



Home Office: Great Bend, Kansas
P. O. Box 793 Gladstone 3-7903

Company Graves Drlg. Co. Inc. Lease & Well No. Unruh # 1
Elevation 1890 K. B. Formation K. C. Ticket Number 6117
Date July 17, 1965 Sec. 15 Twp. 20S Range 14W County Barton State Kansas
Test Approved by George A. McCaleb Western Representative Norman Allen

Formation Test No. 1 O.K. Misrun Interval Tested From 3264' to 3295' Total Depth 3295'
Size Main Hole 7 7/8 Rat Hole Conv. B.T. Damaged Yes No Conv. B.T. Damaged Yes No
Packer Depth 3259 Ft. Size 6 3/4 Packer Depth 3264 Ft. Size 6 3/4
Straddle Yes No Conv. B.T. Damaged Yes No
Packer Depth _____ Ft. Size _____

Tool Size 5 1/2 O.D. Tool Jt. Size 4 1/2 D.H. Anchor Length _____ Ft. Size _____

RECORDERS Depth 3289 Ft. Clock No. 4964 Depth 3292 Ft. Clock No. 124
Top Make Kuster Cap. 3150 No. 1562 Inside Outside Bottom Make W.T.C. Cap. 3000 No. 41 Inside Outside
Below Straddle: Depth _____ Clock No. _____ Inside Outside Depth _____ Ft. Clock No. _____ Inside Outside
Top Make _____ Cap. _____ No. _____ Inside Outside Bottom Make _____ Cap. _____ No. _____ Inside Outside

Time Set Packer 3:18 A. M

Tool Open I.F.P. From 3:20 M to 3:25 M Hr. 5 Min. From (B) 21 P.S.I. To (C) 21 P.S.I.
Tool Closed I.C.I.P. From 3:25 M. to 3:55 M. Hr. 30 Min. (D) 28 P.S.I.
Tool Open F.F.P. From 3:55 M. to 4:25 M. Hr. 30 Min. From (E) 23 P.S.I. To (F) 24 P.S.I.
Tool Closed F.C.I.P. From 4:25 M. to 4:55 M. Hr. 30 Min. (G) 28 P.S.I.
Initial Hydrostatic Pressure (A) 1703 P.S.I. Final Hydrostatic Pressure (H) 1684 P.S.I.

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

BLOW Weak blow five minutes. Flushed tool once (Good surge) Bottom Choke Size 3/4 In.

Did Well Flow Yes No Recovery Total Ft. 10' Drilling Mud

Reversed Out Yes No Mud Type Starch Viscosity 40 Weight 98 Maximum Temp. 110 °F

EXTRA EQUIPMENT: Dual Packers yes Safety Joint no Jars: Size no Make _____ Ser. No. _____

Type Circ. Sub. plug Did Tool Plug? no Where? _____ Did Packer Hold? yes

Length Drill Pipe 2764 ft. I.D. Drill Pipe 3.8 in Length Weight Pipe 480 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars _____ ft.

I. D. Drill Collars _____ in. Length D.S.T. Tool 51 ft.

Remarks

WESTERN TESTING CO., INC.
Pressure Data

Date July 17, 1965

Test Ticket No. 6117

Recorder No. 1562 Capacity 3150 Location 3289 Ft.

Clock No. 4964 Elevation 1890 Kelly Bushings Well Temperature 110 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1703</u> P.S.I.	Opened Tool	<u>3:18 A.</u>	<u>M</u>
B First Initial Flow Pressure	<u>21</u> P.S.I.	First Flow Pressure	<u>5</u> Mins.	<u>5</u> Mins.
C First Final Flow Pressure	<u>21</u> P.S.I.	Initial Closed-in Pressure	<u>30</u> Mins.	<u>30</u> Mins.
D Initial Closed-in Pressure	<u>28</u> P.S.I.	Second Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
E Second Initial Flow Pressure	<u>23</u> P.S.I.	Final Closed-in Pressure	<u>30</u> Mins.	<u>27</u> Mins.
F Second Final Flow Pressure	<u>24</u> P.S.I.			
G Final Closed-in Pressure	<u>28</u> P.S.I.			
H Final Hydrostatic Mud	<u>1684</u> P.S.I.			

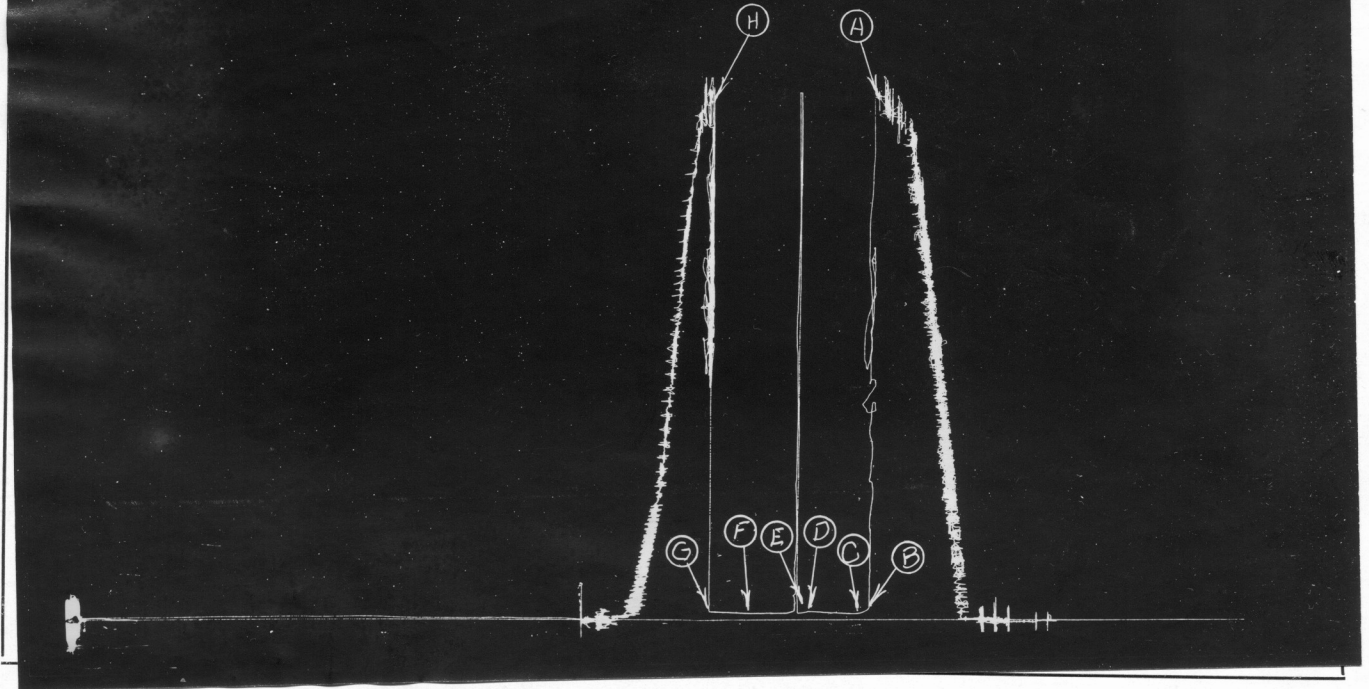
PRESSURE BREAKDOWN

First Flow Press.	Initial Shut-In	Second Flow Pressure	Final Shut-In
Breakdown: <u>1</u> Inc.	Breakdown: <u>10</u> Inc.	Breakdown: <u>6</u> Inc.	Breakdown: <u>9</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>21</u>	<u>0</u>	<u>21</u>	<u>0</u>	<u>23</u>	<u>0</u>	<u>24</u>
P 2 <u>5</u>	<u>21</u>	<u>3</u>	<u>21</u>	<u>5</u>	<u>23</u>	<u>3</u>	<u>24</u>
P 3		<u>6</u>	<u>21</u>	<u>10</u>	<u>23</u>	<u>6</u>	<u>24</u>
P 4		<u>9</u>	<u>22</u>	<u>15</u>	<u>24</u>	<u>9</u>	<u>25</u>
P 5		<u>12</u>	<u>23</u>	<u>20</u>	<u>24</u>	<u>12</u>	<u>25</u>
P 6		<u>15</u>	<u>24</u>	<u>25</u>	<u>24</u>	<u>15</u>	<u>26</u>
P 7		<u>18</u>	<u>25</u>	<u>30</u>	<u>24</u>	<u>18</u>	<u>26</u>
P 8		<u>21</u>	<u>26</u>			<u>21</u>	<u>27</u>
P 9		<u>24</u>	<u>27</u>			<u>24</u>	<u>27</u>
P10		<u>27</u>	<u>28</u>			<u>27</u>	<u>28</u>
P11		<u>30</u>	<u>28</u>				
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

Graves Drlg. Co. Inc.
Unruh #1

TEST# 1
TKT# 6117



This is an actual photograph of recorder chart.

POINT	PRESSURE
(A) Initial Hydrostatic Mud	1703 PSI
(B) First Initial Flow Pressure	21 PSI
(C) First Final Flow Pressure	21 PSI
(D) Initial Closed-in Pressure	28 PSI
(E) Second Initial Flow Pressure	23 PSI
(F) Second Final Flow Pressure	24 PSI
(G) Final Closed-in Pressure	28 PSI
(H) Final Hydrostatic Mud	1684 PSI



Home Office: Great Bend, Kansas
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Company Graves Drlg. Co. Inc. Lease & Well No. Unruh # 1
Elevation 1890 K. B. Formation Kansas City Ticket Number 6118
Date July 17, 1965 Sec. 15 Twp. 20S Range 14W County Barton State Kansas
Test Approved by George A. McCaleb Western Representative Norman Allen

Formation Test No. 2 O.K. Misrun _____ Interval Tested From 3312' to 3335' Total Depth 3335'
Size Main Hole 7 7/8 Rat Hole _____ Conv. _____ B.T. Damaged Yes No Conv. B.T. _____ Damaged Yes _____ No
Packer Depth 3307 Ft. Size 6 3/4 Packer Depth 3312 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 23 Ft. Size 5 1/2 O.D.

RECORDERS Depth 3329 Ft. Clock No. 4964 Depth 3332 Ft. Clock No. 124
Top Make Kuster Cap. 3150 No. 1562 Inside Outside Bottom Make W.T.C. Cap. 3000 No. 41 Inside Outside
Below Straddle: Depth _____ Clock No. _____ Inside _____ Depth _____ Ft. Clock No. _____ Inside _____
Top Make _____ Cap. _____ No. _____ Outside _____ Bottom Make _____ Cap. _____ No. _____ Outside _____

Time Set Packer 3:38 P. M
Tool Open I.F.P. From 3:40 M to 3:45 M Hr. 5 Min. From (B) 53 P.S.I. To (C) 54 P.S.I.
Tool Closed I.C.I.P. From 3:45 M. to 4:15 M. Hr. 30 Min. (D) 716 P.S.I.
Tool Open F.F.P. From 4:15 M. to 4:45 M. Hr. 30 Min. From (E) 43 P.S.I. To (F) 43 P.S.I.
Tool Closed F.C.I.P. From 4:45 M. to 5:15 M. Hr. 30 Min. (G) 128 P.S.I.
Initial Hydrostatic Pressure (A) 1764 P.S.I. Final Hydrostatic Pressure (H) 1740 P.S.I.

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

BLOW Weak blow ten minutes (slid tool ten feet to bottom) Bottom Choke Size 3/4 In.

Did Well Flow Yes No _____ Recovery Total Ft. 35' mud _____

Reversed Out Yes No _____ Mud Type starch Viscosity 41 Weight 9.7 Maximum Temp. 110 °F

EXTRA EQUIPMENT: Dual Packers yes Safety Joint no Jars: Size no Make _____ Ser. No. _____

Type Circ. Sub. plug Did Tool Plug? _____ Where? _____ Did Packer Hold? _____

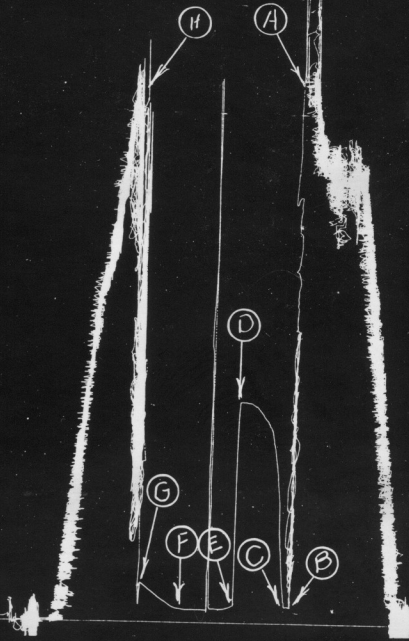
Length Drill Pipe 2812 ft. I.D. Drill Pipe 3.8 in Length Weight Pipe 480 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars _____ ft.

I. D. Drill Collars _____ in. Length D.S.T. Tool 43 ft.

Remarks Tool slid approximately six inches during Initial Flow Pressure and Initial Closed In Pressure period.

Graves Drlg. Co. Inc.
 Unruh #1

Test # 2
 TKT# 611B



This is an actual photograph of recorder chart.

POINT

PRESSURE

(A) Initial Hydrostatic Mud	1764	PSI
(B) First Initial Flow Pressure	53	PSI
(C) First Final Flow Pressure	54	PSI
(D) Initial Closed-in Pressure	716	PSI
(E) Second Initial Flow Pressure	43	PSI
(F) Second Final Flow Pressure	43	PSI
(G) Final Closed-in Pressure	128	PSI
(H) Final Hydrostatic Mud	1740	PSI



Home Office: Great Bend, Kansas
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Company Graves Drilling Company, Inc. Lease & Well No. Unruh #1
Elevation 1890 Kelly Bushings Arb. Ticket Number 6120
Date July 19, 1965 Sec. 15 Twp. 20s Range 14w County Barton State Kansas
Test Approved by George A. McCaleb Western Representative Norman Allen

Formation Test No. #5* O.K. #3 Misrun #2 Interval Tested From 3549' to 3562' Total Depth 3562'
Size Main Hole 7 7/8 Rat Hole _____ Conv. _____ B.T. X Damaged Yes no No Conv. X B.T. _____ Damaged Yes no No
Packer Depth 3544 Ft. Size 6 3/4 Packer Depth 3549 Ft. Size 6 3/4
Straddle Yes _____ No no Conv. _____ B.T. _____ Damaged Yes _____ No no No
Packer Depth 3514 Ft. Size 6 3/4 Top packer (3 packers run on DST)

Tool Size _____ Tool Jt. Size _____ Anchor Length _____ Ft. Size _____
RECORDERS Depth 3556 Ft. Clock No. 4964 Depth 3559 Ft. Clock No. 124
Top Make Kuster Cap. 3150 No. 1562 Inside _____ Outside _____ Bottom Make Western Cap. 3000 No. 41 Inside _____ Outside _____
Below Straddle: Depth _____ Clock No. _____ Inside _____ Outside _____ Depth _____ Ft. Clock No. _____ Inside _____ Outside _____
Top Make _____ Cap. _____ No. _____ Inside _____ Outside _____ Bottom Make _____ Cap. _____ No. _____ Inside _____ Outside _____

Time Set Packer 10:48 P M
Tool Open I.F.P. From 10:50 M to 12:00 M Hr. 10 Min. From (B) 55 P.S.I. To (C) 64 P.S.I.
Tool Closed I.C.I.P. From 12:00 M. to 12:30A M. Hr. 30 Min. (D) 1172 P.S.I.
Tool Open F.F.P. From 12:30 M. to 2:30A M. 2 Hr. Min. From (E) 48 P.S.I. To (F) 64 P.S.I.
Tool Closed F.C.I.P. From 2:30 M. to 3:00A M. Hr. 30 Min. (G) 1113 P.S.I.
Initial Hydrostatic Pressure (A) 1896 P.S.I. Final Hydrostatic Pressure (H) 1876 P.S.I.

SURFACE Size Choke 3/4 In. Max. Press. P.S.I. _____ Time _____ Description of Flow _____
INFORMATION Spring gauge inches water 18" 1" line 12:35AM. Gas 145,000
Spring gauge inches water 18" 1" line 12:45AM. Gas Stabilized @134,000
Spring gauge inches water 15" 1" line 2:00A.M. Gas -See below

BLOW Strong throughout test. Gas to surface ten minutes. Bottom Choke Size 3/4 In.

Did Well Flow Gas Yes _____ No _____ Recovery Total Ft. Fluid received 75' gas cut mud

Reversed Out Yes no No Mud Type starch Viscosity 67 Weight 9.7 Maximum Temp. 115 °F

EXTRA EQUIPMENT: Dual Packers 3 packers Safety Joint no Jars: Size yes Make Bowen Ser. No. 710

Type Circ. Sub. plug Did Tool Plug? no Where? _____ Did Packer Hold? yes

Length Drill Pipe 3009 ft. I.D. Drill Pipe 3.8 in Length Weight Pipe 480 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars _____ ft.

I. D. Drill Collars _____ in. Length D.S.T. Tool 73 ft.

Remarks DST#4 3546' to 3557' Misrun. Packer seat failure. Slid tool 2 1/2" to bottom. On bottom @1 PM, July 19, 1965. DST #5 3549' to 3562' On bottom tool open @11:50PM. IFP from 11:50 to 12:00 Gas to surface ten minutes @12:00. IBHP 12:00 to 12:30. Tool open 12:30 to 2:30. Gas measur (1" line inches of water Spring gauge) SEE ATTACHED SHEET

WESTERN TESTING CO., INC.
Pressure Data

Date July 19, 1965 Test Ticket No. 6120
 Recorder No. 1562 Capacity 3150 Location 3556 Ft.
 Clock No. 4964 Elevation 1890 Kelly Bushings Well Temperature 115 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1896</u>	P.S.I.	<u>10:48 P</u>	<u>M</u>
B First Initial Flow Pressure	<u>55</u>	P.S.I.	<u>10</u> Mins.	<u>10</u> Mins.
C First Final Flow Pressure	<u>64</u>	P.S.I.	<u>30</u> Mins.	<u>24</u> Mins.
D Initial Closed-in Pressure	<u>1172</u>	P.S.I.	<u>120</u> Mins.	<u>115</u> Mins.
E Second Initial Flow Pressure	<u>48</u>	P.S.I.	<u>30</u> Mins.	<u>27</u> Mins.
F Second Final Flow Pressure	<u>64</u>	P.S.I.		
G Final Closed-in Pressure	<u>1113</u>	P.S.I.		
H Final Hydrostatic Mud	<u>1876</u>	P.S.I.		

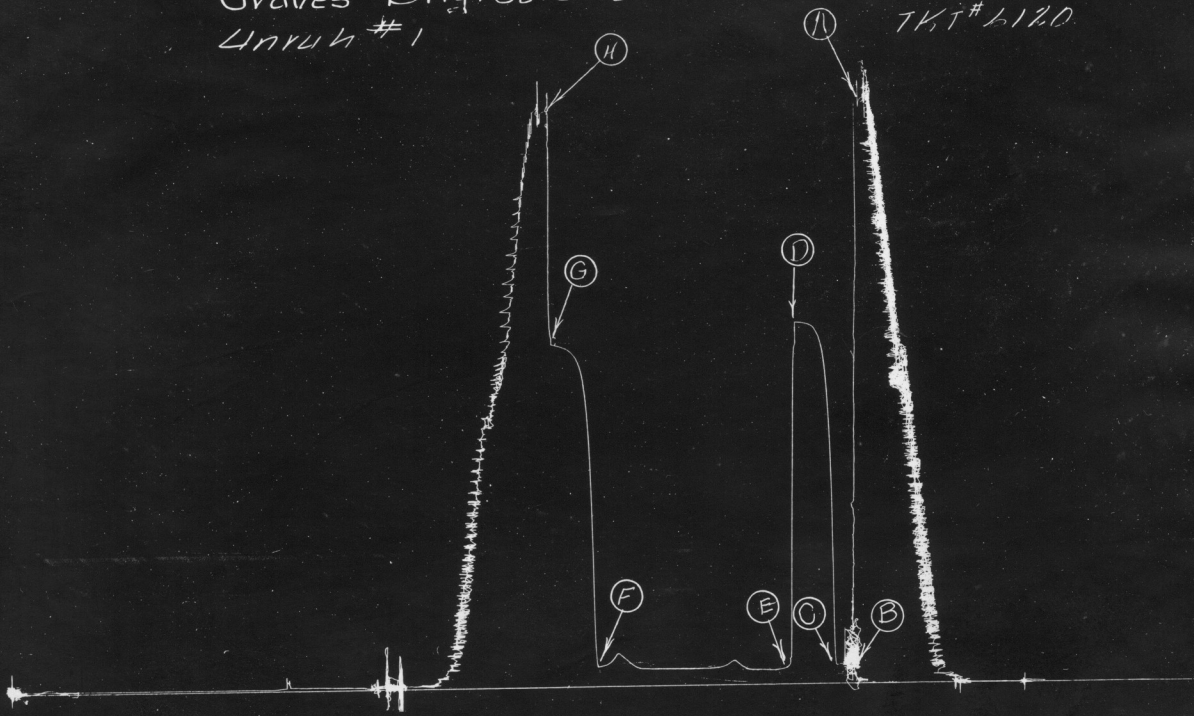
PRESSURE BREAKDOWN

First Flow Press.	Initial Shut-In	Second Flow Pressure	Final Shut-In
Breakdown: <u>2</u> Inc.	Breakdown: <u>8</u> Inc.	Breakdown: <u>23</u> Inc.	Breakdown: <u>9</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.	First Flow Press.		Initial Shut-In		Second Flow Pressure		Final Shut-In	
	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes
P 1 <u>0</u>	<u>55</u>	<u>0</u>	<u>64</u>	<u>0</u>	<u>48</u>	<u>0</u>	<u>64</u>	
P 2 <u>5</u>	<u>64</u>	<u>3</u>	<u>482</u>	<u>3</u>	<u>48</u>	<u>3</u>	<u>518</u>	
P 3 <u>10</u>	<u>64</u>	<u>6</u>	<u>993</u>	<u>6</u>	<u>48</u>	<u>6</u>	<u>914</u>	
P 4 _____		<u>9</u>	<u>1113</u>	<u>9</u>	<u>49</u>	<u>9</u>	<u>1029</u>	
P 5 _____		<u>12</u>	<u>1150</u>	<u>12</u>	<u>49</u>	<u>12</u>	<u>1070</u>	
P 6 _____		<u>15</u>	<u>1165</u>	<u>15</u>	<u>50</u>	<u>15</u>	<u>1091</u>	
P 7 _____		<u>18</u>	<u>1169</u>	<u>18</u>	<u>50</u>	<u>18</u>	<u>1100</u>	
P 8 _____		<u>21</u>	<u>1171</u>	<u>21</u>	<u>50</u>	<u>21</u>	<u>1106</u>	
P 9 _____		<u>24</u>	<u>1172</u>	<u>24</u>	<u>51</u>	<u>24</u>	<u>1109</u>	
P10 _____				<u>45</u>	<u>51</u>	<u>27</u>	<u>1113</u>	
P11 _____				<u>50</u>	<u>52</u>			
P12 _____				<u>55</u>	<u>53</u>			
P13 _____				<u>60</u>	<u>54</u>			
P14 _____				<u>65</u>	<u>54</u>			
P15 _____				<u>70</u>	<u>55</u>			
P16 _____				<u>75</u>	<u>56</u>			
P17 _____				<u>80</u>	<u>57</u>			
P18 _____				<u>85</u>	<u>57</u>			
P19 _____				<u>90</u>	<u>58</u>			
P20 _____				<u>95</u>	<u>59</u>			
				<u>100</u>	<u>60</u>			
				<u>105</u>	<u>61</u>			
				<u>110</u>	<u>62</u>			
				<u>115</u>	<u>64</u>			

Graves Dlg. Co. Inc.
 Unruh #1

TEST # 5
 TKT # 6120



This is an actual photograph of recorder chart.

POINT	PRESSURE	
(A) Initial Hydrostatic Mud	1896	PSI
(B) First Initial Flow Pressure	55	PSI
(C) First Final Flow Pressure	64	PSI
(D) Initial Closed-in Pressure	1172	PSI
(E) Second Initial Flow Pressure	48	PSI
(F) Second Final Flow Pressure	64	PSI
(G) Final Closed-in Pressure	1113	PSI
(H) Final Hydrostatic Mud	1876	PSI



Home Office: Great Bend, Kansas
P. O. Box 793 Gladstone 3-7903

Company Graves Drilling Company, Inc. Lease & Well No. Unruh #1
Elevation 1890 Kelly Bushings Arb. Ticket Number 6121
Date July 20, 1965 Sec. 15 Twp. 20s Range 14w County Barton State Kansas
Test Approved by George A. McCaleb Western Representative Norman Allen

Formation Test No. 6 O.K. #4 Misrun #2 Interval Tested From 3566' 3577' Total Depth 3577'
Size Main Hole 7 7/8 Rat Hole _____ Conv. X B.T. _____ Damaged Yes no No Conv. _____ B.T. X Damaged Yes no No
Packer Depth 3556 Ft. Size 6 3/4 Packer Depth 3561 Ft. Size 6 3/4
Straddle Yes _____ No no Conv. X B.T. _____ Damaged Yes no No
Packer Depth 3566 Ft. Size 6 3/4

Tool Size 5 1/2 OD Tool Jt. Size 4 1/2 FH Anchor Length 11 Ft. Size 5 1/2 OD
RECORDERS Depth 3571 Ft. Clock No. 4964 Depth 3574 Ft. Clock No. 124
Top Make Kuster Cap. 3150 No. 1562 Inside Outside Bottom Make Western Cap. 3000 No. 41 Inside Outside
Below Straddle: Depth _____ Clock No. _____ Inside Outside Depth _____ Ft. Clock No. _____ Inside Outside
Top Make _____ Cap. _____ No. _____ Inside Outside Bottom Make _____ Cap. _____ No. _____ Inside Outside

Time Set Packer 1:33P M
Tool Open I.F.P. From 1:35P M to 1:45 M Hr. 10 Min. From (B) 40 P.S.I. To (C) 40 P.S.I.
Tool Closed I.C.I.P. From 1:45 M. to 2:15 M. Hr. 30 Min. (D) 1080 P.S.I.
Tool Open F.F.P. From 2:15 M. to 3:15 M. 1 Hr. Min. From (E) 51 P.S.I. To (F) 75 P.S.I.
Tool Closed F.C.I.P. From 3:15 M. to 3:45 M. Hr. 30 Min. (G) 1003 P.S.I.
Initial Hydrostatic Pressure (A) 1895 P.S.I. Final Hydrostatic Pressure (H) 1903 P.S.I.

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

BLOW Weak blow throughout test. Bottom Choke Size 3/4 In.
Did Well Flow Yes No No Recovery Total Fr. 115' slightly muddy sluphur water with a slight show of
dead oil Mud

Reversed Out Yes _____ No Mud Type starch Viscosity 54 Weight 9.7 Maximum Temp. 115 °F

EXTRA EQUIPMENT: Dual Packers 3 packers Safety Joint no Jars: Size 3 1/2 FH Make Bowen Ser. No. 710

Type Circ. Sub. plug Did Tool Plug? no Where? _____ Did Packer Hold? yes

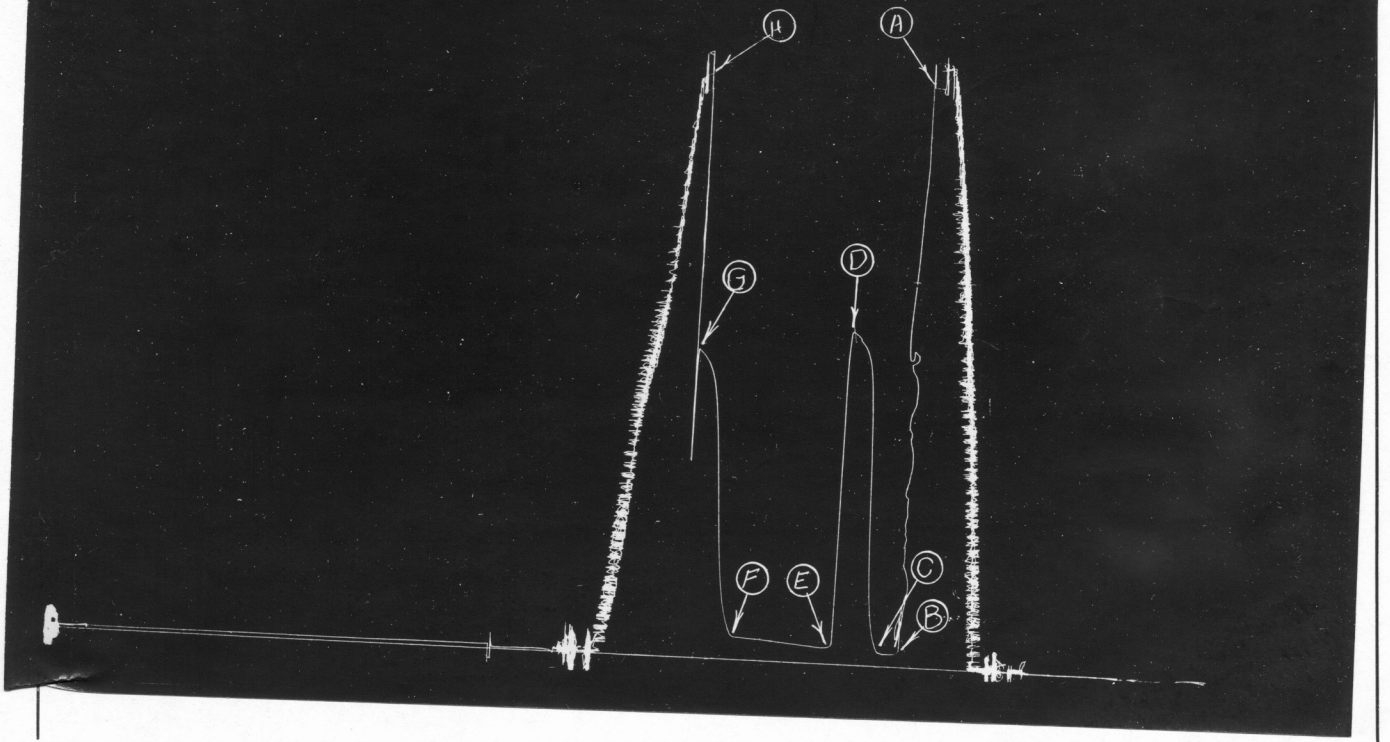
Length Drill Pipe 3055 ft. I.D. Drill Pipe 3.8 in Length Weight Pipe 480 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars _____ ft.

I. D. Drill Collars _____ in. Length D.S.T. Tool 42 ft.

Remarks

Graves Div. Co. Inc.
Unruh #1

Test # 6
TKT# 6121



This is an actual photograph of recorder chart.

POINT	PRESSURE	
(A) Initial Hydrostatic Mud	1895	PSI
(B) First Initial Flow Pressure	40	PSI
(C) First Final Flow Pressure	40	PSI
(D) Initial Closed-in Pressure	1080	PSI
(E) Second Initial Flow Pressure	51	PSI
(F) Second Final Flow Pressure	75	PSI
(G) Final Closed-in Pressure	1003	PSI
(H) Final Hydrostatic Mud	1903	PSI

NOMENCLATURE

b	= Approximate Radius of Investigation	Feet
b¹	= Approximate Radius of Investigation (Net Pay Zone h ¹)	Feet
D.R.	= Damage Ratio	—
EI	= Elevation	Feet
GD	= B.T. Gauge Depth (From Surface Reference)	Feet
h	= Interval Tested	Feet
h¹	= Net Pay Thickness	Feet
K	= Permeability	md
K¹	= Permeability (From Net Pay Zone h ¹)	md
m	= Slope Extrapolated Pressure Plot (Psi ² /cycle Gas)	psi/cycle
OF¹	= Maximum Indicated Flow Rate	MCF/D
OF²	= Minimum Indicated Flow Rate	MCF/D
OF³	= Theoretical Open Flow Potential with/Damage Removed Max.	MCF/D
OF⁴	= Theoretical Open Flow Potential with/Damage Removed Min.	MCF/D
P^S	= Extrapolated Static Pressure	Psig.
P^F	= Final Flow Pressure	Psig.
P^{PT}	= Potentiometric Surface (Fresh Water*)	Feet
Q	= Average Adjusted Production Rate During Test	bbls/day
Q¹	= Theoretical Production w/Damage Removed	bbls/day
Q^g	= Measured Gas Production Rate	MCF/D
R	= Corrected Recovery	bbls
r^w	= Radius of Well Bore	Feet
t	= Flow Time	Minutes
t^o	= Total Flow Time	Minutes
T	= Temperature Rankine	°R
Z	= Compressibility Factor	—
u	= Viscosity Gas or Liquid	CP
Log	= Common Log	

* Potentiometric Surface Reference to Rotary Table When Elevation Not Given, Fresh Water Corrected to 100° F.