WESTERN TESTERS

Home Office: Great Bend, Kansas

P. O. Box 793 GLadstone 3-7903

Company Pickrell Drlg. Co. Lease & Well No. Crumley #1

Elevation 1447' D.F. Ticket Number 3751

Date 5-16-64 Sec. 11 Twp. 30S Range 7W County Kingman State Kansas

Test Approved by Ralph W. Ruwwe Western Representative Ray H. Roadenbaugh

Formation Test No. 1 O.K. X Misrun ____ Interval Tested From 4105' to 4121' Total Depth 4121'

Size Main Hole 7 5/8" Rat Hole ____ Conv. X B.T. ____ Damaged ____ Yes X No Conv. ____ B.T. X Damaged ____ Yes X No

Packer Depth 4105 Ft. Size 6 3/4" Packer Depth 4100 Ft. Size 6 3/4"

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

Packer Depth ____ Ft Size ____

Tool Size 5½" OD Tool Jt. Size 4½ 4½" FH Anchor Length 16 Ft. Size 5½" OD

RECORDERS Depth 4109 Ft Clock No. 6897 Depth 4112 Ft. Clock No. 29

Top Make Amerada Cap. 3150# No. 1565 Inside Outside Bottom Make K&E Cap. ____ No. ____ 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 4:52 A M

Tool Open I.F.P. From 4:55A M to 4:58A M - Hr. 3 Min. From (B) 18 P.S.I. To (C) 18 P.S.I.

Tool Closed I.C.I.P. From 4:58A M. to 5:28A M. - Hr. 30 Min. (D) 53 P.S.I.

Tool Open F.F.P. From 5:28A M. to 7:09A M. 1 Hr. 41 Min. From (E) 23 P.S.I. To (F) 28 P.S.I.

Tool Closed F.C.I.P. From 7:09A M. to 7:39A M. - Hr. 30 Min. (G) 59 P.S.I.

Inital Hydrostatic Pressure (A) 2300 P.S.I. Final Hydrostatic Pressure (H) 2281 P.S.I.

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

BLOW Strong blow throughout Bottom Choke Size 3/4 in.

Did Well Flow ____ Yes X No Recovery Total Ft. 60' 1650' Gas in pipe - 60' Gas cut mud - slight stain

Mud

Reversed Out ____ Yes X No Mud Type Starch Viscosity 51 Weight 10.3 Maximum Temp. 128 °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 3403 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe 682 ft. I.D. Weight Pipe 2.8 in. Length Drill Collars ____ ft.

I. D. Drill Collars ____ in. Length D. S. T. Tool 35 ft.

Remarks

WHELAN PRINTERS

WESTERN TESTING CO., INC.
Pressure Data

Date 5-16-64 Test Ticket No. 3751

Recorder No. 1565 Capacity 3150# Location 4109 Ft.

Clock No. 6897 Elevation 1447' D.F. Well Temperature 128 °F

Point		Pressure	
A	Initial Hydrostatic Mud	2300	P.S.I.
B	First Initial Flow Pressure	18	P.S.I.
C	First Final Flow Pressure	18	P.S.I.
D	Initial Closed-in Pressure	53	P.S.I.
E	Second Initial Flow Pressure	23	P.S.I.
F	Second Final Flow Pressure	28	P.S.I.
G	Final Closed-in Pressure	59	P.S.I.
H	Final Hydrostatic Mud	2281	P.S.I.

	Time Given	Time Computed
Opened Tool	4:52A M	4:52 A
First Flow Pressure	3 Mins.	3 Mins.
Initial Closed-in Pressure	30 Mins.	30 Mins.
Second Flow Pressure	101 Mins.	100 Mins.
Final Closed-in Pressure	30 Mins.	29 Mins.

PRESSURE BREAKDOWN

First Flow Press.

Breakdown: 1 Inc. of 3 mins. and a final inc. of - Min.

Point Mins.	Press.
P 1 0	18
P 2 3	18
P 3	
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	18
3	19
6	21
9	23
12	25
15	28
18	31
21	34
24	37
27	47
30	53

Second Flow Pressure

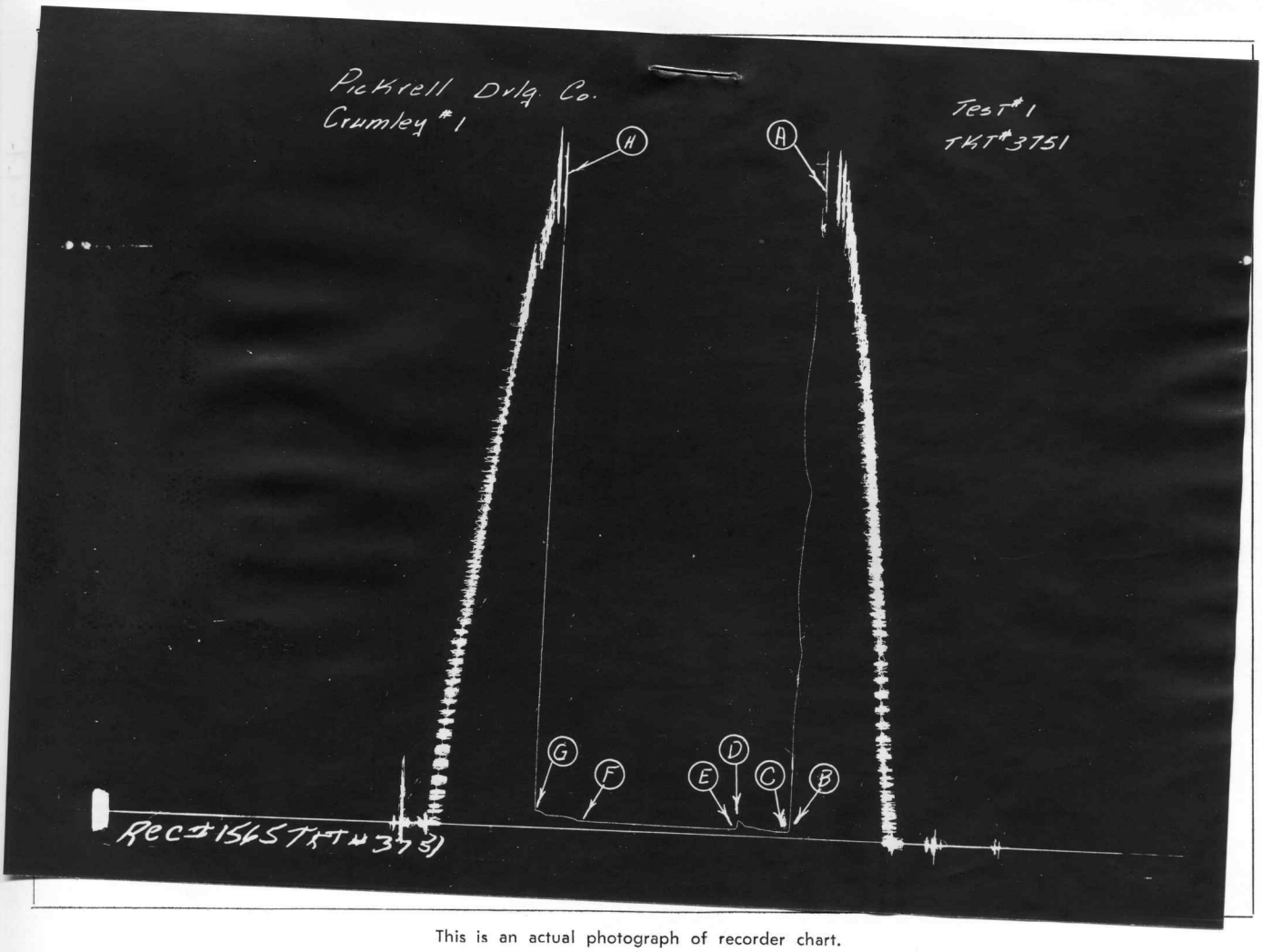
Breakdown: 20 Inc. of 5 mins. and a final inc. of - Min.

Point Minutes	Press.
0	23
5	23
10	23
15	23
20	23
25	23
30	23
35	23
40	23
45	23
50	23
55	24
60	25
65	25
70	25
75	25
80	26
85	26
90	27
95	27
100	28

Final Shut-In

Breakdown: 9 Inc. of 3 mins. and a final inc. of 2 Min.

Point Minutes	Press.
0	28
3	32
6	39
9	40
12	42
15	43
18	43
21	43
24	51
27	58
29	59



This is an actual photograph of recorder chart.

POINT		PRESSURE	
(A)	Initial Hydrostatic Mud	2300	PSI
(B)	First Initial Flow Pressure	18	PSI
(C)	First Final Flow Pressure	18	PSI
(D)	Initial Closed-in Pressure	53	PSI
(E)	Second Initial Flow Pressure	23	PSI
(F)	Second Final Flow Pressure	28	PSI
(G)	Final Closed-in Pressure	59	PSI
(H)	Final Hydrostatic Mud	2281	PSI

COMPANY Pickrell Drilling Company LEASE AND WELL NO. Crumley #1 SEC. 11 TWP. 30s RGE. 7w TEST NO. 1 DATE 5-16-64

WESTERN TESTERS

Home Office: Great Bend, Kansas

P. O. Box 793 GLadstone 3-7903

Company Pickrell Drlg. Co. Lease & Well No. Crumley #1

Elevation 1447' D.F. Ticket Number 3752

Date 5-16-64 Sec. 11 Twp. 30S Range 7W County Kingman State Kansas

Test Approved by Ralph W. Ruwwe Western Representative Ray H. Roadenbaugh

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Formation Test No. 2 O.K. X Misrun ____ Interval Tested From 4121' to 4141' Total Depth 4141'

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

Packer Depth 4121 Ft. Size 6 3/4" Packer Depth 4116 Ft. Size 6 3/4"

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

Packer Depth ____ Ft Size ____

Tool Size 5½" OD Tool Jt. Size 4½" FH Anchor Length 20 Ft. Size 5½" OD

RECORDERS Depth 4128 Ft Clock No. 6897 Depth 4131 Ft. Clock No. 29

Top Make Amerada Cap. 3150# No. 1565 Inside ~~Outside~~ Bottom Make Western Cap. 3000# No. 29 ~~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

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Time Set Packer 8:22 P M

Tool Open I.F.P. From 8:26P M to 8:30P M - Hr. 4 Min. From (B) 39 P.S.I. To (C) 39 P.S.I.

Tool Closed I.C.I.P. From 8:30P M. to 9:00P M. - Hr. 30 Min. (D) 1223 P.S.I.

Tool Open F.F.P. From 9:00P M. to 10:30P M. 1 Hr. 30 Min. From (E) 56 P.S.I. To (F) 109 P.S.I.

Tool Closed F.C.I.P. From 10:30P M. to 11:00P M. - Hr. 30 Min. (G) 817 P.S.I.

Inital Hydrostatic Pressure (A) 2295 P.S.I. Final Hydrostatic Pressure (H) 2263 P.S.I.

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

____ | ____ | ____ M. | ____

____ | ____ | ____ M. | ____

____ | ____ | ____ M. | ____

BLOW Strong blow throughout - Gas to surface in 1 Hr. 30 mins. T.S.T.M. Bottom Choke Size 3/4 in.

Did Well Flow ____ Yes X No Recovery Total Ft. 230' 50' Gas cut mud - 120' Hvy. Gas and Oil cut Mud - 60' Water Mud

Reversed Out ____ Yes X No Mud Type Starch Viscosity 51 Weight 10.3 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 3419 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe 682 ft. I.D. Weight Pipe 2.6 in. Length Drill Collars ____ ft.

I. D. Drill Collars ____ in. Length D. S. T. Tool 39 ft.

Remarks

WESTERN TESTING CO., INC.
Pressure Data

Date 5-16-64 Test Ticket No. 3752 XX

Recorder No. 1565 Capacity 3150# Location 4128 Ft.

Clock No. 6897 Elevation 1447' D.F. Well Temperature 133 °F

Point		Pressure
A	Initial Hydrostatic Mud	2295 P.S.I.
B	First Initial Flow Pressure	39 P.S.I.
C	First Final Flow Pressure	39 P.S.I.
D	Initial Closed-in Pressure	1223 P.S.I.
E	Second Initial Flow Pressure	56 P.S.I.
F	Second Final Flow Pressure	109 P.S.I.
G	Final Closed-in Pressure	817 P.S.I.
H	Final Hydrostatic Mud	2263 P.S.I.

	Time Given	Time Computed
Opened Tool	8:22 P M	8:22 PM
First Flow Pressure	4 Mins.	5 Mins.
Initial Closed-in Pressure	30 Mins.	30 Mins.
Second Flow Pressure	90 Mins.	88 Mins.
Final Closed-in Pressure	30 Mins.	30 Mins.

PRESSURE BREAKDOWN

First Flow Press.

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

Point Mins.	Press.
P 1 0	39
P 2 5	39
P 3	
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	39
3	111
6	264
9	417
12	593
15	761
18	910
21	1018
24	1115
27	1174
30	1223

Second Flow Pressure

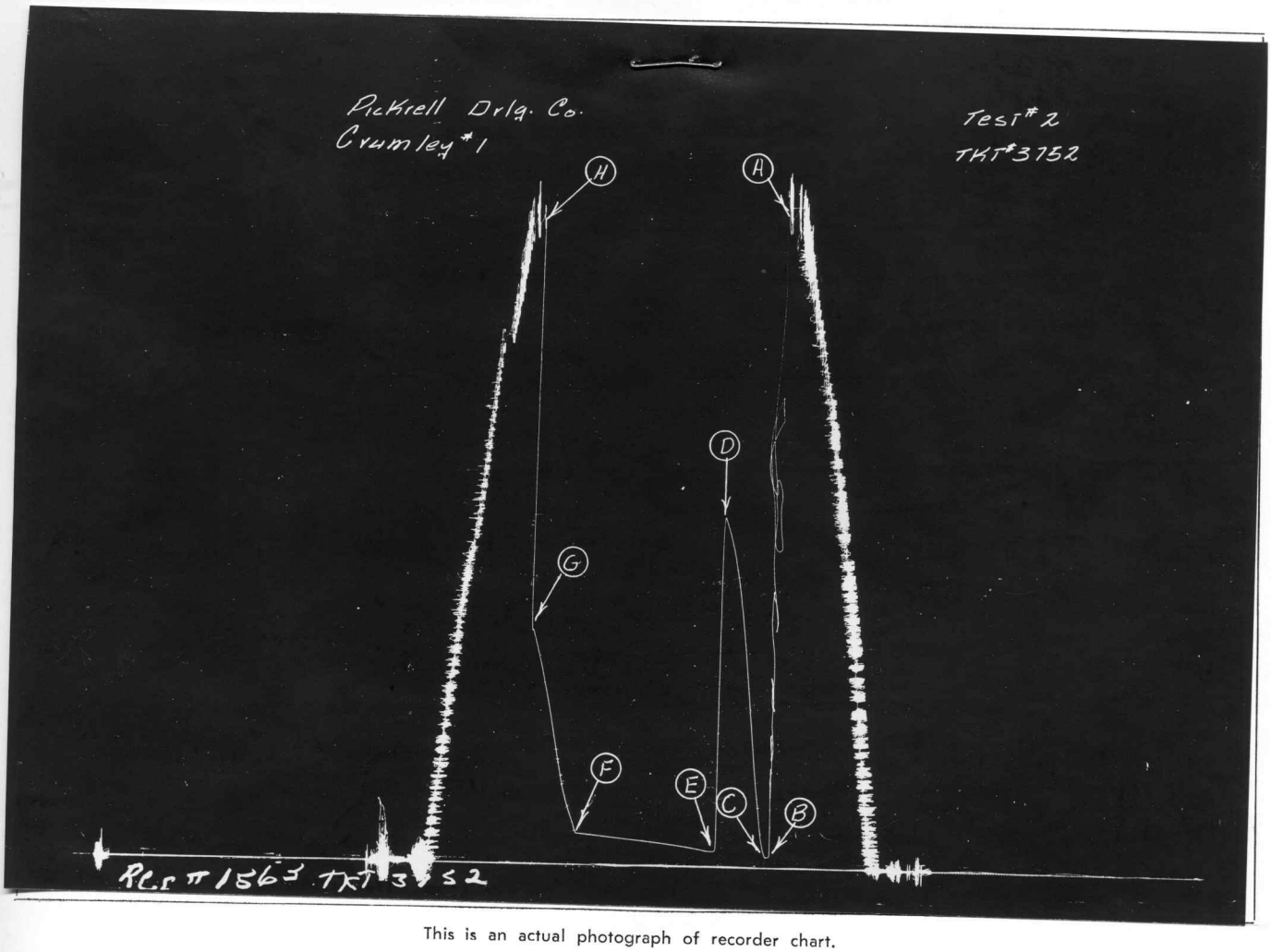
Breakdown: 17 Inc. of 5 mins. and a final inc. of 3 Min.

Point Minutes	Press.
0	56
5	57
10	61
15	65
20	70
25	73
30	78
35	81
40	84
45	87
50	89
55	92
60	95
65	97
70	100
75	103
80	105
85	107
88	109

Final Shut-In

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

Point Minutes	Press.
0	109
3	161
6	206
9	272
12	362
15	455
18	551
21	643
24	717
27	780
30	817



This is an actual photograph of recorder chart.

POINT		PRESSURE
(A)	Initial Hydrostatic Mud	2295 PSI
(B)	First Initial Flow Pressure	39 PSI
(C)	First Final Flow Pressure	39 PSI
(D)	Initial Closed-in Pressure	1223 PSI
(E)	Second Initial Flow Pressure	56 PSI
(F)	Second Final Flow Pressure	109 PSI
(G)	Final Closed-in Pressure	817 PSI
(H)	Final Hydrostatic Mud	2263 PSI

COMPANY Pickrell Drilling Company LEASE AND WELL NO. Crumley #1 SEC. 11 TWP. 30s RGE. 7 W TEST NO. 2 DATE 5-16-64

WESTERN TESTERS

Home Office: Great Bend, Kansas

P. O. Box 793 GLadstone 3-7903

Company Pickrell Drilling Co. Lease & Well No. Crumley #1

Elevation 1447' D.F. Ticket Number 4029

Date 5-18-64 Sec. 11 Twp. 30S Range 7W County Kingman State Kansas

Test Approved by Ralph W. Ruwwe Western Representative George Tew

Formation Test No. 3 O.K. X Misrun ____ Interval Tested From 4141' to 4161' Total Depth 4161'

Size Main Hole 7 5/8" Rat Hole None Conv. X B.T. ____ Damaged ____ Yes X No Conv. ____ B.T. X Damaged ____ Yes X No

Packer Depth 4141 Ft. Size 6 3/4" Packer Depth 4136 Ft. Size 6 3/4"

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

Packer Depth ____ Ft Size ____

Tool Size 5½" OD Tool Jt. Size 4½" FH Anchor Length 20 Ft. Size 5½" OD

RECORDERS Depth 4155 Ft Clock No. 6861 Depth 4158 Ft. Clock No. 120

Top Make Amerada Cap. 4200# No. 1558 Inside Outside Bottom Make Western Cap. 4000# No. 60 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 9:15P M

Tool Open I.F.P. From 9:18P M to 9:24P M - Hr. 6 Min. From (B) 96 P.S.I. To (C) 96 P.S.I.

Tool Closed I.C.I.P. From 9:24P M. to 9:54P M. - Hr. 30 Min. (D) 1440 P.S.I.

Tool Open F.F.P. From 9:54P M. to 11:24P M. 1 Hr. 30 Min. From (E) 101 P.S.I. To (F) 122 P.S.I.

Tool Closed F.C.I.P. From 11:24P M. to 11:54P M. - Hr. 30 Min. (G) 1224 P.S.I.

Inital Hydrostatic Pressure (A) 2332 P.S.I. Final Hydrostatic Pressure (H) 2324 P.S.I.

SURFACE INFORMATION Size Choke 1/2 In. Max. Press. P.S.I. Time Description of Flow

____ ____ ____M. ____

____ ____ ____M. ____

____ ____ ____M. ____

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

Did Well Flow ____ Yes X No Recovery Total Ft. 180' Wtry mud with few specks oil

Reversed Out ____ Yes X No Mud Type Starch Viscosity 48 Weight 10.3 Maximum Temp. 130 °F Mud

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 3461 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe 660 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars ____ ft.

I. D. Drill Collars ____ in. Length D. S. T. Tool 40 ft.

Remarks

Amerada clock stopped.

WHELAN PRINTERS

WESTERN TESTING CO., INC.
Pressure Data

Date 5-18-64 Test Ticket No. 4029

Recorder No. 1558 Capacity 4000# Location 4155 Ft.

Clock No. 6861 Elevation 1447' D.F. Well Temperature 130 °F

Point		Pressure		Time Given	Time Computed
A	Initial Hydrostatic Mud	2332 P.S.I.	Opened Tool	9:15 PM	9:15 PM
B	First Initial Flow Pressure	96 P.S.I.	First Flow Pressure	6 Mins.	5 Mins.
C	First Final Flow Pressure	96 P.S.I.	Initial Closed-in Pressure	30 Mins.	27 Mins.
D	Initial Closed-in Pressure	1440 P.S.I.	Second Flow Pressure	90 Mins.	90 Mins.
E	Second Initial Flow Pressure	101 P.S.I.	Final Closed-in Pressure	30 Mins.	27 Mins.
F	Second Final Flow Pressure	122 P.S.I.			
G	Final Closed-in Pressure	1224 P.S.I.			
H	Final Hydrostatic Mud	2324 P.S.I.			

PRESSURE BREAKDOWN

First Flow Press.

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

Point Mins.	Press.
P 1 0	96
P 2 5	96
P 3	
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: 9 Inc. of 3 mins. and a final inc. of - Min.

Point Minutes	Press.
0	96
3	580
6	1054
9	1306
12	1356
15	1388
18	1408
21	1416
24	1426
27	1440

Second Flow Pressure

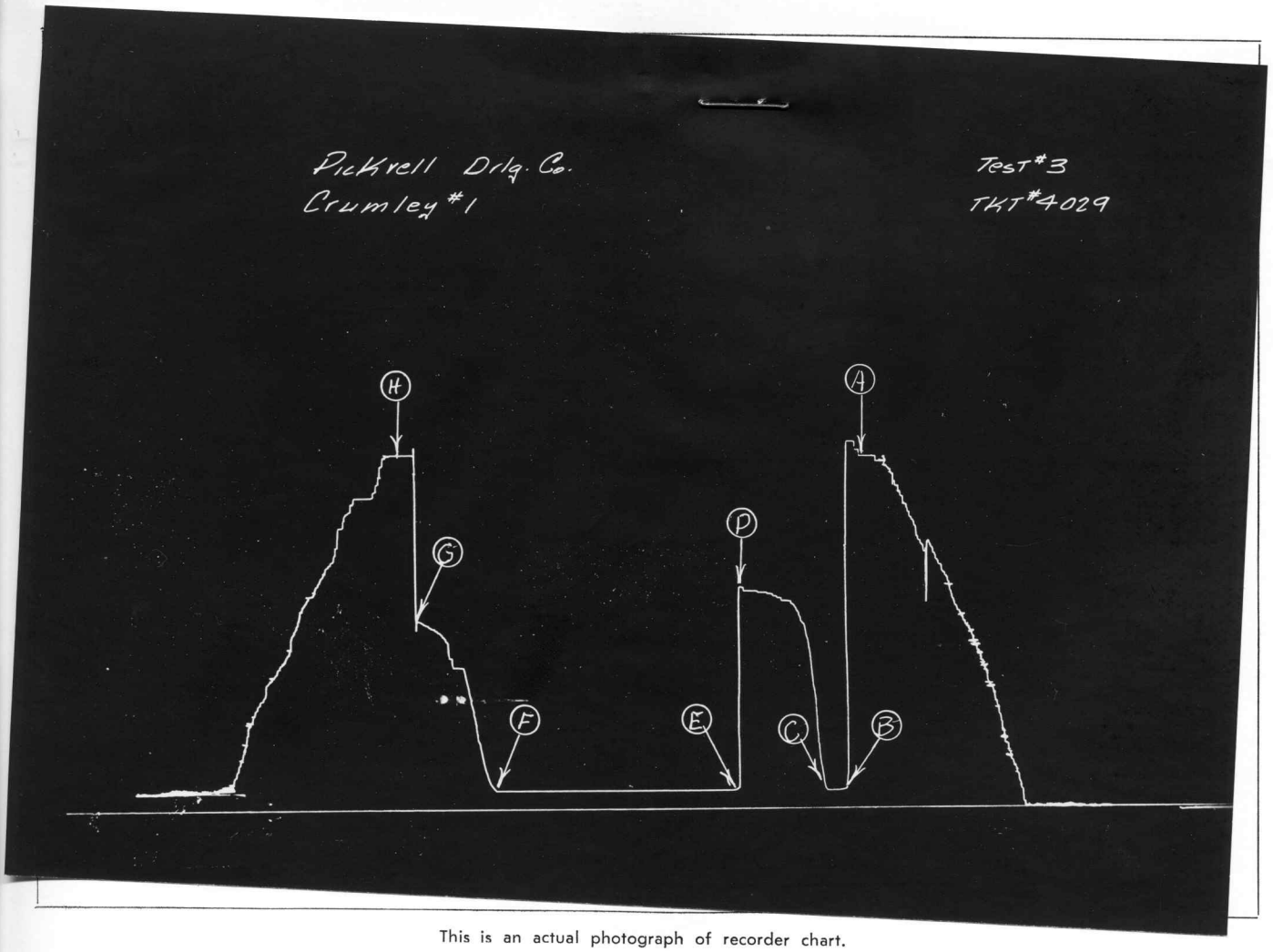
Breakdown: 18 Inc. of 5 mins. and a final inc. of - Min.

Point Minutes	Press.
0	101
5	101
10	102
15	103
20	104
25	105
30	107
35	109
40	110
45	112
50	114
55	115
60	116
65	116
70	117
75	118
80	120
85	121
90	122

Final Shut-In

Breakdown: 9 Inc. of 3 mins. and a final inc. of - Min.

Point Minutes	Press.
0	122 ~~132~~
3	232
6	558
9	830
12	968
15	1058
18	1134
21	1180
24	1210
27	1224



This is an actual photograph of recorder chart.

POINT		PRESSURE
(A)	Initial Hydrostatic Mud	2332 PSI
(B)	First Initial Flow Pressure	96 PSI
(C)	First Final Flow Pressure	96 PSI
(D)	Initial Closed-in Pressure	1440 PSI
(E)	Second Initial Flow Pressure	101 PSI
(F)	Second Final Flow Pressure	122 PSI
(G)	Final Closed-in Pressure	1224 PSI
(H)	Final Hydrostatic Mud	2324 PSI

COMPANY Pickrell Drilling Company LEASE AND WELL NO. Crumley #1 SEC. 11 TWP. 30S RGE. 7W TEST NO. 3 DATE 5-18-64