

BACKGROUND:

SCG Remediation Services (SCG) was subcontracted to assist with a monitor well decommissioning program organized by the Department of National Defence (DND), through Defence Construction Canada (DCC), located at 5 Wing Goose Bay and the surrounding community in Newfoundland and Labrador. The program was split into three phases with Malahat-Nelson Ltd. retained as the primary contractor for Phases 1 and 2, which were implemented in 2022, and a local contractor retained as the primary for Phase 3, which was implemented in 2023. SCG Remediation Services (SCG) was subcontracted by the primary contractors for all three phases to perform decommissioning field work, submit decommissioning well logs, and complete final reporting for the program.



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Objectives as indicated by DCC were:

- Limit surface water infiltration into underlying aquifer via monitor wells.
- Limit vertical movement or migration of contaminated water within a monitor well/borehole to other aquifer zones.
- Remove potential physical hazards.

Scope of Work:

Wells listed to be decommissioned across all three phases were located both on and off DND property. The wells were grouped by DCC into various sites spanning the entire property of 5 wing Goose Bay and surrounding area. During phase 3, some wells listed for decommissioning were located within the airfield on-site. The following additional groupings were provided based on the well's respective locations and security requirements in relation to the airfield:

- Zone A: non-airside
- Zone B: airside, non-operational airfield
- Zone C: airside, operational airfield

Wells listed for decommissioning ranged from 1" to 10" in diameter. Decommissioning procedures varied slightly throughout the program, and were dependent on each individual well's construction specifications in relation to the local groundwater table.



Project Duration:

PHASE 1 and PHASE 2: May - October 2022.

These phases consisted of a major well decommissioning program, which ran for 6 months in 2022. SCG completed all decommissioning work and provided trained personnel which included well technicians and professional geoscientists.

SCG encountered the following challenges:

- Some wells were destroyed.
- Some were unable to be located.
- Installed with metal casing as opposed to PVC.
- Some were discovered under artesian conditions.
- Some wells were enclosed in 4' vaults "culverts" and remained connected to old product recovery infrastructure.



Project Duration:

PHASE 3: June - October 2023.

This phase consisted of a smaller decommissioning program which ran for 5 months in 2023. SCG assisted a local contractor to complete decommissioning work, being responsible for a portion of well decommissioning, as well as all required reporting.

Additional effort was made in phase 3 to search for wells listed on private properties that were unable to be located during phases 1 and 2. The goal of the additional subsurface investigation was to provide assurance to landowners that every reasonable effort was made to ensure that the wells in question were decommissioned properly. A local surveyor was contracted to pinpoint each well's location to better locate them.

SCG encountered the following challenges:

- Some wells were destroyed.
- Some were unable to be located.



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CONCLUSIONS:

At the completion of the program 85% of all wells listed for decommissioning in phases 1 and 2 were completed, and 89% of wells listed in phase 3 were completed.

With the help of a surveyor, 90% of the wells originally planned for decommissioning on private properties but were unable to be located during phases 1 and 2, were found and decommissioned.

Any wells remaining following all three phases were either unable to be located, were inaccessible for decommissioning, or were already destroyed.

Throughout the program SCG was able to work efficiently to come up with solutions for all challenges that were met in the field, and was able to provide an outcome that was satisfactory to all parties involved.

