



CE-NB-#4 WELL HISTORY

PROPRIETARY

1986

- Aug. 20 Move in and rig up Buckner air rotary rig. Drill 8" hole to 110' with air foam.
- Aug. 24 Drill 8" hole from 110' - 544' with air foam.
- Aug. 25 Mixing mud. Attempted to circulate mud. No returns.
- Aug. 26 Lost circulation plug (LCP) #1. Four bbls. mud plus 2 bbls. water ahead of 70 cu. ft. (28 sacks) cement. Spot at 480'. Displace 4 bbls. water. In place @ 4:15 p.m. LCP #2 same as above. Spot at 450', 80 cu. ft.
- Aug. 27 No fill. LCP #3, 6 bbls. mud then same as above. Fifty cu. ft. in place @ 10:30 a.m. Check plug at 1:30 p.m. No fill. LCP #4, mud plus 15 cu. ft. water and sand from 425' followed by 50 cu. ft. cement.
- Aug. 28 LCP #5. Trip in hole with bit. Clean out to 544' with mud. No returns. Trip in open ended. Spot 40 cu. ft. plug at 543' @ 12:30 p.m. Trip in open ended to 400'. Pump in 75 sax 20-40 mesh sand. (25 sax per batch). Ran and push 2 Halliburton top plugs to 480'.
- Aug. 29 LCP #5, 25 cu. ft. Tag cement @ 467'. Mix mud with LCM. Fill to 40' from top.
- Aug. 30 Clean to 220' with circulation. Hit bridge. Drilled out and lost circulation. Mix and pump 25 bbls. mud. Trip out and go in open ended to 240'. Fluid level 260'. Pump LCP #6, 100 cu. ft. @ 240' @ 12:00 a.m. Wait on cement (WOC) 3 hrs. Tag cement--no plug. Try to cement LCP #7 @ 310'. Plug pipe after 5 bbls. in place. Trip out wet cement string. Pumped 5 bbls. in from top.
- Aug. 31 Trip in with bit. Pumped 5 pits mud while cleaning out to 430' seems solid bottom. Trip in open ended. LCP #8 (265' fluid level)--70 cu. ft. with 10% sand, 3% CaCl₂ in mix water. Spot @ 420'. WOC. Tag cement @ 390'--30' fill. Pumped LCP #9--70 cu. ft. plus 10% sand. (Halliburton had 200 psi--100 psi more than before).
- Sept. 1 Mix 2 pits 15 bbls. mud and pump in hole. Dumping dry gel and hulls in from top. Trip in hole, break circulation. Fluid level 210'. Tag plug #9 @ 272'. Fluid level to 170' when pumping mud, drop to 200'. Pull bit. Trip in

- open ended to 265'. LCP #10 70 cu. ft., 10% sand, 3% CaCl₂. Cement on pipe @ 205' when pulled out @ 11:00 a.m. WOC 2 hrs. Trip in open ended. No plug @ 273'. LCP #11, 70 cu. ft., 10% sand. Fluid (cement) to 140' while cementing. WOC 2 hrs. Drop 3 sax sand. Trip in with bit. Tag cement @ 264'. Trip out. Mix mud and LCM with sand. Pump in hole from top. Fill hole with mud. Trip in with bit, circulate and drill cement from 264'- 273'. Circulation ok.
- Sept. 2 Drill cement from 273' - 304'. Full returns. Lost all returns @ 304' while drilling firm cement. Mix 2 pits, 15 bbls mud. Pump in hole--no returns. Trip out with plugged bit. No fluid level. LCP #12, 50 cu. ft. with 10% sand @ 1:00 p.m. WOC. Mix 2 pits mud, add LCM and gel from top. Fill hole. Trip in, circulate. Found 5' fill at 299'. Drill 299' - 304'. Lost all returns at 304'. Drilled to 309' without returns. Trip out and go in open ended. LCP #13 same as #12.
- Sept. 3 Trip in hole open ended. Tag bottom - 1' fill to 303'. Put 5 sax sand and water down drill pipe. Had 8' fill. Pumped mud in hole--good returns. Circulate out sand to 304'. Returns fall back to 50%. LCP #14, 25 cu. ft., 4% CaCl₂. Had 60% returns while cementing. Fluid fell down the hole when completed (160') @ 10:45 a.m., WOC 3 hrs. Trip in hole. Full returns. Drill 304'-312', lost 20 bbls. mud. Drill cement 320' - 340' with returns. Lost circulation 377'--drilled without mud to 385'. Left old hole ±340'. Trip out of hole.
- Sept. 4 Trip in hole with air hammer. Fluid level 300'. Drill from 385' - 450'. Trip out. Mud up from top. Trip in hole, circulate from top and clean to bottom 450' casing point.
- Sept. 5 Trip in hole with bit. Circulate and condition mud for casing. Trip out. Rig up and run 14 joints, 4-1/2", 11.6#, N80 casing. Landed @ 450'. Cement with 3 bbls. water ahead of 200 cu. ft. Class G cement with 1:1 Perlite, 3% Gel, 3% CaCl₂ followed by 25 cu. ft. Class G cement with 3% CaCl₂. Pumped plug to 420' with 7 bbls. water. Good cement returns until dropped plug, then lost returns. Cement was just to surface. Will fill from top. Cement 27' down. Complete 12:30 p.m.
- Sept. 6 Cement fell back 120'. Filled from top with 250 gals. Nipple up BOP. Rig up Longyear HD 500 core rig.
- Sept. 7 Complete rigging up core rig and installing BOP.
- Sept. 8 Test BOP. Test failed. Repair BOP.
- Sept. 9 Test BOP. Test ok. Witnessed by D. Davis.

PROPRIETARY

Sept. 10 Drill out cement 439' - 450'. Drill HQ size (3.781" hole diameter, 2.5" core diameter) from 450' - 494'.

Sept. 11 - 12 Drilled HQ 494'-607', stuck rods @ 607'. *H₂S detectors installed*

Sept. 13 - 15 Used cutter 10' above core barrel. Recovered core barrel with swedge.

Sept. 16 - 28 Drilled HQ 607 - 1245, short runs. Bridges @ 700, 760, 850, and 880'.

Sept. 29 Twisted off core barrel @ 1251'. Fished tube.
left core bit & bit

Sept. 30 Drilled cave trying to get to bottom. Cemented core barrel and bridge.

Oct. 1 WOC.

Oct. 2 Cement bridges @ 630'.

Oct. 3 - 6 Drilled out cement. *Tagged cement 1150'*

Oct. 5 Drilled out core barrel. Drilled HQ 1251' - 1267'. Hole clean.

Oct. 6 Cement other half of core barrel, shell and bit left in hole. Drilled HQ 1267' - 1301'.

Oct. 7 - 16 Drilled 1301' - 1802'.
Oct 10 coring at 1430' water level 600' to 700'

Oct. 15 Twisted off bit and reaming shell @ 1810'.

Oct. 16 - 18 Attempting to recover bit and shell.

Oct. 19 Cement bit and shell.

Oct. 20 Drilled out bit and shell. Drilled HQ 1810' - 1854'.

Oct. 21 - 28 Drilled HQ 1854' - 2545'.

Oct. 27 - 30 Switched rigs from HD 500 to HD 600.

Oct. 31 - Nov. 8 Drilled HQ 2545' - 3352'. Rocks pulled apart @ 1520'.
Nov 4 new rig moved over from NB-3 fluid level 630'

Nov. 9 - 12 Drilled HQ 3352' - 3718'. **Twisted off @ 3718'**.

Nov. 13 *at 3716'* Working stuck rods. Backed off 1310' of rods. Rods came apart again @ 1180'.

Nov. 16 Trip in hole with swedge. Backed off @ 470'.

Nov. 15 - 17 Move in supplies and repair rig.

PROPRIETARY

Nov. 18 - 19 Run in hole with NQ string. Drill out landing ring in HQ core barrel.

Nov. 20 - 25 Drilled NQ size (2-986" hole diameter, 1.875" core diameter)
Run 3718' - 4020' T.D. Run stabilized temperature @ 4000'
(7 hrs.) 179°F.

Nov. 25 *4020' TD*

Nov. 26 Rig down and clear site.

PB:sr:Z6132:D7

25 50 75 100 125 150 175 200 ° F

PROPRIETARY

TEMP LESS THAN 60°F

DEPTH IN FEET

0
1000
2000
3000
4000

a

b

NB a-After 10 hrs. stabilization
b-After 7 hrs. stabilization

