30-31-39W 88

Computer Inventoried

AMOCO PRODUCTION COMPANY

LEASE : ELVER MILBURN

WELL NO.: 1

TEST NO.: 1

TICKET NO. 00890900
24-AUG-92
LIBERAL





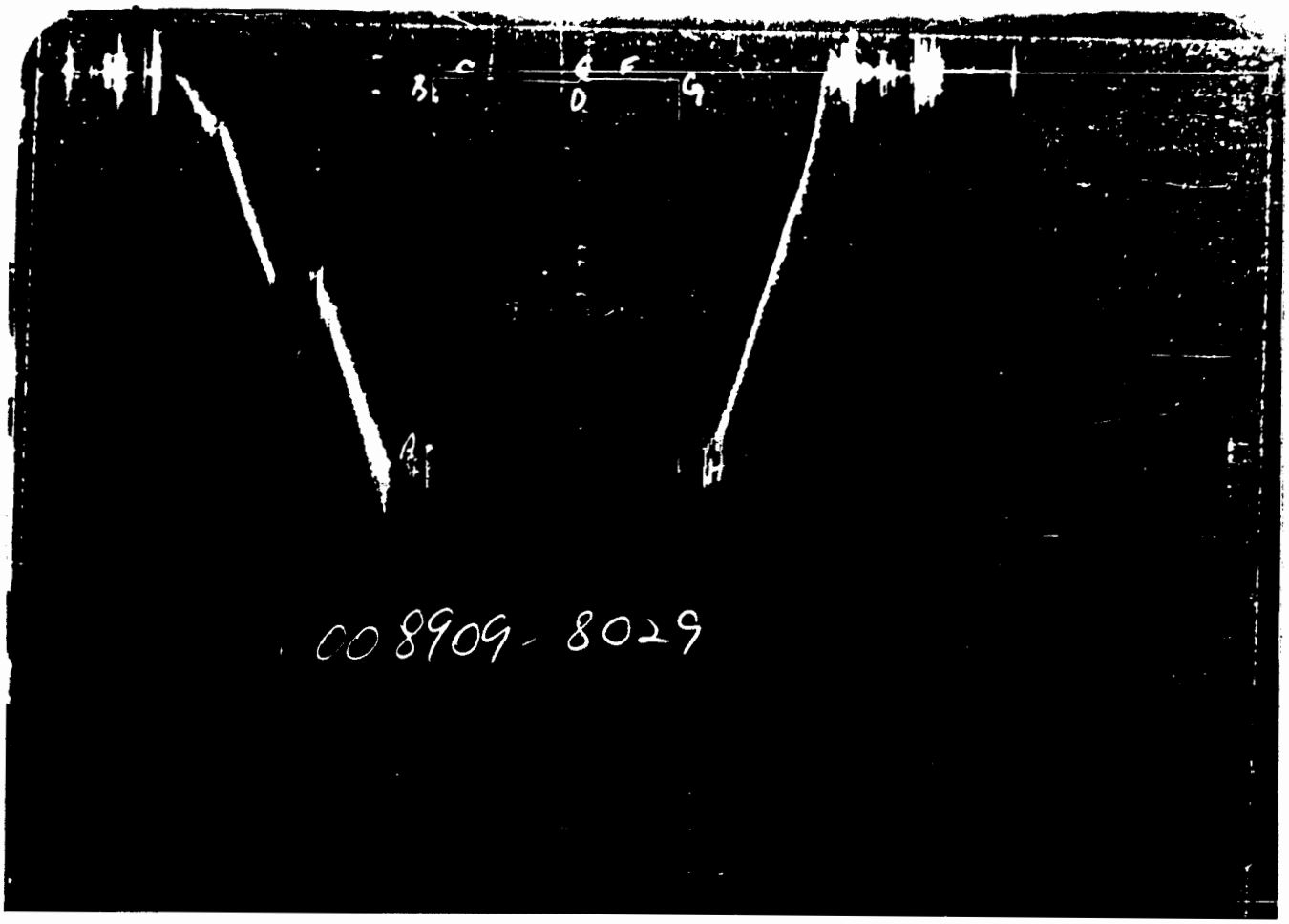
DST REPORT PRODUCED BY HRS
A DIVISION OF HALLIBURTON COMPANY

| LEGAL LOCATION SEC. - TWP. - RNG. | WELL NO. | TEST NO. | FIELD AREA | COUNTY | STATE |
|---|---|---|---|---|---|
| 30 - 31 S - 39 W | 1 | 1 | LOST SPRINGS | MORTON | KANSAS |

| LEASE NAME | TESTED INTERVAL | LEASE OWNER/COMPANY NAME |
|---|---|---|
| ELVER MILBURN | 5441.6 - 5477.0 | AMOCO PRODUCTION COMPANY |


GAUGE NO: 8030 DEPTH: 5421.0 BLANKED OFF: NO HOUR OF CLOCK: 12

| ID | DESCRIPTION | PRESSURE | | TIME | | TYPE |
|---|---|---|---|---|---|---|
| | | REPORTED | CALCULATED | REPORTED | CALCULATED | |
| A | INITIAL HYDROSTATIC | 2605 | 2620.6 | | | |
| B | INITIAL FIRST FLOW | 16 | 25.6 | 31.0 | 31.0 | F |
| C | FINAL FIRST FLOW | 26 | 26.4 | | | |
| C | INITIAL FIRST CLOSED-IN | 26 | 26.4 | 59.0 | 59.0 | C |
| D | FINAL FIRST CLOSED-IN | 36 | 44.1 | | | |
| E | INITIAL SECOND FLOW | 16 | 31.7 | 30.0 | 30.0 | F |
| F | FINAL SECOND FLOW | 20 | 30.9 | | | |
| F | INITIAL SECOND CLOSED-IN | 20 | 30.9 | 30.0 | 30.0 | C |
| G | FINAL SECOND CLOSED-IN | 23 | 30.9 | | | |
| H | FINAL HYDROSTATIC | 2605 | 2586.9 | | | |




GAUGE NO: 8029 DEPTH: 5474.0 BLANKED OFF: YES HOUR OF CLOCK: 12

| ID | DESCRIPTION | PRESSURE | | TIME | | TYPE |
|---|---|---|---|---|---|---|
| | | REPORTED | CALCULATED | REPORTED | CALCULATED | |
| A | INITIAL HYDROSTATIC | 2654 | 2639.4 | | | |
| B | INITIAL FIRST FLOW | 47 | 47.5 | 31.0 | 31.0 | F |
| C | FINAL FIRST FLOW | 54 | 51.2 | | | |
| C | INITIAL FIRST CLOSED-IN | 54 | 51.2 | 59.0 | 59.0 | C |
| D | FINAL FIRST CLOSED-IN | 67 | 71.9 | | | |
| E | INITIAL SECOND FLOW | 50 | 49.5 | 30.0 | 30.0 | F |
| F | FINAL SECOND FLOW | 50 | 49.5 | | | |
| F | INITIAL SECOND CLOSED-IN | 50 | 49.5 | 30.0 | 30.0 | C |
| G | FINAL SECOND CLOSED-IN | 60 | 53.8 | | | |
| H | FINAL HYDROSTATIC | 2621 | 2603.6 | | | |

# EQUIPMENT & HOLE DATA

FORMATION TESTED: MORROW SAND
NET PAY (ft): 6.0
GROSS TESTED FOOTAGE: 35.4 PACKER TO T.D.
ALL DEPTHS MEASURED FROM: K.B. (11' AGL)
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 3268.0 AT KELLY BUSHING
TOTAL DEPTH (ft): 5477.0
PACKER DEPTH(S) (ft): 5436, 5442
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.10
MUD VISCOSITY (sec): 45
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 131 @ 5471.9 ft

TICKET NUMBER: 00890900
DATE: 08-18-92 TEST NO: 1
TYPE DST: OPEN HOLE
FIELD CAMP: LIBERAL
TESTER: L.D. GRANT
WITNESS: SAM CARMACK
DRILLING CONTRACTOR: CHEYENNE DRILLING COMPANY RIG #1

# FLUID PROPERTIES FOR RECOVERED MUD & WATER

| SOURCE | RESISTIVITY | CHLORIDES |
|---|---|---|
| PIT | 2.200 @ 72 °F | 2830 ppm |
| TOP | 1.950 @ 72 °F | 3301 ppm |
| TOOL | 2.500 @ 72 °F | 2358 ppm |
| | @ °F | ppm |
| | @ °F | ppm |
| | @ °F | ppm |

# SAMPLER DATA

Psig AT SURFACE: 40.0
cu.ft. OF GAS:
cc OF OIL:
cc OF WATER:
cc OF MUD: 2240.0
TOTAL LIQUID cc: 2240.0

# HYDROCARBON PROPERTIES

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

# CUSHION DATA

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

# RECOVERED:

15 FT. OF DRILLING MUD

MEASURED FROM TESTER VALVE

# REMARKS:

TYPE & SIZE MEASURING DEVICE: _____ TICKET NO: 00890900

| TIME | CHOKE SIZE | SURFACE PRESSURE PSI | GAS RATE MCF | LIQUID RATE BPD | REMARKS |
|---|---|---|---|---|---|
| 08-18-92 | | | | | |
| 00:30 | | | | | RECEIVED CALL FOR 03:30 |
| 03:10 | | | | | ON LOCATION; RIG OUT OF HOLE |
| 03:25 | | | | | STARTED TEMPERTURE RECORDER |
| 03:40 | | | | | STARTED GAUGE #8029 |
| 03:46 | | | | | STARTED GAUGE #8030 |
| 03:50 | | | | | PICKED UP TOOLS |
| 04:40 | | | | | TOOLS MADE UP; STARTED IN THE HOLE |
| 07:19 | | | | | ON BOTTOM (112000#) |
| 07:21 | B.H. | | | | TOOL OPENED WITH SLIGHT BLOW ON |
| | | | | | TOP OF WATER IN BUCKET |
| 07:52 | B.H. | | | | CLOSED TOOL |
| 08:51 | B.H. | | | | OPENED TOOL |
| 08:59 | B.H. | | | | VERY SLIGHT BLOW ON TOP OF WATER |
| 09:21 | B.H. | | | | CLOSED TOOL WITH NO BLOW |
| 09:51 | | | | | OPENED BYPASS; PULLED OFF BOTTOM |
| | | | | | (122000#) |
| 10:00 | | | | | TRIPPED OUT OF HOLE |
| 12:00 | | | | | OUT OF HOLE; TOOLS IN TABLE |
| 13:05 | | | | | TOOLS LOADED OUT |
| 13:45 | | | | | CHARTS READ |
| 14:00 | | | | | JOB COMPLETED; RELEASED |
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MEASURED FROM TESTER VALVE

TICKET NO. 00890900

| | | O.D. | I.D. | LENGTH | DEPTH |
|---|---|---|---|---|---|
| 1 | DRILL PIPE..... | 4.500 | 3.826 | 4698.8 | |
| 3 | DRILL COLLARS..... | 6.000 | 2.250 | 644.7 | |
| 50 | IMPACT REVERSING SUB..... | 6.000 | 2.170 | 1.0 | 5344.5 |
| 3 | DRILL COLLARS..... | 6.000 | 2.250 | 58.0 | |
| 5 | CROSSOVER..... | 6.000 | 2.370 | 1.0 | |
| 11 | HANDLING SUB & CHOKE ASSEMBLY... | 4.500 | 2.430 | 4.7 | |
| 13 | DUAL CIP SAMPLER..... | 5.000 | 0.750 | 6.6 | |
| 60 | HYDROSPRING TESTER..... | 5.000 | 0.750 | 5.0 | 5418.9 |
| 80 | AP RUNNING CASE..... | 5.000 | 2.250 | 4.1 | 5421.0 |
| 15 | JAR..... | 5.000 | 1.750 | 5.0 | |
| 16 | VR SAFETY JOINT..... | 5.000 | 1.000 | 2.8 | |
| 70 | OPEN HOLE PACKER..... | 6.750 | 1.530 | 5.8 | 5435.8 |
| 70 | OPEN HOLE PACKER..... | 6.750 | 1.530 | 5.8 | 5441.6 |
| 20 | FLUSH JOINT ANCHOR..... | 5.000 | 2.370 | 28.0 | |
| 83 | HT-500 TEMPERATURE CASE..... | 5.000 | | 1.5 | 5471.9 |
| 81 | BLANKED-OFF RUNNING CASE..... | 5.000 | | 4.1 | 5474.0 |
| | TOTAL DEPTH | | | | 5477.0 |

# EQUIPMENT DATA

30-31-39W

Computer Inventoried

AMOCO PRODUCTION COMPANY

LEASE : ELVER MILBURN

WELL NO.: 1

TEST NO.: 2

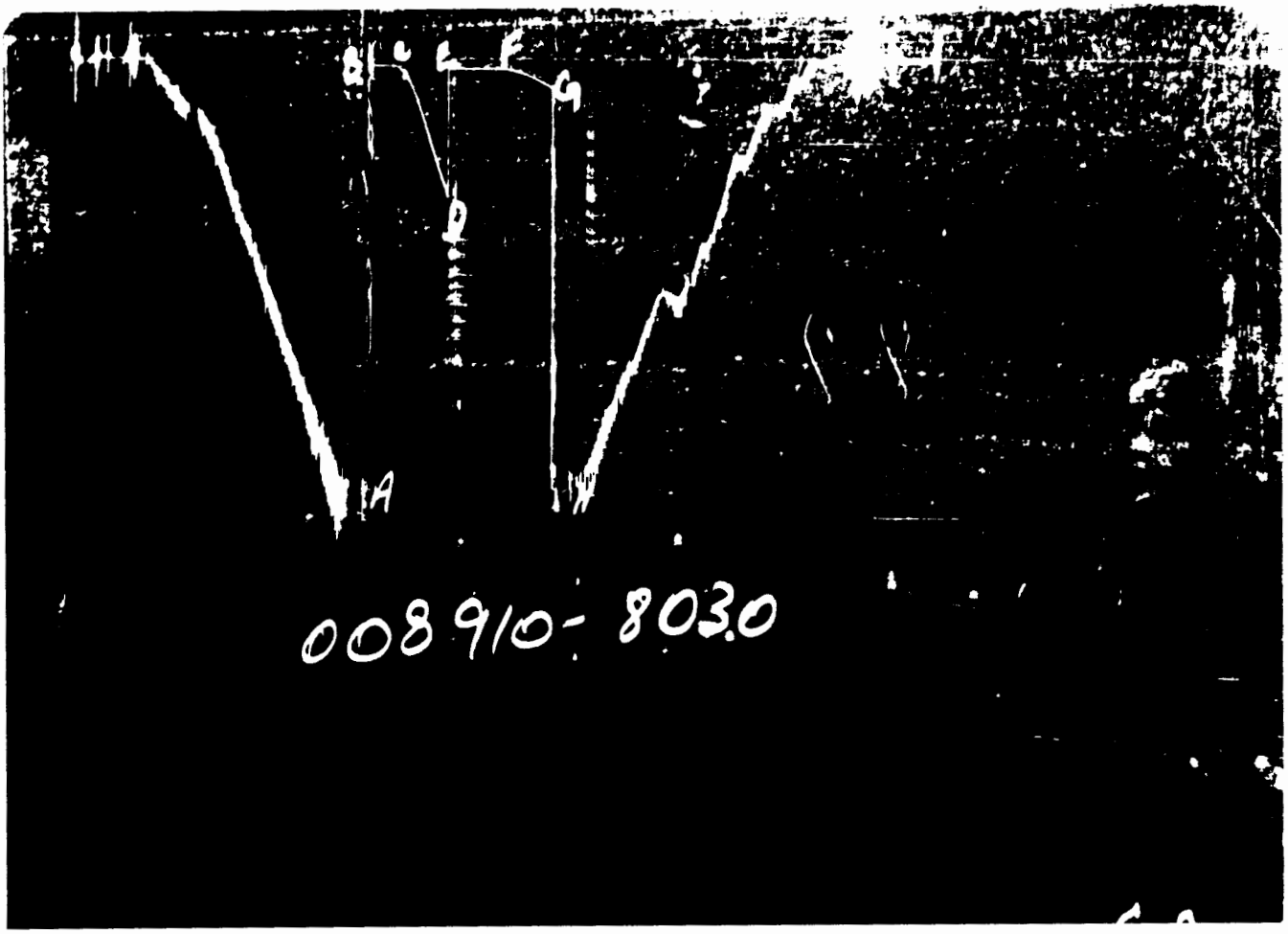
TICKET NO. 00891000
24-AUG-92
LIBERAL





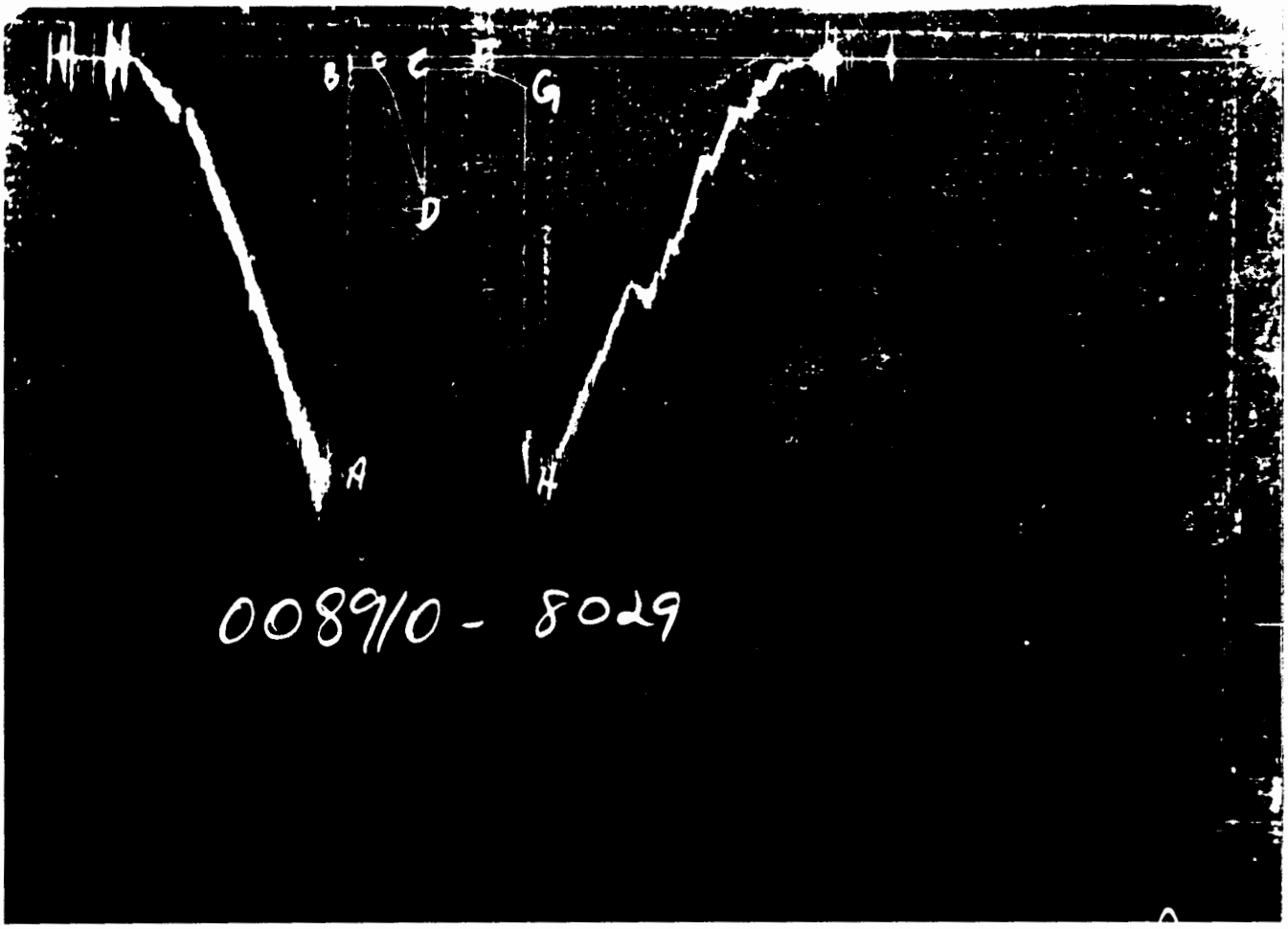
DST REPORT PRODUCED BY HRS
A DIVISION OF HALLIBURTON COMPANY

| | | | | | |
|---|---|---|---|---|---|
| ELVER MILBURN | 1 | 2 | 5753.6 - 5778.0 | AMOCO PRODUCTION COMPANY | |
| LEASE NAME | WELL NO. | TEST NO. | TESTED INTERVAL | LEASE OWNER/COMPANY NAME | |
| LEGAL LOCATION SEC. - TWP. - RNG. | FIELD AREA | COUNTY | STATE | | |
| 30 - 31 S - 39 W | LOST SPRINGS | MORTON | KANSAS | | |




GAUGE NO: 8030 DEPTH: 5733.0 BLANKED OFF: NO HOUR OF CLOCK: 12

| ID | DESCRIPTION | PRESSURE | | TIME | | TYPE |
|---|---|---|---|---|---|---|
| | | REPORTED | CALCULATED | REPORTED | CALCULATED | |
| A | INITIAL HYDROSTATIC | 2756 | 2761.0 | | | |
| B | INITIAL FIRST FLOW | 46 | 46.1 | 16.0 | 16.0 | F |
| C | FINAL FIRST FLOW | 52 | 49.8 | | | |
| C | INITIAL FIRST CLOSED-IN | 52 | 49.8 | 30.0 | 30.0 | C |
| D | FINAL FIRST CLOSED-IN | 862 | 882.2 | | | |
| E | INITIAL SECOND FLOW | 59 | 67.9 | 30.0 | 30.0 | F |
| F | FINAL SECOND FLOW | 68 | 67.6 | | | |
| F | INITIAL SECOND CLOSED-IN | 68 | 67.6 | 30.0 | 30.0 | C |
| G | FINAL SECOND CLOSED-IN | 192 | 189.1 | | | |
| H | FINAL HYDROSTATIC | 2756 | 2732.7 | | | |




GAUGE NO: 8029 DEPTH: 5775.0 BLANKED OFF: YES HOUR OF CLOCK: 12

| ID | DESCRIPTION | PRESSURE | | TIME | | TYPE |
|---|---|---|---|---|---|---|
| | | REPORTED | CALCULATED | REPORTED | CALCULATED | |
| A | INITIAL HYDROSTATIC | 2753 | 2772.9 | | | |
| B | INITIAL FIRST FLOW | 77 | 73.7 | 16.0 | 16.0 | F |
| C | FINAL FIRST FLOW | 84 | 75.6 | | | |
| C | INITIAL FIRST CLOSED-IN | 84 | 75.6 | 30.0 | 30.0 | C |
| D | FINAL FIRST CLOSED-IN | 931 | 908.3 | | | |
| E | INITIAL SECOND FLOW | 84 | 83.8 | 30.0 | 30.0 | F |
| F | FINAL SECOND FLOW | 87 | 83.8 | | | |
| F | INITIAL SECOND CLOSED-IN | 87 | 83.8 | 30.0 | 30.0 | C |
| G | FINAL SECOND CLOSED-IN | 207 | 206.0 | | | |
| H | FINAL HYDROSTATIC | 2753 | 2741.7 | | | |

## EQUIPMENT & HOLE DATA

FORMATION TESTED: MORROW SAND
NET PAY (ft): 21.0
GROSS TESTED FOOTAGE: 24.4 PACKER TO T.D.
ALL DEPTHS MEASURED FROM: K.B. (11' AGL)
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 3268.0 AT KELLY BUSHING
TOTAL DEPTH (ft): 5778.0
PACKER DEPTH(S) (ft): 5748, 5754
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.00
MUD VISCOSITY (sec): 50
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 143 @ 5772.9 ft

TICKET NUMBER: 00891000
DATE: 08-19-92 TEST NO: 2
TYPE DST: OPEN HOLE
FIELD CAMP: LIBERAL
TESTER: L.D. GRANT
WITNESS: SAM CARMACK
DRILLING CONTRACTOR: CHEYENNE DRILLING COMPANY RIG #1

## FLUID PROPERTIES FOR RECOVERED MUD & WATER

| SOURCE | RESISTIVITY | CHLORIDES |
|---|---|---|
| PIT | 2.000 @ 72 °F | 1886 ppm |
| TOP | 1.970 @ 72 °F | 2358 ppm |
| TOOL | 2.250 @ 72 °F | 1651 ppm |
| | @ °F | ppm |
| | @ °F | ppm |
| | @ °F | ppm |

## SAMPLER DATA

Psig AT SURFACE: 76.0
cu.ft. OF GAS:
cc OF OIL:
cc OF WATER:
cc OF MUD: 2240.0
TOTAL LIQUID cc: 2240.0

## HYDROCARBON PROPERTIES

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

## CUSHION DATA

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

## RECOVERED:

75 FT. OF DRILLING MUD

MEASURED FROM TESTER VALVE

## REMARKS:

| TYPE & SIZE MEASURING DEVICE: _____ | | | | | TICKET NO: 00891000 |
|---|---|---|---|---|---|
| TIME | CHOKE SIZE | SURFACE PRESSURE PSI | GAS RATE MCF | LIQUID RATE BPD | REMARKS |
| 08-19-92 | | | | | |
| 07:30 | | | | | RECEIVED CALL FOR NOW |
| 10:15 | | | | | ON LOCATION; RIG HAD JUST GOTTEN |
| | | | | | OUT OF HOLE |
| 10:35 | | | | | STARTED TEMPERATURE RECORDER |
| 10:40 | | | | | STARTED GAUGE #8029 |
| 10:45 | | | | | STARTED GAUGE #8030 |
| 10:53 | | | | | PICKED UP TOOLS |
| 11:30 | | | | | TOOLS MADE UP AND IN TABLE; STARTED |
| | | | | | IN THE HOLE |
| 13:41 | | | | | ON BOTTOM (118000# UP, 88000# DOWN) |
| 13:43 | B.H. | | | | TOOL OPENED WITH VERY SLIGHT BLOW |
| | | | | | ON TOP OF WATER IN BUCKET |
| 13:59 | B.H. | | | | CLOSED TOOL WITH VERY SLIGHT BLOW |
| 14:29 | B.H. | | | | OPENED TOOL WITH NO BLOW |
| 14:59 | B.H. | | | | CLOSED TOOL WITH NO BLOW |
| 15:29 | | | | | OPENED BYPASS; PULLED OFF BOTTOM |
| | | | | | (122000#) |
| 15:35 | | | | | TRIPPED OUT OF HOLE WITH TOOLS |
| 18:10 | | | | | TOOLS IN TABLE |
| 18:50 | | | | | TOOLS LAID DOWN |
| 19:00 | | | | | LOADED DUAL CIP SAMPLER AND |
| | | | | | HYDROSPRING TO TAKE TO TOWN TO |
| | | | | | BE RE-DRESSED; READ CHARTS |
| 19:30 | | | | | JOB COMPLETED; RELEASED |
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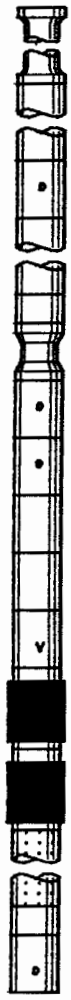
MEASURED FROM TESTER VALVE

TICKET NO. 00891000



| | | O.D. | I.D. | LENGTH | DEPTH |
|---|---|---|---|---|---|
| 1 | DRILL PIPE..... | 4.500 | 3.826 | 5011.8 | |
| 3 | DRILL COLLARS..... | 6.000 | 2.250 | 644.7 | |
| 50 | IMPACT REVERSING SUB..... | 6.000 | 2.170 | 1.0 | 5656.5 |
| 3 | DRILL COLLARS..... | 6.000 | 2.250 | 58.0 | |
| 5 | CROSSOVER..... | 6.000 | 2.370 | 1.0 | |
| 11 | HANDLING SUB & CHOKE ASSEMBLY... | 4.500 | 2.430 | 4.7 | |
| 13 | DUAL CIP SAMPLER..... | 5.000 | 0.750 | 6.6 | |
| 60 | HYDROSPRING TESTER..... | 5.000 | 0.750 | 5.0 | 5730.9 |
| 80 | AP RUNNING CASE..... | 5.000 | 2.250 | 4.1 | 5733.0 |
| 15 | JAR..... | 5.000 | 1.750 | 5.0 | |
| 16 | VR SAFETY JOINT..... | 5.000 | 1.000 | 2.8 | |
| 70 | OPEN HOLE PACKER..... | 6.750 | 1.530 | 5.8 | 5747.8 |
| 70 | OPEN HOLE PACKER..... | 6.750 | 1.530 | 5.8 | 5753.6 |
| 20 | FLUSH JOINT ANCHOR..... | 5.000 | 2.370 | 17.0 | |
| 83 | HT-500 TEMPERATURE CASE..... | 5.000 | | 1.5 | 5772.9 |
| 81 | BLANKED-OFF RUNNING CASE..... | 5.000 | | 4.1 | 5775.0 |
| | TOTAL DEPTH | | | | 5778.0 |

# EQUIPMENT DATA

30-31-39W

Computer Inventoried

AMOCO PRODUCTION COMPANY

LEASE : ELVER MILBURN

WELL NO.: 1

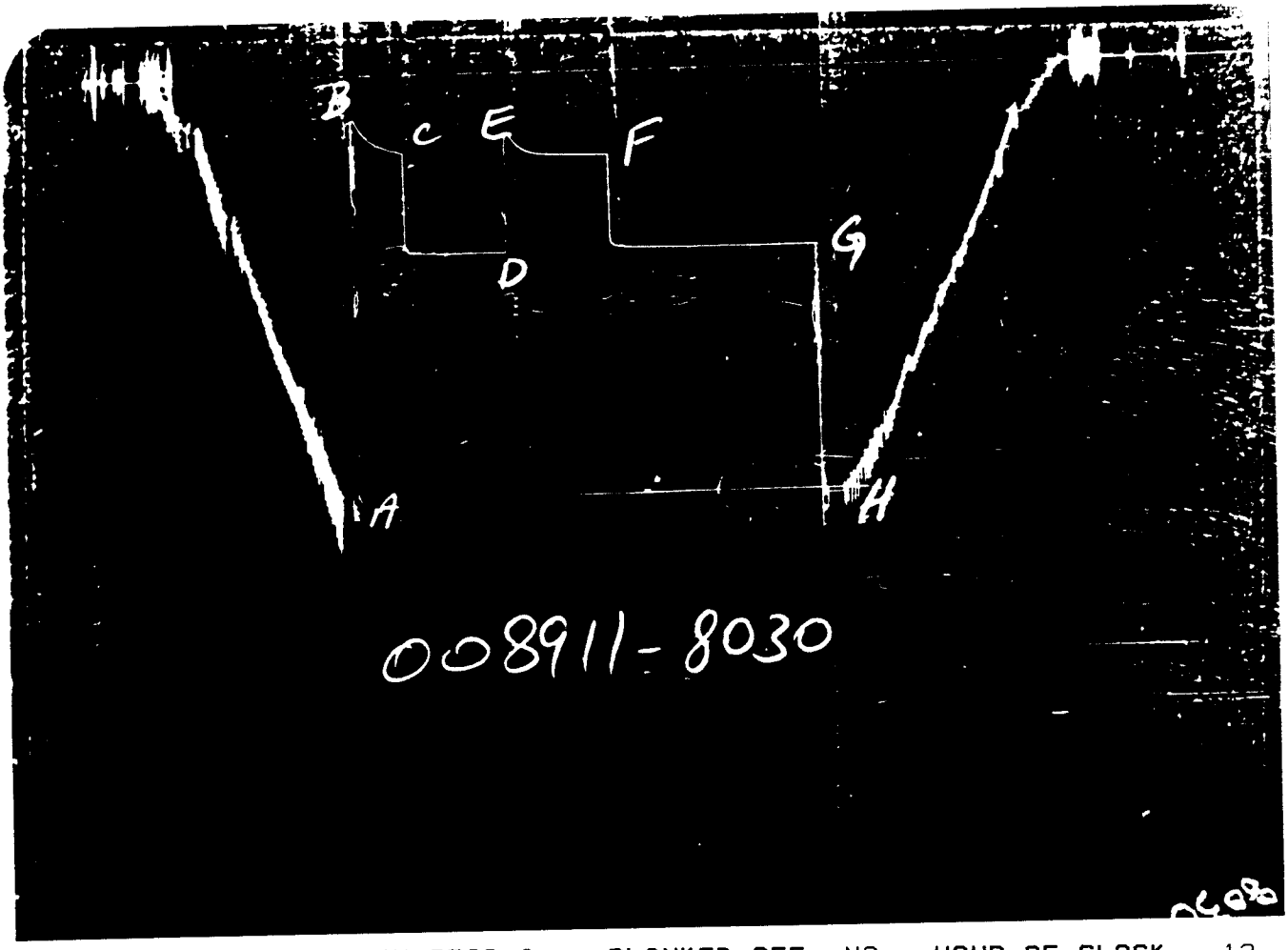
TEST NO.: 3

TICKET NO. 00891100
24-AUG-92
LIBERAL



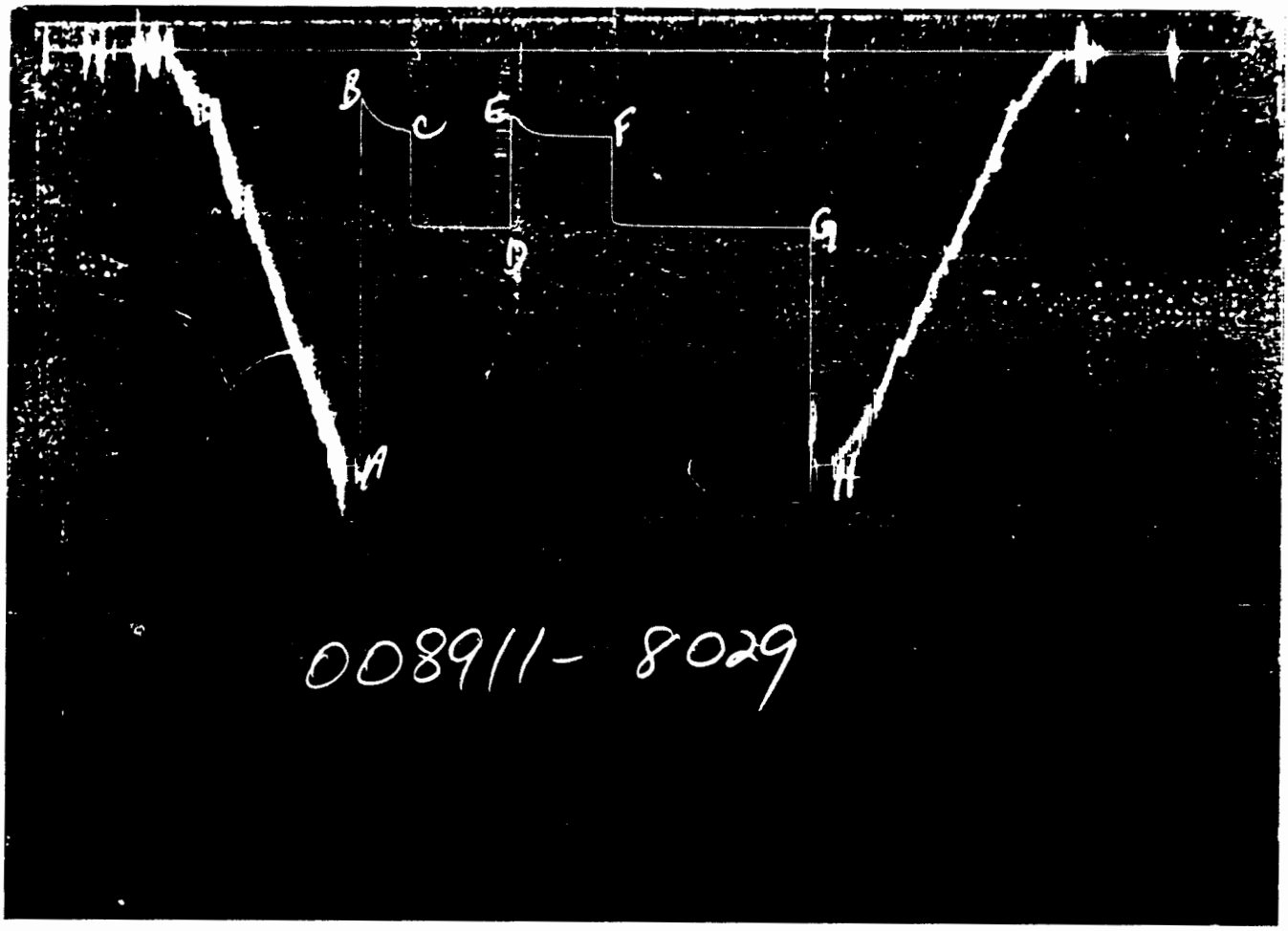
| | | | | | |
|---|---|---|---|---|---|
| ELVER MILBURN | 1 | 3 | 5809.6 - 5840.0 | AMOCO PRODUCTION COMPANY | |
| LEASE NAME | WELL NO. | TEST NO. | TESTED INTERVAL | LEASE OWNER/COMPANY NAME | |
| LEGAL LOCATION SEC. - TWP. - RNG. | FIELD AREA | COUNTY | STATE | | |
| 30 - 31 S - 39 W | LOST SPRINGS | MORTON | KANSAS | | |

DST REPORT PRODUCED BY HRS
A DIVISION OF HALLIBURTON COMPANY




GAUGE NO: 8030 DEPTH: 5789.0 BLANKED OFF: NO HOUR OF CLOCK: 12

| ID | DESCRIPTION | PRESSURE | | TIME | | TYPE |
|---|---|---|---|---|---|---|
| | | REPORTED | CALCULATED | REPORTED | CALCULATED | |
| A | INITIAL HYDROSTATIC | 2763 | 2755.5 | | | |
| B | INITIAL FIRST FLOW | 292 | 285.5 | 30.0 | 29.3 | F |
| C | FINAL FIRST FLOW | 519 | 511.5 | | | |
| C | INITIAL FIRST CLOSED-IN | 519 | 511.5 | 60.0 | 59.9 | C |
| D | FINAL FIRST CLOSED-IN | 1153 | 1163.8 | | | |
| E | INITIAL SECOND FLOW | 390 | 400.0 | 60.0 | 60.6 | F |
| F | FINAL SECOND FLOW | 551 | 547.1 | | | |
| F | INITIAL SECOND CLOSED-IN | 551 | 547.1 | 120.0 | 120.2 | C |
| G | FINAL SECOND CLOSED-IN | 1153 | 1154.9 | | | |
| H | FINAL HYDROSTATIC | 2731 | 2735.0 | | | |




GAUGE NO: 8029 DEPTH: 5837.0 BLANKED OFF: YES HOUR OF CLOCK: 12

| ID | DESCRIPTION | PRESSURE | | TIME | | TYPE |
|---|---|---|---|---|---|---|
| | | REPORTED | CALCULATED | REPORTED | CALCULATED | |
| A | INITIAL HYDROSTATIC | 2753 | 2765.3 | | | |
| B | INITIAL FIRST FLOW | 301 | 306.0 | 30.0 | 29.3 | F |
| C | FINAL FIRST FLOW | 535 | 533.2 | | | |
| C | INITIAL FIRST CLOSED-IN | 535 | 533.2 | 60.0 | 59.9 | C |
| D | FINAL FIRST CLOSED-IN | 1162 | 1176.3 | | | |
| E | INITIAL SECOND FLOW | 435 | 426.0 | 60.0 | 60.6 | F |
| F | FINAL SECOND FLOW | 568 | 566.3 | | | |
| F | INITIAL SECOND CLOSED-IN | 568 | 566.3 | 120.0 | 120.2 | C |
| G | FINAL SECOND CLOSED-IN | 1162 | 1174.3 | | | |
| H | FINAL HYDROSTATIC | 2753 | 2756.7 | | | |

# EQUIPMENT & HOLE DATA

FORMATION TESTED: MORROW SAND
NET PAY (ft): 25.0
GROSS TESTED FOOTAGE: 30.4 PACKER TO T.D.
ALL DEPTHS MEASURED FROM: K.B. (11' AGL)
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 7.875
ELEVATION (ft): 3268.0 AT KELLY BUSHING
TOTAL DEPTH (ft): 5840.0
PACKER DEPTH(S) (ft): 5904, 5810
FINAL SURFACE CHOKE (in): 0.62500
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.00
MUD VISCOSITY (sec): 52
ESTIMATED HOLE TEMP. (°F): 145
ACTUAL HOLE TEMP. (°F): 143 @ 5834.9 ft

TICKET NUMBER: 00891100

DATE: 08-20-92 TEST NO: 3

TYPE DST: OPEN HOLE

FIELD CAMP:
LIBERAL

TESTER: L.D. GRANT

WITNESS: SAM CARMACK

DRILLING CONTRACTOR:
CHEYENNE DRILLING COMPANY RIG #1

# FLUID PROPERTIES FOR RECOVERED MUD & WATER

| SOURCE | RESISTIVITY | CHLORIDES |
|---|---|---|
| PIT | 1.980 @ 70 °F | 1886 ppm |
| TOP | 0.320 @ 70 °F | 16034 ppm |
| | @ °F | ppm |
| | @ °F | ppm |
| | @ °F | ppm |
| | @ °F | ppm |

# SAMPLER DATA

Psig AT SURFACE: 520.0
cu.ft. OF GAS: 3.100
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:

10 FT. OF WATERY MUD
NOTE: HAD GAS TO SURFACE WITHIN 2 MINUTES

MEASURED FROM TESTER VALVE

# REMARKS:

RECEIVED
STATE CORPORATION COMMISSION
NOV 9 1992
CONSERVATION DIVISION
Wichita, Kansas

TYPE & SIZE MEASURING DEVICE: 6" POSITIVE CHOKE NIPPLE | TICKET NO: 00891100

| TIME | CHOKE SIZE | SURFACE PRESSURE PSI | GAS RATE MCF | LIQUID RATE BPD | REMARKS |
|---|---|---|---|---|---|
| 08-20-92 | | | | | |
| 03:30 | | | | | RECEIVED CALL FOR 06:30 |
| 05:45 | | | | | ON LOCATION; RIG CIRCULATING ON |
| | | | | | BOTTOM |
| 05:50 | | | | | RIG STARTED PULLING OUT OF HOLE |
| 08:03 | | | | | STARTED TEMPERATURE RECORDER |
| 08:08 | | | | | STARTED GAUGE #8029 |
| 08:11 | | | | | STARTED GAGUE #8030 |
| 08:15 | | | | | RIG OUT OF HOLE |
| 08:20 | | | | | STARTED PICKING UP TOOLS |
| 08:50 | | | | | TOOLS MADE UP IN TABLE; STARTED |
| | | | | | IN THE HOLE |
| 10:52 | | | | | ON BOTTOM (116000# UP, 86000# DOWN) |
| 10:54 | B.H. | | | | TOOL OPENED WITH BLOW OFF BOTTOM |
| | | | | | OF BUCKET |
| 10:56 | B.H. | | | | GAS TO THE SURFACE |
| 10:59 | 5/8 | 115 | 1300 | | |
| 11:04 | 5/8 | 190 | 2050 | | |
| 11:09 | 5/8 | 245 | 2600 | | |
| 11:14 | 5/8 | 260 | 2750 | | |
| 11:19 | 5/8 | 275 | 2900 | | |
| 11:24 | 5/8 | 280 | 2950 | | CLOSED TOOL |
| 12:24 | 5/8 | | | | OPENED TOOL WITH INSTANT BLOW |
| 12:29 | 5/8 | 220 | 2250 | | |
| 12:34 | 5/8 | 275 | 2900 | | |
| 12:39 | 5/8 | 300 | 3160 | | |
| 12:54 | 5/8 | 307 | 3200 | | |
| 13:09 | 5/8 | 310 | 3250 | | |
| 13:24 | 5/8 | 310 | 3250 | | CLOSED TOOL |
| 15:24 | | | | | OPENED BYPASS; PULLED OFF BOTTOM |
| | | | | | (126000#) |
| 15:30 | | | | | TRIPPED OUT OF HOLE |
| 17:50 | | | | | TOOLS IN TABLE |
| 18:50 | | | | | TOOLS LAID DOWN; READ CHARTS |
| 19:30 | | | | | JOB COMPLETED; RELEASED |
| | | | | | |
| | | | | | |

TICKET NO: 00891100

CLOCK NO: 3462 HOUR: 12

GAUGE NO: 8030

DEPTH: 5789.0

| 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 | 285.5 | | | |
| | 2 | 3.0 | 334.2 | 48.7 | | |
| | 3 | 6.0 | 381.9 | 47.7 | | |
| | 4 | 9.0 | 415.9 | 34.0 | | |
| | 5 | 12.0 | 441.1 | 25.1 | | |
| | 6 | 15.0 | 461.6 | 20.5 | | |
| | 7 | 18.0 | 475.6 | 14.0 | | |
| | 8 | 21.0 | 486.9 | 11.3 | | |
| | 9 | 24.0 | 493.7 | 6.8 | | |
| | 10 | 27.0 | 504.2 | 10.5 | | |
| C | 11 | 29.3 | 511.5 | 7.3 | | |
| | | | FIRST CLOSED-IN | | | |
| C | 1 | 0.0 | 511.5 | | | |
| | 2 | 0.5 | 1115.4 | 603.8 | 0.4 | 1.818 |
| | 3 | 1.0 | 1135.2 | 623.7 | 1.0 | 1.467 |
| | 4 | 1.5 | 1141.1 | 629.5 | 1.4 | 1.324 |
| | 5 | 2.0 | 1145.5 | 634.0 | 1.9 | 1.186 |
| | 6 | 2.5 | 1148.5 | 637.0 | 2.3 | 1.108 |
| | 7 | 3.0 | 1150.3 | 638.8 | 2.7 | 1.037 |
| | 8 | 3.5 | 1152.3 | 640.8 | 3.1 | 0.973 |
| | 9 | 4.0 | 1153.5 | 641.9 | 3.5 | 0.919 |
| | 10 | 4.5 | 1154.3 | 642.7 | 3.9 | 0.871 |
| | 11 | 5.0 | 1154.9 | 643.4 | 4.3 | 0.834 |
| | 12 | 6.0 | 1155.8 | 644.3 | 5.0 | 0.766 |
| | 13 | 7.0 | 1156.6 | 645.1 | 5.7 | 0.712 |
| | 14 | 8.0 | 1157.0 | 645.4 | 6.3 | 0.669 |
| | 15 | 9.0 | 1157.4 | 645.9 | 6.9 | 0.630 |
| | 16 | 10.0 | 1157.9 | 646.4 | 7.5 | 0.593 |
| | 17 | 12.0 | 1158.2 | 646.7 | 8.5 | 0.538 |
| | 18 | 14.0 | 1158.9 | 647.3 | 9.5 | 0.491 |
| | 19 | 16.0 | 1159.3 | 647.8 | 10.3 | 0.452 |
| | 20 | 18.0 | 1159.8 | 648.3 | 11.1 | 0.419 |
| | 21 | 20.0 | 1160.4 | 648.9 | 11.9 | 0.391 |
| | 22 | 22.0 | 1160.8 | 649.2 | 12.6 | 0.367 |
| | 23 | 24.0 | 1160.8 | 649.2 | 13.2 | 0.347 |
| | 24 | 26.0 | 1160.8 | 649.2 | 13.8 | 0.328 |
| | 25 | 28.0 | 1160.8 | 649.2 | 14.3 | 0.311 |
| | 26 | 30.0 | 1161.1 | 649.5 | 14.8 | 0.296 |
| | 27 | 35.0 | 1161.4 | 649.9 | 15.9 | 0.264 |
| | 28 | 40.0 | 1161.6 | 650.0 | 16.9 | 0.238 |
| | 29 | 45.0 | 1161.6 | 650.0 | 17.7 | 0.217 |
| | 30 | 50.0 | 1162.2 | 650.7 | 18.5 | 0.200 |
| | 31 | 55.0 | 1162.2 | 650.7 | 19.1 | 0.185 |
| D | 32 | 59.9 | 1163.8 | 652.2 | 19.7 | 0.173 |
| | | | SECOND FLOW | | | |
| E | 1 | 0.0 | 400.0 | | | |

| REF | | MINUTES | PRESSURE | ΔP | $\frac{t \times \Delta t}{t+\Delta t}$ | $\log \frac{t+\Delta t}{\Delta t}$ |
|---|---|---|---|---|---|---|
| | | SECOND FLOW - CONTINUED | | | | |
| | 2 | 5.0 | 441.2 | 41.2 | | |
| | 3 | 10.0 | 495.4 | 54.2 | | |
| | 4 | 15.0 | 520.9 | 25.5 | | |
| | 5 | 20.0 | 531.7 | 10.8 | | |
| | 6 | 25.0 | 536.8 | 5.1 | | |
| | 7 | 30.0 | 538.5 | 1.7 | | |
| | 8 | 35.0 | 540.9 | 2.4 | | |
| | 9 | 40.0 | 542.0 | 1.1 | | |
| | 10 | 45.0 | 543.5 | 1.4 | | |
| | 11 | 50.0 | 544.7 | 1.3 | | |
| | 12 | 55.0 | 545.5 | 0.8 | | |
| F | 13 | 60.6 | 547.1 | 1.6 | | |
| | | | SECOND CLOSED-IN | | | |
| F | 1 | 0.0 | 547.1 | | | |
| | 2 | 0.5 | 1097.7 | 550.6 | 0.5 | 2.253 |
| | 3 | 1.0 | 1115.2 | 568.1 | 1.0 | 1.954 |
| | 4 | 1.5 | 1122.6 | 575.5 | 1.5 | 1.785 |
| | 5 | 2.0 | 1126.5 | 579.3 | 2.0 | 1.661 |
| | 6 | 2.5 | 1129.6 | 582.5 | 2.4 | 1.568 |
| | 7 | 3.0 | 1132.5 | 585.4 | 2.9 | 1.493 |
| | 8 | 3.5 | 1133.9 | 586.8 | 3.4 | 1.422 |
| | 9 | 4.0 | 1135.2 | 588.1 | 3.8 | 1.372 |
| | 10 | 4.5 | 1136.6 | 589.5 | 4.3 | 1.318 |
| | 11 | 5.0 | 1137.6 | 590.5 | 4.8 | 1.274 |
| | 12 | 6.0 | 1140.0 | 592.8 | 5.7 | 1.201 |
| | 13 | 7.0 | 1141.2 | 594.1 | 6.5 | 1.139 |
| | 14 | 8.0 | 1142.0 | 594.9 | 7.3 | 1.088 |
| | 15 | 9.0 | 1142.7 | 595.5 | 8.2 | 1.041 |
| | 16 | 10.0 | 1143.3 | 596.2 | 9.0 | 0.999 |
| | 17 | 12.0 | 1144.6 | 597.4 | 10.6 | 0.928 |
| | 18 | 14.0 | 1145.4 | 598.2 | 12.1 | 0.871 |
| | 19 | 16.0 | 1145.8 | 598.7 | 13.6 | 0.821 |
| | 20 | 18.0 | 1146.0 | 598.9 | 15.0 | 0.778 |
| | 21 | 20.0 | 1146.6 | 599.5 | 16.4 | 0.739 |
| | 22 | 22.0 | 1147.4 | 600.3 | 17.7 | 0.706 |
| | 23 | 24.0 | 1147.9 | 600.8 | 19.0 | 0.676 |
| | 24 | 26.0 | 1148.1 | 600.9 | 20.2 | 0.649 |
| | 25 | 28.0 | 1148.7 | 601.6 | 21.3 | 0.625 |
| | 26 | 30.0 | 1148.9 | 601.7 | 22.5 | 0.602 |
| | 27 | 35.0 | 1149.6 | 602.5 | 25.2 | 0.553 |
| | 28 | 40.0 | 1150.4 | 603.3 | 27.7 | 0.512 |
| | 29 | 45.0 | 1151.2 | 604.1 | 30.0 | 0.477 |
| | 30 | 50.0 | 1151.9 | 604.8 | 32.1 | 0.447 |
| | 31 | 55.0 | 1152.3 | 605.2 | 34.1 | 0.420 |
| | 32 | 60.0 | 1152.7 | 605.5 | 36.0 | 0.398 |
| | 33 | 70.0 | 1153.3 | 606.2 | 39.4 | 0.359 |
| | 34 | 80.0 | 1154.3 | 607.1 | 42.3 | 0.327 |
| | 35 | 90.0 | 1154.4 | 607.3 | 45.0 | 0.301 |
| | 36 | 100.0 | 1154.4 | 607.3 | 47.3 | 0.278 |
| | 37 | 110.0 | 1154.4 | 607.3 | 49.5 | 0.259 |
| G | 38 | 120.2 | 1154.9 | 607.8 | 51.4 | 0.242 |

REMARKS:

| TICKET NO: 00891100 | GAUGE NO: 8029 |
|---|---|
| CLOCK NO: 3247 HOUR: 12 | DEPTH: 5837.0 |

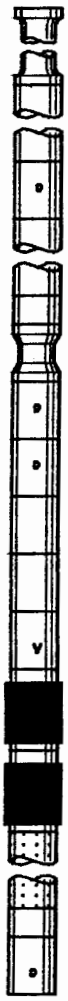
| REF | | MINUTES | PRESSURE | ΔP | $\frac{t \times \Delta t}{t+\Delta t}$ | $\log \frac{t+\Delta t}{\Delta t}$ |
|---|---|---|---|---|---|---|
| | | | **FIRST FLOW** | | | |
| B | 1 | 0.0 | 306.0 | | | |
| | 2 | 3.0 | 370.2 | 64.1 | | |
| | 3 | 6.0 | 412.9 | 42.7 | | |
| | 4 | 9.0 | 446.4 | 33.6 | | |
| | 5 | 12.0 | 471.2 | 24.8 | | |
| | 6 | 15.0 | 488.6 | 17.4 | | |
| | 7 | 18.0 | 500.9 | 12.3 | | |
| | 8 | 21.0 | 510.1 | 9.1 | | |
| | 9 | 24.0 | 516.4 | 6.3 | | |
| | 10 | 27.0 | 528.2 | 11.8 | | |
| C | 11 | 29.3 | 533.2 | 5.0 | | |
| | | | **FIRST CLOSED-IN** | | | |
| C | 1 | 0.0 | 533.2 | | | |
| | 2 | 0.5 | 1142.7 | 609.6 | 0.5 | 1.792 |
| | 3 | 1.0 | 1152.0 | 618.9 | 1.0 | 1.473 |
| | 4 | 1.5 | 1156.9 | 623.7 | 1.4 | 1.316 |
| | 5 | 2.0 | 1159.5 | 626.3 | 1.9 | 1.189 |
| | 6 | 2.5 | 1161.8 | 628.7 | 2.3 | 1.096 |
| | 7 | 3.0 | 1162.8 | 629.7 | 2.7 | 1.032 |
| | 8 | 3.5 | 1164.0 | 630.8 | 3.1 | 0.970 |
| | 9 | 4.0 | 1165.0 | 631.8 | 3.5 | 0.918 |
| | 10 | 4.5 | 1165.3 | 632.2 | 3.9 | 0.877 |
| | 11 | 5.0 | 1165.8 | 632.7 | 4.3 | 0.838 |
| | 12 | 6.0 | 1167.0 | 633.8 | 5.0 | 0.771 |
| | 13 | 7.0 | 1167.6 | 634.5 | 5.6 | 0.716 |
| | 14 | 8.0 | 1167.8 | 634.6 | 6.3 | 0.670 |
| | 15 | 9.0 | 1168.5 | 635.3 | 6.9 | 0.629 |
| | 16 | 10.0 | 1168.8 | 635.6 | 7.4 | 0.594 |
| | 17 | 12.0 | 1169.5 | 636.3 | 8.5 | 0.537 |
| | 18 | 14.0 | 1170.1 | 637.0 | 9.5 | 0.490 |
| | 19 | 16.0 | 1170.3 | 637.1 | 10.3 | 0.452 |
| | 20 | 18.0 | 1171.0 | 637.8 | 11.1 | 0.419 |
| | 21 | 20.0 | 1171.1 | 638.0 | 11.9 | 0.391 |
| | 22 | 22.0 | 1171.6 | 638.5 | 12.6 | 0.367 |
| | 23 | 24.0 | 1172.0 | 638.8 | 13.2 | 0.346 |
| | 24 | 26.0 | 1172.1 | 639.0 | 13.8 | 0.328 |
| | 25 | 28.0 | 1172.8 | 639.6 | 14.3 | 0.311 |
| | 26 | 30.0 | 1173.1 | 640.0 | 14.8 | 0.296 |
| | 27 | 35.0 | 1173.8 | 640.6 | 15.9 | 0.264 |
| | 28 | 40.0 | 1174.5 | 641.3 | 16.9 | 0.239 |
| | 29 | 45.0 | 1175.0 | 641.8 | 17.7 | 0.218 |
| | 30 | 50.0 | 1175.3 | 642.1 | 18.5 | 0.200 |
| | 31 | 55.0 | 1175.5 | 642.3 | 19.1 | 0.185 |
| D | 32 | 59.9 | 1176.3 | 643.1 | 19.7 | 0.173 |
| | | | **SECOND FLOW** | | | |
| E | 1 | 0.0 | 426.0 | | | |

| REF | | MINUTES | PRESSURE | ΔP | $\frac{t \times \Delta t}{t+\Delta t}$ | $\log \frac{t+\Delta t}{\Delta t}$ |
|---|---|---|---|---|---|---|
| | | | SECOND FLOW - CONTINUED | | | |
| | 2 | 5.0 | 465.6 | 39.6 | | |
| | 3 | 10.0 | 517.3 | 51.7 | | |
| | 4 | 15.0 | 542.1 | 24.8 | | |
| | 5 | 20.0 | 553.0 | 11.0 | | |
| | 6 | 25.0 | 557.2 | 4.2 | | |
| | 7 | 30.0 | 559.5 | 2.3 | | |
| | 8 | 35.0 | 561.3 | 1.8 | | |
| | 9 | 40.0 | 563.0 | 1.7 | | |
| | 10 | 45.0 | 564.2 | 1.2 | | |
| | 11 | 50.0 | 564.8 | 0.7 | | |
| | 12 | 55.0 | 566.3 | 1.5 | | |
| F | 13 | 60.6 | 566.3 | 0.0 | | |
| | | | **SECOND CLOSED-IN** | | | |
| F | 1 | 0.0 | 566.3 | | | |
| | 2 | 0.5 | 1125.3 | 559.0 | 0.5 | 2.289 |
| | 3 | 1.0 | 1137.4 | 571.1 | 1.0 | 1.963 |
| | 4 | 1.5 | 1141.4 | 575.1 | 1.5 | 1.789 |
| | 5 | 2.0 | 1144.7 | 578.4 | 2.0 | 1.664 |
| | 6 | 2.5 | 1147.9 | 581.5 | 2.4 | 1.570 |
| | 7 | 3.0 | 1149.5 | 583.2 | 2.9 | 1.487 |
| | 8 | 3.5 | 1150.5 | 584.2 | 3.4 | 1.425 |
| | 9 | 4.0 | 1151.9 | 585.5 | 3.8 | 1.369 |
| | 10 | 4.5 | 1152.9 | 586.5 | 4.3 | 1.322 |
| | 11 | 5.0 | 1153.7 | 587.4 | 4.8 | 1.276 |
| | 12 | 6.0 | 1155.0 | 588.7 | 5.6 | 1.207 |
| | 13 | 7.0 | 1155.5 | 589.2 | 6.5 | 1.142 |
| | 14 | 8.0 | 1156.4 | 590.0 | 7.3 | 1.090 |
| | 15 | 9.0 | 1157.2 | 590.8 | 8.2 | 1.042 |
| | 16 | 10.0 | 1157.8 | 591.5 | 9.0 | 1.000 |
| | 17 | 12.0 | 1159.2 | 592.8 | 10.6 | 0.929 |
| | 18 | 14.0 | 1159.8 | 593.5 | 12.1 | 0.872 |
| | 19 | 16.0 | 1161.2 | 594.8 | 13.6 | 0.821 |
| | 20 | 18.0 | 1161.8 | 595.5 | 15.0 | 0.778 |
| | 21 | 20.0 | 1162.3 | 596.0 | 16.3 | 0.741 |
| | 22 | 22.0 | 1162.8 | 596.5 | 17.7 | 0.706 |
| | 23 | 24.0 | 1163.0 | 596.7 | 19.0 | 0.676 |
| | 24 | 26.0 | 1163.5 | 597.2 | 20.2 | 0.649 |
| | 25 | 28.0 | 1163.8 | 597.5 | 21.3 | 0.625 |
| | 26 | 30.0 | 1164.5 | 598.2 | 22.5 | 0.602 |
| | 27 | 35.0 | 1165.3 | 599.0 | 25.2 | 0.552 |
| | 28 | 40.0 | 1166.2 | 599.8 | 27.7 | 0.511 |
| | 29 | 45.0 | 1166.8 | 600.5 | 30.0 | 0.477 |
| | 30 | 50.0 | 1167.8 | 601.5 | 32.1 | 0.447 |
| | 31 | 55.0 | 1168.3 | 602.0 | 34.1 | 0.421 |
| | 32 | 60.0 | 1168.6 | 602.3 | 36.0 | 0.398 |
| | 33 | 70.0 | 1169.6 | 603.3 | 39.3 | 0.359 |
| | 34 | 80.0 | 1170.5 | 604.2 | 42.2 | 0.327 |
| | 35 | 90.0 | 1171.1 | 604.8 | 45.0 | 0.301 |
| | 36 | 100.0 | 1172.0 | 605.6 | 47.3 | 0.279 |
| | 37 | 110.0 | 1172.6 | 606.3 | 49.5 | 0.259 |
| G | 38 | 120.2 | 1174.3 | 608.0 | 51.4 | 0.242 |



REMARKS:

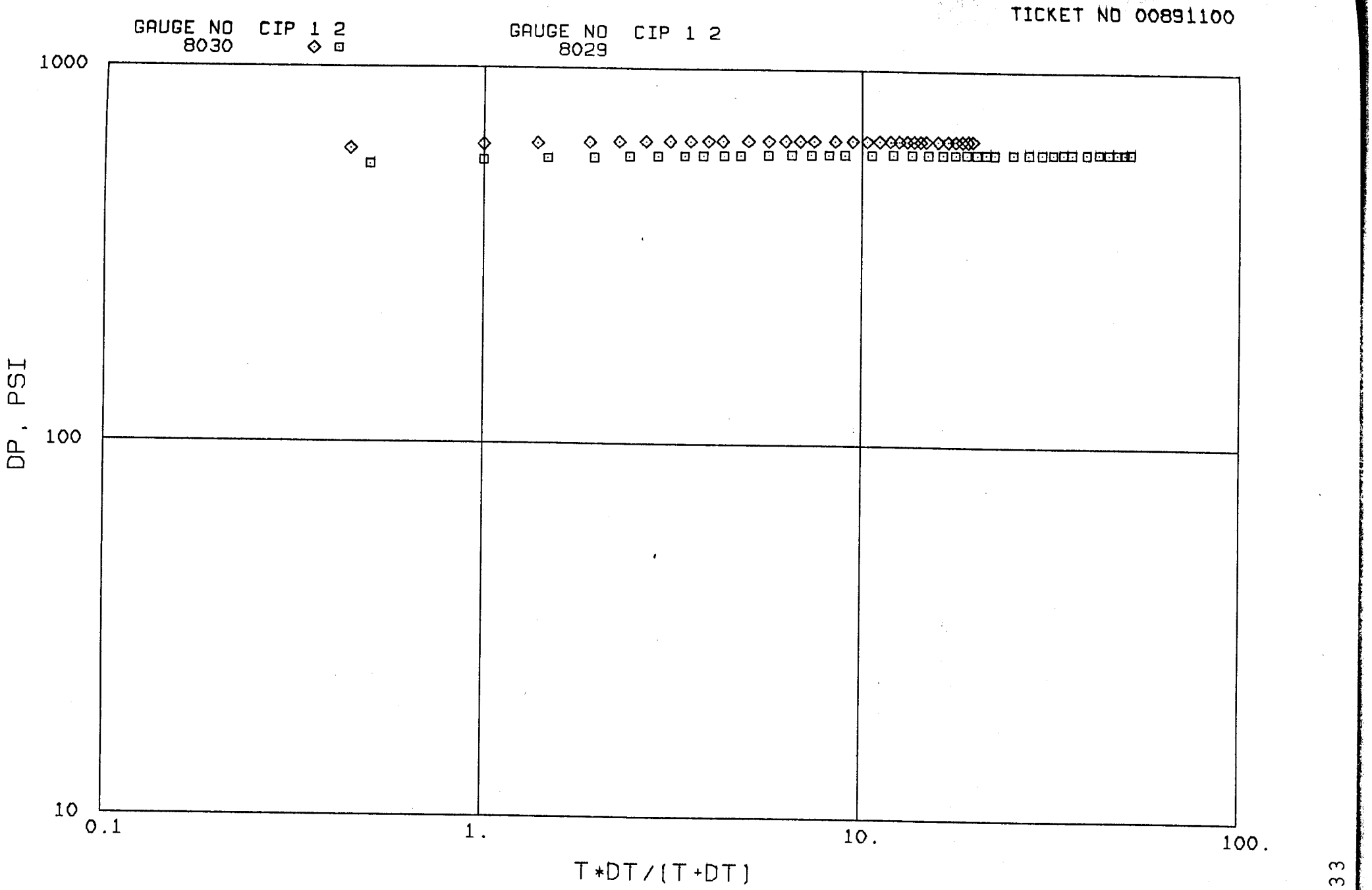
TICKET NO. 00891100



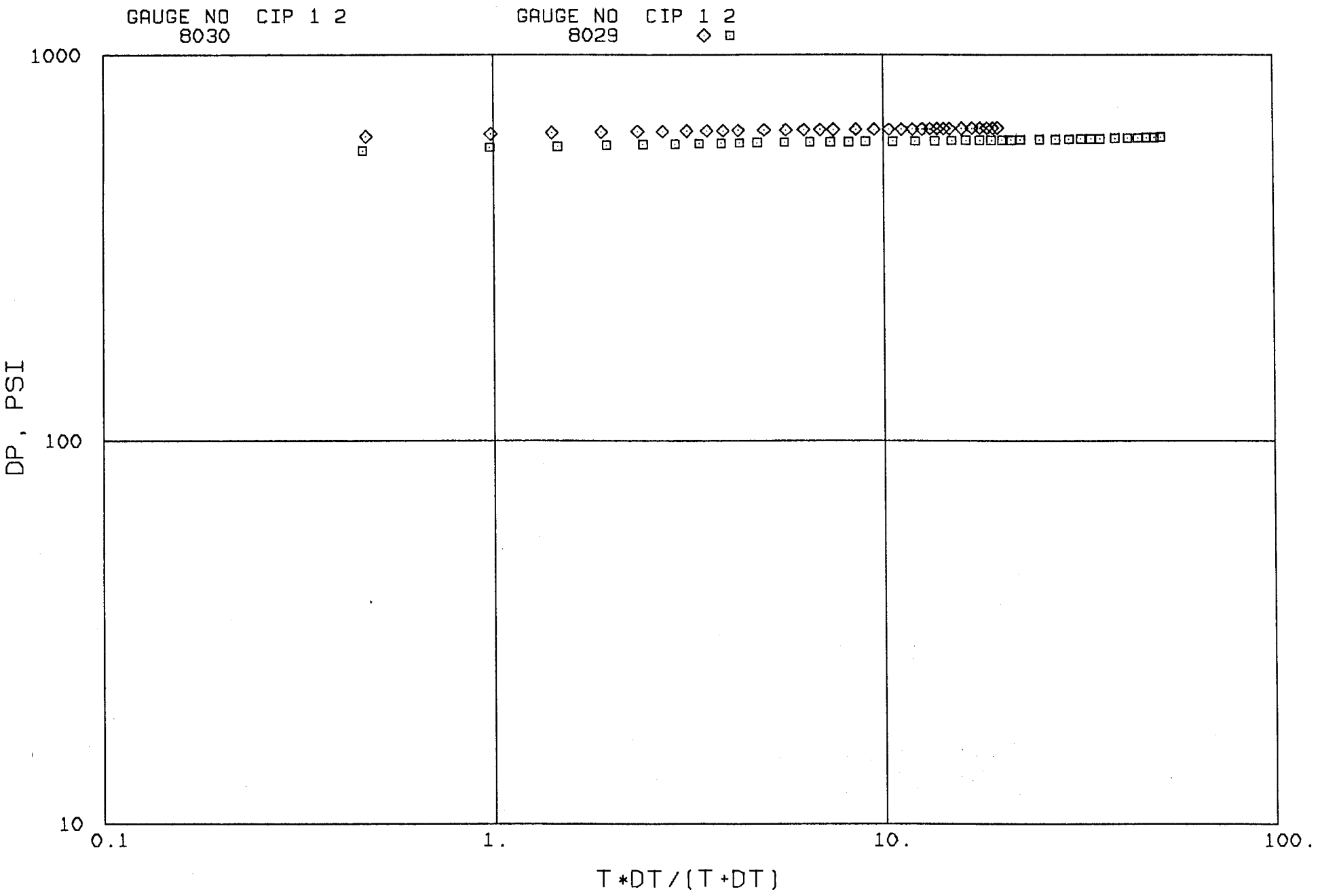
| | | O.D. | I.D. | LENGTH | DEPTH |
|---|---|---|---|---|---|
| 1 | DRILL PIPE | 4.500 | 3.826 | 5066.8 | |
| 3 | DRILL COLLARS | 6.000 | 2.250 | 644.7 | |
| 50 | IMPACT REVERSING SUB | 6.000 | 2.170 | 1.0 | 5712.5 |
| 3 | DRILL COLLARS | 6.000 | 2.250 | 58.0 | |
| 5 | CROSSOVER | 6.000 | 2.370 | 1.0 | |
| 11 | HANDLING SUB & CHOKE ASSEMBLY | 4.500 | 2.430 | 4.7 | |
| 13 | DUAL CIP SAMPLER | 5.000 | 0.750 | 6.6 | |
| 60 | HYDROSPRING TESTER | 5.000 | 0.750 | 5.0 | 5786.9 |
| 80 | AP RUNNING CASE | 5.000 | 2.250 | 4.1 | 5789.0 |
| 15 | JAR | 5.000 | 1.750 | 5.0 | |
| 16 | VR SAFETY JOINT | 5.000 | 1.000 | 2.8 | |
| 70 | OPEN HOLE PACKER | 6.750 | 1.530 | 5.8 | 5903.8 |
| 70 | OPEN HOLE PACKER | 6.750 | 1.530 | 5.8 | 5809.6 |
| 20 | FLUSH JOINT ANCHOR | 5.000 | 2.370 | 23.0 | |
| 83 | HT-500 TEMPERATURE CASE | 5.000 | | 1.5 | 5834.9 |
| 81 | BLANKED-OFF RUNNING CASE | 5.000 | | 4.1 | 5837.0 |
| | TOTAL DEPTH | | | | 5840.0 |

EQUIPMENT DATA

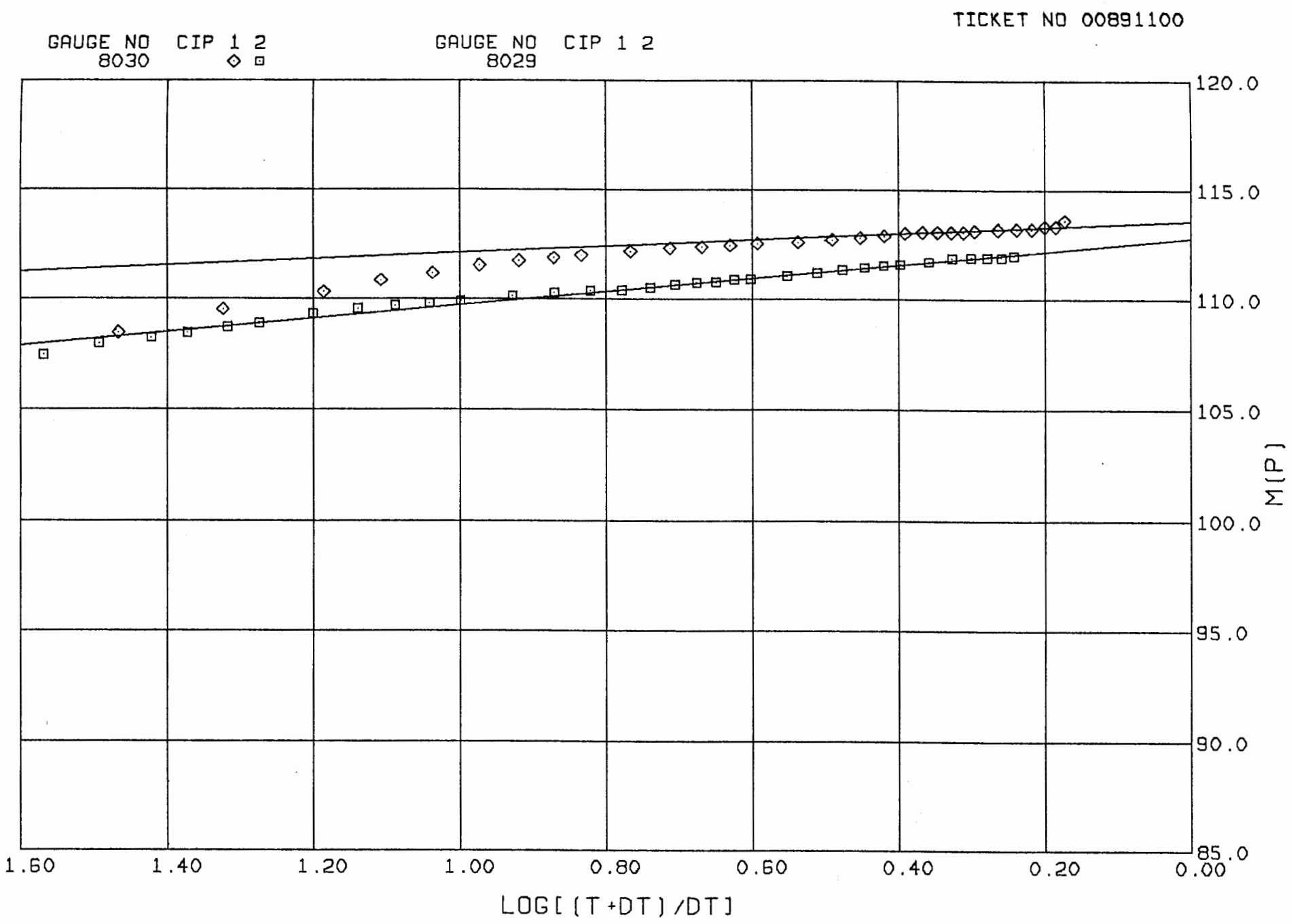
TICKET NO 00891100

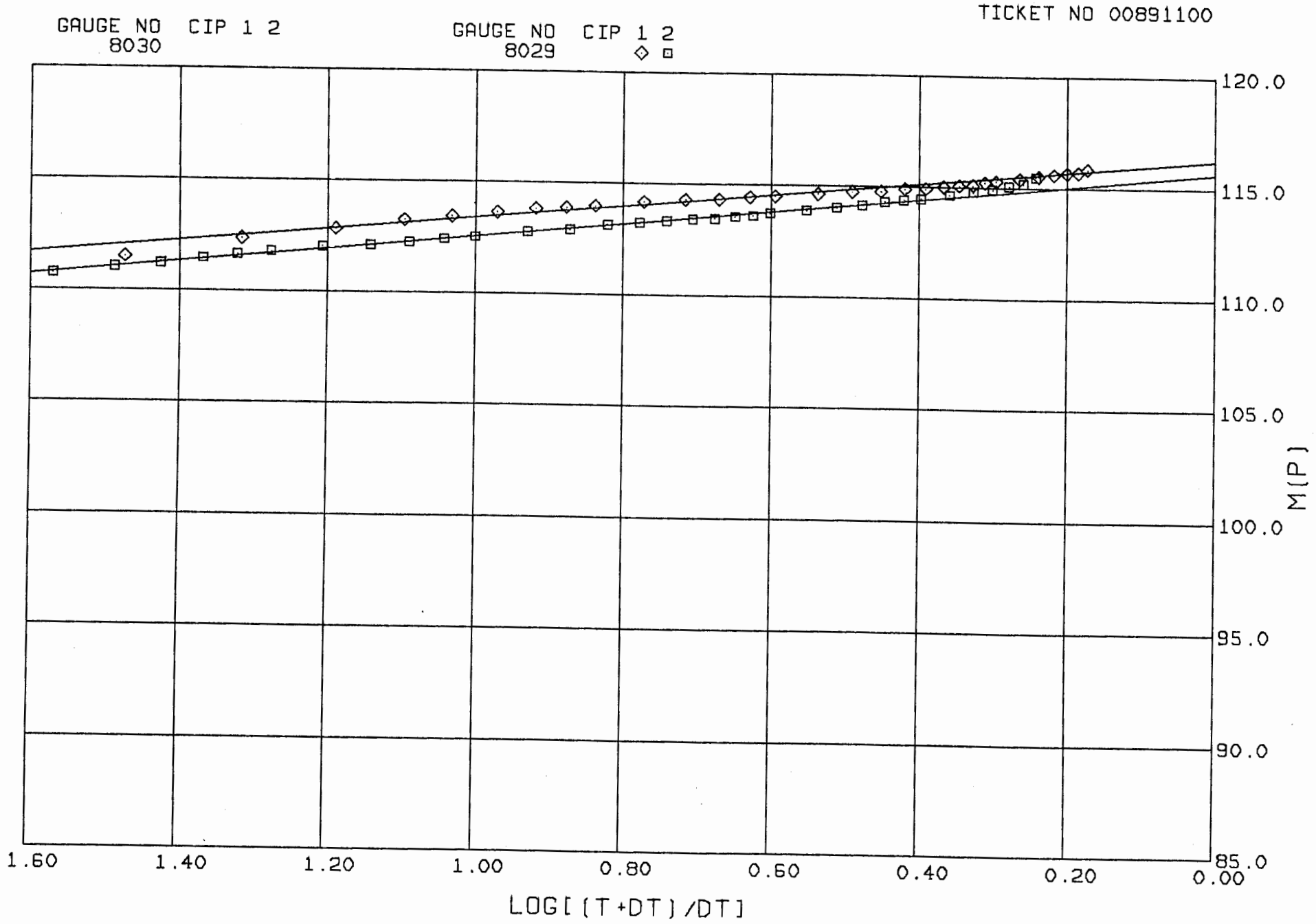


TICKET NO 00891100



TICKET NO 00891100




GAUGE NO CIP 1 2
8030
GAUGE NO CIP 1 2
8029
TICKET NO 00891100
120.0
115.0
110.0
105.0
100.0
95.0
90.0
85.0
M(P)
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
LOG[(T+DT)/DT]

TICKET NUMBER 00891100

# SUMMARY OF RESERVOIR PARAMETERS

## USING HORNER METHOD FOR GAS WELLS

GAS GRAVITY 0.600 — TEMPERATURE 143.0 °F
NET PAY 25.0 ft — POROSITY 10.0 %
RADIUS OF WELL BORE 0.328 ft — VISCOSITY 0.014 cp
GAS DEVIATION FACTOR 0.901 — GAS PROPERTIES AT 1175.1 psig
SYSTEM COMPRESSIBILITY 742.80 $\times 10^{-6}$ vol/vol/psi

| GAUGE NUMBER | | 8030 | 8030 | 8029 | 8029 | | | |
|---|---|---|---|---|---|---|---|---|
| GAUGE DEPTH | | 5789.0 | 5789.0 | 5837.0 | 5837.0 | | | |
| FLOW AND CIP PERIOD | | 1 | 2 | 1 | 2 | | | UNITS |
| FINAL FLOW PRESSURE | | 511.5 | 547.1 | 533.2 | 566.3 | | | psig |
| TOTAL FLOW TIME | | 29.3 | 89.9 | 29.3 | 89.9 | | | min |
| CALC. STATIC PRESSURE | P* | 1163.7 | 1159.3 | 1178.5 | 1175.1 | | | psig |
| EXTRAPOLATED PRESSURE | m(P*) | 113.6 | 112.8 | 116.3 | 115.6 | | | $\frac{mmpsi^2}{cp}$ |
| ONE CYCLE PRESSURE | $m(P_{10})$ | 112.1 | 109.7 | 113.4 | 112.6 | | | $\frac{mmpsi^2}{cp}$ |
| PRODUCTION RATE | Q | | 3250.0 | | 3250.0 | | | MCFD |
| FLOW CAPACITY | kh | | 1041.55 | | 1037.66 | | | md-ft |
| PERMEABILITY | k | | 41.6620 | | 41.5065 | | | md |
| SKIN FACTOR | S | | 26.0 | | 26.4 | | | |
| DAMAGE RATIO | DR | | 5.1 | | 5.2 | | | |
| INDICATED RATE MAX | $AOF_1$ | | 4229.0 | | 4275.7 | | | MCFD |
| INDICATED RATE MIN | $AOF_2$ | | 3707.3 | | 3727.7 | | | MCFD |
| THEORETICAL RATE | $DR \times AOF_1$ | | 21647.9 | | 22119.6 | | | MCFD |
| THEORETICAL RATE | $DR \times AOF_2$ | | 18977.4 | | 19284.8 | | | MCFD |
| RADIUS OF INVESTIGATION | $r_i$ | | 251.6 | | 251.1 | | | ft |

REMARKS: ALL CALCULATED RESERVOIR PARAMETERS ARE EFFECTIVE TO 100% GAS PRODUCTION.

THE INITIAL CLOSED-IN PERIOD WAS NOT ANALYZED DUE TO AN UNSTABILIZED PREVIOUS FLOW.