



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

Company Graves Drilling Co., Inc. Lease & Well No. Sleeper #1
Elevation 1709 Kelly Bushings Formation Mississippian Effective Pay _____ Ft. Ticket No. 20985
Date 2-27-74 Sec. 12 Twp. 22S Range 9W County Reno State Kansas
Test Approved by Benton S. Brooks, Jr. Western Representative Leon Elmore
Formation Test No. 1 O.K. ☒ Misrun _____ Interval Tested From 3502' to 3536' Total Depth 3536'
Size Main Hole 7 7/8" Rat Hole _____ Conv. ☒ B.T. _____ Damaged _____ Yes ☒ No Conv. _____ B.T. ☒ Damaged _____ Yes ☒ No
Top Packer Depth 3497 Ft. Size 6 3/4" Bottom Packer Depth 3502 Ft. Size 6 3/4"
Straddle No Conv. _____ B.T. _____ Damaged _____ Yes _____ No Packer Depth _____ Ft. Size _____
Tool Size 5 1/2" O.D. Tool Joint Size 4 1/2" F.H. Anchor Length 34 Ft. Size 5 1/2" O.D. Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.
RECORDERS Depth 3527 Ft. Clock No. 6892 Depth 3530 Ft. Clock No. 8377
Top Make Kuster Cap. 4500 No. 3085 ~~Inside~~ Outside Bottom Make Kuster Cap. 4400 No. 2603 ~~Inside~~ Outside
Below Straddle: Depth _____ Rec. No. _____ Clock No. _____ ~~Inside~~ Outside Depth _____ Ft. Rec. No. _____ Clock No. _____ ~~Inside~~ Outside
Time Set Packer 5:39 A.M.
Tool Open I.F.P. From 5:43 M. to 6:13A M. Hr. 30 Min. From (B) 31 P.S.I. To (C) 31 P.S.I.
Tool Closed I.C.I.P. From 6:13 M. to 6:43A M. Hr. 30 Min (D) 628 P.S.I.
Tool Open F.F.P. From 6:43 M. to 7:28A M. Hr. 45 Min. From (E) 33 P.S.I. To (F) 66 P.S.I.
Tool Closed F.C.I.P. From 7:28 M. to 7:58A M. Hr. 30 Min. (G) 275 P.S.I.
Initial Hydrostatic Pressure (A) 1841 P.S.I. Final Hydrostatic Pressure (H) 1812 P.S.I. Maximum Temp. 112

INFORMATION

BLOW Weak for 17 min. - died
Did Well Flow _____ Yes ☒ No _____ Recovery Total Ft. 90 feet mud
Reversed Out _____ Yes ☒ No _____ Mud Type Starch Viscosity 43 Weight 9.8 Water Loss 8 cc. Chlorides 65,000
EXTRA EQUIPMENT: Type Circ. Sub. Pin Safety Joint No Jars: Size _____ In. Make _____ Ser. No. _____
Dual Packer Yes Did Packers Hold? Yes Did Tool Plug? No Where? _____
DRILLING CONTRACTOR Graves Rig #1 Length Drill Pipe? 3390 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 90 Ft. I.D. Drill Collars 2 1/4 In.
Tool Joint Size 4 1/2" H-90 In. Length D.S.T. Tool 56 Ft.
Remarks: Flush tool on final flow
Tool slide 3 feet after opening

WESTERN TESTING CO., INC.

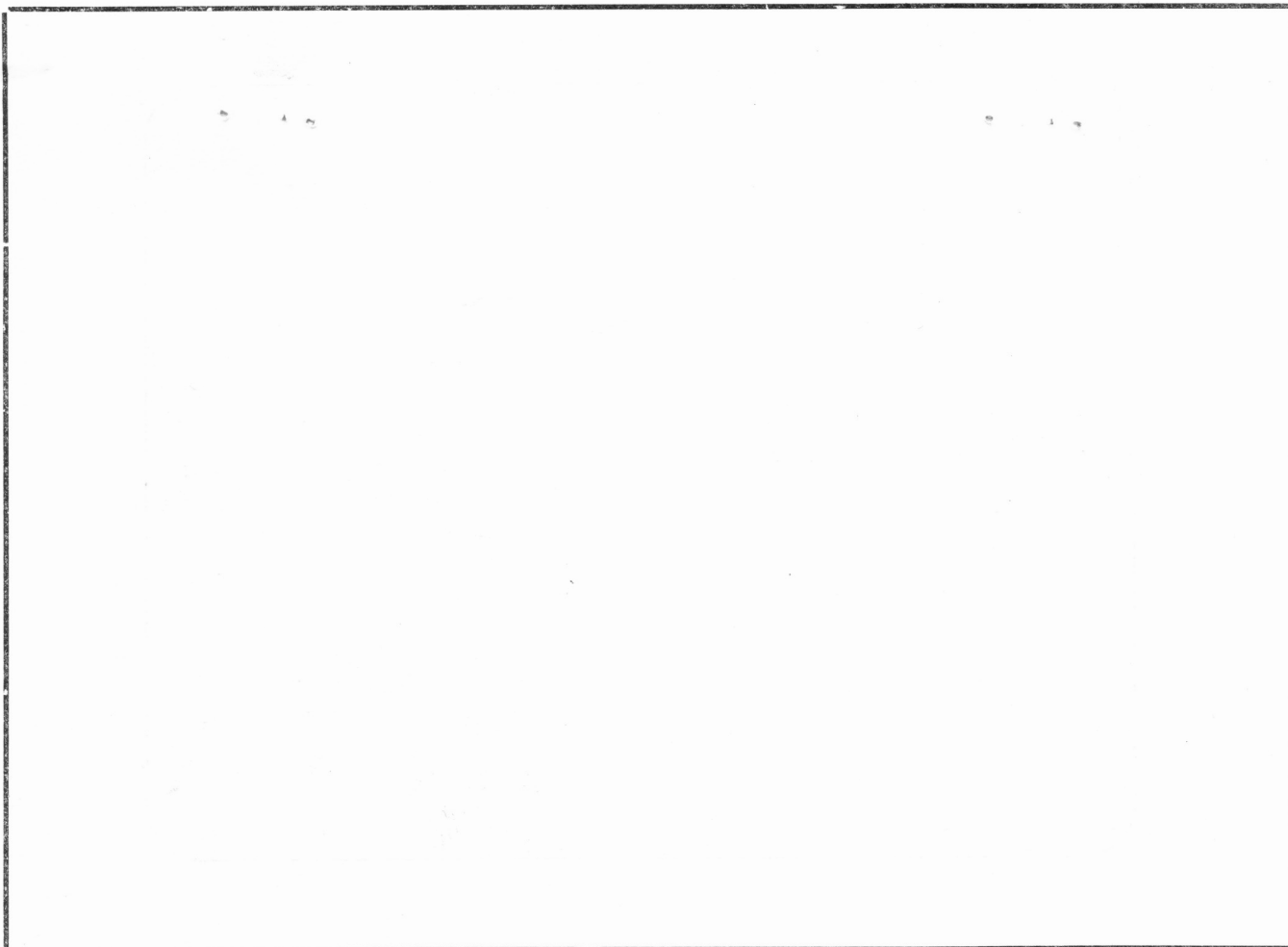
Pressure Data

Date 2-27-74 Test Ticket No. 20985
 Recorder No. 3085 Capacity 4500 Location 3527 Ft.
 Clock No. 6892 Elevation 1709 Kelly Bushings Well Temperature 112 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	1841	P.S.I.	5:39 A.	M
B First Initial Flow Pressure	31	P.S.I.	30	Mins.
C First Final Flow Pressure	31	P.S.I.	30	Mins.
D Initial Closed-in Pressure	628	P.S.I.	45	Mins.
E Second Initial Flow Pressure	33	P.S.I.	30	Mins.
F Second Final Flow Pressure	66	P.S.I.		
G Final Closed-in Pressure	275	P.S.I.		
H Final Hydrostatic Mud	1812	P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: <u>6</u> Inc.		Breakdown: <u>9</u> Inc.		Breakdown: <u>9</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 Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>31</u>	<u>0</u>	<u>31</u>	<u>0</u>	<u>33</u>	<u>0</u>	<u>66</u>
P 2 <u>5</u>	<u>31</u>	<u>3</u>	<u>48</u>	<u>5</u>	<u>33</u>	<u>3</u>	<u>66</u>
P 3 <u>10</u>	<u>31</u>	<u>6</u>	<u>69</u>	<u>10</u>	<u>33</u>	<u>6</u>	<u>66</u>
P 4 <u>15</u>	<u>31</u>	<u>9</u>	<u>105</u>	<u>15</u>	<u>33</u>	<u>9</u>	<u>79</u>
P 5 <u>20</u>	<u>31</u>	<u>12</u>	<u>160</u>	<u>20</u>	<u>33</u>	<u>12</u>	<u>100</u>
P 6 <u>25</u>	<u>31</u>	<u>15</u>	<u>232</u>	<u>25</u>	<u>33</u>	<u>15</u>	<u>122</u>
P 7 <u>30</u>	<u>31</u>	<u>18</u>	<u>327</u>	<u>30</u>	" "	<u>18</u>	<u>146</u>
P 8		<u>21</u>	<u>440</u>	<u>35</u>	<u>66</u>	<u>21</u>	<u>172</u>
P 9		<u>24</u>	<u>437</u>	<u>40</u>	<u>66</u>	<u>24</u>	<u>203</u>
P10		<u>27</u>	<u>628</u>	<u>45</u>	<u>66</u>	<u>27</u>	<u>241</u>
P11						<u>30</u>	<u>275</u>
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	1845	1841	PSI
(B) First Initial Flow Pressure	30	31	PSI
(C) First Final Flow Pressure	30	31	PSI
(D) Initial Closed-in Pressure	629	628	PSI
(E) Second Initial Flow Pressure	35	33	PSI
(F) Second Final Flow Pressure	65	66	PSI
(G) Final Closed-in Pressure	274	275	PSI
(H) Final Hydrostatic Mud	1810	1812	PSI

NOMENCLATURE

b	== Approximate Radius of Investigation	Feet
b¹	== Approximate Radius of Investigation (Net Pay Zone h¹)	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 h¹)	md
m	== Slope Extrapolated Pressure Plot (Psi²/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^{OT}	== 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.