

8. RIH with 4 3/4" bit, 5 1/2" casing scraper, on 2 7/8" tubing. Clean out to 4400'. Test casing to 800 psi. If test is okay, displace hole with packer fluid. Spot 10% acetic acid (200 gal) at 4000-4200'. POOH and LD bit, scraper.
9. RU logging truck. Perforate with 4" casing gun, centralized, 120° phasing at 4 JSPF at 4040-58', 4082-4118', and 4166-4200'. (NOTE: Open hole caliper log indicates greater than 16" washout through some of this section due to unconsolidated sand. Perfs should be sized for maximum penetration using SSB-III or equivalent gun with 23"+ penetration in concrete.) RD loggers.
10. RIH with PPI tool. Set packer at 4000'. Attempt to break down perfs at less than 800 psi. (NOTE: State regulations for SWD wells require surface pressure not to exceed 0.2 x depth. In our case, maximum surface pressure is 800 psi.) If perfs will not break down at 800 psi, continue pumping until perfs break down. After break down, attempt to pump at 800 psi or less and determine injection rate.
11. Swab test well to determine fluid entry and collect an uncontaminated Delaware water sample. Be sure that the water sample is taken after recovering all acetic acid load. Send in sample for analysis.
12. Acidize Delaware as follows: RIH with PPI tool. Acidize every 5' of perfs with 50 gallons per foot using 15% NEFE with clay control additives. Pump at 1 BPM or less with less than 800 psi if possible. Attempt to break down perfs with up to 2000 psi prior to pumping into perfs. After acidizing, pull packer to 4000'.
13. Swab back load. Run injection test to determine rate and pressure.
14. POOH with treating packer and 2 7/8" workstring.
15. RIH with injection packer on 2 7/8" workstring with on-off tool above packer. Set packer at 4000'. Release from on-off tool. POOH and LD workstring.
16. PU and RIH with top of on-off tool on 2 3/8" fiberglass tubing. Latch onto packer.
17. ND BOP. NU injection tree. Lay fasline from HL 2 tank battery to well site and begin disposal for 30 day test period. Begin preparation of C-108 water disposal permit. (NOTE: NMOCC gave verbal permission for a 30 day grace period to inject produced fluids so as to test our WIW.)