u> P.S.I.			
G Final Closed-in Pressure	<u>1668</u> P.S.I.			
H Final Hydrostatic Mud	<u>2355</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown:	Inc.	Breakdown:	Inc.	Breakdown:	Inc.	Breakdown:	Inc.
of	mins. and a	of	mins. and a	of	mins. and a	of	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 0	<u>8</u>	0	<u>33</u>	0	<u>73</u>	0	<u>148</u>
P 2 5	<u>19</u>	3	<u>790</u>	5	<u>69</u>	3	<u>735</u>
P 3 10	<u>33</u>	6	<u>1444</u>	10	<u>75</u>	6	<u>1155</u>
P 4 15		9	<u>1605</u>	15	<u>83</u>	9	<u>1480</u>
P 5 20		12	<u>1639</u>	20	<u>87</u>	12	<u>1590</u>
P 6 25		15	<u>1653</u>	25	<u>96</u>	15	<u>1626</u>
P 7 30		18	<u>1663</u>	30	<u>104</u>	18	<u>1642</u>
P 8 35		21	<u>1668</u>	35	<u>112</u>	21	<u>1653</u>
P 9 40		24	<u>1670</u>	40	<u>119</u>	24	<u>1560</u>
P10 45		27	<u>1674</u>	45	<u>127</u>	27	<u>1666</u>
P11 50		30	<u>1675</u>	50	<u>133</u>	30	<u>1668</u>
P12 55		33		55	<u>141</u>	33	
P13 60		36		60	<u>148</u>	36	
P14		39		65		39	
P15		42		70		42	
P16		45		75		45	
P17		48		80		48	
P18		51		85		51	
P19		54		90		54	
P20		57				57	
		60				60	





INC.

P. O. Box 1599
Wichita, Kansas 67201

Company Graves Drilling Co., Inc. Lease & Well No. Mills #1
Elevation 1928 Kelly Bushing Formation Simpson Effective Pay - Ft. Ticket No. 21644
Date 9-9-76 Sec. 31 Twp. 31S Range 14W County Barber State Kansas
Test Approved by Frederick Stump Western Representative Lonnie Cline
Formation Test No. 4 O.K. ☒ Misrun ☐ Interval Tested From 4893' to 4898' Total Depth 4898'
Size Main Hole 77/8 Rat Hole ☐ Conv. ☒ B.T. ☐ Damaged ☐ Yes ☒ No Conv. ☐ B.T. ☒ Damaged ☒ Yes ☐ No
Top Packer Depth 4888 Ft. Size 6 3/4 Bottom Packer Depth 4893 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 5 Ft. Size 5 1/2 OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.
RECORDERS Depth 4877 Ft. Clock No. 6799 Depth 4897 Ft. Clock No. 9726
Top Make Kuster Cap. 4150 No. 2606 Inside Outside Bottom Make Kuster Cap. 4000 No. 3351 Inside Outside
Below Straddle: Depth ☐ Rec. No. ☐ Clock No. ☐ Inside Outside Depth ☐ Ft. Rec. No. ☐ Clock No. ☐ Inside Outside
Time Set Packer 10:50 P.M.
Tool Open I.F.P. From 10:53 P.M. to 11:03 M. - Hr. 10 Min. From (B) 8 P.S.I. To (C) 33 P.S.I.
Tool Closed I.C.I.P. From 11:03 M. to 11:33 M. - Hr. 30 Min. (D) 1675 P.S.I.
Tool Open F.F.P. From 11:33 M. to 12:33 A. 1 Hr. - Min. From (E) 73 P.S.I. To (F) 148 P.S.I.
Tool Closed F.C.I.P. From 12:33 M. to 1:03 A.M. - Hr. 30 Min. (G) 1668 P.S.I.
Initial Hydrostatic Pressure (A) 2427 P.S.I. Final Hydrostatic Pressure (H) 2355 P.S.I. Maximum Temp. -

INFORMATION

BLOW Good blow decreasing.

Did Well Flow ☐ Yes ☒ No Recovery Total Ft. 345' total, 45' oil cut mud, 300' water, 300' gas in pipe

Reversed Out ☐ Yes ☒ No Mud Type drispac Viscosity 4.5 Weight 9.0 Water Loss 16,0 cc. Chlorides 14,000 P.P.M.

EXTRA EQUIPMENT: Type Circ. Sub. Pin Safety Joint ☐ Jars: Size 4 1/2 OD In. Make WTC Ser. No. 403

Dual Packer Yes Did Packers Hold? Yes Did Tool Plug? No Where? -

DRILLING CONTRACTOR Co. Tools Length Drill Pipe? 4738 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 FH In.

Length Weight Pipe - Ft. I.D. Weight Pipe - In. Tool Joint Size - In. Length Drill Collars 122 Ft. I.D. Drill Collars 2 1/4 ID In.

Tool Joint Size 4 1/2 FH In. Length D.S.T. Tool 38 Ft.

Remarks:

WESTERN TESTING CO., INC.

Pressure Data

Date 9-9-76 Test Ticket No. 21644
 Order No. 2606 Capacity 4150 Location 4877 Ft.
 Job No. 6799 Elevation 1928 Kelly Bushing Well Temperature - °F

Point	Pressure		Time Given	Time Computed
Initial Hydrostatic Mud	<u>2427</u>	P.S.I.	<u>10:50</u>	<u>PM</u>
First Initial Flow Pressure	<u>8</u>	P.S.I.	<u>10</u>	<u>Mins.</u>
First Final Flow Pressure	<u>33</u>	P.S.I.	<u>30</u>	<u>Mins.</u>
Initial Closed-in Pressure	<u>1675</u>	P.S.I.	<u>60</u>	<u>Mins.</u>
Second Initial Flow Pressure	<u>73</u>	P.S.I.	<u>30</u>	<u>Mins.</u>
Second Final Flow Pressure	<u>148</u>	P.S.I.		
Final Closed-in Pressure	<u>1668</u>	P.S.I.		
Final Hydrostatic Mud	<u>2355</u>	P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>2</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	Press.	Point	Press.	Point	Press.	Point	Press.
ins.		Minutes		Minutes		Minutes	
1 <u>0</u>	<u>8</u>	<u>0</u>	<u>33</u>	<u>0</u>	<u>73</u>	<u>0</u>	<u>148</u>
2 <u>5</u>	<u>19</u>	<u>3</u>	<u>790</u>	<u>5</u>	<u>69</u>	<u>3</u>	<u>735</u>
3 <u>10</u>	<u>33</u>	<u>6</u>	<u>1444</u>	<u>10</u>	<u>75</u>	<u>6</u>	<u>1155</u>
4		<u>9</u>	<u>1605</u>	<u>15</u>	<u>83</u>	<u>9</u>	<u>1480</u>
5		<u>12</u>	<u>1639</u>	<u>20</u>	<u>87</u>	<u>12</u>	<u>1590</u>
6		<u>15</u>	<u>1653</u>	<u>25</u>	<u>96</u>	<u>15</u>	<u>1626</u>
7		<u>18</u>	<u>1663</u>	<u>30</u>	<u>104</u>	<u>18</u>	<u>1642</u>
8		<u>21</u>	<u>1668</u>	<u>35</u>	<u>112</u>	<u>21</u>	<u>1653</u>
9		<u>24</u>	<u>1670</u>	<u>40</u>	<u>119</u>	<u>24</u>	<u>1560</u>
10		<u>27</u>	<u>1674</u>	<u>45</u>	<u>127</u>	<u>27</u>	<u>1666</u>
11		<u>30</u>	<u>1675</u>	<u>50</u>	<u>133</u>	<u>30</u>	<u>1668</u>
12				<u>55</u>	<u>141</u>		
13				<u>60</u>	<u>148</u>		
14							
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