

| | | | | | |
|---|----------------------------------|----------------------|----------------------|---------------|-----------|
| FLUID SAMPLE DATA | | Date | DECEMBER 22, 1981 | Ticket Number | HI 046929 |
| Sampler Pressure _____ P.S.I.G. at Surface | Kind of Job | CASED HOLE APR | Halliburton District | TANANGER | |
| Recovery: Cu. Ft. Gas _____ cc. Oil _____ cc. Water _____ cc. Mud _____ Tot. Liquid cc. _____ | Tester | GREEN/WILLET/TENNANT | | Witness | ROGERS |
| Gravity _____ ° API @ _____ °F. | Drilling Contractor | GLOBAL MARINE | | | |
| Gas/Oil Ratio _____ cu. ft./bbl. | EQUIPMENT & HOLE DATA | | | | |
| | Formation Tested | UPPER JURASSIC | | | |
| | Elevation | 82 | Ft. | | |
| | Net Productive Interval | 9 | MT. | | |
| | All Depths Measured From | RKB | | | |
| | Total Depth | 3803 MT PBD | | | |
| | Main Hole/Casing Size | 7" | | | |
| | Drill Collar Length | I.D. | | | |
| | Drill Pipe Length | I.D. | | | |
| | Packer Depth(s) | 3666.43 MT. | | | |
| | Depth Tester Valve | 3661.44 MT. | | | |

| | | | | | | |
|-----------|------------|---------------|------------------------|--------------------|--------------|------|
| Cushion | TYPE WATER | AMOUNT - FULL | Depth Back Pres. Valve | Surface Choke ADJ. | Bottom Choke | 1.99 |
| Recovered | Feet of | | | | | |
| Recovered | Feet of | | | | | |
| Recovered | Feet of | | | | | |
| Recovered | Feet of | | | | | |
| Recovered | Feet of | | | | | |
| Remarks | | | | | | |

| | | | | | | |
|----------------|-----------------------|-------------|-------------|-----------------------|-----------------------|------------------|
| TEMPERATURE | Gauge No. 5634 | Gauge No. | Gauge No. | TIME | | |
| | Depth: 3690.65 MTS | Depth: Ft. | Depth: Ft. | | | |
| Est. 230 °F. | 4226 - 120 Hour Clock | Blanked Off | Blanked Off | Tool Opened A.M. P.M. | | |
| Actual 243 °F. | Pressures | | Pressures | | Tool Closed A.M. P.M. | |
| | Field | Office | Field | Office | Reported Minutes | Computed Minutes |
| First Period | Initial | 5609.9 | 5646 | | | |
| | Final | 6361.2 | 6395 | | 11 | 8 |
| | Closed in | 6499.4 | 6528 | | 66 | 70 |
| Second Period | Initial | 6381.5 | 6427 | | | |
| | Final | 6133.5 | 6169 | | 776 | 774 |
| | Closed in | 6478.9 | 6516 | | 1190 | 1204 |
| Third Period | Initial | | | | | |
| | Final | | | | | |
| | Closed in | | | | | |
| | Final Hydrostatic | 7508.6 | 7395 | | | |

Legal Location Sec. - Twp. - Rng. L3/R
 Lease Name
 Well No. 1
 Test No. 3
 Tested Interval 3088 - 3093 MTS.
 County NORTH SEA
 State NORWAY
 ASSU EXPL. & PROD. NORKWAI INC.
 Lease Owner/Company Name

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

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED _____

| Date | a.m. | Choke | Surface | Gas | Liquid | Remarks |
|--------|------|-------|----------|------|--------|---|
| Time | p.m. | Size | Pressure | Rate | Rate | |
| | | | psi | MCF | BPD | |
| DEC 22 | 81 | | | | | |
| | 1910 | | | | | ENGAGE STYLUS - 5634 - 14226- 120 HR. |
| | 1911 | | | | | PICK UP TOOLS. |
| | 2048 | | | | | PRESSURE TEST AGAINST APR-N-2000 PSI-OK. |
| | 2055 | | | | | CONTINUE PICKING UP TOOLS. |
| | 2245 | | | | | PRESSURE TEST B.H.A. TO 7500PSI - OK. |
| | 2300 | | | | | R.I.H. |
| DEC 23 | | | | | | |
| | 0930 | | | | | PICK UP S.S.T.T. |
| | 1230 | | | | | PICK UP LUBRICATOR. |
| | 1430 | | | | | PICK UP SURFACE TEST TREE. |
| | 1738 | | | | | SET RTTS PACKER @ 3658 MTS. |
| | 1740 | | | | | RIG SURFACE LINES & TEST SAME. |
| | 2147 | | | | | CLOSE RAMS. |
| | 2150 | | | | | OPEN APR-N-D.P. TESTER VALVE CLOSED. |
| | 2154 | | | | | CLOSE APR-N. |
| | 2203 | | | | | PICK UP 12 FEET-PRESSURE TEST D.P. TO 1500PSI |
| | | | | | | ROTATE TO RIGHT TO OPEN D.P.T. VALVE |
| | 2211 | | | | | CLOSE RAMS. |
| | 2214 | | | | | PRESSURE ANNULUS-OPEN APR-N-D.P.T.V.CLOSED. |
| | 2221 | | | | | PRESSURE ANNULUS-OPEN APR-N-D.P.T.V.CLOSED. |
| | 2235 | | | | | OPEN RTTS CIRC.VALVE-OPEN D.P.T. VALVE. |
| | 2247 | | | | | CLOSE RAMS. |
| | 2251 | | 1200 | | | OPEN APR-N TESTER VALVE. |
| | 2302 | | | | | CLOSE APR-N TESTER VALVE. |
| DEC 24 | | | | | | |

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

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED _____

| Date Time | a.m. p.m. | Choke Size | Surface Pressure psi | Gas Rate MCF | Liquid Rate BPD | Remarks |
|--------------|--------------|---------------|----------------------------|--------------------|-----------------------|---|
| 0008 | | | | | | OPEN APR-N-1000 PSI MAINTAIN 1700PSI. |
| 0015 | | | 1310 | | | INITIAL PRESSURE. |
| 0030 | | 20/64 | | | | OPEN WELL AT FLOOR MANIFOLD ON20/64. |
| 0035 | | 30/64 | 1920 | | | |
| 0050 | | | 3560 | | | GAS TO SURFACE-6% CO ₂ 0% H ₂ S |
| 0052 | | 40/64 | | | | INCREASED TO 40/64. |
| 0112 | | 48/64 | | | | INCREASED TO 48/64. |
| 0130 | | 54/64 | 2800 | | | INCREASED TO 54/64 AT 2800 PSI. |
| 0230 | | | | | | DIVERTED FLOW TO SEPERATOR. |
| 0339 | | 56/64 | | | | CHANGED TO 56/64 POSITIVE-PRESSURE |
| | | | 1875 | | | DROPPED TO 1875 PSI - ADJUSTABLE. |
| | | | | | | CHOKE PARTIALLY PLUGGED W/METAL DEBRI. |
| 0354 | | | 1870 | | | FLOWING PRESSURE= 1870 PSI WITH 16% CO ₂ |
| | | | | | | AND.1% BS&W AT |
| 0400 | | | 1870 | | | 0400 WELL STABLIZED AT 1870 PRODUCING |
| | | | | | | EST. OF 22.28 MMSCF/D AT 2600 BPD. |
| 0600 | | | 1897 | | | |
| 1000 | | | 1890 | | | 16% CO ₂ |
| 1200 | | | 1895 | | | 135 DOWN STREAM PRESSURE 1020 PSI. |
| | | | | | | 11% CO ₂ |
| 1304 | | | | | | CLOSE IN AT MANIFOLD. |
| 1304 | | | | | | CLOSE APR-N. |
| 1310 | | | | | | PUT 100 PSI ON ANNULUS TO MONITOR. |
| DEC 25 | | | | | | |
| 0606 | | | | | | BLEED OFF TUBING TO 1000 PSI. |
| 0635 | | | | | | LOAD TUBING W/12.2 MUD. |

| <u>DESCRIPTION</u> | <u>O.D.</u> | <u>I.D.</u> | <u>LENGTH</u> | <u>DEPTH</u> |
|---------------------------|-------------|-------------|---------------|--------------|
| SURFACE TREE | | | LANDING | |
| TUBING | | | STRING | |
| LUBRICATOR | | | LENGHT | |
| TUBING | | | 140.31 | |
| SUB SEA TEST TREE | | | | 140.31 |
| TUBING | 3.50 | 2.75 | 3266.37 | 3406.68 |
| X-OVER 3½ TDS B X 3½ IF P | 5.00 | 2.50 | .40 | 3407.08 |
| SLIP JOINT - OPEN | 5.00 | 2.25 | 5.54 | 3412.62 |
| SLIP JOINT - CLOSED | 5.00 | 2.25 | 4.02 | 3416.64 |
| DRILL COLLARS - 5 STDS | 4.75 | 2.25 | 142.59 | 3559.23 |
| X-OVER 3½ IF B X 2½ EUE P | 4.75 | 2.50 | .23 | 3559.46 |
| RTTS CIRCULATING VALVE | 4.62 | 2.44 | .99 | 3560.45 |
| X-OVER 2½ EUE B X 3½ IF P | 4.75 | 2.62 | .20 | 3560.65 |
| DRILL COLLAR - 1 STD | 4.75 | 2.25 | 28.51 | 3589.16 |
| SLIP JOINT - CLOSED | 5.00 | 2.25 | 4.02 | 3593.18 |
| DRILL COLLAR - 1 STD | 4.75 | 2.25 | 28.51 | 3621.69 |
| APR-M REVERSING VALVE | 5.00 | 2.25 | 1.85 | 3623.54 |
| D.P. TESTER VALVE | 5.00 | 2.25 | 1.43 | 3624.97 |
| DRILL COLLAR - 1 STD | 4.75 | 2.25 | 28.51 | 3653.48 |
| SLIP JOINT - CLOSED | 5.00 | 2.25 | 4.02 | 3657.50 |
| APR-N TESTER VALVE | 4.63 | 2.00 | 3.94 | 3661.44 |
| FUL-FLO HYDRAULIC BY-PASS | 4.63 | 2.25 | 2.08 | 3663.52 |
| BIG JOHN JARS | 4.63 | 2.25 | 1.58 | 3665.10 |
| RTTS SAFETY JOINT | 4.87 | 2.37 | .82 | 3665.92 |
| RTTS PACKER - ABOVE | 5.75 | 1.99 | .51 | 3666.43 |
| RTTS PACKER - BELOW | 5.75 | 1.99 | .82 | 3667.25 |
| X-OVER 2½ DOUBLE PIN | | | .17 | 3667.42 |
| 2½ EUE PERF. TUBING | | | 9.05 | 3676.47 |
| X-N NIPPLE W/X-OVERS-OTIS | | | .89 | 3677.36 |
| TUBING FOR CUST. GAUGES | | | 18.57 | 3695.93 |
| BT RUNNING CASE | | | 1.77 | 3697.70 |

COMPANY: ESSO
TICKET NO: HD46929
GAUGE NO: 5634

1ST FLOW ----- 3, 2 MINUTE INTERVALS. LAST INTERVAL= 2 MINS.
TOTAL 8 MINUTES

| | TIME | | PRESSURE | | |
|----|---------|--------------|--------------|------|---------|
| | MINUTES | INCHES DEFL. | INCHES DEFL. | PSIG | DELTA P |
| P0 | 0 | .000 | 1.362 | 5646 | 0 |
| P1 | 2 | .001 | 1.576 | 6516 | 870 |
| P2 | 4 | .002 | 1.556 | 6435 | 81 |
| P3 | 6 | .004 | 1.546 | 6395 | 40 |
| P4 | 8 | .005 | 1.546 | 6395 | 0 |

COMPANY: ESSO
 TICKET NO: HD46929
 GAUGE NO: 5634

1ST CLOSURE ----- I3, 5 MINUTE INTERVALS. LAST INTERVAL= 5 MINS.
 ----- TOTAL 70 MINUTES

| | TIME | | PRESSURE | | DELTA P | LOG T+0/0 |
|-----|---------|--------------|--------------|------|---------|-----------|
| | MINUTES | INCHES DEFL. | INCHES DEFL. | PSIG | | |
| P0 | 0 | .000 | 1.546 | 6395 | 0 | |
| P1 | 5 | .003 | 1.577 | 6520 | 125 | .4260 |
| P2 | 10 | .006 | 1.578 | 6524 | 4 | .2632 |
| P3 | 15 | .009 | 1.579 | 6528 | 4 | .1919 |
| P4 | 20 | .012 | 1.579 | 6528 | 0 | .1513 |
| P5 | 25 | .015 | 1.579 | 6528 | 0 | .1249 |
| P6 | 30 | .018 | 1.579 | 6528 | 0 | .1065 |
| P7 | 35 | .021 | 1.579 | 6528 | 0 | .0928 |
| P8 | 40 | .024 | 1.579 | 6528 | 0 | .0822 |
| P9 | 45 | .027 | 1.579 | 6528 | 0 | .0738 |
| P10 | 50 | .030 | 1.579 | 6528 | 0 | .0669 |
| P11 | 55 | .033 | 1.579 | 6528 | 0 | .0613 |
| P12 | 60 | .036 | 1.579 | 6528 | 0 | .0565 |
| P13 | 65 | .039 | 1.579 | 6528 | 0 | .0524 |
| P14 | 70 | .042 | 1.579 | 6528 | 0 | .0488 |

COMPANY: ESSO
 TICKET NO: HD46929
 GAUGE NO: 5634

2ND FLOW ----- 76, 10 MINUTE INTERVALS. LAST INTERVAL= 14 MINS.
 ----- TOTAL 774 MINUTES

| | TIME | | PRESSURE | | DELTA P |
|-----|---------|--------------|--------------|------|---------|
| | MINUTES | INCHES DEFL. | INCHES DEFL. | PSIG | |
| P0 | 0 | .000 | 1.554 | 6427 | 0 |
| P1 | 10 | .006 | 1.550 | 6411 | 16 |
| P2 | 20 | .012 | 1.539 | 6367 | 44 |
| P3 | 30 | .018 | 1.497 | 6198 | 169 |
| P4 | 40 | .024 | 1.527 | 6319 | 121 |
| P5 | 50 | .030 | 1.491 | 6173 | 146 |
| P6 | 60 | .036 | 1.526 | 6315 | 142 |
| P7 | 70 | .042 | 1.533 | 6343 | 28 |
| P8 | 80 | .048 | 1.537 | 6359 | 16 |
| P9 | 90 | .054 | 1.493 | 6181 | 178 |
| P10 | 100 | .060 | 1.499 | 6206 | 25 |
| P11 | 110 | .066 | 1.504 | 6226 | 20 |
| P12 | 120 | .071 | 1.505 | 6230 | 4 |
| P13 | 130 | .077 | 1.506 | 6234 | 4 |
| P14 | 140 | .083 | 1.508 | 6242 | 8 |
| P15 | 150 | .089 | 1.511 | 6254 | 12 |
| P16 | 160 | .095 | 1.512 | 6258 | 4 |
| P17 | 170 | .101 | 1.514 | 6266 | 8 |
| P18 | 180 | .107 | 1.515 | 6270 | 4 |
| P19 | 190 | .113 | 1.516 | 6274 | 4 |
| P20 | 200 | .119 | 1.518 | 6282 | 8 |
| P21 | 210 | .125 | 1.520 | 6290 | 8 |
| P22 | 220 | .131 | 1.489 | 6165 | 125 |
| P23 | 230 | .137 | 1.490 | 6169 | 4 |
| P24 | 240 | .143 | 1.491 | 6173 | 4 |
| P25 | 250 | .149 | 1.491 | 6173 | 0 |
| P26 | 260 | .155 | 1.492 | 6177 | 4 |
| P27 | 270 | .161 | 1.492 | 6177 | 0 |
| P28 | 280 | .167 | 1.492 | 6177 | 0 |
| P29 | 290 | .173 | 1.492 | 6177 | 0 |
| P30 | 300 | .179 | 1.492 | 6177 | 0 |
| P31 | 310 | .185 | 1.492 | 6177 | 0 |
| P32 | 320 | .191 | 1.492 | 6177 | 0 |
| P33 | 330 | .197 | 1.492 | 6177 | 0 |
| P34 | 340 | .203 | 1.492 | 6177 | 0 |
| P35 | 350 | .209 | 1.492 | 6177 | 0 |
| P36 | 360 | .214 | 1.492 | 6177 | 0 |
| P37 | 370 | .220 | 1.492 | 6177 | 0 |
| P38 | 380 | .226 | 1.492 | 6177 | 0 |
| P39 | 390 | .232 | 1.492 | 6177 | 0 |
| P40 | 400 | .238 | 1.492 | 6177 | 0 |
| P41 | 410 | .244 | 1.492 | 6177 | 0 |
| P42 | 420 | .250 | 1.491 | 6173 | 4 |

COMPANY: ESSO
 TICKET NO: HD46929
 GAUGE NO: 5634

2ND FLOW CONTINUED

| | TIME | | PRESSURE | | DELTA P |
|-----|---------|--------------|--------------|------|---------|
| | MINUTES | INCHES DEFL. | INCHES DEFL. | PSIG | |
| P43 | 430 | .256 | 1.491 | 6173 | 0 |
| P44 | 440 | .262 | 1.491 | 6173 | 0 |
| P45 | 450 | .268 | 1.491 | 6173 | 0 |
| P46 | 460 | .274 | 1.491 | 6173 | 0 |
| P47 | 470 | .280 | 1.491 | 6173 | 0 |
| P48 | 480 | .286 | 1.491 | 6173 | 0 |
| P49 | 490 | .292 | 1.491 | 6173 | 0 |
| P50 | 500 | .298 | 1.491 | 6173 | 0 |
| P51 | 510 | .304 | 1.491 | 6173 | 0 |
| P52 | 520 | .310 | 1.491 | 6173 | 0 |
| P53 | 530 | .316 | 1.491 | 6173 | 0 |
| P54 | 540 | .322 | 1.491 | 6173 | 0 |
| P55 | 550 | .328 | 1.491 | 6173 | 0 |
| P56 | 560 | .334 | 1.491 | 6173 | 0 |
| P57 | 570 | .340 | 1.491 | 6173 | 0 |
| P58 | 580 | .346 | 1.491 | 6173 | 0 |
| P59 | 590 | .351 | 1.491 | 6173 | 0 |
| P60 | 600 | .357 | 1.491 | 6173 | 0 |
| P61 | 610 | .363 | 1.491 | 6173 | 0 |
| P62 | 620 | .369 | 1.491 | 6173 | 0 |
| P63 | 630 | .375 | 1.491 | 6173 | 0 |
| P64 | 640 | .381 | 1.491 | 6173 | 0 |
| P65 | 650 | .387 | 1.491 | 6173 | 0 |
| P66 | 660 | .393 | 1.491 | 6173 | 0 |
| P67 | 670 | .399 | 1.491 | 6173 | 0 |
| P68 | 680 | .405 | 1.491 | 6173 | 0 |
| P69 | 690 | .411 | 1.491 | 6173 | 0 |
| P70 | 700 | .417 | 1.491 | 6173 | 0 |
| P71 | 710 | .423 | 1.491 | 6173 | 0 |
| P72 | 720 | .429 | 1.490 | 6169 | 4 |
| P73 | 730 | .435 | 1.490 | 6169 | 0 |
| P74 | 740 | .441 | 1.490 | 6169 | 0 |
| P75 | 750 | .447 | 1.490 | 6169 | 0 |
| P76 | 760 | .453 | 1.490 | 6169 | 0 |
| P77 | 774 | .461 | 1.490 | 6169 | 0 |

COMPANY: ESSO
 TICKET NO: HD46929
 GAUGE NO: 5634

2ND CLOSURE 119, 10 MINUTE INTERVALS. LAST INTERVAL= 14 MINS.

 TOTAL 1204 MINUTES

| | TIME | | PRESSURE | | DELTA P | LOG T+0/0 |
|-----|---------|--------------|--------------|------|---------|-----------|
| | MINUTES | INCHES DEFL. | INCHES DEFL. | PSIG | | |
| P0 | 0 | .000 | 1.490 | 6169 | 0 | |
| P1 | 10 | .006 | 1.563 | 6464 | 295 | 1.8958 |
| P2 | 20 | .012 | 1.565 | 6472 | 8 | 1.6002 |
| P3 | 30 | .018 | 1.566 | 6476 | 4 | 1.4296 |
| P4 | 40 | .024 | 1.566 | 6476 | 0 | 1.3100 |
| P5 | 50 | .030 | 1.567 | 6480 | 4 | 1.2184 |
| P6 | 60 | .036 | 1.567 | 6480 | 0 | 1.1444 |
| P7 | 70 | .042 | 1.567 | 6480 | 0 | 1.0826 |
| P8 | 80 | .048 | 1.568 | 6484 | 4 | 1.0297 |
| P9 | 90 | .054 | 1.568 | 6484 | 0 | .9836 |
| P10 | 100 | .060 | 1.568 | 6484 | 0 | .9428 |
| P11 | 110 | .066 | 1.568 | 6484 | 0 | .9064 |
| P12 | 120 | .071 | 1.569 | 6488 | 4 | .8787 |
| P13 | 130 | .077 | 1.569 | 6488 | 0 | .8483 |
| P14 | 140 | .083 | 1.569 | 6488 | 0 | .8205 |
| P15 | 150 | .089 | 1.569 | 6488 | 0 | .7949 |
| P16 | 160 | .095 | 1.569 | 6488 | 0 | .7712 |
| P17 | 170 | .101 | 1.570 | 6492 | 4 | .7493 |
| P18 | 180 | .107 | 1.570 | 6492 | 0 | .7288 |
| P19 | 190 | .113 | 1.570 | 6492 | 0 | .7096 |
| P20 | 200 | .119 | 1.570 | 6492 | 0 | .6916 |
| P21 | 210 | .125 | 1.570 | 6492 | 0 | .6747 |
| P22 | 220 | .131 | 1.570 | 6492 | 0 | .6587 |
| P23 | 230 | .137 | 1.570 | 6492 | 0 | .6436 |
| P24 | 240 | .143 | 1.570 | 6492 | 0 | .6293 |
| P25 | 250 | .149 | 1.571 | 6496 | 4 | .6157 |
| P26 | 260 | .155 | 1.571 | 6496 | 0 | .6028 |
| P27 | 270 | .161 | 1.571 | 6496 | 0 | .5904 |
| P28 | 280 | .167 | 1.571 | 6496 | 0 | .5787 |
| P29 | 290 | .173 | 1.571 | 6496 | 0 | .5675 |
| P30 | 300 | .179 | 1.571 | 6496 | 0 | .5567 |
| P31 | 310 | .185 | 1.571 | 6496 | 0 | .5464 |
| P32 | 320 | .191 | 1.571 | 6496 | 0 | .5365 |
| P33 | 330 | .197 | 1.571 | 6496 | 0 | .5270 |
| P34 | 340 | .203 | 1.572 | 6500 | 4 | .5179 |
| P35 | 350 | .209 | 1.572 | 6500 | 0 | .5092 |
| P36 | 360 | .214 | 1.572 | 6500 | 0 | .5021 |
| P37 | 370 | .220 | 1.572 | 6500 | 0 | .4939 |
| P38 | 380 | .226 | 1.572 | 6500 | 0 | .4860 |
| P39 | 390 | .232 | 1.572 | 6500 | 0 | .4784 |
| P40 | 400 | .238 | 1.572 | 6500 | 0 | .4710 |
| P41 | 410 | .244 | 1.572 | 6500 | 0 | .4639 |
| P42 | 420 | .250 | 1.572 | 6500 | 0 | .4570 |

COMPANY: ESSO
 TICKET NO: HD46929
 GAUGE NO: 5634

2ND CLOSURE CONTINUED

| | TIME | | PRESSURE | | DELTA P | LOG T+0/0 |
|-----|---------|--------------|--------------|------|---------|-----------|
| | MINUTES | INCHES DEFL. | INCHES DEFL. | PSIG | | |
| P43 | 430 | .256 | 1.572 | 6500 | 0 | .4503 |
| P44 | 440 | .262 | 1.572 | 6500 | 0 | .4438 |
| P45 | 450 | .268 | 1.572 | 6500 | 0 | .4376 |
| P46 | 460 | .274 | 1.572 | 6500 | 0 | .4315 |
| P47 | 470 | .280 | 1.573 | 6504 | 4 | .4256 |
| P48 | 480 | .286 | 1.573 | 6504 | 0 | .4199 |
| P49 | 490 | .292 | 1.573 | 6504 | 0 | .4143 |
| P50 | 500 | .298 | 1.573 | 6504 | 0 | .4089 |
| P51 | 510 | .304 | 1.573 | 6504 | 0 | .4036 |
| P52 | 520 | .310 | 1.573 | 6504 | 0 | .3985 |
| P53 | 530 | .316 | 1.573 | 6504 | 0 | .3935 |
| P54 | 540 | .322 | 1.573 | 6504 | 0 | .3887 |
| P55 | 550 | .328 | 1.573 | 6504 | 0 | .3839 |
| P56 | 560 | .334 | 1.574 | 6508 | 4 | .3793 |
| P57 | 570 | .340 | 1.574 | 6508 | 0 | .3749 |
| P58 | 580 | .346 | 1.574 | 6508 | 0 | .3705 |
| P59 | 590 | .351 | 1.574 | 6508 | 0 | .3669 |
| P60 | 600 | .357 | 1.574 | 6508 | 0 | .3627 |
| P61 | 610 | .363 | 1.574 | 6508 | 0 | .3586 |
| P62 | 620 | .369 | 1.574 | 6508 | 0 | .3547 |
| P63 | 630 | .375 | 1.574 | 6508 | 0 | .3508 |
| P64 | 640 | .381 | 1.574 | 6508 | 0 | .3470 |
| P65 | 650 | .387 | 1.574 | 6508 | 0 | .3432 |
| P66 | 660 | .393 | 1.574 | 6508 | 0 | .3396 |
| P67 | 670 | .399 | 1.574 | 6508 | 0 | .3360 |
| P68 | 680 | .405 | 1.574 | 6508 | 0 | .3326 |
| P69 | 690 | .411 | 1.574 | 6508 | 0 | .3292 |
| P70 | 700 | .417 | 1.574 | 6508 | 0 | .3258 |
| P71 | 710 | .423 | 1.574 | 6508 | 0 | .3226 |
| P72 | 720 | .429 | 1.574 | 6508 | 0 | .3194 |
| P73 | 730 | .435 | 1.574 | 6508 | 0 | .3162 |
| P74 | 740 | .441 | 1.574 | 6508 | 0 | .3132 |
| P75 | 750 | .447 | 1.574 | 6508 | 0 | .3102 |
| P76 | 760 | .453 | 1.574 | 6508 | 0 | .3072 |
| P77 | 770 | .459 | 1.574 | 6508 | 0 | .3043 |
| P78 | 780 | .465 | 1.574 | 6508 | 0 | .3015 |
| P79 | 790 | .471 | 1.574 | 6508 | 0 | .2987 |
| P80 | 800 | .477 | 1.574 | 6508 | 0 | .2960 |
| P81 | 810 | .483 | 1.574 | 6508 | 0 | .2933 |
| P82 | 820 | .488 | 1.574 | 6508 | 0 | .2911 |
| P83 | 830 | .494 | 1.574 | 6508 | 0 | .2885 |
| P84 | 840 | .500 | 1.575 | 6512 | 4 | .2860 |
| P85 | 850 | .506 | 1.575 | 6512 | 0 | .2835 |

COMPANY: ESSO
 TICKET NO: HD46929
 GAUGE NO: 5634

2ND CLOSURE CONTINUED

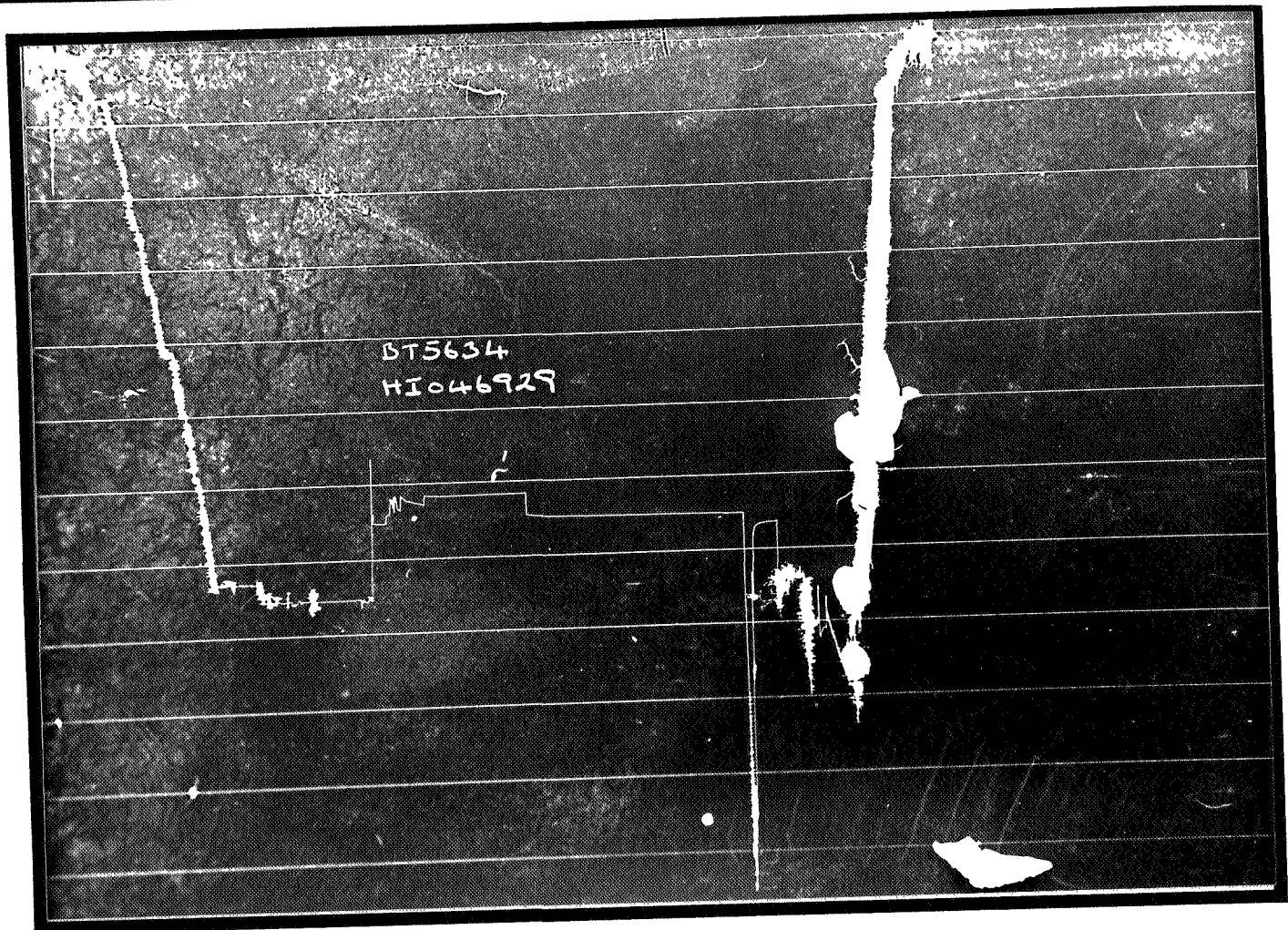
| | TIME | | PRESSURE | | DELTA P | LOG T+0/0 |
|------|---------|--------------|--------------|------|---------|-----------|
| | MINUTES | INCHES DEFL. | INCHES DEFL. | PSIG | | |
| P86 | 860 | .512 | 1.575 | 6512 | 0 | .2811 |
| P87 | 870 | .518 | 1.575 | 6512 | 0 | .2787 |
| P88 | 880 | .524 | 1.575 | 6512 | 0 | .2763 |
| P89 | 890 | .530 | 1.575 | 6512 | 0 | .2740 |
| P90 | 900 | .536 | 1.575 | 6512 | 0 | .2717 |
| P91 | 910 | .542 | 1.575 | 6512 | 0 | .2695 |
| P92 | 920 | .548 | 1.575 | 6512 | 0 | .2673 |
| P93 | 930 | .554 | 1.575 | 6512 | 0 | .2651 |
| P94 | 940 | .560 | 1.575 | 6512 | 0 | .2630 |
| P95 | 950 | .566 | 1.575 | 6512 | 0 | .2609 |
| P96 | 960 | .572 | 1.575 | 6512 | 0 | .2588 |
| P97 | 970 | .578 | 1.575 | 6512 | 0 | .2568 |
| P98 | 980 | .584 | 1.575 | 6512 | 0 | .2548 |
| P99 | 990 | .590 | 1.575 | 6512 | 0 | .2528 |
| P100 | 1000 | .596 | 1.575 | 6512 | 0 | .2509 |
| P101 | 1010 | .602 | 1.575 | 6512 | 0 | .2490 |
| P102 | 1020 | .608 | 1.575 | 6512 | 0 | .2471 |
| P103 | 1030 | .614 | 1.575 | 6512 | 0 | .2453 |
| P104 | 1040 | .620 | 1.575 | 6512 | 0 | .2434 |
| P105 | 1050 | .626 | 1.575 | 6512 | 0 | .2416 |
| P106 | 1060 | .631 | 1.575 | 6512 | 0 | .2402 |
| P107 | 1070 | .637 | 1.575 | 6512 | 0 | .2384 |
| P108 | 1080 | .643 | 1.575 | 6512 | 0 | .2367 |
| P109 | 1090 | .649 | 1.575 | 6512 | 0 | .2350 |
| P110 | 1100 | .655 | 1.576 | 6516 | 4 | .2334 |
| P111 | 1110 | .661 | 1.576 | 6516 | 0 | .2317 |
| P112 | 1120 | .667 | 1.576 | 6516 | 0 | .2301 |
| P113 | 1130 | .673 | 1.576 | 6516 | 0 | .2285 |
| P114 | 1140 | .679 | 1.576 | 6516 | 0 | .2269 |
| P115 | 1150 | .685 | 1.576 | 6516 | 0 | .2254 |
| P116 | 1160 | .691 | 1.576 | 6516 | 0 | .2239 |
| P117 | 1170 | .697 | 1.576 | 6516 | 0 | .2223 |
| P118 | 1180 | .703 | 1.576 | 6516 | 0 | .2209 |
| P119 | 1190 | .709 | 1.576 | 6516 | 0 | .2194 |
| P120 | 1204 | .717 | 1.576 | 6516 | 0 | .2175 |

COMPANY: ESSO
 TICKET NO: H046929
 GAUGE NO: 5634

BULLHEAD/REV. CIRC. 36, 5 MINUTE INTERVALS. LAST INTERVAL= 5 MINS.

 TOTAL 185 MINUTES

| | TIME | | PRESSURE | | |
|-----|---------|--------------|--------------|-------|---------|
| | MINUTES | INCHES DEFL. | INCHES DEFL. | PSIG | DELTA P |
| P0 | 0 | .000 | 1.576 | 6516 | 0 |
| P1 | 5 | .003 | 2.174 | 8943 | 2427 |
| P2 | 10 | .006 | 2.814 | 11512 | 2569 |
| P3 | 15 | .009 | 2.660 | 10896 | 616 |
| P4 | 20 | .012 | 2.482 | 10187 | 709 |
| P5 | 25 | .015 | 2.587 | 10606 | 419 |
| P6 | 30 | .018 | 2.585 | 10598 | 8 |
| P7 | 35 | .021 | 2.120 | 8725 | 1873 |
| P8 | 40 | .024 | 1.776 | 7327 | 1398 |
| P9 | 45 | .027 | 1.868 | 7702 | 375 |
| P10 | 50 | .030 | 1.661 | 6859 | 843 |
| P11 | 55 | .033 | 1.637 | 6762 | 97 |
| P12 | 60 | .036 | 1.626 | 6718 | 44 |
| P13 | 65 | .039 | 1.622 | 6702 | 16 |
| P14 | 70 | .042 | 1.619 | 6690 | 12 |
| P15 | 75 | .045 | 1.616 | 6677 | 13 |
| P16 | 80 | .048 | 1.615 | 6673 | 4 |
| P17 | 85 | .051 | 1.613 | 6665 | 8 |
| P18 | 90 | .054 | 1.612 | 6661 | 4 |
| P19 | 95 | .057 | 1.611 | 6657 | 4 |
| P20 | 100 | .060 | 1.610 | 6653 | 4 |
| P21 | 105 | .063 | 1.610 | 6653 | 0 |
| P22 | 110 | .066 | 1.610 | 6653 | 0 |
| P23 | 115 | .069 | 1.610 | 6653 | 0 |
| P24 | 120 | .071 | 1.609 | 6649 | 4 |
| P25 | 125 | .074 | 1.609 | 6649 | 0 |
| P26 | 130 | .077 | 1.609 | 6649 | 0 |
| P27 | 135 | .080 | 1.608 | 6645 | 4 |
| P28 | 140 | .083 | 1.608 | 6645 | 0 |
| P29 | 145 | .086 | 1.608 | 6645 | 0 |
| P30 | 150 | .089 | 1.607 | 6641 | 4 |
| P31 | 155 | .092 | 1.607 | 6641 | 0 |
| P32 | 160 | .095 | 1.607 | 6641 | 0 |
| P33 | 165 | .098 | 1.607 | 6641 | 0 |
| P34 | 170 | .101 | 1.607 | 6641 | 0 |
| P35 | 175 | .104 | 1.607 | 6641 | 0 |
| P36 | 180 | .107 | 1.607 | 6641 | 0 |
| P37 | 185 | .110 | 1.607 | 6641 | 0 |



DT5634
HI046929

Pressure

RPG time

BT time

Nomenclature

| | | |
|-----------------------|--|-----------------|
| b | = Approximate Radius of Investigation | Feet |
| b₁ | = Approximate Radius of Investigation (Net Pay Zone h ₁) | Feet |
| D.R. | = Damage Ratio | — |
| EI | = Elevation | Feet |
| GD | = B.T. Gauge Depth (From Surface Reference) | Feet |
| h | = Interval Tested | Feet |
| h₁ | = Net Pay Thickness | Feet |
| K | = Permeability | md |
| K₁ | = Permeability (From Net Pay Zone h ₁) | md |
| m | = Slope Extrapolated Pressure Plot (Psi ² /cycle Gas) | psi/cycle |
| OF₁ | = Maximum Indicated Flow Rate | MCF/D |
| OF₂ | = Minimum Indicated Flow Rate | MCF/D |
| OF₃ | = Theoretical Open Flow Potential with /Damage Removed Max. | MCF/D |
| OF₄ | = Theoretical Open Flow Potential with/Damage Removed Min. | MCF/D |
| P_s | = Extrapolated Static Pressure | Psig. |
| P_F | = Final Flow Pressure | Psig. |
| P_{ot} | = Potentiometric Surface (Fresh Water*) | Feet |
| Q | = Average Adjusted Production Rate During Test | bbls/day |
| Q₁ | = Theoretical Production w/Damage Removed | bbls/day |
| Q_g | = Measured Gas Production Rate | MCF/D |
| R | = Corrected Recovery | bbls |
| r_w | = Radius of Well Bore | Feet |
| t | = Flow Time | Minutes |
| t_o | = Total Flow Time | Minutes |
| T | = Temperature Rankine | °R |
| Z | = Compressibility Factor | — |
| μ | = Viscosity Gas or Liquid | CP |
| Log | = Common Log | |

*Potentiometric Surface Reference to Rotary Table When Elevation Not Given,
Fresh Water Corrected to 100° F.