WESTERN TESTERS

Home Office: Great Bend, Kansas

P. O. Box 793 SWift 3-7903

Company Pickrell Drilling Company Lease & Well No. Sauer #A-1

Elevation 2472 Kelly Bushings Formation Mississippi Ticket Number 7744

Date Jan.28,1967 Sec. 27 Twp. 14s Range 27w County Gove State Kansas

Test Approved by Ralph W. Ruwwe Western Representative Dean Blagrave

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Formation Test No. 1 O.K. x Misrun ____ Interval Tested From 4269' to 4280' Total Depth 4280'

Size Main Hole 7 7/8 Rat Hole none Conv. x B.T. ____ Damaged ____ Yes x No Conv. x B.T. ____ Damaged ____ Yes x No

Packer Depth 4264 Ft. Size 6 3/4 Packer Depth 4269 Ft. Size 6 3/4

Straddle ____ Yes x No ____ Conv. ____ B.T. ____ Damaged ____ Yes ____ No

Packer Depth ____ Ft. Size ____

Tool Size 5½ OD Tool Jt. Size 4½ FH Anchor Length 11 Ft. Size 5½ OD

RECORDERS Depth 4273 Ft. Clock No. 6892 Depth 4276 Ft. Clock No. 6774

Top Make Amerada Cap. 4150 No. 2606 Inside ____ Outside ____ Bottom Make Amerada Cap. 4300 No. 1567 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 7:51 P M

Tool Open I.F.P. From 7:53P M to 8:05 M Hr. ____ Min. From (B) 45 P.S.I. To (C) 50 P.S.I.

Tool Closed I.C.I.P. From 8:05P to 8:35 M. Hr. 30 Min. (D) 1086 P.S.I.

Tool Open F.F.P. From 8:35 M. to 10:35 M. 2 Hr. ____ Min. From (E) 62 P.S.I. To (F) 106 P.S.I.

Tool Closed F.C.I.P. From 10:35 M. to 11:35 M. 1 Hr. ____ Min. (G) 1084 P.S.I.

Initial Hydrostatic Pressure (A) 2356 P.S.I. Final Hydrostatic Pressure (H) 2341 P.S.I.

SURFACE INFORMATION	Size Choke	Max. Press. P.S.I.	Time	Description of Flow
	1/4 In.		M.	
			M.	
			M.	

BLOW Weak increasing to fair. Bottom Choke Size 3/4 in.

Did Well Flow ____ Yes x No Recovery Total Ft. 200' muddy oil

Mud

Reversed Out ____ Yes x No Mud Type starch Viscosity 49 Weight 10.2 Maximum Temp. 136 °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 ____ ft. I.D. Drill Pipe ____ in Length Weight Pipe 1010 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars none ft.

I. D. Drill Collars ____ in. Length D.S.T. Tool 29 ft.

Remarks

WESTERN TESTING CO., INC.
Pressure Data

Date: January 28, 1967 — Test Ticket No. 7744

Recorder No. 2606 — Capacity 4150 — Location 4273 Ft.

Clock No. 6892 — Elevation 2472 Kelly Bushings — Well Temperature 136 °F

Point		Pressure	
A	Initial Hydrostatic Mud	2356	P.S.I.
B	First Initial Flow Pressure	45	P.S.I.
C	First Final Flow Pressure	50	P.S.I.
D	Initial Closed-in Pressure	1086	P.S.I.
E	Second Initial Flow Pressure	62	P.S.I.
F	Second Final Flow Pressure	106	P.S.I.
G	Final Closed-in Pressure	1084	P.S.I.
H	Final Hydrostatic Mud	2341	P.S.I.

	Time Given	Time Computed
Opened Tool	7:51 P M	
First Flow Pressure	12 Mins.	11 Mins.
Initial Closed-in Pressure	30 Mins.	32 Mins.
Second Flow Pressure	120 Mins.	120 Mins.
Final Closed-in Pressure	60 Mins.	60 Mins.

PRESSURE BREAKDOWN

First Flow Press.

Breakdown: 2 Inc. of 5 mins. and a final inc. of 1 Min.

Point Mins.	Press.
P 1 0	45
P 2 5	45
P 3 10	48
P 4 11	50
P 5	
P 6	
P 7	
P 8	
P 9	
P10	
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In

Breakdown: 10 Inc. of 3 mins. and a final inc. of = Min.

Point Minutes	Press.
0	50
3	170
6	479
9	812
12	1072
15	1117
18	1140
21	1153
24	1163
27	1169
30	1080
32	1086

Second Flow Pressure

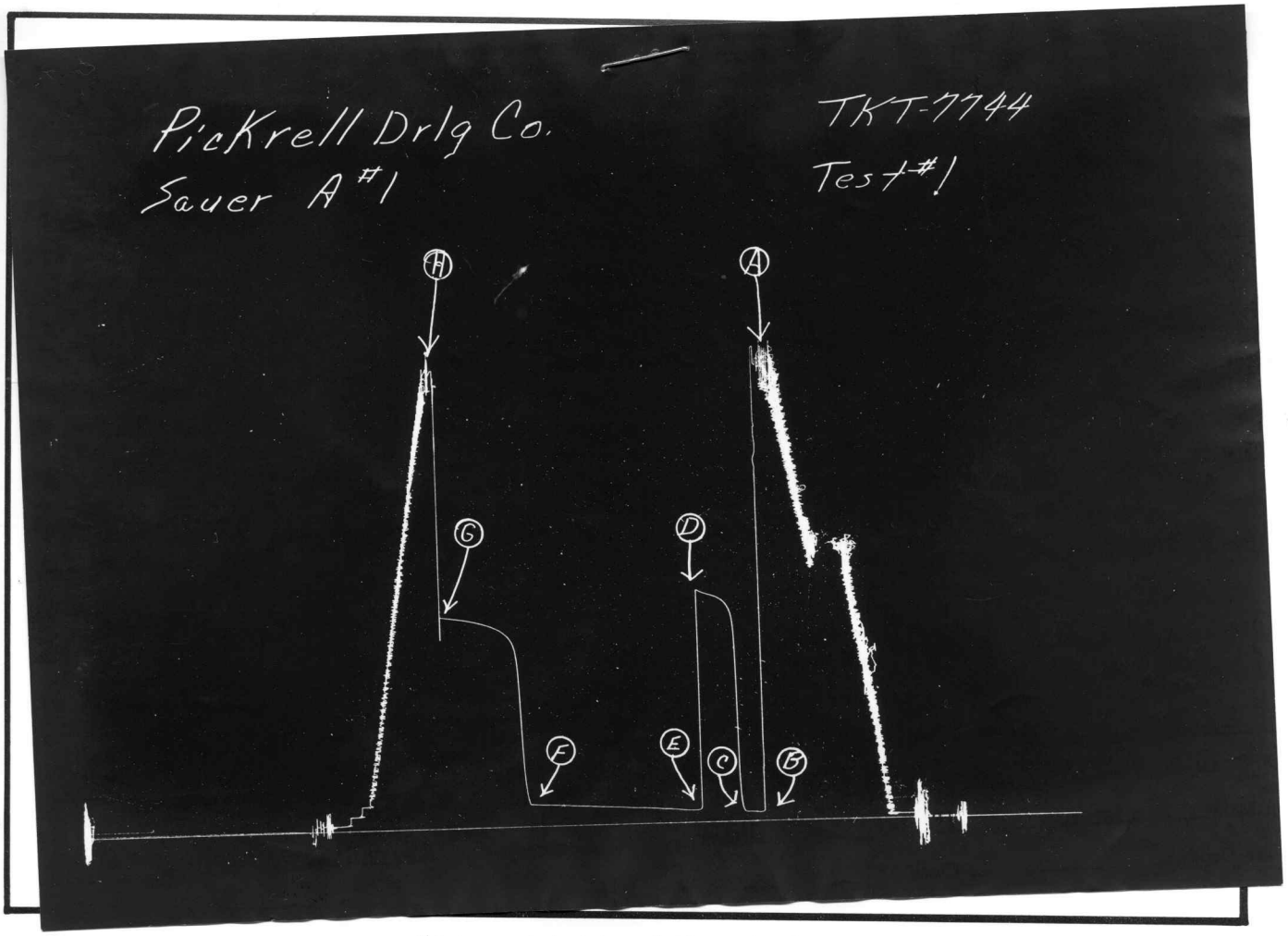
Breakdown: 24 Inc. of 5 mins. and a final inc. of = Min.

Point Minutes	Press.
0	62
5	62
10	62
15	65
20	68
25	70
30	73
35	76
40	79
45	80
50	81
55	83
~~60~~	~~85~~
65	87
70	89
~~75~~	~~91~~
80	93
85	94
~~90~~	~~96~~
95	98
100	99
~~105~~	~~102~~
110	104
115	105
~~120~~	~~106~~

Final Shut-In

Breakdown: 20 Inc. of 3 mins. and a final inc. of = Min.

Point Minutes	Press.
0	106
3	224
6	441
9	821
12	938
15	975
18	997
21	1012
24	1024
27	1033
30	1039
33	1047
~~36~~	~~1053~~
39	1060
42	1063
~~45~~	~~1067~~
48	1070
51	1074
~~54~~	~~1077~~
57	1081
60	1084



This is an actual photograph of recorder chart.

POINT		PRESSURE	
(A)	Initial Hydrostatic Mud	2356	PSI
(B)	First Initial Flow Pressure	45	PSI
(C)	First Final Flow Pressure	50	PSI
(D)	Initial Closed-in Pressure	1086	PSI
(E)	Second Initial Flow Pressure	62	PSI
(F)	Second Final Flow Pressure	106	PSI
(G)	Final Closed-in Pressure	1084	PSI
(H)	Final Hydrostatic Mud	2341	PSI

COMPANY PICKRELL DRILLING CO. LEASE AND WELL NO. SAUER #A-1 SEC. 27 TWP. 14s RGE. 27w TEST NO. 1 DATE 1-28-67

WESTERN TESTERS

Home Office: Great Bend, Kansas

P. O. Box 793 SWift 3-7903

Company Pickrell Drilling Company Lease & Well No. Sauer #A-1

Elevation 2472 Kelly Bushings Formation Mississippi Ticket Number 7745

Date Jan.29,1967 Sec. 27 Twp. 14s Range 27w County Gove State Kansas

Test Approved by Ralph W. Ruwwe Western Representative Dean Blagrave

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Formation Test No. 2 O.K. x Misrun Interval Tested From 4280' to 4287' Total Depth 4287'

Size Main Hole 7 7/8 Rat Hole none Conv. x B.T. Damaged x Yes No Conv. B.T. Damaged Yes x No

Packer Depth 4275 Ft. Size 6 3/4 Packer Depth 4280 Ft. Size 6 3/4

Straddle Yes x No Conv. B.T. Damaged Yes No

Packer Depth Ft. Size

Tool Size 5½ OD Tool Jt. Size 4½ FH Anchor Length 7 Ft. Size 5½ OD

RECORDERS Depth 4269 Ft. Clock No. 6892 Depth 4283 Ft. Clock No. 6774

Top Make Amerada Cap. 4150 No. 2606 Inside Outside Bottom Make Amerada Cap. 4300 No. 1567 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 8:53 A M

Tool Open I.F.P. From 8:55 M to 9:05 M Hr. 10 Min. From (B) 45 P.S.I. To (C) 54 P.S.I.

Tool Closed I.C.I.P. From 9:05A M. to 9:35 M. Hr. 30 Min. (D) 1045 P.S.I.

Tool Open F.F.P. From 9:35 M. to 11:05 M. 1 Hr. 30 Min. From (E) 79 P.S.I. To (F) 174 P.S.I.

Tool Closed F.C.I.P. From 11:05 M. to 12:05 M. 1 Hr. Min. (G) 883 P.S.I.

Initial Hydrostatic Pressure (A) 2360 P.S.I. Final Hydrostatic Pressure (H) 2338 P.S.I.

SURFACE INFORMATION	Size Choke	In.	Max. Press. P.S.I.	Time	Description of Flow
	1/4			M.	
				M.	
				M.	

BLOW Fair increasing to strong Bottom Choke Size 3/4 In.

Did Well Flow Yes x No Recovery Total Ft. 330' gas in pipe; 270' clean gassy oil; 180' muddy oil

Mud

Reversed Out Yes x No Mud Type starch Viscosity 56 Weight 10.2 Maximum Temp. 133 °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 ft. I.D. Drill Pipe 3.8 in Length Weight Pipe 1010 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars none ft.

I. D. Drill Collars in. Length D.S.T. Tool 30 ft.

Remarks Sp. Gravity 40° corrected.

WESTERN TESTING CO., INC.
Pressure Data

Date: January 29, 1967 | Test Ticket No. 7745

Recorder No. 2606 | Capacity 4150 | Location 4269 Ft.

Clock No. 6892 | Elevation 2472 Kelly Bushings | Well Temperature 133 °F

Point		Pressure		Time Given	Time Computed
A	Initial Hydrostatic Mud	2360 P.S.I.	Opened Tool	8:53 A M	
B	First Initial Flow Pressure	45 P.S.I.	First Flow Pressure	10 Mins.	10 Mins.
C	First Final Flow Pressure	54 P.S.I.	Initial Closed-in Pressure	30 Mins.	30 Mins.
D	Initial Closed-in Pressure	1045 P.S.I.	Second Flow Pressure	90 Mins.	90 Mins.
E	Second Initial Flow Pressure	79 P.S.I.	Final Closed-in Pressure	60 Mins.	60 Mins.
F	Second Final Flow Pressure	174 P.S.I.			
G	Final Closed-in Pressure	883 P.S.I.			
H	Final Hydrostatic Mud	2338 P.S.I.			

PRESSURE BREAKDOWN

First Flow Press.
Breakdown: 2 Inc.
of 5 mins. and a
final inc. of -- = Min.

Point Mins.	Press.
P 1 0	45
P 2 5	48
P 3 10	54
P 4	
P 5	
P 6	
P 7	
P 8	
P 9	
P10	
P11	
P12	
P13	
P14	
P15	
P16	
P17	
P18	
P19	
P20	

Initial Shut-In
Breakdown: 10 Inc.
of 3 mins. and a
final inc. of = Min.

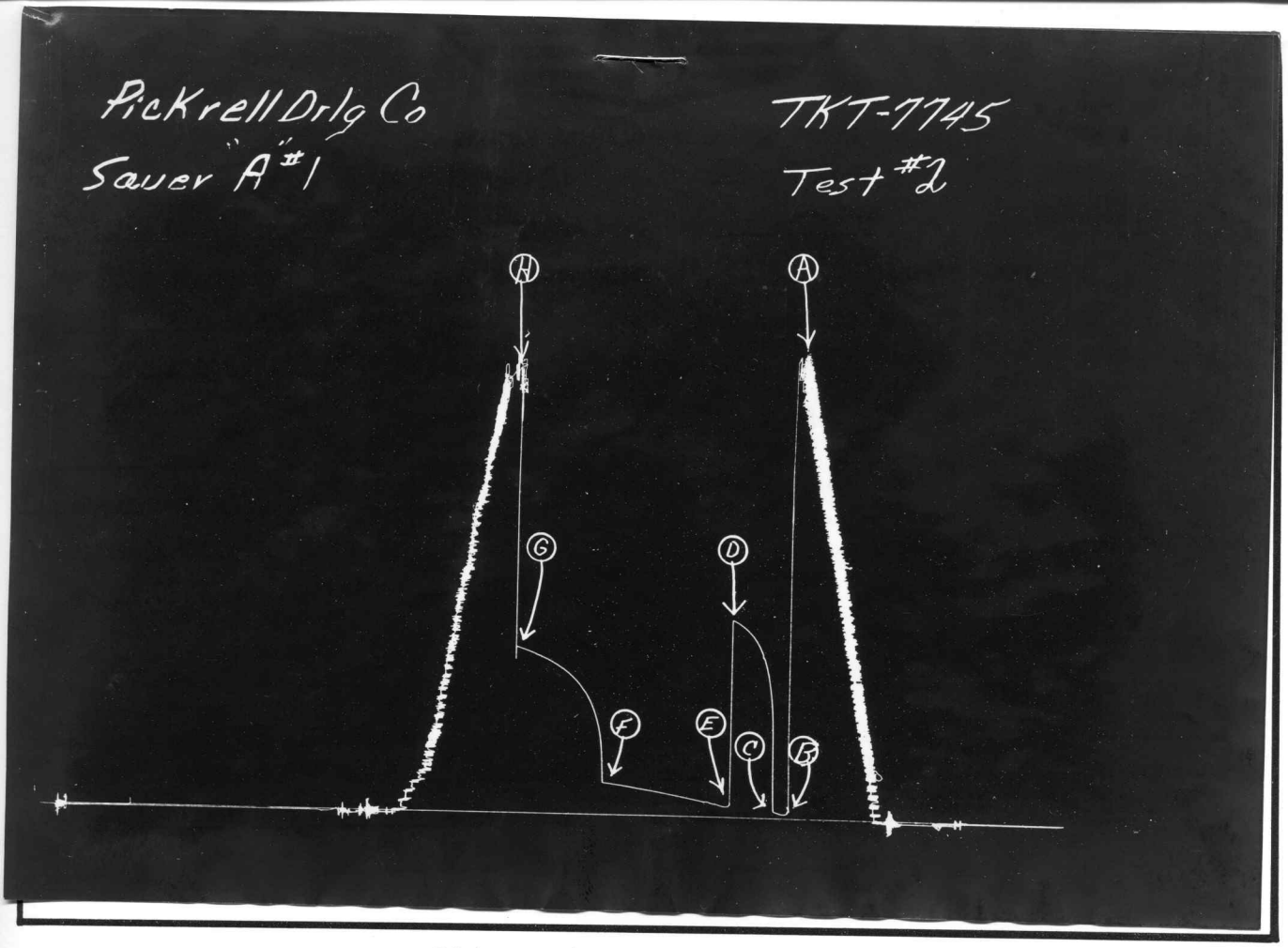
Point Minutes	Press.
0	54
3	624
6	758
9	794
12	866
15	943
18	974
21	996
24	1015
27	1034
30	1045

Second Flow Pressure
Breakdown: 18 Inc.
of 5 mins. and a
final inc. of = Min.

Point Minutes	Press.
0	79
5	80
10	85
15	91
20	93
25	100
30	108
35	114
40	122
45	128
50	135
55	141
60	147
65	153
70	158
75	163
80	168
85	171
90	174

Final Shut-In
Breakdown: 20 Inc.
of 3 mins. and a
final inc. of = Min.

Point Minutes	Press.
0	174
3	458
6	535
9	596
12	635
15	669
18	696
21	724
24	744
27	762
30	779
33	793
36	804
39	818
42	831
45	839
48	849
51	856
54	866
57	875
60	883



This is an actual photograph of recorder chart.

POINT		PRESSURE
(A)	Initial Hydrostatic Mud	2360 PSI
(B)	First Initial Flow Pressure	45 PSI
(C)	First Final Flow Pressure	54 PSI
(D)	Initial Closed-in Pressure	1045 PSI
(E)	Second Initial Flow Pressure	79 PSI
(F)	Second Final Flow Pressure	174 PSI
(G)	Final Closed-in Pressure	883 PSI
(H)	Final Hydrostatic Mud	2338 PSI

COMPANY PICKRELL DRILLING CO. LEASE AND WELL NO. SAUER #A-1 SEC. 27 TWP. 14S RGE. 27W TEST NO. 2 DATE 1-29-6