



Nunavut Regional Office
PO Box 2200
Iqaluit, NU
X0A 0H0

March 29, 2018

Mr. Karén Kharatyan,
Licensing Manager
PO Box 119
Gjoa Haven, NU
X0B 1J0

Dear Mr. Kharatyan,

**RE: FOX-D, Kivitoo Remediation Project: 2017 Annual Report for Water Licence
1BR-KIV1621**

Please find attached the 2017 annual report for the Water Licence 1BR-KIV1621 issued for the FOX-D, Kivitoo Remediation Project.

If you have any questions or comments please contact the Project Manager, Lilianne Kydd, at (867) 975-4733 or via e-mail at Lilianne.Kydd@canada.ca.

Sincerely,

Charlotte Lamontagne
Director, Contaminated Sites

cc: Nunavut Impact Review Board (NIRB), Cambridge Bay, Nunavut

NWB Annual Report

Year being reported: Select ▼

2017

License No: 1BR-KIV1621 Issued Date: June 22, 2016
 Expiry Date: June 23, 2021

Project Name: FOX-D Kivitoo

Licensee: Indigenous and Northern Affairs Canada

Mailing Address: 10th Floor Eddy Street
Gatineau, QC
K1A 0H4

Name of Company filing Annual Report (if different from Name of Licensee please clarify relationship between the two entities, if applicable):

General Background Information on the Project (*optional):

FOX-D (Kivitoo) was an Intermediate Distant Early Warning (DEW) Line site constructed in 1957 and operated until October 1963. The site is located on Davis Strait, approximately 50 km to the west of the nearest community, Qikiqtarjuaq, Nunavut.

Licence Requirements: the licensee must provide the following information in accordance with

Part B ▼ Item 1 ▼

A summary report of water use and waste disposal activities, including, but not limited to: methods of obtaining water; sewage and greywater management; drill waste management; solid and hazardous waste management.

Water Source(s):	Freshwater Lake	
Water Quantity:	10.0 per day	Quantity Allowable Domestic (cu.m)
	459.2 in 92 days	Actual Quantity Used Domestic (cu.m)
	n/a	Quantity Allowable Drilling (cu.m)
	n/a	Total Quantity Used Drilling (cu.m)

Waste Management and/or Disposal

- Solid Waste Disposal
- Sewage
- Drill Waste
- Greywater
- Hazardous
- Other:

Additional Details:

Montly quantity of freshwater used:
June 42.6 m³

July 173.70 m³
 August 170.40 m³
 September 72.5 m³

Solid Waste: Combustible waste was incinerated on-site. Non-combustible solid waste was packaged and transported off-site.

Sewage and Greywater : Disposal in sewage lagoon

Hazardous: Hazardous waste was packaged and transported as per the Transportation of Dangerous Goods requirements to a licenced southern disposal facility.

A list of unauthorized discharges and a summary of follow-up actions taken.

Spill No.: (as reported to the Spill Hot-line)
 Date of Spill:
 Date of Notification to an Inspector:
 Additional Details: (impacts to water, mitigation measures, short/long term monitoring, etc)

Revisions to the Spill Contingency Plan

▼

Additional Details:

Revisions to the Abandonment and Restoration Plan

▼

Additional Details:

Progressive Reclamation Work Undertaken

Additional Details (i.e., work completed and future works proposed)

The work plan for 2018 includes:

- Completion of surface debris removal
- Completion of buried debris and contaminated soil excavations
- Decommissioning of the soil treatment facility
- Completion of site reshaping
- Final inspections
- Demobilization of waste, contaminated soil, and equipment via sealift

Results of the Monitoring Program including:

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where sources of water are utilized;

Details attached 

Additional Details:

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where wastes associated with the licence are deposited;

Details attached 

Additional Details:

Results of any additional sampling and/or analysis that was requested by an Inspector

No additional sampling requested by an Inspector or the Board 

Additional Details: (date of request, analysis of results, data attached, etc)

Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.

No additional sampling requested by an Inspector or the Board 

Additional Details: (Attached or provided below)

Any responses or follow-up actions on inspection/compliance reports

No inspection and/or compliance report issued by INAC 

Additional Details: (Dates of Report, Follow-up by the Licensee)

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Any additional comments or information for the Board to consider

<p>Please see attached Appendix A for further information on monitoring program reporting.</p>
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Date Submitted:	March 29, 2018
Submitted/Prepared by:	Lilianne Kydd
Contact Information:	Tel: 867-975-4733
	Fax: 867-975-4560
	email: Lilianne.Kydd@canada.ca

Appendix A

FOX-D Water Licence 1BR-KIV1621

Monitoring Program Annual Reporting 2017 – Additional Information

Date

November 10, 2017

Lillianne Kydd
Project Manager, Contaminated Sites Program
Indigenous and Northern Affairs Canada
969 Qimugjuk Building, 2nd Floor
Iqaluit, Nunavut X0A 0H0

Our Reference: 60509545

Dear Ms. Kydd:

RE: FOX-D Soil Treatment Area Monitoring Well Samples - Water License No. 1BR-KIV1621

As part of the requirements listed in the Nunavut Water Board *Water License No. 1BR-KIV1621 – Amendment No. 1* (The License), the Licensee shall sample and monitor the wells surrounding the soil treatment area. AECOM attempted to obtain water samples from the installed wells, however, due to frozen conditions there was no free water to collect.

Four (4) monitoring wells were installed surrounding the soil treatment area at FOX-D between July 11 and July 15, 2017 to monitor any potential impact resulting from the treatment area;

- KIV 5a East (upgradient);
- KIV 5b South (upgradient);
- KIV 5c West (down-gradient); and
- KIV 5d North (down-gradient).

AECOM measured groundwater levels in the monitoring wells using an interface meter on July 22, August 9, August 17 and August 31, 2017. After the monitoring wells were installed, AECOM developed the wells by purging them dry with bailers to ensure that fresh groundwater would be present in the wells for future water samples. Due to the permafrost and the conductivity of the steel casings, AECOM suspects that the water in the monitoring wells froze at a level above the active layer base. Ice was encountered approximately 1 m below ground surface in the wells and minimal free water was present. On August 31, 2017, the final attempt in obtaining a groundwater sample, approximately 3 – 5 cm of water was present in the bottom of the wells KIV 5b, KIV 5c and KIV 5d and 40 cm was present in KIV 5b. Only approximately the top 2-3 cm of the water in KIV 5b was suitable for sampling as the remainder contained a large amount of drilling fluid. For the analysis listed under Part K of The License, the laboratory requires approximately 3 litres of water, of which 580 ml is required for the analysis of BTEX, F1-F4. Groundwater samples were therefore unable to be obtained due to the insufficient volume of water and drilling fluid suspended within the water column in the bailer.

Additional attempts will be made in 2018 to obtain groundwater samples from the wells.

Park K of The License lists required monitoring stations and annual monitoring and reporting requirements. The monitoring stations (not including the monitoring wells discussed above) are listed below.

- KIV-1: Raw water supply intake from fresh water lake.
 - Englobe is responsible for recording daily quantities utilized and will be reported in detail as part of the annual report.
- KIV-2: Final discharge point from Sewage Disposal Facility (sewage lagoon).
 - No water was discharged from the Sewage Disposal Facility in 2017.
- KIV-3a: Upper Site – Final discharge point for treated contaminated water stored in barrels, demolition rinse water, and site contact water.
 - There is no barrel processing being conducted at the Upper Site. Demolition rinse water or site contact water has not been produced at the Upper Site in 2017. All barrels are transferred to the Lower Site for processing and washing, and all process water is collected in barrels.
- KIV-3b: Lower Site – Final discharge point for treated contaminated water stored in barrels, demolition rinse water, and site contact water.
 - Barrel processing water is currently stored onsite and there has been no discharge of barrel water/demolition rinse water/site contact water in 2017.
- KIV-4: Final discharge point from the hydrocarbon impacted soil treatment facility (Landfarm Facility).
 - There has been no water discharged to date from the soil treatment facility. Surface water that had accumulated within the Soil Treatment Area in 2017 was left in the Treatment Area and not discharged.

Sincerely,

AECOM Canada Ltd.



Jen Murray
Environmental Inspector



Brian Nguyen
Departmental Representative

Cc: Janice Lee (PSPC)
Roland Merkosky (AECOM)
Michel Audet (AECOM)
Sofia Ramos Ajas (AECOM)

Photo Log



Photograph 1. Coring Machine – July 11, 2017 é



Photograph 2. Drilling monitoring wells – July 11, 2017 é



Photograph 3. AECOM measuring water levels at KIV 5d - August 09, 2017 €



Photograph 4. AECOM measuring water levels at monitoring well KIV 5a – August 17, 2017 €



Photograph 5. Water in bailer from monitoring well KIV 5a – August 31, 2017 é



Photograph 6. Water in bailer from monitoring well KIV 5c – August 31, 2017 é