

|                            |           |      |                  |             |                        |                                                 |                             |                            |
|----------------------------|-----------|------|------------------|-------------|------------------------|-------------------------------------------------|-----------------------------|----------------------------|
| Flow Time                  | 1st<br>10 | Min. | 2nd<br>90        | Min.        | Date                   | 8-3-63                                          | Ticket Number               | 371223 S                   |
| Closed In Press. Time      | 1st<br>30 | Min. | 2nd<br>45        | Min.        | Kind of Job            | OPEN HOLE                                       | Halliburton District        | GREAT BEND                 |
| Pressure Readings          | Field     |      | Office Corrected |             | Tester                 | LARRY MOORE                                     | Witness                     | JACK MADDOX                |
| Depth Top Gauge            | 4304      | Ft.  | No               | Blanked Off | Drilling Contractor    | PEEL BROS. INC.                                 |                             |                            |
| BT. P.R.D. No.             | 239       |      | 12               | Hour Clock  | Elevation              | 2430' KB                                        | Top Packer                  |                            |
| Initial Hydro Mud Pressure | 2292      |      | 2292             |             | Total Depth            | 4333'                                           | Bottom Packer               | 4308'                      |
| Initial Closed in Pres.    | 1324      |      | 1319             |             | Interval Tested        | 4308-4333'                                      | Formation Tested            | Ft. Scott                  |
| Initial Flow Pres.         | 18        | 1    | 9                | 2           | Casing or Hole Size    | 7 7/8"                                          | Casing Perfs.               | Top Bot.                   |
| Final Flow Pres.           | 73        | 1    | 16               | 2           | Surface Choke          | 1"                                              | Bottom Choke                | 1"                         |
| Final Closed in Pres.      | 1160      |      | 1148             |             | Size & Kind Drill Pipe | 4 1/2" Acme                                     | Drill Collars Above Tester  | I.D. - LENGTH<br>3" X 527' |
| Final Hydro Mud Pressure   | 2292      |      | 2278             |             | Mud Weight             | 10                                              | Mud Viscosity               | 45                         |
| Depth Cen. Gauge           | 4333      | Ft.  | Yes              | Blanked Off | Temperature            | 112                                             | Anchor Size & Length        | ID 3 1/2<br>OD 4 1/2 25    |
| BT. P.R.D. No.             | 566       |      | 12               | Hour Clock  | Depths Mea. From       | KB                                              | Depth of Tester Valve       | 4294' Ft.                  |
| Initial Hydro Mud Pres.    | 2303      |      | 2303             |             | TYPE AMOUNT            | Cushion none                                    | Depth Back Pres. Valve      | Ft.                        |
| Initial Closed in Pres.    | 1331      |      | 1330             |             | Recovered              | 78                                              | Feet of oil cut mud         |                            |
| Initial Flow Pres.         | 28        | 1    | 24               | 2           | Recovered              | 63                                              | Feet of oil cut muddy water |                            |
| Final Flow Pres.           | 76        | 1    | 29               | 2           | Recovered              |                                                 | Feet of                     |                            |
| Final Closed in Pres.      | 1160      |      | 1161             |             | Recovered              |                                                 | Feet of                     |                            |
| Final Hydro Mud Pres.      | 2292      |      | 2292             |             | Oil A.P.I. Gravity     |                                                 | Water Spec. Gravity         |                            |
| Depth Bot. Gauge           |           | Ft.  |                  | Blanked Off | Gas Gravity            |                                                 | Surface Pressure            | psi                        |
| BT. P.R.D. No.             |           |      |                  | Hour Clock  | Tool Opened            | 4:27 AM                                         | A.M. P.M. Tool Closed       | 4:37 PM A.M. P.M.          |
| Initial Hydro Mud Pres.    |           |      |                  |             | Remarks                | Tool opened with weak steady blow for a 10      |                             |                            |
| Initial Closed in Pres.    |           |      |                  |             |                        | minute first flow. Rotated tool for a 30 minute |                             |                            |
| Initial Flow Pres.         |           | 1    |                  | 2           |                        | initial closed in pressure. Reopened tool with  |                             |                            |
| Final Flow Pres.           |           | 1    |                  | 2           |                        | a steady weak blow for a 90 minute second flow. |                             |                            |
| Final Closed in Pres.      |           |      |                  |             |                        | Took a 45 minute final closed in pressure.      |                             |                            |
| Final Hydro Mud Pres.      |           |      |                  |             |                        |                                                 |                             |                            |

FORMATION TEST DATA

SMITH  
Lease Name  
9 16 23W  
Legal Location  
Sec. - Twp. - Rng.  
1  
Well No.  
2  
Test No.  
CITIES SERVICE PETROLEUM CO.  
Lease Owner/Company Name  
NESS  
County  
State  
KANSAS  
Owner's District

| Gauge No. 239     |                     |                        | Depth 4304                 |                               |                        | Clock 12 hour       |                        |                     | Ticket No. 371223             |                        |  |
|-------------------|---------------------|------------------------|----------------------------|-------------------------------|------------------------|---------------------|------------------------|---------------------|-------------------------------|------------------------|--|
| First Flow Period |                     |                        | Initial Closed In Pressure |                               |                        | Second Flow Period  |                        |                     | Final Closed In Pressure      |                        |  |
|                   | Time Defl.<br>.000" | PSIG<br>Temp.<br>Corr. | Time Defl.<br>.000"        | Log $\frac{t+\theta}{\theta}$ | PSIG<br>Temp.<br>Corr. | Time Defl.<br>.000" | PSIG<br>Temp.<br>Corr. | Time Defl.<br>.000" | Log $\frac{t+\theta}{\theta}$ | PSIG<br>Temp.<br>Corr. |  |
| P <sub>0</sub>    | .000                | 9                      | .000                       |                               | 16                     | .000                | 20                     | .000                |                               | 66                     |  |
| P <sub>1</sub>    | .013                | 14                     | .019                       |                               | 690                    | .099                | 29                     | .0292               |                               | 380                    |  |
| P <sub>2</sub>    | .026                | 14                     | .038                       |                               | 1085                   | .198                | 37                     | .0584               |                               | 940                    |  |
| P <sub>3</sub>    | .039                | 14                     | .057                       |                               | 1191                   | .297                | 45                     | .0876               |                               | 1013                   |  |
| P <sub>4</sub>    | .052                | 15                     | .076                       |                               | 1236                   | .396                | 52                     | .1168               |                               | 1051                   |  |
| P <sub>5</sub>    | .065                | 16                     | .095                       |                               | 1264                   | .495                | 59                     | .1460               |                               | 1077                   |  |
| P <sub>6</sub>    |                     |                        | .114                       |                               | 1281                   | .594                | 66                     | .1752               |                               | 1097                   |  |
| P <sub>7</sub>    |                     |                        | .133                       |                               | 1285                   |                     |                        | .2044               |                               | 1115                   |  |
| P <sub>8</sub>    |                     |                        | .152                       |                               | 1304                   |                     |                        | .2336               |                               | 1127                   |  |
| P <sub>9</sub>    |                     |                        | .171                       |                               | 1313                   |                     |                        | .2628               |                               | 1140                   |  |
| P <sub>10</sub>   |                     |                        | .190                       |                               | 1319                   |                     |                        | .2920               |                               | 1148                   |  |

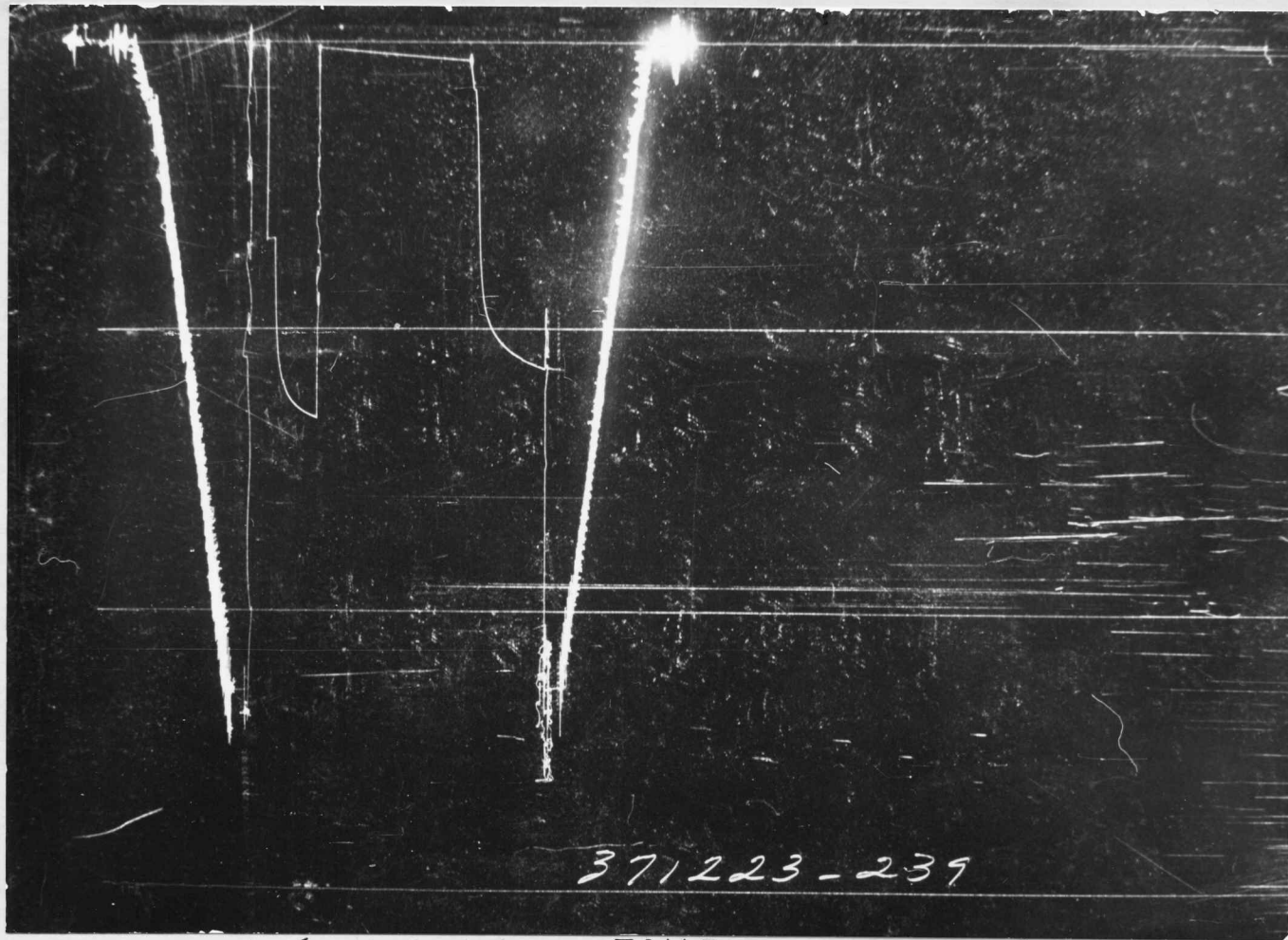
| Gauge No. 566   |                     |                        | Depth 4333          |                               |                        | Clock 12 hour       |                        |                     |                               |                        |  |
|-----------------|---------------------|------------------------|---------------------|-------------------------------|------------------------|---------------------|------------------------|---------------------|-------------------------------|------------------------|--|
|                 | Time Defl.<br>.000" | PSIG<br>Temp.<br>Corr. | Time Defl.<br>.000" | Log $\frac{t+\theta}{\theta}$ | PSIG<br>Temp.<br>Corr. | Time Defl.<br>.000" | PSIG<br>Temp.<br>Corr. | Time Defl.<br>.000" | Log $\frac{t+\theta}{\theta}$ | PSIG<br>Temp.<br>Corr. |  |
| P <sub>0</sub>  | .000                | 24                     | .000                |                               | 29                     | .000                | 38                     | .000                |                               | 80                     |  |
| P <sub>1</sub>  | .013                | 25                     | .0195               |                               | 110                    | .098                | 43                     | .0295               |                               | 409                    |  |
| P <sub>2</sub>  | .026                | 26                     | .0390               |                               | 1019                   | .196                | 51                     | .0590               |                               | 933                    |  |
| P <sub>3</sub>  | .039                | 27                     | .0585               |                               | 1188                   | .294                | 59                     | .0885               |                               | 1017                   |  |
| P <sub>4</sub>  | .052                | 29                     | .0780               |                               | 1240                   | .392                | 66                     | .1180               |                               | 1060                   |  |
| P <sub>5</sub>  | .065                | 29                     | .0975               |                               | 1270                   | .490                | 73                     | .1475               |                               | 1088                   |  |
| P <sub>6</sub>  |                     |                        | .1170               |                               | 1290                   | .586                | 80                     | .1770               |                               | 1108                   |  |
| P <sub>7</sub>  |                     |                        | .1365               |                               | 1305                   |                     |                        | .2065               |                               | 1125                   |  |
| P <sub>8</sub>  |                     |                        | .1560               |                               | 1315                   |                     |                        | .2360               |                               | 1139                   |  |
| P <sub>9</sub>  |                     |                        | .1755               |                               | 1324                   |                     |                        | .2655               |                               | 1151                   |  |
| P <sub>10</sub> |                     |                        | .1950               |                               | 1330                   |                     |                        | .2950               |                               | 1161                   |  |

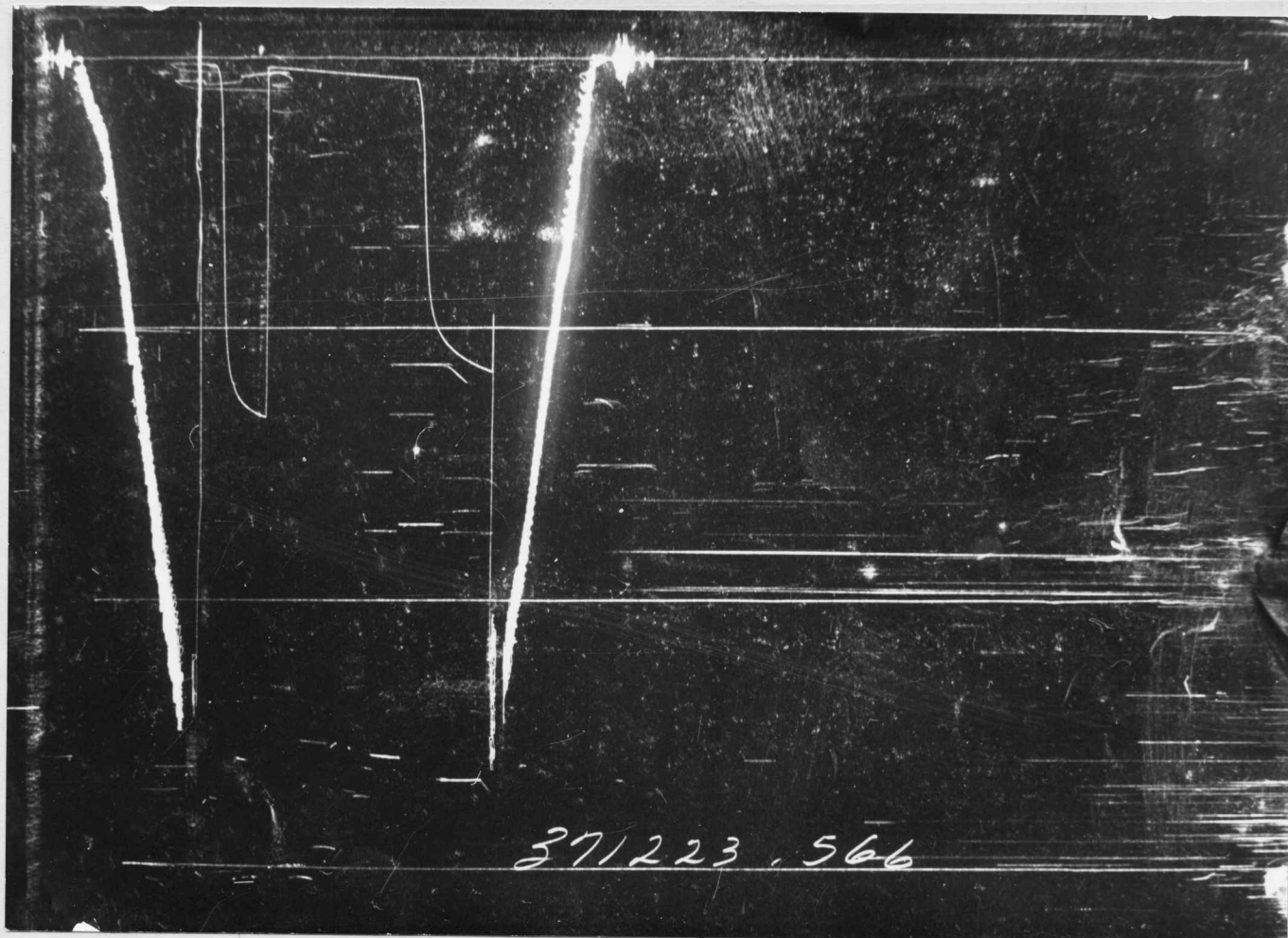
|                  |   |   |    |     |         |
|------------------|---|---|----|-----|---------|
| Reading Interval | 2 | 3 | 15 | 4.5 | Minutes |
| REMARKS:         |   |   |    |     |         |

**SPECIAL PRESSURE DATA**

PRESSURE



TIME



SMITH

Lease Name

X-1

Well No.

3

Test No.

CITIES SERVICE OIL COMPANY

Lease Owner/Company Name

KANSAS

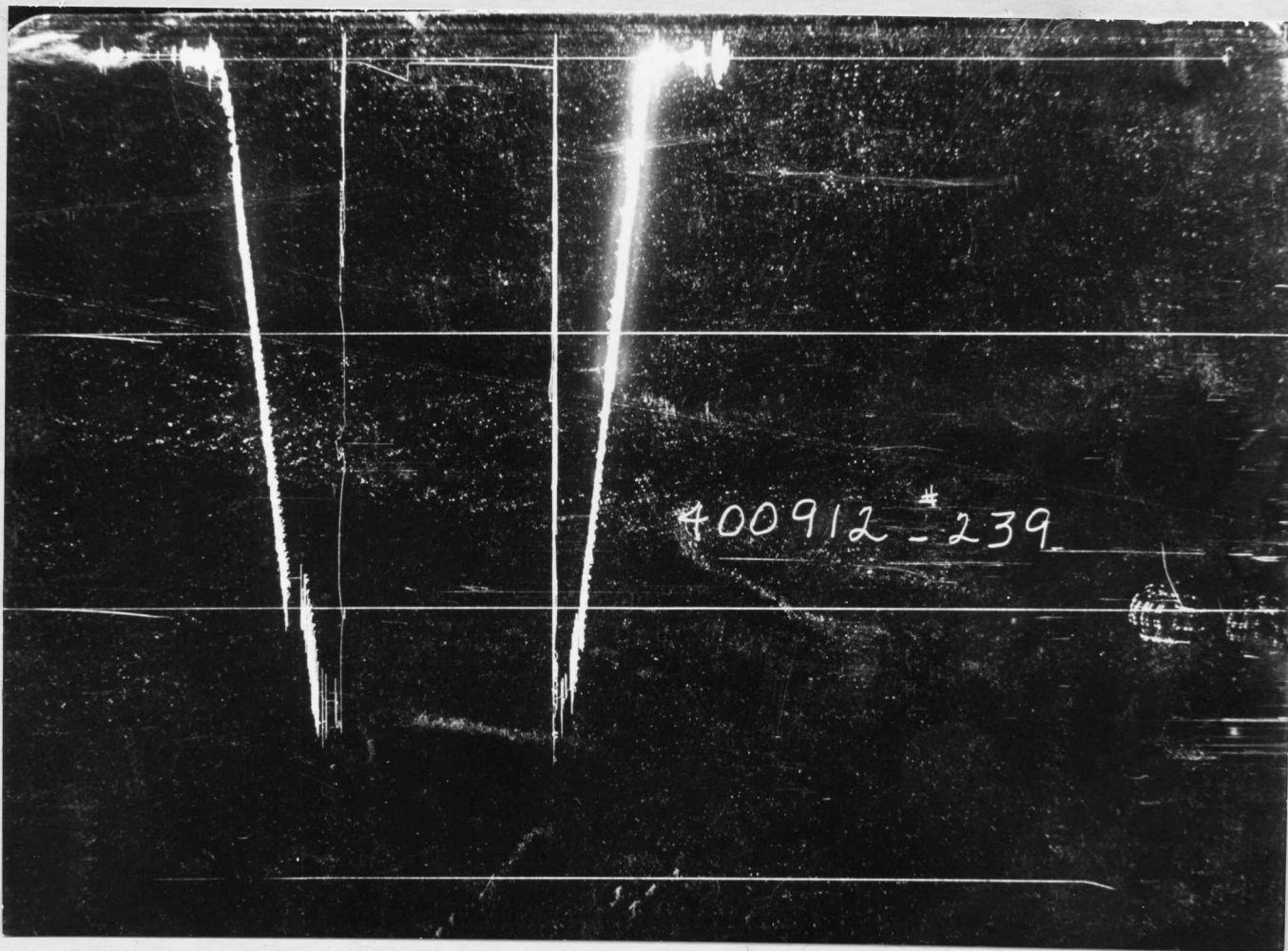
Owner's District

|                            |              |                  |                                                     |                                            |                                        |                              |                                                   |
|----------------------------|--------------|------------------|-----------------------------------------------------|--------------------------------------------|----------------------------------------|------------------------------|---------------------------------------------------|
| Flow Time                  | 1st 10 Min.  | 2nd 60 Min.      | Date                                                | 8-4-63                                     | Ticket Number                          | 400912                       | Legal Location<br>Sec. - Twp. - Rng. 9 - 16 - 23W |
| Closed In Press. Time      | 1st 30 Min.  | 2nd 30 Min.      | Kind of Job                                         | OPEN HOLE                                  | Halliburton District                   | GREAT BEND                   |                                                   |
| Pressure Readings          | Field        | Office Corrected | Tester                                              | MOORE                                      | Witness                                | MADDOX<br>BLANDIN            |                                                   |
| Depth Top Gauge            | 4357' Ft.    | NO Blanked Off   | Drilling Contractor                                 | PEEL BROTHERS, INC.                        |                                        |                              |                                                   |
| BT. P.R.D. No.             | 239          | 12 Hour Clock    | Elevation                                           | 2430' K.B.                                 | Top Packer                             | 4353'                        |                                                   |
| Initial Hydro Mud Pressure | 2363         | 2424             | Total Depth                                         | 4390'                                      | Bottom Packer                          | 4362'                        |                                                   |
| Initial Closed in Pres.    | 92           | 80               | Interval Tested                                     | 4362' - 4390'                              | Formation Tested                       | CHEROKEE                     |                                                   |
| Initial Flow Pres.         | 9            | 1 15<br>2 20     | Casing or Hole Size                                 | 7 7/8"                                     | Casing Perfs. } Top -<br>Bot. -        |                              |                                                   |
| Final Flow Pres.           | 19           | 1 15<br>2 20     | Surface Choke                                       | 1"                                         | Bottom Choke                           | 1"                           |                                                   |
| Final Closed in Pres.      | 37           | 35               | Size & Kind Drill Pipe                              | 4 1/2" ACME                                | WT. PIPE<br>Drill Collars Above Tester | I.D. - LENGTH<br>3" x 527'   |                                                   |
| Final Hydro Mud Pressure   | 2457         | 2338             | Mud Weight                                          | 9.9                                        | Mud Viscosity                          | 48                           |                                                   |
| Depth Cen. Gauge           |              | Blanked Off      | Temperature                                         | 111 °F Est.<br>°F Actual                   | Anchor Size & Length                   | ID 3 1/2"<br>OD 4 1/2" X 28' |                                                   |
| BT. P.R.D. No.             |              | Hour Clock       | Depths Mea. From                                    | KELLY BUSHING                              | Depth of Tester Valve                  | 4355' Ft.                    |                                                   |
| Initial Hydro Mud Pres.    |              |                  | TYPE AMOUNT                                         |                                            | Depth Back Pres. Valve                 | - Ft.                        |                                                   |
| Initial Closed in Pres.    |              |                  | Cushion                                             | NONE                                       |                                        |                              |                                                   |
| Initial Flow Pres.         | 1            |                  | Recovered                                           | 37' Feet of                                | muddy ?                                |                              | Mea. From Tester Valve                            |
| Final Flow Pres.           | 2            |                  | Recovered                                           | Feet of                                    |                                        |                              |                                                   |
| Final Closed in Pres.      | 1            |                  | Recovered                                           | Feet of                                    |                                        |                              |                                                   |
| Final Hydro Mud Pres.      | 2            |                  | Recovered                                           | Feet of                                    |                                        |                              |                                                   |
| Depth Bot. Gauge           | 4386' Ft.    | YES Blanked Off  | Oil A.P.I. Gravity                                  | -                                          | Water Spec. Gravity                    | -                            |                                                   |
| BT. P.R.D. No.             | 566          | 12 Hour Clock    | Gas Gravity                                         | -                                          | Surface Pressure                       | 0# psi                       |                                                   |
| Initial Hydro Mud Pres.    |              | 2435             | Tool Opened                                         | 12:13 AM A.M. P.M.                         | Tool Closed                            | 12:23 AM A.M. P.M.           |                                                   |
| Initial Closed in Pres.    |              | 95               | Remarks                                             | Tool opened @ 12:13 AM with a very weak to |                                        |                              |                                                   |
| Initial Flow Pres.         | 1 29<br>2 38 |                  | no blow for a 10 minute first flow. Tool closed @   |                                            |                                        |                              |                                                   |
| Final Flow Pres.           | 1 31<br>2 37 |                  | 12:23. Rotated tool for a 30 minute initial closed  |                                            |                                        |                              |                                                   |
| Final Closed in Pres.      |              | 48               | in pressure. Tool re-opened @ 12:53 for a 60 minute |                                            |                                        |                              |                                                   |
| Final Hydro Mud Pres.      |              | 2400             | second flow period. Tool closed @ 1:53. Took a 30   |                                            |                                        |                              |                                                   |
|                            |              |                  | minute final closed in pressure. Off bottom @ 2:23. |                                            |                                        |                              |                                                   |

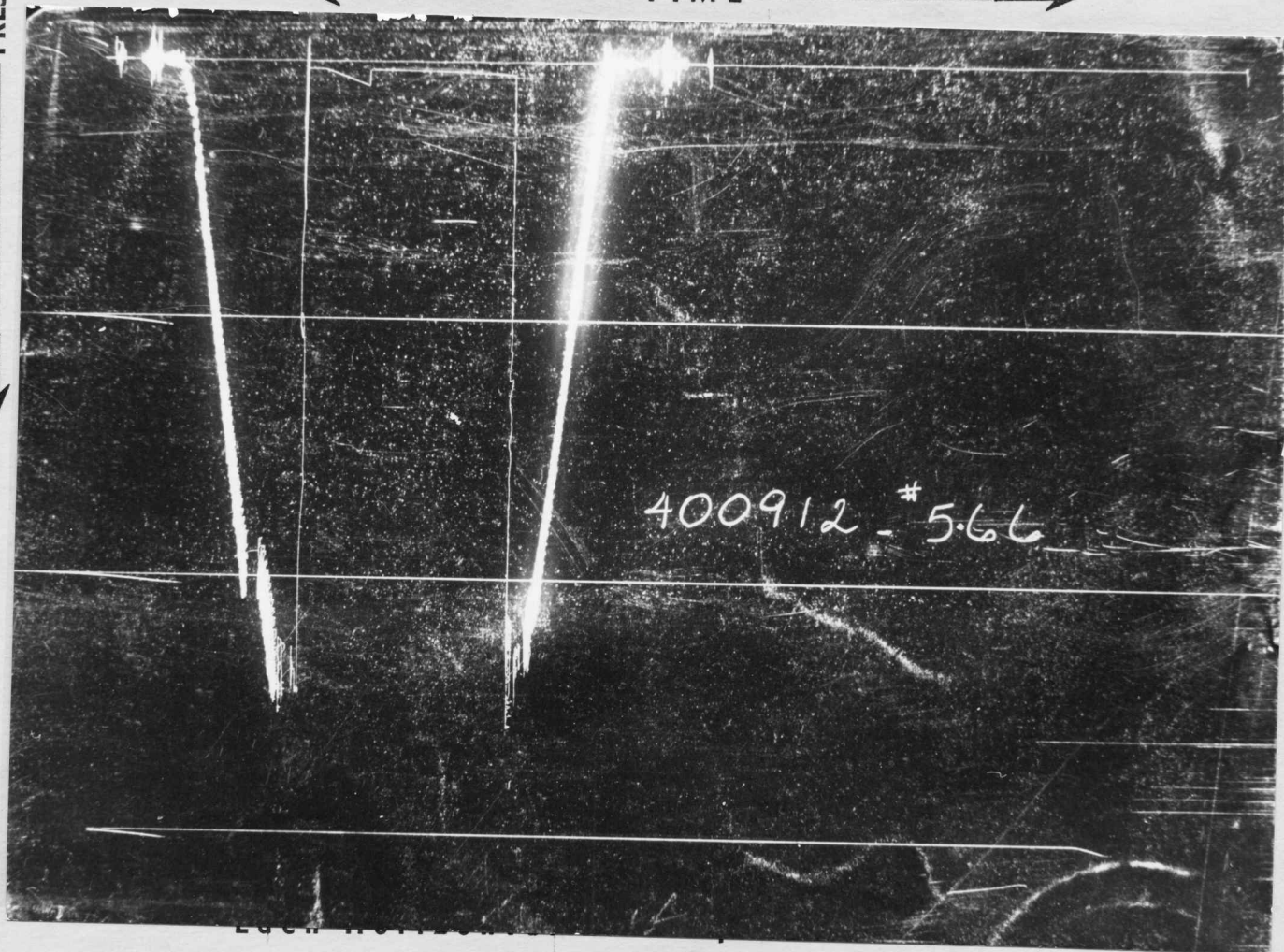
FORMATION TEST DATA

5

↑  
PRESSURE  
↓



← TIME →



|                            |           |      |                  |             |                        |                                                 |                            |                            |                   |
|----------------------------|-----------|------|------------------|-------------|------------------------|-------------------------------------------------|----------------------------|----------------------------|-------------------|
| Flow Time                  | 1st<br>10 | Min. | 2nd<br>60        | Min.        | Date                   | 8-4-63                                          | Ticket Number              | 400913                     | S                 |
| Closed In Press. Time      | 1st<br>30 | Min. | 2nd<br>30        | Min.        | Kind of Job            | OPEN HOLE                                       | Halliburton District       | HAYS                       |                   |
| Pressure Readings          | Field     |      | Office Corrected |             | Tester                 | A. BERENS                                       | Witness                    | RAY BLANDIN                |                   |
| Depth Top Gauge            | 4387      | Ft.  | No               | Blanked Off | Drilling Contractor    | PEEL BROS. INC.                                 |                            |                            |                   |
| BT. P.R.D. No.             | 239       |      | 12               | Hour Clock  | Elevation              | 2430' KB                                        | Top Packer                 | 4374'                      |                   |
| Initial Hydro Mud Pressure | -         |      | 2309             |             | Total Depth            | 4422'                                           | Bottom Packer              | 4383'                      |                   |
| Initial Closed in Pres.    | 1251      |      | 1314             |             | Interval Tested        | 4383-4422'                                      | Formation Tested           | Mississippi                |                   |
| Initial Flow Pres.         | 118       | 1    | 196              |             | Casing or Hole Size    | 7 7/8"                                          | Casing Perfs.              | Top Bot.                   |                   |
| Final Flow Pres.           | 745       | 2    | 786              |             | Surface Choke          | 1/4"                                            | Bottom Choke               | 3/4"                       |                   |
| Final Closed in Pres.      | 1246      |      | 1306             |             | Size & Kind Drill Pipe | 4 1/2" ACME                                     | Drill Collars Above Tester | I.D. - LENGTH<br>2.75 -519 |                   |
| Final Hydro Mud Pressure   | -         |      | 2307             |             | Mud Weight             | 9.8                                             | Mud Viscosity              | 47                         |                   |
| Depth Cen. Gauge           | 4418      | Ft.  | Yes              | Blanked Off | Temperature            | 112                                             | Anchor Size & Length       | ID<br>3.50<br>4.50*        | OD<br>39          |
| BT. P.R.D. No.             | 566       |      | 12               | Hour Clock  | Depths Mea. From       | KB                                              | Depth of Tester Valve      | Ft.                        |                   |
| Initial Hydro Mud Pres.    | 1246      |      | 2335             |             | Cushion                | none                                            | Depth Back Pres. Valve     | Ft.                        |                   |
| Initial Closed in Pres.    |           |      | 1335             |             | Recovered              | 1690                                            | Feet of                    | Muddy Saltwater            |                   |
| Initial Flow Pres.         |           | 1    | 122              |             | Recovered              |                                                 | Feet of                    |                            |                   |
| Final Flow Pres.           |           | 2    | 307              |             | Recovered              |                                                 | Feet of                    |                            |                   |
| Final Closed in Pres.      | 1246      |      | 1327             |             | Recovered              |                                                 | Feet of                    |                            |                   |
| Final Hydro Mud Pres.      |           |      | 2334             |             | Oil A.P.I. Gravity     |                                                 | Water Spec. Gravity        |                            |                   |
| Depth Bot. Gauge           |           | Ft.  |                  | Blanked Off | Gas Gravity            |                                                 | Surface Pressure           | psi                        |                   |
| BT. P.R.D. No.             |           |      |                  | Hour Clock  | Tool Opened            | 7:00 PM                                         | A.M. P.M.                  | Tool Closed                | 9:10 PM A.M. P.M. |
| Initial Hydro Mud Pres.    |           |      |                  |             | Remarks                | Tool opened with a strong blow for a 10         |                            |                            |                   |
| Initial Closed in Pres.    |           |      |                  |             |                        | minute first flow. Rotated tool for a 30 minute |                            |                            |                   |
| Initial Flow Pres.         |           | 1    |                  |             |                        | initial closed in pressure. Reopened tool with  |                            |                            |                   |
| Final Flow Pres.           |           | 2    |                  |             |                        | a strong blow for a 60 minute second flow. Took |                            |                            |                   |
| Final Closed in Pres.      |           |      |                  |             |                        | a 30 minute final closed in pressure.           |                            |                            |                   |
| Final Hydro Mud Pres.      |           |      |                  |             |                        |                                                 |                            |                            |                   |

FORMATION TEST DATA

Legal Location  
Sec. - Twp. - Rng. 9-16-23

SMITH  
Lease Name

X-1  
Well No.

4  
Test No.

Field Area

County

NESS

State KANSAS

CITIES SERVICE OIL COMPANY  
Lease Owner/Company Name

KANSAS  
Owner's District

| Gauge No.         |                  | 239              |                                      | Depth                       |                  | 4387               |                  | Clock            |                             | 12 hour          |  | Ticket No. |  | 400913 |  |
|-------------------|------------------|------------------|--------------------------------------|-----------------------------|------------------|--------------------|------------------|------------------|-----------------------------|------------------|--|------------|--|--------|--|
| First Flow Period |                  |                  | Initial Closed In Pressure           |                             |                  | Second Flow Period |                  |                  | Final Closed In Pressure    |                  |  |            |  |        |  |
|                   | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000"                     | Log $\frac{t + \phi}{\phi}$ | PSIG Temp. Corr. | Time Defl. .000"   | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t + \phi}{\phi}$ | PSIG Temp. Corr. |  |            |  |        |  |
| P <sub>0</sub>    | .000             | 196              | .000                                 |                             | 276              | .000               | 283              | .000             |                             | 786              |  |            |  |        |  |
| P <sub>1</sub>    | .067             | 276              | .185                                 |                             | 1314             | .393               | 786              | .188             |                             | 1306             |  |            |  |        |  |
| P <sub>2</sub>    |                  |                  |                                      |                             |                  |                    |                  |                  |                             |                  |  |            |  |        |  |
| P <sub>3</sub>    |                  |                  | Did not cut up due to stairstepping. |                             |                  |                    |                  |                  |                             |                  |  |            |  |        |  |
| P <sub>4</sub>    |                  |                  |                                      |                             |                  |                    |                  |                  |                             |                  |  |            |  |        |  |
| P <sub>5</sub>    |                  |                  |                                      |                             |                  |                    |                  |                  |                             |                  |  |            |  |        |  |
| P <sub>6</sub>    |                  |                  |                                      |                             |                  |                    |                  |                  |                             |                  |  |            |  |        |  |
| P <sub>7</sub>    |                  |                  |                                      |                             |                  |                    |                  |                  |                             |                  |  |            |  |        |  |
| P <sub>8</sub>    |                  |                  |                                      |                             |                  |                    |                  |                  |                             |                  |  |            |  |        |  |
| P <sub>9</sub>    |                  |                  |                                      |                             |                  |                    |                  |                  |                             |                  |  |            |  |        |  |
| P <sub>10</sub>   |                  |                  |                                      |                             |                  |                    |                  |                  |                             |                  |  |            |  |        |  |

| Gauge No.        |       | 566 |      | Depth |      | 4418  |           | Clock |  | 12 |      | hour |  |
|------------------|-------|-----|------|-------|------|-------|-----------|-------|--|----|------|------|--|
| P <sub>0</sub>   | .000  | 122 | .000 |       | 303  | .000  | 307       | .000  |  |    | 806  |      |  |
| P <sub>1</sub>   | .0124 | 174 | .019 |       | 1306 | .0975 | 459       | .0193 |  |    | 1300 |      |  |
| P <sub>2</sub>   | .0248 | 212 | .038 |       | 1319 | .1950 | 595       | .0386 |  |    | 1309 |      |  |
| P <sub>3</sub>   | .0372 | 248 | .057 |       | 1325 | .2925 | 711       | .0579 |  |    | 1314 |      |  |
| P <sub>4</sub>   | .0496 | 281 | .076 |       | 1327 | .3900 | 806       | .0772 |  |    | 1318 |      |  |
| P <sub>5</sub>   | .0620 | 303 | .095 |       | 1330 |       |           | .0965 |  |    | 1321 |      |  |
| P <sub>6</sub>   |       |     | .114 |       | 1332 |       |           | .1158 |  |    | 1323 |      |  |
| P <sub>7</sub>   |       |     | .133 |       | 1333 |       |           | .1351 |  |    | 1325 |      |  |
| P <sub>8</sub>   |       |     | .152 |       | 1334 |       |           | .1544 |  |    | 1325 |      |  |
| P <sub>9</sub>   |       |     | .171 |       | 1335 |       |           | .1373 |  |    | 1326 |      |  |
| P <sub>10</sub>  |       |     | .190 |       | 1335 |       |           | .1930 |  |    | 1327 |      |  |
| Reading Interval |       | 2   | 3    |       | 15   |       | 3 Minutes |       |  |    |      |      |  |

REMARKS:

SPECIAL PRESSURE DATA

↑  
PRESSURE  
↓



← TIME →

