

| FLUID SAMPLE DATA                                     |  |                             |  | Date 2-13-81                                       |  | Ticket Number 915584       |  |
|-------------------------------------------------------|--|-----------------------------|--|----------------------------------------------------|--|----------------------------|--|
| Sampler Pressure _____ P.S.I.G. at Surface            |  |                             |  | Kind of D.S.T. OPEN HOLE                           |  | Halliburton Location PRATT |  |
| Recovery: Cu. Ft. Gas _____                           |  |                             |  | Tester DON GRAHAM                                  |  | Witness _____              |  |
| cc. Oil _____                                         |  |                             |  | Drilling Contractor GABBERT-JONES, INCORPORATED DR |  |                            |  |
| cc. Water _____                                       |  |                             |  | EQUIPMENT & HOLE DATA                              |  |                            |  |
| cc. Mud _____                                         |  |                             |  | Formation Tested Marmaton                          |  |                            |  |
| Tot. Liquid cc. _____                                 |  |                             |  | Elevation 2200' KB Ft.                             |  |                            |  |
| Gravity _____ ° API @ _____ ° F.                      |  |                             |  | Net Productive Interval 16' Ft.                    |  |                            |  |
| Gas/Oil Ratio _____ cu. ft./bbl.                      |  |                             |  | All Depths Measured From Kelly Bushing             |  |                            |  |
| RESISTIVITY CHLORIDE CONTENT                          |  |                             |  | Total Depth 4934' Ft.                              |  |                            |  |
| Recovery Water _____ @ _____ ° F. _____ ppm           |  |                             |  | Main Hole/Casing Size 7 7/8"                       |  |                            |  |
| Recovery Mud _____ @ _____ ° F. _____ ppm             |  |                             |  | Drill Collar Length 544' I.D. 2.25"                |  |                            |  |
| Recovery Mud Filtrate _____ @ _____ ° F. _____ ppm    |  |                             |  | Drill Pipe Length 4291' I.D. 3.826"                |  |                            |  |
| Mud Pit Sample _____ @ _____ ° F. 32,000 ppm          |  |                             |  | Packer Depth(s) 4864' ft.                          |  |                            |  |
| Mud Pit Sample Filtrate _____ @ _____ ° F. 32,000 ppm |  |                             |  | Depth Tester Valve 4847' Ft.                       |  |                            |  |
| Mud Weight 9.8 vis 52 sec.                            |  |                             |  | Surface Choke 1/4" Bottom Choke .75"               |  |                            |  |
| TYPE                                                  |  | AMOUNT                      |  | Depth Back Pres. Valve                             |  | Surface Choke              |  |
| Cushion                                               |  |                             |  | Ft.                                                |  |                            |  |
| Recovered 240                                         |  | Feet of clean gas cut oil   |  | 39.8 API gravity @ 60°F.                           |  |                            |  |
| Recovered 180                                         |  | Feet of oil and gas cut mud |  |                                                    |  |                            |  |
| Recovered                                             |  | Feet of                     |  |                                                    |  |                            |  |
| Recovered                                             |  | Feet of                     |  |                                                    |  |                            |  |
| Recovered                                             |  | Feet of                     |  |                                                    |  |                            |  |
| Remarks See production test data sheet                |  |                             |  |                                                    |  |                            |  |
| *-Time given and recorded does not agree              |  |                             |  |                                                    |  |                            |  |
| Q-Questionable                                        |  |                             |  |                                                    |  |                            |  |
| TEMPERATURE                                           |  |                             |  |                                                    |  |                            |  |
| Gauge No. 5605                                        |  | Gauge No. 5604              |  | Gauge No.                                          |  | TIME (00:00-24:00 hrs.)    |  |
| Depth: 4849 Ft.                                       |  | Depth: 4930 Ft.             |  | Depth: Ft.                                         |  |                            |  |
| 12 Hour Clock                                         |  | 12 Hour Clock               |  | Hour Clock                                         |  | Tool                       |  |
| Blanked Off NO                                        |  | Blanked Off YES             |  | Blanked Off                                        |  | Opened 15:00               |  |
| 4929' ° F.                                            |  |                             |  |                                                    |  | Opened                     |  |
| Actual 118 ° F.                                       |  |                             |  |                                                    |  | Bypass 19:15               |  |
| Pressures                                             |  | Pressures                   |  | Pressures                                          |  | Reported                   |  |
| Field Office                                          |  | Field Office                |  | Field Office                                       |  | Minutes                    |  |
| Initial Hydrostatic 2466.9 UTR                        |  | 2473.1 UTR                  |  |                                                    |  | Minutes                    |  |
| Initial 309.3 370.0 Q                                 |  | 329.9 405.1                 |  |                                                    |  | 60 63                      |  |
| Final 412.4 430.9                                     |  | 433.0 437.6                 |  |                                                    |  | 60 58                      |  |
| Closed in 1475.5 1479.5                               |  | 1458.0 1483.5               |  |                                                    |  | 45 45                      |  |
| Initial 371.2 531.9                                   |  | 391.8 563.9                 |  |                                                    |  | 90 99*                     |  |
| Final 433.0 432.9                                     |  | 433.0 447.4                 |  |                                                    |  |                            |  |
| Closed in 1475.5 1475.4                               |  | 1478.5 1482.5               |  |                                                    |  |                            |  |
| Initial                                               |  |                             |  |                                                    |  |                            |  |
| Final                                                 |  |                             |  |                                                    |  |                            |  |
| Closed in                                             |  |                             |  |                                                    |  |                            |  |
| Final Hydrostatic 2425.5                              |  | 2468.9                      |  | 2452.3 2504.7                                      |  |                            |  |

Casing perms. \_\_\_\_\_ Bottom choke \_\_\_\_\_ Surf. temp \_\_\_\_\_ °F Ticket No. 915584  
 Gas gravity \_\_\_\_\_ Oil gravity \_\_\_\_\_ GOR \_\_\_\_\_  
 Spec. gravity \_\_\_\_\_ Chlorides \_\_\_\_\_ ppm Res. \_\_\_\_\_ @ \_\_\_\_\_ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED

[illegible]

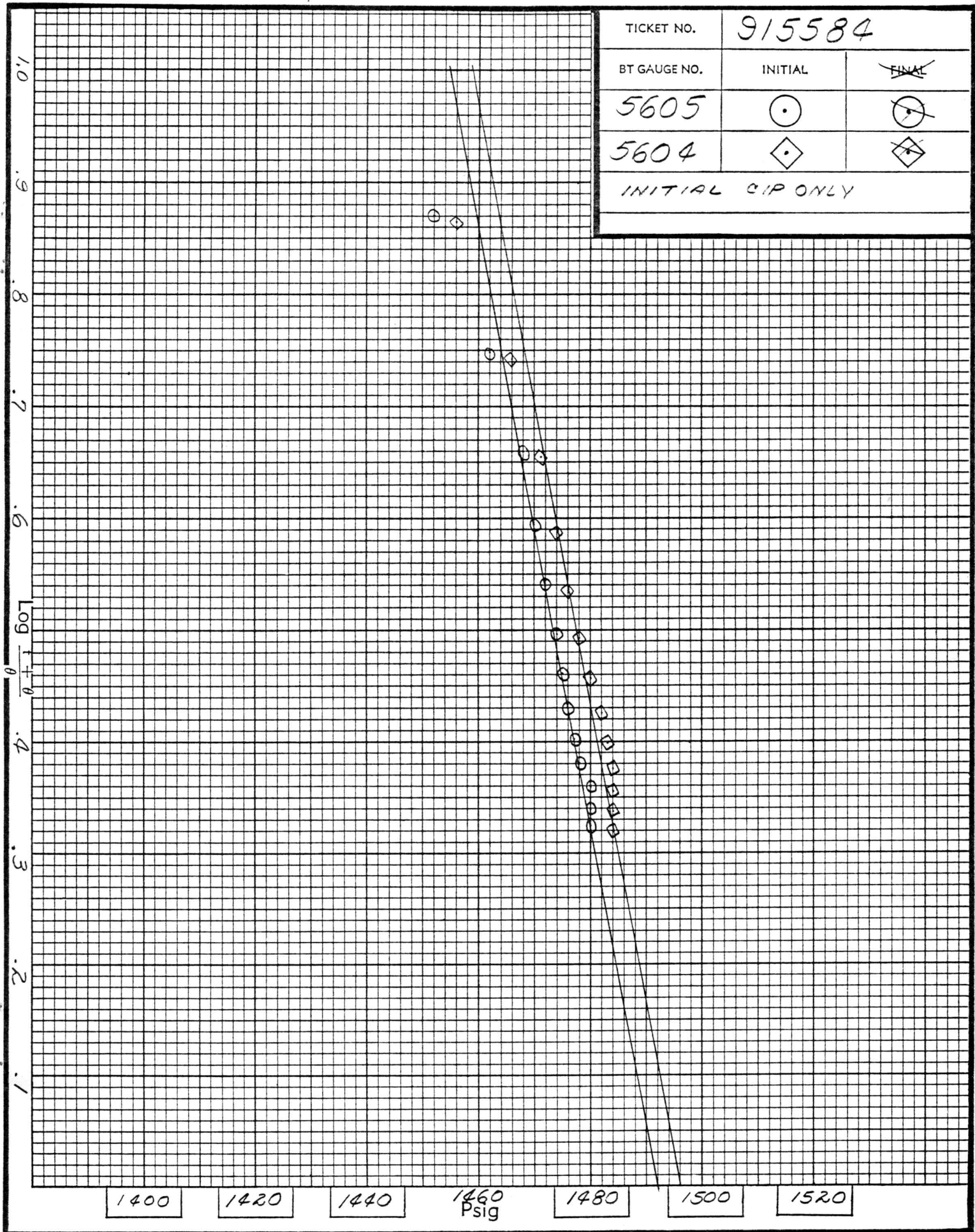
| Gauge No.           |                        | 5605                |                                  | Depth               |                        | 4849'               |                                  | Clock No.           |                        | 17485               |                                  | 12                  |                        | hour                |                                  | Ticket No.          |                        | 915584              |                                  |
|---------------------|------------------------|---------------------|----------------------------------|---------------------|------------------------|---------------------|----------------------------------|---------------------|------------------------|---------------------|----------------------------------|---------------------|------------------------|---------------------|----------------------------------|---------------------|------------------------|---------------------|----------------------------------|
| First Flow Period   |                        | Closed In Pressure  |                                  | Second Flow Period  |                        | Closed In Pressure  |                                  | Third Flow Period   |                        | Closed In Pressure  |                                  | Third Flow Period   |                        | Closed In Pressure  |                                  | Third Flow Period   |                        | Closed In Pressure  |                                  |
| Time Defl.<br>.000" | PSIG<br>Temp.<br>Corr. | Time Defl.<br>.000" | $\log \frac{t + \theta}{\theta}$ | Time Defl.<br>.000" | PSIG<br>Temp.<br>Corr. | Time Defl.<br>.000" | $\log \frac{t + \theta}{\theta}$ | Time Defl.<br>.000" | PSIG<br>Temp.<br>Corr. | Time Defl.<br>.000" | $\log \frac{t + \theta}{\theta}$ | Time Defl.<br>.000" | PSIG<br>Temp.<br>Corr. | Time Defl.<br>.000" | $\log \frac{t + \theta}{\theta}$ | Time Defl.<br>.000" | PSIG<br>Temp.<br>Corr. | Time Defl.<br>.000" | $\log \frac{t + \theta}{\theta}$ |
| 0                   | .000                   | 370.0               | 0                                | .000                | 430.9                  | .000                | .531.9                           | .000                | .432.9                 | .000                | .432.9                           | .000                | .432.9                 | .000                | .432.9                           | .000                | .432.9                 | .000                | .432.9                           |
| 1                   | .0946*                 | 463.9               | .0128**                          | 1.520               | 1267.4                 | .0594               | 419.5                            | .0530***            | 1.156                  | .0530***            | 1.156                            | .0530***            | 1.156                  | .0530***            | 1.156                            | .0530***            | 1.156                  | .0530***            | 1.156                            |
| 2                   | .1497                  | 452.5               | .0383                            | 1.068               | 1429.3                 | .1188               | 441.2                            | .0994               | .909                   | .0994               | .909                             | .0994               | .909                   | .0994               | .909                             | .0994               | .909                   | .0994               | .909                             |
| 3                   | .2148                  | 485.5               | .0638                            | .871                | 1451.8                 | .1782               | 441.2                            | .1458               | .767                   | .1458               | .767                             | .1458               | .767                   | .1458               | .767                             | .1458               | .767                   | .1458               | .767                             |
| 4                   | .2798                  | 448.4               | .0893                            | .748                | 1462.0                 | .2376               | 437.1                            | .1921               | .670                   | .1921               | .670                             | .1921               | .670                   | .1921               | .670                             | .1921               | .670                   | .1921               | .670                             |
| 5                   | .3449                  | 445.3               | .1148                            | .660                | 1468.2                 | .2970               | 432.9                            | .2385               | .598                   | .2385               | .598                             | .2385               | .598                   | .2385               | .598                             | .2385               | .598                   | .2385               | .598                             |
| 6                   | .4100                  | 430.9               | .1403                            | .594                | 1470.2                 |                     |                                  | .2849               | .542                   | .2849               | .542                             | .2849               | .542                   | .2849               | .542                             | .2849               | .542                   | .2849               | .542                             |
| 7                   |                        |                     | .1659                            | .541                | 1472.3                 |                     |                                  | .3313               | .496                   | .3313               | .496                             | .3313               | .496                   | .3313               | .496                             | .3313               | .496                   | .3313               | .496                             |
| 8                   |                        |                     | .1914                            | .497                | 1474.3                 |                     |                                  | .3777               | .458                   | .3777               | .458                             | .3777               | .458                   | .3777               | .458                             | .3777               | .458                   | .3777               | .458                             |
| 9                   |                        |                     | .2169                            | .461                | 1475.4                 |                     |                                  | .4240               | .426                   | .4240               | .426                             | .4240               | .426                   | .4240               | .426                             | .4240               | .426                   | .4240               | .426                             |
| 10                  |                        |                     | .2424                            | .430                | 1476.4                 |                     |                                  | .4705               | .398                   | .4705               | .398                             | .4705               | .398                   | .4705               | .398                             | .4705               | .398                   | .4705               | .398                             |
| 11                  |                        |                     | .2679                            | .403                | 1477.4                 |                     |                                  | .5169               | .374                   | .5169               | .374                             | .5169               | .374                   | .5169               | .374                             | .5169               | .374                   | .5169               | .374                             |
| 12                  |                        |                     | .2934                            | .380                | 1478.4                 |                     |                                  | .5632               | .353                   | .5632               | .353                             | .5632               | .353                   | .5632               | .353                             | .5632               | .353                   | .5632               | .353                             |
| 13                  |                        |                     | .3190                            | .359                | 1479.5                 |                     |                                  | .6096               | .334                   | .6096               | .334                             | .6096               | .334                   | .6096               | .334                             | .6096               | .334                   | .6096               | .334                             |
| 14                  |                        |                     | .3445                            | .340                | 1479.5                 |                     |                                  | .6560               | .318                   | .6560               | .318                             | .6560               | .318                   | .6560               | .318                             | .6560               | .318                   | .6560               | .318                             |
| 15                  |                        |                     | .3700                            | .324                | 1479.5                 |                     |                                  |                     |                        |                     |                                  |                     |                        |                     |                                  |                     |                        |                     |                                  |

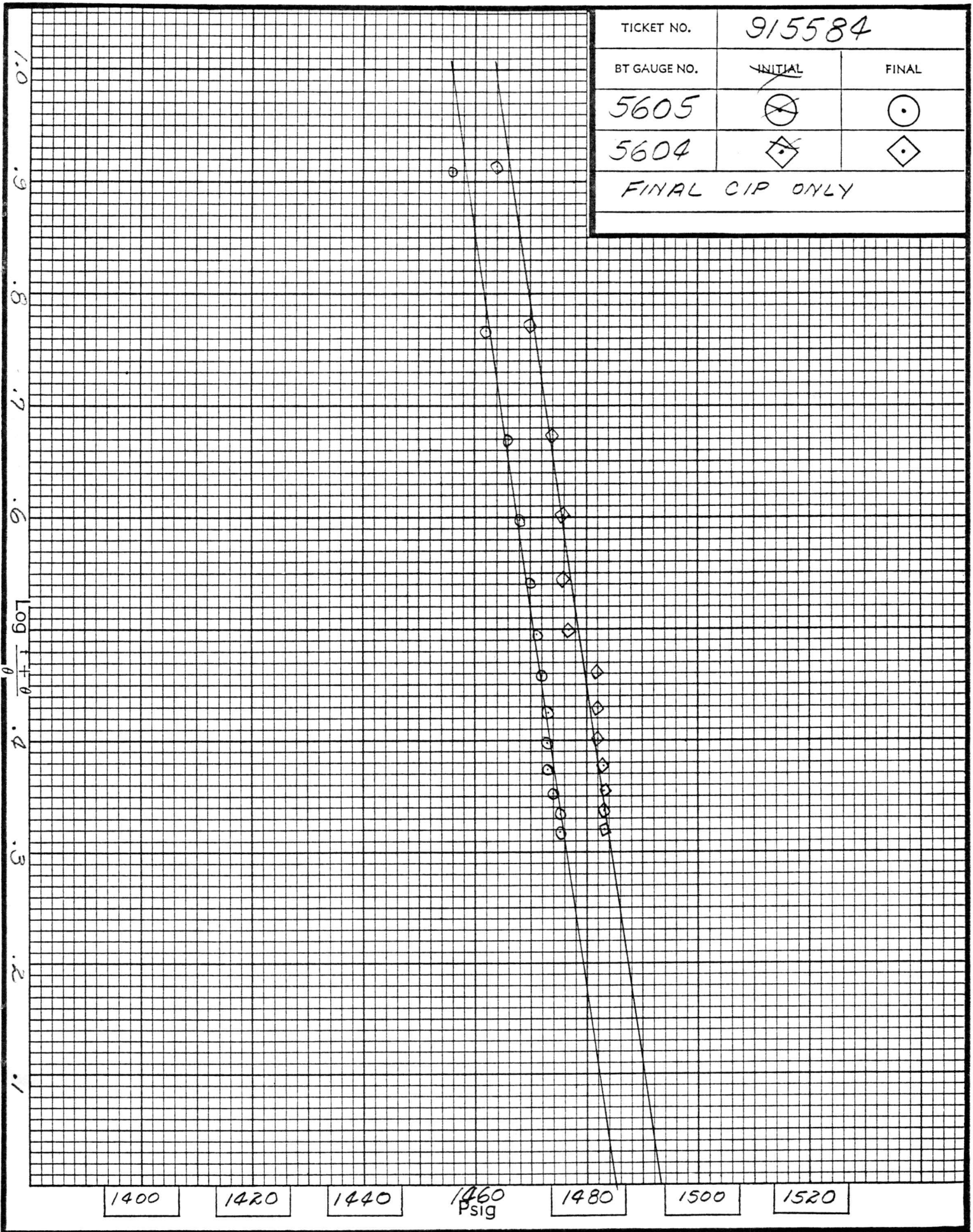
| Gauge No.           |                        | 5604                |                                  | Depth               |                        | 4930'               |                                  | Clock No.           |                        | 17481               |                                  | 12                  |                        | hour                |                                  | Minutes             |                        |
|---------------------|------------------------|---------------------|----------------------------------|---------------------|------------------------|---------------------|----------------------------------|---------------------|------------------------|---------------------|----------------------------------|---------------------|------------------------|---------------------|----------------------------------|---------------------|------------------------|
| First Flow Period   |                        | Closed In Pressure  |                                  | Second Flow Period  |                        | Closed In Pressure  |                                  | Third Flow Period   |                        | Closed In Pressure  |                                  | Third Flow Period   |                        | Closed In Pressure  |                                  | Third Flow Period   |                        |
| Time Defl.<br>.000" | PSIG<br>Temp.<br>Corr. | Time Defl.<br>.000" | $\log \frac{t + \theta}{\theta}$ | Time Defl.<br>.000" | PSIG<br>Temp.<br>Corr. | Time Defl.<br>.000" | $\log \frac{t + \theta}{\theta}$ | Time Defl.<br>.000" | PSIG<br>Temp.<br>Corr. | Time Defl.<br>.000" | $\log \frac{t + \theta}{\theta}$ | Time Defl.<br>.000" | PSIG<br>Temp.<br>Corr. | Time Defl.<br>.000" | $\log \frac{t + \theta}{\theta}$ | Time Defl.<br>.000" | PSIG<br>Temp.<br>Corr. |
| 0                   | .000                   | 405.1               | .000                             | .000                | 437.6                  | .000                | .563.9                           | .000                | .447.4                 | .000                | .447.4                           | .000                | .447.4                 | .000                | .447.4                           | .000                | .447.4                 |
| 1                   | .0863                  | 469.0               | .0133**                          | 1.514               | 1225.8                 | .0598               | 438.1                            | .0531***            | 1.162                  | .0531***            | 1.162                            | .0531***            | 1.162                  | .0531***            | 1.162                            | .0531***            | 1.162                  |
| 2                   | .1526                  | 465.9               | .0396                            | 1.063               | 1429.1                 | .1196               | 459.7                            | .0995               | .914                   | .0995               | .914                             | .0995               | .914                   | .0995               | .914                             | .0995               | .914                   |
| 3                   | .2189                  | 497.9               | .0660                            | .865                | 1455.8                 | .1794               | 457.7                            | .1460               | .772                   | .1460               | .772                             | .1460               | .772                   | .1460               | .772                             | .1460               | .772                   |
| 4                   | .2853                  | 501.0               | .0924                            | .742                | 1466.1                 | .2392               | 451.5                            | .1925               | .674                   | .1925               | .674                             | .1925               | .674                   | .1925               | .674                             | .1925               | .674                   |
| 5                   | .3516                  | 541.1               | .1189                            | .655                | 1471.2                 | .2990               | 447.4                            | .2389               | .602                   | .2389               | .602                             | .2389               | .602                   | .2389               | .602                             | .2389               | .602                   |
| 6                   | .4180                  | 437.6               | .1453                            | .588                | 1474.3                 |                     |                                  | .2854               | .546                   | .2854               | .546                             | .2854               | .546                   | .2854               | .546                             | .2854               | .546                   |
| 7                   |                        |                     | .1717                            | .536                | 1476.3                 |                     |                                  | .3318               | .500                   | .3318               | .500                             | .3318               | .500                   | .3318               | .500                             | .3318               | .500                   |
| 8                   |                        |                     | .1981                            | .493                | 1478.4                 |                     |                                  | .3783               | .462                   | .3783               | .462                             | .3783               | .462                   | .3783               | .462                             | .3783               | .462                   |
| 9                   |                        |                     | .2245                            | .457                | 1480.4                 |                     |                                  | .4247               | .429                   | .4247               | .429                             | .4247               | .429                   | .4247               | .429                             | .4247               | .429                   |
| 10                  |                        |                     | .2509                            | .426                | 1481.5                 |                     |                                  | .4712               | .402                   | .4712               | .402                             | .4712               | .402                   | .4712               | .402                             | .4712               | .402                   |
| 11                  |                        |                     | .2773                            | .399                | 1482.5                 |                     |                                  | .5176               | .378                   | .5176               | .378                             | .5176               | .378                   | .5176               | .378                             | .5176               | .378                   |
| 12                  |                        |                     | .3038                            | .376                | 1483.5                 |                     |                                  | .5641               | .356                   | .5641               | .356                             | .5641               | .356                   | .5641               | .356                             | .5641               | .356                   |
| 13                  |                        |                     | .3302                            | .355                | 1483.5                 |                     |                                  | .6105               | .337                   | .6105               | .337                             | .6105               | .337                   | .6105               | .337                             | .6105               | .337                   |
| 14                  |                        |                     | .3566                            | .337                | 1483.5                 |                     |                                  | .6570               | .320                   | .6570               | .320                             | .6570               | .320                   | .6570               | .320                             | .6570               | .320                   |
| 15                  |                        |                     | .3830                            | .320                | 1483.5                 |                     |                                  |                     |                        |                     |                                  |                     |                        |                     |                                  |                     |                        |

Reading Interval 10

REMARKS: \*-13 minutes \*\* -2 minutes \*\*\* -8 minutes Q-Questionable



EXTRAPOLATED PRESSURE GRAPH



|                |                    |       |
|----------------|--------------------|-------|
| TICKET NO.     | 915584             |       |
| BT GAUGE NO.   | <del>INITIAL</del> | FINAL |
| 5605           |                    |       |
| 5604           |                    |       |
| FINAL CIP ONLY |                    |       |

EXTRAPOLATED PRESSURE GRAPH

# Liquid Production

|                              |                    |      |          |          |                                    |                           |
|------------------------------|--------------------|------|----------|----------|------------------------------------|---------------------------|
| B.T. Gauge Numbers           |                    |      | 5605     | 5604     | Ticket Number                      | 915584                    |
|                              |                    |      | PRESSURE | PRESSURE |                                    |                           |
| Initial Hydrostatic          |                    |      | UTR      | UTR      | Elevation                          | 2200 ft.                  |
| Final Hydrostatic            |                    |      | 2468.9   | 2504.7   | 1st Flow                           | - bbls./day               |
| 1st Flow                     | Initial            | Time | 370.0 Q  | 405.1    | Indicated                          | 2nd Flow ** -80 bbls./day |
|                              | Final              | 63   | 430.9    | 437.6    | Production                         | 3rd Flow - bbls./day      |
|                              | Closed In Pressure | 58   | 1479.5   | 1483.5   | Drill Collar Length                | 544 ft.                   |
| 2nd Flow                     | Initial            | Time | 531.9    | 563.9    | Drill Collar I.D.                  | 2.25 in.                  |
|                              | Final              | 45   | 432.9    | 447.4    | Drill Pipe Factor                  | .01422 bbls./ft.          |
|                              | Closed In Pressure | 99   | 1475.4   | 1482.5   | Hole Size                          | 7 7/8 in.                 |
| 3rd Flow                     | Initial            | Time |          |          | Footage Tested                     | 16 ft.                    |
|                              | Final              |      |          |          | Mud Weight                         | 9.8 lbs./gal.             |
|                              | Closed In Pressure |      |          |          | Viscosity, Oil on <del>Water</del> | *Est. .3726 cp            |
| Extrapolated Static Pressure |                    | 1st  | 1492     | 1496     | Oil API Gravity                    | 39.8 —                    |
|                              |                    | 2nd  | 1485     | 1493     | Water Specific Gravity             | - —                       |
|                              |                    | 3rd  | -        | -        | Temperature                        | 118 °F                    |
| Slope P/10                   |                    | 1st  | 1455     | 1459     |                                    |                           |
|                              |                    | 2nd  | 1456     | 1464     |                                    |                           |
|                              |                    | 3rd  | -        | -        |                                    |                           |

Remarks: UTR=Unable to read Q-Questionable reading.

\*-Viscosity used in calculation is for 39.8 API crude oil having an estimated G.O.R. of 2200 cu. ft. /bbl.

Production rate, oil gravity, and basis of obtaining G.O.R. obtained from Mr. Vern Hazelhorst.

\*\* -Production rate used in calculations obtained from initial production on well # 3 on the Curtis Unruh lease.

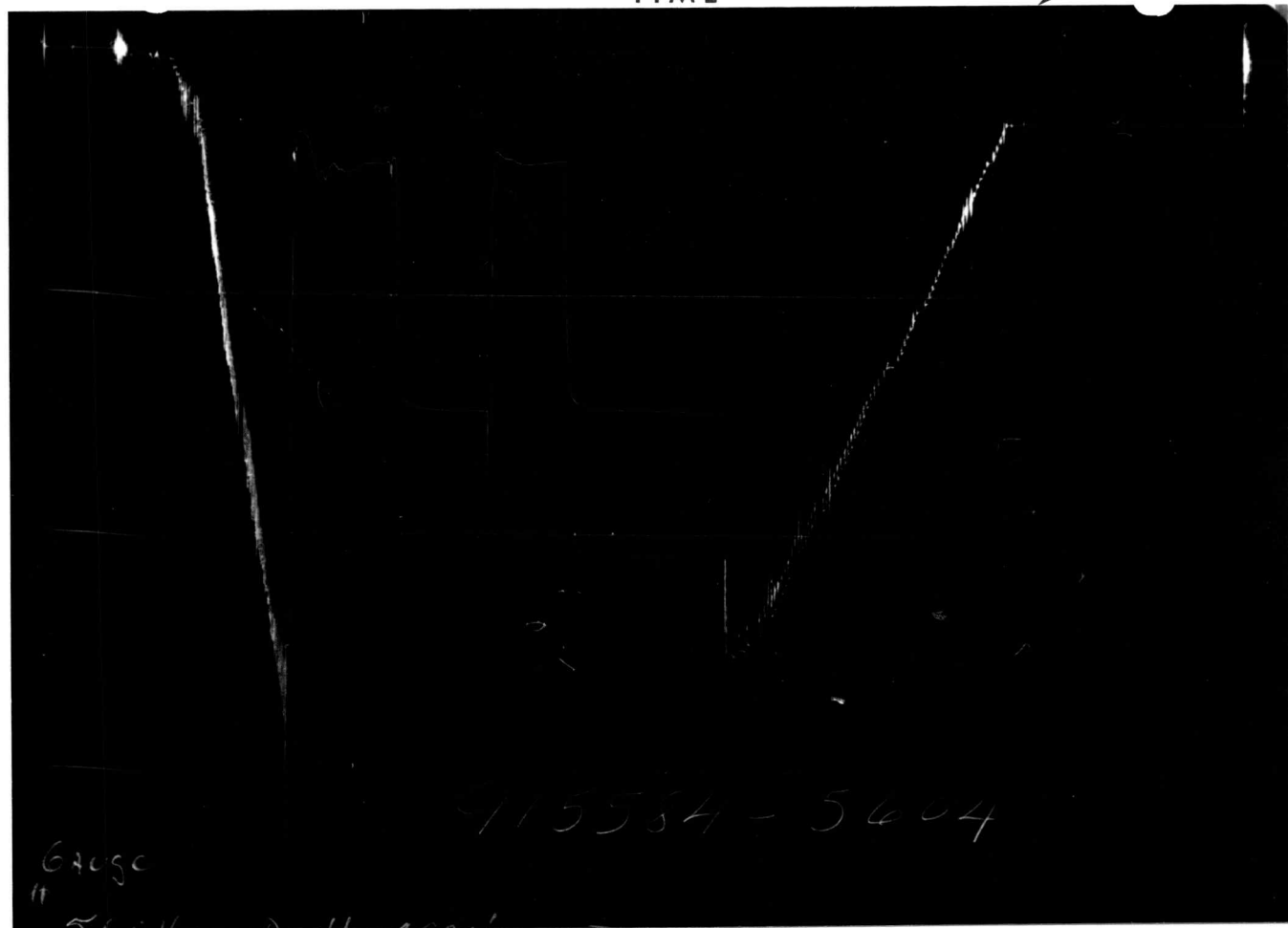
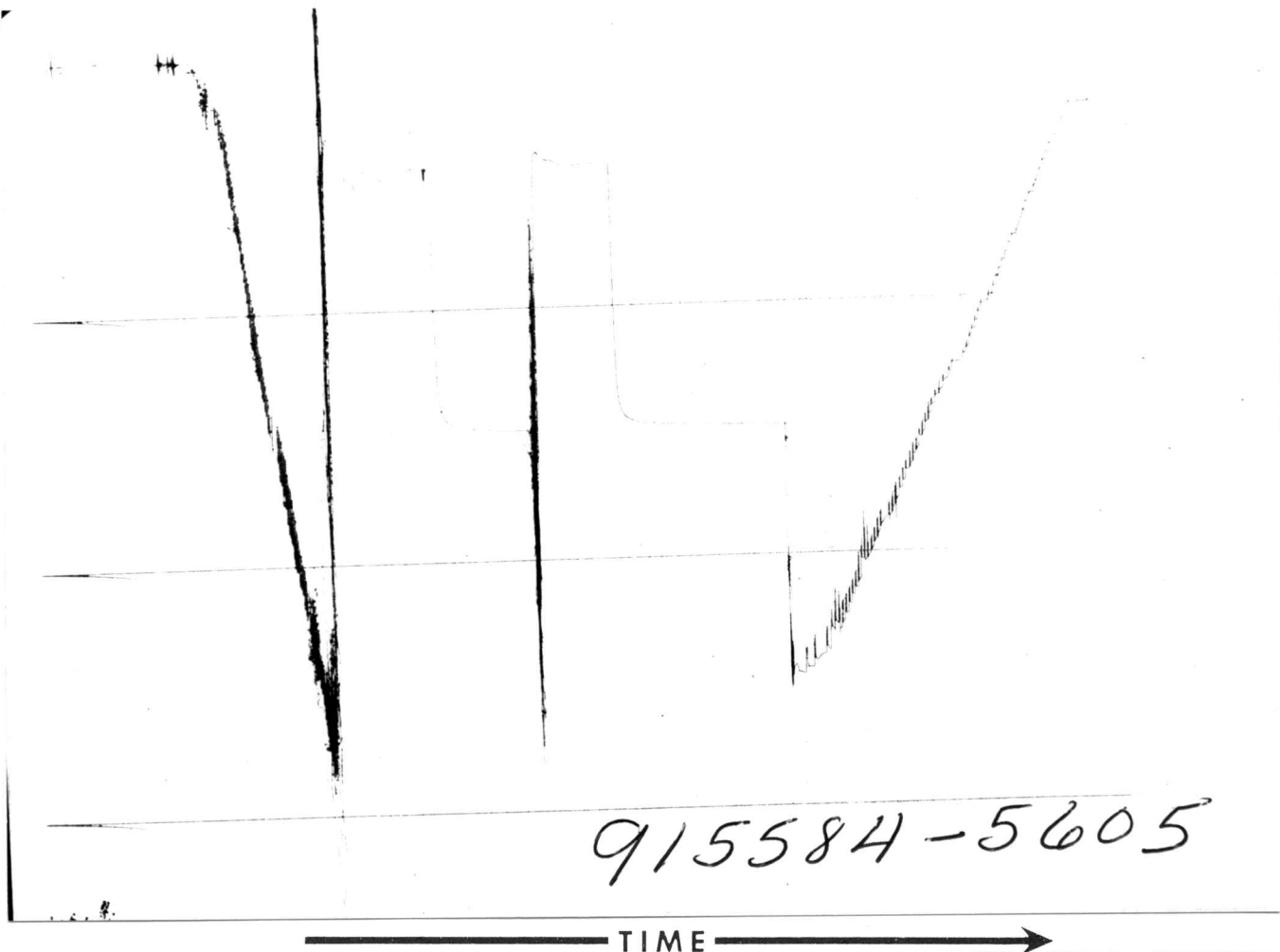
| SUMMARY                                |                                                | B.T. Gauge No. 5605<br>Depth 4849' |         |       | B.T. Gauge No. 5604<br>Depth 4930' |         |       | UNITS      |
|----------------------------------------|------------------------------------------------|------------------------------------|---------|-------|------------------------------------|---------|-------|------------|
| PRODUCT                                | EQUATION                                       | FIRST                              | SECOND  | THIRD | FIRST                              | SECOND  | THIRD |            |
| Production                             | $Q = \frac{1440 R}{t}$                         |                                    | 80      |       |                                    | 80      |       | bbls. day  |
| Transmissibility                       | $\frac{Kh}{\mu} = \frac{162.6 Q}{m}$           |                                    | 448.552 |       |                                    | 448.552 |       | md. ft. cp |
| Indicated Flow Capacity                | $Kh = \frac{Kh}{\mu} \mu$                      |                                    | 167.131 |       |                                    | 167.131 |       | md. ft.    |
| Average Effective                      | $K = \frac{Kh}{h}$                             |                                    | -       |       |                                    | -       |       | md.        |
| Permeability                           | $K_i = \frac{Kh}{h_i}$                         |                                    | 10.446  |       |                                    | 10.446  |       | md.        |
| Damage Ratio                           | $DR = .183 \frac{P_s - P_f}{m}$                |                                    | 6.639   |       |                                    | 6.639   |       | —          |
| Theoretical Potential w/Damage Removed | $Q_1 = Q DR$                                   |                                    | 531     |       |                                    | 528     |       | bbls. day  |
| Approx. Radius of Investigation        | $b \approx \sqrt{Kt}$ or $\sqrt{Kt_0}$         |                                    | -       |       |                                    | -       |       | ft.        |
|                                        | $b_1 \approx \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$ |                                    | 34      |       |                                    | 34      |       | ft.        |
| Potentiometric Surface *               | $Pot. = EI - GD + 2.319 P_s$                   |                                    | 794     |       |                                    | 732     |       | ft.        |

**NOTICE:** These calculations are based upon information furnished by you and taken from Drill Stem Test pressure charts, and are furnished you for your information. In furnishing such calculations and evaluations based thereon, Halliburton is merely expressing its opinion. You agree that Halliburton makes no warranty express or implied as to the accuracy of such calculations or opinions, and that Halliburton shall not be liable for any loss or damage, whether due to negligence or otherwise, in connection with such calculations and opinions.



|                                     | O. D.  | I. D.   | LENGTH         | DEPTH |
|-------------------------------------|--------|---------|----------------|-------|
| Drill Pipe or Tubing .....          |        |         |                |       |
| Drill Collars .....                 |        |         |                |       |
| Reversing Sub .....                 | 5 5/8" | 2"      | 1'             |       |
| Water Cushion Valve .....           | 6"     | 2"      | 1' Change over |       |
| Drill Pipe .....                    | 4.5"   | 3.826 " | 4291'          |       |
| Drill Collars .....                 | 6 1/4" | 2.25 "  | 544'           |       |
| Handling Sub & Choke Assembly ..... |        |         |                |       |
| Dual CIP Valve .....                | 5 3/4" | .87"    | 6'             | 4841' |
| Dual CIP Sampler .....              |        |         |                |       |
| Hydro-Spring Tester .....           | 5"     | .75 "   | 5'             | 4847' |
| Multiple CIP Sampler .....          |        |         |                |       |
| Extension Joint .....               |        |         |                |       |
| AP Running Case .....               | 5"     | 3.06"   | 4'             | 4849' |
| Hydraulic Jar .....                 | 5"     | 1.5"    | 5'             |       |
| VR Safety Joint .....               | 5"     | 1"      | 3'             |       |
| Pressure Equalizing Crossover ..... |        |         |                |       |
| Packer Assembly .....               | 6 3/4" | 1.53 "  | 6'             | 4864' |
|                                     | 6"     | 2"      | 2' Change over |       |
| Distributor .....                   |        |         |                |       |
| Packer Assembly .....               |        |         |                |       |
| Flush Joint Anchor .....            |        |         |                |       |
| Pressure Equalizing Tube .....      |        |         |                |       |
| Blanked-Off B.T. Running Case ..... |        |         |                |       |
| Drill Collars .....                 | 6 1/2" | 2.25 "  | 30'            |       |
| Anchor Pipe Safety Joint .....      |        |         |                |       |
| Packer Assembly .....               |        |         |                |       |
| Distributor .....                   |        |         |                |       |
| Packer Assembly .....               |        |         |                |       |
| Anchor Pipe Safety Joint .....      |        |         |                |       |
| Side Wall Anchor .....              |        |         |                |       |
| Drill Collars .....                 | 5"     | 2.36"   | 31'            |       |
| Flush Joint Anchor .....            | 5"     | 2.25 "  | 1'             | 4929' |
| Blanked-Off B.T. Running Case ..... | 5"     | 3.06"   | 4'             | 4930' |
| Total Depth .....                   |        |         |                | 4934' |

PRESSURE



Each Horizontal Line Equal to 1000 p.s.i.

TEMPERATURE  
RECORDER  
CHART

10° each circle

-118°

# 915584

| FLUID SAMPLE DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |                                                  |  | Date <b>2-15-81</b>                                                                                                                                        |  | Ticket Number <b>915585</b>         |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------|--|
| Sampler Pressure _____ P.S.I.G. at Surface<br>Recovery: Cu. Ft. Gas _____<br>cc. Oil _____<br>cc. Water _____<br>cc. Mud _____<br>Tot. Liquid cc. _____<br>Gravity _____ ° API @ _____ °F.<br>Gas/Oil Ratio _____ cu. ft./bbl.<br><div style="display: flex; justify-content: space-around;"> <span>RESISTIVITY</span> <span>CHLORIDE CONTENT</span> </div> Recovery Water _____ @ _____ °F. _____ ppm<br>Recovery Mud _____ @ _____ °F. _____ ppm<br>Recovery Mud Filtrate _____ @ _____ °F. _____ ppm<br>Mud Pit Sample _____ @ _____ °F. _____ ppm<br>Mud Pit Sample Filtrate _____ @ _____ °F. <b>38,000</b> ppm<br>Mud Weight <b>9.5</b> vis <b>44</b> sec. |              |                                                  |  | Kind of D.S.T. <b>OPEN HOLE</b><br>Tester <b>MR. GRAHAM</b> Witness <b>MR. RHOADES</b><br>Drilling Contractor <b>GABBERT &amp; JONES</b> RIG # <b>6</b> IC |  | Halliburton Location <b>PRATT</b>   |  |
| EQUIPMENT & HOLE DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |                                                  |  |                                                                                                                                                            |  |                                     |  |
| Formation Tested <b>Mississippi</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                                                  |  | Elevation <b>2195'</b> GL _____ Ft.                                                                                                                        |  |                                     |  |
| Net Productive Interval _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              |                                                  |  | _____ Ft.                                                                                                                                                  |  |                                     |  |
| All Depths Measured From <b>Kelly Bushing</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              |                                                  |  | Total Depth <b>5080'</b> _____ Ft.                                                                                                                         |  |                                     |  |
| Main Hole/Casing Size <b>7 7/8"</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              |                                                  |  | Drill Collar Length <b>443'</b> I.D. <b>2.25"</b>                                                                                                          |  |                                     |  |
| Drill Pipe Length <b>4564'</b> I.D. <b>3.826"</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              |                                                  |  | Packer Depth(s) <b>5036'</b> _____ Ft.                                                                                                                     |  |                                     |  |
| Depth Tester Valve <b>5019'</b> _____ Ft.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |                                                  |  |                                                                                                                                                            |  |                                     |  |
| TYPE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              | AMOUNT                                           |  | Depth Back Pres. Valve                                                                                                                                     |  | Surface Choke                       |  |
| Cushion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |                                                  |  | Ft.                                                                                                                                                        |  | <b>1/4"</b>                         |  |
| Recovered                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              | <b>20 Feet of Mud</b>                            |  |                                                                                                                                                            |  |                                     |  |
| Recovered                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              | Feet of                                          |  |                                                                                                                                                            |  |                                     |  |
| Recovered                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              | Feet of                                          |  |                                                                                                                                                            |  |                                     |  |
| Recovered                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              | Feet of                                          |  |                                                                                                                                                            |  |                                     |  |
| Recovered                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              | Feet of                                          |  |                                                                                                                                                            |  |                                     |  |
| Remarks <b>SEE PRODUCTION TEST DATA SHEET.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |                                                  |  |                                                                                                                                                            |  |                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                                                  |  |                                                                                                                                                            |  |                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                                                  |  |                                                                                                                                                            |  |                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                                                  |  |                                                                                                                                                            |  |                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |                                                  |  |                                                                                                                                                            |  |                                     |  |
| TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              | Gauge No. <b>5605</b><br>Depth: <b>5021'</b> Ft. |  | Gauge No. <b>5604</b><br>Depth: <b>5076'</b> Ft.                                                                                                           |  | Gauge No. _____<br>Depth: _____ Ft. |  |
| Est. _____ °F.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              | 12 Hour Clock                                    |  | 12 Hour Clock                                                                                                                                              |  | Hour Clock                          |  |
| Blanked Off <b>NO</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              | Blanked Off <b>YES</b>                           |  | Blanked Off                                                                                                                                                |  | Tool                                |  |
| <b>5075'@</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              | Pressures                                        |  | Pressures                                                                                                                                                  |  | Pressures                           |  |
| Actual <b>115 °F.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              | Field Office                                     |  | Field Office                                                                                                                                               |  | Field Office                        |  |
| Initial Hydrostatic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |              | <b>2653.6 2654.5</b>                             |  | <b>2701.7 2691.2</b>                                                                                                                                       |  |                                     |  |
| First Period                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Flow Initial | <b>21 24.7</b>                                   |  | <b>62 63.9</b>                                                                                                                                             |  |                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Flow Final   | <b>42 36.8</b>                                   |  | <b>62 68.0</b>                                                                                                                                             |  |                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Closed in    | <b>62 35.0</b>                                   |  | <b>83 76.2</b>                                                                                                                                             |  |                                     |  |
| Second Period                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Flow Initial | <b>42 29.8</b>                                   |  | <b>62 71.1</b>                                                                                                                                             |  |                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Flow Final   | <b>42 45.3</b>                                   |  | <b>62 76.2</b>                                                                                                                                             |  |                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Closed in    | <b>62 60.8</b>                                   |  | <b>83 95.8</b>                                                                                                                                             |  |                                     |  |
| Third Period                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Flow Initial |                                                  |  |                                                                                                                                                            |  |                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Flow Final   |                                                  |  |                                                                                                                                                            |  |                                     |  |
| Final Hydrostatic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |              | <b>2591.3 2542.5</b>                             |  | <b>2597.8 2574.8</b>                                                                                                                                       |  |                                     |  |

Legal Location Sec. - Twp. - Rng. **23 - 30 - 18W**  
 Lease Name **CURTIS UNRUH**  
 Well No. **4**  
 Test No. **2**  
 Tested Interval **5036' - 5080'**  
 County **KIOWA**  
 State **KANSAS**

THE MAURICE L. BROWN COMPANY  
 Lease Owner/Company Name

5

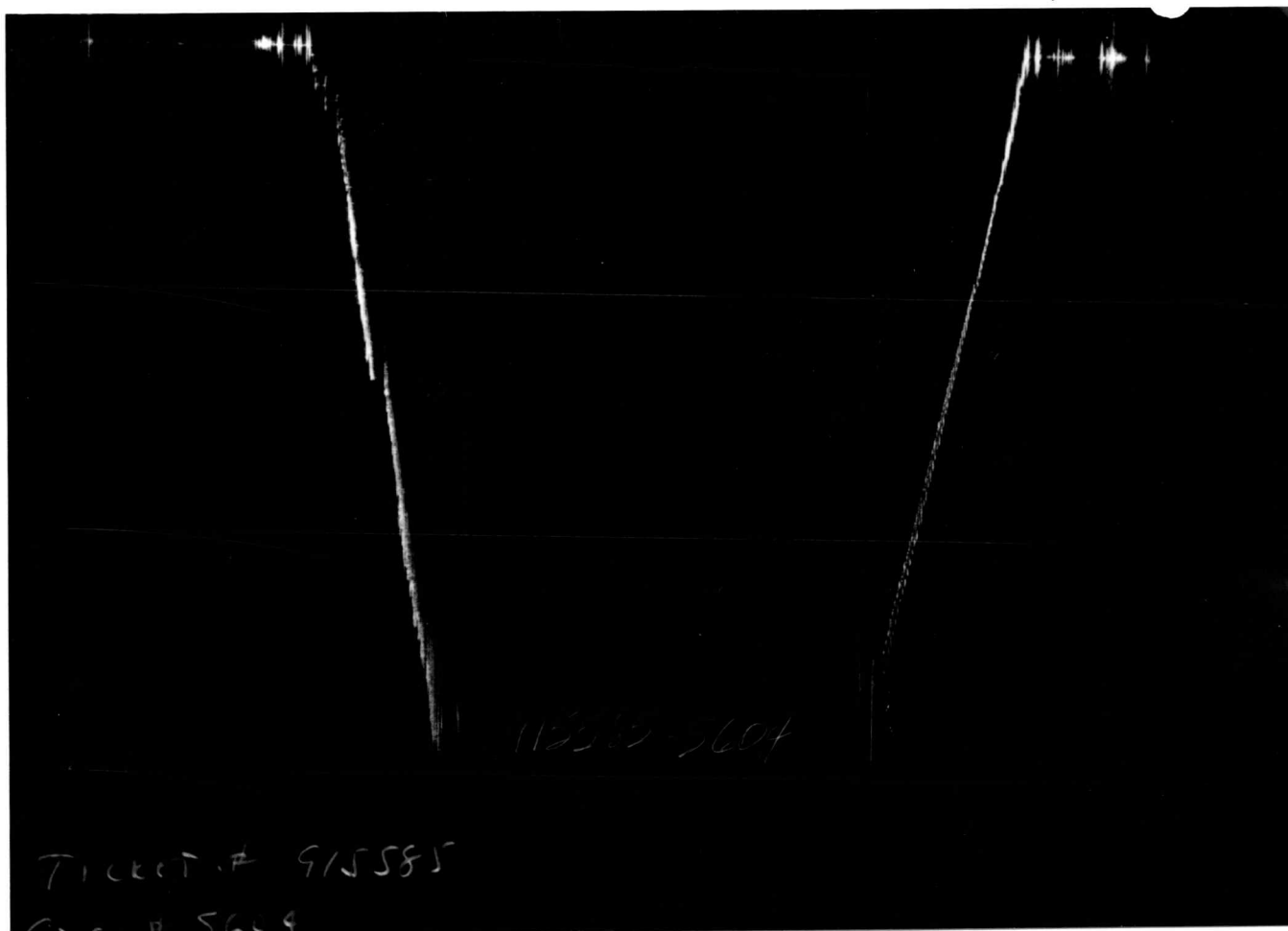
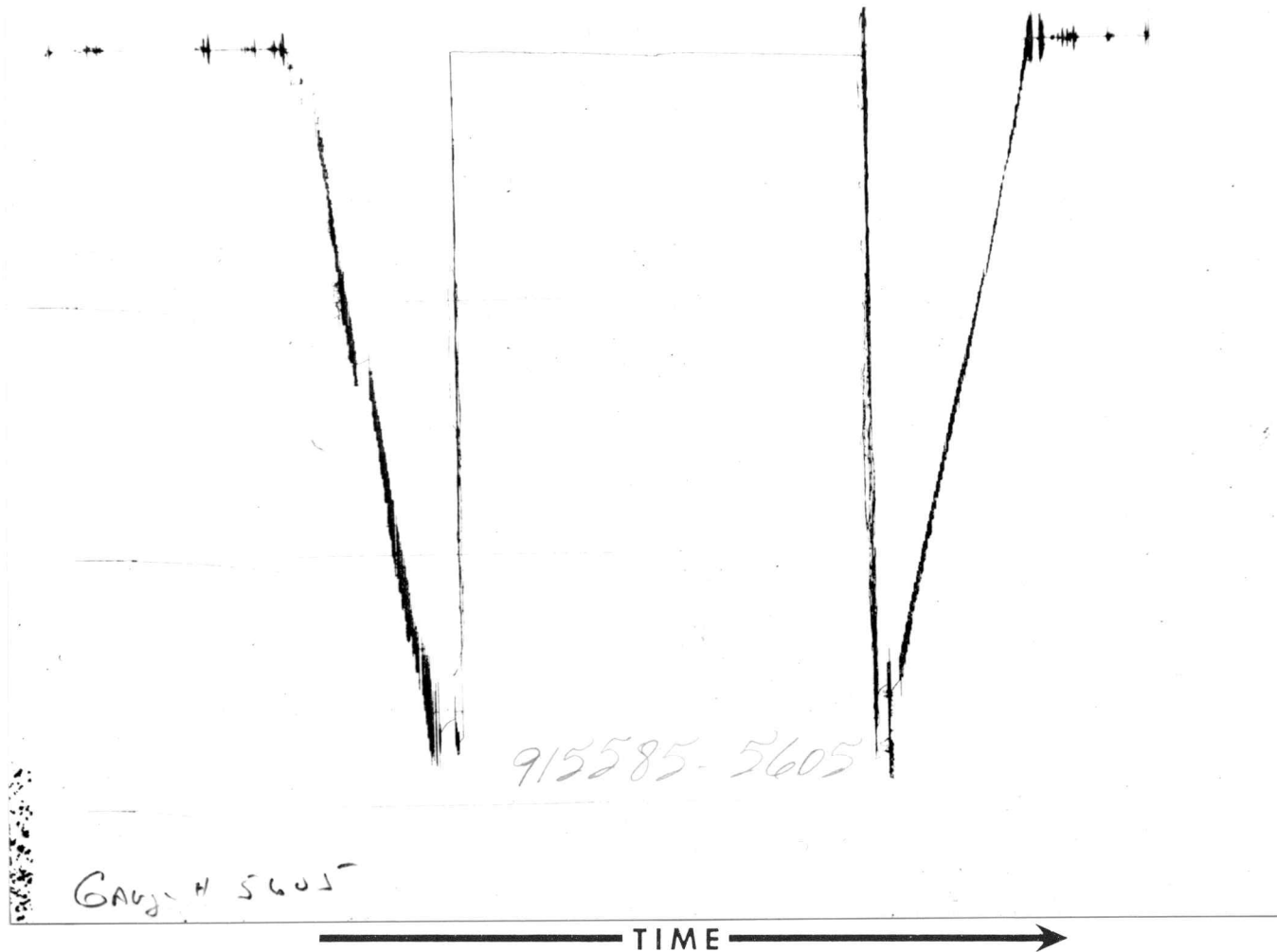
INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED.

[illegible]



|                               | O. D.  | I. D.  | LENGTH | DEPTH       |
|-------------------------------|--------|--------|--------|-------------|
| Drill Pipe or Tubing          |        |        |        |             |
| Drill Collars                 |        |        |        |             |
| Reversing Sub                 | 5 5/8" | 2"     | 1'     |             |
| Water Cushion Valve           |        |        |        |             |
| Drill Pipe                    | 4 1/2" | 3.826" | 4564'  |             |
| Drill Collars                 | 6 1/2" | 2.25"  | 443'   |             |
| Handling Sub & Choke Assembly |        |        |        |             |
| Dual CIP Valve                | 5 3/4" | .87"   | 6'     | 5014'       |
| Dual CIP Sampler              |        |        |        |             |
| Hydro-Spring Tester           | 5"     | .75"   | 5'     | 5019'       |
| Multiple CIP Sampler          |        |        |        |             |
| Extension Joint               |        |        |        |             |
| AP Running Case               | 5"     | 3.06"  | 4'     | 5021'       |
| Hydraulic Jar                 | 5"     | 1.5"   | 5'     |             |
| VR Safety Joint               | 5"     | 1"     | 3'     |             |
| Pressure Equalizing Crossover |        |        |        |             |
| Packer Assembly               |        |        |        |             |
| Distributor                   |        |        |        |             |
| Packer Assembly               | 6 3/4" | 1.53"  | 6'     | 5036'       |
| Flush Joint Anchor            | 5"     | 2.36"  | 37'    |             |
| Pressure Equalizing Tube      |        |        |        |             |
| Blanked-Off B.T. Running Case |        |        |        |             |
| Drill Collars                 |        |        |        |             |
| Anchor Pipe Safety Joint      |        |        |        |             |
| Packer Assembly               |        |        |        |             |
| Distributor                   |        |        |        |             |
| Packer Assembly               |        |        |        |             |
| Anchor Pipe Safety Joint      |        |        |        |             |
| Side Wall Anchor              |        |        |        |             |
| Drill Collars                 |        |        |        |             |
| Flush Joint Anchor            | 5"     | 2.25"  | 1'     | 5075' TEMP. |
| Blanked-Off B.T. Running Case | 5"     | 3.06"  | 4'     | 5076'       |
| Total Depth                   |        |        |        | 5080'       |

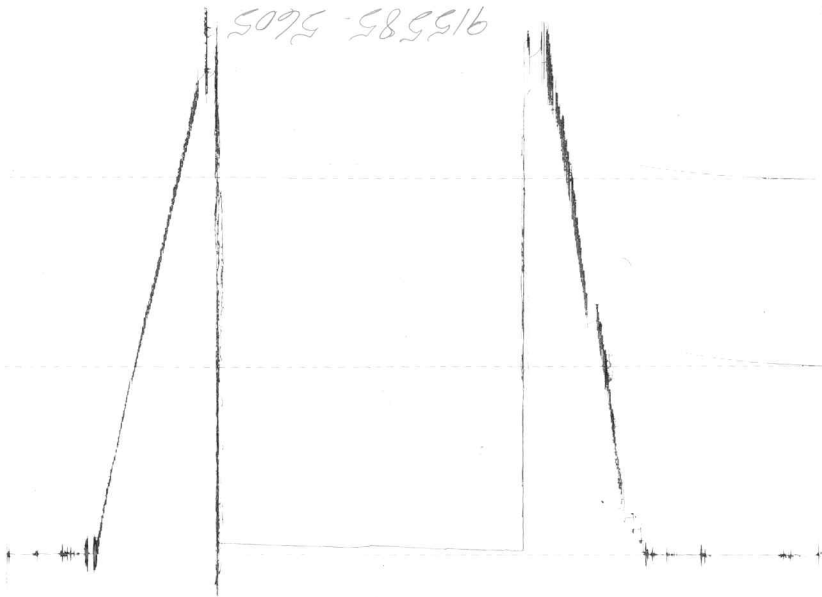
PRESSURE



Each Horizontal Line Equal to 1000 p.s.i.

Garb. H 5605  
Tide of 11 915585  
Depth 5.021 ft.

915585-5605



TEMPERATURE  
RECORDER  
CHART

10° each circle

-115°

# 915585

| FLUID SAMPLE DATA                                            |              |                               |                               | Date <u>2-16-81</u>                                              |                         | Ticket Number <u>915586</u>       |        |
|--------------------------------------------------------------|--------------|-------------------------------|-------------------------------|------------------------------------------------------------------|-------------------------|-----------------------------------|--------|
| Sampler Pressure _____ P.S.I.G. at Surface                   |              |                               |                               | Kind of D.S.T. <u>OPEN HOLE</u>                                  |                         | Halliburton Location <u>PRATT</u> |        |
| Recovery: Cu. Ft. Gas _____                                  |              |                               |                               | Tester <u>MR. GRAHAM</u>                                         |                         | Witness <u>MR. RHOADES</u>        |        |
| cc. Oil _____                                                |              |                               |                               | Drilling Contractor <u>GABBERT &amp; JONES</u> RIG # <u>6</u> IC |                         |                                   |        |
| cc. Water _____                                              |              |                               |                               | EQUIPMENT & HOLE DATA                                            |                         |                                   |        |
| cc. Mud _____                                                |              |                               |                               | Formation Tested _____                                           |                         |                                   |        |
| Tot. Liquid cc. _____                                        |              |                               |                               | Elevation _____ 2195' GL _____ Ft.                               |                         |                                   |        |
| Gravity _____ ° API @ _____ ° F.                             |              |                               |                               | Net Productive Interval _____ Ft.                                |                         |                                   |        |
| Gas/Oil Ratio _____ cu. ft./bbl.                             |              |                               |                               | All Depths Measured From <u>Kelly Bushing</u>                    |                         |                                   |        |
| RESISTIVITY _____ CHLORIDE CONTENT _____                     |              |                               |                               | Total Depth _____ 5100' _____ Ft.                                |                         |                                   |        |
| Recovery Water _____ @ _____ ° F. _____ ppm                  |              |                               |                               | Main Hole/Casing Size _____ 7 7/8"                               |                         |                                   |        |
| Recovery Mud _____ @ _____ ° F. _____ ppm                    |              |                               |                               | Drill Collar Length _____ 443' I.D. _____ 2.25"                  |                         |                                   |        |
| Recovery Mud Filtrate _____ @ _____ ° F. _____ ppm           |              |                               |                               | Drill Pipe Length _____ 4603' I.D. _____ 3.826"                  |                         |                                   |        |
| Mud Pit Sample _____ @ _____ ° F. _____ ppm                  |              |                               |                               | Packer Depth(s) _____ 5075' _____ Ft.                            |                         |                                   |        |
| Mud Pit Sample Filtrate _____ @ _____ ° F. <u>32,800</u> ppm |              |                               |                               | Depth Tester Valve _____ 5058' _____ Ft.                         |                         |                                   |        |
| Mud Weight _____ 9.8 _____ vis _____ 68 _____ sec.           |              |                               |                               |                                                                  |                         |                                   |        |
| Cushion                                                      |              | TYPE                          | AMOUNT                        | Depth Back Pres. Valve                                           | Surface Choke           | Bottom Choke                      |        |
|                                                              |              |                               |                               | Ft.                                                              | <u>1/4"</u>             | <u>3/4"</u>                       |        |
| Recovered                                                    | 10           | Feet of                       | Mud                           |                                                                  |                         |                                   |        |
| Recovered                                                    |              | Feet of                       |                               |                                                                  |                         |                                   |        |
| Recovered                                                    |              | Feet of                       |                               |                                                                  |                         |                                   |        |
| Recovered                                                    |              | Feet of                       |                               |                                                                  |                         |                                   |        |
| Recovered                                                    |              | Feet of                       |                               |                                                                  |                         |                                   |        |
| Remarks <u>SEE PRODUCTION TEST DATA SHEET.</u>               |              |                               |                               |                                                                  |                         |                                   |        |
| <u>NOTE: Both charts read from corrected baseline.</u>       |              |                               |                               |                                                                  |                         |                                   |        |
|                                                              |              |                               |                               |                                                                  |                         |                                   |        |
|                                                              |              |                               |                               |                                                                  |                         |                                   |        |
|                                                              |              |                               |                               |                                                                  |                         |                                   |        |
|                                                              |              |                               |                               |                                                                  |                         |                                   |        |
|                                                              |              |                               |                               |                                                                  |                         |                                   |        |
|                                                              |              |                               |                               |                                                                  |                         |                                   |        |
| TEMPERATURE                                                  |              | Gauge No. <u>5605</u>         | Gauge No. <u>5604</u>         | Gauge No. _____                                                  | TIME (00:00-24:00 hrs.) |                                   |        |
| Depth: _____                                                 |              | Depth: <u>5060'</u> _____ Ft. | Depth: <u>5096'</u> _____ Ft. | Depth: _____                                                     |                         |                                   |        |
| _____ 12 Hour Clock                                          |              | _____ 12 Hour Clock           |                               | _____ Hour Clock                                                 |                         | Tool                              |        |
| Est. _____ ° F.                                              |              | Blanked Off <u>NO</u>         |                               | Blanked Off <u>??</u>                                            |                         | Blanked Off                       |        |
| _____ 5095' @                                                |              | Pressures                     |                               | Pressures                                                        |                         | Pressures                         |        |
| Actual <u>111</u> ° F.                                       |              | Pressures                     |                               | Pressures                                                        |                         | Pressures                         |        |
|                                                              |              | Field                         | Office                        | Field                                                            | Office                  | Field                             | Office |
| Initial Hydrostatic                                          |              | <u>2715.8</u>                 | <u>2656.6</u>                 | <u>2722.5</u>                                                    | <u>2678.7</u>           |                                   |        |
| First Period                                                 | Flow Initial | <u>62</u>                     | <u>25.7</u>                   | <u>62</u>                                                        | <u>40.2</u>             |                                   |        |
|                                                              | Flow Final   | <u>62</u>                     | <u>19.5</u>                   | <u>62</u>                                                        | <u>38.1</u>             |                                   |        |
|                                                              | Closed in    | <u>83</u>                     | <u>22.6</u>                   | <u>83</u>                                                        | <u>42.2</u>             |                                   |        |
| Second Period                                                | Flow Initial | <u>62</u>                     | <u>21.6</u>                   | <u>62</u>                                                        | <u>40.2</u>             |                                   |        |
|                                                              | Flow Final   | <u>62</u>                     | <u>26.8</u>                   | <u>62</u>                                                        | <u>45.3</u>             |                                   |        |
|                                                              | Closed in    | <u>83</u>                     | <u>30.9</u>                   | <u>83</u>                                                        | <u>48.4</u>             |                                   |        |
| Third Period                                                 | Flow Initial |                               |                               |                                                                  |                         |                                   |        |
|                                                              | Flow Final   |                               |                               |                                                                  |                         |                                   |        |
|                                                              | Closed in    |                               |                               |                                                                  |                         |                                   |        |
| Final Hydrostatic                                            |              | <u>2679.3</u>                 | <u>2591.7</u>                 | <u>2639.3</u>                                                    | <u>2610.1</u>           |                                   |        |
|                                                              |              |                               |                               |                                                                  |                         |                                   |        |

Legal Location  
Sec. - Twp. - Rng.

23 - 30 - 18N

Field Area  
Mea. From Tester Valve

County KIOWA

State KANSAS

CURTIS UNRUH

4 Well No.

3 Test No.

5075' - 5100' Tested Interval

THE MAURICE L. BROWN COMPANY  
Lease Owner/Company Name

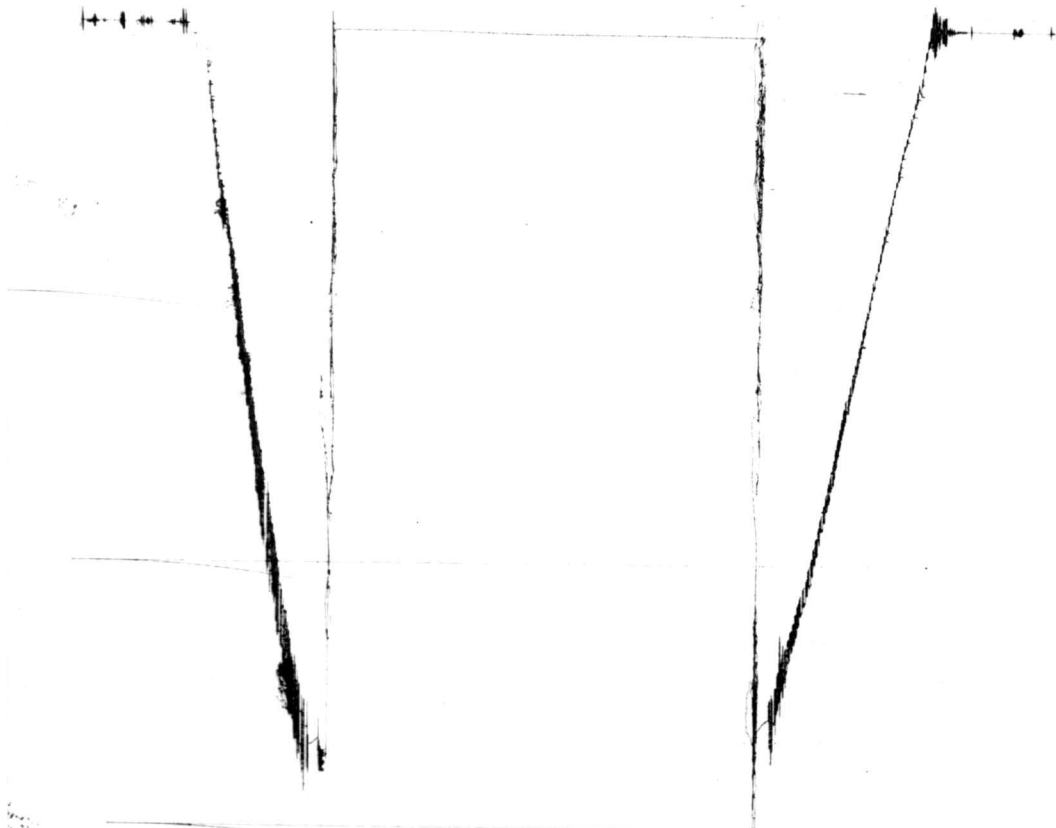
Casing perms. \_\_\_\_\_ Bottom choke \_\_\_\_\_ Surf. temp. \_\_\_\_\_ °F Ticket No. \_\_\_\_\_ 915586  
Gas gravity \_\_\_\_\_ Oil gravity \_\_\_\_\_ GOR \_\_\_\_\_  
Spec. gravity \_\_\_\_\_ Chlorides \_\_\_\_\_ ppm Res. \_\_\_\_\_ @ \_\_\_\_\_ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED.

[illegible]

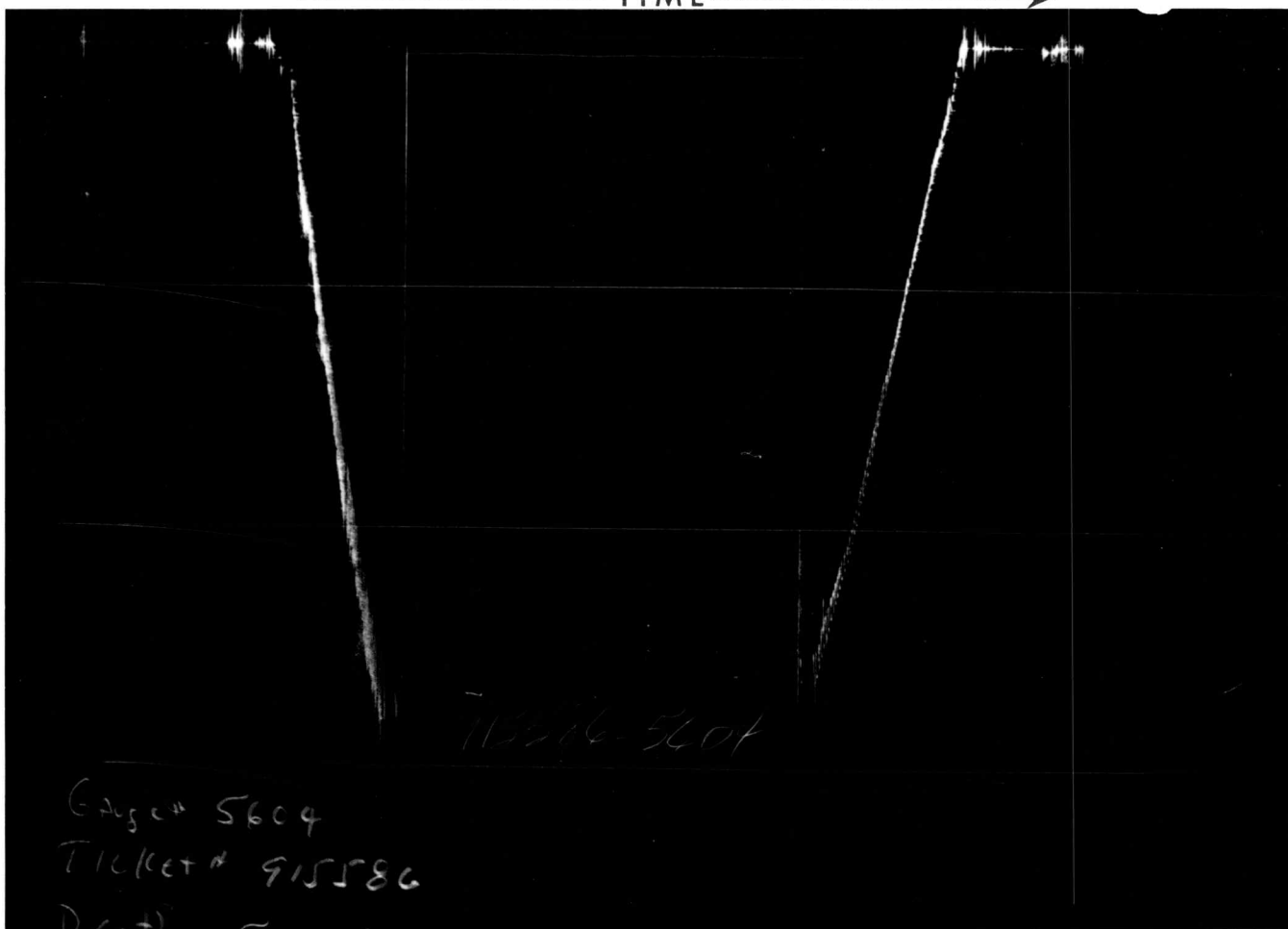
|                               | O. D.  | I. D.  | LENGTH    | DEPTH       |
|-------------------------------|--------|--------|-----------|-------------|
| Drill Pipe or Tubing          |        |        |           |             |
| Drill Collars                 |        |        |           |             |
| Reversing Sub                 | 5 5/8" | 2"     | 1'        |             |
| Water Cushion Valve           | 6"     | 2"     | 1' X OVER |             |
| Drill Pipe                    | 4 1/2" | 3.826" | 4603'     |             |
| Drill Collars                 | 6 1/2" | 2.25"  | 443'      |             |
| Handling Sub & Choke Assembly |        |        |           |             |
| Dual CIP Valve                | 5 3/4" | .87"   | 6'        | 5053'       |
| Dual CIP Sampler              |        |        |           |             |
| Hydro-Spring Tester           | 5"     | .75"   | 5'        | 5058'       |
| Multiple CIP Sampler          |        |        |           |             |
| Extension Joint               |        |        |           |             |
| AP Running Case               | 5"     | 3.06"  | 4'        | 5060'       |
| Hydraulic Jar                 | 5"     | 1.5"   | 5'        |             |
| VR Safety Joint               | 5"     | 1"     | 3'        |             |
| Pressure Equalizing Crossover |        |        |           |             |
| Packer Assembly               |        |        |           |             |
| Distributor                   |        |        |           |             |
| Packer Assembly               | 6 3/4" | 1.53"  | 6'        | 5075'       |
| Flush Joint Anchor            | 5"     | 2.36"  | 18'       |             |
| Pressure Equalizing Tube      |        |        |           |             |
| Blanked-Off B.T. Running Case |        |        |           |             |
| Drill Collars                 |        |        |           |             |
| Anchor Pipe Safety Joint      |        |        |           |             |
| Packer Assembly               |        |        |           |             |
| Distributor                   |        |        |           |             |
| Packer Assembly               |        |        |           |             |
| Anchor Pipe Safety Joint      |        |        |           |             |
| Side Wall Anchor              |        |        |           |             |
| Drill Collars                 |        |        |           |             |
| Flush Joint Anchor            | 5"     | 2.25"  | 1'        | 5095' TEMP. |
| Blanked-Off B.T. Running Case | 5"     | 3.06"  | 4'        | 5096'       |
| Total Depth                   |        |        |           | 5100'       |

PRESSURE



Ticket # 915586 915586-5605  
Gage # 5605

TIME



Gage # 5609  
Ticket # 915586  
D.C. #

Each Horizontal Line Equal to 1000 p.s.i.

TEMPERATURE  
RECORDER  
CHART

10° each circle

-111°

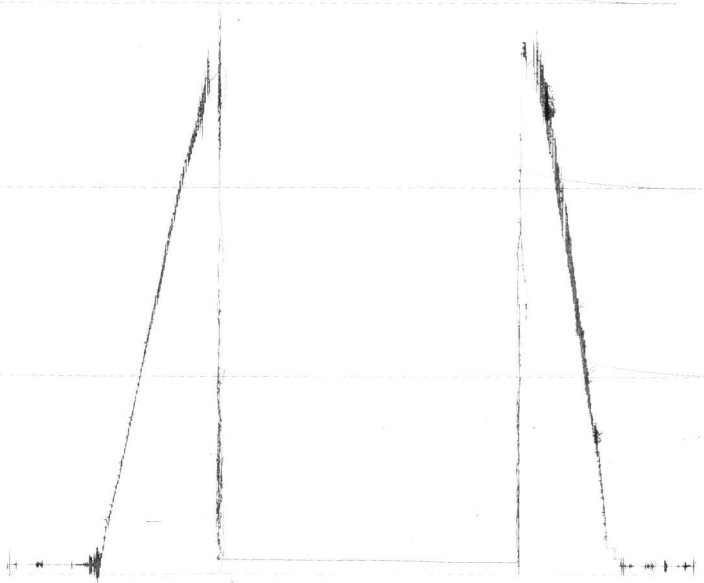
915586

915586-5605

915586-5605

5605

Depth 5605



5605  
Dege II

Dege L. 4849' T. cheta 915584

915584-5605

