# TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Drill-Stem Test Data

Well Name GILLIG #1-24 Test No. 1 Date 10/3/92

Company MID CONTINENT RESOURCES INC. Zone FT SCT/CHER

Address P.O. BOX 399 GARDEN CITY KS 67845 Elevation 2269

Co. Rep./Geo. SCOTT CORSAIR Cont. EMPHASIS RIG #5 Est. Ft. of Pay

Location: Sec. 24 Twp. 19S Rge. 22W Co. NESS State KS

Interval Tested 4273-4323

Anchor Length 50

Top Packer Depth 4268

Bottom Packer Depth 4273

Total Depth 4323

Drill Pipe Size 4.5" XH

Wt. Pipe I.D. - 2.7 Ft. Run 637

Drill Collar – 2.25 Ft. Run

Mud Wt. 9.1 lb/Gal.

Viscosity 50 Filtrate 9

Tool Open @ 6:55 PM Initial Blow WEAK BLOW-DIED IN 13 MINUTES

Final Blow NO BLOW

Recovery - Total Feet 3 Flush Tool? NO

Rec. 3 Feet of DRILLING MUD

Rec. Feet of

Rec. Feet of

Rec. Feet of

Rec. Feet of

BHT 111 °F Gravity °API @ °F Corrected Gravity °API

RW @ °F Chlorides ppm Recovery Chlorides ppm System

(A) Initial Hydrostatic Mud 2240.6 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 55.8 PSI @ (depth) 4277 w / Clock No. 27567

(C) First Final Flow Pressure 55.8 PSI AK1 Recorder No. 7437 Range 4200

(D) Initial Shut-in Pressure 77.4 PSI @ (depth) 4319 w / Clock No. 8376

(E) Second Initial Flow Pressure 54.7 PSI AK1 Recorder No. Range

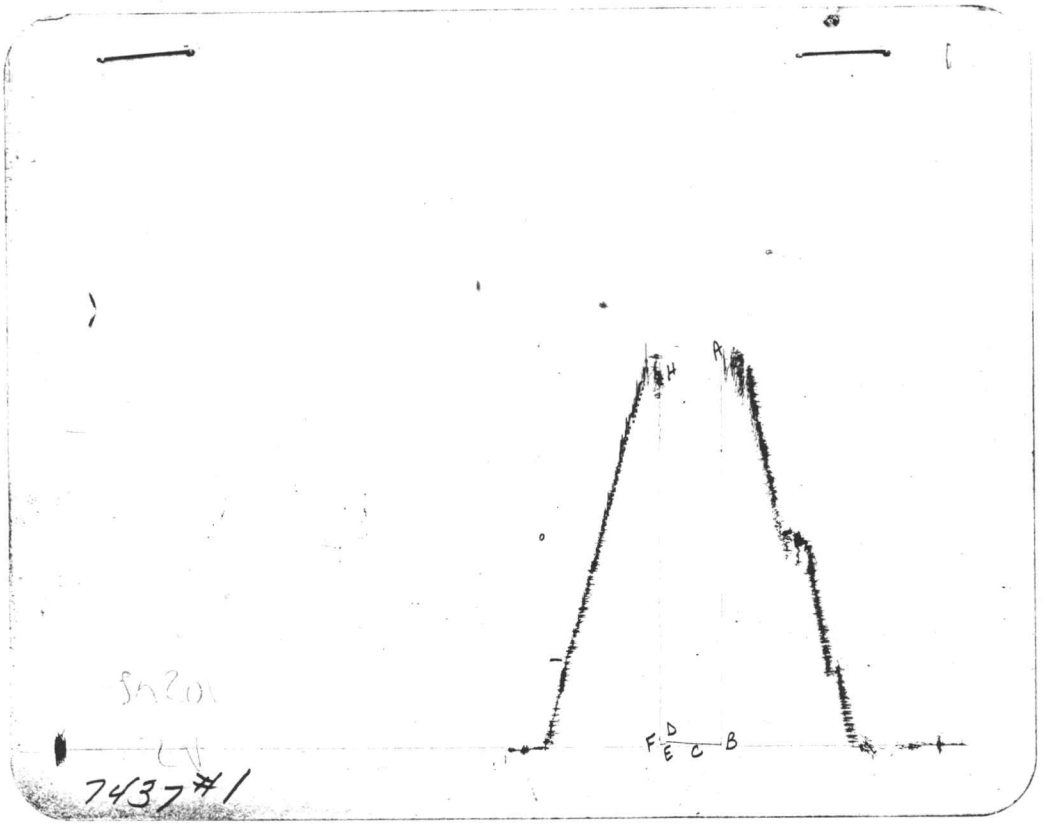
(F) Second Final Flow Pressure 54.7 PSI @ (depth) w / Clock No.

(G) Final Shut-in Pressure PSI Initial Opening 15 Final Flow 5

(H) Final Hydrostatic Mud 2190.6 PSI Initial Shut-in 30 Final Shut-in 0

Our Representative DAN BANGLE

# CHART PAGE




This is an actual photograph of recorder chart

| | FIELD READING | OFFICE READING |
|---|---|---|
| (A) INITIAL HYDROSTATIC MUD | 2238 | 2240.6 |
| (B) FIRST INITIAL FLOW PRESSURE | 59 | 55.8 |
| (C) FIRST FINAL FLOW PRESSURE | 59 | 55.8 |
| (D) INITIAL CLOSED-IN PRESSURE | 78 | 77.4 |
| (E) SECOND INITIAL FLOW PRESSURE | 59 | 54.7 |
| (F) SECOND FINAL FLOW PRESSURE | 59 | 54.7 |
| (G) FINAL CLOSED-IN PRESSURE | | |
| (H) FINAL HYDROSTATIC MUD | 2188 | 2190.6 |

# TRILOBITE TESTING, L.L.C.

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## Drill-Stem Test Data

Well Name GILLIG #1-24 Test No. 2 Date 10/4/92

Company MID CONTINENT RESOURCES INC. Zone MISSISSIPPI

Address P.O. BOX 399 GARDEN CITY KS 67845 Elevation 2269

Co. Rep./Geo. SCOTT CORSAIR Cont. EMPHASIS RIG #5 Est. Ft. of Pay

Location: Sec. 24 Twp. 19S Rge. 22W Co. NESS State KS

Interval Tested 4357-4389 Drill Pipe Size 4.5" XH

Anchor Length 32 Wt. Pipe I.D. - 2.7 Ft. Run 637

Top Packer Depth 4352 Drill Collar – 2.25 Ft. Run

Bottom Packer Depth 4357 Mud Wt. 8.9 lb/Gal.

Total Depth 4389 Viscosity 45 Filtrate 12

Tool Open @ 10:15 AM Initial Blow WEAK BLOW-BUILDING TO 1.5" -LOST PACKER SEAT
TRIED SETTING TOOL WITH MORE WEIGHT-NO HELP

Final Blow

Recovery - Total Feet 258 Flush Tool? NO

Rec. 10 Feet of OIL CUT MUD-5%OIL/95%MUD

Rec. 248 Feet of SLTLY OIL CUT MUD-2%OIL/98%MUD

Rec. Feet of

Rec. Feet of

Rec. Feet of

BHT 112 °F Gravity °API @ °F Corrected Gravity °API

RW @ °F Chlorides ppm Recovery Chlorides ppm System

(A) Initial Hydrostatic Mud 2233.4 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 57.1 PSI @ (depth) 4361 w / Clock No. 27567

(C) First Final Flow Pressure 57.1 PSI AK1 Recorder No. 7437 Range 4200

(D) Initial Shut-in Pressure PSI @ (depth) 4385 w / Clock No. 8376

(E) Second Initial Flow Pressure PSI AK1 Recorder No. Range

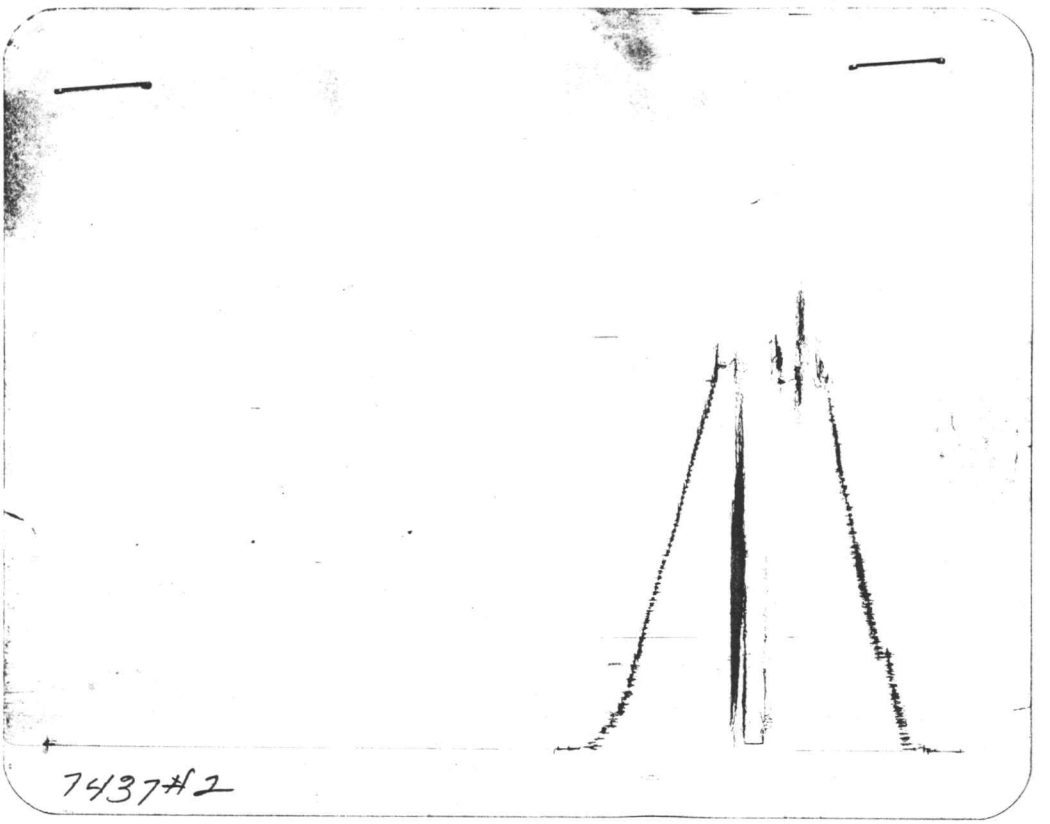
(F) Second Final Flow Pressure PSI @ (depth) w / Clock No.

(G) Final Shut-in Pressure PSI Initial Opening 15 Final Flow

(H) Final Hydrostatic Mud 2170.2 PSI Initial Shut-in Final Shut-in

Our Representative DAN BANGLE

CHART PAGE




This is an actual photograph of recorder chart

| | FIELD READING | OFFICE READING |
|---|---|---|
| (A) INITIAL HYDROSTATIC MUD | 2230 | 2233.4 |
| (B) FIRST INITIAL FLOW PRESSURE | 55 | 57.1 |
| (C) FIRST FINAL FLOW PRESSURE | 55 | 57.1 |
| (D) INITIAL CLOSED-IN PRESSURE | | |
| (E) SECOND INITIAL FLOW PRESSURE | | |
| (F) SECOND FINAL FLOW PRESSURE | | |
| (G) FINAL CLOSED-IN PRESSURE | | |
| (H) FINAL HYDROSTATIC MUD | 2178 | 2170.2 |

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## Drill-Stem Test Data

Well Name GILLIG #1-24 Test No. 3 Date 10/4/92

Company MID CONTINENT RESOURCES INC. Zone MISSISSIPPI

Address P.O. BOX 399 GARDEN CITY KS 67845 Elevation 2269

Co. Rep./Geo. SCOTT CORSAIR Cont. EMPHASIS RIG #5 Est. Ft. of Pay 6

Location: Sec. 24 Twp. 19S Rge. 22W Co. NESS State KS

Interval Tested 4305-4393 Drill Pipe Size 4.5" XH

Anchor Length 88 Wt. Pipe I.D. - 2.7 Ft. Run 593

Top Packer Depth 4300 Drill Collar – 2.25 Ft. Run

Bottom Packer Depth 4305 Mud Wt. 8.9 lb/Gal.

Total Depth 4393 Viscosity 45 Filtrate 12

Tool Open @ 8:08 PM Initial Blow WEAK BLOW-BUILDING TO 6.5"

Final Blow WEAK BLOW-BUILDING TO 3"

Recovery - Total Feet 216 Flush Tool?

Rec. 180 Feet of GAS IN PIPE

Rec. 92 Feet of CLEAN OIL

Rec. 62 Feet of OIL CUT GASSY MUD-10%GAS/40%OIL/50%MUD

Rec. 62 Feet of OIL CUT MUD-10%OIL/90%MUD

Rec. Feet of

BHT 112 °F Gravity °API @ °F Corrected Gravity 34 °API

RW @ °F Chlorides ppm Recovery Chlorides N/A ppm System

(A) Initial Hydrostatic Mud 2290.4 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 57.0 PSI @ (depth) 4309 w / Clock No. 27567

(C) First Final Flow Pressure 84.6 PSI AK1 Recorder No. 7437 Range 4200

(D) Initial Shut-in Pressure 1138.0 PSI @ (depth) 4389 w / Clock No. 8376

(E) Second Initial Flow Pressure 108.2 PSI AK1 Recorder No. Range

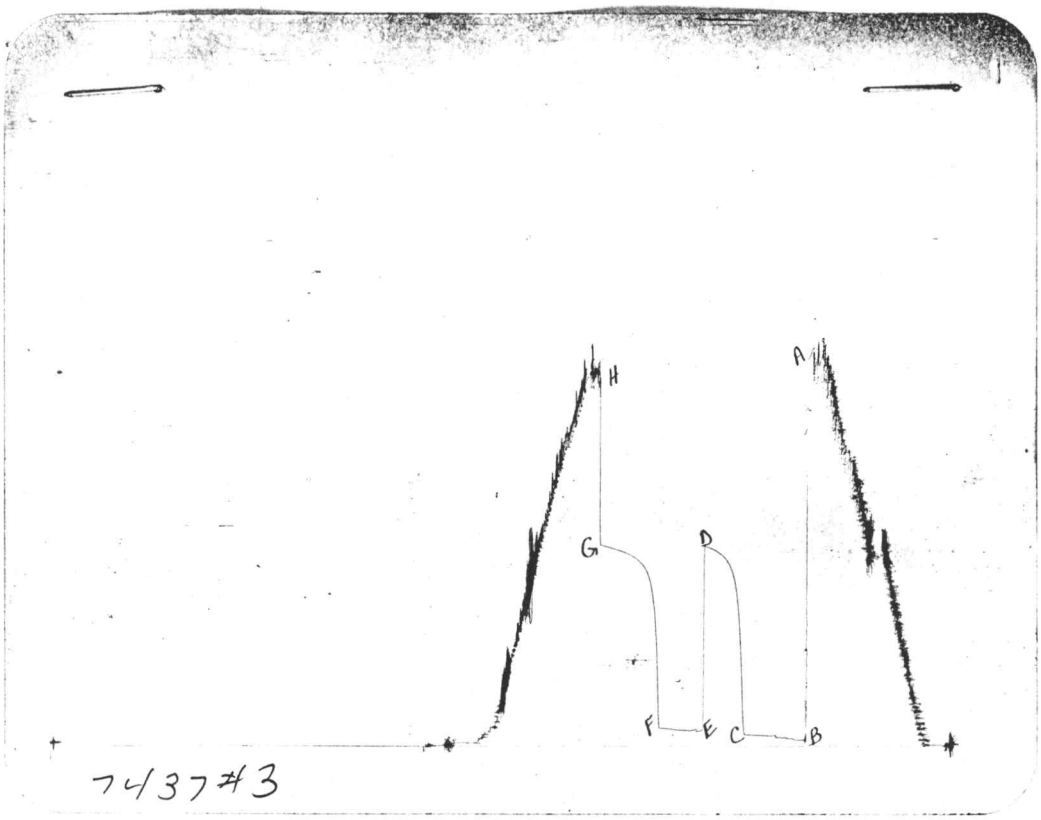
(F) Second Final Flow Pressure 115.1 PSI @ (depth) w / Clock No.

(G) Final Shut-in Pressure 1138.0 PSI Initial Opening 45 Final Flow 30

(H) Final Hydrostatic Mud 2160.9 PSI Initial Shut-in 30 Final Shut-in 45

Our Representative DAN BANGLE

CHART PAGE




This is an actual photograph of recorder chart

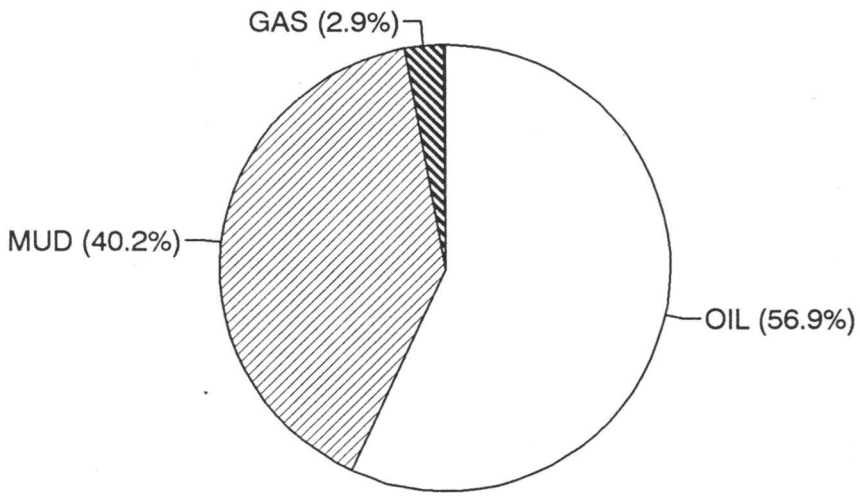
| | FIELD READING | OFFICE READING |
|---|---|---|
| (A) INITIAL HYDROSTATIC MUD | 2289 | 2290.4 |
| (B) FIRST INITIAL FLOW PRESSURE | 59 | 57 |
| (C) FIRST FINAL FLOW PRESSURE | 88 | 84.6 |
| (D) INITIAL CLOSED-IN PRESSURE | 1136 | 1138 |
| (E) SECOND INITIAL FLOW PRESSURE | 98 | 108.2 |
| (F) SECOND FINAL FLOW PRESSURE | 108 | 115.1 |
| (G) FINAL CLOSED-IN PRESSURE | 1136 | 1138 |
| (H) FINAL HYDROSTATIC MUD | 2168 | 2160.9 |

CALCULATED RECOVERY ANALYSIS WEIGHT PIPE

DST # 3 TICKET # 5419

| SAMPLE | TOTAL | | GAS | | OIL | | WATER | | MUD |
|---|---|---|---|---|---|---|---|---|---|
| # | FEET | % | FEET | % | FEET | % | FEET | % | FEET |
| 1 | 92 | 0 | 0 | 100 | 92 | 0 | 0 | 0 | 0 |
| 2 | 62 | 10 | 6.2 | 40 | 24.8 | 0 | 0 | 50 | 31 |
| 3 | 62 | 0 | 0 | 10 | 6.2 | 0 | 0 | 90 | 55.8 |
| 4 | | | 0 | | 0 | | 0 | | 0 |
| 5 | | | 0 | | 0 | | 0 | | 0 |
| TOTAL | 216 | 2.87 | 6.2 | 56.944444 | 123 | 0 | 0 | 40.185 | 86.8 |

| | | | HRS OPEN | BBL/DAY |
|---|---|---|---|---|
| BBL OIL= | 0.861 | * | 1.25 | 16.5312 |
| BBL WATER= | 0 | * | | 0 |
| BBL MUD= | 0.6076 | | | |
| BBL GAS= | 0.0434 | | | |



COMPUTER EVALUATION BY TRILOBITE TESTING, L.L.C.

MID CONTINENT RESOUR GILLIG #1-24 DST 3

24 19S 22W NESS KS

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| | | | | | |
|---|---|---|---|---|---|
| ELEVATION: | 2269 | KB | EST. PAY | 6 | FT |
| DATUM: | -2041 | | ZONE TESTED: | MISSISSIPPI | |
| TEST INTERVAL: | 4305-4393 | | TIME INTERVALS: | 45-30-30-45 | |
| RECORDER DEPTH: | 4309 | | VISCOSITY: | 9.833 | CP |
| BOTTOM HOLE TEMP: | 112 | | HOLE SIZE: | 7.875 | IN |

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| | | | | |
|---|---|---|---|---|
| CUBIC FEET OF GAS IN PIPE: | 7.02 | | | |
| TOTAL FEET OF RECOVERY: | 216.00 | CORRECTED PIPE FILLUP: | 311.081 | |
| TOTAL BARRELS OF RECOVERY: | 1.51 | CORR. BARRELS OF RECOVERY: | 2.177 | BBL |
| BARRELS IN DRILL PIPE: | 0.00 | API GRAVITY: | 34 | |
| BARRELS IN WEIGHT PIPE: | 1.51 | FLUID GRADIENT: | 0.370 | |
| BARRELS IN DRILL COLLARS: | 0.00 | | | |
| GAS OIL RATIO: | 4.6453 | CU.FT/BBL | | |
| BUBBLE POINT PRESSURE: | 47.202 | | | |
| UNCORRECTED INITIAL PRODUCTION: | | | 29.03 | BBL |
| INITIAL PRODUCTION CORRECTED TO FINAL FLOW PRESSURE: | | | 41.80 | BBL/DAY |
| INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE: | | | 21.431 | |

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| | | | | | |
|---|---|---|---|---|---|
| INITIAL SLOPE | 248.15 | PSI/CYCLE | FINAL SLOPE | 210.88 | PSI/CYCLE |
| INITIAL P* | 1231 | PSI | FINAL P* | 1228 | PSI |

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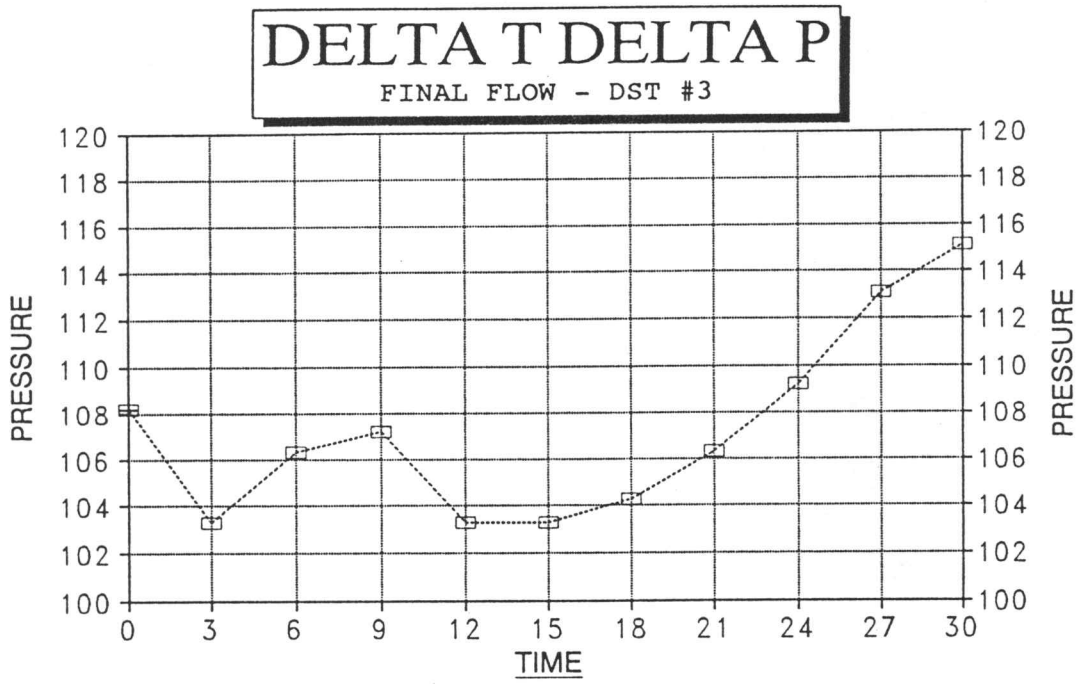
| | | |
|---|---|---|
| TRANSMISSIBILITY | 32.23 | (MD.-FT./CP.) |
| PERMEABILITY | 52.81 | (MD.) |
| INDICATED FLOW CAPACITY | 316.89 | )MD.FT) |
| PRODUCTIVITY INDEX | 0.04 | (BARRELS/DAY/PSI) |
| DAMAGE RATIO | 0.97 | |
| RADIUS OF INVESTIGATION | 62.94 | (FT,) |
| POTENTIOMETRIC SURFACE | 807.34 | (FT.) |
| DRAWDOWN FACTOR | 0.233 | (%) |




INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE: 21.431

FINAL FLOW

RECORDER # 13754 DST # DST #3

| TIME(MIN) | PRESSURE | <> PRESSURE |
|---|---|---|
| 0 | 108.2 | 108.2 |
| 3 | 103.3 | -4.9 |
| 6 | 106.3 | 3 |
| 9 | 107.2 | 0.9 |
| 12 | 103.3 | -3.9 |
| 15 | 103.3 | 0 |
| 18 | 104.3 | 1 |
| 21 | 106.3 | 2 |
| 24 | 109.2 | 2.9 |
| 27 | 113.1 | 3.9 |
| 30 | 115.1 | 2 |

GILLIG #1-24 DST #3
INITIAL SHUTIN

45 TOTAL FLOW TIME

Slope 248.15 psi/cycle
P * 1231 psi

| | TIME(MIN) | Pws (psi) | Log Horn T | <> PRESSURE | Horn T |
|---|---|---|---|---|---|
| | 3 | 275.5 | 1.204 | 275.5 | 16 |
| | 6 | 794.4 | 0.929 | 518.9 | 9 |
| | 9 | 967.3 | 0.778 | 172.9 | 6 |
| | 12 | 1019.0 | 0.677 | 51.7 | 5 |
| | 15 | 1064.0 | 0.602 | 45.0 | 4 |
| | 18 | 1082.0 | 0.544 | 18.0 | 4 |
| | 21 | 1099.0 | 0.497 | 17.0 | 3 |
| | 24 | 1114.0 | 0.459 | 15.0 | 3 |
| X | 27 | 1125.0 | 0.426 | 11.0 | 3 |
| | 30 | 1134.0 | 0.398 | 9.0 | 3 |
| X | 33 | 1138.0 | 0.374 | 4.0 | 2 |

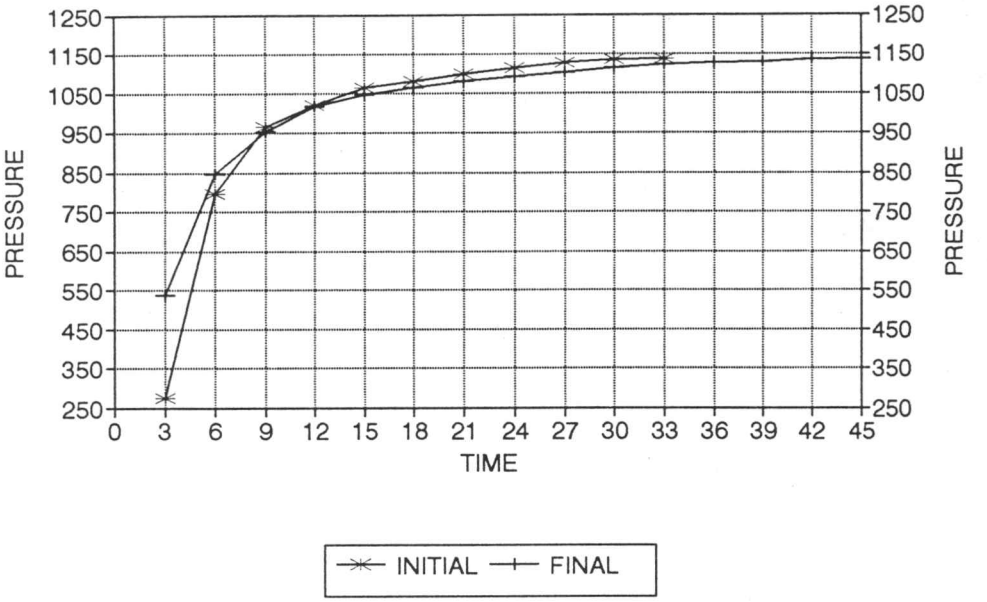
GILLIG #1-24 DST #3
FINAL SHUTIN

75 TOTAL FLOW TIME

Slope 210.88 psi/cycle
P * 1228 psi

| | | Pws (psi) | Log Horn T | <> PRESSURE | Horn T |
|---|---|---|---|---|---|
| | 3 | 537.5 | 1.415 | 537.5 | 26 |
| | 6 | 845.8 | 1.130 | 308.3 | 14 |
| | 9 | 953.5 | 0.970 | 107.7 | 9 |
| | 12 | 1015.6 | 0.860 | 62.1 | 7 |
| | 15 | 1045.0 | 0.778 | 29.4 | 6 |
| | 18 | 1064.0 | 0.713 | 19.0 | 5 |
| | 21 | 1080.0 | 0.660 | 16.0 | 5 |
| | 24 | 1092.0 | 0.615 | 12.0 | 4 |
| | 27 | 1102.0 | 0.577 | 10.0 | 4 |
| | 30 | 1112.0 | 0.544 | 10.0 | 4 |
| | 33 | 1120.0 | 0.515 | 8.0 | 3 |
| | 36 | 1126.0 | 0.489 | 6.0 | 3 |
| | 39 | 1130.0 | 0.466 | 4.0 | 3 |
| X | 42 | 1134.0 | 0.445 | 4.0 | 3 |
| X | 45 | 1138.0 | 0.426 | 4.0 | 3 |

# GILLIG #1-24 / DST #3
# DELTA T DELTA P




# HORNER PLOT