

## **Executive Summary: Cape Christian Water License Amendment and Long Term Monitoring Program**

The Cape Christian site is situated on a lowland coastal bluff located on the northeast coast of Baffin Island about 16 km northeast of the Hamlet of Clyde River, Nunavut. The site was a former US Coast Guard Long Range Navigation communication station constructed and operated between 1954 and 1974.

The site was abandoned in 1975 without decommissioning. While some remedial works were carried out at the site by different federal and provincial government teams, after it was abandoned, there were still significant environmental concerns at the site, prompting remediation by AANDC. The remediation of the site occurred between 2008 and 2011. It involved removal and off-site disposal of hazardous materials, demolition of buildings and structures, excavation of non-hazardous metals and petroleum hydrocarbon contaminated soils, and clean-up of other site debris. All of the non-hazardous wastes were placed in a non-hazardous waste landfill (NHWL) constructed on-site for that purpose. The NHWL was constructed at the site between 2009 and 2010 and was closed in 2010.

As per departmental commitments to monitor the landfill post-closure, a long term monitoring program was initiated at Cape Christian in August 2011. The existing Cape Christian water license expired on May 1, 2013. The purpose of this application is to renew and amend the existing water license so long term monitoring can be continued at the site.

The following activities are part of Cape Christian's Long Term Monitoring Program:

- Visual Monitoring of the NHWL
- Active Layer Water Monitoring of the NHWL
  - Samples will be taken from the 4 monitoring wells installed around the NHWL. These samples will be analysed for a standard suite of contaminants and water quality parameters and the results will be compared to those from background samples.
- Soil Monitoring, as required, if seepage or staining is observed as part of visual inspection of NHWL
- Natural Environment Monitoring

The Long Term Monitoring Plan is scheduled to continue for 25 years over three phases as follows:

- Phase I: years 1, 3 and 5
- Phase II: (if required): Years 7, 10, 15 and 25
- Phase III (if required): Beyond 25 years

Phase I monitoring occurred at Cape Christian in 2011 and 2013. The last Phase I monitoring event will occur in the summer of 2015. An evaluation of Phase I monitoring data will be carried out at the end of the 2015 program to determine whether Phase II monitoring frequency may be modified or downgraded. If no significant issues are identified for the landfill, monitoring may be discontinued (AMSRP 2009). If additional Phase II monitoring is warranted based on the groundwater monitoring or physical inspection of the landfill, it will be carried out during the years 2017, 2020 2025 and 2035. At

the completion of the 25 year monitoring program, a review will take place and the need for continued monitoring (Phase III) will be assessed.

#### References

AMSRP (Abandoned Military Site Remediation Protocol). 2009. Volume II-Technical Supporting Documentation, Chapter 11 – Post-Construction Monitoring , p. 13. Indian and Northern Affairs Canada, Northern Affairs Organization, Contaminated Sites Program, March 2009.



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