



Stantec Consulting Ltd.

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October 26, 2020

File: 110220512

Attention: Ms. Natalie Robinson
Environmental Services
Public Works and Government Services Canada
Room 759, 222 – 4 Avenue SE
Calgary, Alberta T2G 4X3
Natalie.robinson@pwgsc-tpsgc.gc.ca

Dear Ms. Robinson,

Reference: 2020 De-Watering Activities, Apron Land Treatment Unit, Cambridge Bay Airport, Cambridge Bay, Nunavut (Water License No. 1BR-FTA-1828)

Introduction

Stantec Consulting Ltd. (Stantec) completed the 2020 de-watering activities at the Apron Land Treatment Unit (LTU) located at the Cambridge Bay Airport in Cambridge Bay, Victoria Island, Nunavut. The watering activities were completed under the authorization of Public Services and Procurement Canada (PSPC) on behalf of Transport Canada (TC). The Apron LTU is operated under the Nunavut Water Board (NWB) License No. 1BR-FTA-1828.

The Site location is presented as Figure 1 and a Site Plan is presented as Figure 2 of **Attachment A**.

De-Watering Activities

De-watering activities were managed remotely by Stantec. Qillaq Innovations (Qillaq) of Cambridge Bay, NU conducted the de-watering activities in the field. Qillaq pumped accumulated water from the Apron LTU sump and, using two-inch diameter hoses, dispersed the water over the soil contained within the Apron LTU. Qillaq visually monitored the depth of water in the sump during the de-watering process to monitor de-watering progress and water absorption. Qillaq provided regular updates to Stantec including photographs at regular intervals (beginning of day, middle of day, and end of day prior to leaving site). De-watering activities were completed on August 6, 2020 and again, prior to leaving the Site, on August 7, 2020. Stantec Daily Field Reports are included in **Attachment B**.

Based on field measurements provided by Qillaq, Stantec estimated that the Apron Sump contained approximately 70 cubic metres (m³) of water. The Apron sump was fully de-watered onto the Apron LTU on August 6, 2020. After de-watering, Qillaq personnel noted that the sump had begun to recharge; however, the re-charge rate was not measured. As such, the recharged water was removed from the sump again on August 7, 2020, prior to Qillaq leaving the Site. An additional approximately 4 m³ of water was removed from the Apron Sump during the second event.

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Sump dewatering volumes to date (2014 to 2020) are summarized in Table 1, below:

Table 1 Summary of Approximate Sump De-Watering Volumes to Date (2014-2020)

Year	Approximate Sump Volume De-Watered (m ³)
2020	70 (originally) 4 (after re-charge)
2019	82
2018	70
2017	46
2016	110
2015	86
2014	30

Maintenance Observations

Qillaq visually assessed the Apron LTU and sump area under the direction of Stantec. At the time of the August 2020 work, no surface water was observed adjacent to the Apron LTU outside of the sump area. Qillaq did not observe any visual deficiencies in the Apron LTU berm or liner. It was noted by Qillaq that approximately 8 centimeters (cm) of sediment had accumulated in the sump area of the Apron LTU.

Limitations

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential liabilities associated with the identified property.

This report provides an evaluation of selected environmental conditions associated with the identified portion of the property that was assessed at the time the work was conducted and is based on information obtained by and/or provided to Stantec at that time. There are no assurances regarding the accuracy and completeness of this information. All information received from the client or third parties in the preparation of this report has been assumed by Stantec to be correct. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

The opinions in this report can only be relied upon as they relate to the condition of the portion of the identified property that was assessed at the time the work was conducted. Activities at the property subsequent to Stantec's assessment may have significantly altered the property's condition. Stantec cannot comment on other areas of the property that were not assessed.

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Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report and are based solely on the scope of work described in the report, the limited data available and the results of the work. They are not a certification of the property's environmental condition. This report should not be construed as legal advice.

This report has been prepared for the exclusive use of the client identified herein and any use by any third party is prohibited. Stantec assumes no responsibility for losses, damages, liabilities or claims, howsoever arising, from third party use of this report.

This report is limited by the following:

- The volume of water de-watered from the Apron LTU sump is based on observations provided by a third party

The locations of any utilities, buildings and structures, and property boundaries illustrated in or described within this report, if any, including pole lines, conduits, water mains, sewers and other surface or sub-surface utilities and structures are not guaranteed. Before starting work, the exact location of all such utilities and structures should be confirmed and Stantec assumes no liability for damage to them.

The conclusions are based on the site conditions encountered by Stantec at the time the work was performed at the specific testing and/or sampling locations, and conditions may vary among sampling locations. Factors such as areas of potential concern identified in previous studies, site conditions (e.g., utilities) and cost may have constrained the sampling locations used in this assessment. In addition, analysis has been carried out for only a limited number of chemical parameters, and it should not be inferred that other chemical species are not present. Due to the nature of the investigation and the limited data available, Stantec does not warrant against undiscovered environmental liabilities nor that the sampling results are indicative of the condition of the entire site. As the purpose of this report is to identify site conditions which may pose an environmental risk; the identification of non-environmental risks to structures or people on the site is beyond the scope of this assessment.

Should additional information become available which differs significantly from our understanding of conditions presented in this report, Stantec specifically disclaims any responsibility to update the conclusions in this report

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Closure

We trust this report meets your requirements. If you have any questions or concerns, please contact the undersigned using the contact information below.

Regards,

Stantec Consulting Ltd.



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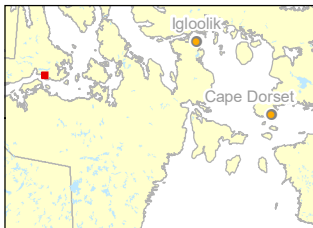
Attachments: Attachment A - Figures
Attachment B – Daily Field Reports with Photographs

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ATTACHMENT A

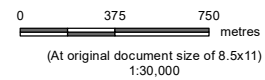
Figures

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- Land Parcel
- Site Feature

PSPC – Public Services and Procurement Canada
TC – Transport Canada



Project Location
Cambridge Bay
Nunavut
Prepared by DJ on 2020-09-01
QR by LVN on 2020-09-04
IR Review by MR on 2020-09-08

Client/Project
PSPC for TC
2020 De-Watering Activities, Apron Land Treatment Unit,
Cambridge Bay Airport, Cambridge Bay, NU

Figure No.

1

Title
Site Location Plan



- Approximate LTU Boundary
- Impacted Soil Area
- Unfilled Area
- Approximate Location of Standing Water

PSPC – Public Services and Procurement Canada
TC – Transport Canada

0 10 20 metres
(At original document size of 8.5x11)
1:1,300



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Figure No.
2

Title
**Site Plan Showing Approximate
LTU Limits**

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Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

ATTACHMENT B

Daily Field Reports with Photographs

2020AUG06 Cambridge Bay Apron LTU Daily Field Report

Daily Update Report		Date: 6 August 2020 Consultant Name: Stantec
Author	Luke Anderson	Project Site/ Name: Cambridge Bay Apron
Distribution		Natalie Robinson
Objective		Daily Field Report
Reporting Items		
TOPIC		WORK ACTIVITY AND PROGRESS
Start and End Time		7:00 to 15:30
Field Personnel on site		Keith Howsam (Qillaq Innovations)
Daily Progress		Set-up pump at Apron LTU sump, completed pumping of water (approximately 70 m ³ of water), reported activities, and sent photos to Stantec for documentation
Planned Activities (next day)		Monitor recharge at Apron LTU sump and document absorption level
Schedule field update		95 percent completed
Health/Safety Comments		Discussed with Stantec the importance of remaining safe while transporting pumps and hoses, especially within LTU berm and muddy areas
Deviations from workplan		None
Notes Include visitors, Any equipment issues etc		Pump operated continuously besides periods of refueling or adding hoses. Note that equipment visible in photo 2 was present at the Site in 2018 and 2019.
Weather & ground cover conditions		13 degrees Celsius, Sunny



Photo 1 – Hose discharging water from Apron LTU sump onto LTU



Photo 2 – Apron LTU sump facing southwest prior to dewatering



Photo 3 -Apron LTU sump facing NE during dewatering showing good absorption and dispersion of discharged sump water



Photo 4 – Apron LTU sump facing north upon completion of dewatering

2020AUG07 Cambridge Bay Apron LTU Daily Field Report

Daily Update Report		Date: 7 August 2020 Consultant Name: Stantec
Author	Luke Anderson	Project Site/ Name: Cambridge Bay Apron
Distribution		Natalie Robinson
Objective		Daily Field Report
Reporting Items		
TOPIC		WORK ACTIVITY AND PROGRESS
Start and End Time		12:30 to 15:00
Field Personnel on site		Keith Howsam (Qillaq Innovations)
Daily Progress		Monitored recharge conditions at Apron LTU sump, pumped approximately 4 m ³ of water from the sump that had recharged overnight.
Planned Activities (next day)		None
Schedule field update		100 percent completed.
Health/Safety Comments		Discussed importance of not leaving any equipment onsite once work complete.
Deviations from workplan		Pumped Apron LTU a second time while equipment still on site.
Notes Include visitors, Any equipment issues etc		Approximately 8 cm of sediment is estimated in the Apron sump (similar to 2019 observation).
Weather & ground cover conditions		14 degrees Celsius, Partly Cloudy



Photo 1 – Apron LTU sump facing north one day after dewatering



Photo 2 – Apron LTU sump facing north after second dewatering event completed



Photo 3 -Apron LTU sump facing northwest after dewatering showing good absorption and dispersion of discharged sump water upon completion of dewatering