



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

Company W. J. Coppinger Lease & Well No. Doerksen #2
Elevation 3033' K.B. Ticket Number 4747
Date 1-26-64 Sec. 27 Twp. 28S Range 34W County Gaskell State Kansas
Test Approved by F. W. Mallonee Western Representative Norman Allen

Formation Test No. 1 O.K. Misrun _____ Interval Tested From 5509' to 5532' Total Depth 5668'
Size Main Hole 7 7/8" Rat Hole _____ Conv. _____ B.T. Damaged Yes No Conv. B.T. _____ Damaged Yes No
(See Remarks) Packer Depth 5475 Ft. Size 6 3/4" Packer Depth 5509 Ft. Size 6 3/4"
Straddle Yes _____ No _____ Conv. B.T. _____ Damaged Yes No
Packer Depth 5532 Ft. Size 6 3/4"
Tool Size 5 1/2" OD Tool Jt. Size 4 1/2" FH & 4 1/2" XH Anchor Length 23' & 136 Ft. Size 5 1/2" OD & DC & DP

RECORDERS Depth 5521 Ft. Clock No. 6866 Depth 5524 Ft. Clock No. 35
Top Make Amerada Cap. 6000# No. 1566 Inside Outside Bottom Make Western Cap. 6000# No. 35 Inside Outside
Below Straddle: Depth 5666 Clock No. 36 Inside Outside Depth _____ Ft. Clock No. _____ Inside Outside
Top Make Western Cap. 6000# No. 36 Inside Outside Bottom Make _____ Cap. _____ No. _____ Inside Outside

Time Set Packer 8:37 P
Tool Open I.F.P. From 8:40P M. to 9:10P M. - Hr. 30 Min. From (B) 81 P.S.I. To (C) 99 P.S.I.
Tool Closed I.C.I.P. From 9:10P M. to 9:55P M. - Hr. 45 Min. (D) 1144 P.S.I.
Tool Open F.F.P. From 9:55P M. to 10:55P M. 1 Hr. - Min. From (E) 113 P.S.I. To (F) 125 P.S.I.
Tool Closed F.C.I.P. From 10:55P M. to 11:40P M. - Hr. 45 Min. (G) 730 P.S.I.
Initial Hydrostatic Pressure (A) 2925 P.S.I. Final Hydrostatic Pressure (H) 2889 P.S.I.

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

BLOW Fair blow throughout I.F.P. and F.F.P. Bottom Choke Size 3/4 in.
Did Well Flow Yes No _____ Recovery Total Ft. 165' very slight slightly oil cut mud with some free oil

Reversed Out Yes No _____ Mud Type Starch Viscosity 48 Weight 9.6 Maximum Temp. 134 °F
EXTRA EQUIPMENT: Dual Packers 3 Packers Safety Joint Yes Jars: Size 3 1/2" FH Make Bowen Ser. No. 591
Type Circ. Sub. Plug Did Tool Plug? No Where? _____ Did Packer Hold? Yes
Length Drill Pipe 4110 ft. I.D. Drill Pipe 3.34 in. Length Weight Pipe 1310 ft. I.D. Weight Pipe 2 7/8 in. Length Drill Collars 30 ft.
I. D. Drill Collars 2 1/4 in. Length D. S. T. Tool 218 ft.

Remarks
The top two packers were spaced 34' apart with a joint of drill pipe

WESTERN TESTING CO., INC.

Pressure Data

Date 1-26-64 Test Ticket No. 4747
 Recorder No. 1566 Capacity 6000# Location 5521 Ft.
 Clock No. 6866 Elevation 3033' K.B. Well Temperature 134 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2925</u> P.S.I.	Opened Tool	<u>8:37 P</u>	<u>8:37 PM</u>
B First Initial Flow Pressure	<u>81</u> P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>99</u> P.S.I.	Initial Closed-in Pressure	<u>45</u> Mins.	<u>45</u> Mins.
D Initial Closed-in Pressure	<u>1144</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>113</u> P.S.I.	Final Closed-in Pressure	<u>45</u> Mins.	<u>42</u> Mins.
F Second Final Flow Pressure	<u>125</u> P.S.I.			
G Final Closed-in Pressure	<u>730</u> P.S.I.			
H Final Hydrostatic Mud	<u>2889</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Press. Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>-</u> Min.	Initial Shut-In Breakdown: <u>15</u> Inc. of <u>3</u> mins. and a final inc. of <u>-</u> Min.	Second Flow Pressure Breakdown: <u>12</u> Inc. of <u>5</u> mins. and a final inc. of <u>-</u> Min.	Final Shut-In Breakdown: <u>14</u> Inc. of <u>3</u> mins. and a final inc. of <u>-</u> Min.
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Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1	<u>0</u>	<u>81</u>	<u>0</u>	<u>99</u>	<u>0</u>	<u>113</u>	<u>125</u>
P 2	<u>5</u>	<u>87</u>	<u>3</u>	<u>131</u>	<u>5</u>	<u>113</u>	<u>147</u>
P 3	<u>10</u>	<u>90</u>	<u>6</u>	<u>242</u>	<u>10</u>	<u>115</u>	<u>169</u>
P 4	<u>15</u>	<u>93</u>	<u>9</u>	<u>452</u>	<u>15</u>	<u>116</u>	<u>198</u>
P 5	<u>20</u>	<u>95</u>	<u>12</u>	<u>616</u>	<u>20</u>	<u>117</u>	<u>227</u>
P 6	<u>25</u>	<u>98</u>	<u>15</u>	<u>715</u>	<u>25</u>	<u>118</u>	<u>271</u>
P 7	<u>30</u>	<u>99</u>	<u>18</u>	<u>800</u>	<u>30</u>	<u>119</u>	<u>312</u>
P 8			<u>21</u>	<u>865</u>	<u>35</u>	<u>120</u>	<u>367</u>
P 9			<u>24</u>	<u>920</u>	<u>40</u>	<u>121</u>	<u>420</u>
P10			<u>27</u>	<u>967</u>	<u>45</u>	<u>122</u>	<u>475</u>
P11			<u>30</u>	<u>1011</u>	<u>50</u>	<u>123</u>	<u>531</u>
P12			<u>33</u>	<u>1047</u>	<u>55</u>	<u>124</u>	<u>581</u>
P13			<u>36</u>	<u>1079</u>	<u>60</u>	<u>125</u>	<u>633</u>
P14			<u>39</u>	<u>1108</u>			<u>683</u>
P15			<u>42</u>	<u>1132</u>			<u>730</u>
P16			<u>45</u>	<u>1144</u>			
P17							
P18							
P19							
P20							

Liquid Production

B.T. Gauge Numbers		1566	Ticket Number		4747
Initial Hydrostatic		PRESSURE 2925	Elevation		KB 3033 ft.
Final Hydrostatic		2889	Indicated Production		1st Flow 18 bbls. day
1st Flow	Initial	Time ----- 81	Total Flow		22 bbls. day
	Final	30 99	Drill Collar Length		30 ft.
Initial Closed In Pressure		45 1144	Drill Collar I.D.		2.25 in.
2nd Flow	Initial	----- 113	Drill Pipe Factor		2.25 bbls. ft.
	Final	60 125	Hole Size		7 7/8 in.
Final Closed In Pressure		42 730	Footage Tested		23 ft.
Extrapolated Static Pressure	Initial	1480	Mud Weight		9.6 lbs. gal.
	Final	113	Viscosity, Oil or Water		1 cp
Slope psi/cycle	Initial	1510	Oil API Gravity		---
	Final	125	Water Specific Gravity		---

Remarks: **This zone shows very little permeability and can be considered marginal**

K₁ and b₁ uses 18 feet as the formation height

SUMMARY

Gauge No.
Depth

Product	Equation	INITIAL	FINAL	Units
Production	$Q = \frac{1440 R}{t}$	18	24	bbls. day
Transmissibility	$\frac{Kh}{\mu} = \frac{162.6 Q}{m}$	1.9		md. ft. cp
Indicated Flow Capacity	$Kh = \frac{Kh}{\mu} \mu$	1.9		md. ft.
Average Effective Permeability	$K = \frac{Kh}{h}$	0.1		md.
	$K_i = \frac{Kh}{h_i}$	0.1		md.
Damage Ratio	$DR = .183 \frac{P_s - P_f}{m}$	0.17		---
Theoretical Potential w/Damage Removed	$Q_1 = Q DR$	18	24	bbls. day
Approx. Radius of Investigation	$b \approx \sqrt{Kt}$ or $\sqrt{Kt_0}$	2		ft.
	$b_1 \approx \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$	2		ft.
Potentiometric Surface KB *	$Pot. = EI - GD + 2.319 P_s$	944		ft.

NOTICE: These calculations are based upon information furnished by you and taken from Drill Stem Test pressure charts, and are furnished you for your information. In furnishing such calculations and elevations based thereon, Western Testing Co., Inc. is merely expressing its opinion. You agree that Western Testing Co., Inc. makes no warranty express or implied as to the accuracy of such calculations or opinions, and that Western Testing Co., Inc. shall not be liable for any loss or damage, whether due to negligence or otherwise, in connection with such calculations and opinions.

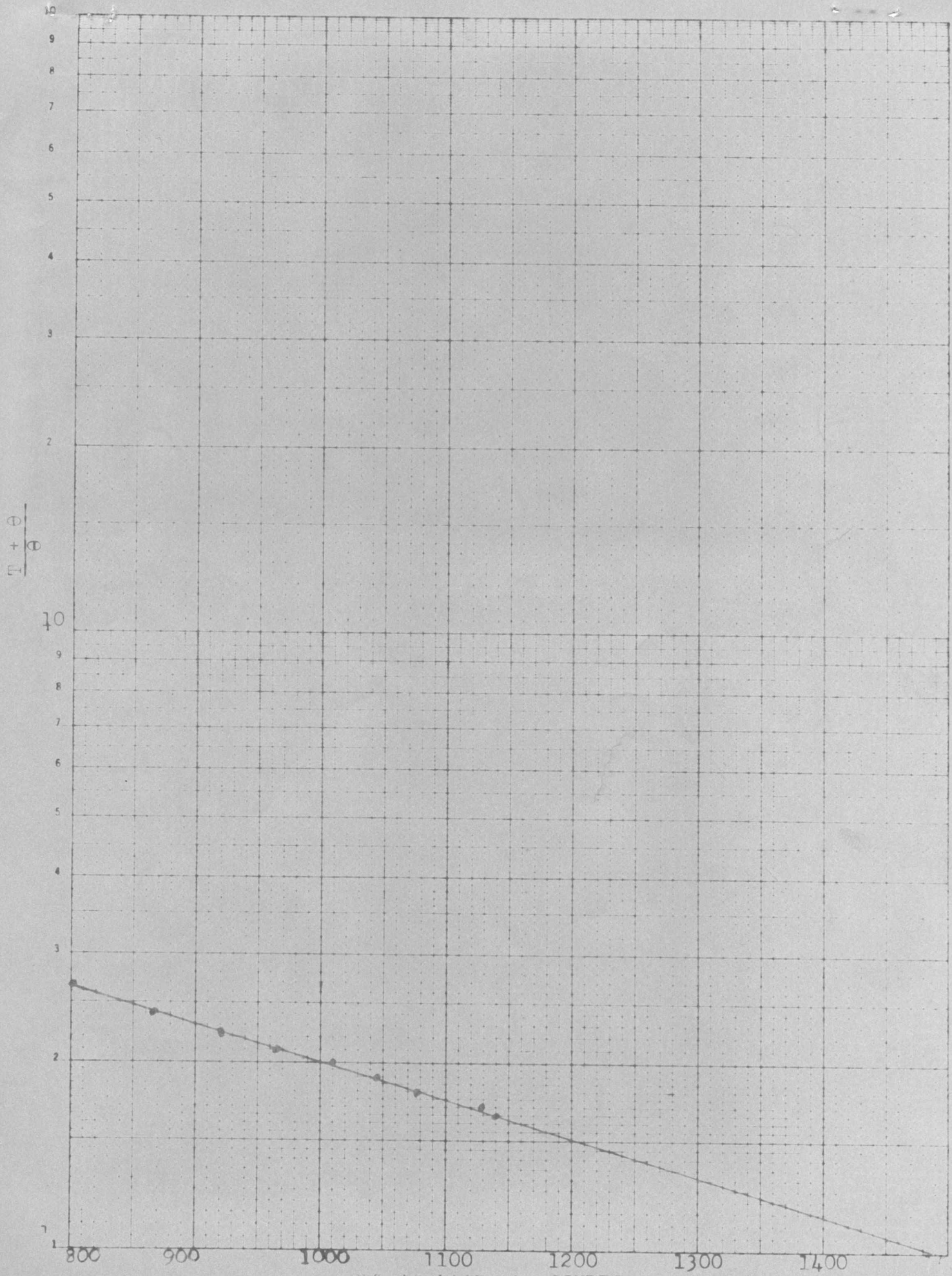
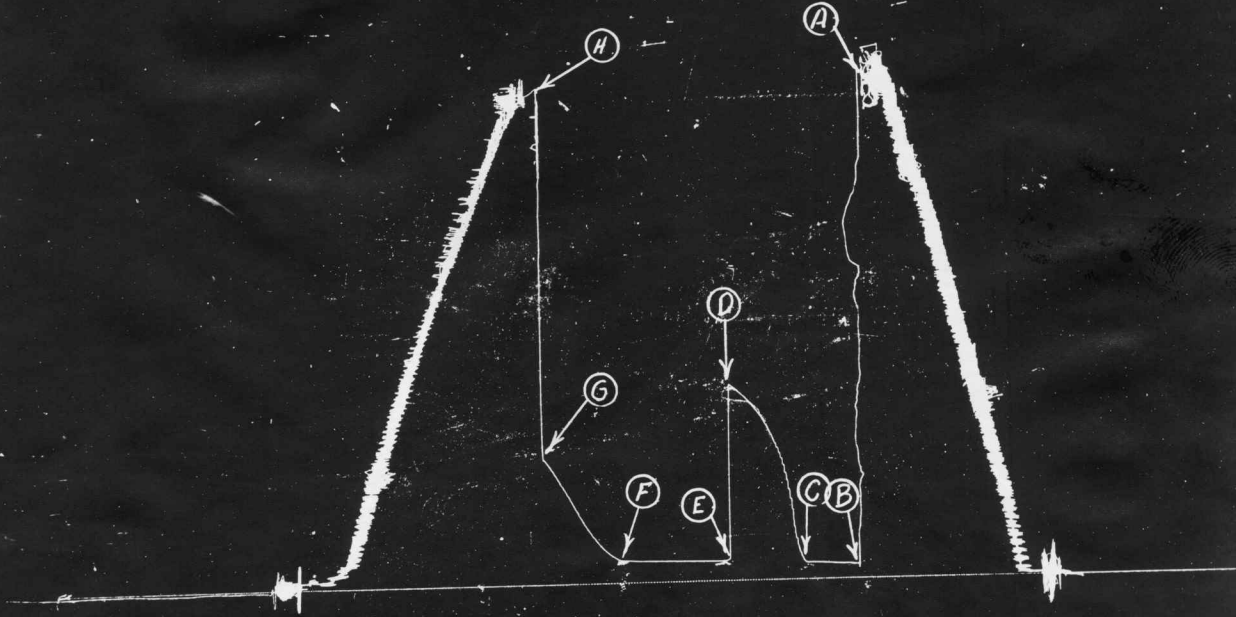


FIG. 1. STATE OF 133770

W. J. Coppingex
Doerksen # 2

TEST # 1
TKT # 4747



POINT

PRESSURE

(A) Initial Hydrostatic Mud	2925	PSI
(B) First Initial Flow Pressure	81	PSI
(C) First Final Flow Pressure	99	PSI
(D) Initial Closed-in Pressure	1144	PSI
(E) Second Initial Flow Pressure	113	PSI
(F) Second Final Flow Pressure	125	PSI
(G) Final Closed-in Pressure	730	PSI
(H) Final Hydrostatic Mud	2889	PSI

W.D. Coppinger
Boerksen # 2
Blank off - Chart

Test # 1
TKT # 4747

