

|                            |             |                  |                        |                                                                                                                                        |  |                            |               |  |
|----------------------------|-------------|------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------|---------------|--|
| Flow Time                  | 1st Min. 30 | 2nd Min. 75      | Date                   | 5-28-67                                                                                                                                |  | Ticket Number              | T-79206       |  |
| Closed In Press. Time      | 1st Min. 40 | 2nd Min. 45      | Kind of Job            | D.S.T.                                                                                                                                 |  | Halliburton District       | Liberal, Ks.  |  |
| Pressure Readings          | Field       | Office Corrected | Tester                 | Reece                                                                                                                                  |  | Witness                    | A. Harrison   |  |
| Depth Top Gauge            | 5627 Ft.    | Blanked Off      | Drilling Contractor    | Zenith Drilling Co.                                                                                                                    |  | Top Packer                 | 5627'         |  |
| BT. P.R.D. No.             | 538         | Hour Clock 12    | Elevation              | 2454 K.B.                                                                                                                              |  | Bottom Packer              | 5632'         |  |
| Initial Hydro Mud Pressure | 1.700       | 2777             | Total Depth            | 5766'                                                                                                                                  |  | Formation Tested           | marrow        |  |
| Initial Closed in Pres.    | .630        | 1029             | Interval Tested        | 5632' to 5766'                                                                                                                         |  | Casing } Top               | X             |  |
| Initial Flow Pres.         | .040        | 1 66             | Casing or Hole Size    | 7 7/8"                                                                                                                                 |  | Casing } Bot.              | X             |  |
| Final Flow Pres.           | .050        | 1 82             | Surface Choke          | 1"                                                                                                                                     |  | Bottom Choke               | 5/8"          |  |
| Final Closed in Pres.      | .640        | 1046             | Size & Kind Drill Pipe | 4 1/2" X.H.                                                                                                                            |  | Drill Collars Above Tester | 2 1/4" X 174' |  |
| Final Hydro Mud Pressure   | 1.700       | 2777             | Mud Weight             | 9.4                                                                                                                                    |  | Mud Viscosity              | 40.           |  |
| Depth Cen. Gauge           | Ft.         | Blanked Off      | Temperature            | °F Est. 120                                                                                                                            |  | Anchor Size ID             | 2.84" X       |  |
| BT. P.R.D. No.             |             | Hour Clock       | °F Actual              |                                                                                                                                        |  | & Length OD                | 5" 43'        |  |
| Initial Hydro Mud Pres.    |             |                  | Depths Meo. From       | K.R.                                                                                                                                   |  | Depth of Tester Valve      | 5612 Ft.      |  |
| Initial Closed in Pres.    |             |                  | TYPE                   | AMOUNT                                                                                                                                 |  | Depth Back Pres. Valve     | 5607 Ft.      |  |
| Initial Flow Pres.         | 1           |                  | Cushion                | None                                                                                                                                   |  |                            |               |  |
| Final Flow Pres.           | 2           |                  | Recovered              | 120 Feet of mud G.C.                                                                                                                   |  |                            |               |  |
| Final Closed in Pres.      | 1           |                  | Recovered              | Feet of                                                                                                                                |  |                            |               |  |
| Final Hydro Mud Pres.      | 2           |                  | Recovered              | Feet of                                                                                                                                |  |                            |               |  |
|                            |             |                  | Recovered              | Feet of                                                                                                                                |  |                            |               |  |
|                            |             |                  | Oil A.P.I. Gravity     |                                                                                                                                        |  | Water Spec. Gravity        |               |  |
| Depth Bot. Gauge           | 5766 Ft.    | Blanked Off      | Gas Gravity            |                                                                                                                                        |  | Surface Pressure           | psi           |  |
| BT. P.R.D. No.             | 536         | Hour Clock 12    | Tool Opened            | 3:30 A.M.                                                                                                                              |  | Tool Closed                | 5:25 P.M.     |  |
| Initial Hydro Mud Pres.    | 1.720       | 2826             | Remarks                | open tool w/very weak blow increase to strong blow, second open weak blow to strong blow. Gas to surface in 80 mins. Unable to measure |  |                            |               |  |
| Initial Closed in Pres.    | .640        | 1054             |                        |                                                                                                                                        |  |                            |               |  |
| Initial Flow Pres.         | .070        | 1 116            |                        |                                                                                                                                        |  |                            |               |  |
| Final Flow Pres.           | .070        | 2 116            |                        |                                                                                                                                        |  |                            |               |  |
| Final Closed in Pres.      | .080        | 1 132            |                        |                                                                                                                                        |  |                            |               |  |
| Final Hydro Mud Pres.      | .080        | 2 132            |                        |                                                                                                                                        |  |                            |               |  |
|                            | .680        | 1119             |                        |                                                                                                                                        |  |                            |               |  |
|                            | 1.720       | 2826             |                        |                                                                                                                                        |  |                            |               |  |

FORM 1294-R2--SANDEFER

## FORMATION TEST DATA

Adams B

1-5

1

Horizontal &amp; Co.

Kans.

Legal Location  
Sec. - Twp. - Rng.

S-35-36

Field Area

S. Plains Ks. County

Made

State

Kans.

Lease Name

Well No.

Test No.

Lease Owner/Company Name

Owner's District

# Formation Testing Service Report

ADAMS

Lease Name

1-5

Well No.

1

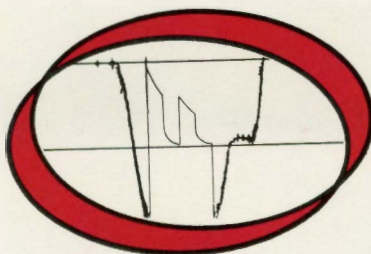
Test No.

HORIZON OIL AND GAS COMPANY

Lease Purpose/Production Name

KANSAS

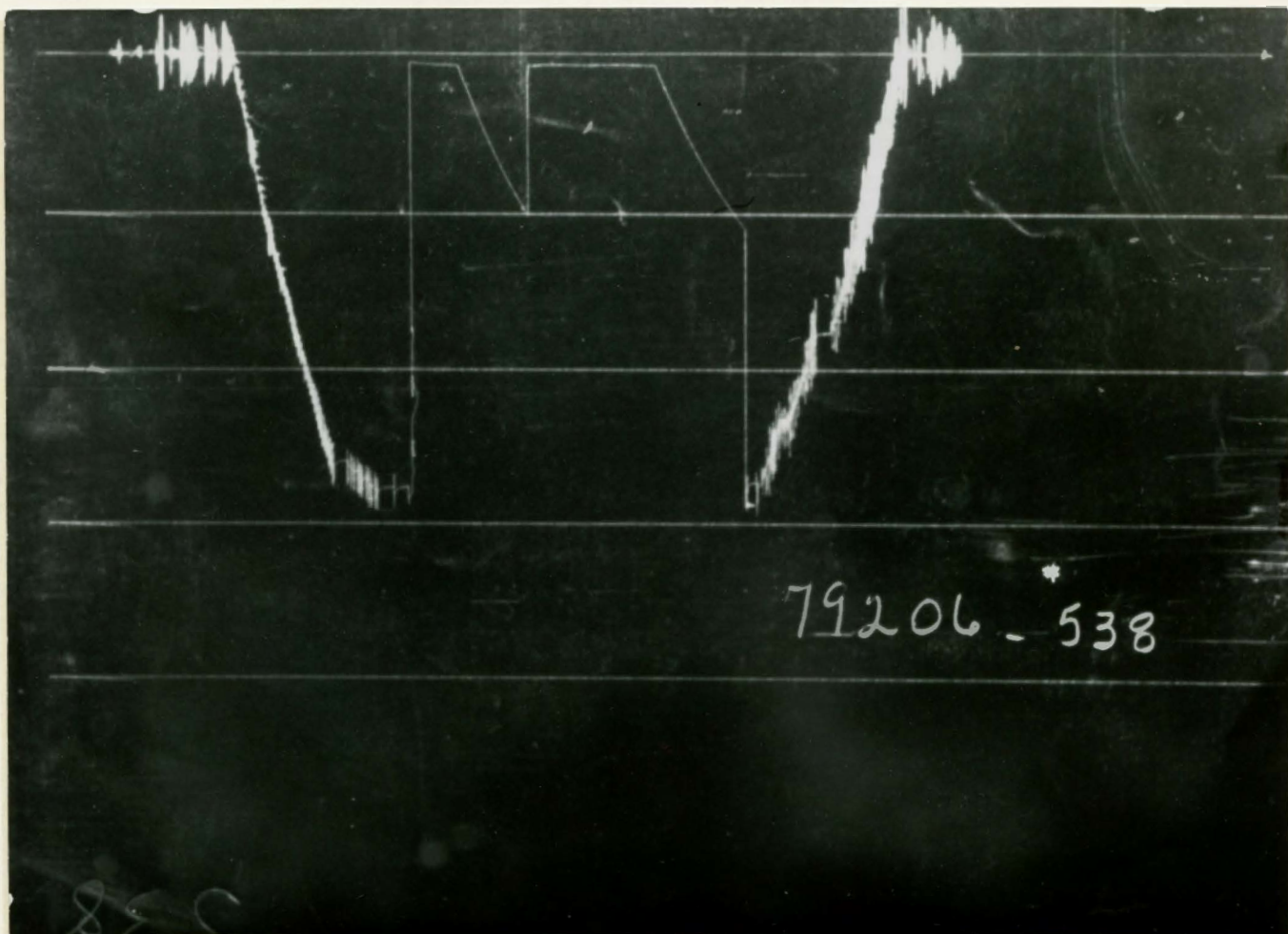
County, State



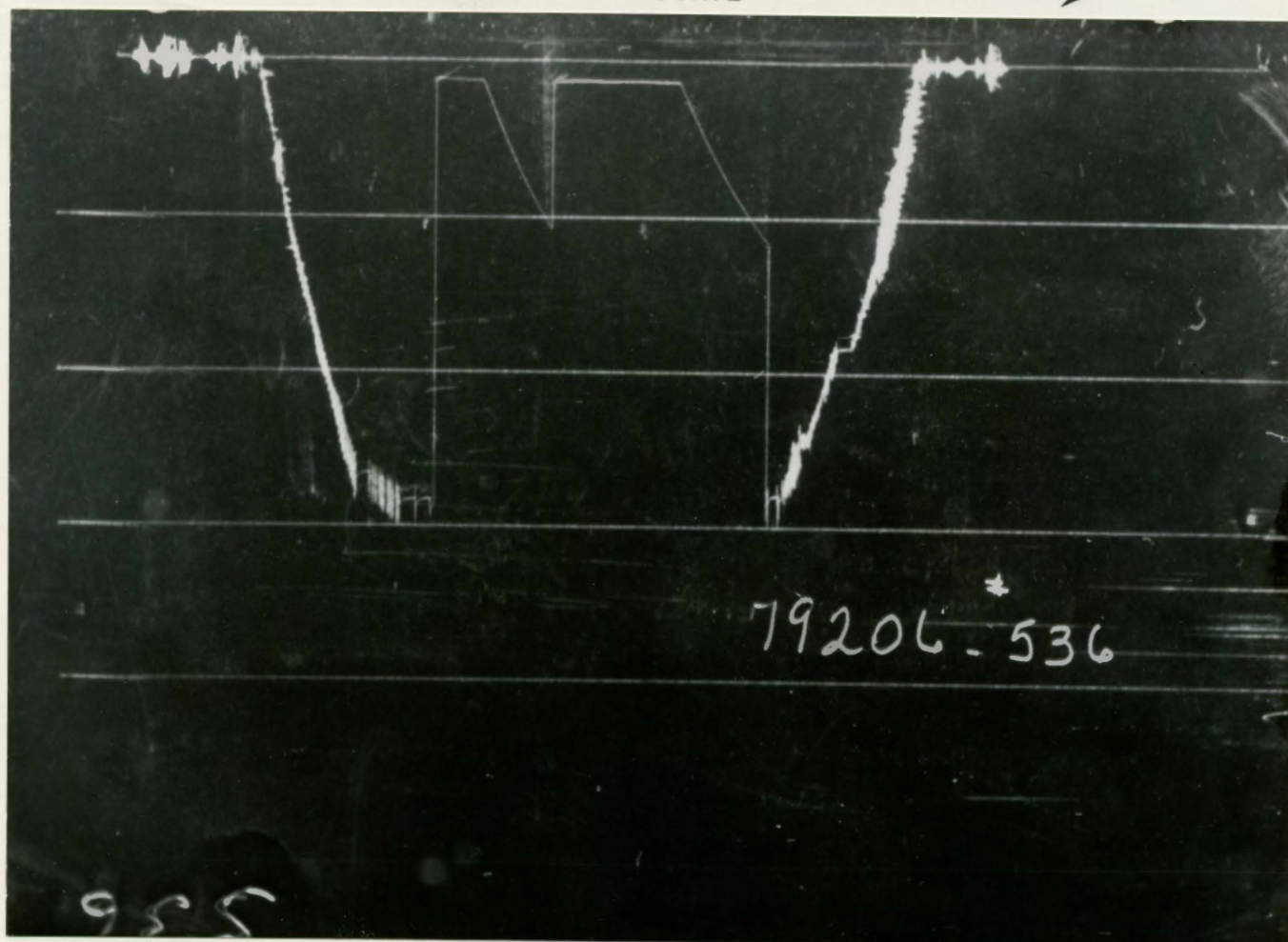
**HALLIBURTON COMPANY**

DUNCAN, OKLAHOMA

PRESSURE



TIME



Each Horizontal Line Equal to 1000 psi

|                            |             |                  |                                                     |                                        |                                  |                                |                                                                    |
|----------------------------|-------------|------------------|-----------------------------------------------------|----------------------------------------|----------------------------------|--------------------------------|--------------------------------------------------------------------|
| Flow Time                  | 1st 30 Min. | 2nd 75 Min.      | Date                                                | 5-28-67                                | Ticket Number                    | 79206 - S                      | Legal Location<br>Sec. - Twp. - Rng. 5 - 35 - 36                   |
| Closed In Press. Time      | 1st 40 Min. | 2nd 45 Min.      | Kind of Job                                         | OPEN HOLE                              | Halliburton District             | LIBERAL                        |                                                                    |
| Pressure Readings          | Field       | Office Corrected | Tester                                              | REECE                                  | Witness                          | ATKINSON                       |                                                                    |
| Depth Top Gauge            | 5627' Ft.   | Blanked Off NO   | Drilling Contractor                                 | ZENITH DRILLING COMPANY                |                                  |                                |                                                                    |
| BT. P.R.D. No.             | 538         | 12 Hour Clock    | Elevation                                           | 2454' K.B.                             | Top Packer                       | 5627'                          | Field Area<br>S. Plains, Kan. County<br>MEADE                      |
| Initial Hydro Mud Pressure | 2777        | 2831             | Total Depth                                         | 5766'                                  | Bottom Packer                    | 5632'                          |                                                                    |
| Initial Closed in Pres.    | 1029        | 1029             | Interval Tested                                     | 5632' - 5766'                          | Formation Tested                 | MARROW                         |                                                                    |
| Initial Flow Pres.         | 66 1 67     | 82 2 162         | Casing or Hole Size                                 | 7 7/8"                                 | Casing } Top -<br>Perf. } Bot. - |                                |                                                                    |
| Final Flow Pres.           | 82 1 75     | 82 2 75          | Surface Choke                                       | 1"                                     | Bottom Choke                     | 5/8"                           | Test No. 1<br>Lease Name<br>Wd No. 1-5<br>Lease Owner/Company Name |
| Final Closed in Pres.      | 1046        | 1118             | Size & Kind Drill Pipe                              | 4 1/2" X H                             | Drill Collars Above Tester       | I.D. - LENGTH<br>2 1/2" x 174' |                                                                    |
| Final Hydro Mud Pressure   | 2777        | 2790             | Mud Weight                                          | 9.4                                    | Mud Viscosity                    | 40                             |                                                                    |
| Depth Cen. Gauge           | Ft.         | Blanked Off      | Temperature                                         | 120 °F Est.<br>°F Actual               | Anchor Size & Length             | ID 2.84"<br>OD 5" X 43'        |                                                                    |
| BT. P.R.D. No.             |             | Hour Clock       | Depths Meas. From                                   | KELLY BUSHING                          | Depth of Tester Valve            | 5612' Ft.                      | MEADE                                                              |
| Initial Hydro Mud Pres.    |             |                  | TYPE AMOUNT<br>Cushion                              | NONE                                   | Depth Back Pres. Valve           | 5607' Ft.                      |                                                                    |
| Initial Closed in Pres.    |             |                  | Recovered                                           | 120' Feet of mud, gas cut              |                                  |                                |                                                                    |
| Initial Flow Pres.         | 1           |                  | Recovered                                           | Feet of                                |                                  |                                |                                                                    |
| Final Flow Pres.           | 1           |                  | Recovered                                           | Feet of                                |                                  |                                | State KANSAS<br>County District                                    |
| Final Closed in Pres.      |             |                  | Recovered                                           | Feet of                                |                                  |                                |                                                                    |
| Final Hydro Mud Pres.      |             |                  | Oil A.P.I. Gravity                                  |                                        | Water Spec. Gravity              |                                |                                                                    |
| Depth Bot. Gauge           | 5766' Ft.   | Blanked Off YES  | Gas Gravity                                         |                                        | Surface Pressure                 | P.S.I.                         |                                                                    |
| BT. P.R.D. No.             | 536         | 12 Hour Clock    | Tool Opened                                         | 3:30 AM                                | A.M. P.M.                        | Tool Closed                    | 5:25 AM A.M. P.M.                                                  |
| Initial Hydro Mud Pres.    | 2826        | 2893             | Remarks                                             | Tool opened for a 30 minute first flow |                                  |                                |                                                                    |
| Initial Closed in Pres.    | 1054        | 1098             | with a very weak blow - increasing to a strong      |                                        |                                  |                                |                                                                    |
| Initial Flow Pres.         | 116 1 127   |                  | blow. Rotated tool for a 40 minute initial closed   |                                        |                                  |                                |                                                                    |
| Final Flow Pres.           | 132 1 134   |                  | in pressure. Tool reopened with a weak to a strong  |                                        |                                  |                                |                                                                    |
| Final Closed in Pres.      | 1119        | 1187             | blow. Gas to the surface in 80 minutes - unable to  |                                        |                                  |                                |                                                                    |
| Final Hydro Mud Pres.      | 2826        | 2852             | measure. Took a 45 minute final closed in pressure. |                                        |                                  |                                |                                                                    |

# FORMATION TEST DATA

9

| Gauge No. 538     |                     |                            | Depth 5627'         |                                 |                        | Clock 12 hour       |                          | Ticket No. 79206    |                                 |                        |
|-------------------|---------------------|----------------------------|---------------------|---------------------------------|------------------------|---------------------|--------------------------|---------------------|---------------------------------|------------------------|
| 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                | 67                         | .000                |                                 | 75                     | .000                | 162                      | .000                |                                 | 75                     |
| P <sub>1</sub>    | .0318               | 62                         | .0278               |                                 | 192                    | .1016               | 72                       | .0359               |                                 | 213                    |
| P <sub>2</sub>    | .0636               | 67                         | .0556               |                                 | 307                    | .2032               | 72                       | .0718               |                                 | 343                    |
| P <sub>3</sub>    | .0954               | 69                         | .0834               |                                 | 413                    | .3048               | 70                       | .1077               |                                 | 464                    |
| P <sub>4</sub>    | .1272               | 72                         | .1112               |                                 | 521                    | .4064               | 72                       | .1436               |                                 | 577                    |
| P <sub>5</sub>    | .1590               | 74                         | .1390               |                                 | 619                    | .508                | 75                       | .1795               |                                 | 682                    |
| P <sub>6</sub>    | .191                | 75                         | .1668               |                                 | 710                    |                     |                          | .2154               |                                 | 785                    |
| P <sub>7</sub>    |                     |                            | .1946               |                                 | 803                    |                     |                          | .2513               |                                 | 875                    |
| P <sub>8</sub>    |                     |                            | .2224               |                                 | 883                    |                     |                          | .2872               |                                 | 963                    |
| P <sub>9</sub>    |                     |                            | .2502               |                                 | 961                    |                     |                          | .3231               |                                 | 1042                   |
| P <sub>10</sub>   |                     |                            | .278                |                                 | 1029                   |                     |                          | .359                |                                 | 1118                   |

| Gauge No. 536    |       |     | Depth 5766' |  |      | Clock 12 hour |     |       |         |      |
|------------------|-------|-----|-------------|--|------|---------------|-----|-------|---------|------|
| P <sub>0</sub>   | .000  | 127 | .000        |  | 134  | .000          | 175 | .000  |         | 139  |
| P <sub>1</sub>   | .0315 | 123 | .0276       |  | 250  | .1004         | 134 | .0357 |         | 276  |
| P <sub>2</sub>   | .0630 | 126 | .0552       |  | 369  | .2008         | 136 | .0714 |         | 406  |
| P <sub>3</sub>   | .0945 | 129 | .0828       |  | 480  | .3012         | 134 | .1071 |         | 528  |
| P <sub>4</sub>   | .1260 | 131 | .1104       |  | 582  | .4016         | 136 | .1428 |         | 643  |
| P <sub>5</sub>   | .1575 | 132 | .1380       |  | 679  | .502          | 139 | .1785 |         | 749  |
| P <sub>6</sub>   | .189  | 134 | .1656       |  | 775  |               |     | .2142 |         | 851  |
| P <sub>7</sub>   |       |     | .1932       |  | 864  |               |     | .2499 |         | 944  |
| P <sub>8</sub>   |       |     | .2208       |  | 949  |               |     | .2856 |         | 1033 |
| P <sub>9</sub>   |       |     | .2484       |  | 1026 |               |     | .3213 |         | 1111 |
| P <sub>10</sub>  |       |     | .276        |  | 1098 |               |     | .357  |         | 1187 |
| Reading Interval |       | 5   |             |  | 4    |               |     | 15    |         |      |
|                  |       |     |             |  |      |               |     | 4.5   | Minutes |      |
| REMARKS:         |       |     |             |  |      |               |     |       |         |      |
|                  |       |     |             |  |      |               |     |       |         |      |

SPECIAL PRESSURE DATA

9