# A P P E N D I X  N O .  I

## FORMATION TESTING

TEST NO.1 KEEP RIVER NO.1

| | | | | | |
|---|---|---|---|---|---|
| Flow Time | 1st Min. 10 | 2nd Min. 80 | Date 26 10 68 | Ticket Number 1. | |
| Closed In Press. Time | 1st Min. 44 | 2nd Min. 30 | Kind of Job OPEN HOLE TEST | Halliburton District PERTH | |
| Pressure Readings | Field | Office Corrected | Tester MR. CLAYTON | Witness MR. CAMP | |
| Depth Top Gauge | 6884.75 Ft. | Blanked Off | Drilling Contractor O.D. and E. | | |
| BT. P.R.D. No. | 1895 | 24 Hour Clock | Elevation 75' - 91.17 Rotary Table | Top Packer 6896 | |
| Initial Hydro Mud Pressure | | | Total Depth 6963 | Bottom Packer 6893.20 | |
| Initial Closed in Pres. | | | Interval Tested 6893.20 - 6963 | Formation Tested Sandstone | |
| Initial Flow Pres. | 1 / 2 | | Casing or Hole Size $8\frac{3}{4}$ | Casing Perfs. Top / Bot. | |
| Final Flow Pres. | 1 / 2 | | Surface Choke $\frac{1}{4}$ | Bottom Choke $\frac{3}{4}$ | |
| Final Closed in Pres. | | | Size & Kind Drill Pipe 5" x H | Drill Collars Above Tester (I.D. - LENGTH) 6.1/8x2$\frac{1}{4}$-357 | |
| Final Hydro Mud Pressure | | | Mud Weight 9.3 | Mud Viscosity 45 | |
| Depth Cen. Gauge | Ft. | Blanked Off | Temperature Nil °F Est. / °F Actual | Anchor Size & Length ID / OD $4\frac{3}{4}$ X 25 | |
| BT. P.R.D. No. | | Hour Clock | Depths Mea. From Rotary Table | Depth of Tester Valve 6867.10 Ft. | |
| Initial Hydro Mud Pres. | | | Cushion TYPE AMOUNT Ft. | Depth Back Pres. Valve Ft. | |
| Initial Closed in Pres. | | | Recovered 5920 Feet of Water NaCl 15.8 to 23.40 g/l | | Mea. From Tester Valve |
| Initial Flow Pres. | 1 / 2 | | Recovered Feet of | | |
| Final Flow Pres. | 1 / 2 | | Recovered Feet of | | |
| Final Closed in Pres. | | | Recovered Feet of | | |
| Final Hydro Mud Pres. | | | Oil A.P.I. Gravity / | Water Spec. Gravity 1.02 | |
| Depth Bot. Gauge | Ft. | Blanked Off | Gas Gravity / | Surface Pressure psi | |
| BT. P.R.D. No. | | Hour Clock | Tool Opened 4.H 23 A.M. P.M. | Tool Closed 7.H 08 A.M. P.M. | |
| Initial Hydro Mud Pres. | | | Remarks Broken recorders did not work. The | | |
| Initial Closed in Pres. | | | final flow pressure calculated from the height | | |
| Initial Flow Pres. | 1 / 2 | | of fluid in the drill pipe is 2600 psi. this | | |
| Final Flow Pres. | 1 / 2 | | valde must be correct as the flow seemed to be | | |
| Final Closed in Pres. | | | nearly stabilized. | | |
| Final Hydro Mud Pres. | | | | | |

Legal Location Sec. - Twp. - Rng. 07 - 162 - KEEP RIVER

Lease Name KEEP RIVER

Well No. NO.1.

Test No. No.1.

Field Area

County

State N.T.

Lease Owner/Company Name AUSTRALIAN OIL EXPLORATION

Owner's District

FORM 1294-REV-SANDEFER

# FORMATION TEST DATA

KEEP RIVER TEST NO.2B

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Flow Time | 1st Min. 15 | 2nd Min. 10 | Date | 3-6-69 | Ticket Number | 458329 - S | |
| Closed In Press. Time | 1st Min. 90 | 2nd Min. - | Kind of Job | Open hole | Halliburton District | Perth | |
| Pressure Readings | Field | Office Corrected | Tester | Mr. Ivins | Witness | MR.M.RICHEUX | |
| Depth Top Gauge | 13236 Ft. | Blanked Off no | Drilling Contractor | O D E # 9 | | sm | |
| BT. P.R.D. No. | 1895 | Hour Clock 24 | Elevation | -- | Top Packer | 13246' | |
| Initial Hydro Mud Pressure | No readings. | | Total Depth | 15623' | Bottom Packer | 13252' | |
| Initial Closed in Pres. | Clock stopped..... | | Interval Tested | 13252-15623' | Formation Tested | Ning Bing | |
| Initial Flow Pres. | 1 2 | | Casing or Hole Size | 8½" hole | Casing Perfs. Top / Bot. | | |
| Final Flow Pres. | 1 2 | | Surface Choke | 3/8" | Bottom Choke | .62 Hydrospring | |
| Final Closed in Pres. | | | Size & Kind Drill Pipe | 5" 19.50# 4½" IF | Drill Collars Above Tester I.D. - LENGTH | 2¼ x 416' | |
| Final Hydro Mud Pressure | | | Mud Weight | 10 | Mud Viscosity | 86 | |
| Depth Cen. Gauge | Ft. | Blanked Off | Temperature | 290 °F Est. / °F Actual | Anchor Size & Length ID / OD | 2.37" x 16' / 5" | |
| BT. P.R.D. No. | | Hour Clock | Depths Mea. From | Kelly bushing | Depth of Tester Valve | 13231 Ft. | |
| Initial Hydro Mud Pres. | | | Cushion TYPE Fresh water AMOUNT 8000 Ft. | | Depth Back Pres. Valve | Ft. | |
| Initial Closed in Pres. | | | Recovered | 8000 Feet of water cushion | | | |
| Initial Flow Pres. | 1 2 | | Recovered | 366 Feet of rat hole mud | | | |
| Final Flow Pres. | 1 2 | | Recovered | Feet of | | | |
| Final Closed in Pres. | | | Recovered | Feet of | | | |
| Final Hydro Mud Pres. | | | Oil A.P.I. Gravity | | Water Spec. Gravity | | |
| Depth Bot. Gauge | 13274 Ft. | Blanked Off yes | Gas Gravity | | Surface Pressure | psi | |
| BT. P.R.D. No. | 1845 | Hour Clock 48 | Tool Opened | 1731 A.M. / P.M. | Tool Closed | 1926 A.M. / P.M. | |
| Initial Hydro Mud Pres. | 6592 | 6884 | Remarks | Tool opened at 1731 with a slight air blow | | | |
| Initial Closed in Pres. | 5071 | 5350 | | decreasing until initial closed in pressure at 1746. | | | |
| Initial Flow Pres. | 3289 1 / 3353 2 | 3514 / 3545 | | Opened for final flow at 1916 with no air blow. | | | |
| Final Flow Pres. | 3289 1 / 3375 2 | 3530 / 3548 | | tools pulled at 1926 and reseat at 1935 with no | | | |
| Final Closed in Pres. | - | - | | change. UNABLE TO PERFORM CALCULATION SERVICE | | | |
| Final Hydro Mud Pres. | 6419 | 6743 | | BECAUSE OF NO PRODUCTION OF HYDROCARBONS OR WATER. | | | |

Legal Location Sec. - Twp. - Rge.

Lease Name KEEP RIVER

Well No. 1

Test No. 2-B

Field Area KUNUNARRA

County

State N. T.

Lease Owner/Company Name AUSTRALIAN AQUITAINE PETROLEUM

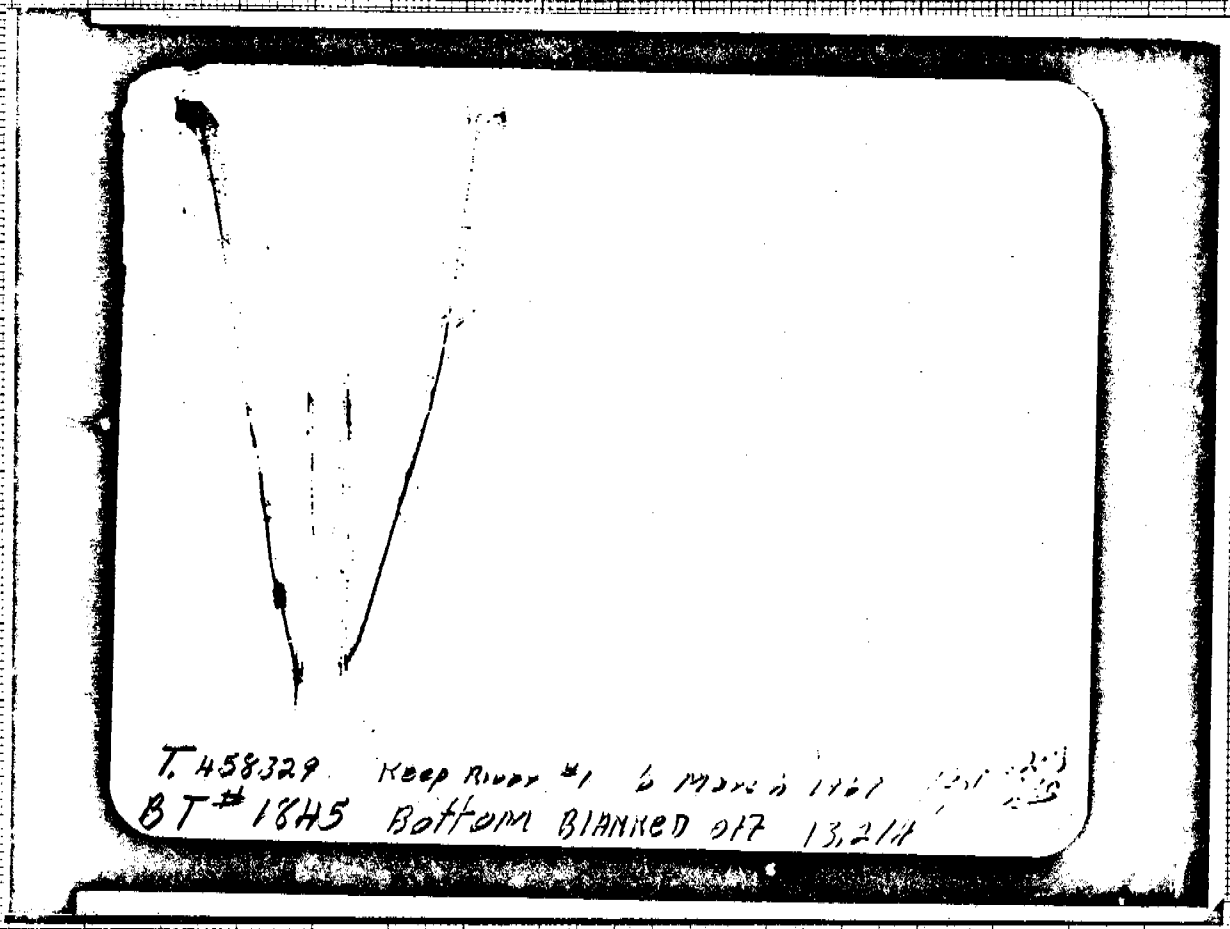
Owner's Direct

Mens. From Tester Valve

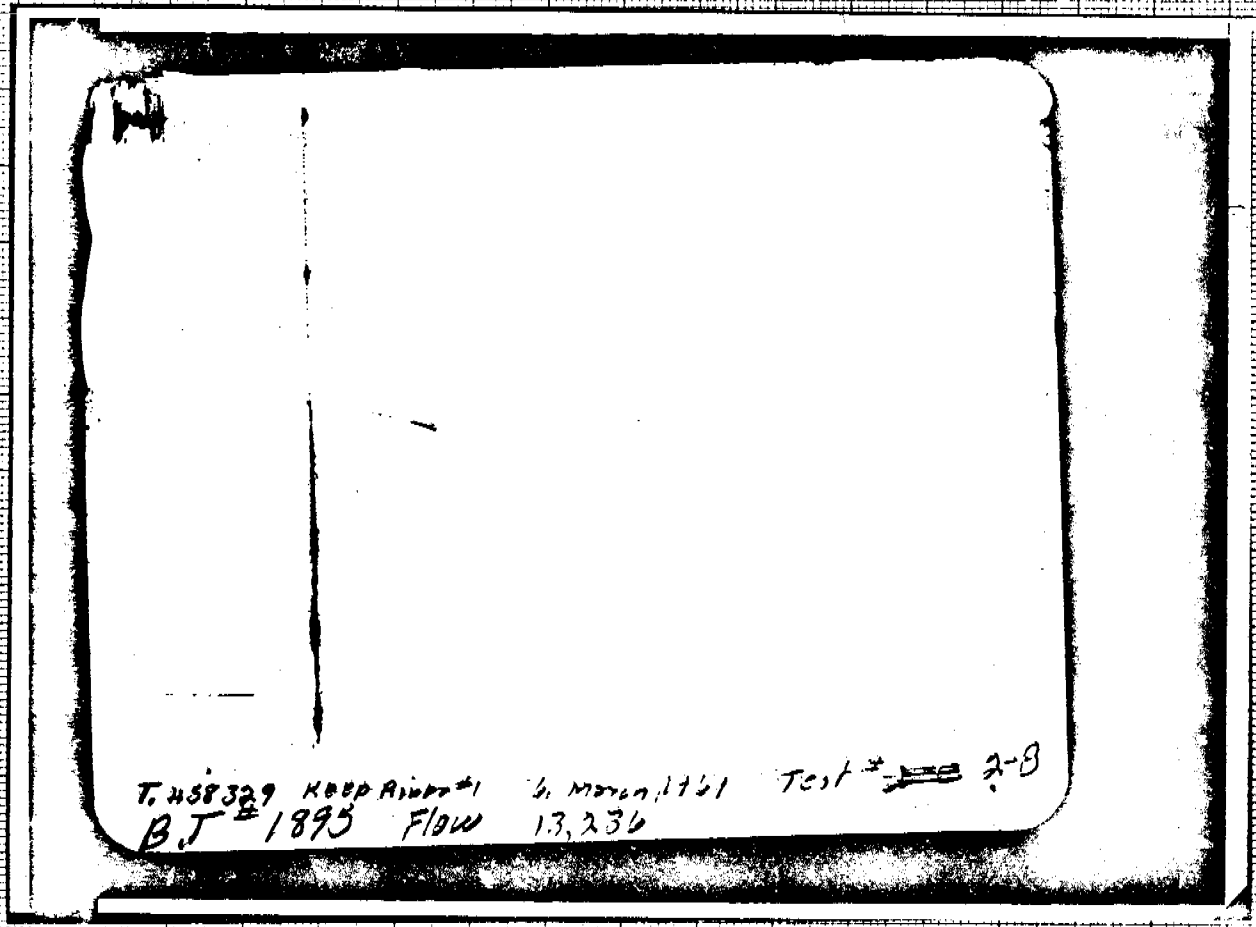
# FORMATION TEST DATA

C 3-D

KEEP RIVER NO1 TEST NO 213.



T. 458329 Keep River #1 6 March 1961
BT # 1845 Bottom BLANKED OFF 13,214



T. 458329 Keep River #1 6 March 1961 Test # 2-B
BT # 1895 Flow 13,236

KEEP RIVER NO.1 TEST NO.3

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Flow Time | 1st Min. 8 | 2nd Min. 30 | Date | 3-8-69 | Ticket Number | 458330-S | |
| Closed In Press. Time | 1st Min. 62 | 2nd Min. 120 | Kind of Job | Straddle Open hole | Halliburton District | Perth | |
| Pressure Readings | Field | Office Corrected | Tester | M. D. Ivins | Witness | MR. M. RICHEUX | |
| Depth Top Gauge | 12679 Ft. | Blanked Off no | Drilling Contractor | OIL DRILLING AND EXPLORATION #9 sm | | | |
| BT. P.R.D. No. | 1845 | Hour Clock 48 | Elevation | -- | Top Packer | 12695.95' 12702.76' | |
| Initial Hydro Mud Pressure | 6692 | 6647 | Total Depth | 15623' | Bottom Packer | 12760.76' | |
| Initial Closed in Pres. | 4814 | 4795 | Interval Tested | 12702.76-12760.76' | Formation Tested | -- | |
| Initial Flow Pres. | 3486 1 | 3509 | Casing or Hole Size | 8½" | Casing Perfs. Top | | |
| | - 2 | 3523 | | | Bot. | | |
| Final Flow Pres. | 3509 1 | 3502 | Surface Choke | 3/8" | Bottom Choke | .62" | |
| | 3558 2 | 3534 | | | | I.D. LENGTH | |
| Final Closed in Pres. | 4677 | 4651 | Size & Kind Drill Pipe | 5" 19.5# 4½" IF | Drill Collars Above Tester | 2¼" x 267' | |
| Final Hydro Mud Pressure | 6601 | 6390 | Mud Weight | 10 | Mud Viscosity | 47 | |
| Depth Cen. Gauge | 12683 Ft. | Blanked Off no | Temperature | 290 °F Est. -- °F Actual | Anchor Size & Length ID 2.37" OD 5" | x 15' | |
| BT. P.R.D. No. | 1895 | Hour Clock 48 | Depths Mea. From | ? | Depth of Tester Valve | 12674.11 Ft. | |
| Initial Hydro Mud Pres. | 6700 | 6652 | Cushion TYPE fresh water AMOUNT 8000 Ft. | | Depth Back Pres. Valve | Ft. | |
| Initial Closed in Pres. | 4814 | 4795 | Recovered | Feet of | | | |
| Initial Flow Pres. | 3571 1 | 3535 | Recovered | Feet of | | | |
| | - 2 | 3546 | | | | | |
| Final Flow Pres. | 3550 1 | 3533 | Recovered | Feet of | | | |
| | 3571 2 | 3550 | | | | | |
| Final Closed in Pres. | 4687 | 4643 | Recovered | Feet of | | | |
| Final Hydro Mud Pres. | 6593 | 6384 | Oil A.P.I. Gravity | | Water Spec. Gravity | | |
| Depth Bot. Gauge | 13402 Ft. | Blanked Off yes | Gas Gravity | | Surface Pressure | psi | |
| BT. P.R.D. No. | 1695 | Hour Clock 48 | Tool Opened | 3-7-69 2350 A.M. P.M. | Tool Closed | 3-8-69 0330 A.M. P.M. | |
| Initial Hydro Mud Pres. | 7042 | 7031 | Remarks | Set with 20,000#. Tool opened in 3 minutes | | | |
| Initial Closed in Pres. | | | | with a small air blow. Closed after 8 minutes. | | | |
| Initial Flow Pres. | -- 1 | | | Tool reopened with a small air blow lasting for 2 | | | |
| | Hydrostatic Release 2 | | | | | | |
| Final Flow Pres. | -- 1 | | | minutes then stopped. Closed for a 120 minute final | | | |
| | -- 2 | 7031 | | | | | |
| Final Closed in Pres. | | | | closed in pressure. 3 packer rubbers and expanding | | | |
| Final Hydro Mud Pres. | | 7031 | | shoe left in hole. UNABLE TO PERFORM CALCULATION | | | |
| | | | | SERVICE DUE TO INSUFFICIENT CLOSURE OF THE CLOSED IN | | | |

# FORMATION TEST DATA

PRESSURES AND NO PRODUCTION.

2.D

Legal Location Sec. - Twp. - Rng.
Lease Name KEEP RIVER
Well No. 3
Test No.
Field Area KUNUNARRA
County
State N.T.
Lease Owner/Company Name AUSTRALIAN AQUITANE PETROLEUM
Owner's District
Elev. From Tester Valve

| Gauge No. | 1895 | Depth | 13236' | Clock | 24 hour | Ticket No. | 458329 |
|---|---|---|---|---|---|---|---|

| | First Flow Period | | Initial Closed In Pressure | | | Second Flow Period | | Final Closed In Pressure | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\Theta}{\Theta}$ | PSIG Temp. Corr. | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\Theta}{\Theta}$ | PSIG Temp. Corr. |
| $P_0$ | | | | | | | | | | |
| $P_1$ | | | NO READINGS AVAILABLE.....CLOCK STOPPED | | | | | | | |
| $P_2$ | | | | | | | | | | |
| $P_3$ | | | | | | | | | | |
| $P_4$ | | | | | | | | | | |
| $P_5$ | | | | | | | | | | |
| $P_6$ | | | | | | | | | | |
| $P_7$ | | | | | | | | | | |
| $P_8$ | | | | | | | | | | |
| $P_9$ | | | | | | | | | | |
| $P_{10}$ | | | | | | | | | | |

| Gauge No. | 1845 | Depth | 13274' | Clock | 48 hour | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| $P_0$ | .000 | 3514 | .000 | | 3530 | .000 | 3545 | | | |
| $P_1$ | .0046 | 3516 | .0155 | | 5020 | .019 | 3548 | | | |
| $P_2$ | .0092 | 3520 | .0310 | | 5214 | | | | | |
| $P_3$ | .0138 | 3525 | .0465 | | 5248 | | | | | |
| $P_4$ | .0184 | 3527 | .0620 | | 5270 | | | | | |
| $P_5$ | .0230 | 3530 | .0775 | | 5291 | | | | | |
| $P_6$ | | | .0930 | | 5305 | | | | | |
| $P_7$ | | | .1085 | | 5320 | | | | | |
| $P_8$ | | | .1240 | | 5332 | | | | | |
| $P_9$ | | | .1395 | | 5341 | | | | | |
| $P_{10}$ | | | .1550 | | 5350 | | | | | |
| Reading Interval | 3 | | 9 | | | | | | | Minutes |

REMARKS:

# SPECIAL PRESSURE DATA

3-D

| Gauge No. 1845 | Depth 12679' | Clock 48 hour | Ticket No. 458330 |
|---|---|---|---|

| | First Flow Period | | Initial Closed In Pressure | | | Second Flow Period | | Final Closed In Pressure | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. |
| $P_0$ | .000 | 3509 | .000 | | 3502 | .000 | 3523 | .000 | | 3534 |
| $P_1$ | .012 | 3502 | .0104 | | 3811 | .0087 | 3525 | .0206 | | 3723 |
| $P_2$ | | | .0208 | | 4033 | .0174 | 3527 | .0412 | | 3877 |
| $P_3$ | | | .0312 | | 4198 | .0261 | 3530 | .0618 | | 4012 |
| $P_4$ | | | .0416 | | 4316 | .0348 | 3532 | .0824 | | 4126 |
| $P_5$ | | | .0520 | | 4440 | .0435 | 3532 | .1030 | | 4240 |
| $P_6$ | | | .0624 | | 4519 | .0522 | 3534 | .1236 | | 4333 |
| $P_7$ | | | .0728 | | 4593 | | | .1442 | | 4428 |
| $P_8$ | | | .0832 | | 4670 | | | .1648 | | 4507 |
| $P_9$ | | | .0936 | | 4728 | | | .1854 | | 4584 |
| $P_{10}$ | | | .1074* | | 4795 | | | .2060 | | 4651 |

| Gauge No. 1895 | Depth 12683' | Clock 48 hour | |
|---|---|---|---|

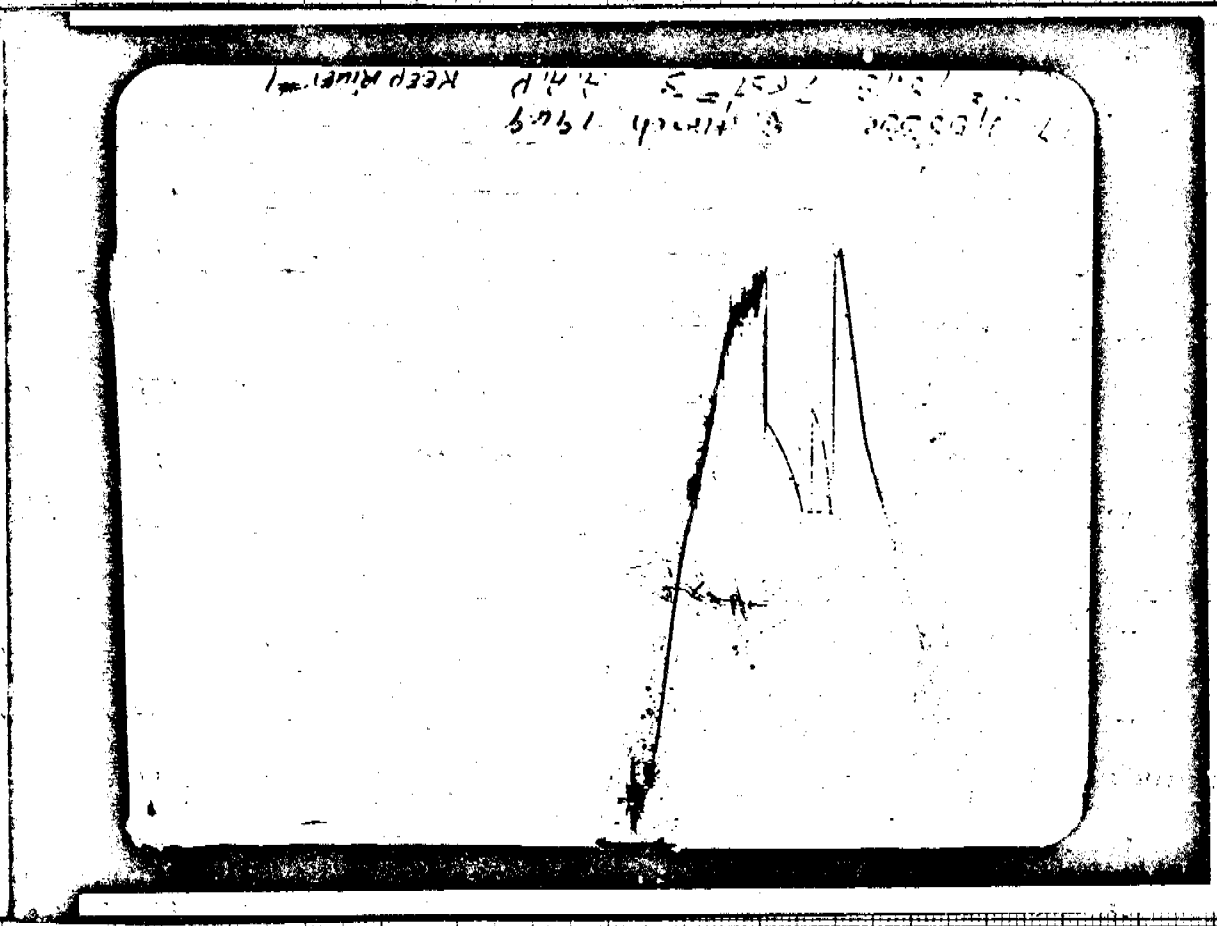
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| $P_0$ | .000 | 3535 | .000 | | 3533 | .000 | 3546 | .000 | | 3550 |
| $P_1$ | .012 | 3533 | .0101 | | 3848 | .050 | 3550 | .0201 | | 3745 |
| $P_2$ | | | .0202 | | 4060 | | | .0402 | | 3889 |
| $P_3$ | | | .0303 | | 4224 | | | .0603 | | 4030 |
| $P_4$ | | | .0404 | | 4340 | | | .0804 | | 4137 |
| $P_5$ | | | .0505 | | 4447 | | | .1005 | | 4246 |
| $P_6$ | | | .0606 | | 4519 | | | .1206 | | 4335 |
| $P_7$ | | | .0707 | | 4594 | | | .1407 | | 4427 |
| $P_8$ | | | .0808 | | 4665 | | | .1608 | | 4504 |
| $P_9$ | | | .0909 | | 4718 | | | .1809 | | 4579 |
| $P_{10}$ | | | .1043* | | 4795 | | | .2010 | | 4643 |
| Reading Interval | | | 6 | | | 5 | | 12 | | Minutes |

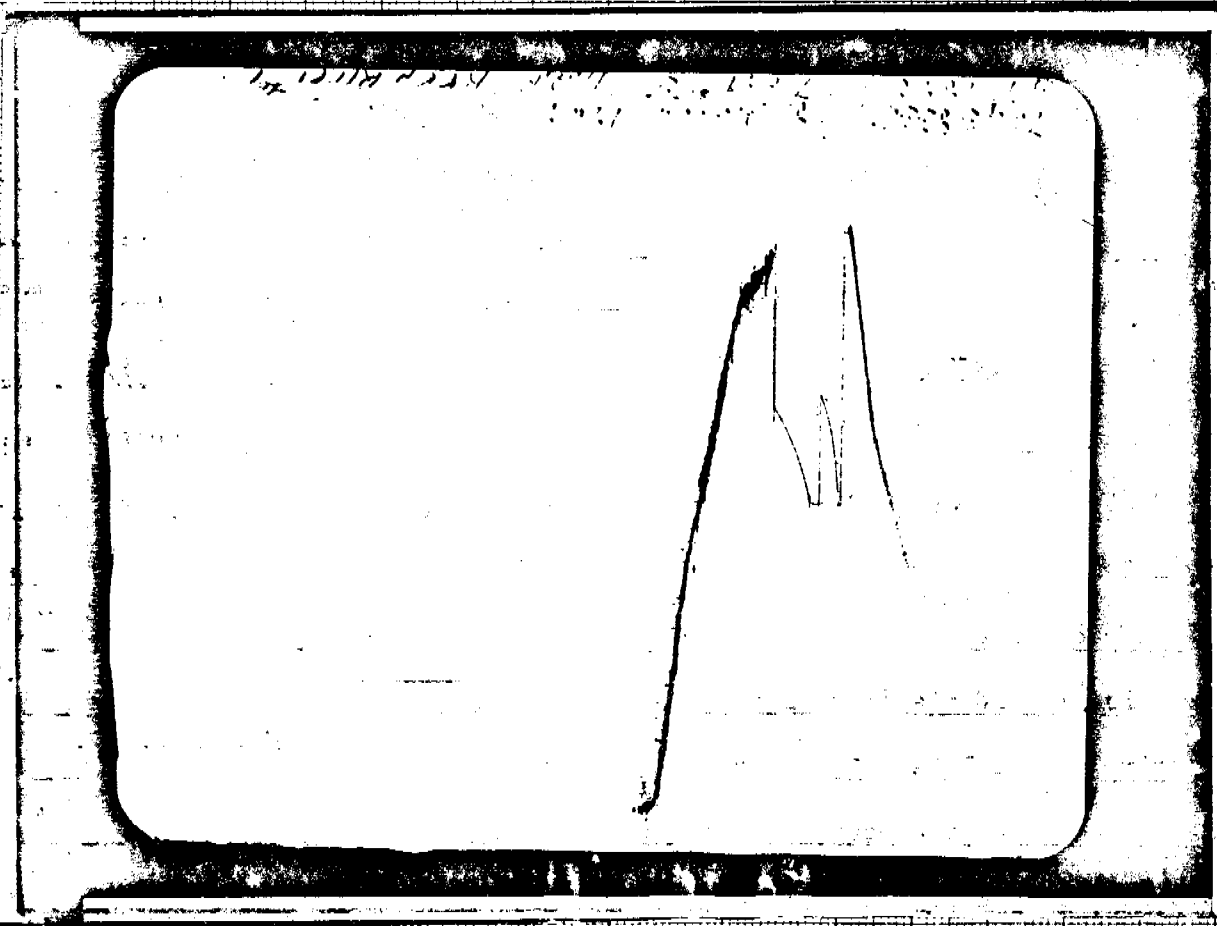
REMARKS: *Last interval is equal to 8 minutes.

# SPECIAL PRESSURE DATA

3-D

KEEP RIVER NO 1. TEST NO. 3.





SSURE
TIME

KEEP RIVER NO.1 TEST NO.4

| | 1st Min. | 2nd Min. | | | | |
|---|---|---|---|---|---|---|
| Flow Time | 5 | 1672 | Date | 3-14-69 | Ticket Number | 458331-S |
| Closed In Press. Time | 496 | 430 | Kind of Job | Casing | Halliburton District | Perth |
| Pressure Readings | Field | Office Corrected | Tester | Mr. Ivings | Witness | MR.M.RICHEUX |
| Depth Top Gauge | 8464 Ft. | Blanked no Off | Drilling Contractor | OIL DRILLING EXPLORATION | | |
| BT. P.R.D. No. | 1845 | Hour 72 Clock | Elevation | -- | Top Packer | 8475' |
| Initial Hydro Mud Pressure | 5320 | 4533 | Total Depth | 11,000 P.B. | Bottom Packer | |
| Initial Closed in Pres. | 4045 | 4065 | Interval Tested | 8475-11,000 PB | Formation Tested | -- |
| Initial Flow Pres. | 1119 1 | 1285 | Casing or Hole Size | 8 3/4" | Casing Perfs. Top | |
| | - 2 | 1618 | | | Bot. | |
| Final Flow Pres. | 1233 1 | 1407 | Surface Choke | 3/8" | Bottom Choke | .62 in. |
| | 1617 2 | 1152 | Size & Kind Drill Pipe | 2 7/8 tub 6.40# 5" 19.5# 4½ IF | Drill Collars Above Tester | 2100' I.D. - LENGTH 2" 270' |
| Final Closed in Pres. | 2274 | 2268 | | | | |
| Final Hydro Mud Pressure | 5365 | 4481 | Mud Weight | 10 | Mud Viscosity | 110 |
| Depth Cen. Gauge | Ft. | Blanked Off | Temperature | -- 200 °F Est. | Anchor Size ID | 2" |
| | | | | -- °F Actual | & Length OD | 2 7/8" X 2260 |
| BT. P.R.D. No. | UNABLE TO CALCULATE | Hour Clock | Depths Meo. From | Kelly bushing | Depth of Tester Valve | 8459 Ft. |
| Initial Hydro Mud Pres. | DUE TO NO HYDROCARBON | | | TYPE AMOUNT | | |
| Initial Closed in Pres. | PRODUCTION. | | Cushion | none Ft. | Depth Back Pres. Valve | Ft. |
| Initial Flow Pres. | 1 | | Recovered | mud Feet of | 6725 | |
| | NOTE: Final closed in | | Recovered | Feet of | | |
| Final Flow Pres. | pressure appears to 2 | | Recovered | Feet of | | |
| Final Closed in Pres. | possibly be a surface closure. | | | | | |
| Final Hydro Mud Pres. | | | Oil A.P.I. Gravity | | Water Spec. Gravity | |
| Depth Bot. Gauge | 10738 Ft. | Blanked yes Off | Gas Gravity | | Surface Pressure | 65 psi |
| BT. P.R.D. No. | 1895 | Hour 72 Clock | Tool Opened | 1937 12th A.M. P.M. | Tool Closed | 0750 14th A.M. P.M. |
| Initial Hydro Mud Pres. | 5581 | 5543 | Remarks | Tool opened with a good blow. Closed | | |
| Initial Closed in Pres. | 5218 | 5233 | | after 5 minutes for 8 hours and 16 minutes. Tool | | |
| Initial Flow Pres. | 2800 1 | 3176 | | | | |
| | - 2 | 2942 | | reopened with gas to the surface in 20 minutes, | | |
| Final Flow Pres. | 2929 1 | 3021 | | heading gas and mud- surface valve open and closed | | |
| | 2264 2 | 2146 | | | | |
| Final Closed in Pres. | 3186 | 3201 | | numerous times - maximum PSI 630. Closed tool for | | |
| Final Hydro Mud Pres. | 5495 | 5506 | | a 430 minute final closed in pressure. | | |

Legal Location Sec. - Twp. - Rge.

Lease Name KEEP RIVER

Well No. 1

Test No. 4

Field Area KUNUNURRA

County

State N. T.

Meo. from Tester Valve

Land Owner/Company Name AUSTRALIAN AQUITAINE PETROLEUM

Owner's District

# FORMATION TEST DATA

2

| Gauge No. | 1845 | Depth | 8464' | Clock | 72 hour | Ticket No. | 458331 |
|---|---|---|---|---|---|---|---|

| | First Flow Period | | Initial Closed In Pressure | | | Second Flow Period | | Final Closed In Pressure | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. |
| $P_0$ | .000 | 1285 | .000 | | 1407 | .000 | 1618 | .000 | | 1152 |
| $P_1$ | .008 | 1407 | .055 | | 3755 | .521 | 1152 | .0596 | | 1428 |
| $P_2$ | | | .110 | | 3832 | Clock | stopped | .1192 | | 1624 |
| $P_3$ | | | .165 | | 3884 | intermittently | | .1788 | | 1758 |
| $P_4$ | | | .220 | | 3925 | during | flow. | .2384 | | 1869 |
| $P_5$ | | | .275 | | 3966 | | | .2980 | | 1962 |
| $P_6$ | | | .330 | | 3993 | | | .3576 | | 2039 |
| $P_7$ | | | .385 | | 4021 | | | .4172 | | 2109 |
| $P_8$ | | | .440 | | 4042 | | | .4768 | | 2166 |
| $P_9$ | | | .495 | | 4053 | | | .5364 | | 2220 |
| $P_{10}$ | | | .5568* | | 4065 | | | .5960 | | 2268 |

| Gauge No. | 1895 | | Depth | 10738' | | Clock | 72 | hour | | |
|---|---|---|---|---|---|---|---|---|---|---|
| $P_0$ | .000 | Questionable 3176 | .000 | | 3021 | .000 | 2942 | .000 | | 2146 |
| $P_1$ | .007 | Questionable 3021 | .0547 | | 4857 | .734 | 2740S | .0586 | | 2418 |
| $P_2$ | | | .1094 | | 4959 | 1.178 | 3122S | .1172 | | 2609 |
| $P_3$ | | | .1641 | | 5032 | 1.557 | 3268S | .1758 | | 2740 |
| $P_4$ | | | .2188 | | 5090 | 1.773 | 2146 | .2344 | | 2841 |
| $P_5$ | | | .2735 | | 5135 | | | .2930 | | 2912 |
| $P_6$ | | | .3282 | | 5160 | | | .3516 | | 2974 |
| $P_7$ | | | .3829 | | 5179 | | | .4102 | | 3028 |
| $P_8$ | | | .4376 | | 5201 | | | .4688 | | 3107 |
| $P_9$ | | | .4923 | | 5205 | | | .5274 | | 3154 |
| $P_{10}$ | | | .5537* | | 5233 | | | .5860 | | 3201 |
| Reading Interval | | | 49 | | | -- | | ** | | Minutes |

REMARKS: *Last interval is equal to 55 minutes. S-Surface closure. **Time given and time recorded do not agree - cut into 10 equal intervals of no time value.

# SPECIAL PRESSURE DATA

2

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

| Gauge No. | 1845 | Depth | 7376' | Clock | 24 hour | Ticket No. | 458395 |
|---|---|---|---|---|---|---|---|

| | First Flow Period | | Initial Closed In Pressure | | | Second Flow Period | | Final Closed In Pressure | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. |
| $P_0$ | .000 | 1129 | .000 | | 1129 | .000 | 1138 | .000 | | 1197 |
| $P_1$ | .019 | 1129 | .0198 | | 2091 | .0342 | 1156 | .0341 | | 2361 |
| $P_2$ | | | .0396 | | 2755 | .0684 | 1165 | .0682 | | 2608 |
| $P_3$ | | | .0594 | | 2873 | .1026 | 1174 | .1023 | | 2751 |
| $P_4$ | | | .0792 | | 2946 | .1368 | 1179 | .1364 | | 2844 |
| $P_5$ | | | .0990 | | 2991 | .1710 | 1188 | .1705 | | 2914 |
| $P_6$ | | | .1188 | | 3029 | .2050 | 1197 | .2046 | | 2966 |
| $P_7$ | | | .1386 | | 3057 | | | .2387 | | 3007 |
| $P_8$ | | | .1584 | | 3077 | | | .2728 | | 3036 |
| $P_9$ | | | .1782 | | 3093 | | | .3069 | | 3059 |
| $P_{10}$ | | | .1980 | | 3104 | | | .3410 | | 3079 |

| Gauge No. | 1895 | Depth | 7422' | Clock | 24 hour | | |
|---|---|---|---|---|---|---|---|
| $P_0$ | .000 | 1146 | .000 | 1146 | .000 | 1165 | .000 | 1217 |
| $P_1$ | .018 | 1146 | .0197 | 2528 | .0337 | 1176 | .0341 | 2371 |
| $P_2$ | | | .0394 | 2777 | .0674 | 1189 | .0682 | 2612 |
| $P_3$ | | | .0591 | 2888 | .1011 | 1195 | .1023 | 2764 |
| $P_4$ | | | .0788 | 2961 | .1348 | 1202 | .1364 | 2856 |
| $P_5$ | | | .0985 | 3011 | .1684 | 1208 | .1705 | 2927 |
| $P_6$ | | | .1182 | 3045 | .2020 | 1217 | .2046 | 2981 |
| $P_7$ | | | .1379 | 3071 | | | .2387 | 3024 |
| $P_8$ | | | .1576 | 3094 | | | .2728 | 3054 |
| $P_9$ | | | .1773 | 3111 | | | .3069 | 3075 |
| $P_{10}$ | | | .1970 | 3120 | | | .3410 | 3096 |
| Reading Interval | | | 6 | | 10 | | 9 | Minutes |

REMARKS:

# SPECIAL PRESSURE DATA

3-D

KEEP RIVER NO.1 TEST NO.5

| | 1st Min. | 2nd Min. |
|---|---|---|
| Flow Time | 5 | 60 |
| Closed In Press. Time | 60 | 90 |
| Pressure Readings | Field | Office Corrected |
| Depth Top Gauge | 7376 Ft. | No Blanked Off |
| BT. P.R.D. No. | 1845 | 24 Hour Clock |
| Initial Hydro Mud Pressure | 3977 | 3811 |
| Initial Closed in Pres. | 3113 | 3104 |
| Initial Flow Pres. | 1119 / | 1 1129 |
| | | 2 1138 |
| Final Flow Pres. | 1142 / | 1 1129 |
| | 1187 | 2 1197 |
| Final Closed in Pres. | 3068 | 3079 |
| Final Hydro Mud Pressure | 3931 | 3811 |
| Depth Cen. Gauge | Ft. | Blanked Off |
| BT. P.R.D. No. | | Hour Clock |
| Initial Hydro Mud Pres. | | |
| Initial Closed in Pres. | | |
| Initial Flow Pres. | | 1 |
| | | 2 |
| Final Flow Pres. | | 1 |
| | | 2 |
| Final Closed in Pres. | | |
| Final Hydro Mud Pres. | | |
| Depth Bot. Gauge | 7422' Ft. | Yes Blanked Off |
| BT. P.R.D. No. | 1895 | 24 Hour Clock |
| Initial Hydro Mud Pres. | 3927 | 3869 |
| Initial Closed in Pres. | 3122 | 3120 |
| Initial Flow Pres. | 1126 / | 1 1146 |
| | | 2 1165 |
| Final Flow Pres. | 1148 / | 1 1146 |
| | 1191 | 2 1217 |
| Final Closed in Pres. | 3100 | 3096 |
| Final Hydro Mud Pres. | 3935 | 3869 |

Date 3-17-69

Ticket Number 458335 S

Kind of Job HOOK WALL

Halliburton District PERTH

Tester M. IRINS

Witness MR.M.RICHEUX

Drilling Contractor OIL DRILLING AND EXPLORATION DR

Elevation 76

Top Packer 7383'

Total Depth PB 7655 / 15,623

Bottom Packer -

Interval Tested 90

Formation Tested -

Casing or Hole Size 7" Liner

Casing Top 7510' / Perfs. Bot. 7600'

Surface Choke 3/8"

Bottom Choke .62

Size & Kind Drill Pipe 5" 19.5# 4½" IF

Drill Collars Above Tester (I.D. - LENGTH) 2" x 252'

Mud Weight 10

Mud Viscosity 110

Temperature 200 °F Est. / °F Actual

Anchor Size & Length ID 1.90 / OD 2 7/8" X 30'

Depths Mea. From Kelly Bushing

Depth of Tester Valve 7371' Ft.

Cushion TYPE fresh H2o AMOUNT 2000 Ft.

Depth Back Pres. Valve - Ft.

Recovered 2000' Feet of water

Recovered 187' Feet of mud

Recovered Feet of

Recovered Feet of

Oil A.P.I. Gravity

Water Spec. Gravity

Gas Gravity

Surface Pressure psi

Tool Opened 1448 A.M. P.M.

Tool Closed 1653 A.M. P.M.

Remarks Opened tool for 5 minute first flow with mud dropping slow in annulus, pulled up 90' reset, re-opened @ 1448 and holding, with a very small blow. Closed tool for 60 minute first closed in pressure. Reopened tool for 60 minute second flow with no blow. Closed tool for 90 minute second closed in pressure. Pull out hole. NO CALCULATION ATTEMPTED DUE TO NO PRODUCTION OF HYDROCARBONS OR WATER.

Legal Location Sec. - Twp. - Rng.

Lease Name KEEP RIVER

Well No. 1

Test No. 5

Field Area KUNUNURRA

County

State N.T.

Lease Owner/Company Name

Mea. From Tester Valve

# FORMATION TEST DATA

3.

PRESSURE
TIME

# Liquid Production

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| B.T. Gauge Numbers | | | 1845 | 1895 | Ticket Number | | 458337 |
| Initial Hydrostatic | | PRESSURE | 3695 | 3700 | Elevation | | 76 ft. |
| Final Hydrostatic | | | 3695 | 3700 | Indicated Production | 1st Flow | - bbls. day |
| 1st Flow | Initial | Time — — — — | 609 | 725 | | Total Flow | 328 bbls. day |
| | Final | 4 | 709 | 816 | Drill Collar Length | | 252 ft. |
| Initial Closed In Pressure | | 60 | 2995 | 2994 | Drill Collar I.D. | | 2.0 in. |
| 2nd Flow | Initial | — — — — | 741 | 764 | Drill Pipe Factor | | 0.01776 bbls. ft. |
| | Final | 300 | 2161 | 2157 | Hole Size | | 7.0 in. |
| Final Closed In Pressure | | 180 | 2989 | 21974 | Footage Tested | Perf. Int. | 58 ft. |
| Extrapolated Static Pressure | | Initial | - | - | Mud Weight | | 10.0 lbs. gal. |
| | | Final | 3090 | 3075 | Viscosity, Oil or Water | | 0.38 cp |
| ~~Slope psi/cycle~~ P10 | | Initial | - | - | Oil API Gravity | | - — |
| | | Final | 2857 | 2842 | Water Specific Gravity | | 1.06 — |

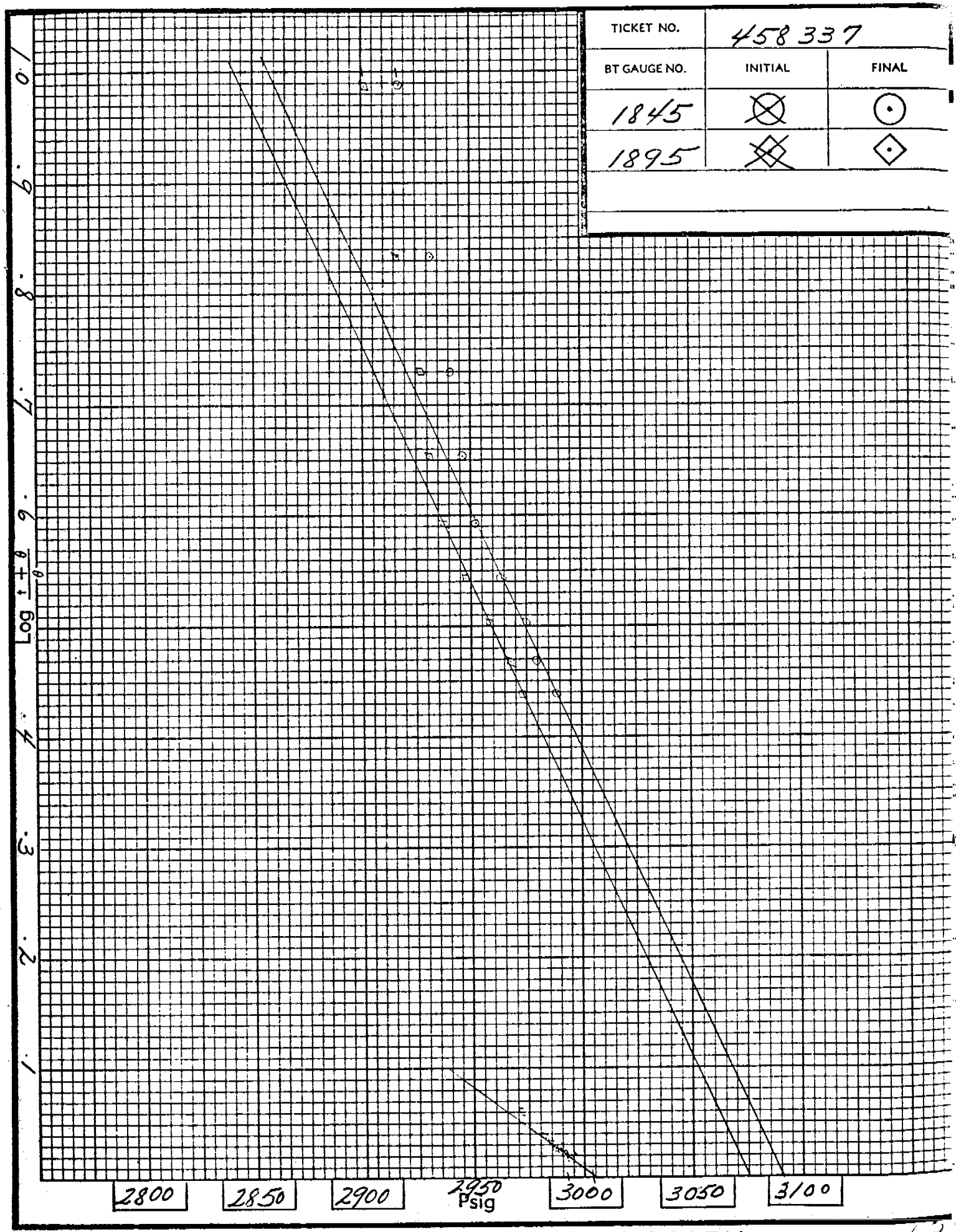
Remarks: All calculations based on water recovery of reported specific gravity of 1.06 and in 5", 19.5# drill pipe.

## SUMMARY

| Product | Equation | Gauge No. / Depth Initial | Gauge No. / Depth Final (1845/7093') | Gauge No. / Depth Initial | Gauge No. / Depth Final (1895/7139) | Units |
|---|---|---|---|---|---|---|
| Production | $Q = \frac{1440\ R}{t}$ | | 333. | | 328. | bbls. day |
| Transmissability | $\frac{Kh}{\mu} = \frac{162.6\ Q}{m}$ | | 232.44 | | 229.13 | $\frac{md.\ ft.}{cp}$ |
| Indicated Flow Capacity | $Kh = \frac{Kh}{\mu}\ \mu$ | | 88.33 | | 87.07 | md. ft. |
| Average Effective Permeability | $K = \frac{Kh}{h}$ | | 1.523 | | 1.501 | md. |
| | $K_1 = \frac{Kh}{h_1}$ | | - | | - | md. |
| Damage Ratio | $DR = .183\ \frac{Ps - Pf}{m}$ | | 0.7 | | 0.7 | — |
| Theoretical Potential w/Damage Removed | $Q_1 = Q\ DR$ | | 333. | | 328 | bbls. day |
| Approx. Radius of Investigation | $b \leftrightarrows \sqrt{Kt}$ or $\sqrt{Kt_0}$ | | 21.5 | | 21.4 | ft. |
| | $b_1 \leftrightarrows \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$ | | - | | - | ft. |
| Potentiometric Surface * | $Pot. = El - GD + 2.319\ Ps$ | | 149 | | 68 | ft. |



## INTERPRETATIONS AND CALCULATIONS




EXTRAPOLATED PRESSURE GRAPH

3

| Gauge No. 1845 | Depth 7093' | Clock 24 hour | Ticket No. 458337 |
|---|---|---|---|

| | First Flow Period | | Initial Closed In Pressure | | | Second Flow Period | | Final Closed In Pressure | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. |
| $P_0$ | .000 | 609 | .000 | --- | 709 | .000 | 741 | .000 | --- | 2161 |
| $P_1$ | .003 | 652 | .0200 | .176 | 2664 | .1716 | 1131 | .0589 | 1.267 | 2837 |
| $P_2$ | .006 | 684 | .0400 | .096 | 2932 | .3432 | 1450 | .1178 | .989 | 2918 |
| $P_3$ | .009 | 696 | .0600 | .066 | 2973 | .5148 | 1756 | .1767 | .834 | 2932 |
| $P_4$ | .010 | 709 | .0800 | .051 | 2980 | .6864 | 2098 | .2356 | .730 | 2941 |
| $P_5$ | | | .1000 | .041 | 2982 | .8580 | 2324 | .2945 | .653 | 2946 |
| $P_6$ | | | .1200 | .034 | 2984 | 1.0210 | 2161 | .3534 | .593 | 2952 |
| $P_7$ | | | .1400 | .029 | 2986 | | | .4123 | .544 | 2964 |
| $P_8$ | | | .1600 | .026 | 2989 | | | .4712 | .503 | 2975 |
| $P_9$ | | | .1800 | .023 | 2991 | | | .5301 | .469 | 2980 |
| $P_{10}$ | | | .2000 | .021 | 2995 | | | .5890 | .439 | 2989 |

| Gauge No. 1895 | Depth 7139' | Clock 24 hour |
|---|---|---|

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| $P_0$ | .000 | 725 | .000 | --- | 816 | .000 | 764 | .000 | --- | 2157 |
| $P_1$ | .002 | 740 | .0199 | .162 | 2676 | .1673 | 1135 | .0579 | 1.267 | 2607 |
| $P_2$ | .004 | 757 | .0398 | .088 | 2931 | .3346 | 1451 | .1158 | .988 | 2901 |
| $P_3$ | .006 | 792 | .0597 | .060 | 2972 | .5019 | 1748 | .1737 | .834 | 2916 |
| $P_4$ | .009 | 816 | .0796 | .046 | 2976 | .6692 | 2084 | .2316 | .730 | 2927 |
| $P_5$ | | | .0995 | .037 | 2983 | .8365 | 2311 | .2895 | .653 | 2931 |
| $P_6$ | | | .1194 | .031 | 2985 | 1.0040 | 2157 | .3474 | .592 | 2938 |
| $P_7$ | | | .1393 | .027 | 2987 | | | .4053 | .543 | 2948 |
| $P_8$ | | | .1592 | .023 | 2989 | | | .4632 | .503 | 2959 |
| $P_9$ | | | .1791 | .021 | 2991 | | | .5211 | .468 | 2968 |
| $P_{10}$ | | | .1990 | .019 | 2994 | | | .5790 | .439 | 2974 |
| Reading Interval | 1 | | 6 | | | 50 | | 18 | | Minutes |

REMARKS:

# SPECIAL PRESSURE DATA

(3)

KEEP RIVER NO.1 TEST NO.6

| | | | | | |
|---|---|---|---|---|---|
| Flow Time | 1st Min. 4 | 2nd Min. 300 | Date | 3-19-69 | Ticket Number 458337 S |
| Closed In Press. Time | 1st Min. 60 | 2nd Min. 180 | Kind of Job | HOOK WALL | Halliburton District PERTH |
| Pressure Readings | Field | Office Corrected | Tester | M. IVINS | Witness MR.M.RICHEUX J. KAY |
| Depth Top Gauge | 7093 Ft. | No Blanked Off | Drilling Contractor | OIL DRILLING AND EXPLORATION DR | |
| BT. P.R.D. No. | 1845 | 24 Hour Clock | Elevation | 76' | Top Packer 7100' |
| Initial Hydro Mud Pressure | 3636.20 | 3695 | Total Depth | 15,623'-PB 7655' | Bottom Packer - |
| Initial Closed in Pres. | 2977.2 | 2995 | Interval Tested | 24' | Formation Tested |
| Initial Flow Pres. | 595 1<br>709.4 2 | 609<br>741 | Casing or Hole Size | 7" | Casing Top 7177'<br>Perfs. Bot. 7235' |
| Final Flow Pres. | 709.4 1<br>2138.3 2 | 709<br>2161 | Surface Choke | 3/8" | Bottom Choke .62 |
| Final Closed in Pres. | 2977.2 | 2989 | Size & Kind Drill Pipe | 5" 19.5# 4½" IF | Drill Collars I.D. - LENGTH Above Tester 2" x 252' |
| Final Hydro Mud Pressure | 3681.7 | 3695 | Mud Weight | 10 | Mud Viscosity 85 |
| Depth Cen. Gauge | Ft. | Blanked Off | Temperature | 200 °F Est. / °F Actual | Anchor Size & Length ID 1.90" OD 2 7/8" X 30' |
| BT. P.R.D. No. | | Hour Clock | Depths Mea. From | Kelly Bushing | Depth of Tester Valve 7088' Ft. |
| Initial Hydro Mud Pres. | | | Cushion TYPE fresh H20 AMOUNT 1000 Ft. | | Depth Back Pres. Valve - Ft. |
| Initial Closed in Pres. | | | Recovered | 900 Feet of muddy water gas cut | |
| Initial Flow Pres. | 1<br>2 | | Recovered | 350' Feet of gas cut mud | |
| Final Flow Pres. | 1<br>2 | | Recovered | 4450 Feet of salt water 23000 PPM | |
| Final Closed in Pres. | | | Recovered | Feet of | |
| Final Hydro Mud Pres. | | | Oil A.P.I. Gravity | | Water Spec. Gravity 1.06 |
| Depth Bot. Gauge | 7139 Ft. | Yes Blanked Off | Gas Gravity | | Surface Pressure 25 on 3/8 choke |
| BT. P.R.D. No. | 1895 | 24 Hour Clock | Tool Opened | .008 AM A.M. P.M. | Tool Closed 0612 AM A.M. P.M. |
| Initial Hydro Mud Pres. | 3657.3 | 3700 | Remarks | Opened tool for 4 minute first flow with a | |
| Initial Closed in Pres. | 2972 | 2994 | | strong blow. Closed tool for 60 minute first | |
| Initial Flow Pres. | 607.4 1<br>780.9 2 | 725<br>764 | | closed in pressure, strong blow stopped after 3 min. | |
| Final Flow Pres. | 759.2 1<br>2135.2 2 | 816<br>2157 | | Reopened tool for 300 minute second flow with a | |
| Final Closed in Pres. | 2972 | 2974 | | good blow, increasing. Gas to surface. Closed | |
| Final Hydro Mud Pres. | 3657.3 | 3700 | | tool for 180 minute final closed in pressure. | |

Legal Location Sec. - Twp. - Rng.

Lease Name: KEEP RIVER

Well No.: 1

Test No.: 6-A

Field Area: KUNUNURRA

County

State: N.T.

Lease Owner/Company Name: AUSTRALIAN AQUITAINE PETROLEUM

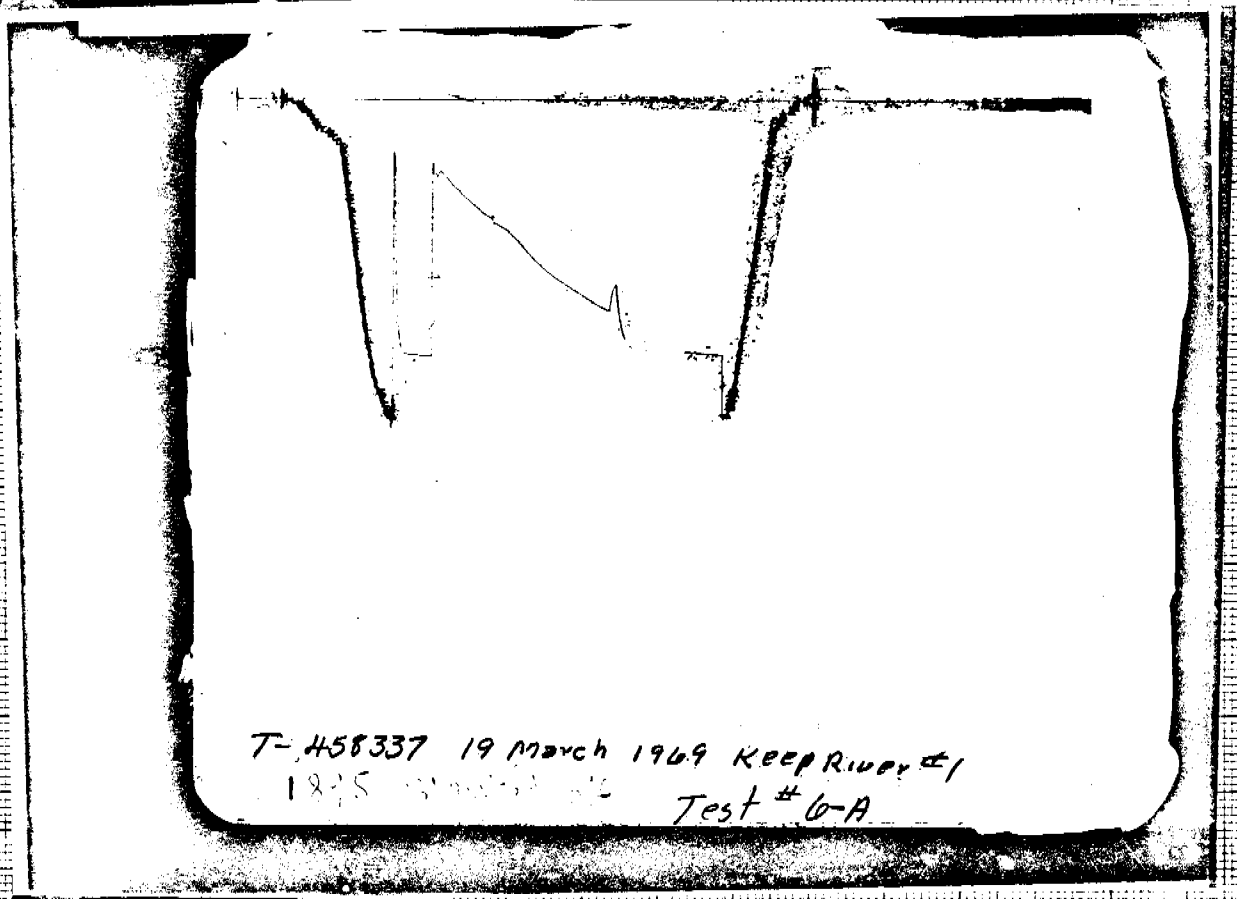
Owner's District

Mea. From Tester Valve

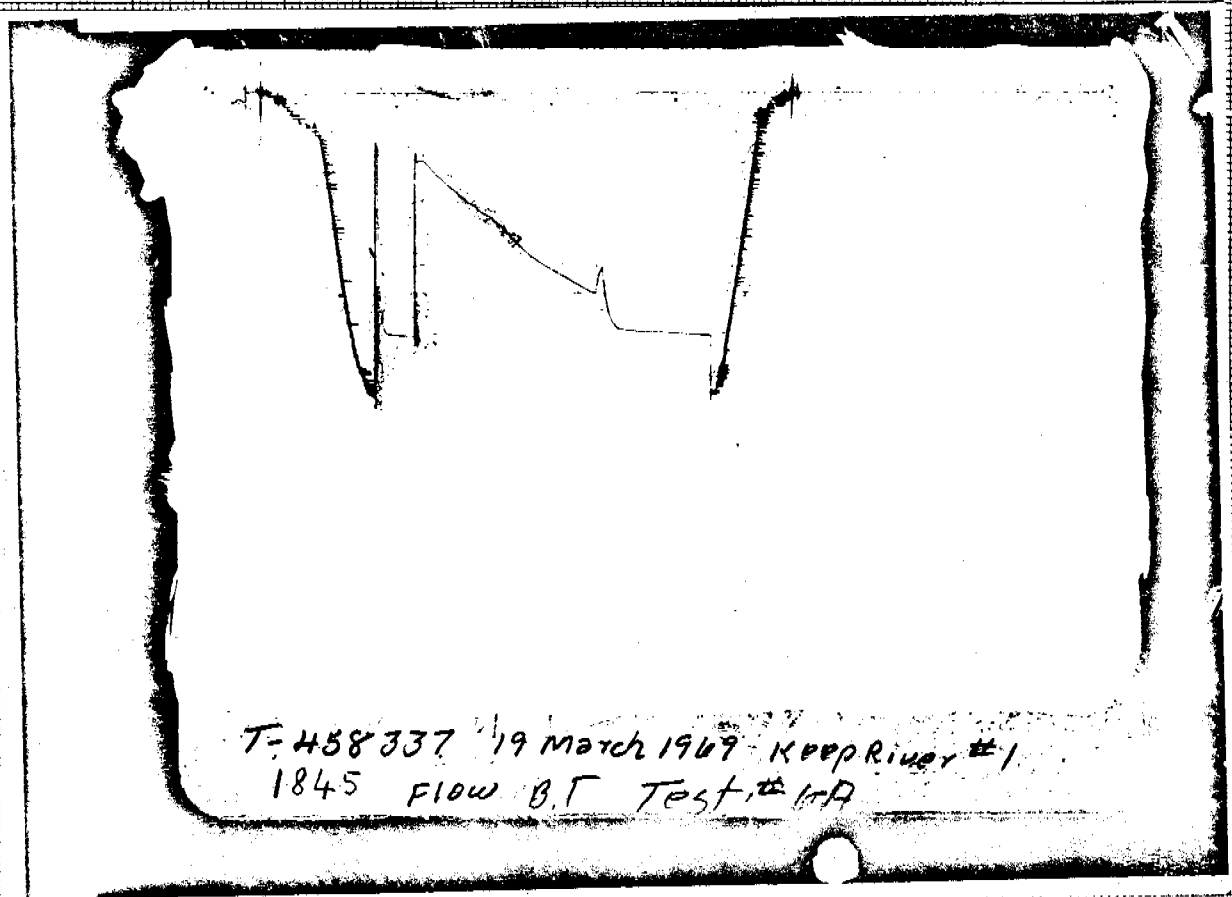
# FORMATION TEST DATA

(3)

KEEP RIVER NO. 1 TEST 6H



T-458337 19 March 1969 Keep River #1
1845 [illegible] Test #6-A



T-458337 19 March 1969 Keep River #1
1845 FLOW B.T Test #6A

| Gauge No. 1845 | Depth 6390' | Clock 24 hour | Ticket No. 458338 |
|---|---|---|---|

| | First Flow Period | | Initial Closed In Pressure | | | Second Flow Period | | Final Closed In Pressure | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\theta}{\theta}$ | PSIG Temp. Corr. |
| $P_0$ | .000 | 707 | .000 | | 947 | .000 | 915 | .000 | | 2696 |
| $P_1$ | .013 | 947 | .0205 | | 2714 | .0523 | 1679 | .617 | | 2726 |
| $P_2$ | | | .0410 | | 2719 | .1046 | 2120 | | | |
| $P_3$ | | | .0615 | | 2719 | .1569 | 2399 | | | |
| $P_4$ | | | .0820 | | 2719 | .2092 | 2565 | | | |
| $P_5$ | | | .1025 | | 2719 | .2615 | 2653 | | | |
| $P_6$ | | | .1230 | | 2719 | .3138 | 2696 | | | |
| $P_7$ | | | .1435 | | 2719 | | | | | |
| $P_8$ | | | .1640 | | 2719 | | | | | |
| $P_9$ | | | .1845 | | 2719 | | | | | |
| $P_{10}$ | | | .2050 | | 2719 | | | | | |

| Gauge No. 1895 | Depth 6420' | Clock 24 hour |
|---|---|---|

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| $P_0$ | .000 | 759 | .000 | | 1116 | .000 | 952 | .000 | | 2693 |
| $P_1$ | .013 | 1116 | .020 | | 2717 | .0515 | 1702 | .605 | | 2719 |
| $P_2$ | | | .040 | | 2719 | .1030 | 2133 | | | |
| $P_3$ | | | .060 | | 2719 | .1545 | 2399 | | | |
| $P_4$ | | | .080 | | 2719 | .2060 | 2567 | | | |
| $P_5$ | | | .100 | | 2719 | .2575 | 2654 | | | |
| $P_6$ | | | .120 | | 2719 | .3090 | 2693 | | | |
| $P_7$ | | | .140 | | 2719 | | | | | |
| $P_8$ | | | .160 | | 2719 | | | | | |
| $P_9$ | | | .180 | | 2719 | | | | | |
| $P_{10}$ | | | .200 | | 2719 | | | | | |
| Reading Interval | | | 6 | | | 10 | | | | Minutes |

REMARKS:

# SPECIAL PRESSURE DATA

KEEP RIVER NO.1 TEST NO.7

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Flow Time | 1st Min. 5 | 2nd Min. 60 | Date | 3-20-69 | Ticket Number | 458338-S | |
| Closed In Press. Time | 1st Min. 60 | 2nd Min. 180 | Kind of Job | Hook Wall | Halliburton District | Perth | |
| Pressure Readings | Field | Office Corrected | Tester | M. Ivins | Witness | MR.RICHEUX | |
| Depth Top Gauge | 6390 Ft. | Blanked no Off | Drilling Contractor | OIL DRILLING AND EXPLORATION sm | | | |
| BT. P.R.D. No. | 1845 | Hour Clock 24 | Elevation | 76' | Top Packer | 6400' | |
| Initial Hydro Mud Pressure | 3386 | 3345 | Total Depth | 6500' PB | Bottom Packer | -- | |
| Initial Closed in Pres. | 2728 | 2719 | Interval Tested | 6400-6500' | Formation Tested | -- | |
| Initial Flow Pres. | 595 1 | 707 | Casing or Hole Size | 7 5/8" | Casing Perfs. Top | 6444' | |
| | - 2 | 915 | | | Bot. | 6480 | |
| Final Flow Pres. | 870 1 | 947 | Surface Choke | 3/8" | Bottom Choke | .62 | |
| | 2682 2 | 2696 | | | | | |
| Final Closed in Pres. | 2728 | 2726 | Size & Kind Drill Pipe | 5" 19.5# 4½" IF | Drill Collars Above Tester | I.D. - LENGTH | |
| Final Hydro Mud Pressure | 3341 | 3334 | Mud Weight | 10 | Mud Viscosity | 80 | |
| Depth Cen. Gauge | Ft. | Blanked Off | Temperature | 170 °F Est. / -- °F Actual | Anchor Size & Length | ID 2.37" OD 5" X 16' | |
| BT. P.R.D. No. | | Hour Clock | Depths Mea. From | Kelly bushing | Depth of Tester Valve | 6385 Ft. | |
| Initial Hydro Mud Pres. | | | Cushion | TYPE fresh water AMOUNT 1000 Ft. | Depth Back Pres. Valve | Ft. | |
| Initial Closed in Pres. | | | Recovered | 1000 Feet of mud and water | | | |
| Initial Flow Pres. | 1 | | Recovered | 4500 Feet of salt water | | | |
| | 2 | | | | | | |
| Final Flow Pres. | 1 | | Recovered | Feet of | | | |
| | 2 | | | | | | |
| Final Closed in Pres. | | | Recovered | Feet of | | | |
| Final Hydro Mud Pres. | | | Oil A.P.I. Gravity | | Water Spec. Gravity | 1.010 | |
| Depth Bot. Gauge | 6420 Ft. | Blanked no Off | Gas Gravity | | Surface Pressure | psi | |
| BT. P.R.D. No. | 1895 | Hour Clock 24 | Tool Opened | 0146 A.M. P.M. | Tool Closed | 0423 A.M. P.M. | |
| Initial Hydro Mud Pres. | 3358 | 3351 | Remarks | Tool opened with a good air blow on first | | | |
| Initial Closed in Pres. | 2715 | 2719 | | flow. Closed for a 60 minute initial closed in | | | |
| Initial Flow Pres. | 651 1 | 759 | | | | | |
| | - 2 | 952 | | pressure. Tool reopened with blow gradually | | | |
| Final Flow Pres. | 933 1 | 1116 | | | | | |
| | 2693 2 | 2693 | | decreasing throughout test to static condition. | | | |
| Final Closed in Pres. | 2715 | 2719 | | Took a 180 minute final closed in pressure. | | | |
| Final Hydro Mud Pres. | 3336 | 3321 | | UNABLE TO PERFORM CALCULATION SERVICE SINCE WELL HAS NEARLY EQUALIZED DURING FINAL FLOW PERIOD. | | | |

Legal Location Sec. - Twp. - Rng.

Lease Name: KEEP RIVER

Well No.: 1

Test No.: 7

Field Area: KUNUNURRA

County

State: N. T.

Lease Owner/Company Name: AUSTRALIAN AQUITAINE PETROLEUM

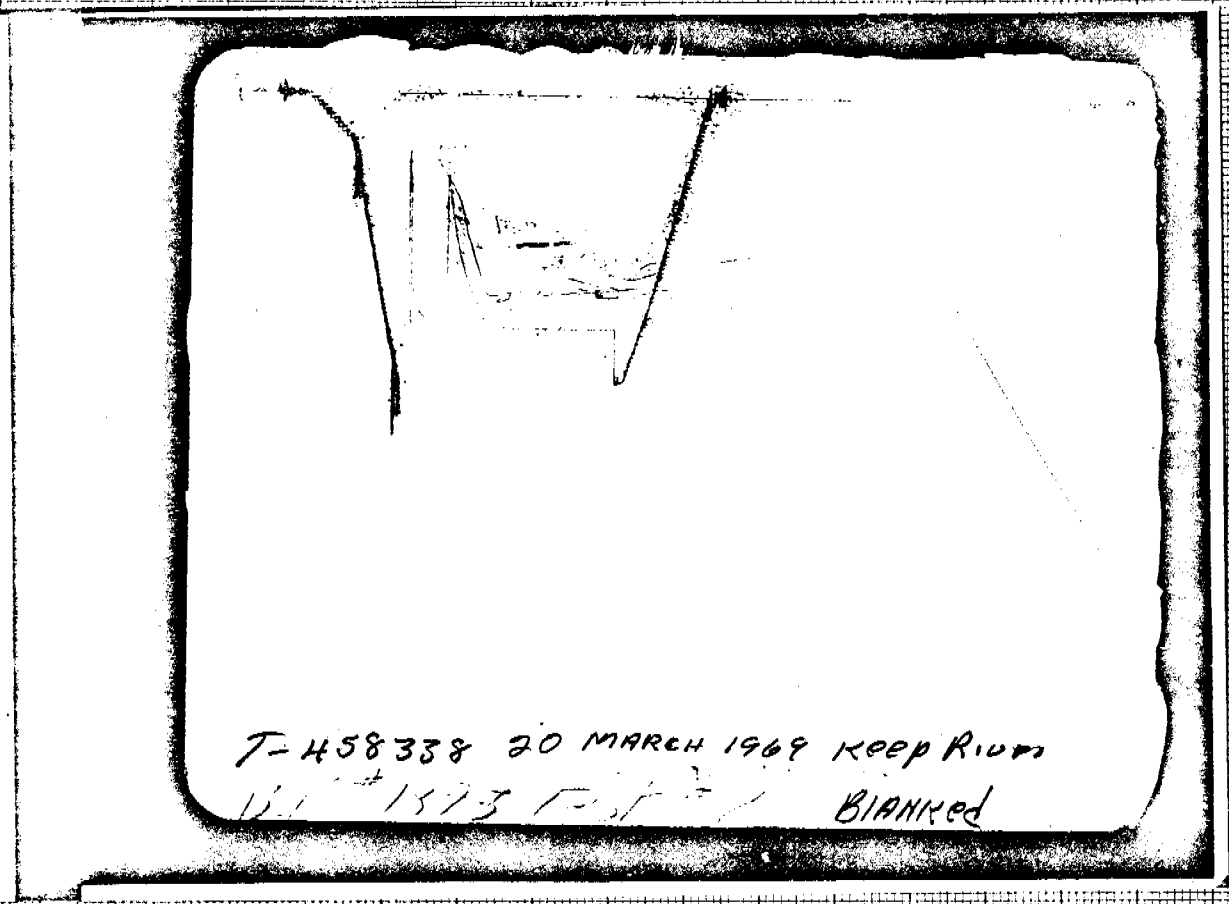
Owner's District

Mea. From Tester Valve

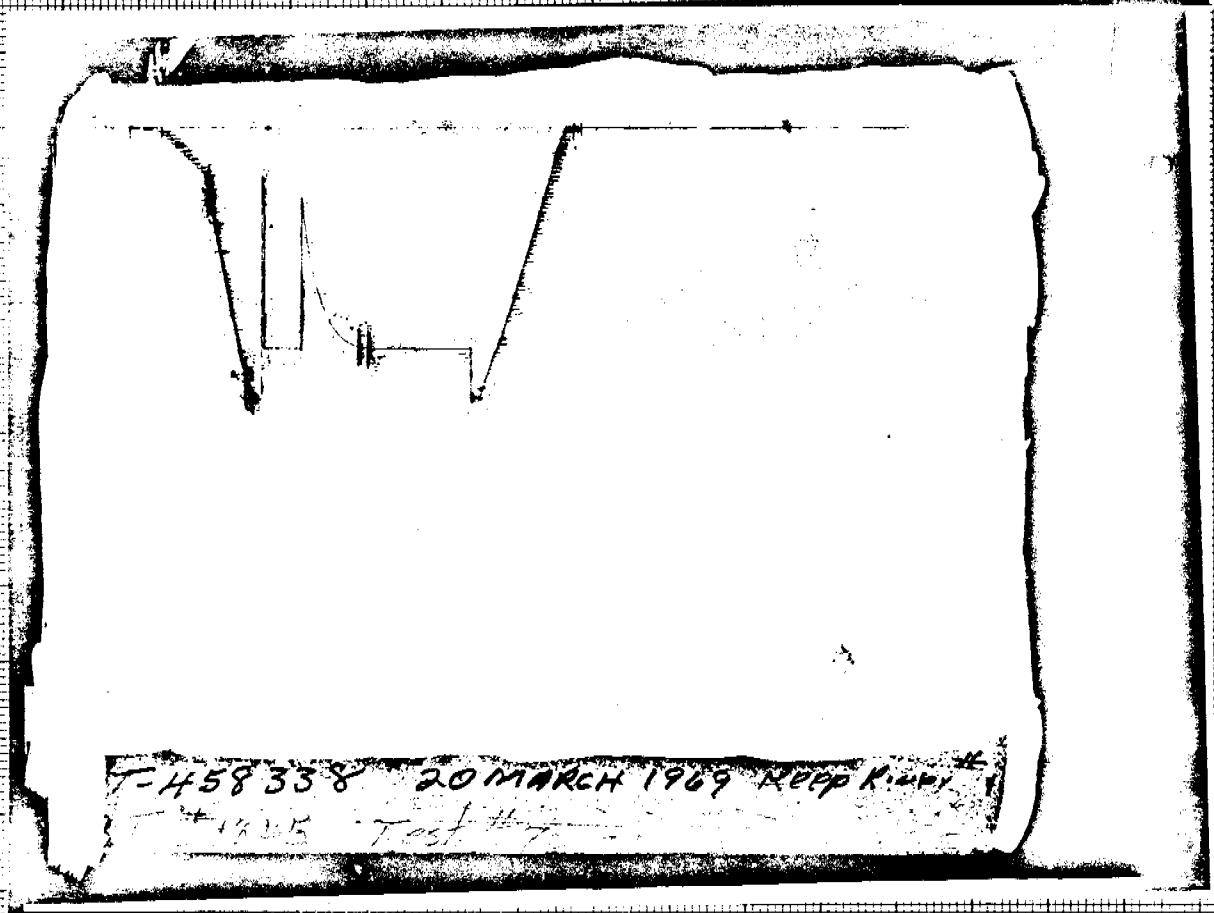
# FORMATION TEST DATA

3

KEEP RIVER NO. 1 TEST 1

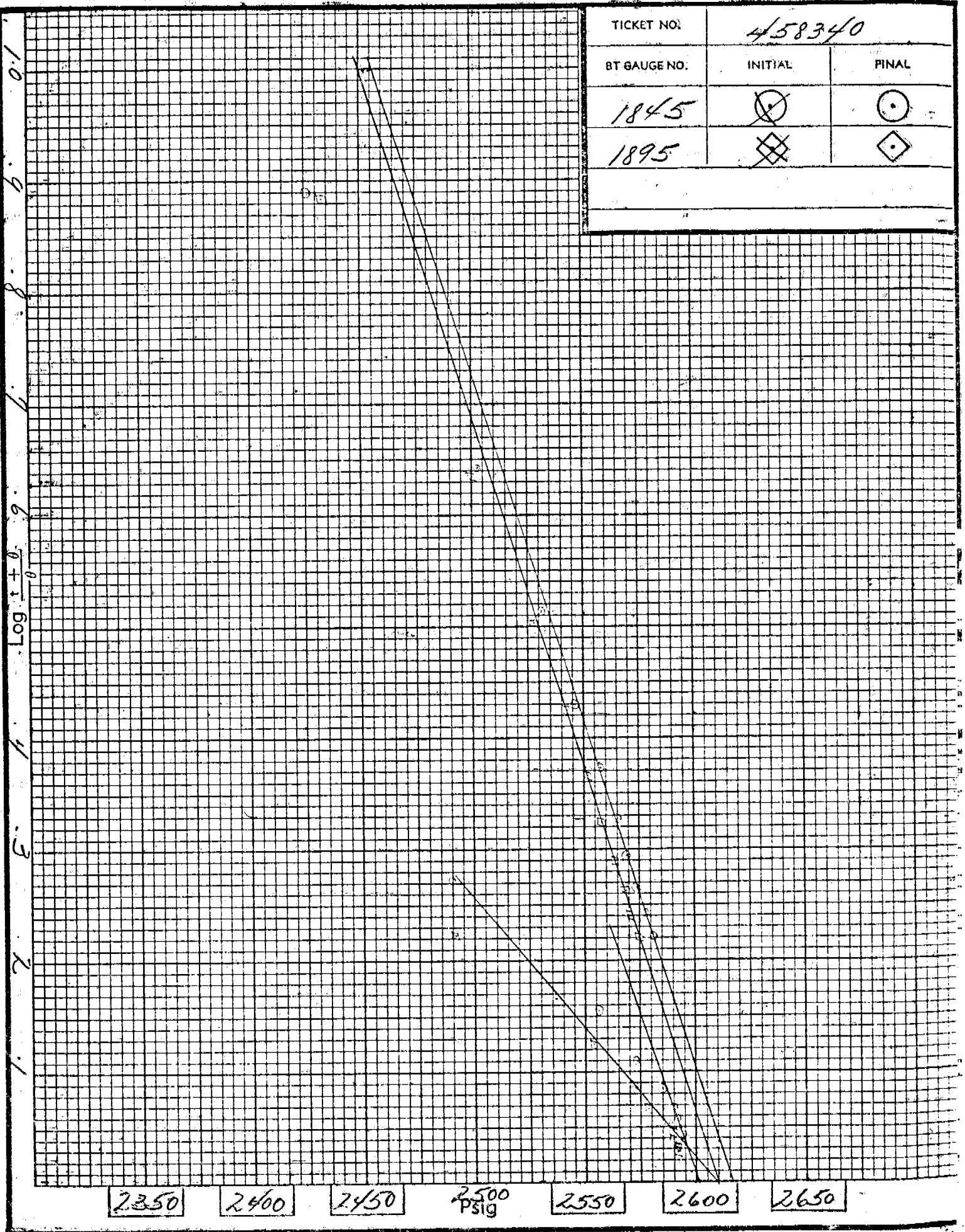


T-458338 20 MARCH 1969 Keep River
[illegible] Test [illegible] BLANKED



T-458338 20 MARCH 1969 Keep River
[illegible] Test [illegible]

| TICKET NO. | 458340 | |
|---|---|---|
| BT GAUGE NO. | INITIAL | FINAL |
| 1845 | ⊗ | ⊙ |
| 1895 | ⊠ | ◈ |




EXTRAPOLATED PRESSURE GRAPH

C3

| | Belgium BELÉPINE, 1948 | Germany H. SCHMIDT, 1925, VOGES, 1960 | |
|---|---|---|---|
| | | Cephalopods | Conodonts |
| VISEAN | V 1 α (M. inconstans) | unt. II β+γ / P. kochi (M. inconstans) | anchoralis-Zone |
| TOURNAISIAN | Tn 3c / P. princeps | II α | ↑ Siph. crenulata-Zone |
| | Tn 3b / (M. rotella) | | |
| | Tn 3a | | |
| | Tn 2c | | |
| | Tn 2b | | |
| | Tn 2a | | |
| | Tn 1b | I / Gattendorfia | Siph.-triangula-Zone kockeli-dentilineata-Zone |
| Devonian / Carboniferous | Tn 1a / Cy. euryomphala | (ob) II / Wocklumeria | (Palmatolepis) |

M.=Muensteroceras P.=Pericyclus Cy.=Cymaclymenia Siph.=Siphonodella

Abb. 3. — Correlation of the Zones in Belgium and Germany, based on key fossil species of Conodonts and Cephalopods (species which occur in several zones)

| Scheer, 1957 | | Scheer, 1958 | | Northern France - Belgium after LYS, CONIL, 1963 and BÜGER 1962 | England A. T. after SIMPSON 1958 | USA Upper Mississippi - Rocks after COLLINSON, SCOTT and REXROAD, 1962 |
|---|---|---|---|---|---|---|
| Pericyclus (E) | Tournaisian | Pericyclus | Base of Visean = C2 | Lower Visean | C2 | Meramecian |
| Protocanites (D) | | Gattendorfia | Tournaisian = C1-C1 | Upper Tournaisian (Tn 2-3) / (Tn 1b) | C1 I K | Kinderhookian |
| Koninckymenia | Devonian | Wocklumeria Kalloclymenia | Strunian = K | Strunian (Tn 1a) | Upper Devonian | Upper Devonian |
| | | Clymenia Koninckymenia | Famennian | Upper Famennian | | |

Abb. 1. — Range and Correlation of Devono-Carboniferous Strata

FROM – E. PAPROTH Die Untergrenze des Karbons

| Gauge No. 1845 | Depth 6102' | Clock 24 hour | Ticket No. 458340 |
|---|---|---|---|

| | First Flow Period | | Initial Closed In Pressure | | | Second Flow Period | | Final Closed In Pressure | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\Theta}{\Theta}$ | PSIG Temp. Corr. | Time Defl. .000" | PSIG Temp. Corr. | Time Defl. .000" | Log $\frac{t+\Theta}{\Theta}$ | PSIG Temp. Corr. |
| $P_0$ | .000 | 453 | .000 | -- | 587 | .000 | 510 | .000 | -- | 888 |
| $P_1$ | .0034 | 458 | .0196 | .271 | 2490 | .0515 | 600 | .0481 | .890 | 2426 |
| $P_2$ | .0068 | 465 | .0392 | .156 | 2556 | .1030 | 670 | .0962 | .642 | 2503 |
| $P_3$ | .0102 | 471 | .0488 | .110 | 2574 | .1545 | 732 | .1443 | .513 | 2531 |
| $P_4$ | .0136 | 483 | .0784 | .085 | 2585 | .2060 | 789 | .1924 | .430 | 2546 |
| $P_5$ | .0170 | 487 | .0980 | .069 | 2590 | .2575 | 842 | .2405 | .372 | 2558 |
| $P_6$ | | | .1176 | .058 | 2592 | .3090 | 888 | .2886 | .328 | 2565 |
| $P_7$ | | | .1372 | .050 | 2592 | | | .3367 | .294 | 2569 |
| $P_8$ | | | .1568 | .044 | 2594 | | | .3848 | .266 | 2574 |
| $P_9$ | | | .1764 | .039 | 2594 | | | .4329 | .243 | 2578 |
| $P_{10}$ | | | .1960 | .036 | 2594 | | | .4810 | .224 | 2581 |

| Gauge No. 1895 | Depth 6132' | Clock 24 hour |
|---|---|---|

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| $P_0$ | .000 | 457 | .000 | -- | 497 | .000 | 512 | .000 | -- | 885 |
| $P_1$ | .0026 | 464 | .0194 | .222 | 2491 | .0508 | 601 | .0477 | .884 | 2433 |
| $P_2$ | .0052 | 473 | .0388 | .125 | 2554 | .1016 | 670 | .0954 | .636 | 2500 |
| $P_3$ | .0078 | 477 | .0582 | .087 | 2573 | .1524 | 731 | .1431 | .508 | 2528 |
| $P_4$ | .0104 | 486 | .0776 | .067 | 2584 | .2032 | 784 | .1908 | .425 | 2543 |
| $P_5$ | .0130 | 497 | .0970 | .054 | 2588 | .2540 | 837 | .2384 | .367 | 2551 |
| $P_6$ | | | .1164 | .045 | 2590 | .3050 | 885 | .2862 | .324 | 2558 |
| $P_7$ | | | .1358 | .039 | 2590 | | | .3339 | .290 | 2564 |
| $P_8$ | | | .1552 | .034 | 2592 | | | .3816 | .263 | 2569 |
| $P_9$ | | | .1746 | .031 | 2592 | | | .4293 | .240 | 2571 |
| $P_{10}$ | | | .1940 | .028 | 2592 | | | .4770 | .221 | 2575 |
| Reading Interval | 1 | | 6 | | | 15 | | 15 | | Minutes |

REMARKS:

# SPECIAL PRESSURE DATA

(3)

# Liquid Production

| | | | | | | |
|---|---|---|---|---|---|---|
| B.T. Gauge Numbers | | | 1845 | 1895 | Ticket Number | 458340 |
| | | | PRESSURE | PRESSURE | | |
| Initial Hydrostatic | | | 3230 | 3229 | Elevation | 76 ft. |
| Final Hydrostatic | | | 3186 | 3210 | Indicated Production 1st Flow | -- bbls. day |
| | | Time | | | Indicated Production Total Flow | 250 bbls. day |
| 1st Flow | Initial | ---- | 453 | 458 | | |
| 1st Flow | Final | 5 | 487 | 497 | Drill Collar Length | none ft. |
| Initial Closed In Pressure | | 60 | 2594 | 2592 | Drill Collar I.D. | none in. |
| 2nd Flow | Initial | ---- | 410 | 512 | Drill Pipe Factor | 0.01776 bbls. ft. |
| 2nd Flow | Final | 90 | 888 | 885 | Hole Size | 9.625 in. |
| Final Closed In Pressure | | 150 | 2581 | 2575 | Footage Tested Perf. Int. | 26 ft. |
| Extrapolated Static Pressure | Initial | | -- | -- | Mud Weight | 10.0 lbs. gal. |
| Extrapolated Static Pressure | Final | | 2616 | 2610 | Viscosity, ~~Other~~ Water | 0.39 cp |
| Slope ~~psi/cycle~~ P 10 | Initial | | -- | -- | Oil API Gravity | -- |
| Slope ~~psi/cycle~~ P 10 | Final | | 2456 | 2450 | Water Specific Gravity | 1.20 |

Remarks: All calculations based on salt water recovery and of reported specific gravity of 1.20. Calculations based on 5" 19.5# drill pipe.

## SUMMARY

| Product | Equation | Gauge No. 1845 Depth 6102' Initial | Gauge No. 1845 Depth 6102' Final | Gauge No. 1895 Depth 6132' Initial | Gauge No. 1895 Depth 6132' Final | Units |
|---|---|---|---|---|---|---|
| Production | $Q = \frac{1440\ R}{t}$ | | 254 | | 250 | bbls. day |
| Transmissability | $\frac{Kh}{\mu} = \frac{162.6\ Q}{m}$ | | 258.14 | | 254.23 | $\frac{\text{md. ft.}}{\text{cp}}$ |
| Indicated Flow Capacity | $Kh = \frac{Kh}{\mu}\ \mu$ | | 100.67 | | 99.15 | md. ft. |
| Average Effective Permeability | $K = \frac{Kh}{h}$ | | 3.872 | | 3.813 | md. |
| | $K_1 = \frac{Kh}{h_1}$ | | -- | | -- | md. |
| Damage Ratio | $DR = .183\ \frac{Ps - Pf}{m}$ | | 1.98 | | 1.97 | -- |
| Theoretical Potential w/Damage Removed | $Q_1 = Q\ DR$ | | 502 | | 494 | bbls. day |
| Approx. Radius of Investigation | $b \leftrightarrows \sqrt{Kt}$ or $\sqrt{Kt_0}$ | | 19 | | 19 | ft. |
| | $b_1 \leftrightarrows \sqrt{K_1 t}$ or $\sqrt{K_1 t_0}$ | | -- | | -- | ft. |
| Potentiometric Surface | $Pot. = El - CD + 2.319\ Ps$ | | 40.5 | | -3.5 | ft. |



## INTERPRETATIONS AND CALCULATIONS

KEEP RIVER NO.1 TEST NO.8

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Flow Time | 1st Min. 5 | 2nd Min. 90 | Date | 3/21/69 | Ticket Number | 458340 S | |
| Closed In Press. Time | 1st Min. 60 | 2nd Min. 150 | Kind of Job | HOOK WALL | Halliburton District | PERTH, W.A. | |
| Pressure Readings | Field | Office Corrected | Tester | M. IVINS | Witness | MR.M.RICHEUX | |
| Depth Top Gauge | 6102 Ft. | no Blanked Off | Drilling Contractor | OIL DRILLING AND EXPLORATION | | LC | |
| BT. P.R.D. No. | 1845 | 24 Hour Clock | Elevation | 76' | Top Packer | 6112' | |
| Initial Hydro Mud Pressure | 3205 | 3230 | Total Depth | 6300' P.B. | Bottom Packer | -- | |
| Initial Closed in Pres. | 2569 | 2594 | Interval Tested | 26' 6112' - 6300' | Formation Tested | --- | |
| Initial Flow Pres. | 275 1 | 453 | Casing or Hole Size | 9 5/8" | Casing Perfs. Top | 6174' | |
| | - 2 | 510 | | | Bot. | 6200' | |
| Final Flow Pres. | 481 1 | 487 | Surface Choke | 3/8" | Bottom Choke | .62" | |
| | 870 2 | 888 | | | | | |
| Final Closed in Pres. | 2569 | 2581 | Size & Kind Drill Pipe | 5" 19.5 4½" IF | Drill Collars Above Tester I.D. - LENGTH | none | |
| Final Hydro Mud Pressure | 3205 | 3186 | Mud Weight | 10 | Mud Viscosity | 55 | |
| Depth Con. Gauge | Ft. | Blanked Off | Temperature | 170 °F Est. / °F Actual | Anchor Size & Length | ID 2.37" OD 5.00" X 16' | |
| BT. P.R.D. No. | | Hour Clock | Depths Mea. From | Kelly Bushing | Depth of Tester Valve | 6097 Ft. | |
| Initial Hydro Mud Pres. | | | Cushion TYPE fresh water AMOUNT 1000 Ft. | | Depth Back Pres. Valve | -- Ft. | |
| Initial Closed in Pres. | | | Recovered | 710 Feet of mud and water cushion. | | | |
| Initial Flow Pres. | 1 | | Recovered | 450 Feet of salt water. | | | |
| | 2 | | | | | | |
| Final Flow Pres. | 1 | | Recovered | Feet of | | | |
| | 2 | | | | | | |
| Final Closed in Pres. | | | Recovered | Feet of | | | |
| Final Hydro Mud Pres. | | | Oil A.P.I. Gravity | | Water Spec. Gravity | | |
| Depth Bot. Gauge | 6132 Ft. | yes Blanked Off | Gas Gravity | | Surface Pressure | psi | |
| BT. P.R.D. No. | 1895 | 24 Hour Clock | Tool Opened | 1755 A.M. P.M. | Tool Closed | 2030 A.M. P.M. | |
| Initial Hydro Mud Pres. | 3208 | 3229 | Remarks | Opened tool for a 5 minute first flow. Took | | | |
| Initial Closed in Pres. | 2564 | 2592 | | a 60 minute initial closed in pressure. Reopened | | | |
| Initial Flow Pres. | 455 1 | 458 | | tool for a 90 minute final flow with light air blow | | | |
| | 477 2 | 512 | | | | | |
| Final Flow Pres. | 499 1 | 497 | | at start of test and decreasing throughout until | | | |
| | 868 2 | 885 | | | | | |
| Final Closed in Pres. | 2564 | 2575 | | final closed in at 2030 hours. Pulled out of hole | | | |
| Final Hydro Mud Pres. | 3208 | 3210 | | at 2300 hours | | | |

Legal Location Sec. - Twp. - Rng. ----- Lease Name KEEP RIVER Well No. 1 Test No. 8-A Lease Owner/Company Name AUSTRALIAN AQUITAINE PETROLEUM

Field Area KUNUNURRA County ----- State N. T

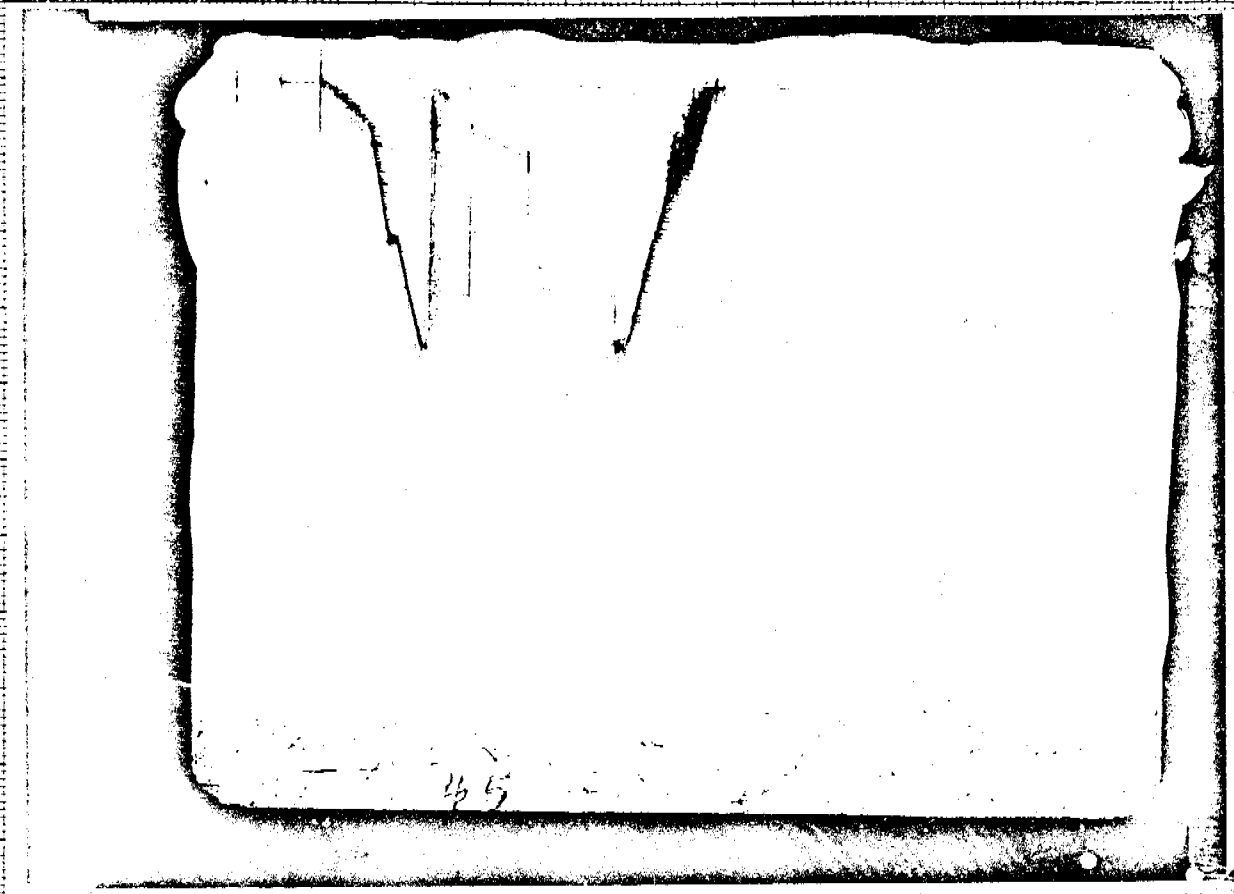
Mea. From Tester Valve

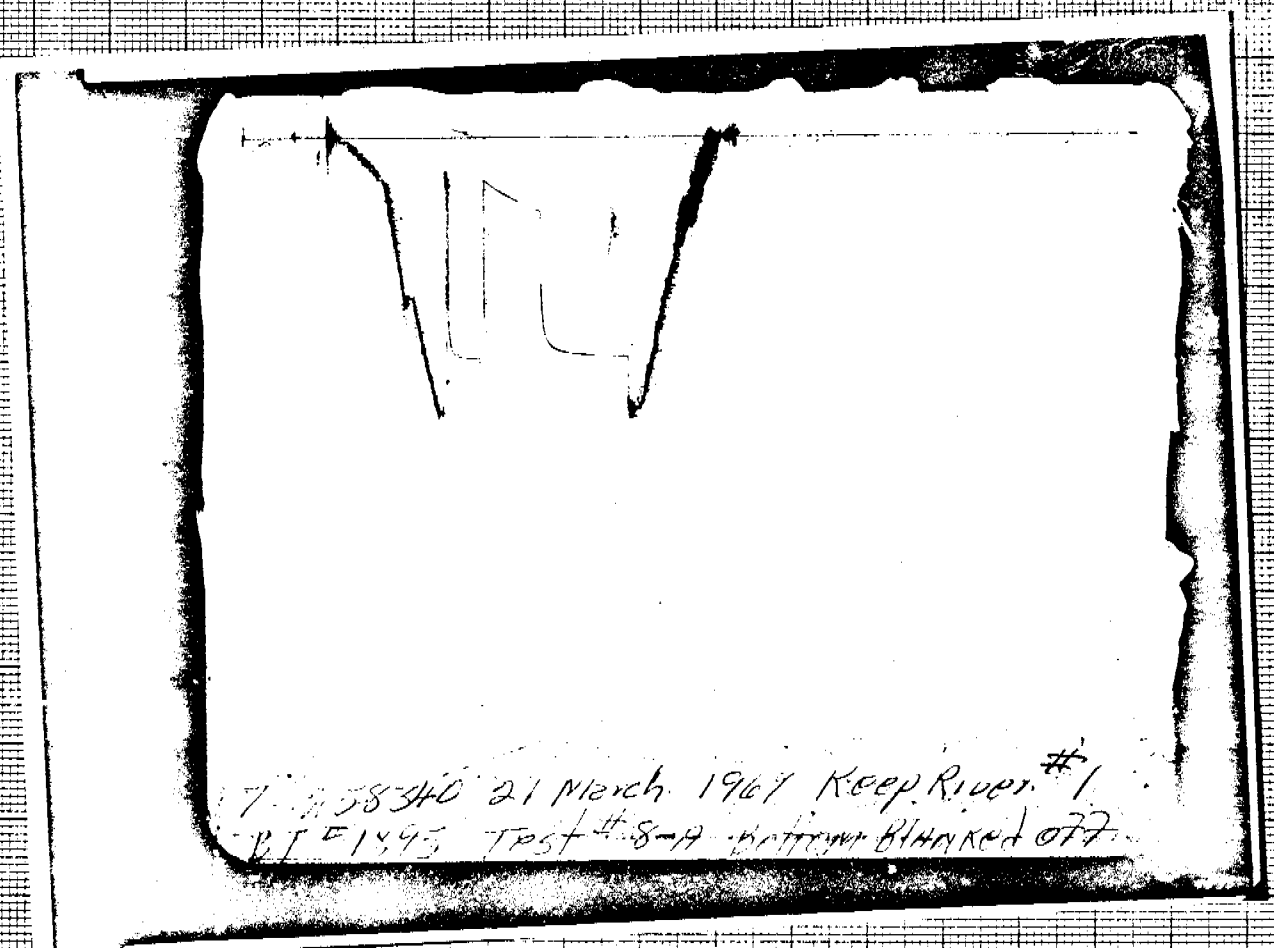
Owner's Distrlct

# FORMATION TEST DATA

(3)

KEEP RIVER NO 1 TEST 8A.





T-58340 21 March 1967 Keep River #1
VT=1.45 Test #8-A Bottom Blanked Off