



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET 22266

P. O. BOX 793 PHONE 793-7903

GREAT BEND, KANSAS

Formation MISS Elevation \_\_\_\_\_ Eff. Pay \_\_\_\_\_ Ft.

District PRAT Date 7-25-76 Customer Order No. \_\_\_\_\_

COMPANY NAME GRAVES DRILLING CO.

ADDRESS 910 UNION CENTER BLDG. WICHITA, KS 67202

LEASE AND WELL NO. SWINGOLE #1 COUNTY KINGMAN STATE KS. Sec. 24 Twp. 30S Rge. 9W

Mail Inv. To SAME No. Copies Requested USUAL

Co. Name Address No. Copies Requested USUAL

Mail Charts To Address No. Copies Requested USUAL

Formation Test No. 1 O.K. X Misrun - Interval Tested From 4251' to 4262' Total Depth 4262'

Size Main Hole 2 7/8 Rat Hole Conv. X B.T. - Damaged - Yes X No Conv. X B.T. - Damaged - Yes X No

Top Packer Depth 4246 Ft. Size 6 3/4 Bottom Packer Depth 4251 Ft. Size 6 3/4

Straddle Conv. B.T. - Damaged - Yes - No Packer Depth Ft. Size

Tool Size 560 D Tool Joint Size 4 1/2 Anchor Length 11 Ft. Size 560 P Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 4254 Ft. Clock No. 4763 Inside Depth 4257 Ft. Clock No. 9712 Inside

Top Make KUSTER Cap. 4150 No. 2604 Outside Bottom Make KUSTER Cap. 4000 No. 3660 Outside

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

Time Set Packer 9:27 P M

Tool Open I.F.P. From 9:22 M. to 9:37 M. Hr. 15 Min. From (B) 3:55 P.S.I. To (C) 3:28 P.S.I.

Tool Closed I.C.I.P. From 9:37 M. to 10:07 M. Hr. 30 Min. (D) 1056 1065 P.S.I.

Tool Open F.F.P. From 10:07 M. to 11:07 M. 1 Hr. Min. From (E) 5353 P.S.I. To (F) 6355 P.S.I.

Tool Closed F.C.I.P. From 11:07 M. to 11:52 M. Hr. 45 Min. (G) 846 851 P.S.I.

Initial Hydrostatic Pressure (A) 2000 P.S.I. Final Hydrostatic Pressure (H) 2000 P.S.I. Maximum Temp. 122

INFORMATION

BLOW STRONG BLOW TAP-OUT TEST TO SMALL TO GAUGE GAS TO SURFACE 32 MINUTES IN 2ND OPENING,

Did Well Flow Yes X No Recovery Total Ft. 135 ft.

75' Gas cut muddy oil - 60' Gas cut oil

Reversed Out Yes X No Mud Type DRISAC Viscosity 62 Weight 9. Water Loss 12. cc. Chlorides 10,000 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? NO Where?

DRILLING CONTRACTOR SAME Graves Drilling Length Drill Pipe 4050 ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 In.

Length Weight Pipe ft. I.D. Weight Pipe In. Tool Joint Size In. Length Drill Collars 180 ft. I.D. Drill Collars 2 1/4 In.

Tool Joint Size 4 1/2 In. Length D.S.T. Tool 32 ft.

Remarks

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 Lee Paulsen Western Representative Operator's Time 7.80 Hrs.

**WESTERN TESTING CO., INC.**  
Pressure Data

7-25-76

Test Ticket No. 22266

Core No. 2604 Capacity 4150 Location 4254 Ft.  
No. 4763 Elevation \_\_\_\_\_ Well Temperature 122 °F

	Pressure			Time Given	Time Computed
Initial Hydrostatic Mud	<u>2044</u>	P.S.I.	Open Tool	<u>9:27 P</u>	<u>M</u>
First Initial Flow Pressure	<u>55</u>	P.S.I.	First Flow Pressure	<u>15</u>	Mins. <u>15</u> Mins.
First Final Flow Pressure	<u>28</u>	P.S.I.	Initial Closed-in Pressure	<u>30</u>	Mins. <u>33</u> Mins.
Initial Closed-in Pressure	<u>1065</u>	P.S.I.	Second Flow Pressure	<u>60</u>	Mins. <u>60</u> Mins.
Second Initial Flow Pressure	<u>53</u>	P.S.I.	Final Closed-in Pressure	<u>45</u>	Mins. <u>48</u> Mins.
Second Final Flow Pressure	<u>55</u>	P.S.I.			
Final Closed-in Pressure	<u>851</u>	P.S.I.			
Final Hydrostatic Mud	<u>2021</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>11</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.			
Point Minutes	Press.	Point Minutes	Press.
<u>0</u>	<u>55</u>	<u>0</u>	<u>28</u>
<u>5</u>	<u>29</u>	<u>5</u>	<u>126</u>
<u>10</u>	<u>27</u>	<u>10</u>	<u>275</u>
<u>15</u>	<u>28</u>	<u>15</u>	<u>414</u>
<u>20</u>		<u>20</u>	<u>552</u>
<u>25</u>		<u>25</u>	<u>667</u>
<u>30</u>		<u>30</u>	<u>767</u>
<u>35</u>		<u>35</u>	<u>851</u>
<u>40</u>		<u>40</u>	<u>919</u>
<u>45</u>		<u>45</u>	<u>981</u>
<u>50</u>		<u>50</u>	<u>1032</u>
<u>55</u>		<u>55</u>	<u>1065</u>
<u>60</u>		<u>60</u>	<u>53</u>
		<u>65</u>	<u>44</u>
		<u>70</u>	<u>43</u>
		<u>75</u>	<u>43</u>
		<u>80</u>	<u>44</u>
		<u>85</u>	<u>45</u>
		<u>90</u>	<u>47</u>
			<u>49</u>
			<u>51</u>
			<u>52</u>
			<u>53</u>
			<u>54</u>
			<u>55</u>
			<u>715</u>
			<u>745</u>
			<u>772</u>
			<u>797</u>
			<u>821</u>
			<u>839</u>
			<u>851</u>
			<u>51</u>
			<u>54</u>
			<u>57</u>
			<u>60</u>



INC.

P. O. Box 1599  
Wichita, Kansas 67201

Company Graves Drilling Co., Inc. Lease & Well No. Swingle #1  
Elevation - Formation Mississippi Effective Pay - Ft. Ticket No. 22266  
Date 7-25-76 Sec. 24 Twp. 30S Range 9W County Kingman State Kansas  
Test Approved by Lee Poulsen Western Representative Bill Hager

Formation Test No. 1 O.K.  Misrun  Interval Tested From 4251' to 4262' Total Depth 4262'  
Size Main Hole 77/8 Rat Hole  Conv.  B.T.  Damaged  Yes  No Conv.  B.T.  Damaged  Yes  No  
Top Packer Depth 4246 Ft. Size 6 3/4 Bottom Packer Depth 4251 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 11 Ft. Size 5 1/2 OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 4254 Ft. Clock No. 4763 Depth 4257 Ft. Clock No. 9712  
Top Make Kuster Cap. 4150 No. 2604  Inside  Outside Bottom Make Kuster Cap. 4000 No. 3660  Inside  Outside  
Below Straddle: Depth - Rec. No. - Clock No. -  Inside  Outside Depth - Ft. Rec. No. - Clock No. -  Inside  Outside

Time Set Packer 9:21 P M  
Tool Open I.F.P. From 9:22P M. to 9:37P M. - Hr. 15 Min. From (B) 55 P.S.I. To (C) 28 P.S.I.  
Tool Closed I.C.I.P. From 9:37 M. to 10:07P M. - Hr. 30 Min (D) 1065 P.S.I.  
Tool Open F.F.P. From 10:07 M. to 11:07P M. 1 Hr. - Min. From (E) 53 P.S.I. To (F) 55 P.S.I.  
Tool Closed F.C.I.P. From 11:07 M. to 11:52P M. - Hr. 45 Min. (G) 851 P.S.I.  
Initial Hydrostatic Pressure (A) 2044 P.S.I. Final Hydrostatic Pressure (H) 2021 P.S.I. Maximum Temp. 122

INFORMATION

BLOW Strong blow throughout test. Too Small to gauge. Gas to surface in 32 minutes in 2nd opening.

Did Well Flow  Yes  No Recovery Total Ft. 135' total fluid. 75' gas cut muddy oil, 60' gas cut oil.

Reversed Out  Yes  No Mud Type drispac viscosity 62 Weight 9.0 Water Loss 12.0 cc. Chlorides 10,000 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?  No Where? -

DRILLING CONTRACTOR Graves Drlg. Co. Length Drill Pipe 4050 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 180 Ft. I.D. Drill Collars 2 1/4 In.

Tool Joint Size 4 1/2 H90 In. Length D.S.T. Tool 32 Ft.

Remarks:

**WESTERN TESTING CO., INC.**  
**Pressure Data**

Date 7-25-76

Test Ticket No. 22266

Recorder No. 2604 Capacity 4150 Location 4254 Ft.

Clock No. 4763 Elevation - Well Temperature 122 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2044</u> P.S.I.	Open Tool	<u>9:27</u> P <sub>M</sub>	
B First Initial Flow Pressure	<u>55</u> P.S.I.	First Flow Pressure	<u>15</u> Mins.	<u>15</u> Mins.
C First Final Flow Pressure	<u>28</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>33</u> Mins.
D Initial Closed-in Pressure	<u>1065</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>53</u> P.S.I.	Final Closed-in Pressure	<u>45</u> Mins.	<u>48</u> Mins.
F Second Final Flow Pressure	<u>55</u> P.S.I.			
G Final Closed-in Pressure	<u>851</u> P.S.I.			
H Final Hydrostatic Mud	<u>2021</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: 11 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.

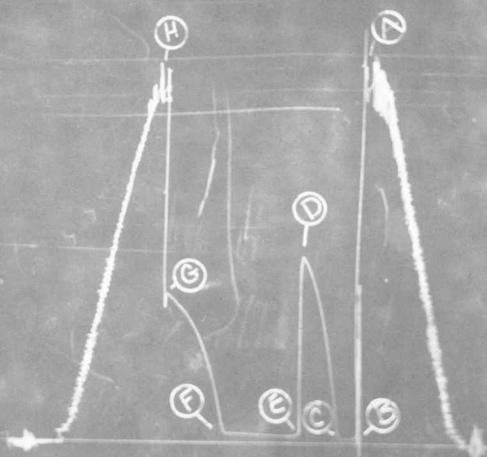
**Final Shut-In**

Breakdown: 16 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>55</u>	<u>0</u>	<u>28</u>	<u>0</u>	<u>53</u>	<u>0</u>	<u>55</u>
P 2 <u>5</u>	<u>29</u>	<u>3</u>	<u>126</u>	<u>5</u>	<u>44</u>	<u>3</u>	<u>115</u>
P 3 <u>10</u>	<u>27</u>	<u>6</u>	<u>275</u>	<u>10</u>	<u>43</u>	<u>6</u>	<u>220</u>
P 4 <u>15</u>	<u>28</u>	<u>9</u>	<u>414</u>	<u>15</u>	<u>43</u>	<u>9</u>	<u>322</u>
P 5		<u>12</u>	<u>552</u>	<u>20</u>	<u>44</u>	<u>12</u>	<u>402</u>
P 6		<u>15</u>	<u>667</u>	<u>25</u>	<u>45</u>	<u>15</u>	<u>473</u>
P 7		<u>18</u>	<u>767</u>	<u>30</u>	<u>47</u>	<u>18</u>	<u>536</u>
P 8		<u>21</u>	<u>851</u>	<u>35</u>	<u>49</u>	<u>21</u>	<u>594</u>
P 9		<u>24</u>	<u>919</u>	<u>40</u>	<u>51</u>	<u>24</u>	<u>639</u>
P10		<u>27</u>	<u>981</u>	<u>45</u>	<u>52</u>	<u>27</u>	<u>679</u>
P11		<u>30</u>	<u>1032</u>	<u>50</u>	<u>53</u>	<u>30</u>	<u>715</u>
P12		<u>33</u>	<u>1065</u>	<u>55</u>	<u>54</u>	<u>33</u>	<u>745</u>
P13				<u>60</u>	<u>55</u>	<u>36</u>	<u>772</u>
P14						<u>39</u>	<u>797</u>
P15						<u>42</u>	<u>821</u>
P16						<u>45</u>	<u>839</u>
P17						<u>48</u>	<u>851</u>
P18							
P19							
P20							

TK # 22266

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WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET 22267

P. O. BOX 793 PHONE 793-7903

GREAT BEND, KANSAS

Formation MISS Elevation Ft. Eff. Pay Ft.

District PRATT Date 7-25-76 Customer Order No.

COMPANY NAME GRAVES DRILLING CO. - Drilling Co. Inc.

ADDRESS 910 UNION CENTER WICHITA, KS.

LEASE AND WELL NO. SWINGHE #1 COUNTY KINGMAN STATE KS Sec 24 Twp 30S Rge 9W

Mail Inv. To SAME No. Copies Requested USUAL

Co. Name Address

Mail Charts To SAME No. Copies Requested USUAL

Formation Test No. 2 O.K. X Misrun Interval Tested From 4261 to 4272 Total Depth 4272

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

Top Packer Depth 4256 Ft. Size 6 3/4 Bottom Packer Depth 4261 Ft. Size 6 3/4

Straddle Conv. B.T. Damaged Yes No Packer Depth Ft. Size

Tool Size 5/8 O.D. Tool Joint Size 1 1/2 F.H. Anchor Length 11 Ft. Size 5/8 O.D. Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 4267 Ft. Clock No. 4763 Depth 4264 Ft. Clock No. 9712

Top Make KUSTER Cap 4150 No. 2604 Inside Outside Bottom Make KUSTER Cap 4000 No. 3660 Inside Outside

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

Time Set Packer 10:18 A M

Tool Open I.F.P. From 10:20 M. to 10:35 M. Hr. 15 Min. From (B) 3150 P.S.I. To (C) 4242 P.S.I.

Tool Closed I.C.I.P. From 10:35 M. to 11:05 M. Hr. 30 Min. (D) 1150 1162 P.S.I.

Tool Open F.F.P. From 11:05 M. to 12:05 M. 1 Hr. Min. From (E) 6380 P.S.I. To (F) 7484 P.S.I.

Tool Closed F.C.I.P. From 12:05 M. to 12:50 M. Hr. 45 Min. (G) 1814 1032 P.S.I.

Initial Hydrostatic Pressure (A) 2000 P.S.I. Final Hydrostatic Pressure (H) 2000 P.S.I. Maximum Temp. 122

INFORMATION

BLOW STRONG BLOW THRU-OUT TEST

Did Well Flow Yes X No Recovery Total Ft. 180 ft. - 1100 ft. GAS IN PIPE
80 ft. OIL CUT MUD - 100 ft. OIL CUT WATER.

Reversed Out Yes X No Mud Type DRISMAC Viscosity 62 Weight 9 Water Loss 12 cc. Chlorides 10,000

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

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

DRILLING CONTRACTOR SAME Length Drill Pipe 4060 ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4 1/2 In.

Length Weight Pipe ft. I.D. Weight Pipe In. Tool Joint Size In. Length Drill Collars 180 ft. I.D. Drill Collars 2 1/4 In.

Tool Joint Size 4 1/2 In. Length D.S.T. Tool 32 ft.

Remarks

INVOICE SECTION

Table with 2 columns: Item, Amount. Includes Open Hole Test (\$390), Straddle Test, Jars, Selective Zone, Safety Joint, Misrun, Evaluation, Packer, Circ. Sub., Total (\$390.00).

COMPANY TERMS

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Test Approved By Lee Paulsen Western Representative Bill Hager

Signature of Customer or his Authorized Representative Operator's Time Hrs

**WESTERN TESTING CO., INC.**  
**Pressure Data**

7-28-76

Test Ticket No. 27267

Core No. 2604 Capacity 4150 Location 4267 Ft.  
No. 4763 Elevation          Well Temperature 122 °F

	Pressure		Time Given	Time Computed
Initial Hydrostatic Mud	<u>2105</u>	P.S.I.	<u>10:18 A</u>	<u>M</u>
First Initial Flow Pressure	<u>50</u>	P.S.I.	<u>15</u>	Mins. Mins.
First Final Flow Pressure	<u>42</u>	P.S.I.	<u>30</u>	Mins. Mins.
Initial Closed-in Pressure	<u>1162</u>	P.S.I.	<u>60</u>	Mins. Mins.
Second Initial Flow Pressure	<u>80</u>	P.S.I.	<u>45</u>	Mins. <u>48</u> Mins.
Second Final Flow Pressure	<u>84</u>	P.S.I.		
Final Closed-in Pressure	<u>1032</u>	P.S.I.		
Final Hydrostatic Mud	<u>2078</u>	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>10</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	Second Flow Pressure Breakdown: <u>12</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	Final Shut-In Breakdown: <u>16</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.				
Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes
<u>50</u>	<u>0</u>	<u>42</u>	<u>0</u>	<u>80</u>	<u>0</u>	<u>84</u>	<u>0</u>
<u>38</u>	<u>3</u>	<u>101</u>	<u>3</u>	<u>69</u>	<u>3</u>	<u>134</u>	<u>3</u>
<u>39</u>	<u>6</u>	<u>226</u>	<u>6</u>	<u>68</u>	<u>6</u>	<u>226</u>	<u>6</u>
<u>42</u>	<u>9</u>	<u>382</u>	<u>9</u>	<u>68</u>	<u>9</u>	<u>324</u>	<u>9</u>
	<u>12</u>	<u>573</u>	<u>12</u>	<u>70</u>	<u>12</u>	<u>428</u>	<u>12</u>
	<u>15</u>	<u>747</u>	<u>15</u>	<u>72</u>	<u>15</u>	<u>525</u>	<u>15</u>
	<u>18</u>	<u>887</u>	<u>18</u>	<u>75</u>	<u>18</u>	<u>613</u>	<u>18</u>
	<u>21</u>	<u>987</u>	<u>21</u>	<u>77</u>	<u>21</u>	<u>686</u>	<u>21</u>
	<u>24</u>	<u>1059</u>	<u>24</u>	<u>78</u>	<u>24</u>	<u>755</u>	<u>24</u>
	<u>27</u>	<u>1113</u>	<u>27</u>	<u>80</u>	<u>27</u>	<u>811</u>	<u>27</u>
	<u>30</u>	<u>1162</u>	<u>30</u>	<u>81</u>	<u>30</u>	<u>862</u>	<u>30</u>
	<u>33</u>		<u>33</u>	<u>83</u>	<u>33</u>	<u>900</u>	<u>33</u>
	<u>36</u>		<u>36</u>	<u>84</u>	<u>36</u>	<u>939</u>	<u>36</u>
	<u>39</u>		<u>39</u>		<u>39</u>	<u>970</u>	<u>39</u>
	<u>42</u>		<u>42</u>		<u>42</u>	<u>996</u>	<u>42</u>
	<u>45</u>		<u>45</u>		<u>45</u>	<u>1018</u>	<u>45</u>
	<u>48</u>		<u>48</u>		<u>48</u>	<u>1032</u>	<u>48</u>
	<u>51</u>		<u>51</u>		<u>51</u>		<u>51</u>
	<u>54</u>		<u>54</u>		<u>54</u>		<u>54</u>
	<u>57</u>		<u>57</u>		<u>57</u>		<u>57</u>
	<u>60</u>		<u>60</u>		<u>60</u>		<u>60</u>



INC.

P. O. Box 1599  
Wichita, Kansas 67201

Company Graves Drilling Co., Inc. Lease & Well No. Swingle #1  
 Elevation - Formation Mississippi Effective Pay - Ft. Ticket No. 22267  
 Date 7-25-76 Sec. 24 Twp. 30S Range 9W County Kingman State Kansas  
 Test Approved by Lee Poulsen Western Representative Bill Hager  
 Formation Test No. 2 O.K.  Misrun  Interval Tested From 4261' to 4272' Total Depth 4272'  
 Size Main Hole 77/8 Rat Hole  Conv.  B.T.  Damaged  Yes  No Conv.  B.T.  Damaged  Yes  No  
 Top Packer Depth 4256 Ft. Size 6 3/4 Bottom Packer Depth 4261 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 11 Ft. Size 5 1/2 OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.  
 RECORDERS Depth 4267 Ft. Clock No. 4763 Depth 4264 Ft. Clock No. 9712  
 Top Make Kuster Cap. 4150 No. 2604 <sup>Inside</sup>/<sub>Outside</sub> Bottom Make Kuster Cap. 4000 No. 3660 <sup>Inside</sup>/<sub>Outside</sub>  
 Below Straddle: Depth - Rec. No. - Clock No. - <sup>Inside</sup>/<sub>Outside</sub> Depth - Ft. Rec. No. - Clock No. - <sup>Inside</sup>/<sub>Outside</sub>  
 Time Set Packer 10:18 A M  
 Tool Open I.F.P. From 10:20 A.M. to 10:35 A.M. - Hr. 15 Min. From (B) 50 P.S.I. To (C) 42 P.S.I.  
 Tool Closed I.C.I.P. From 10:35 A.M. to 11:05 A.M. - Hr. 30 Min (D) 1162 P.S.I.  
 Tool Open F.F.P. From 11:05 A.M. to 12:05 A.M. 1 Hr. - Min. From (E) 80 P.S.I. To (F) 84 P.S.I.  
 Tool Closed F.C.I.P. From 12:05 A.M. to 12:50 A.M. - Hr. 45 Min. (G) 1032 P.S.I.  
 Initial Hydrostatic Pressure (A) 2105 P.S.I. Final Hydrostatic Pressure (H) 2078 P.S.I. Maximum Temp. 122

INFORMATION

BLOW Strong blow throughout test.  
 Did Well Flow  Yes  No Recovery Total Ft. 180' total fluid. 1100' gas in pipe, 80' oil cut mud, 100' oil cut water.  
 Reversed Out  Yes  No Mud Type drispac Viscosity 62 Weight 9.0 Water Loss 12.0 cc. Chlorides 10,000 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?  No Where? -  
 DRILLING CONTRACTOR Graves Drlg. Co. Length Drill Pipe? 4060 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 180 Ft. I.D. Drill Collars 2 1/4 In.  
 Tool Joint Size 4 1/2 H90 In. Length D.S.T. Tool 32 Ft.

Remarks:

**WESTERN TESTING CO., INC.**  
**Pressure Data**

Date 7-25-76 Test Ticket No. 22267  
 Recorder No. 2604 Capacity 4150 Location 4267 Ft.  
 Clock No. 4763 Elevation - Well Temperature 122 °F

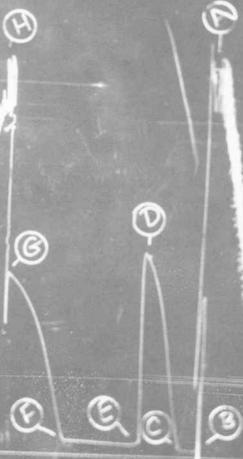
Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2105	P.S.I.	10:18 A <sub>M</sub>	
B First Initial Flow Pressure	50	P.S.I.	15 Mins.	- Mins.
C First Final Flow Pressure	42	P.S.I.	30 Mins.	- Mins.
D Initial Closed-in Pressure	1162	P.S.I.	60 Mins.	- Mins.
E Second Initial Flow Pressure	80	P.S.I.	45 Mins.	48 Mins.
F Second Final Flow Pressure	84	P.S.I.		
G Final Closed-in Pressure	1032	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>3</u> Inc.		Breakdown: <u>10</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>50</u>	<u>0</u>	<u>42</u>	<u>0</u>	<u>80</u>	<u>0</u>	<u>84</u>
P 2 <u>5</u>	<u>38</u>	<u>3</u>	<u>101</u>	<u>5</u>	<u>69</u>	<u>3</u>	<u>134</u>
P 3 <u>10</u>	<u>39</u>	<u>6</u>	<u>226</u>	<u>10</u>	<u>68</u>	<u>6</u>	<u>226</u>
P 4 <u>15</u>	<u>42</u>	<u>9</u>	<u>382</u>	<u>15</u>	<u>68</u>	<u>9</u>	<u>324</u>
P 5		<u>12</u>	<u>573</u>	<u>20</u>	<u>70</u>	<u>12</u>	<u>428</u>
P 6		<u>15</u>	<u>747</u>	<u>25</u>	<u>72</u>	<u>15</u>	<u>525</u>
P 7		<u>18</u>	<u>887</u>	<u>30</u>	<u>75</u>	<u>18</u>	<u>613</u>
P 8		<u>21</u>	<u>987</u>	<u>35</u>	<u>77</u>	<u>21</u>	<u>686</u>
P 9		<u>24</u>	<u>1059</u>	<u>40</u>	<u>78</u>	<u>24</u>	<u>755</u>
P10		<u>27</u>	<u>1113</u>	<u>45</u>	<u>80</u>	<u>27</u>	<u>811</u>
P11		<u>30</u>	<u>1162</u>	<u>50</u>	<u>81</u>	<u>30</u>	<u>862</u>
P12				<u>55</u>	<u>83</u>	<u>33</u>	<u>900</u>
P13				<u>60</u>	<u>84</u>	<u>36</u>	<u>939</u>
P14						<u>39</u>	<u>970</u>
P15						<u>42</u>	<u>996</u>
P16						<u>45</u>	<u>1018</u>
P17						<u>48</u>	<u>1032</u>
P18							
P19							
P20							

TK# 22267

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

WESTERN TESTING CO., INC.  
FORMATION TESTING

TICKET 21634

Formation INDIAN CAVE Elevation \_\_\_\_\_ Eff. Pay \_\_\_\_\_ Ft.

District PRAIRIE Date 7-27-76 Customer Order No. \_\_\_\_\_

COMPANY NAME GRAVES DRILL CO.

ADDRESS 910 UNION CENTER WICHITA, KS

WELL NO. SWIMORE 1 COUNTY KINGMAN STATE KS Sec 24 Twp 30 S Rge 8 W

Oil Inv. To SAME No. Copies Requested USUAL

Co. Name \_\_\_\_\_ Address \_\_\_\_\_

Oil Charts To SAME No. Copies Requested USUAL

Address \_\_\_\_\_

Formation Test No. 3 O.K. X Misrun \_\_\_\_\_ Interval Tested From 2319 to 2410 Total Depth 4272

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 2314 Ft. Size 6 3/4 Bottom Packer Depth 2319 Ft. Size 6 3/4

Straddle X Conv. X B.T. \_\_\_\_\_ Damaged Yes \_\_\_\_\_ No \_\_\_\_\_ Packer Depth 2410 Ft. Size 6 3/4

Tool Joint Size 5/8 D Tool Joint Size 4 1/2 F.H. Anchor Length 91 Ft. Size 2 3/8 Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.

CORDERS Depth 23 22 Ft. Clock No. 6799 Depth 2325 Ft. Clock No. 9726

Top Make KUSTER Cap. 4150 No. 2606 Inside \_\_\_\_\_ Outside \_\_\_\_\_ Bottom Make KUSTER Cap. 4000 No. 3251 Inside \_\_\_\_\_ Outside \_\_\_\_\_

Low Straddle: Depth \_\_\_\_\_ Rec. No. \_\_\_\_\_ Clock No. \_\_\_\_\_ Inside \_\_\_\_\_ Outside \_\_\_\_\_

Time Set Packer 8 4 3 M

Time of Open I.F.P. From 8:45 M. to 9:00 M. Hr. 15 Min. From (B) 5 2 55 P.S.I. To (C) 0 2 27 P.S.I.

Time of Closed I.C.I.P. From 9:00 M. to 9:30 M. Hr. 30 Min. (D) 8 3 1854 P.S.I.

Time of Open F.F.P. From 9:30 M. to 10:00 M. Hr. 30 Min. From (E) 5 3 39 P.S.I. To (F) 5 2 89 P.S.I.

Time of Closed F.C.I.P. From 10:00 M. to 10:30 M. Hr. 30 Min. (G) 8 10 826 P.S.I.

Initial Hydrostatic Pressure (A) 1163 P.S.I. Final Hydrostatic Pressure (H) 1163 P.S.I. Maximum Temp. \_\_\_\_\_

INFORMATION

LOW Fair Blow HAR-000

Drill Well Flow Yes X No \_\_\_\_\_ Recovery Total Ft. 145 ft. DRLO, MVP

Reversed Out Yes X No \_\_\_\_\_ Mud Type drillac Viscosity 62 Weight 9.3 Water Loss 12 cc. Chlorides 11,000

EXTRA EQUIPMENT: Type Circ. Sub. PIN Safety Joint \_\_\_\_\_ Jars: Size \_\_\_\_\_ In. Make \_\_\_\_\_ Ser. No. \_\_\_\_\_

Tool Joints: YES Did Packers Hold? YES Did Tool Plug? \_\_\_\_\_ Where? \_\_\_\_\_

DRILLING CONTRACTOR SAME Length Drill Pipe 2099 ft. I.D. Drill Pipe 3 8 In. Tool Joint Size 4 1/2 X 4 1/2 In.

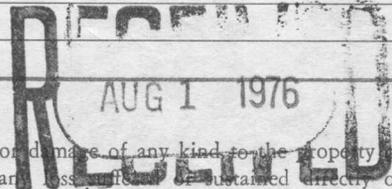
Length Weight Pipe \_\_\_\_\_ ft. I.D. Weight Pipe \_\_\_\_\_ In. Tool Joint Size \_\_\_\_\_ In. Length Drill Collars 120 ft. I.D. Drill Collars 2 1/4 In.

Tool Joint Size 4 1/2 X 90 In. Length D.S.T. Tool 120 ft.

Remarks \_\_\_\_\_

INVOICE SECTION

Open Hole Test	\$ 355.00
Straddle Test	\$ 160.00
Jars	\$
Selective Zone	\$ 180.00
Safety Joint	\$
Misrun	\$
Evaluation	\$
Packer	\$ 125.00
Circ. Sub.	\$
Total	\$ 820.00



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, injury, or expense 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.

Approved By Lee Paulsen Western Representative Chapman Paulsen  
Signature of Customer or his Authorized Representative Operator's Time \_\_\_\_\_ Hrs.

WESTERN TESTING CO., INC.

Pressure Data

7-27-76

Test Ticket No. 21634

Order No. 2606 Capacity 4150 Location 2332 Ft.

No. 6799 Elevation — Well Temperature — °F

	Pressure		Time Given	Time Computed
Initial Hydrostatic Mud	1157 P.S.I.	Open Tool	8:43	M
First Initial Flow Pressure	55 P.S.I.	First Flow Pressure	15 Mins.	15 Mins.
First Final Flow Pressure	67 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
Initial Closed-in Pressure	854 P.S.I.	Second Flow Pressure	30 Mins.	30 Mins.
Second Initial Flow Pressure	89 P.S.I.	Final Closed-in Pressure	30 Mins.	30 Mins.
Second Final Flow Pressure	89 P.S.I.			
Final Closed-in Pressure	826 P.S.I.			
Final Hydrostatic Mud	<del>1157</del> 1068 P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure Breakdown:	Initial Shut-In Breakdown:	Second Flow Pressure Breakdown:	Final Shut-In Breakdown:
3 Inc. of 5 mins. and a final inc. of 0 Min.	10 Inc. of 3 mins. and a final inc. of 0 Min.	6 Inc. of 5 mins. and a final inc. of 0 Min.	10 Inc. of 3 mins. and a final inc. of 0 Min.
Point Minutes	Press.	Point Minutes	Press.
0	55	0	89
5	73	5	89
10	71	10	89
15	67	15	89
20		20	89
25		25	89
30		30	89
35		35	89
40		40	89
45		45	89
50		50	89
55		55	89
60		60	89
		65	89
		70	89
		75	89
		80	89
		85	89
		90	89
		57	89
		60	89



INC.  
P. O. Box 1599  
Wichita, Kansas 67201

Company Graves Drilling Co., Inc. Lease & Well No. Swingle #1  
 Elevation - Formation Indian Cave Effective Pay - Ft. Ticket No. 21634  
 Date 7-27-76 Sec. 24 Twp. 30S Range 9W County Kingman State KS  
 Test Approved by Lee Paulsen Western Representative C. Wayne Fredrick  
 Formation Test No. #3 O.K.  Misrun - Interval Tested From 2319' to 2410' Total Depth 4272'  
 Size Main Hole 7 7/8 at Hole - Conv. - B.T.  Damaged - Yes  No Conv. - B.T.  Damaged - Yes  No  
 Top Packer Depth 2314 Ft. Size 6 3/4 Bottom Packer Depth 2319 Ft. Size 6 3/4  
 Straddle Yes Conv.  B.T. - Damaged - Yes - No Packer Depth 2410 Ft. Size 6 3/4  
 Tool Size 5 1/2 OD Tool Joint Size 4 1/2 FH Anchor Length 91 Ft. Size 5 1/2 OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.  
 RECORDERS Depth 2322 Ft. Clock No. 6799 Depth 2325 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 8.43 M  
 Tool Open I.F.P. From 8.45 M. to 9.00 M. - Hr. 15 Min. From (B) 55 P.S.I. To (C) 67 P.S.I.  
 Tool Closed I.C.I.P. From 9.00 M. to 9.30 M. - Hr. 30 Min (D) 854 P.S.I.  
 Tool Open F.F.P. From 9:30 M. to 10:00 M. - Hr. 30 Min. From (E) 89 P.S.I. To (F) 89 P.S.I.  
 Tool Closed F.C.I.P. From 10:00 M. to 10:30 M. - Hr. 30 Min. (G) 826 P.S.I.  
 Initial Hydrostatic Pressure (A) 1157 P.S.I. Final Hydrostatic Pressure (H) 1068 P.S.I. Maximum Temp. \_\_\_\_\_

**INFORMATION**

BLOW Fair blow throughout test  
 Did Well Flow - Yes  No Recovery Total Ft. 145' drilling mud  
 Reversed Out - Yes  No Mud Type Chemical Viscosity 62 Weight 9.3 Water Loss 12 cc. Chlorides 11,000 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? 2079 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 120 Ft. I.D. Drill Collars 2 1/4 In.  
 Tool Joint Size 4 1/2 H90n. Length D.S.T. Tool 120 Ft.  
 Remarks:

**WESTERN TESTING CO., INC.**

**Pressure Data**

Date 7-27-76 Test Ticket No. 21634  
 Recorder No. 2606 Capacity 4150 Location 2332 Ft.  
 Clock No. 6799 Elevation - Well Temperature - °F

Point	Pressure		Time Given	Time Computed
A. Initial Hydrostatic Mud	1157	P.S.I.	8:43	M
B. First Initial Flow Pressure	55	P.S.I.	15	Mins.
C. First Final Flow Pressure	67	P.S.I.	30	Mins.
D. Initial Closed-in Pressure	854	P.S.I.	30	Mins.
E. Second Initial Flow Pressure	89	P.S.I.	30	Mins.
F. Second Final Flow Pressure	89	P.S.I.		
G. Final Closed-in Pressure	826	P.S.I.		
H. Final Hydrostatic Mud	1068	P.S.I.		

**PRESSURE BREAKDOWN**

<b>First Flow Pressure</b> Breakdown: <u>3</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	<b>Initial Shut-In</b> Breakdown: <u>10</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	<b>Second Flow Pressure</b> Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.	<b>Final Shut-In</b> Breakdown: <u>10</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.
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Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	55	0	67	0	89	0	89
P 2 5	73	3	435	5	546	3	546
P 3 10	71	6	595	10	642	6	642
P 4 15	67	9	678	15	700	9	700
P 5		12	725	20	738	12	738
P 6		15	761	25	763	15	763
P 7		18	790	30	784	18	784
P 8		21	811			21	798
P 9		24	828			24	811
P10		27	842			27	822
P11		30	854			30	826
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

