

# CHENEY TESTING COMPANY, INC.

P. O. Box 367

HILL CITY, KANSAS 67642

## DRILL-STEM TEST DATA

|                                                         |                                 |             |            |
|---------------------------------------------------------|---------------------------------|-------------|------------|
| Company                                                 | Abercrombie Drlg. Inc.          | Test No.    | 4          |
| Well Name & Number                                      | Beula Brown B#1                 | Zone Tested | "L" K.C.   |
| Company Address                                         | 801 Union Center, Wichita, Kan. | Date        | 12-5-86    |
| Company Rep.                                            | Steve Frankcamp                 | Tester      | Dan Bangle |
| Contractor                                              | Aber. Drlg. Inc. #8             | Elevation   | 2587 K.B.  |
| Location: Sec. 28 Twp. 15S Rge. 29W Co. Gove State Kan. | Est. Feet of Pay                |             |            |

Recorder No. 13277 Type AK-1 Range 4125 PSI

Recorder Depth 3967 Clock # 30420

(A) Initial Hydrostatic Mud 1989 PSI

(B) First Initial Flow Pressure 21 PSI

(C) First Final Flow Pressure 21 PSI

(D) Initial Shut-in Pressure 243 PSI

(E) Second Initial Flow Pressure 21 PSI

(F) Second Final Flow Pressure 21 PSI

(G) Final Shut-in Pressure 222 PSI

(H) Final Hydrostatic Mud 1926 PSI

Temperature 122

Mud Weight 9.4 Viscosity 42

Fluid Loss 11.2 CHL. 7,000 P.P.M.

Interval Tested 3956-3975

Anchor Length 19'

Top Packer Depth 3951

Bottom Packer Depth 3956

Total Depth 3975

Drill Pipe Size 4 1/2 EX.H.

Wt. Pipe I. D. 2.7 Ft. Run 604

Recovery-Total Feet 30

Recovered 10 Feet Of F.O.

Recovered 20 Feet Of Oil spotted mud

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Recovered Feet Of

Extra Equipment

Price of Job \$350.00

Recorder No. 11091 Type AK-1 Range 4200 PSI

Recorder Depth 3971 Clock # 23858

Tool Open Before I.S.I. 30 Mins.

Initial Shut-in 45 Mins.

Flow Period 60 Mins.

Final Shut-in 45 Mins.

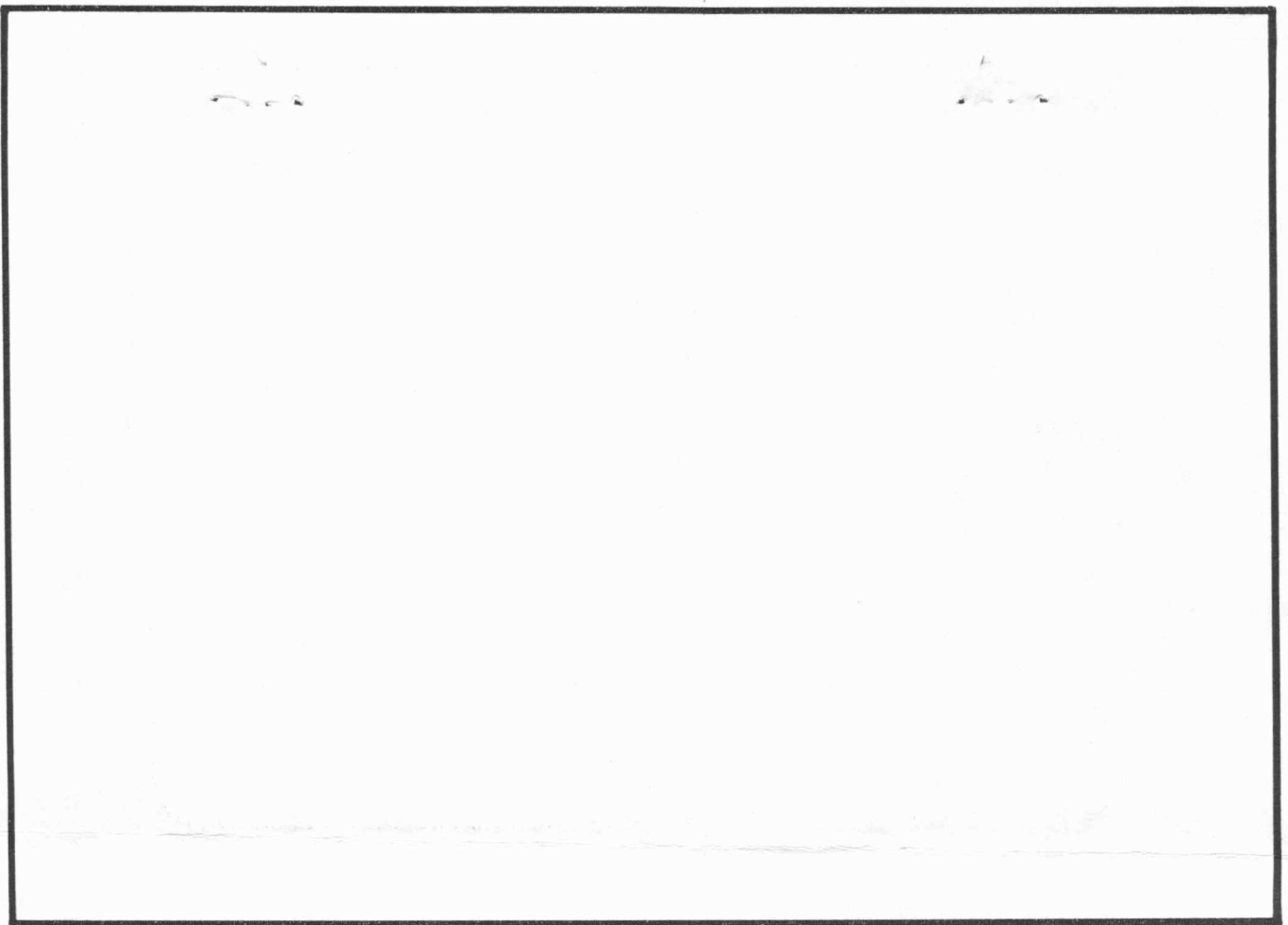
Top Choke Size 1" Hole Size 7 7/8"

Bottom Choke Size 3/4" Rubber Size 6 3/4"

Tool Open @ 8:50 A.M.

Blow Remarks I.F. WEAK BLDG. TO 1"

F.F. WEAK 1/2" STEADY BLOW



This is an actual photograph of recorder chart.

| POINT                                  | PRESSURE         |                   |
|----------------------------------------|------------------|-------------------|
|                                        | Field<br>Reading | Office<br>Reading |
| (A) Initial Hydrostatic Mud .....      | 1989             | PSI               |
| (B) First Initial Flow Pressure .....  | 21               | PSI               |
| (C) First Final Flow Pressure .....    | 21               | PSI               |
| (D) Initial Closed-in Pressure .....   | 243              | PSI               |
| (E) Second Initial Flow Pressure ..... | 21               | PSI               |
| (F) Second Final Flow Pressure .....   | 21               | PSI               |
| (G) Final Closed-in Pressure .....     | 222              | PSI               |
| (H) Final Hydrostatic Mud .....        | 1926             | PSI               |



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## DRILL-STEM TEST DATA

|                                                           |                                     |             |            |
|-----------------------------------------------------------|-------------------------------------|-------------|------------|
| Company                                                   | Abercrombie Drlg. CO., Inc.         | Test No.    | 5          |
| Well Name & Number                                        | Buela Brown B #1                    | Zone Tested | Johnson    |
| Company Address                                           | 801 Union Center Wichita, Ks. 67202 | Date        | 12-6-86    |
| Company Rep.                                              | Steve Frankcamp                     | Tester      | Dan Bangle |
| Contractor                                                | Abercrombie Drlg.                   | Elevation   | 2587       |
| Location: Sec. 28 Twp. 15S Rge. 29W Co. Gove State Kansas | Est. Feet of Pay                    |             |            |

Recorder No. 13277 Type AK-1 Range 4125 PSI

Recorder Depth 4264 Clock # 30420

(A) Initial Hydrostatic Mud 2232 PSI

(B) First Initial Flow Pressure 105 PSI

(C) First Final Flow Pressure 307 PSI

(D) Initial Shut-in Pressure 1039 PSI

(E) Second Initial Flow Pressure 349 PSI

(F) Second Final Flow Pressure 497 PSI

(G) Final Shut-in Pressure 852 PSI

(H) Final Hydrostatic Mud 2147 PSI

Temperature 124

Mud Weight 9.4 Viscosity 54

Fluid Loss 12 chl. 7,000 P.P.M.

Interval Tested 4208-4272

Anchor Length 64

Top Packer Depth 4203

Bottom Packer Depth 4208

Total Depth 4272

Drill Pipe Size 4 1/2" X.H.

Wt. Pipe I. D. 2.7 Ft. Run 573

Recovery-Total Feet 1352

Recovered 868 Feet Of Clean Gassy Oil ( 34 Gravity)

Recovered 424 Feet Of Mud Cut Oil ( 85% Oil 15% Mud )

Recovered 60 Feet Of Oil Cut Mud ( 30% Oil 70% Mud )

Recovered 768 Feet Of Gas in Pipe

Recovered Feet Of

Recovered Feet Of

Extra Equipment Price of Job \$350.00

Recorder No. 11091 Type AK-1 Range 4200 PSI

Recorder Depth 4268 Clock # 23858

Tool Open Before I.S.I. 30 Mins.

Initial Shut-in 45 Mins.

Flow Period 60 Mins.

Final Shut-in 45 Mins.

Top Choke Size 1" Hole Size 7 7/8"

Bottom Choke Size 3/4" Rubber Size 6 3/4"

Tool Open @ 7:50 P.M.

Blow Remarks I.F. Strong -off Bottom of 5 gal.  
bucket in 3".

F.F. Strong.

1 Jt. WT. Pipe in Anchor.

CHENEY TESTING CO, INC.  
CALCULATION OF FORMATION CHARACTERISTICS  
FROM DST DATA

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FOR: ABERCROMBIE DRLG. INC.  
BEULA BROWN B #1  
28-15S-29W  
GOVE CO., KS.

DST # 5  
FORMATION: JOHNSON  
ELEVATION: 2587 KB

\*\*\*\*\*

TEST PARAMETERS

|                                   |                                |
|-----------------------------------|--------------------------------|
| TEST INTERVAL: 4208 - 4272        | EST PAY: 10                    |
| TIME INTERVAL: 30 - 45 - 60 - 45  | VISCOSITY OF FLUID: 5          |
| INITIAL FLOW PRESS: 113.3- 307.3  | HOLE SIZE: 7.875               |
| FINAL FLOW PRESS: 351.4- 495.1    | D.C. CAPACITY: 0.00000         |
| SHUT-IN PRESS(I-F): 1034.3- 833.9 | W.P. CAPACITY: 0.00708         |
| BOTTOM HOLE TEMPERATURE: 124      | D.P. CAPACITY: 0.01402         |
| TOTAL FEET OF RECOVERY: 1352      | TOTAL BARRELS RECOVERY: 6.9439 |

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EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI): 1050  
SLOPE (PSI-CYCLE): 82                      POINTS USED: 6

EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI): 840  
SLOPE (PSI-CYCLE): 20                      POINTS USED: 6

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CALCULATIONS

|                                          |          |
|------------------------------------------|----------|
| PRODUCTION POTENTIAL (B/D)               | : 111.10 |
| TRANSMISSIBILITY (MD-FT/CP)              | : 903.26 |
| EFFECTIVE PERMEABILITY (MD)              | : 451.63 |
| PRODUCTIVITY INDEX (B/D/PSI)             | : 1.0207 |
| DAMAGE RATIO                             | : 3.156  |
| APPROXIMATE RADIUS OF INVESTIGATION (FT) | : 201.6  |
| DRAWDOWN FACTOR (%)                      | : 20.000 |
| POTENTIOMETRIC SURFACE (FT)              | : 262.96 |

# INITIAL SHUT-IN

=====

RECORDER NO: 11091    DEPTH: 4272 FT.  
INITIAL FLOW TIME (T): 30 MIN.

| DT(MIN) | LOG((T+DT)/DT) | PRESSURE(P SIG) |
|---------|----------------|-----------------|
| 0       | 0.000          | 307.3           |
| 5       | 0.845          | 907.3           |
| 10      | 0.602          | 976.6           |
| 15      | 0.477          | 1001.7          |
| 20      | 0.398          | 1018.5          |
| 25      | 0.342          | 1023.8          |
| 30      | 0.301          | 1028.0          |
| 35      | 0.269          | 1030.1          |
| 40      | 0.243          | 1032.2          |
| 45      | 0.222          | 1034.3          |

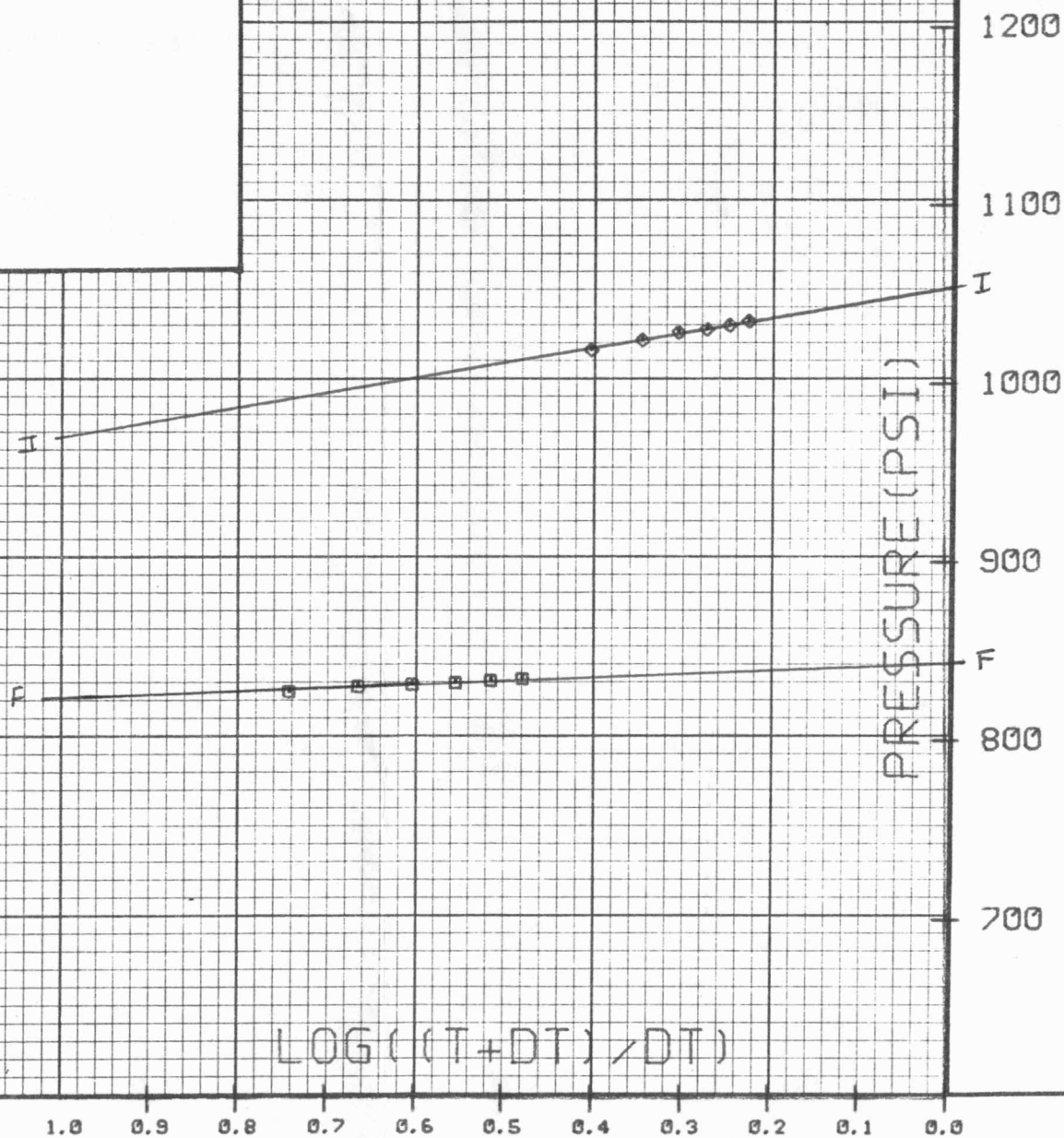
# FINAL SHUT-IN

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RECORDER NO: 11091    DEPTH: 4272 FT.  
TOTAL FLOW TIME: 90 MIN.

| DT(MIN) | LOG((T+DT)/DT) | PRESSURE(P SIG) |
|---------|----------------|-----------------|
| 0       | 0.000          | 495.1           |
| 5       | 1.279          | 763.6           |
| 10      | 1.000          | 805.6           |
| 15      | 0.845          | 820.3           |
| 20      | 0.740          | 826.6           |
| 25      | 0.663          | 829.7           |
| 30      | 0.602          | 830.8           |
| 35      | 0.553          | 831.8           |
| 40      | 0.512          | 832.9           |
| 45      | 0.477          | 833.9           |

HORNER PLOT  
ABERCROMBIE DRLG. INC.  
BEULA BROWN B #1  
DST # 5 DEPTH: 4272  
RECORDER NO. 11091  
INITIAL SHUT-IN:  $\diamond$   
FINAL SHUT-IN:  $\square$



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## DRILL-STEM TEST DATA

|                                                           |                                     |                  |                       |
|-----------------------------------------------------------|-------------------------------------|------------------|-----------------------|
| Company                                                   | ABERCROMBIE DRILLING CO., INC.      | Test No.         | 6 STRADDLE            |
| Well Name & Number                                        | BEULA BROWN B #1                    | Zone Tested      | "L" LANSING-KAN. CITY |
| Company Address                                           | 801 UNION CENTER WICHITA, KS. 67202 | Date             | 12-7-86               |
| Company Rep.                                              | STEVE FRANKCAMP                     | Tester           | DAN BANGLE            |
| Contractor                                                | ABERCROMBIE DRLG.                   | RIG #8           | Elevation 2587        |
| Location: Sec. 28 Twp. 15S Rge. 29W Co. Gove State Kansas |                                     | Est. Feet of Pay |                       |

Recorder No. 13277 Type AK-1 Range 4125 PSI

Recorder Depth 3986 Clock # 30420

(A) Initial Hydrostatic Mud 2108 PSI

(B) First Initial Flow Pressure 114 PSI

(C) First Final Flow Pressure 176 PSI

(D) Initial Shut-in Pressure 518 PSI

(E) Second Initial Flow Pressure 228 PSI

(F) Second Final Flow Pressure 269 PSI

(G) Final Shut-in Pressure 352 PSI

(H) Final Hydrostatic Mud 2025 PSI

Temperature 114

Mud Weight 9.6 Viscosity 54

Fluid Loss 11.2 chl. 7,000 P.P.M.

Interval Tested 3976-3994

Anchor Length 18'

Top Packer Depth 3976

Bottom Packer Depth 3994

Total Depth 4353

Drill Pipe Size 4 1/2" X.H.

Wt. Pipe I. D. 2.7 Ft. Run 245

Recovery-Total Feet 570

Recovered 80 Feet Of Clean gassy oil. (37 degrees gravity )

Recovered 220 Feet Of Slightly Oil-cut Muddy Water.

Recovered 270 Feet Of Sulfur Water.

Recovered 186 Feet Of Gas in Pipe.

Recovered Feet Of

Recovered Feet Of

Extra Equipment Circ.Sub, Straddle, Extra Packer Price of Job \$650.00

Recorder No. 13223 Type AK-1 Range 4150 PSI

Recorder Depth 3990 Clock # 23858

Tool Open Before I.S.I. 30 Mins.

Initial Shut-in 45 Mins.

Flow Period 60 Mins.

Final Shut-in 45 Mins.

Top Choke Size 1" Hole Size 7 7/8"

Bottom Choke Size 3/4" Rubber Size 6 3/4"

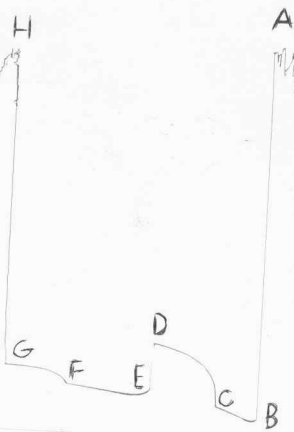
Tool Open @ 7:25 P.M.

Blow Remarks I.F. Strong-off bottom of 5 gal. bucket 4"

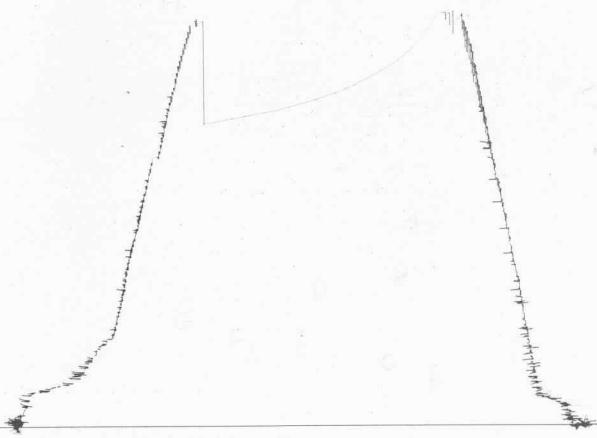
F.F. Weak-building to 3".

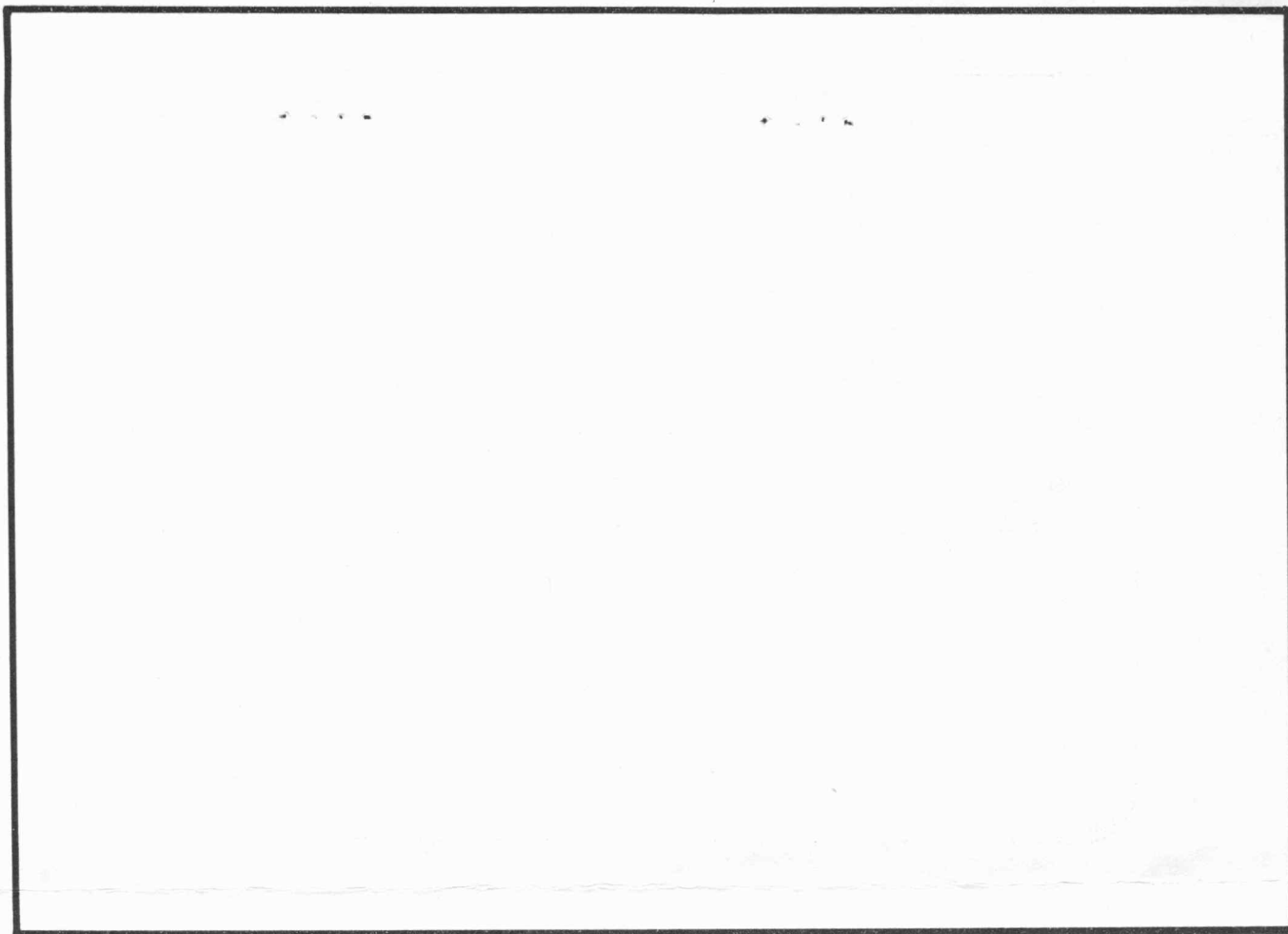
11 Jts. Wt. Pipe in tail pipe.

13223  
#6



#6





This is an actual photograph of recorder chart.

| POINT                                  | PRESSURE         |                   |
|----------------------------------------|------------------|-------------------|
|                                        | Field<br>Reading | Office<br>Reading |
| (A) Initial Hydrostatic Mud .....      | 2108             | PSI               |
| (B) First Initial Flow Pressure .....  | 114              | PSI               |
| (C) First Final Flow Pressure .....    | 176              | PSI               |
| (D) Initial Closed-in Pressure .....   | 518              | PSI               |
| (E) Second Initial Flow Pressure ..... | 228              | PSI               |
| (F) Second Final Flow Pressure .....   | 269              | PSI               |
| (G) Final Closed-in Pressure .....     | 352              | PSI               |
| (H) Final Hydrostatic Mud .....        | 2025             | PSI               |