

MARATHON OIL CO.  
MC GRAIL STATE # 7  
2310' FNL & 430' FEL  
Sec 27, T - 19 -S, R - 36 - E  
LEA CO. NEW MEXICO

7/27-96 MIRU MC Vay # 4. Spudded 12 1/4 " hole @ 1700 hr., drilled to 1173'. Ran 26 jts. 9 5/8 ", 32.3 #, H - 40 csg. to TD. Float shoe @ 1172', float collar @ 1127'. HOWCO cemented surf. csg. w/ 315 sx. Prem Plus w/ 2% CACL2 & 4 % gel, tailed in w/ 155 sx. Prem Plus w/ 2% CACL2. Circulated 220 sx to surface. WOC. Installed 9 5/8" Larkin Fig. 92 Wellhead and BOP'S. Tested blind and pipe rams, choke lines, manifold, kill lines, surface valves and mud lines to 300/3000 psi. Tested csg. to 1300 psi.. TIH w/ 8 3/4" bit. Total WOC 28 hrs. Tagged TOC @ 1090'. Drilled Float collar, cement & float shoe, and new hole to 1183'. Tested formation to 11 ppg equiv.

Drilled 8 3/4" hole to 7408'. Inclination began increasing from 3.5 deg @ 6171' to 7.75 deg. @ 7289'. Ran gyro survey, found BHL had crossed 330' set back. Drilled to 7590'. Received permission from OCD to plug back and steer hole to legal location. Conditioned hole to log, became stuck @ 2086'. Made back-off @ 2055', recovered fish. Due to sticking hole problems and unconsolidated formations, decision was made to run contingency string of 7" casing and drill out to legal location.

Changed rams to 7", ran 123 jts., 7", 23#, K-55, LTC new csg. to 5500'. HOWCO cemented w/ 525 sx. Prem Plus W/ .3 % CFR-3, .6 % Halad-9. Plug down @ 2100 hr. 8/18/96 w/ 1540 psi. Had full returns throughout job. Did not circulate cement. Ran temp. survey, found TOC @ 1862'. Set slips, cut 7" csg. Nipple up BOP'S. Tested blind and pipe rams, choke and kill lines, manifold, surface lines and floor valves to 300/3000 psi. Tested casing to 1750 psi. TIH w/ 6 1/4 " bit & tagged cement @ 5396', Total WOC - 31 hrs. Tagged cement @ 5396', tested csg. to 1750 psi., drilled cement , float collar and shoe.

Logged well as follows: GR/CNL/LDT/DLL/MSFL/CAL TD to surf.

Spotted Plug #1 7300' - 7130' w/ 50 sx. class H, plug # 2 6970' - 6800' w/ 50 sx. class H, plug #3 6600' - 6300' w/ 125 sx H w/10 pps SSA. WOC 10 hrs. TIH w/ 6-1/8" bit tagged cement @ 6298'. Drilled kick-off plug to 6400'. Picked up directional tools, directionally drilled to 7700'.

Logged well : SDT/FMI 7701' - 1860'.

Ran 175 jts., 4-1/2", 11.6 #, K-55, LTC csg. to 7700'. Shoe @ 7698', Collar @ 7655'. Cemented production csg. w/ 370 sx. 50/50 Poz, had full returns throughout job. Plug down @ 1230 hrs 9/9/96. ND BOP'S, set slips w/ 75 K, cut csg & installed blind flange. Released rig @ 1900 hrs, 9/2/96.