PHILLIPS PETROLEUM COMPANY
WELL PRODUCTION TEST

Well 7/11-2
DST No. 3
Interval: 9776'-9836' RKB
Date of test: October 6 through October 7, 1968
Hole size: 9 5/8" casing set at 10510' RKB with Baker Model "K" cement retainer set at 9913' RKB.

Test String Make-up

| Item | Lgth | RKB Setting Depth |
|---|---|---|
| BJ Bullnose Plug | 2.50 | 9870.59 |
| BJ Recorder Case | 4.00 | 9868.09 |
| BJ Perforated Sub | 1.00 | 9864.09 |
| BJ Recorder Hanger Sub | 1.00 | 9863.09 |
| BJ Recorder Case | 4.00 | 9862.09 |
| BJ Recorder Hanger Sub | 1.00 | 9858.09 |
| Cross over Sub | 1.64 | 9857.09 |
| Tubing for Leutert Recorder | 31.33 | 9855.45 |
| Baker Recorder Hanger Sub | 0.88 | 9824.12 |
| Perforated tubing | 31.60 | 9823.24 |
| Tubing, 3½" 9.3 lb/ft N-80 | 93.50 | 9791.64 |
| Baker Retrievamatic Packer | 6.80 | 9698.14 |
| Cross over Sub | 1.20 | 9691.34 |
| Cross over Sub | 0.82 | 9690.14 |
| Drill Collars, 6½" x 21/4" | 278.97 | 9689.32 |
| Cross over Sub | 0.85 | 9410.35 |
| Pressure Balanced Bumper Sub | 21.78 | 9409.50 |
| Cross over Sub | 1.05 | 9387.72 |
| Tubing 3½" 9.3 lb/ft N-80 | 9046.67 | 9386.67 |
| Otis Test Tree | 24.25 | 340.00 |
| Cross over Sub | 0.20 | |
| Tubing, 3½" | 326.00 | |
| Hydril Value | | |
| Baker Test Head | | |

Depth of Pressure Recorders:

Bottom BJ Recorder - 9863'RKB
Top BJ Recorder - 9858' RKB
Leutert Recorder - 9834' RKB

The following are attached to this report:

1) Test Summary
2) Wellhead pressure measurements.

# TEST SUMMARY

Test started: 1040 hrs October 10, 1968
Test completed: 0540 hrs October 11, 1968

| Operation | Time From | Time To | Time required for operation | Remarks |
|---|---|---|---|---|
| Initial Flow | 1040 | 1055 | 0 hrs 15 mins | Well flowed 2 barrels diesel immediately after opening and then approximately 5 gallons during 15 min flow period. |
| Initial Shut-in | 1055 | 1430 | 4 hrs 35 mins | Wellhead pressure increased at approximately 60 psi/hr rate. Final shut-in pressure was 380 psia. |
| Opened Well | 1430 | 1500 | 0 hrs 30 mins | Well would not flow. Zero furface pressure and zero rate. |
| Pumped into formation | 1500 | 1516 | 0 hrs 16 mins | Pressured annulus to 1500 psi. Pumped two barrels diesel oil into formation at 4300 psi and 0.9 bbl per min rate. |
| Shut-in well | 1516 | 1615 | 0 hrs 59 mins | Pressure decreased from 4300 psi to 3900 psi during shut-in. |
| Opened Well | 1615 | 1830 | 1 hr 45 mins | Released pressure. Surface pressure immediately decreased to zero and well would not flow. |
| Displace Tubing | 1830 | 1935 | 1 hr 05 mins | Released packer and reversed out diesel oil from tubing. Pumped into tubing 10 bbls diesel and followed with 24 bbls 15% hydrocloric acid containing 30 gallons MORFLO and 3 gallons HAl45 inhibitor. The acid was displaced with 58 bbls diesel. |
| Set Packer | 1935 | 2015 | 0 hrs 40 mins | Set packer and pressured annulus to 300 psi. |

| | | | | |
|---|---|---|---|---|
| Acidized Well | 2015 | 2032 | 0 hr 17 mins | Pumped 30 bbls diesel to displace 6 bbls diesel and 24 bbls acid into the formation. Initial pumping pressure 4000 psi and initial rate 2 bbls/min. Final pumping pressure 4300 psi and final rate 1 3/4 bbls/min. |
| Shut-in Well | 2032 | 2103 | 0 hr 31 mins | Allowed acid to "soak" Pressure decreased from 4300 psi to 4000 psi during shut-in period. |
| Opened Well | 2103 | 0540 | 8 hrs 37 mins | Well flowed back a total of 16.75 bbls of diesel oil. The last barrel of diesel required 3 hours to flow back. Wellhead flowing pressure was zero. |

SHEET 1 OF 1

DATE: October 6, 1968

# PHILLIPS PETROLEUM CO.

LEASE: 7/11

SURFACE PRESSURE

INTERVAL: 9776'-9836'

WELL NO.: 7/11-2

TEST NO.: DST No. 3

| TIME | WELLHEAD | | REMARKS |
|---|---|---|---|
| | TEMP °F | PRESS PSIG | |
| 1040 | N.R. | | Pressure less than 50 psi |
| 1055 | | | Pressure less than 50 psi |
| 1115 | | 65 | |
| 1120 | | 70 | |
| 1125 | | 75 | |
| 1130 | | 95 | |
| 1135 | | 112 | |
| 1140 | | 128 | |
| 1145 | | 140 | |
| 1150 | | 150 | |
| 1155 | | 161 | |
| 1200 | | 170 | |
| 1215 | | 199 | |
| 1230 | | 224 | |
| 1245 | | 247 | |
| 1300 | | 266 | |
| 1315 | | 284 | |
| 1330 | | 302 | |
| 1345 | | 317 | |
| 1400 | | 335 | |
| 1415 | | 351 | |
| 1430 | | 365 | Opened well and pressure dropped to zero |
| | | | immediately. |
| 1500 | | | Started pumping diesel into well |
| | | | |
| | | | |

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