



31 March 2020

Mr. R. Barry
Nunavut Impact Review Board
PO Box 1360
Cambridge Bay, NU X0B 0C0

Dear Mr. Barry

Re: DRDC 2019 Annual Report for Northern Watch Technology Demonstration Operations at Gascoyne Inlet, Devon Island, NU

References:

A. Land Use Permit N2014N0019

B. Water Use Licence 8WLC-NWT1920

C. NIRB 08DN056

The DRDC Northern Watch Technology Demonstration Project (TDP) – Canadian Arctic Underwater Sentinel Experimentation (CAUSE) will demonstrate an Arctic maritime surveillance capability to the Department of National Defence and other concerned federal departments. Commencing in 2008, this multi-year undertaking is based at Gascoyne Inlet. The surveillance demonstration system is unmanned, semi-autonomous, and remotely controlled through a satellite system connection from one of the DRDC centres.

Defence Construction Canada is providing the following annual report, which summarizes the activities in 2019 and outlines the planned activities for 2020. This information is being submitted on behalf of Defence Research and Development Canada (DRDC Atlantic).

Summary of 2019 Activities:

A sea-trial with naval and air resources occurred during the summer 2019, including:

- Underwater acoustic arrays – Operation of underwater acoustic arrays (passive/listening hydrophone arrays deployed in Gascoyne Inlet and Barrow Strait area);
- Underwater acoustic projectors – Operation of underwater acoustic projectors from a ship; and,
- Operation of other underwater or surface equipment – Operation of other underwater or surface equipment (primary sensors are hydrophones and/or CTD, and have Iridium (satellite) and/or RF communications and/or underwater communications (modems)). The underwater modems produce sound underwater, but at much lower levels than the acoustic projector mentioned previously.

Additional work at the camp included:

- Removal of former wash-up building.
- Completion of new wash hut plumbing and interior
- Building 19 has been emptied out and readied for tear down (no tear down has begun yet)
- General camp maintenance, cleaning, and organization.
- New fuel tank installed on Fox Lodge

- Hilltop station set up on cliff across inlet from GIC (*This was left set up due to lack of helicopter time and risks involved in recovering without one. It will be taken down next available opportunity*).
- Science activities - Science gear deployed from work boats and HMCS Kingston. Deployed gear all recovered)

Wildlife Log 2019

The wildlife sightings are as follows (date/wildlife/location):

- | | | |
|----------|--------------|--|
| • 25-Jul | 4 muskox | Across inlet from airstrip |
| • 02-Aug | 1 bear | East of runway |
| • 02-Aug | 1 muskox | East of runway |
| • 08-Aug | 1 seal | Inlet |
| • 13-Aug | 1 polar bear | Headed West along Cape Ricketts |
| • 13-Aug | 1 polar bear | Spotted in inlet. Moved North along other side of inlet. |
| • 14-Aug | 1 fox | Near camp |
| • 15-Aug | 1 fox | Near camp |
| • 16-Aug | 1 fox | Near camp |
| • 17-Aug | 1 fox | Near camp |
| • 17-Aug | 1 seal | Inlet |
| • 23-Aug | 1 fox | Near camp |
| • 24-Aug | 1 fox | Near camp |
| • 26-Aug | 1 fox | Near camp |
| • 29-Aug | 1 seal | Inlet |
| • 30-Aug | 1 walrus | Inlet |
| • 31-Aug | ~8 belugas | Inlet |
| • 01-Sep | ~30 belugas | Inlet |
| • 04-Sep | 1 seal | Inlet |
| • 04-Sep | 1 fox | Near camp |

The site was left in good condition with all construction material cleaned up and secured. Small fuel drums for cabin heaters were removed and placed with the fuel drums in their containment berms. All building secured except for a small three-man hut used as a refuge.

Work Plan for 2020 (likely postponed until 2021 due to COVID-19)

For the 2020 season DRDC will be maintaining the existing camp, similar to the 2018 work. The camp is planned to open late July or early August, it is anticipated that approximately ten (10) personnel will perform maintenance tasks for up to five (5) weeks.

The work objectives for summer 2020:

- Maintenance of camp infrastructure and equipment; and,
- Maintenance of science equipment (camera systems, underwater arrays, fuel cell system, underwater observatory).

Compliance with AAND issued Land Use Permit Terms and Conditions

The DRDC Northern Watch project has endeavoured to comply with all terms and conditions required by the land use permit and all applicable Acts, Regulations and Guidelines.

- Fuel remaining on site at the end of the year was all stored in the main fuel berm and the berm filter was replaced. Fuel berms are located under both new building fuel tanks (tanks are fixed in place).

- Any vehicle refueling processes were handled with care and drip trays were used.
- All camp building material was left neatly stacked.
- DRDC staff was briefed on all of the terms and conditions of licencing including the archaeological and palaeontology requirements.
- No hunting or fishing was conducted without a Nunavut fishing licence.
- All food and food waste was protected from access by local wildlife.

We trust the information provided is sufficient for your records. Please feel free to contact the undersigned if you have any questions or comments.

Sincerely,



Sarah Rahmer

Environmental Coordinator

Defence Construction Canada

Tel: 613-949-1973 / CSN: 949-1973 / DCC Cell: 343-550-8984

Sarah.Rahmer@dcc-cdc.gc.ca

cc. Lex Stuart, DRDC Northern Watch Project Manager, lex.stuart@drdc-rddc.gc.ca

Tom Gardner, RP Op(North), Tom.Gardner@forces.gc.ca