

**NWB Annual Report**

**Year being reported:** 2012

**License No:** 2BE-QAM1217 **Issued Date:** June 1, 2012  
**Expiry Date:** May 31, 2017

**Project Name:** Turqavik - Aberdeen Project

**Licensee:** Rebecca Hunter

**Mailing Address:** Cameco Corporation  
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 S7M 1J3

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

Same as above.

**General Background Information on the Project (\*optional):**

The 2012 field season included the construction of a new camp on Aberdeen Lake. The 2012 exploration program consisted of diamond drilling and ground gravity as well as archaeological and wildlife studies.

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

Part B Item 1

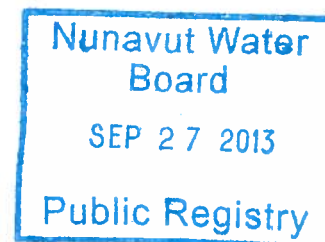
**A summary report of water use and waste disposal activities, including, but not limited to: methods of obtaining water; sewage and grey water management; drill waste management; solid and hazardous waste management.**

|                  |   |   |
|------------------|---|---|
| Water Source(s): | Aberdeen Lake, other lakes for drilling |   |
| Water Quantity:  | 5                                       | Quantity Allowable Domestic (cu.m)            |
|                  | 3                                       | Actual Quantity Used Domestic (cu.m)          |
|                  | 280                                     | Total Quantity Allowable Drilling (cu.m)      |
|                  | 61.5                                    | Total Quantity Used Drilling (cu.m) per drill |

**Waste Management and/or Disposal**

- ☒ Solid Waste Disposal
- ☒ Sewage
- ☒ Drill Waste
- ☒ Grey water
- ☒ Hazardous
- ☐ Other:

Additional Details:



## **Summary Report:**

A summary report of water use and waste disposal activities includes a detailed description of methods of obtaining water and its treatment for domestic use, and description of procedures for grey water and sewage management. The following report outlines the water use and disposal practices during the Turqavik – Aberdeen Projects 2012 field season.

Potable water for use at the exploration camp is taken from Aberdeen Lake, located 60 m from camp. From the lake, water is pumped with a gasoline-driven high-pressure pump. The intake location is approximately 7 m away from the shore. There, the suction hose is equipped with a standard 2" (3.22 cm) pond strainer, ensuring no organisms get sucked in. Through the 1" (2.54 cm) supply hose, water is pumped into a sheltered 1250 gallon (4.73 m<sup>3</sup>) tank. There are 2 separate pressure systems for the Kitchen and the Dry facility feeding from the same water tank. The water is passed through a pressure system to a dual stage max flow sediment and carbon system. During the filtering process, water is passed through a polyspun sediment filter that removes sediments as small as 5 µ. In addition, the system includes a charcoal filter that also filters down to 5 µ. It then passes through a small commercial 10GPM UVMAX PRO 10 Uv sterilization treatment filter. This filtered and treated water is only used for consumption, preparation of foods, showering, washing of kitchen supplies and laundry. On average, approximately 3.0 m<sup>3</sup> of water is used daily. Water intake was monitored by a mounted standard meters that are used in municipal supply distribution systems (nutating disc displacement flow meter). Logs of pumped water are kept and are included with this report.

At the camp there is 1 - 800 L capacity sump. It has a 400L capacity overflow sump attached via ABS piping. All grey water from domestic use (cooking, dish washing, showering, and washing machine) is disposed into either one of the sumps. These sumps are located at a distance of well above the minimum 30 metres from the high water mark of Aberdeen Lake, near the main Dry facility. The sumps are lined with wooden plywood walls for support with no bottom to allow for proper drainage into the sand. The kitchen sump is equipped with a commercial baffled grease trap for efficient waste separation prior to disposal.

All sewage and domestic wastes are incinerated. Human waste is managed by the use of Incinolet incinerating toilets which utilizes an internal electrical element to evaporate and burn waste immediately after usage. On premises, there is one incinerator for disposing of burnable waste. The incinerator is a "Model A600" supplied by Inciner8. It has floor dimensions of 91cm x 152cm. This unit is a dual chambered incineration unit. The main chamber is top loading to prevent and chance of leaks with a burn temperature of 1200 degrees Celsius. The secondary chamber burns off the dioxins and furans within the smoke at 850 degrees Celsius. This makes for a very clean clear smoke output. The incinerator uses liquid fuel such as diesel or Jet A for both burner units in both chambers supplied in a 205L drum hooked up to the incinerator. All kitchen waste, and solid waste (such as glass and plastic jars, paper, wood shavings, metal cans etc.) are incinerated. Incinerated ash as well as ash from the Incinolet toilets is removed by hand, packed into cardboard boxes and wrapped in two plastic bags for additional security. These packages are then transported to Baker Lake for storage in a Sea Can that will be shipped out of Nunavut for proper disposal at a later date. All used oil (engine servicing) is contained within lined steel drums also for shipment outside of Nunavut. All used absorbent matting from the drills is stored in plastic sealed top 205L drums also for disposal outside of Nunavut.

At the drill site, water is used for circulation down the drill hole to cut through the rock and to wash out the hole. Water was pumped from the closest lake that was large enough to supply drilling operations. The water intake is screened to prevent any harm to fish or wildlife. Water intake was monitored using a Neptune T-10 industrial water meter connected to the drill water supply and quantities were recorded by the drill crew following shift of the drill hole. Circulated water ran off from the drill site and percolated into the ground. Drill cuttings were directed into natural depressions of the terrain and sumps. Five drill holes intersected generally weak uranium mineralization with local high grade intervals. Drill cuttings were separated using a centrifuge of the drill's water recycling system supplied by the drilling contractor, gathered into a chemically resistant industrial-size vinyl bag, and levels of uranium concentration were monitored daily. All collected cuttings were scanned for radioactivity using an Automess 6150 AD Dose Rate Meter which is calibrated annually.

The radiation level of the cuttings all fell below 0.05 uranium concentration. As indicated by the INAC Land Use Permit N2008C0007 only cuttings that exceed 0.05% uranium concentration are to be collected and disposed either down the drill hole or by other acceptable means. All bags were found to be below the threshold values. After the drill holes were completed the non-radioactive cuttings were removed from the vinyl bags and distributed in natural depressions directly around the drill sites and in the cuttings sumps.

The Aberdeen Lake Camp has made the transition this 2012 season from drums to bulk fuel storage. There are 11 - 50,000L double walled 110% contained steel fuel storage vessels on site. 6 of these are for bulk Jet A-1 fuel and the other 5 are for bulk P-50 Diesel. Berms at camp are primarily used for temporary drum storage and filling from the bulk tanks to prevent ground contamination. These tanks have been registered with Environment Canada EC #'s as follows - Tank 1 -EC00024159, Tank 2 -EC00024177, Tank 3 -EC00024178, Tank 4 -EC00024180, Tank 5 -EC00024186, Tank 6 -EC00024187, Tank 7 -EC00024163, Tank 8 -EC00024182, Tank 9 -EC00024188, Tank 10 -EC00024189, Tank 11 -EC00024190. Fuel from the tanks is dispensed using a Cummins Diesel Model 6004 5040

-EC00024189, Tank 11 -EC00024190. Fuel from the tanks is dispensed using Gormann Rupp Model 82D1-EX13-X Self Priming Centrifugal spark proof pumps. Pumps are connected to filtered cabinets with 50ft of roll out nozzled hose for dispensing. The systems are fully grounded and commissioned.

All fuel drums at the camp and fuel caches were stored in berms prior to usage and returned to Baker Lake after the drums were used. Fuel stored on site included gasoline, Jet-A-1 and P50 diesel. At the camp, the generator is connected to a double-walled, 110% containment, 250 gallon (0.95 m<sup>3</sup>) metal fuel tank by flexible fuel lines. The back-up generator is connected to a 205L fuel drum also connected with flexible lines. For use at the camp 4 berms were used, 3 of which have dimensions of 10' x 10' x 1' (3 x 3 x 0.3 m) and can hold 15 drums. And one berm has dimensions of 10' x 15' x 1' (3 x 4.6 x 0.3 m) to hold approximately 25 drums. The berms are made of XR-5 high grade chemically resistant vinyl fabric with L-rod supports for the berm walls. Rain water that collects in the berms is absorbed, filtered and returned as grey water. All absorbents used on site are send back to Baker Lake.

There is one large berm, 1 medium-sized berm, and 2 small berms at the main airstrip (fuel cache 1) . The large berm at the airstrip has the dimensions of 30' x 60' (9 x 18 m) to hold up to 135 drums. The 1 medium-sized berm is 20' x 20' x 0.5' (~7x7x0.15 m) and hold up to 60 drums each. The 2 small berms are 10' x 10' x 1' (3 x 3 x 0.3 m) and can hold 15 drums. After the berms were emptied they were immediately rolled up and stored in the sea-can at the fuel cache to prevent any water gathering in the empty berms. Berms were primarily used for storing Jet fuel as all diesel for the drill during the 2012 field season was stored at the Areva Resources Canada's bulk fuel storage area initially and at the Aberdeen Lake camp at the end of the season. At the drill sites fuel is stored in double-walled metal containers with 110% containment capacity during drilling operations. All full drums have been used from the cache locations in the field with berms rolled up and put away.

#### 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

SCP submitted and approved - no revision required or proposed

Additional Details:

#### Revisions to the Abandonment and Restoration Plan

AR plan submitted and approved - no revision required or proposed

Additional Details:

### Progressive Reclamation Work Undertaken

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

Exploration program is ongoing with a similar objective for the upcoming field season.

### 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:

Report on locations where sources of water are utilized are listed.

**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 described below



Additional Details:

See attached Excel tabs for GPS coordinates. At the camp, 2 sumsp are used for disposal of grey water. as well as sewage and other waste are incinerated. Circulated water at the drill sites is allowed to percolate back into the ground on location.

**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**

In 2012 a new exploration camp was constructed on Aberdeen Lake. New fuel storage facilities were constructed which are comprised of double-walled enviro-tanks to prevent spills and reduce the amount of drummed fuel on site and in berms. The previous camp at Qamanaarjuk Lake was not used during the year but will be kept under care and maintenance to be utilized for future exploration in the northern portion of the property.

**Date Submitted:**

February 6, 2013

**Submitted/Prepared by:**

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