



JOE E. BROUGHER, President

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GREAT BEND, KANSAS 67530
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MILLER "B" #2
C SE NW, Sec 13-6s-36w
Thomas County, Kansas

COMPLETION REPORT:

Commenced: 10/30/84

Completed: 11/8/84

RTD: 4860'

Surface Casing: 8 5/8" set at 432' with 300 sacks cement

Production Casing: 5 1/2" set at 4862' with 200 sacks cement

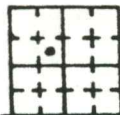
DRILLING INFORMATION:

- 10/30/84 Moved in Mohawk Drilling Rig #8 and drilled surface hole. Set surface pipe at 432' with 300 sacks cement.
- 10/31/84 Drilling ahead at 2490'
- 11/1/84 Drilling ahead at 3227'
- 11/2/84 Drilling ahead at 3740'
- 11/3/84 Drilled to 3890 and ran DST #1 (3842-3890) TARKIO, Rec: 2' Mud, SIP: 66/49, FP: 33-33, 33-33, HP: 1904/1839, BHT:110°F.
- 11/4/84 Drilling ahead at 3960'
- 11/5/84 Drilling ahead at 4550'
- 11/6/84 Drilled to 4550 and ran DST #2 (4510-4550) PAWNEE "A" ZONE, REC: 93' GIP, 30' CO, 62' HOCM, 62' SOCM, SIP: 556/540, FP: 33-69/82-90, HP: 2213/2262, BHT:122°F.
Drilled to 4595 and ran DST #3 (4555-4595) PAWNEE "B" ZONE, REC: 3' OSPKMUD, SIP: 278/172, FP: 8-33/25-25, HP: 2360/2360, BHT:121°F.
- 11/7/84 Drilling ahead at 4700'
- 11/8/84 Out of hole for log. Ran 5 1/2" casing to 4862 and cemented with 200 sacks.

COMPLETION INFORMATION:

- 12/4/84 Moved in Mohawk Rig #4 and rigged up casing swab and ran tools to bottom. Flagged bottom. Helped move rods and tubing from the MILLER "B" #1 out to location.
- 12/5/84 Rigged up Welex and ran Bond Log. Perforated CHEROKEE from 4698-4700'. Ran in Howco's packer and 2" tubing.
- 12/6/84 Set the packer at 4731'. Pressured up on the tubing and packer, pressure held. Moved

BROUGHER OIL, INC. 13-6-36W
 P.O. DRAWER 1367 #2 'B' MILLER C SE NW
 GREAT BEND, KS 67530
 CONTR MOHAWK DRILLING CTY THOMAS
 GEOL BRENT B. REINHARDT FIELD WWM
 ELV 3349 KB SPD 10/30/84 CARD ISSUED 2/7/85 # P 7 BO & 100 BWPD
3339 GL MARM(PAW) 4521-4525



| LOG | Tops | Depth/Datum | |
|-------|------|-------------|--|
| SC | | 2974 + 375 | API 15-193-20,319 |
| B/SC | | 3008 + 341 | 8 5/8 " 432/300SX, 5 1/2 " 4862/200SX |
| TARK | | 3870- 521 | DST (1) 3843-90 (TARK) / 30-30-30-30, REC 2' M, SIP 66-49#, FP 33-33 / 33-33#, HP 1904-1839#, BHT 110° |
| BURL | | 3940- 591 | DST (2) 4510-50 (PAW A) / 45-45-45-45, 93' GIP, REC 30' CL OIL, 62' HOCM, 62' SOCM (2% OIL, 98% M), SIP 556-540#, FP 33-68 / 82-90#, HP 2213-2262#, BHT 122° |
| HOW | | 3994- 645 | DST (3) 4555-95 (PAW B) / 45-30-30-30, REC 3' OIL SPTD M, SIP 278-172#, FP 8-33 / 25-25#, HP 2360-2360#, BHT 121° |
| TOP | | 4032- 683 | MICT -CO, PF (PAW) 4521-25, W/ 3 SPF, AC 500G (15% NE), FRAC 160SX SD & FL, SWB DWN, SO, POP, P 7 BO & 100 BWPD 1/11/85 |
| QH | | 4122- 773 | |
| HEEB | | 4161- 812 | CONG 4709-1360 |
| TOR | | 4194- 845 | MISS 4809-1460 |
| LANS | | 4210- 861 | RTD 4860-1511 |
| BKC | | 4462-1113 | LTD 4862-1513 |
| MARM | | 4470-1121 | |
| PAW | | 4520-1171 | |
| FT SC | | 4603-1254 | |
| CHER | | 4664-1315 | |

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 WICHITA, KANSAS

- 12/6/84 the packer up to 4670' and took injection rate. Pumped in 2 bbls per minute at 900#. Waited on cement. Pressured up on back side. The pressure wouldn't hold. Pulled 30 jts of tubing and the packer, pressured up. The pressure still wouldn't hold. Had to pull 100 jts of tubing before the pressure held. Found a hole in the casing between 1144-1170'. Pulled out the rest of the tubing and the packer. Ran in the rest of the tubing and the packer. ran in retrievable bridge plug, packer and tubing. Set the plug at 1230' and the packer at 1144'. Spotted sand.
- 12/7/84 Rigged up Howco and squeezed the well with 150 sacks cement, 60/40 Pozmix, 2% CC, stage cement. Pulled the tubing and packer. Broke the hydraulic hose on the pump. Repaired the hose. Ran in tubing and bit, drilled out 80' of firm cement. Circulated the hole clean.
- 12/8/84 Laid down the tubing and bit. Ran in tubing and retrievable bridge plug catcher. Hooked onto the retrievable bridge plug. Pulled the tubing, no plug. Ran in tubing and retrievable bridge plug catcher. Pulled the tubing and retrievable bridge plug. Ran in Howco's packer and tubing. Set the packer at 4670' and pressured up. The pressure would not hold.
- 12/10/84 Pulled the tubing and packer. Ran in retrievable bridge plug and Howco's packer. Set the plug at 1230' and the packer at 1144'. Spotted sand. Rigged up Howco and resqueezed with 150 sacks cement.
- 12/11/84 Pulled the tubing and the packer. Ran in tubing and 4 7/8" bit. Rigged up power swivel and mud pump. Drilled out 80' of cement. Washed sand off the plug. Pulled the tubing and bit. Ran in Howco's retrievable bridge plug catcher. Retrieved the retrievable bridge plug. Ran intubing and Howco's packer. Set the packer at 4670'.
- 12/12/84 Rigged up Howco and cemented with 100 sacks of cement. Washed out cement. Let sit for 90 minutes with pressure on cement. Laid down the tubing and packer. Rigged down and moved off of location.
- 12/20/84 Moved in Mohawk Rig #4. Welex perforated LOWER PAWNEE "A" ZONE from 4551-4553'. Waited on Howco. Ran in Howco's packer adn the tubing. Set packer at 4525'.
- 12/21/84 Rigged up Howco and squeezed with 150 sacks of 60/40 Pozmix and 50 sacks common, stage cement. Washed out the tool and pulled 5 jts of tubing. Pressured up to 500#, left tool shut in.
- 12/26/84 Pulled the tubing and Howco's packer. The packer rubber would not release. Pulled 30 jts of tubing. Swabbed the casing before the rubber tore off. Ran in 4 7/8" bit and tubing. Drilled out 10' of ratty cement. 30' hard cement and 15' of firm cement. Ran in 3 more jts of tubing. Drilled out 2' of cement bridge.
- 12/27/84 Ran in tubing and bit to bottom of hole. Cleaned out on bottom, circulated for 45 minutes. Pulled the tubing and bit. Welex ran a bond log. Perforated UPPER PAWNEE "A" ZONE from 4521-4525/3SPF. Started in the hole with Howco's retrievable bridge plug and packer.
- 12/28/84 Finished going in the hole with the retrievable bridge plug and packer. Set the plug at 4540' and the packer at 4520'. Rigged up Howco and spotten acid, set packer. Acidized PAWNEE "A" ZONE with 500 gls of 15% NE acid, let sit for 60 minutes. Load back 32 bbls. Swabbed the hole down. Swabbed 24.56 bbls. The last pull was 8% Oil.
- | | | | | | |
|---------|-----------|---------|---------|-----------|-----------|
| 1st 30" | 2.46 bbls | 8% Oil | 1st 60" | 1.23 bbls | 10% Oil |
| 2nd 30" | 1.84 bbls | 7% Oil | 2nd 60" | 1.23 bbls | 19.4% Oil |
| 3rd 30" | 1.62 bbls | 12% Oil | 3rd 60" | 1.23 bbls | 11% Oil |

- 12/29/84 Ran swab and checked fluid level. Fluid at 3500' with 50' of oil on top. Tested:
 1st 60" 1.84 bbls Trace of oil
 2nd 60" 1.84 bbls Trace of oil
 3rd 60" 1.42 bbls Trace of oil
 4th 60" 1.24 bbls Trace of oil
 5th 60" 1.24 bbls Trace of oil
- 1/2/85 Ran the swab adn checked fluid level. Fluid at 3400' with a trace of oil on top. Swabbed 4 bbls fluid. Tested: 1st 60" 1.24 bbls with trace of oil.
- 1/3/85 Waited on Howco. Swabbed the hole dry. Pulled 1 jt of tubing to get the packer higher. Swabbed the hole down. Rigged up Howco and fraced the well. Sand screened out.
- 1/4/85 Started tubing swab. Swabbed the hole to 3600'. Stuck swab with sand. Waited on Otis. Ran line cutter and cut sand line. Started out of hole with tubing. Had 25 jts tubing, filled up with sand.
- 1/5/85 Finished coming out of hole with tubing and packer. Laid down the packer. Ran in tubing and retrieveable bridge plug catcher. Circulated sand off the retrieveable bridge plug. Laid down the tubing and retrieveable bridge plug.
- 1/7/85 Ran tools and checked sand on bottom, 30' of sand. Ran swab, fluid at 550'. Swabbed all day. Swabbed approximately 200 bbls fluid with a trace of oil from 3100' down.
- 1/8/85 Ran the swab and checked the fluid level. Fluid at 3100' with 5' of oil on top. Swabbed the hole down to 4500' and tested:
 1st 15" 100' fluid with trace of oil
 1st 30" 200' fluid with trace of oil
 2nd 30" 200' fluid with trace of oil
 3rd 30" 175' fluid with trace of oil
 4th 30" 175' fluid with trace of oil
 5th 30" 175' fluid with trace of oil
 Called the report into Ron Hickel. Tested:
 1st 30" 175' fluid at 2% Oil
 2nd 30" 150' fluid at 4% Oil
 3rd 30" 150' fluid at 4% Oil
 4th 30" 125' fluid at 5% Oil
 5th 30" 125' fluid at 5.5% Oil
 6th 30" 125' fluid at 6.6% Oil
- 1/9/85 Ran rools and checked for sand on bottom, 50'. Ran swab. Fluid at 3300' with 10' of oil on top. Swabbed the hole down to 4500', 33.63 bbls. 1st 30" test 4.51 bbls fluid at 4% Oil.
 2nd 30" 4.51 bbls fluid at 4.5% Oil
 3rd 30" 3.69 bbls fluid at 4.5% Oil
 4th 30" 3.69 bbls fluid at 4.5% Oil
 5th 30" 3.28 bbls fluid at 4.5% Oil
 6th 30" 3.06 bbls fluid at 4.5% Oil
 7th 30" 3.28 bbls fluid at 5.4% Oil
 1st 60" 4.30 bbls fluid at 5.4% Oil
 1st 30" 4.10 bbls fluid at 5.4% Oil
 2nd 30" 3.28 bbls fluid at 5.6% Oil
 3rd 30" 3.28 bbls fluid at 6.6% Oil
 4th 30" 3.28 bbls fluid at 7.5% Oil
- 1/10/85 Laid down the swab and rigged up 5½" sand pump. Cleaned out 60' of sand off of bottom. Laid down the sand pump. Ran in bull plug, 2 jts of 2" tubing, 3' perforating sub, seating nipple and 149 jts of tubing.

- 1/11/85 Flanged up tubing. Ran in 2x1½x12' pump, 2' sub, 186x3/4" rods and 16' polish rod.
- 1/14/85 Rigged down. Went to move truck forward to lay down the pole and the right angle drive shaft broke. Went to Colby to find new shaft. No charge for the day.