WESTERN TESTERS

Home Office: Wichita, Kansas 67201

P. O. Box 1599 (316) 838-0601

Company Pickrell Drilling Company Lease & Well No. Rader A #1

Elevation 2236 Kelly Bushing Formation Lansing Effective Pay - Ft. Ticket No. #21651

Date 9-20-76 Sec. 15 Twp. 27S Range 19W County Kiowa State Kansas

Test Approved by George R. Dent Western Representative Lonnie J. Cline

Formation Test No. L O.K. X Misrun - Interval Tested From 4172' to 4200' Total Depth 4200'

Size Main Hole 77/8 Rat Hole - Conv. X B.T. - Damaged - Yes X No Conv. - B.T. X Damaged - Yes X No

Top Packer Depth 4167 Ft. Size 6 3/4 Bottom Packer Depth 4172 Ft. Size 6 3/4

Straddle - Conv. - B.T. - Damaged - Yes - No Packer Depth - Ft. Size -

Tool Size 5½ OD Tool Joint Size 4½ FH Anchor Length 28 Ft. Size 5½ OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 4192 Ft. Clock No. 6799 Depth 4195 Ft. Clock No. 9726

Top Make Kuster Cap. 4150 No. 2606 Inside Outside Bottom Make Kuster Cap. 4000 No. 3351 Inside Outside

Below Straddle: Depth - Rec. No. - Clock No. - Inside Outside Depth - Ft. Rec. No. - Clock No. - Inside Outside

Time Set Packer 3:02 P M

Tool Open I.F.P. From 3:04P M. to 3:34P M. - Hr. 30 Min. From (B) 73 P.S.I. To (C) 56 P.S.I.

Tool Closed I.C.I.P. From 3:34P M. to 4:03P M. - Hr. 30 Min (D) 1436 P.S.I.

Tool Open F.F.P. From 4:04P M. to 6:04P M. 2 Hr. - Min. From (E) 69 P.S.I. To (F) 66 P.S.I.

Tool Closed F.C.I.P. From 6:04P M. to 7:04P M. 1 Hr. - Min. (G) 1423 P.S.I.

Initial Hydrostatic Pressure (A) 2167 P.S.I. Final Hydrostatic Pressure (H) 2146 P.S.I. Maximum Temp. 119

## INFORMATION

BLOW Strong blow throughout test. Gas to surface in 6 minutes.

Did Well Flow - Yes X No Recovery Total Ft. 130' gassy-cut mud.

Reversed Out - Yes X No Mud Type starch Viscosity 49 Weight 9.5 Water Loss 14.8 cc. Chlorides 55,000 P.P.M.

EXTRA EQUIPMENT: Type Circ. Sub. pin Safety Joint - Jars: Size - In. Make - Ser. No. -

Dual Packer yes Did Packers Hold? yes Did Tool Plug? no Where? -

DRILLING CONTRACTOR Co. Tools Length Drill Pipe? 3907 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4½ H In.

Length Weight Pipe - Ft. I.D. Weight Pipe - In. Tool Joint Size - In. Length Drill Collars 245 Ft. I.D. Drill Collars 2¼ In.

Tool Joint Size 4½H90 In. Length D.S.T. Tool 48 Ft.

Remarks:

Slid tool - 15' to bottom.

Home Office: Wichita, Kansas 67201
P. O. Box 1599 (316) 838-0601

# GAS FLOW REPORT

Date 9-20-76 Ticket #21651 Company Pickrell Drilling Company

Well Name and No. Rader C #1 Dst No. #1 Interval Tested 4172' to 4200'

County Kiowa State Kansas Sec. 15 Twp. 27S Rg. 19W

| Time Gauge Pre-Flow | Time Gauge in Min. | P.S.I. on Merla Orifice Well Tester | P.S.I. on Pitot Tester | P.S.I. on Side Static Tester | P.S.I. on U-Tube Tester | Description of Flow |
|---|---|---|---|---|---|---|
| 1" Orifice - gas to surface in 6 minutes. | | **PRE FLOW** | | | | |
| | 10 min. | 14 inches of water | | | | 97,300 C.F.P.D. Gas |
| | 20 min. | 16 inches of water | | | | 103,000 C.F.P.D. Gas |
| | 30 min. | 18 inches of water | | | | 110,000 C.F.P.D. Gas |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | 1" Orifice | | **SECOND FLOW** | | | |
| | 10 min. | 30 inches of water | | | | 141,000 C.F.P.D. Gas |
| | 20 min. | 25 inches of water | | | | 129,000 C.F.P.D. Gas |
| | 30 min. | 25 inches of water | | | | 129,000 C.F.P.D. Gas |
| | 40 min. | 25 inches of water | | | | 129,000 C.F.P.D. Gas |
| | 50 min. | 25 inches of water | | | | 129,000 C.F.P.D. Gas |
| | 60 min. | 23 inches of water | | | | 132,000 C.F.P.D. Gas |
| | 70 min. | 28 inches of water | | | | 137,000 C.F.P.D. Gas |
| | 80 min. | 32 inches of water | | | | 146,000 C.F.P.D. Gas |
| | 90 min. | 28 inches of water | | | | 137,000 C.F.P.D. Gas |
| | 100 min. | 14 inches of water | | | | 97,300 C.F.P.D. Gas |
| | 110 min. | 28 inches of water | | | | 137,000 C.F.P.D. Gas |
| | 120 min. | 25 inches of water | | | | 129,000 C.F.P.D. Gas |

## GAS BOTTLE

Serial No. - Date Bottle Filled - Date to be Invoiced -

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of $75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1% per month, equal to 12% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME

Authorized by

# WESTERN TESTING CO., INC.

## Pressure Data

Date 9-20-76 Test Ticket No. #21651

Recorder No. 2606 Capacity 4150 Location 4192 Ft.

Clock No. 6799 Elevation 2236 Kelly Bushing Well Temperature 119 °F

| Point | | Pressure | | | Time Given | Time Computed |
|---|---|---|---|---|---|---|
| A | Initial Hydrostatic Mud | 2167 | P.S.I. | Open Tool | 3:02P M | |
| B | First Initial Flow Pressure | 73 | P.S.I. | First Flow Pressure | 30 Mins. | 30 Mins. |
| C | First Final Flow Pressure | 56 | P.S.I. | Initial Closed-in Pressure | 30 Mins. | 30 Mins. |
| D | Initial Closed-in Pressure | 1436 | P.S.I. | Second Flow Pressure | 120 Mins. | 120 Mins. |
| E | Second Initial Flow Pressure | 69 | P.S.I. | Final Closed-in Pressure | 60 Mins. | 60 Mins. |
| F | Second Final Flow Pressure | 66 | P.S.I. | | | |
| G | Final Closed-in Pressure | 1423 | P.S.I. | | | |
| H | Final Hydrostatic Mud | 2146 | P.S.I. | | | |

## PRESSURE BREAKDOWN

**First Flow Pressure**
Breakdown: 6 Inc.
of 5 mins. and a
final inc. of 0 Min.

| Point | Mins. | Press. |
|---|---|---|
| P 1 | 0 | 73 |
| P 2 | 5 | 67 |
| P 3 | 10 | 62 |
| P 4 | 15 | 62 |
| P 5 | 20 | 58 |
| P 6 | 25 | 56 |
| P 7 | 30 | 56 |
| 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 0 Min.

| Point | Minutes | Press. |
|---|---|---|
| | 0 | 56 |
| | 3 | 584 |
| | 6 | 1025 |
| | 9 | 1290 |
| | 12 | 1365 |
| | 15 | 1396 |
| | 18 | 1413 |
| | 21 | 1421 |
| | 24 | 1427 |
| | 27 | 1433 |
| | 30 | 1436 |

**Second Flow Pressure**
Breakdown: 24 Inc.
of 5 mins. and a
final inc. of 0 Min.

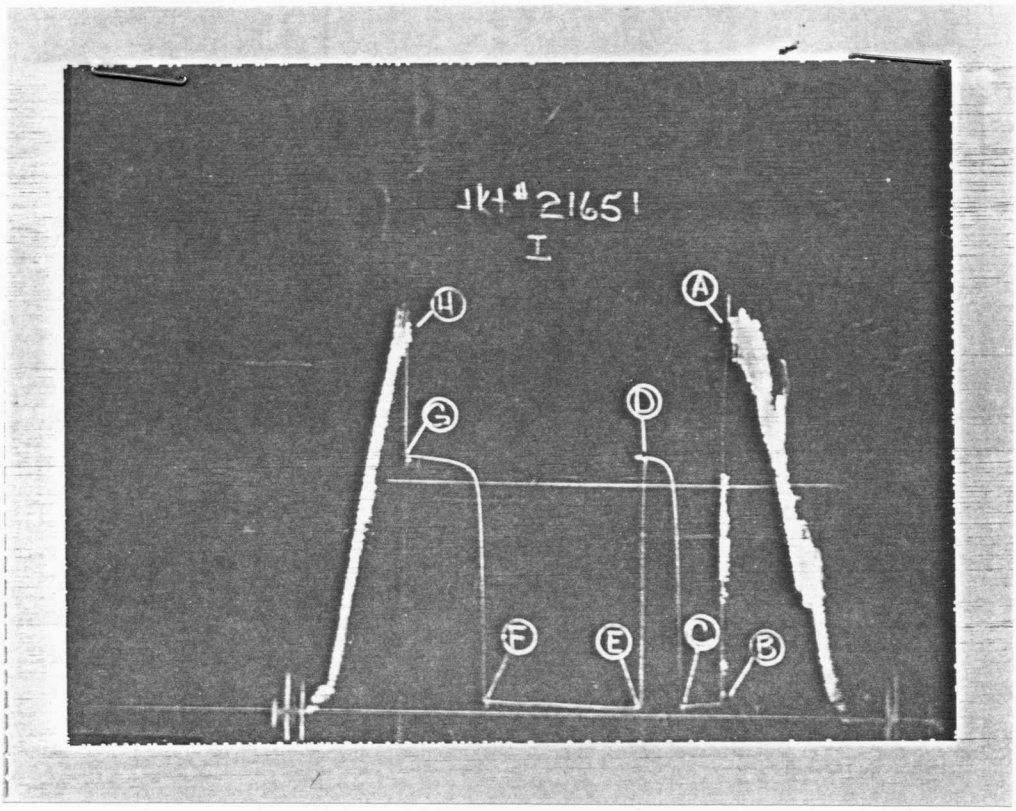
| Point | Minutes | Press. |
|---|---|---|
| | 0 | 69 |
| | 5 | 42 |
| | 10 | 42 |
| | 15 | 40 |
| | 20 | 39 |
| | 25 | 40 |
| | 30 | 41 |
| | 35 | 44 |
| | 40 | 46 |
| | 45 | 48 |
| | 50 | 50 |
| | 55 | 51 |
| | 60 | 52 |
| | 65 | 54 |
| | 70 | 56 |
| | 75 | 57 |
| | 80 | 57 |
| | 85 | 57 |
| | 90 | 57 |
| | 95 | 58 |
| | 100 | 60 |
| | 105 | 62 |
| | 110 | 63 |
| | 115 | 65 |
| | 120 | 66 |

**Final Shut-In**
Breakdown: 20 Inc.
of 3 mins. and a
final inc. of 0 Min.

| Point | Minutes | Press. |
|---|---|---|
| | 0 | 66 |
| | 3 | 546 |
| | 6 | 998 |
| | 9 | 1253 |
| | 12 | 1321 |
| | 15 | 1352 |
| | 18 | 1369 |
| | 21 | 1377 |
| | 24 | 1386 |
| | 27 | 1392 |
| | 30 | 1398 |
| | 33 | 1402 |
| | 36 | 1404 |
| | 39 | 1408 |
| | 42 | 1411 |
| | 45 | 1412 |
| | 48 | 1417 |
| | 51 | 1418 |
| | 54 | 1419 |
| | 57 | 1421 |
| | 60 | 1423 |

COMPANY Pickrell Drilling Company LEASE AND WELL NO. Rader C #1 SEC. 15 TWP. 27S RGE. 19W TEST NO. 1 DATE 9-20-76

15-205-19,661




This is an actual photograph of recorder chart.

| POINT | | PRESSURE Field Reading | Office Reading | |
|---|---|---|---|---|
| (A) | Initial Hydrostatic Mud | 2094 | 2167 | PSI |
| (B) | First Initial Flow Pressure | 72 | 73 | PSI |
| (C) | First Final Flow Pressure | 52 | 56 | PSI |
| (D) | Initial Closed-in Pressure | 1433 | 1436 | PSI |
| (E) | Second Initial Flow Pressure | 52 | 69 | PSI |
| (F) | Second Final Flow Pressure | 62 | 66 | PSI |
| (G) | Final Closed-in Pressure | 1433 | 1423 | PSI |
| (H) | Final Hydrostatic Mud | 2094 | 2146 | PSI |

Home Office: Wichita, Kansas 67201
P. O. Box 1599 (316) 838-0601

Company Pickrell Drilling Company Lease & Well No. Rader C-1

Elevation - Formation Kansas City Effective Pay - Ft. Ticket No. #21652

Date 9-21-76 Sec. 15 Twp. 27S Range 19W County Kiowa State Kansas

Test Approved by Geroge R. Dent Western Representative Bill Hager

Formation Test No. 2 O.K. X Misrun - Interval Tested From 4200' to 4223' Total Depth 4223'

Size Main Hole 77/8 Rat Hole - Conv. X B.T. - Damaged - Yes X No Conv. - B.T. X Damaged - Yes X No

Top Packer Depth 4195 Ft. Size 6 3/4 Bottom Packer Depth 4200 Ft. Size 6 3/4

Straddle - Conv. - B.T. - Damaged - Yes - No Packer Depth - Ft. Size -

Tool Size 5½ OD Tool Joint Size 4½ FH Anchor Length 23 Ft. Size 5½OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 4213 Ft. Clock No. 6799 Depth 4216 Ft. Clock No. 9712

Top Make Kuster Cap. 4150 No. 2606 ~~Outside~~ Inside Bottom Make Kuster Cap. 4000 No. 3351 ~~Inside~~ Outside

Below Straddle: Depth - Rec. No. - Clock No. - Inside Outside Depth - Ft. Rec. No. - Clock No. - Inside Outside

Time Set Packer 8:25 A M

Tool Open I.F.P. From 8:27A M. to 8:57A M. - Hr. 30 Min. From (B) 31 P.S.I. To (C) 23 P.S.I.

Tool Closed I.C.I.P. From 8:57A M. to 9:27 M. - Hr. 30 Min (D) 1438 P.S.I.

Tool Open F.F.P. From 9:27 A M. to 10:57 M. 1 Hr. 30 Min. From (E) 31 P.S.I. To (F) 19 P.S.I.

Tool Closed F.C.I.P. From 10:57A M. to 11:57A M. 1 Hr. - Min. (G) 1467 P.S.I.

Initial Hydrostatic Pressure (A) 2176 P.S.I. Final Hydrostatic Pressure (H) 2165 P.S.I. Maximum Temp. 119

## INFORMATION

BLOW Strong blow - gas to surface in 30 minutes.

Did Well Flow - Yes X No Recovery Total Ft. 60' gas-cut mud.

Reversed Out - Yes X No Mud Type starch Viscosity 43 Weight 9.6 Water Loss 13.6 cc. Chlorides 54,000 P.P.M.

EXTRA EQUIPMENT: Type Circ. Sub. pin Safety Joint - Jars: Size - In. Make - Ser. No. -

Dual Packer yes Did Packers Hold? yes Did Tool Plug? no Where? -

DRILLING CONTRACTOR Co. Tools Length Drill Pipe? 3933 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4½XH In.

Length Weight Pipe - Ft. I.D. Weight Pipe - In. Tool Joint Size - In. Length Drill Collars 245 Ft. I.D. Drill Collars 2¼ In.

Tool Joint Size 4½H90 In. Length D.S.T. Tool 44 Ft.

Remarks:

Home Office: Wichita, Kansas 67201
P. O. Box 1599 (316) 838-0601

# GAS FLOW REPORT

Date 9-21-76 Ticket #21652 Company Pickrell Drilling Company

Well Name and No. Rader #C-1 Dst No. 2 Interval Tested 4200' - 4223'

County Kiowa State Kansas Sec. 15 Twp. 27S Rg. 19W

| Time Gauge Pre-Flow | Time Gauge in Min. | P.S.I. on Merla Orifice Well Tester | P.S.I. on Pitot Tester | P.S.I. on Side Static Tester | P.S.I. on U-Tube Tester | Description of Flow |
|---|---|---|---|---|---|---|
| Tool open 8:27 a.m. | | | **PRE FLOW** | | | |
| Gas to surface in 30 minutes. | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Tool open 9:27 a.m. ½" Orifice | | | **SECOND FLOW** | | | |
| 9:37 am | 10 min. | 22 inches | of water | | | 39,400 C.F.P.D. Gas |
| 9:47 am | 10 min. | 20 inches | of water | | | 28,000 C.F.P.D. Gas |
| 9:57 am | 10 min. | 20 inches | of water | | | 28,000 C.F.P.D. Gas |
| 10:07 am | 10 min. | 22 inches | of water | | | 29,400 C.F.P.D. Gas |
| 10:17 am | 10 min. | 24 inches | of water | | | 30,700 C.F.P.D. Gas |
| 10:27 am | 10 min. | 26 inches | of water | | | 31,900 C.F.P.D. Gas |
| 10:37 am | 10 min. | 28 inches | of water | | | 33,200 C.F.P.D. Gas |
| 10:47 am | 10 min. | 28 inches | of water | | | 33,200 C.F.P.D. Gas |
| 10:57 am | 10 min. | 28 inches | of water | | | 33,200 C.F.P.D. Gas |
| | | | | | | |
| | | | | | | |
| | | | | | | |

## GAS BOTTLE

Serial No. - Date Bottle Filled - Date to be Invoiced -

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of $75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1% per month, equal to 12% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME _____

Authorized by _____

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

Date 9-21-76 Test Ticket No. #21652

Recorder No. 2606 Capacity 4150 Location 4213 Ft.

Clock No. 6799 Elevation – Well Temperature 119 °F

| Point | | Pressure | | | Time Given | Time Computed |
|---|---|---|---|---|---|---|
| A | Initial Hydrostatic Mud | 2176 | P.S.I. | Open Tool | 8:25 A M | |
| B | First Initial Flow Pressure | 31 | P.S.I. | First Flow Pressure | 30 Mins. | 30 Mins. |
| C | First Final Flow Pressure | 23 | P.S.I. | Initial Closed-in Pressure | 30 Mins. | 30 Mins. |
| D | Initial Closed-in Pressure | 1438 | P.S.I. | Second Flow Pressure | 90 Mins. | 90 Mins. |
| E | Second Initial Flow Pressure | 31 | P.S.I. | Final Closed-in Pressure | 60 Mins. | 60 Mins. |
| F | Second Final Flow Pressure | 19 | P.S.I. | | | |
| G | Final Closed-in Pressure | 1467 | P.S.I. | | | |
| H | Final Hydrostatic Mud | 2165 | P.S.I. | | | |

### PRESSURE BREAKDOWN

**First Flow Pressure**
Breakdown: 6 Inc.
of 5 mins. and a
final inc. of 0 Min.

| Point Mins. | Press. |
|---|---|
| P 1 0 | 31 |
| P 2 5 | 21 |
| P 3 10 | 21 |
| P 4 15 | 21 |
| P 5 20 | 22 |
| P 6 25 | 22 |
| P 7 30 | 23 |
| 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 0 Min.

| Point Minutes | Press. |
|---|---|
| 0 | 23 |
| 3 | 347 |
| 6 | 666 |
| 9 | 925 |
| 12 | 1139 |
| 15 | 1271 |
| 18 | 1344 |
| 21 | 1388 |
| 24 | 1413 |
| 27 | 1429 |
| 30 | 1438 |

**Second Flow Pressure**
Breakdown: 18 Inc.
of 5 mins. and a
final inc. of 0 Min.

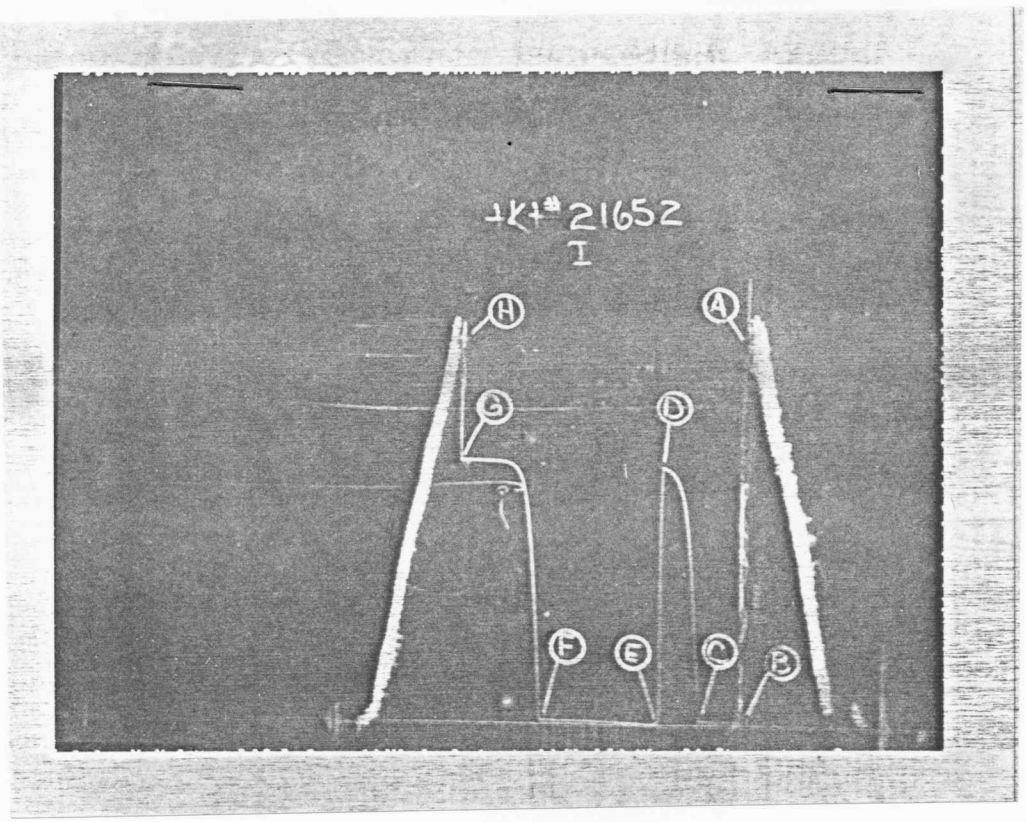
| Point Minutes | Press. |
|---|---|
| 0 | 31 |
| 5 | 2 |
| 10 | 3 |
| 15 | 6 |
| 20 | 7 |
| 25 | 8 |
| 30 | 10 |
| 35 | 12 |
| 40 | 13 |
| 45 | 14 |
| 50 | 15 |
| 55 | 16 |
| 60 | 17 |
| 65 | 17 |
| 70 | 17 |
| 75 | 18 |
| 80 | 18 |
| 85 | 19 |
| 90 | 19 |

**Final Shut-In**
Breakdown: 20 Inc.
of 3 mins. and a
final inc. of 0 Min.

| Point Minutes | Press. |
|---|---|
| 0 | 19 |
| 3 | 343 |
| 6 | 634 |
| 9 | 914 |
| 12 | 1155 |
| 15 | 1290 |
| 18 | 1375 |
| 21 | 1419 |
| 24 | 1441 |
| 27 | 1452 |
| 30 | 1458 |
| 33 | 1463 |
| 36 | 1464 |
| 39 | 1465 |
| 42 | 1465 |
| 45 | 1466 |
| 48 | 1466 |
| 51 | 1466 |
| 54 | 1467 |
| 57 | 1467 |
| 60 | 1467 |

COMPANY Pickrell Drilling Company LEASE AND WELL NO. Rader C-1 SEC. 15 TWP. 27S RGE. 19W TEST NO. 2 DATE 9-21-76

15-275-19W




This is an actual photograph of recorder chart.

| POINT | | PRESSURE Field Reading | Office Reading | |
|---|---|---|---|---|
| (A) | Initial Hydrostatic Mud | 2156 | 2176 | PSI |
| (B) | First Initial Flow Pressure | 20 | 31 | PSI |
| (C) | First Final Flow Pressure | 20 | 23 | PSI |
| (D) | Initial Closed-in Pressure | 1433 | 1438 | PSI |
| (E) | Second Initial Flow Pressure | 0 | 31 | PSI |
| (F) | Second Final Flow Pressure | 20 | 19 | PSI |
| (G) | Final Closed-in Pressure | 1454 | 1467 | PSI |
| (H) | Final Hydrostatic Mud | 2156 | 2165 | PSI |

WESTERN TESTERS

Home Office: Wichita, Kansas 67201
P. O. Box 1599 (316) 838-0601

Company Pickrell Drilling Company Lease & Well No. Rader C-1

Elevation 2236 Kelly Bushing Formation Kansas City Effective Pay - Ft. Ticket No. 21653

Date 9-22-76 Sec. 15 Twp. 27S Range 19W County Kiowa State KS

Test Approved by George R. Dent Western Representative Lonnie Cline

Formation Test No. #3 O.K. X Misrun - Interval Tested From 4336' to 4360' Total Depth 4360'

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

Top Packer Depth 4331 Ft. Size 6 3/4 Bottom Packer Depth 4336 Ft. Size 6 3/4

Straddle - Conv. - B.T. - Damaged - Yes - No Packer Depth - Ft. Size -

Tool Size 5½OD Tool Joint Size 4½FH Anchor Length 24 Ft. Size 5½OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In.

RECORDERS Depth 4352 Ft. Clock No. 6799 Depth 4355 Ft. Clock No. 9726

Top Make Kuster Cap. 4150 No. 2606 Inside - Outside Bottom Make Kuster Cap. 4000 No. 3351 Inside - Outside

Below Straddle: Depth - Rec. No. - Clock No. - Inside Outside Depth - Ft. Rec. No. - Clock No. - Inside Outside

Time Set Packer 12:27 M

Tool Open I.F.P. From 12:27 M. to 12:57 M. - Hr. 30 Min. From (B) 54 P.S.I. To (C) 62 P.S.I.

Tool Closed I.C.I.P. From 12:57 M. to 1:27 M. - Hr. 30 Min (D) 1304 P.S.I.

Tool Open F.F.P. From 1:27 M. to 2:57 M. 1 Hr. 30 Min. From (E) 100 P.S.I. To (F) 118 P.S.I.

Tool Closed F.C.I.P. From 2:57 M. to 3:57 M. 1 Hr. - Min. (G) 1375 P.S.I.

Initial Hydrostatic Pressure (A) 2324 P.S.I. Final Hydrostatic Pressure (H) 2314 P.S.I. Maximum Temp. 122

## INFORMATION

BLOW Fair blow throughout test

Did Well Flow - Yes X No Recovery Total Ft. 180' total, 60' slightly oil & gas cut mud, 120' gas cut water with scum of oil. 420' gas in pipe

Reversed Out - Yes X No Mud Type Starch Viscosity 45 Weight 9.9 Water Loss 9. cc. Chlorides 68,000 PPM

EXTRA EQUIPMENT: Type Circ. Sub. Pin Safety Joint - Jars: Size - In. Make - Ser. No. -

Dual Packer Yes Did Packers Hold? Yes Did Tool Plug? No Where? -

DRILLING CONTRACTOR Pickrell Drlg. Co. Length Drill Pipe? 4070 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4½XH In.

Length Weight Pipe - Ft. I.D. Weight Pipe - In. Tool Joint Size - In. Length Drill Collars 245 I.D. Drill Collars 2¼ In.

Tool Joint Size 4½H90 In. Length D.S.T. Tool 45 Ft.

Remarks:

Chlorides checked 85,000 P.P.M.

# WESTERN TESTING CO., INC.

## Pressure Data

Date 9-22-76 Test Ticket No. 21653

Recorder No. 2606 Capacity 4150 Location 4352 Ft.

Clock No. 6799 Elevation 2236 Kelly Bushing Well Temperature 122 °F

| Point | | Pressure | | | Time Given | Time Computed |
|---|---|---|---|---|---|---|
| A | Initial Hydrostatic Mud | 2324 | P.S.I. | Open Tool | 12:25 M | |
| B | First Initial Flow Pressure | 54 | P.S.I. | First Flow Pressure | 30 Mins. | 30 Mins. |
| C | First Final Flow Pressure | 62 | P.S.I. | Initial Closed-in Pressure | 30 Mins. | 30 Mins. |
| D | Initial Closed-in Pressure | 1304 | P.S.I. | Second Flow Pressure | 90 Mins. | 90 Mins. |
| E | Second Initial Flow Pressure | 100 | P.S.I. | Final Closed-in Pressure | 60 Mins. | 60 Mins. |
| F | Second Final Flow Pressure | 118 | P.S.I. | | | |
| G | Final Closed-in Pressure | 1375 | P.S.I. | | | |
| H | Final Hydrostatic Mud | 2314 | P.S.I. | | | |

## PRESSURE BREAKDOWN

**First Flow Pressure**

Breakdown: 6 Inc. of 5 mins. and a final inc. of 0 Min.

| Point Mins. | Press. |
|---|---|
| P 1 0 | 54 |
| P 2 5 | 48 |
| P 3 10 | 50 |
| P 4 15 | 52 |
| P 5 20 | 56 |
| P 6 25 | 60 |
| P 7 30 | 62 |
| 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 0 Min.

| Point Minutes | Press. |
|---|---|
| 0 | 62 |
| 3 | 79 |
| 6 | 106 |
| 9 | 146 |
| 12 | 204 |
| 15 | 291 |
| 18 | 427 |
| 21 | 630 |
| 24 | 971 |
| 27 | 1256 |
| 30 | 1304 |

**Second Flow Pressure**

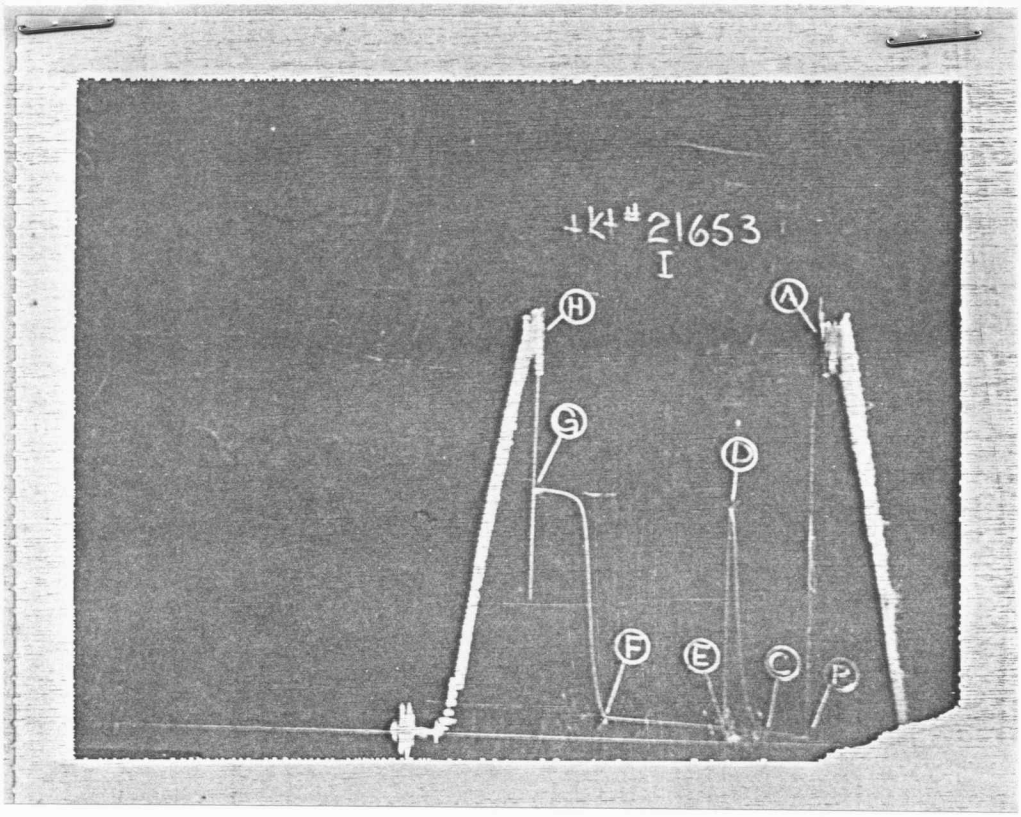
Breakdown: 18 Inc. of 5 mins. and a final inc. of 0 Min.

| Point Minutes | Press. |
|---|---|
| 0 | 100 |
| 5 | 83 |
| 10 | 85 |
| 15 | 87 |
| 20 | 92 |
| 25 | 94 |
| 30 | 96 |
| 35 | 98 |
| 40 | 100 |
| 45 | 102 |
| 50 | 104 |
| 55 | 106 |
| 60 | 108 |
| 65 | 110 |
| 70 | 112 |
| 75 | 114 |
| 80 | 116 |
| 85 | 118 |
| 90 | |

**Final Shut-In**

Breakdown: 20 Inc. of 3 mins. and a final inc. of 0 Min.

| Point Minutes | Press. |
|---|---|
| 0 | ~~118~~ |
| 3 | ~~154~~ |
| 6 | ~~227~~ |
| 9 | ~~329~~ |
| 12 | ~~483~~ |
| 15 | ~~680~~ |
| 18 | ~~948~~ |
| 21 | ~~1161~~ |
| 24 | ~~1275~~ |
| 27 | ~~1317~~ |
| 30 | ~~1336~~ |
| 33 | ~~1346~~ |
| 36 | ~~1354~~ |
| 39 | ~~1358~~ |
| 42 | ~~1362~~ |
| 45 | ~~1367~~ |
| 48 | ~~1369~~ |
| 51 | ~~1371~~ |
| 54 | ~~1373~~ |
| 57 | 1374 |
| 60 | 1375 |




This is an actual photograph of recorder chart.

| POINT | | PRESSURE Field Reading | Office Reading | |
|---|---|---|---|---|
| (A) | Initial Hydrostatic Mud | 2240 | 2324 | PSI |
| (B) | First Initial Flow Pressure | 52 | 54 | PSI |
| (C) | First Final Flow Pressure | 62 | 62 | PSI |
| (D) | Initial Closed-in Pressure | 1319 | 1304 | PSI |
| (E) | Second Initial Flow Pressure | 93 | 100 | PSI |
| (F) | Second Final Flow Pressure | 114 | 118 | PSI |
| (G) | Final Closed-in Pressure | 1423 | 1375 | PSI |
| (H) | Final Hydrostatic Mud | 2240 | 2314 | PSI |

COMPANY Pickrell Drilling Company LEASE AND WELL NO. Rader C-1 SEC. 15 TWP. 27S RGE. 19W TEST NO. #3 DATE 9-22-76

Home Office: Wichita, Kansas 67201
P. O. Box 1599 (316) 838-0601

Company Pickrell Drilling Company Lease & Well No. Rader C-1

Elevation - Formation Mississippi Effective Pay - Ft. Ticket No. #21654

Date 9-24-76 Sec. 15 Twp. 27S Range 19W County Kiowa State Kansas

Test Approved by George Gent Western Representative Bill Hager

Formation Test No. 4 O.K. X Misrun - Interval Tested From 4768' to 4790' Total Depth 4790'

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

Top Packer Depth 4763 Ft. Size 6 3/4 Bottom Packer Depth 4768 Ft. Size 6 3/4

Straddle - Conv. - B.T. - Damaged - Yes - No Packer Depth - Ft. Size -

Tool Size 1½ OD Tool Joint Size 4½ FH Anchor Length 22 Ft. Size 5½ OD Surface Choke Size 3/4 In. Bottom Choke Size 3/4 In

RECORDERS Depth 4780 Ft. Clock No. 6799 Depth 4783 Ft. Clock No. 9726

Top Make Kuster Cap. 4150 No. 2606 Inside ~~Outside~~ Bottom Make Kuster Cap. 4000 No. 3351 ~~Inside~~ Outside

Below Straddle: Depth - Rec. No. - Clock No. - Inside Outside Depth - Ft. Rec. No. - Clock No. - Inside Outside

Time Set Packer 11:58 P M

Tool Open I.F.P. From 12:00A M. to 12:10A M. - Hr. 10 Min. From (B) 1043 P.S.I. To (C) 531 P.S.I

Tool Closed I.C.I.P. From 12:10A M. to 12:40A M. - Hr. 30 Min (D) 1492 P.S.I

Tool Open F.F.P. From 12:40A M. to 1:40A M. 1 Hr. - Min. From (E) 755 P.S.I. To (F) 387 P.S.I

Tool Closed F.C.I.P. From 1:40A M. to 2:40A M. 1 Hr. - Min. (G) 1456 P.S.I

Initial Hydrostatic Pressure (A) 2523 P.S.I. Final Hydrostatic Pressure (H) 2496 P.S.I. Maximum Temp. 123

## INFORMATION

BLOW Strong blow. Gas to surface immediately.

Did Well Flow - Yes X No Recovery Total Ft. No fluid recovered.

Reversed Out - Yes X No Mud Type starch Viscosity 54 Weight 9.8 Water Loss 11.6 cc. Chlorides 49,000 P.P.M.

EXTRA EQUIPMENT: Type Circ. Sub. pin Safety Joint - Jars: Size - In. Make - Ser. No. -

Dual Packer yes Did Packers Hold? yes Did Tool Plug? no Where? -

DRILLING CONTRACTOR Co. Tools Length Drill Pipe? 4501 Ft. I.D. Drill Pipe 3.8 In. Tool Joint Size 4½ XH I.

Length Weight Pipe - Ft. I.D. Weight Pipe - In. Tool Joint Size - In. Length Drill Collars 245 Ft. I.D. Drill Collars 2¼ I

Tool Joint Size 4½ H90 In. Length D.S.T. Tool 44 Ft.

Remarks:

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

Date 9-24-76 Test Ticket No. #21654

Recorder No. 2606 Capacity 4150 Location 4780 Ft.

Clock No. 6799 Elevation - Well Temperature 123 °F

| Point | | Pressure | | | Time Given | Time Computed |
|---|---|---|---|---|---|---|
| A | Initial Hydrostatic Mud | 2523 P.S.I. | | Open Tool | 11:58 P M | |
| B | First Initial Flow Pressure | 1043 P.S.I. | | First Flow Pressure | 10 Mins. | 10 Mins. |
| C | First Final Flow Pressure | 531 P.S.I. | | Initial Closed-in Pressure | 30 Mins. | 33 Mins. |
| D | Initial Closed-in Pressure | 1492 P.S.I. | | Second Flow Pressure | 60 Mins. | 60 Mins. |
| E | Second Initial Flow Pressure | 755 P.S.I. | | Final Closed-in Pressure | 60 Mins. | 60 Mins. |
| F | Second Final Flow Pressure | 387 P.S.I. | | | | |
| G | Final Closed-in Pressure | 1456 P.S.I. | | | | |
| H | Final Hydrostatic Mud | 2496 P.S.I. | | | | |

## PRESSURE BREAKDOWN

**First Flow Pressure**
Breakdown: 2 Inc.
of 5 mins. and a
final inc. of 0 Min.

| Point Mins. | Press. |
|---|---|
| P 1 0 | 1043 |
| P 2 5 | 599 |
| P 3 10 | 531 |
| 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: 11 Inc.
of 3 mins. and a
final inc. of 0 Min.

| Point Minutes | Press. |
|---|---|
| 0 | 531 |
| 3 | 1046 |
| 6 | 1227 |
| 9 | 1334 |
| 12 | 1388 |
| 15 | 1415 |
| 18 | 1438 |
| 21 | 1452 |
| 24 | 1468 |
| 27 | 1477 |
| 30 | 1483 |
| 33 | 1492 |

**Second Flow Pressure**
Breakdown: 12 Inc.
of 5 mins. and a
final inc. of 0 Min.

| Point Minutes | Press. |
|---|---|
| 0 | 755 |
| 5 | 579 |
| 10 | 520 |
| 15 | 487 |
| 20 | 462 |
| 25 | 444 |
| 30 | 433 |
| 35 | 423 |
| 40 | 414 |
| 45 | 408 |
| 50 | 402 |
| 55 | 396 |
| 60 | 387 |

**Final Shut-In**
Breakdown: 20 Inc.
of 3 mins. and a
final inc. of 0 Min.

| Point Minutes | Press. |
|---|---|
| 0 | 387 |
| 3 | 852 |
| 6 | 1035 |
| 9 | 1132 |
| 12 | 1190 |
| 15 | 1234 |
| 18 | 1267 |
| 21 | 1294 |
| 24 | 1317 |
| 27 | 1339 |
| 30 | 1356 |
| 33 | 1371 |
| 36 | 1384 |
| 39 | 1398 |
| 42 | 1408 |
| 45 | 1418 |
| 48 | 1427 |
| 51 | 1433 |
| 54 | 1443 |
| 57 | 1448 |
| 60 | 1456 |

Home Office: Wichita, Kansas 67201
P. O. Box 1599 (316) 838-0601

# GAS FLOW REPORT

Date 9-24-76 Ticket 21654 Company Pickrell Drilling Company

Well Name and No. Rader C-1 Dst No. 4 Interval Tested 4768' - 4790'

County Kiowa State Kansas Sec. 15 Twp. 27S Rg. 19W

| Time Gauge Pre-Flow | Time Gauge in Min. | P.S.I. on Merla Orifice Well Tester | P.S.I. on Pitot Tester | P.S.I. on Side Static Tester | P.S.I. on U-Tube Tester | Description of Flow |
|---|---|---|---|---|---|---|
| **PRE FLOW** | | | | | | |
| Tool open 12:00 AM | | | Gas to surface immediately | | | |
| Not gauged. | | | | | | |
| **SECOND FLOW** | | | | | | |
| Tool open 12:40 AM | | | | | | |
| 12:45AM | 5 min. | | 24 P.S.I.G. | | | 3,690,000 C.F.P.D. |
| 12:50AM | 10 min. | | 24 P.S.I.G. | | | 3,690,000 C.F.P.D. |
| 1:00AM | 20 min. | | 18 P.S.I.G. | | | 3,120,000 C.F.P.D. |
| 1:10AM | 30 min. | | 14 P.S.I.G. | | | 2,740,000 C.F.P.D. |
| 1:20AM | 40 min. | | 12 P.S.I.G. | | | 2,530,000 C.F.P.D. |
| 1:30AM | 50 min. | | 12 P.S.I.G. | | | 2,530,000 C.F.P.D. |
| 1:40AM | 60 min. | | 12 P.S.I.G. | | | 2,530,000 C.F.P.D. |

## GAS BOTTLE

Serial No. 602 Date Bottle Filled 9-24-76 Date to be Invoiced 9-24-76

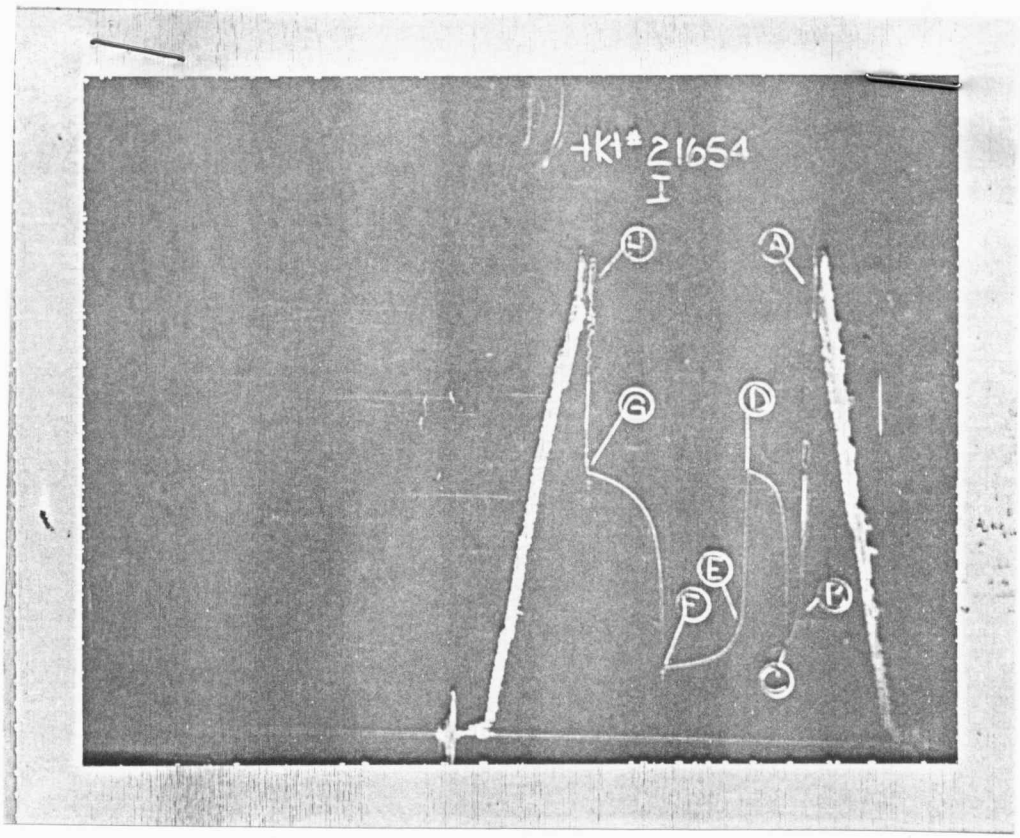
Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of $75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1% per month, equal to 12% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Pickrell Drilling Company

Authorized by George R. Dent

COMPANY Pickrell Drilling Company LEASE AND WELL NO. Rader C-1 SEC. 15 TWP. 27S RGE. 19W TEST NO. 4 DATE 9-24-76




This is an actual photograph of recorder chart.

| POINT | | PRESSURE Field Reading | Office Reading | |
|---|---|---|---|---|
| (A) | Initial Hydrostatic Mud | 2481 | 2523 | PSI |
| (B) | First Initial Flow Pressure | 655 | 1043 | PSI |
| (C) | First Final Flow Pressure | 531 | 531 | PSI |
| (D) | Initial Closed-in Pressure | 1475 | 1492 | PSI |
| (E) | Second Initial Flow Pressure | 655 | 755 | PSI |
| (F) | Second Final Flow Pressure | 385 | 387 | PSI |
| (G) | Final Closed-in Pressure | 1454 | 1456 | PSI |
| (H) | Final Hydrostatic Mud | 2481 | 2496 | PSI |