WESTERN TESTERS

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

Company Pickrell Drlg. Co. Lease & Well No. Steffen B#1

Elevation 2200 Kelly Bushings Formation Mississippi Effective Pay ---- Ft. Ticket No. 10339

Date 11-3-67 Sec. 32 Twp. 20 Range 20 County Pawnee State Kansas

Test Approved by George N. Mueller Western Representative W. M. Nething

Formation Test No. 1 O.K. x Misrun Interval Tested From 4282' to 4345' Total Depth 4345'

Size Main Hole 7 7/8 Rat Hole Conv. B.T. x Damaged Yes x No Conv. B.T. x Damaged Yes x No

Packer Depth 4282 Ft. Size 6 3/4 Packer Depth 4277 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 63 Ft. Size 5½"OD & Jt. W.P.

RECORDERS Depth 4297 Ft. Clock No. 9103 Depth 4300 Ft. Clock No. 4964

Top Make Kuster Cap. 4150 No. 2604 Inside Outside Bottom Make Kuster Cap. 4250 No. 1051 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 12:43 A. M

Tool Open I.F.P. From 12:45 M. to 12:55 A M. Hr. 10 Min. From (B) 38 P.S.I. To (C) 34 P.S.I.

Tool Closed I.C.I.P. From 12:55 M. to 1:25 A M. Hr. 30 Min. (D) 635 P.S.I.

Tool Open F.F.P. From 1:25 M. to 2:05 A M. Hr. 40 Min. From (E) 51 P.S.I. To (F) 38 P.S.I.

Tool Closed F.C.I.P. From 2:05 M. to 2:35 A M. Hr. 30 Min. (G) 170 P.S.I.

Initial Hydrostatic Pressure (A) 2271 P.S.I. Final Hydrostatic Pressure (H) 2247 P.S.I.

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

BLOW Weak blow ten minutes - flushed tool. Bottom Choke Size 3/4 In.

Did Well Flow Yes x No Recovery Total Ft. Five feet mud with few specks oil.

Reversed Out Yes x No Mud Type starch Viscosity 44 Weight 9.9 Water Loss 12 cc. Maximum Temp. 115 °F

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

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

Length Drill Pipe 3428 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe 834 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars ft.

I. D. Drill Collars in. Length D.S.T. Tool 83 ft.

Remarks

# WESTERN TESTING CO., INC.
## Pressure Data

Date 11-3-67 Test Ticket No. 10339

Recorder No. 2604 Capacity 4150 Location 4297 Ft.

Clock No. 9103 Elevation 2200 Kelly Bushings Well Temperature 115 °F

| Point | | Pressure | | | Time Given | Time Computed |
|---|---|---|---|---|---|---|
| A | Initial Hydrostatic Mud | 2271 P.S.I. | | Opened Tool | 12:43 A. M | |
| B | First Initial Flow Pressure | 38 P.S.I. | | First Flow Pressure | 10 Mins. | 10 Mins. |
| C | First Final Flow Pressure | 34 P.S.I. | | Initial Closed-in Pressure | 30 Mins. | 30 Mins. |
| D | Initial Closed-in Pressure | 635 P.S.I. | | Second Flow Pressure | 40 Mins. | 40 Mins. |
| E | Second Initial Flow Pressure | 51 P.S.I. | | Final Closed-in Pressure | 30 Mins. | 29 Mins. |
| F | Second Final Flow Pressure | 38 P.S.I. | | | | |
| G | Final Closed-in Pressure | 170 P.S.I. | | | | |
| H | Final Hydrostatic Mud | 2247 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 | 38 |
| P 2 5 | 37 |
| P 3 10 | 34 |
| P 4 | |
| P 5 | |
| P 6 | |
| P 7 | |
| P 8 | |
| P 9 | |
| P10 | |
| P11 | |
| P12 | |
| P13 | |
| P14 | |
| P15 | |
| P16 | |
| P17 | |
| P18 | |
| P19 | |
| P20 | |

Intermitten plugging action

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

| Point Minutes | Press. |
|---|---|
| 0 | 34 |
| 3 | 83 |
| 6 | 117 |
| 9 | 193 |
| 12 | 273 |
| 15 | 345 |
| 18 | 416 |
| 21 | 482 |
| 24 | 537 |
| 27 | 588 |
| 30 | 635 |

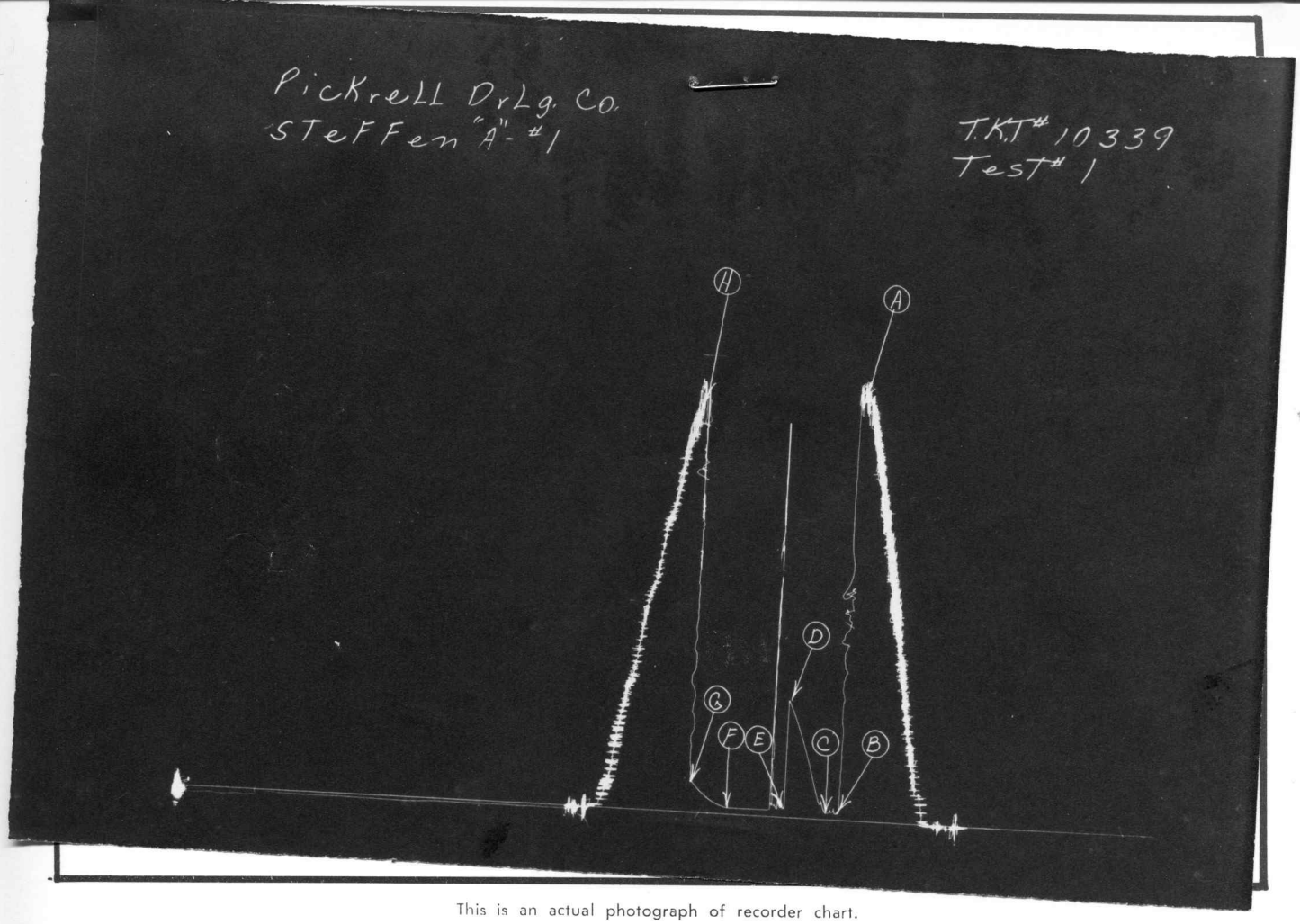
**Second Flow Pressure**
Breakdown: 8 Inc.
of 5 mins. and a
final inc. of -- Min.

| Point Minutes | Press. |
|---|---|
| 0 | 51 |
| 5 | 87 |
| 10 | 66 |
| 15 | 33 |
| 20 | 33 |
| 25 | 34 |
| 30 | 34 |
| 35 | 38 |
| 40 | 38 |

slight plugging action

**Final Shut-In**
Breakdown: 9 Inc.
of 3 mins. and a
final inc. of 2 Min.

| Point Minutes | Press. |
|---|---|
| 0 | 38 |
| 3 | 40 |
| 6 | 48 |
| 9 | 63 |
| 12 | 77 |
| 15 | 95 |
| 18 | 112 |
| 21 | 133 |
| 24 | 151 |
| 27 | 165 |
| 29 | 170 |




This is an actual photograph of recorder chart.

| POINT | | PRESSURE Field Reading | Office Reading | |
|---|---|---|---|---|
| (A) | Initial Hydrostatic Mud | 2274 | 2271 | PSI |
| (B) | First Initial Flow Pressure | 32 | 38 | PSI |
| (C) | First Final Flow Pressure | 32 | 34 | PSI |
| (D) | Initial Closed-in Pressure | 638 | 635 | PSI |
| (E) | Second Initial Flow Pressure | 32 | 51 | PSI |
| (F) | Second Final Flow Pressure | 32 | 38 | PSI |
| (G) | Final Closed-in Pressure | 159 | 170 | PSI |
| (H) | Final Hydrostatic Mud | 2253 | 2247 | PSI |

COMPANY Pickrell Drlg. Co. LEASE AND WELL NO. Steffen "A" #1 SEC. 32 TWP. 20 RGE. 20 TEST NO. 1 DATE 11-3-67

WESTERN TESTERS

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

Company Pickrell Drlg. Co. Lease & Well No. Steffen "D" #1

Elevation 2200 Kelly Bushings Formation Mississippi Effective Pay ----- Ft. Ticket No. 10341

Date 11-4-67 Sec. 32 Twp. 20 Range 20 County Pawnee State Kansas

Test Approved by George N. Mueller Western Representative W. M. Nething

Formation Test No. 2 O.K. x Misrun ____ Interval Tested From 4345' to 4355' Total Depth 4355'

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

Packer Depth 4345 Ft. Size 6 3/4 Packer Depth 4340 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 10 Ft. Size 5½" OD

RECORDERS Depth 4348 Ft. Clock No. 9103 Depth 4351 Ft. Clock No. 4964

Top Make Kuster Cap. 4150 No. 2604 Inside Outside Bottom Make Kuster Cap. 4250 No. 1051 ~~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 1:38 A. M

Tool Open I.F.P. From 1:40 M. to 1:50 A M. Hr. 10 Min. From (B) 21 P.S.I. To (C) 21 P.S.I.

Tool Closed I.C.I.P. From 1:50 M. to 2:20 A M. Hr. 30 Min. (D) 1152 P.S.I.

Tool Open F.F.P. From 2:20 M. to 4:20 A M. 2 Hr. 00 Min. From (E) 25 P.S.I. To (F) 64 P.S.I.

Tool Closed F.C.I.P. From 4:20 M. to 5:20 A M. 1 Hr. 00 Min. (G) 1031 P.S.I.

Initial Hydrostatic Pressure (A) 2288 P.S.I. Final Hydrostatic Pressure (H) 2250 P.S.I.

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

BLOW Very weak blow throughout Bottom Choke Size 3/4 In.

Did Well Flow ____ Yes x No Recovery Total Ft. 110 feet heavily oil cut mud; 30 feet oil cut thin mud.

Reversed Out ____ Yes x No Mud Type starch Viscosity 50 Weight 9.9 Water Loss 10 cc. Maximum Temp. 120 °F

EXTRA EQUIPMENT: Dual Packers dual Safety Joint no Jars: Size ____ Make ____ Ser. No. ____

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

Length Drill Pipe 3460 ft. I.D. Drill Pipe 3.8 in. Length Weight Pipe 865 ft. I.D. Weight Pipe 2.7 in. Length Drill Collars ____ ft.

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

Remarks

# WESTERN TESTING CO., INC.
## Pressure Data

Date 11-4-67 Test Ticket No. 10341

Recorder No. 2604 Capacity 4150 Location 4348 Ft.

Clock No. 9103 Elevation 2200 Kelly Bushings Well Temperature 120 °F

| Point | | Pressure | | | Time Given | Time Computed |
|---|---|---|---|---|---|---|
| A | Initial Hydrostatic Mud | 2288 P.S.I. | | Opened Tool | 1:38 A. M | |
| B | First Initial Flow Pressure | 21 P.S.I. | | First Flow Pressure | 10 Mins. | 10 Mins. |
| C | First Final Flow Pressure | 21 P.S.I. | | Initial Closed-in Pressure | 30 Mins. | 30 Mins. |
| D | Initial Closed-in Pressure | 1152 P.S.I. | | Second Flow Pressure | 120 Mins. | 117 Mins. |
| E | Second Initial Flow Pressure | 25 P.S.I. | | Final Closed-in Pressure | 60 Mins. | 60 Mins. |
| F | Second Final Flow Pressure | 64 P.S.I. | | | | |
| G | Final Closed-in Pressure | 1031 P.S.I. | | | | |
| H | Final Hydrostatic Mud | 2250 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 | 21 |
| P 2 5 | 36 |
| P 3 10 | 21 |
| 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.

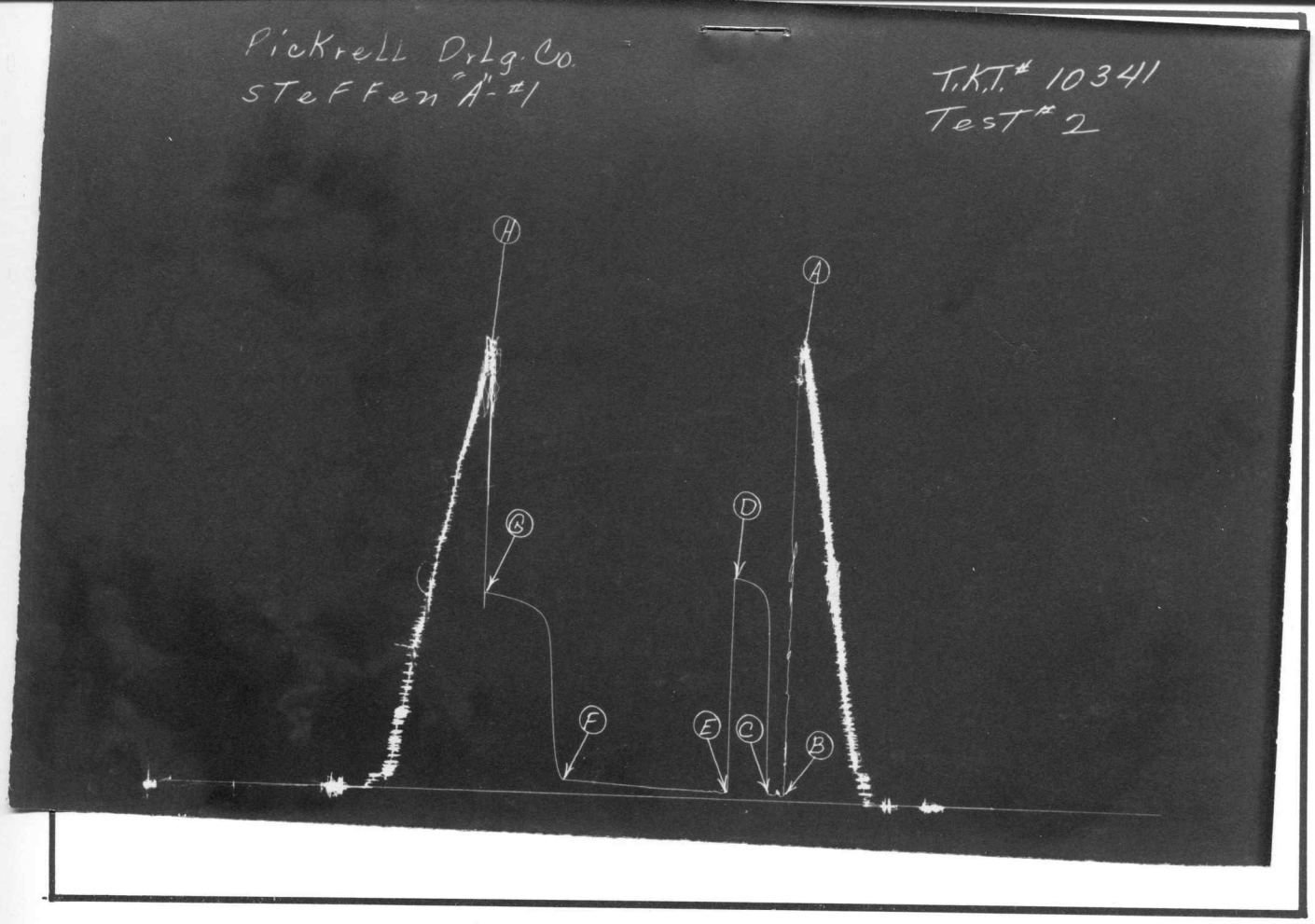
| Point Minutes | Press. |
|---|---|
| 0 | 21 |
| 3 | 337 |
| 6 | 993 |
| 9 | 1066 |
| 12 | 1098 |
| 15 | 1112 |
| 18 | 1125 |
| 21 | 1133 |
| 24 | 1144 |
| 27 | 1146 |
| 30 | 1152 |

**Second Flow Pressure**
Breakdown: 23 Inc.
of 5 mins. and a
final inc. of 2 Min.

| Point Minutes | Press. |
|---|---|
| 0 | 25 |
| 5 | 25 |
| 10 | 25 |
| 15 | 25 |
| 20 | 25 |
| 25 | 25 |
| 30 | 25 |
| 35 | 27 |
| 40 | 28 |
| 45 | 31 |
| 50 | 34 |
| 55 | 38 |
| 60 | 39 |
| 65 | 40 |
| ~~70~~ | ~~42~~ |
| 75 | 44 |
| ~~80~~ | 46 |
| ~~85~~ | ~~48~~ |
| 90 | 53 |
| 95 | 54 |
| ~~100~~ | ~~57~~ |
| 105 | 59 |
| 110 | 61 |
| ~~115~~ | ~~63~~ |
| 117 | 64 |

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

| Point Minutes | Press. |
|---|---|
| 0 | 64 |
| 3 | 108 |
| 6 | 201 |
| 9 | 433 |
| 12 | 744 |
| 15 | 861 |
| 18 | 909 |
| 21 | 934 |
| 24 | 953 |
| 27 | 966 |
| 30 | 979 |
| 33 | 987 |
| 36 | 995 |
| 30 | 1002 |
| ~~42~~ | ~~1007~~ |
| 45 | 1012 |
| 48 | 1016 |
| ~~51~~ | ~~1022~~ |
| 54 | 1027 |
| 57 | 1029 |
| ~~60~~ | ~~1031~~ |




This is an actual photograph of recorder chart.

| POINT | | PRESSURE Field Reading | Office Reading | |
|---|---|---|---|---|
| (A) | Initial Hydrostatic Mud | 2305 | 2288 | PSI |
| (B) | First Initial Flow Pressure | 21 | 21 | PSI |
| (C) | First Final Flow Pressure | 21 | 21 | PSI |
| (D) | Initial Closed-in Pressure | 1160 | 1152 | PSI |
| (E) | Second Initial Flow Pressure | 21 | 25 | PSI |
| (F) | Second Final Flow Pressure | 75 | 64 | PSI |
| (G) | Final Closed-in Pressure | 1056 | 1031 | PSI |
| (H) | Final Hydrostatic Mud | 2284 | 2250 | PSI |

COMPANY Pickrell Drlg. Co. LEASE AND WELL NO. Steffen A #1 "D" SEC. 32 TWP. 20 RGE. 20 TEST NO. 2 DATE 11-4-67