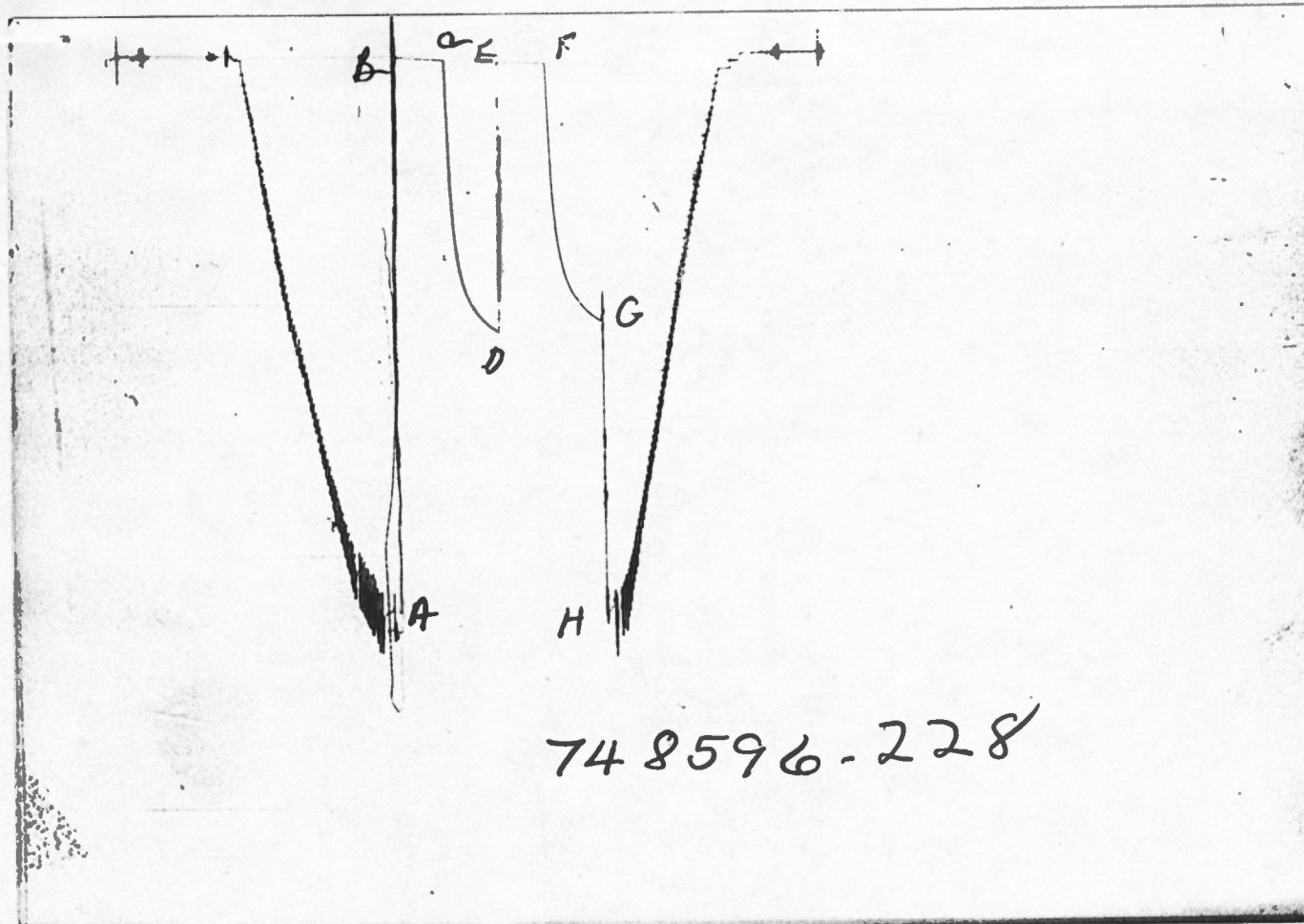
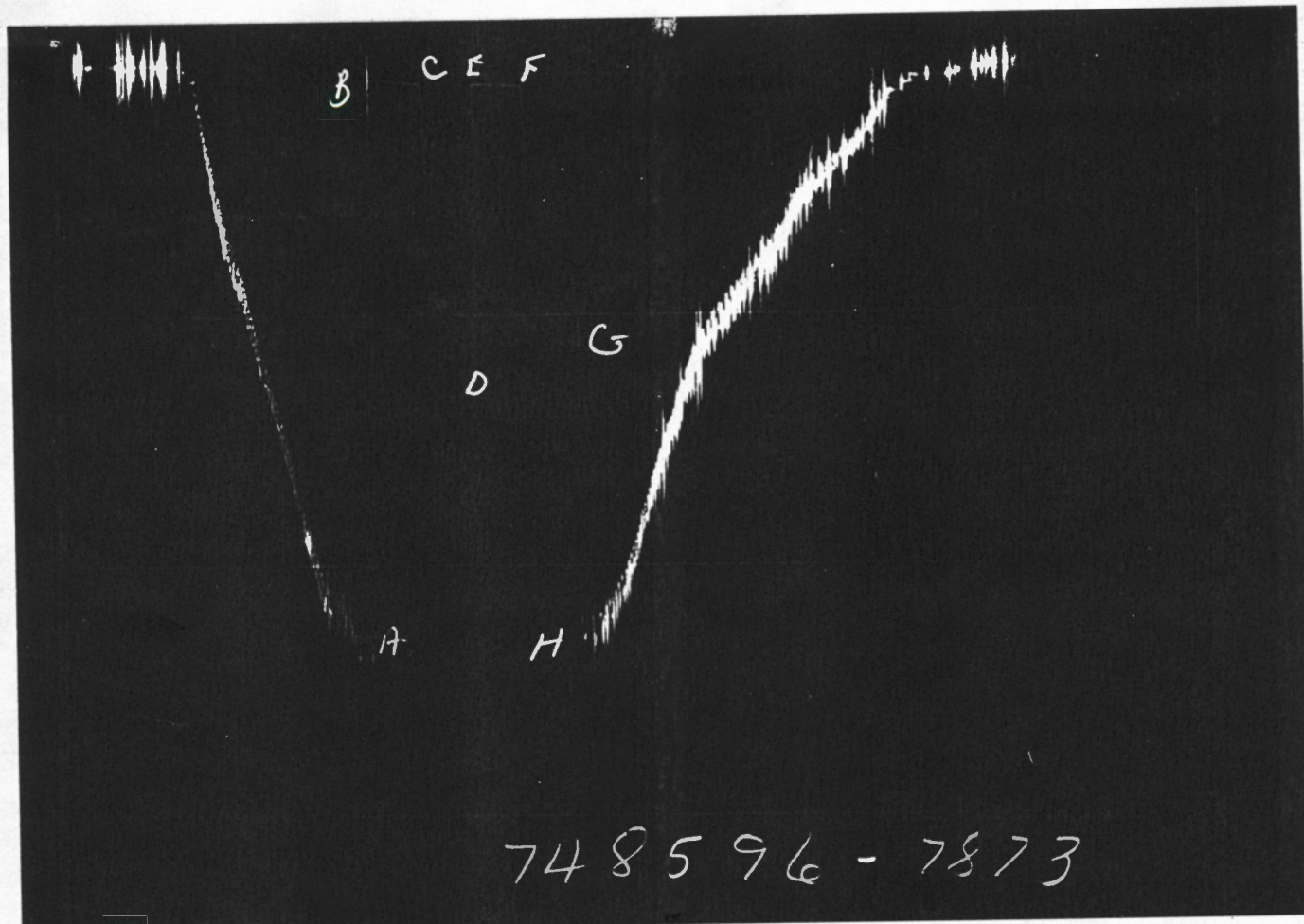






GAUGE NO: 228 DEPTH: 4517.0 BLANKED OFF: NO HOUR OF CLOCK: 12

| ID | DESCRIPTION              | PRESSURE |            | TIME     |            | TYPE |
|----|--------------------------|----------|------------|----------|------------|------|
|    |                          | REPORTED | CALCULATED | REPORTED | CALCULATED |      |
| A  | INITIAL HYDROSTATIC      | 2006     | 2216.1     |          |            |      |
| B  | INITIAL FIRST FLOW       | 12       | 11.7       | 30.0     | 30.1       | F    |
| C  | FINAL FIRST FLOW         | 18       | 25.1       |          |            |      |
| C  | INITIAL FIRST CLOSED-IN  | 18       | 25.1       | 30.0     | 29.8       | C    |
| D  | FINAL FIRST CLOSED-IN    | 1110     | 1114.1     |          |            |      |
| E  | INITIAL SECOND FLOW      | 23       | 39.1       | 30.0     | 29.2       | F    |
| F  | FINAL SECOND FLOW        | 25       | 42.1       |          |            |      |
| F  | INITIAL SECOND CLOSED-IN | 25       | 42.1       | 30.0     | 30.9       | C    |
| G  | FINAL SECOND CLOSED-IN   | 1070     | 1073.3     |          |            |      |
| H  | FINAL HYDROSTATIC        | 2206     | 2210.9     |          |            |      |



GAUGE NO: 7873 DEPTH: 4607.0 BLANKED OFF: YES HOUR OF CLOCK: 12

| ID | DESCRIPTION              | PRESSURE |            | TIME     |            | TYPE |
|----|--------------------------|----------|------------|----------|------------|------|
|    |                          | REPORTED | CALCULATED | REPORTED | CALCULATED |      |
| A  | INITIAL HYDROSTATIC      |          | 2260.5     |          |            |      |
| B  | INITIAL FIRST FLOW       |          | 58.8       |          |            |      |
| C  | FINAL FIRST FLOW         |          | 75.6       | 30.0     | 30.1       | F    |
| C  | INITIAL FIRST CLOSED-IN  |          | 75.6       |          |            |      |
| D  | FINAL FIRST CLOSED-IN    |          | 1162.6     | 30.0     | 29.8       | C    |
| E  | INITIAL SECOND FLOW      |          | 81.6       |          |            |      |
| F  | FINAL SECOND FLOW        |          | 87.6       | 30.0     | 29.2       | F    |
| F  | INITIAL SECOND CLOSED-IN |          | 87.6       |          |            |      |
| G  | FINAL SECOND CLOSED-IN   |          | 1121.2     | 30.0     | 30.9       | C    |
| H  | FINAL HYDROSTATIC        |          | 2253.6     |          |            |      |

# EQUIPMENT & HOLE DATA

FORMATION TESTED: JOHNSON-CHEROKEE  
 NET PAY (ft): 10.0  
 GROSS TESTED FOOTAGE: 72.0  
 ALL DEPTHS MEASURED FROM: KELLY BUSHING  
 CASING PERFS. (ft): \_\_\_\_\_  
 HOLE OR CASING SIZE (in): 7.875  
 ELEVATION (ft): 0  
 TOTAL DEPTH (ft): 4610.0  
 PACKER DEPTH(S) (ft): 4532. 4538  
 FINAL SURFACE CHOKE (in): \_\_\_\_\_  
 BOTTOM HOLE CHOKE (in): 0.750  
 MUD WEIGHT (lb/gal): 9.30  
 MUD VISCOSITY (sec): 40  
 ESTIMATED HOLE TEMP. (°F): 122  
 ACTUAL HOLE TEMP. (°F): 128 @ 4605.0 ft

TICKET NUMBER: 74859600

DATE: 8-8-84 TEST NO: 1

TYPE DST: OPEN HOLE

HALLIBURTON CAMP:  
NESS CITY

TESTER: JIM THOMPSON

WITNESS: RHOADS

DRILLING CONTRACTOR:  
DNB #2

## FLUID PROPERTIES FOR RECOVERED MUD & WATER

| SOURCE   | RESISTIVITY | CHLORIDES       |
|----------|-------------|-----------------|
| SYSTEMS  | @ _____ °F  | <u>8000</u> ppm |
| RECOVERY | @ _____ °F  | <u>9000</u> ppm |
| _____    | @ _____ °F  | _____ ppm       |
| _____    | @ _____ °F  | _____ ppm       |
| _____    | @ _____ °F  | _____ ppm       |
| _____    | @ _____ °F  | _____ ppm       |

## SAMPLER DATA

Pstg AT SURFACE: \_\_\_\_\_  
 cu.ft. OF GAS: \_\_\_\_\_  
 cc OF OIL: \_\_\_\_\_  
 cc OF WATER: \_\_\_\_\_  
 cc OF MUD: \_\_\_\_\_  
 TOTAL LIQUID cc: \_\_\_\_\_

## HYDROCARBON PROPERTIES

OIL GRAVITY (°API): \_\_\_\_\_ @ \_\_\_\_\_ °F  
 GAS/OIL RATIO (cu.ft. per bbl): \_\_\_\_\_  
 GAS GRAVITY: \_\_\_\_\_

## CUSHION DATA

| TYPE  | AMOUNT | WEIGHT |
|-------|--------|--------|
| _____ | _____  | _____  |
| _____ | _____  | _____  |

## RECOVERED:

60' OF DRILLING MUD, NO SHOW OF OIL

MEASURED FROM  
TESTER VALVE

## REMARKS:

TYPE & SIZE MEASURING DEVICE:

TICKET NO: 74859600[illegible]

TICKET NO: 74859600'

CLOCK NO: 16165 HOUR: 12


  
HALLIBURTON
   
SERVICES

GAUGE NO: 228

DEPTH: 4517.0

| REF        | MINUTES | PRESSURE | AP  | $\frac{t \times \Delta t}{t + \Delta t}$ | $\log \frac{t + \Delta t}{\Delta t}$ |
|------------|---------|----------|-----|------------------------------------------|--------------------------------------|
| FIRST FLOW |         |          |     |                                          |                                      |
| B 1        | 0.0     | 11.7     |     |                                          |                                      |
| 2          | 5.0     | 14.7     | 3.0 |                                          |                                      |
| 3          | 10.0    | 16.8     | 2.1 |                                          |                                      |
| 4          | 15.0    | 18.4     | 1.5 |                                          |                                      |
| 5          | 20.0    | 20.8     | 2.4 |                                          |                                      |
| 6          | 25.0    | 22.4     | 1.6 |                                          |                                      |
| C 7        | 30.1    | 25.1     | 2.6 |                                          |                                      |

|                 |      |        |        |      |       |
|-----------------|------|--------|--------|------|-------|
| FIRST CLOSED-IN |      |        |        |      |       |
| C 1             | 0.0  | 25.1   |        |      |       |
| 2               | 2.0  | 485.5  | 460.4  | 1.9  | 1.207 |
| 3               | 4.0  | 699.3  | 674.2  | 3.6  | 0.928 |
| 4               | 6.0  | 809.0  | 783.9  | 5.0  | 0.782 |
| 5               | 8.0  | 887.4  | 862.3  | 6.3  | 0.678 |
| 6               | 10.0 | 937.6  | 912.5  | 7.5  | 0.603 |
| 7               | 12.0 | 974.6  | 949.6  | 8.6  | 0.544 |
| 8               | 14.0 | 1003.0 | 977.9  | 9.6  | 0.498 |
| 9               | 16.0 | 1024.5 | 999.4  | 10.5 | 0.459 |
| 10              | 18.0 | 1044.2 | 1019.1 | 11.3 | 0.427 |
| 11              | 20.0 | 1059.3 | 1034.2 | 12.0 | 0.399 |
| 12              | 22.0 | 1074.3 | 1049.2 | 12.7 | 0.374 |
| 13              | 24.0 | 1086.4 | 1061.4 | 13.4 | 0.353 |
| 14              | 26.0 | 1096.9 | 1071.8 | 14.0 | 0.334 |
| 15              | 28.0 | 1107.1 | 1082.0 | 14.5 | 0.317 |
| D 16            | 29.8 | 1114.1 | 1089.0 | 15.0 | 0.304 |

|             |      |      |      |  |  |
|-------------|------|------|------|--|--|
| SECOND FLOW |      |      |      |  |  |
| E 1         | 0.0  | 39.1 |      |  |  |
| 2           | 5.0  | 34.8 | -4.3 |  |  |
| 3           | 10.0 | 34.9 | 0.1  |  |  |
| 4           | 15.0 | 35.0 | 0.1  |  |  |
| 5           | 20.0 | 36.8 | 1.8  |  |  |
| 6           | 25.0 | 39.6 | 2.8  |  |  |
| F 7         | 29.2 | 42.1 | 2.5  |  |  |

|                  |      |       |       |      |       |
|------------------|------|-------|-------|------|-------|
| SECOND CLOSED-IN |      |       |       |      |       |
| F 1              | 0.0  | 42.1  |       |      |       |
| 2                | 2.0  | 417.1 | 375.0 | 2.0  | 1.481 |
| 3                | 4.0  | 632.9 | 590.8 | 3.7  | 1.202 |
| 4                | 6.0  | 756.3 | 714.3 | 5.4  | 1.039 |
| 5                | 8.0  | 833.0 | 790.9 | 7.0  | 0.927 |
| 6                | 10.0 | 885.6 | 843.5 | 8.6  | 0.841 |
| 7                | 12.0 | 922.5 | 880.4 | 10.0 | 0.776 |
| 8                | 14.0 | 952.4 | 910.3 | 11.3 | 0.719 |
| 9                | 16.0 | 975.3 | 933.2 | 12.6 | 0.673 |
| 10               | 18.0 | 995.1 | 953.0 | 13.8 | 0.633 |

| REF                          | MINUTES | PRESSURE | AP     | $\frac{t \times \Delta t}{t + \Delta t}$ | $\log \frac{t + \Delta t}{\Delta t}$ |
|------------------------------|---------|----------|--------|------------------------------------------|--------------------------------------|
| SECOND CLOSED-IN - CONTINUED |         |          |        |                                          |                                      |
| 11                           | 20.0    | 1011.6   | 969.5  | 15.0                                     | 0.599                                |
| 12                           | 22.0    | 1027.8   | 985.7  | 16.1                                     | 0.568                                |
| 13                           | 24.0    | 1039.1   | 997.0  | 17.1                                     | 0.540                                |
| 14                           | 26.0    | 1050.4   | 1008.3 | 18.1                                     | 0.516                                |
| 15                           | 28.0    | 1060.8   | 1018.7 | 19.0                                     | 0.494                                |
| G 16                         | 30.9    | 1073.3   | 1031.2 | 20.3                                     | 0.466                                |

REMARKS:

TICKET NO: 74859600

CLOCK NO: 28814 HOUR: 12



GAUGE NO: 7873

DEPTH: 4607.0

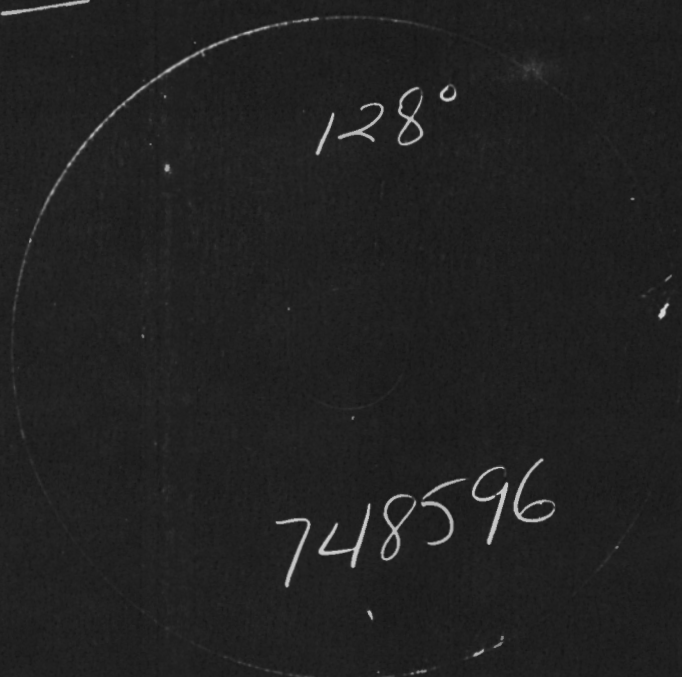
| REF              | MINUTES | PRESSURE | ΔP     | $\frac{t \times \Delta t}{t + \Delta t}$ | $\log \frac{t + \Delta t}{\Delta t}$ |
|------------------|---------|----------|--------|------------------------------------------|--------------------------------------|
| FIRST FLOW       |         |          |        |                                          |                                      |
| B 1              | 0.0     | 58.8     |        |                                          |                                      |
| 2                | 5.0     | 62.1     | 3.3    |                                          |                                      |
| 3                | 10.0    | 64.3     | 2.2    |                                          |                                      |
| 4                | 15.0    | 67.4     | 3.1    |                                          |                                      |
| 5                | 20.0    | 70.8     | 3.3    |                                          |                                      |
| 6                | 25.0    | 73.2     | 2.4    |                                          |                                      |
| C 7              | 30.1    | 75.6     | 2.4    |                                          |                                      |
| FIRST-CLOSED-IN  |         |          |        |                                          |                                      |
| C 1              | 0.0     | 75.6     |        |                                          |                                      |
| 2                | 2.0     | 409.1    | 333.5  | 1.8                                      | 1.214                                |
| 3                | 4.0     | 701.3    | 625.6  | 3.5                                      | 0.930                                |
| 4                | 6.0     | 840.4    | 764.8  | 5.0                                      | 0.781                                |
| 5                | 8.0     | 929.4    | 853.8  | 6.3                                      | 0.676                                |
| 6                | 10.0    | 982.5    | 906.9  | 7.5                                      | 0.603                                |
| 7                | 12.0    | 1023.1   | 947.5  | 8.6                                      | 0.546                                |
| 8                | 14.0    | 1051.9   | 976.3  | 9.6                                      | 0.498                                |
| 9                | 16.0    | 1076.1   | 1000.4 | 10.4                                     | 0.460                                |
| 10               | 18.0    | 1094.8   | 1019.2 | 11.3                                     | 0.427                                |
| 11               | 20.0    | 1110.0   | 1034.4 | 12.0                                     | 0.399                                |
| 12               | 22.0    | 1122.6   | 1047.0 | 12.7                                     | 0.375                                |
| 13               | 24.0    | 1135.3   | 1059.7 | 13.4                                     | 0.353                                |
| 14               | 26.0    | 1145.7   | 1070.1 | 14.0                                     | 0.334                                |
| 15               | 28.0    | 1155.2   | 1079.6 | 14.5                                     | 0.317                                |
| D 16             | 29.8    | 1162.6   | 1087.0 | 15.0                                     | 0.304                                |
| SECOND FLOW      |         |          |        |                                          |                                      |
| E 1              | 0.0     | 81.6     |        |                                          |                                      |
| 2                | 5.0     | 80.4     | -1.2   |                                          |                                      |
| 3                | 10.0    | 80.6     | 0.2    |                                          |                                      |
| 4                | 15.0    | 82.7     | 2.1    |                                          |                                      |
| 5                | 20.0    | 84.6     | 1.9    |                                          |                                      |
| 6                | 25.0    | 87.0     | 2.4    |                                          |                                      |
| F 7              | 29.2    | 87.6     | 0.6    |                                          |                                      |
| SECOND CLOSED-IN |         |          |        |                                          |                                      |
| F 1              | 0.0     | 87.6     |        |                                          |                                      |
| 2                | 2.0     | 406.4    | 318.7  | 1.9                                      | 1.488                                |
| 3                | 4.0     | 659.8    | 572.2  | 3.8                                      | 1.199                                |
| 4                | 6.0     | 804.6    | 717.0  | 5.5                                      | 1.035                                |
| 5                | 8.0     | 880.3    | 792.7  | 7.1                                      | 0.925                                |
| 6                | 10.0    | 935.9    | 848.3  | 8.6                                      | 0.840                                |
| 7                | 12.0    | 977.1    | 889.4  | 10.0                                     | 0.773                                |
| 8                | 14.1    | 1006.3   | 918.7  | 11.4                                     | 0.718                                |
| 9                | 16.0    | 1029.4   | 941.8  | 12.6                                     | 0.673                                |
| 10               | 18.0    | 1049.1   | 961.4  | 13.8                                     | 0.633                                |

| REF                          | MINUTES | PRESSURE | ΔP     | $\frac{t \times \Delta t}{t + \Delta t}$ | $\log \frac{t + \Delta t}{\Delta t}$ |
|------------------------------|---------|----------|--------|------------------------------------------|--------------------------------------|
| SECOND CLOSED-IN - CONTINUED |         |          |        |                                          |                                      |
| 11                           | 20.0    | 1064.4   | 976.7  | 15.0                                     | 0.599                                |
| 12                           | 22.0    | 1078.7   | 991.1  | 16.1                                     | 0.568                                |
| 13                           | 24.0    | 1090.4   | 1002.8 | 17.1                                     | 0.540                                |
| 14                           | 26.0    | 1100.6   | 1013.0 | 18.1                                     | 0.516                                |
| 15                           | 28.0    | 1109.8   | 1022.2 | 19.0                                     | 0.494                                |
| G 16                         | 30.9    | 1121.2   | 1033.5 | 20.3                                     | 0.466                                |

REMARKS:

|             |                                                                                     | O.D.                          | I.D.  | LENGTH | DEPTH  |        |
|-------------|-------------------------------------------------------------------------------------|-------------------------------|-------|--------|--------|--------|
| 1           |    | DRILL PIPE.....               | 4.500 | 3.826  | 4386.0 |        |
| 50          |    | IMPACT REVERSING SUB.....     | 5.000 | 2.750  | 1.0    | 4387.0 |
| 3           |    | DRILL COLLARS.....            | 6.250 | 2.250  | 117.0  |        |
| 5           |    | CROSSOVER.....                | 5.000 | 2.750  | 1.0    |        |
| 12          |    | DUAL CIP VALVE.....           | 5.000 | 0.870  | 6.0    |        |
| 60          |    | HYDROSPRING TESTER.....       | 5.000 | 0.750  | 5.0    | 4515.0 |
| 80          |    | AP RUNNING CASE.....          | 5.000 | 2.250  | 4.0    | 4517.0 |
| 15          |    | JAR.....                      | 5.000 | 1.750  | 5.0    |        |
| 16          |    | VR SAFETY JOINT.....          | 5.000 | 1.000  | 3.0    |        |
| 70          |    | OPEN HOLE PACKER.....         | 6.750 | 1.530  | 6.0    | 4532.0 |
| 70          |    | OPEN HOLE PACKER.....         | 6.750 | 1.530  | 6.0    | 4538.0 |
| 5           |    | CROSSOVER.....                | 5.000 | 2.750  | 2.0    |        |
| 1           |   | DRILL PIPE.....               | 4.500 | 3.826  | 30.0   |        |
| 5           |  | CROSSOVER.....                | 5.000 | 2.750  | 2.0    |        |
| 20          |  | FLUSH JOINT ANCHOR.....       | 5.000 | 2.370  | 31.0   |        |
| 83          |  | HT-500 TEMPERATURE CASE.....  | 5.000 |        | 1.0    | 4605.0 |
| 81          |  | BLANKED-OFF RUNNING CASE..... | 5.000 |        | 4.1    | 4607.0 |
| TOTAL DEPTH |                                                                                     |                               |       |        |        | 4610.0 |

# TEMPERATURE RECORDER CHART



10° each circle

## EQUATIONS FOR GAS WELL ANALYSIS

Indicated Flow  
Capacity

$$kh = \frac{1637 Q_g T}{m} \quad \text{md-ft}$$

Average Effective  
Permeability

$$k = \frac{kh}{h} \quad \text{md}$$

Skin Factor

$$S = 1.151 \left[ \frac{m(P^*) - m(P_f)}{m} - \text{LOG} \frac{k(t/60)}{\phi \mu c_f r_w^2} + 3.23 \right] \quad \text{---}$$

Damage Ratio

$$DR = \frac{m(P^*) - m(P_f)}{m(P^*) - m(P_f) - 0.87 mS} \quad \text{---}$$

Indicated Flow  
Rate (Maximum)

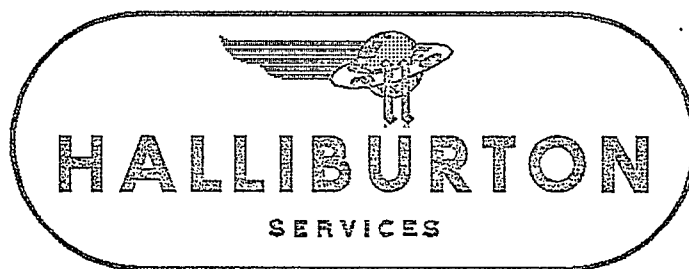
$$AOF_1 = \frac{Q_g m(P^*)}{m(P^*) - m(P_f)} \quad \text{MCFD}$$

Indicated Flow  
Rate (Minimum)

$$AOF_2 = Q_g \sqrt{\frac{m(P^*)}{m(P^*) - m(P_f)}} \quad \text{MCFD}$$

Approx. Radius of  
Investigation

$$r_i = 0.032 \sqrt{\frac{k(t/60)}{\phi \mu c_f}} \quad \text{ft}$$

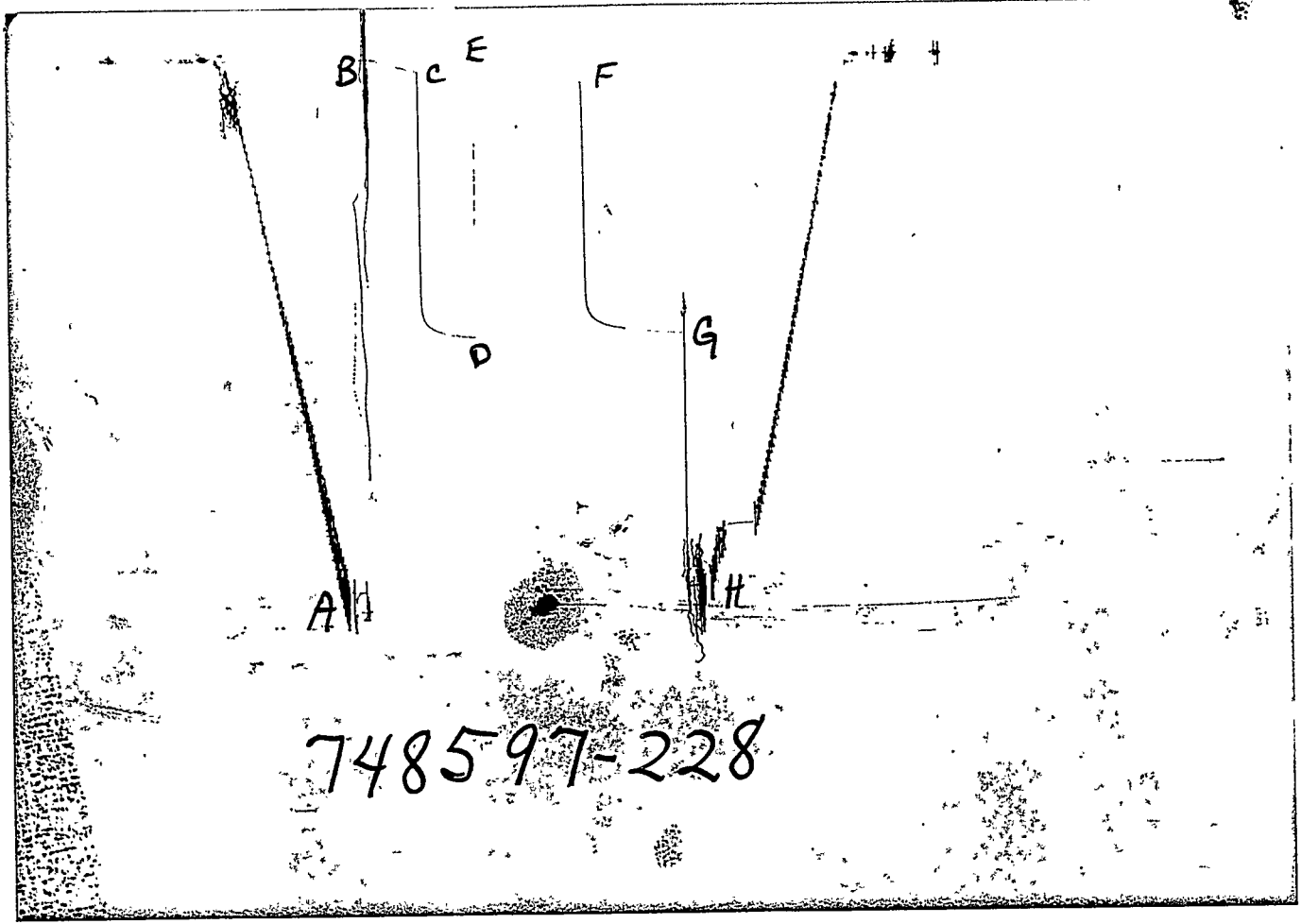


TICKET NO. 74859700  
16-AUG-84  
NESS CITY

# FORMATION TESTING SERVICE REPORT

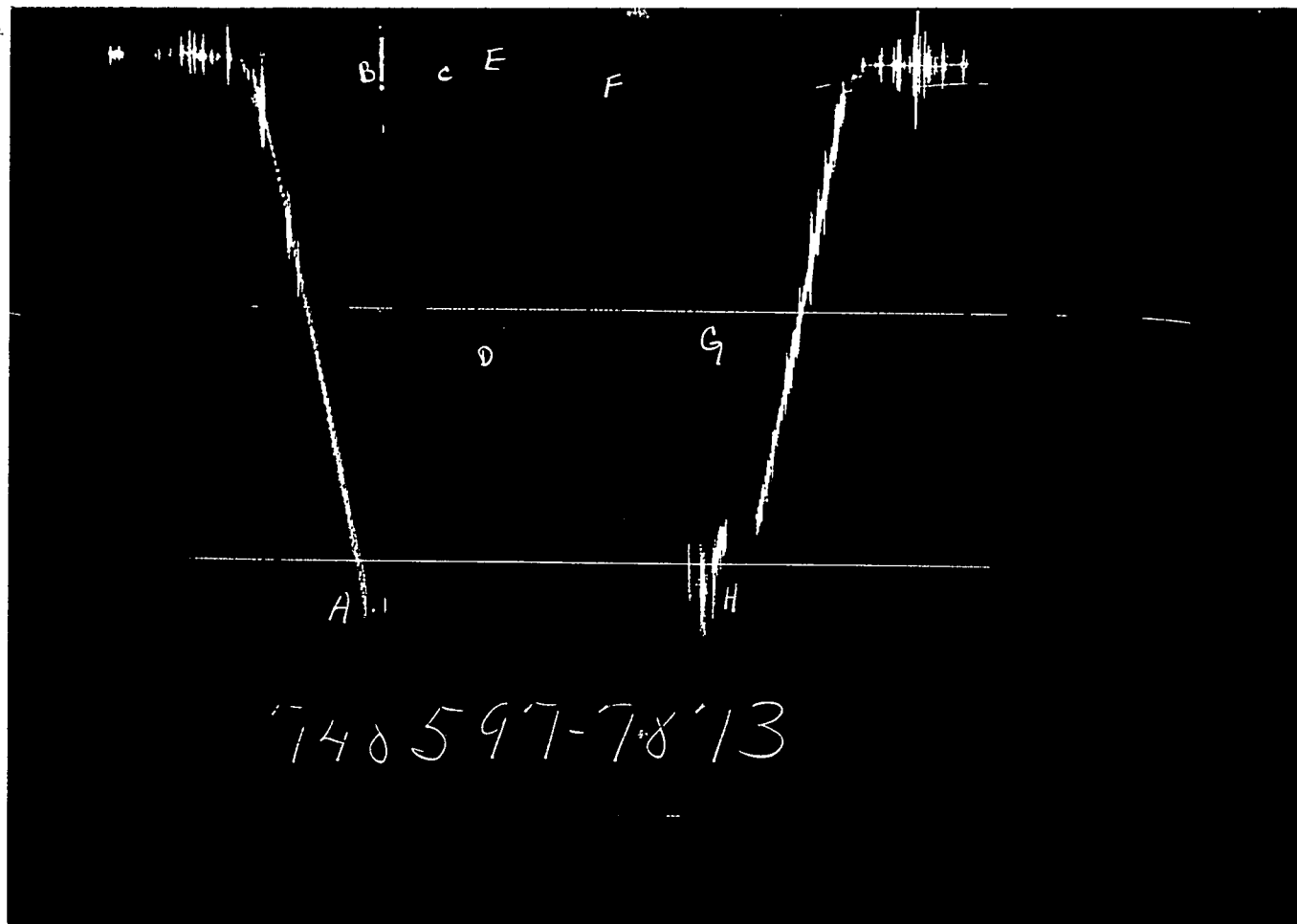
|                          |                    |            |            |          |        |                 |                 |                                          |
|--------------------------|--------------------|------------|------------|----------|--------|-----------------|-----------------|------------------------------------------|
| LEASE NAME               | BECKER             | WELL NO.   | 1          | TEST NO. | 2      | TESTED INTERVAL | 4208.1 - 4230.1 | GRUSS PETROLEUM MANAGEMENT, INCORPORATED |
| LEGAL LOCATION           | SEC. - TWP. - RNG. | 31-16-27 W | FIELD AREA | WILDCAT  | COUNTY | LANE            | STATE           | KANSAS BG                                |
| LEASE OWNER/COMPANY NAME |                    |            |            |          |        |                 |                 |                                          |

31-165-27W



GAUGE NO: 228 DEPTH: 4192.0 BLANKED OFF: NO HOUR OF CLOCK: 12

| ID | DESCRIPTION              | PRESSURE |            | TIME     |            | TYPE |
|----|--------------------------|----------|------------|----------|------------|------|
|    |                          | REPORTED | CALCULATED | REPORTED | CALCULATED |      |
| A  | INITIAL HYDROSTATIC      | 2087     | 2085.6     |          |            |      |
| B  | INITIAL FIRST FLOW       | 10       | 6.1        |          |            |      |
| C  | FINAL FIRST FLOW         | 43       | 59.1       | 30.0     | 30.9       | F    |
| C  | INITIAL FIRST CLOSED-IN  | 43       | 59.1       |          |            |      |
| D  | FINAL FIRST CLOSED-IN    | 1090     | 1098.2     | 30.0     | 32.3       | C    |
| E  | INITIAL SECOND FLOW      | 61       | 77.3       |          |            |      |
| F  | FINAL SECOND FLOW        | 102      | 104.5      | 60.0     | 62.7       | F    |
| F  | INITIAL SECOND CLOSED-IN | 102      | 104.5      |          |            |      |
| G  | FINAL SECOND CLOSED-IN   | 1090     | 1088.8     | 60.0     | 59.1       | C    |
| H  | FINAL HYDROSTATIC        | 2067     | 2069.2     |          |            |      |



GAUGE NO: 7873 DEPTH: 4222.0 BLANKED OFF: NO HOUR OF CLOCK: 12

| ID | DESCRIPTION              | PRESSURE |            | TIME     |            | TYPE |
|----|--------------------------|----------|------------|----------|------------|------|
|    |                          | REPORTED | CALCULATED | REPORTED | CALCULATED |      |
| A  | INITIAL HYDROSTATIC      | 2102.6   |            |          |            |      |
| B  | INITIAL FIRST FLOW       | 31.8     |            | 30.0     | 30.9       | F    |
| C  | FINAL FIRST FLOW         | 79.8     |            |          |            |      |
| C  | INITIAL FIRST CLOSED-IN  | 79.8     |            | 30.0     | 32.3       | C    |
| D  | FINAL FIRST CLOSED-IN    | 1115.7   |            |          |            |      |
| E  | INITIAL SECOND FLOW      | 87.5     |            | 60.0     | 62.7       | F    |
| F  | FINAL SECOND FLOW        | 123.8    |            |          |            |      |
| F  | INITIAL SECOND CLOSED-IN | 123.8    |            | 60.0     | 59.1       | C    |
| G  | FINAL SECOND CLOSED-IN   | 1103.8   |            |          |            |      |
| H  | FINAL HYDROSTATIC        | 2081.3   |            |          |            |      |

## EQUIPMENT &amp; HOLE DATA

FORMATION TESTED: LANSING-KANSAS CITY  
 NET PAY (ft): 6.0  
 GROSS TESTED FOOTAGE: 22.0  
 ALL DEPTHS MEASURED FROM: KB  
 CASING PERFS. (ft): \_\_\_\_\_  
 HOLE OR CASING SIZE (in): 7.875  
 ELEVATION (ft): 0  
 TOTAL DEPTH (ft): 4655.0  
 PACKER DEPTH(S) (ft): 4208, 4230  
 FINAL SURFACE CHOKE (in): \_\_\_\_\_  
 BOTTOM HOLE CHOKE (in): 0.750  
 MUD WEIGHT (lb/gal): 9.30  
 MUD VISCOSITY (sec): 42  
 ESTIMATED HOLE TEMP. (°F): 115  
 ACTUAL HOLE TEMP. (°F):    @    ft

TICKET NUMBER: 74859700DATE: 8-9-84 TEST NO: 2TYPE DST: ON BTM. STRADDLEHALLIBURTON CAMP:  
NESS CITYTESTER: THOMPSONWITNESS: RHOADSDRILLING CONTRACTOR:  
DNB #2FLUID PROPERTIES FOR  
RECOVERED MUD & WATER

| SOURCE   | RESISTIVITY  | CHLORIDES        |
|----------|--------------|------------------|
| SYSTEMS  | <u>  </u> °F | <u>8000</u> ppm  |
| RECOVERY | <u>  </u> °F | <u>25000</u> ppm |
|          | <u>  </u> °F | <u>  </u> ppm    |
|          | <u>  </u> °F | <u>  </u> ppm    |
|          | <u>  </u> °F | <u>  </u> ppm    |
|          | <u>  </u> °F | <u>  </u> ppm    |

## SAMPLER DATA

Pstg AT SURFACE: \_\_\_\_\_  
 cu.ft. OF GAS: \_\_\_\_\_  
 cc OF OIL: \_\_\_\_\_  
 cc OF WATER: \_\_\_\_\_  
 cc OF MUD: \_\_\_\_\_  
 TOTAL LIQUID cc: \_\_\_\_\_

## HYDROCARBON PROPERTIES

OIL GRAVITY (°API):    @    °F  
 GAS/OIL RATIO (cu.ft. per bbl): \_\_\_\_\_  
 GAS GRAVITY: \_\_\_\_\_

## CUSHION DATA

| TYPE  | AMOUNT | WEIGHT |
|-------|--------|--------|
| _____ | _____  | _____  |
| _____ | _____  | _____  |

## RECOVERED:

245' OF MUDDY SALTWATER  
 NO SHOW OF OIL

MEASURED FROM  
TESTER VALVE

## REMARKS:

CHART FROM GAUGE RAN AT 4652' WAS NOT RECEIVED FOR PROCESSING.

TICKET NO: 74859700

[illegible]

TICKET NO: 74859700

CLOCK NO: 16165 HOUR: 12



GAUGE NO: 228

DEPTH: 4192.0

| REF              | MINUTES | PRESSURE | AP     | $\frac{t \times \Delta t}{t + \Delta t}$ | $\log \frac{t + \Delta t}{\Delta t}$ |
|------------------|---------|----------|--------|------------------------------------------|--------------------------------------|
| FIRST FLOW       |         |          |        |                                          |                                      |
| B 1              | 0.0     | 6.1      |        |                                          |                                      |
| 2                | 5.0     | 13.8     | 7.6    |                                          |                                      |
| 3                | 10.0    | 22.0     | 8.2    |                                          |                                      |
| 4                | 15.0    | 31.5     | 9.5    |                                          |                                      |
| 5                | 20.0    | 40.8     | 9.3    |                                          |                                      |
| 6                | 25.0    | 49.7     | 9.0    |                                          |                                      |
| C 7              | 30.9    | 59.1     | 9.4    |                                          |                                      |
| FIRST CLOSED-IN  |         |          |        |                                          |                                      |
| C 1              | 0.0     | 59.1     |        |                                          |                                      |
| 2                | 2.0     | 1009.8   | 950.8  | 1.9                                      | 1.214                                |
| 3                | 4.0     | 1040.3   | 981.2  | 3.6                                      | 0.936                                |
| 4                | 6.0     | 1054.8   | 995.8  | 5.0                                      | 0.791                                |
| 5                | 8.0     | 1064.8   | 1005.7 | 6.4                                      | 0.686                                |
| 6                | 10.0    | 1072.2   | 1013.1 | 7.5                                      | 0.613                                |
| 7                | 12.0    | 1077.3   | 1018.2 | 8.6                                      | 0.553                                |
| 8                | 14.0    | 1081.3   | 1022.2 | 9.6                                      | 0.505                                |
| 9                | 16.0    | 1084.8   | 1025.7 | 10.5                                     | 0.467                                |
| 10               | 18.0    | 1087.9   | 1028.8 | 11.4                                     | 0.433                                |
| 11               | 20.0    | 1090.2   | 1031.1 | 12.2                                     | 0.405                                |
| 12               | 22.0    | 1091.6   | 1032.5 | 12.8                                     | 0.381                                |
| 13               | 24.0    | 1093.3   | 1034.2 | 13.5                                     | 0.359                                |
| 14               | 26.0    | 1094.8   | 1035.7 | 14.1                                     | 0.340                                |
| 15               | 28.0    | 1096.2   | 1037.1 | 14.7                                     | 0.323                                |
| 16               | 30.0    | 1096.8   | 1037.7 | 15.2                                     | 0.307                                |
| D 17             | 32.3    | 1098.2   | 1039.1 | 15.8                                     | 0.291                                |
| SECOND FLOW      |         |          |        |                                          |                                      |
| E 1              | 0.0     | 77.3     |        |                                          |                                      |
| 2                | 10.0    | 69.9     | -7.4   |                                          |                                      |
| 3                | 20.0    | 75.5     | 5.6    |                                          |                                      |
| 4                | 30.0    | 82.4     | 6.9    |                                          |                                      |
| 5                | 40.0    | 88.2     | 5.8    |                                          |                                      |
| 6                | 50.0    | 95.7     | 7.5    |                                          |                                      |
| 7                | 60.0    | 102.8    | 7.0    |                                          |                                      |
| F 8              | 62.7    | 104.5    | 1.7    |                                          |                                      |
| SECOND CLOSED-IN |         |          |        |                                          |                                      |
| F 1              | 0.0     | 104.5    |        |                                          |                                      |
| 2                | 3.0     | 980.4    | 875.9  | 2.9                                      | 1.514                                |
| 3                | 6.0     | 1018.4   | 913.9  | 5.6                                      | 1.220                                |
| 4                | 9.0     | 1035.0   | 930.5  | 8.2                                      | 1.058                                |
| 5                | 12.0    | 1045.8   | 941.4  | 10.6                                     | 0.944                                |
| 6                | 15.0    | 1053.9   | 949.5  | 13.0                                     | 0.859                                |
| 7                | 18.0    | 1058.9   | 954.5  | 15.1                                     | 0.793                                |
| 8                | 21.0    | 1062.8   | 958.4  | 17.1                                     | 0.738                                |

| REF                          | MINUTES | PRESSURE | AP    | $\frac{t \times \Delta t}{t + \Delta t}$ | $\log \frac{t + \Delta t}{\Delta t}$ |
|------------------------------|---------|----------|-------|------------------------------------------|--------------------------------------|
| SECOND CLOSED-IN - CONTINUED |         |          |       |                                          |                                      |
| 9                            | 24.0    | 1066.9   | 962.5 | 19.1                                     | 0.691                                |
| 10                           | 27.0    | 1070.5   | 966.1 | 21.0                                     | 0.650                                |
| 11                           | 30.0    | 1073.4   | 968.9 | 22.7                                     | 0.615                                |
| 12                           | 33.0    | 1075.3   | 970.8 | 24.4                                     | 0.584                                |
| 13                           | 36.0    | 1077.2   | 972.7 | 26.0                                     | 0.557                                |
| 14                           | 39.0    | 1078.9   | 974.4 | 27.5                                     | 0.531                                |
| 15                           | 42.0    | 1081.6   | 977.1 | 29.0                                     | 0.509                                |
| 16                           | 45.0    | 1082.9   | 978.4 | 30.4                                     | 0.489                                |
| 17                           | 48.0    | 1084.3   | 979.8 | 31.7                                     | 0.470                                |
| 18                           | 51.0    | 1085.4   | 980.9 | 33.0                                     | 0.453                                |
| 19                           | 54.0    | 1086.9   | 982.4 | 34.2                                     | 0.437                                |
| 20                           | 57.0    | 1088.3   | 983.8 | 35.4                                     | 0.422                                |
| G 21                         | 59.1    | 1088.8   | 984.3 | 36.2                                     | 0.412                                |

REMARKS:

TICKET NO: 74859700



GAUGE NO: 7873

CLOCK NO: 28184 HOUR: 12

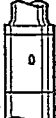
DEPTH: 4222.0

| REF              | MINUTES | PRESSURE | AP     | $\frac{t \times \Delta t}{t + \Delta t}$ | $\log \frac{t + \Delta t}{\Delta t}$ |
|------------------|---------|----------|--------|------------------------------------------|--------------------------------------|
| FIRST FLOW       |         |          |        |                                          |                                      |
| B 1              | 0.0     | 31.8     |        |                                          |                                      |
| 2                | 5.0     | 35.9     | 4.0    |                                          |                                      |
| 3                | 10.0    | 45.9     | 10.1   |                                          |                                      |
| 4                | 15.0    | 56.0     | 10.1   |                                          |                                      |
| 5                | 20.0    | 64.1     | 8.1    |                                          |                                      |
| 6                | 25.0    | 70.9     | 6.9    |                                          |                                      |
| C 7              | 30.9    | 79.8     | 8.9    |                                          |                                      |
| FIRST CLOSED-IN  |         |          |        |                                          |                                      |
| C 1              | 0.0     | 79.8     |        |                                          |                                      |
| 2                | 2.0     | 1011.6   | 931.8  | 1.9                                      | 1.216                                |
| 3                | 4.0     | 1060.3   | 980.4  | 3.6                                      | 0.937                                |
| 4                | 6.0     | 1076.1   | 996.3  | 5.0                                      | 0.791                                |
| 5                | 8.0     | 1085.6   | 1005.8 | 6.3                                      | 0.688                                |
| 6                | 10.0    | 1092.1   | 1012.3 | 7.5                                      | 0.613                                |
| 7                | 12.0    | 1096.7   | 1016.9 | 8.6                                      | 0.553                                |
| 8                | 14.0    | 1099.8   | 1020.0 | 9.6                                      | 0.506                                |
| 9                | 16.0    | 1102.7   | 1022.9 | 10.5                                     | 0.467                                |
| 10               | 18.0    | 1105.2   | 1025.4 | 11.4                                     | 0.434                                |
| 11               | 20.0    | 1107.1   | 1027.3 | 12.1                                     | 0.405                                |
| 12               | 22.0    | 1109.6   | 1029.8 | 12.8                                     | 0.381                                |
| 13               | 24.0    | 1111.1   | 1031.3 | 13.5                                     | 0.359                                |
| 14               | 26.0    | 1112.1   | 1032.2 | 14.1                                     | 0.340                                |
| 15               | 28.0    | 1113.6   | 1033.7 | 14.7                                     | 0.323                                |
| 16               | 30.0    | 1114.2   | 1034.3 | 15.2                                     | 0.308                                |
| D 17             | 32.3    | 1115.7   | 1035.8 | 15.8                                     | 0.291                                |
| SECOND FLOW      |         |          |        |                                          |                                      |
| E 1              | 0.0     | 87.5     |        |                                          |                                      |
| 2                | 10.0    | 89.1     | 1.6    |                                          |                                      |
| 3                | 20.0    | 95.5     | 6.4    |                                          |                                      |
| 4                | 30.0    | 101.5    | 6.1    |                                          |                                      |
| 5                | 40.0    | 108.7    | 7.2    |                                          |                                      |
| 6                | 50.0    | 116.0    | 7.3    |                                          |                                      |
| 7                | 60.0    | 122.8    | 6.9    |                                          |                                      |
| F 8              | 62.7    | 123.8    | 1.0    |                                          |                                      |
| SECOND CLOSED-IN |         |          |        |                                          |                                      |
| F 1              | 0.0     | 123.8    |        |                                          |                                      |
| 2                | 3.0     | 1004.3   | 880.5  | 2.9                                      | 1.505                                |
| 3                | 6.0     | 1041.3   | 917.4  | 5.6                                      | 1.221                                |
| 4                | 9.0     | 1056.3   | 932.5  | 8.2                                      | 1.057                                |
| 5                | 12.0    | 1065.7   | 941.9  | 10.6                                     | 0.946                                |
| 6                | 15.0    | 1073.3   | 949.5  | 12.9                                     | 0.861                                |
| 7                | 18.0    | 1078.3   | 954.5  | 15.1                                     | 0.793                                |
| 8                | 21.0    | 1081.7   | 957.9  | 17.1                                     | 0.737                                |

| REF                          | MINUTES | PRESSURE | AP    | $\frac{t \times \Delta t}{t + \Delta t}$ | $\log \frac{t + \Delta t}{\Delta t}$ |
|------------------------------|---------|----------|-------|------------------------------------------|--------------------------------------|
| SECOND CLOSED-IN - CONTINUED |         |          |       |                                          |                                      |
| 9                            | 24.0    | 1084.8   | 961.0 | 19.1                                     | 0.690                                |
| 10                           | 27.0    | 1087.7   | 963.9 | 21.0                                     | 0.650                                |
| 11                           | 30.0    | 1090.2   | 966.4 | 22.7                                     | 0.614                                |
| 12                           | 33.0    | 1092.7   | 968.9 | 24.4                                     | 0.584                                |
| 13                           | 36.0    | 1094.2   | 970.4 | 26.0                                     | 0.557                                |
| 14                           | 39.0    | 1095.7   | 971.9 | 27.5                                     | 0.532                                |
| 15                           | 42.0    | 1097.7   | 973.9 | 29.0                                     | 0.509                                |
| 16                           | 45.0    | 1099.1   | 975.3 | 30.4                                     | 0.489                                |
| 17                           | 48.0    | 1100.4   | 976.6 | 31.7                                     | 0.470                                |
| 18                           | 51.0    | 1101.2   | 977.4 | 33.0                                     | 0.453                                |
| 19                           | 54.0    | 1102.3   | 978.5 | 34.2                                     | 0.437                                |
| 20                           | 57.0    | 1103.3   | 979.5 | 35.4                                     | 0.422                                |
| G 21                         | 59.1    | 1103.8   | 980.0 | 36.2                                     | 0.412                                |

REMARKS:

TICKET NO. 74859700

|             |                                                                                     | O.D.                             | I.D.  | LENGTH | DEPTH  |        |
|-------------|-------------------------------------------------------------------------------------|----------------------------------|-------|--------|--------|--------|
| 1           |    | DRILL PIPE.....                  | 4.500 | 3.826  | 4054.0 |        |
| 50          |    | IMPACT REVERSING SUB.....        | 5.000 | 2.750  | 1.0    | 4055.0 |
| 3           |    | DRILL COLLARS.....               | 6.250 | 2.250  | 124.0  |        |
| 5           |    | CROSSOVER.....                   | 5.000 | 2.750  | 1.0    |        |
| 12          |    | DUAL CIP VALVE.....              | 5.000 | 0.870  | 6.0    |        |
| 60          |    | HYDROSPRING TESTER.....          | 5.000 | 0.750  | 5.0    | 4190.0 |
| 80          |    | AP RUNNING CASE.....             | 5.000 | 2.250  | 4.0    | 4192.0 |
| 15          |    | JAR.....                         | 5.000 | 1.750  | 5.0    |        |
| 16          |    | VR SAFETY JOINT.....             | 5.000 | 1.000  | 3.0    |        |
| 17          |    | PRESSURE EQUALIZING CROSSOVER... | 5.000 | 0.750  | 1.0    |        |
| 70          |    | OPEN HOLE PACKER.....            | 6.750 | 1.530  | 6.0    | 4208.0 |
| 20          |    | FLUSH JOINT ANCHOR.....          | 5.000 | 2.370  | 10.0   |        |
| 17          |   | PRESSURE EQUALIZING CROSSOVER... | 5.000 | 0.500  | 1.0    |        |
| 80          |  | AP RUNNING CASE.....             | 5.000 | 2.250  | 4.0    | 4222.0 |
| 5           |  | CROSSOVER.....                   | 5.000 | 2.750  | 1.0    |        |
| 70          |  | OPEN HOLE PACKER.....            | 6.750 | 1.530  | 6.0    | 4230.0 |
| 20          |  | FLUSH JOINT ANCHOR.....          | 5.000 | 2.370  | 5.0    |        |
| 5           |  | CROSSOVER.....                   | 5.000 | 2.750  | 2.0    |        |
| 3           |  | DRILL COLLARS.....               | 6.750 | 2.250  | 409.0  |        |
| 5           |  | CROSSOVER.....                   | 5.000 | 2.750  | 2.0    |        |
| 20          |  | FLUSH JOINT ANCHOR.....          | 5.000 | 2.370  | 1.0    |        |
| 81          |  | BLANKED-OFF RUNNING CASE.....    | 5.000 |        | 4.0    | 4652.0 |
| TOTAL DEPTH |                                                                                     |                                  |       |        | 4655.0 |        |

EQUIPMENT DATA