

March 31, 2009

**File: 2BE-KAZ0609**

Phyllis Beaulieu  
Manager of Licensing  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU X0B 1J0

Dear Ms. Beaulieu

**RE: 2008 Annual Water Report**

Aurora Energy Resources Inc. (Aurora) and Pacific Ridge Exploration Ltd. have entered into a Joint-Venture on the Baker Lake Basin Property. A condition of the agreement is that Aurora is to submit all reports that are required by licencing or permitting. A brief outline of the terms of the agreement can be found on Aurora's web site.

Please find attached the Annual Report submitted to the Nunavut Water Board as per Licence 2BE-KAZ0609 Part B condition 2 issued on July 20<sup>th</sup>, 2006.

Aurora is planning to explore for minerals beyond the Water Licence expiry date (September 15, 2009). An application for an extension to the expiry date submitted after the Licence is transferred from Pacific Ridge Resources Ltd. to Aurora Energy Resources Inc.

Please do not hesitate to contact me at any time at the address below.

Regards,

John Stephen Ash  
Lands Manager  
[sash@aurora-energy.ca](mailto:sash@aurora-energy.ca)

C: Paul McNeill, Aurora VP Exploration

**2008 ANNUAL WATER REPORT  
BAKER BASIN PROPERTY  
Kivilliq Region, Nunavut**



**NTS 55M 10 to 15  
Claims BT 1 to BT 55 and PP Numbers 6678, 6679, 6680 & 6976  
Centered at 63° 47' N Latitude and 95° 20' W Longitude**

*Prepared by:*  
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## 1.0 Introduction

The Baker Basin Property is located within the Kivilliq region of Nunavut approximately 65 kilometers SSE of the hamlet of Baker Lake, Figure 1. The property encompasses approximately 95,289 hectares (235,464 acres) and is comprised of 12 Prospecting Permit and 55 Mineral Claims. The property lies within NTS map sheets 55M 10 to 15 and has its geographic center at approximately 63° 47' N latitude and 95° 20' W longitude. Access to the property from the hamlet at Baker Lake is via helicopter but portions of the property can be accessed by fixed wing aircraft where eskers are smooth enough to provide an off-strip landing area.

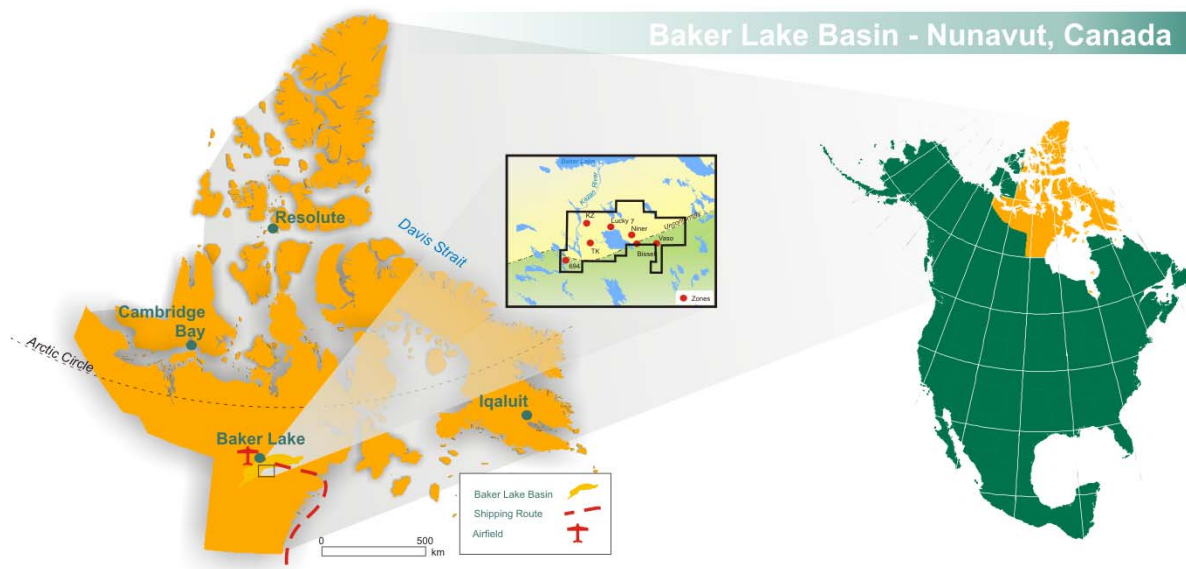


Figure 1. Regional Location of the Baker Lake project.

Aurora Energy Resources conducted a twenty-eight day exploration program targeting uranium mineralization located within the Paleo-proterozoic age Baker basin. This report addresses the points outlined by Water Board regarding Aurora Energy Resources' and Pacific Ridge's Baker Basin Project, Permit # NWB 2BE-KAZ0609.

## 2.0 Weather During the Work Program in 2008

The Baker Lake project began on Oct 1<sup>st</sup> and was completed twenty-seven days later on Oct 27<sup>th</sup>. During this time, the temperature varied from -8° to +3°C with a mean temperature of -2°C. The snow conditions were light and accumulation was 40cm with drifts of 80cm.

## 3.0 Water Summary Report

In 2008 Pacific Ridge Exploration Ltd. (Pacific) applied use water for a mineral exploration program located 60 km south-south-east of the hamlet of Bakers Lake. The exploration program required water for a base camp and drilling operations. The licence was amended in 2008 to include a second drill and a new camp location near the West side of Bissett Lake. The operations are approved for 170m<sup>3</sup> until September 15, 2009. 150 m<sup>3</sup> are allocated for the drilling activities and 20m<sup>3</sup> for camp use.

The operation was actually stationed in Baker Lake and therefore no camp was constructed. A core shack and first aide tent was constructed (near the landing site); these only used limited potable water for domestic use. The water supplied to the drill was taken from a small pond located North of Bissett Lake (see Figure 2). A drill rig was set up on the Lucky 7 Target from October 11<sup>th</sup> to the 23<sup>rd</sup> (12 days) and 603 metres of core was drilled. The total estimate of 660m<sup>3</sup> (12 days \* 55 m3/day) water was all of which was returned back to the ground.

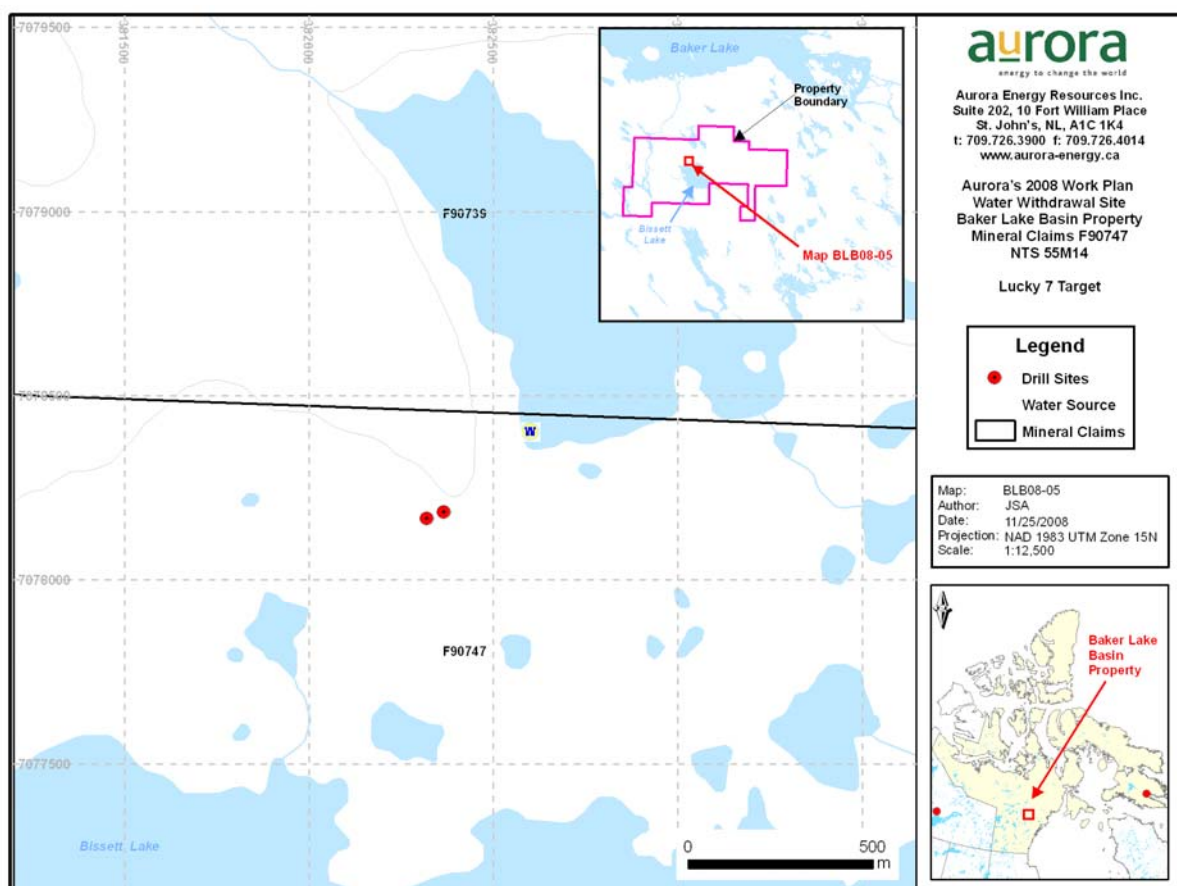


Figure 2. Regional Location of the Baker Lake project.

Schedule 1 contains photos of the drill water supply pump facility.

### Traditional Water Use

The project did not have any impact on traditional water use or on local fish and wildlife habitats.

## **Fuel Storage**

The main fuel cache will be located on an esker near the land area. Fuel drums were heli-ported to the drill site. All stored fuel was inspected daily. Empty fuel drums were removed as soon as possible.

## **Spill Kits**

A spill kit was located at:

- the drill shack,
- one spill kit at each fuel cache location,
- an modified spill kit at each fly-camp,
- an empty fuel drum was located at each fuel cache in the event of a damaged or leaking drum.

### **4.0 *Unauthorized Discharges/ Follow-up Actions***

There were no unauthorized discharges so no follow-up actions were necessary.

### **5.0 *Spill Contingency Plan***

Aurora is in the process of revising the Spill Contingency Plan and therefore request that the Pacific's plan be used for reference.

### **6.0 *Progressive Reclamation***

Aurora Energy's decision to use Baker Lake Lodge as its base of operations and utilize a helicopter for access to the property mitigated the need for extensive reclamation work.

- With no requirement to build a base camp, reclamation associated with camp set up and maintenance was eliminated.
- All drill moves were accomplished via helicopter and all drill set ups were built of lumber keeping the drill rig contact with the tundra surface limited and therefore eliminating any major disturbance to the ground.
- All drill holes were sealed with cement to prevent ground surface waters from mixing with ground water.
- No sump was located within 31 metres from the normal high-water mark of any water body. Drill cuttings were pumped to low lying natural depressions where grey water drained away into overburden or fractured bedrock eliminating the need to dig sumps and re-contour the ground surface. Drill water did not flow directly into any moving or stationary bodies of water.
- The cuttings were collected and pumped back down the hole after it was completed.
- Other surface exploration work including grid work, Mag surveys, and rock sampling was accomplished via foot which required no reclamation work.

### **Abandonment and restoration**

Aurora is in the process of revising the Abandonment and Restoration Plan and therefore request that the Pacific's plan be used for reference.

### **Water supply and treatment**

The water intake the drill was facilitated using a submersible pump with a filtered intake that complies with DFO guidelines for screens to prevent the entrainment of fish.

- Potable water was analyzed for various types of coliform using a field test kit. The CCME "Canadian Drinking Water Quality Guidelines" was used to determine whether further treatment is required. Water will be collected as needed and boiled for use.

### **Waste treatment and disposal**

- A Latrine sump (pit privy) was used for sewage disposal at a rate of 0.02 m<sup>3</sup>/day
- Combustibles solid waste was collected and incinerated
- Non-combustibles were collected and transported to a Solid Waste Disposal Site
- There were no scrap metal to dispose
- Oil and hazardous waste was transported to an approved facility. A Waste Manifest was kept of all hazardous material.
- See schedule 4 for a list of waste material that required management.
- All empty fuel drums were removed on a regular basis.
- A modified 45 gallon drum was used for food wastes and combustibles.
- Non-combustible waste was disposed of at the Baker Lake land-fill site.
- Visual inspections of all sumps will be conducted daily.

### **Operation and maintenance**

The treatment and disposal methods being proposed are currently in practice across the north and follow the regulated guidelines and accepted methods. The current contingency plan at this time is mitigation (safe distance for disposal in sumps, shipping off site any hazardous chemicals/scrap metal/non-combustible waste, following applicable Acts, Regulations and Guidelines, etc.) and monitoring. There were no concerns to report to the DIAND Water Resource Inspector. There were no issues to document.

## **7.0 Regulatory information**

Aurora has a copy of the following regulatory information:

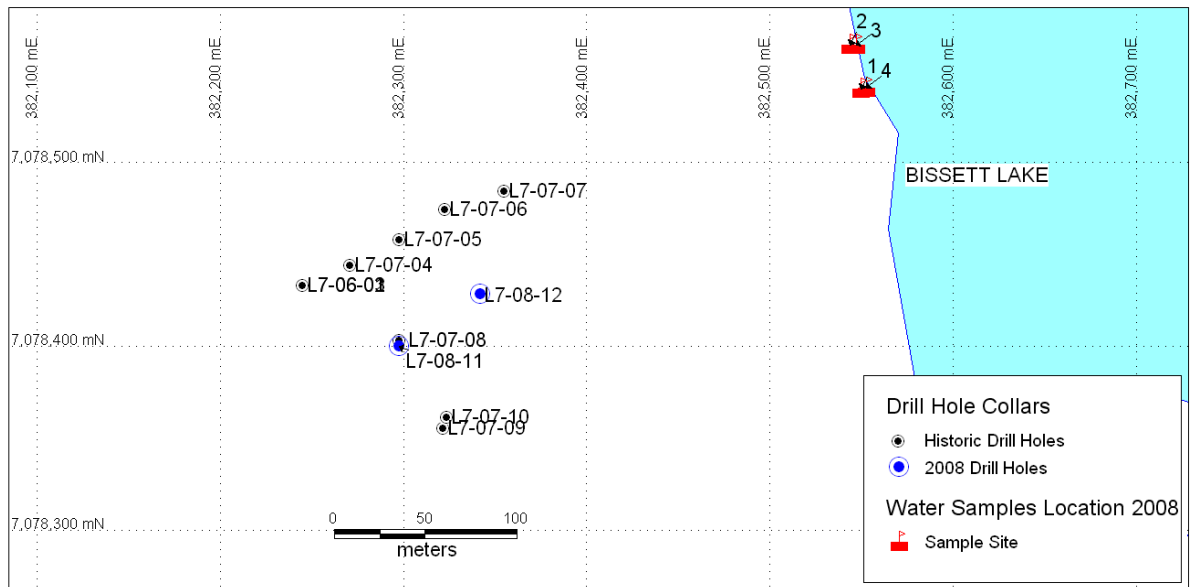
- Article 13 - Nunavut Land Claims Agreement
- NWB - Water Licensing in Nunavut - Interim Procedures and Information Guide for Applicants
- NWB - Interim Rules of Practice and Procedure for Public Hearings
- NWTWB - Guidelines for the Discharge of Treated Municipal Wastewater in the NWT
- NWTWB - Guidelines for Contingency Planning DFO - Freshwater Intake End of Pipe Fish Screen Guideline
- Fisheries Act - s.35
- RWED - Environment Protection- Spill Contingency Regulations
- Canadian Drinking Water Quality Guidelines
- Public Health Act Camp Sanitation Regulations
- Public Health Act Water Supply Regulations
- Territorial Land Use Act and Regulations

## 8.0 Results of Water Monitoring Survey

Water samples were taken from Bissett Lake before the commencement of the 2008 drilling. Follow up water samples were taken at the conclusion of the drill program. The results of the analysis are presented below in table 1. The cuttings from the drill rig were collected and pumped back down the hole at the conclusion of the two drill holes. Waste water was pumped to a topographic low, as outlined in our NIRB permit. No waste water was observed entering Bissett Lake, the closest body of water, 250 meters east of the drill sites, Figure 2.

Results from the water survey show negligible changes in PH, suspended solids, alkalinity and dissolved metals.

*Figure 3. Water sample sites and drill collar locations*



Schedule 4 contains qualifications of the Analytical Laboratory (ALS Chemex)



**TABLE 1. RESULTS OF WATER SAMPLE ANALYSIS****RESULTS OF ANALYSIS**

Sample ID	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4
Easting (NAD 83)	382550	382544	382544	382550
Northing (NAD 83)	7078540	7078564	7078564	7078540
Date Sampled	10-OCT-08	10-OCT-08	24-OCT-08	24-OCT-08
Time Sampled	3:00	3:00	3:00	3:00
ALS Sample ID	L710343-1	L710343-2	L710343-3	L710343-4
Matrix	Water	Water	Water	Water

**Physical Tests**

Hardness (as CaCO <sub>3</sub> ) ( mg/L)	28.0	26.9	26.6	27.4
Ph	7.68	7.64	7.70	7.69
Total Suspended Solids ( mg/L)	82.6	39.9	43.2	74.6

**Anions and Nutrients**

Alkalinity, Total (as CaCO <sub>3</sub> ) ( mg/L)	25.5	24.6	25.2	25.7
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**Total Metals**

Aluminum (Al)-Total ( mg/L)	19.0	7.83	7.60	8.85
Antimony (Sb)-Total ( mg/L)	0.00233	0.00156	0.00183	0.00141
Arsenic (As)-Total ( mg/L)	<0.00020	0.00018	0.00019	0.00016
Barium (Ba)-Total ( mg/L)	0.101	0.0953	0.0951	0.0951
Beryllium (Be)-Total ( mg/L)	<0.0010	<0.00050	<0.00050	<0.00050
Bismuth (Bi)-Total ( mg/L)	<0.0010	<0.00050	<0.00050	<0.00050
Boron (B)-Total ( mg/L)	<0.020	<0.010	<0.010	<0.010
Cadmium (Cd)-Total ( mg/L)	<0.00010	<0.000050	<0.000050	<0.000050
Calcium (Ca)-Total ( mg/L)	8.34	8.10	7.99	8.23
Chromium (Cr)-Total ( mg/L)	0.0124	0.0223	0.0184	0.0195
Cobalt (Co)-Total ( mg/L)	0.00030	0.00034	0.00051	0.00070
Copper (Cu)-Total ( mg/L)	0.0104	0.00592	0.00616	0.00556
Iron (Fe)-Total ( mg/L)	0.312	0.319	0.364	0.249
Lead (Pb)-Total ( mg/L)	0.00141	0.00115	0.000897	0.00149
Lithium (Li)-Total ( mg/L)	<0.010	<0.0050	<0.0050	<0.0050
Magnesium (Mg)-Total ( mg/L)	1.74	1.62	1.61	1.65
Manganese (Mn)-Total ( mg/L)	0.0445	0.0316	0.0218	0.0220
Mercury (Hg)-Total ( mg/L)	<0.000050	<0.000050	<0.000050	<0.000050
Molybdenum (Mo)-Total ( mg/L)	0.00056	0.000513	0.000508	0.000252
Nickel (Ni)-Total ( mg/L)	0.0060	0.00634	0.00870	0.00592
Phosphorus (P)-Total ( mg/L)	<0.30	<0.30	<0.30	<0.30
Potassium (K)-Total ( mg/L)	<2.0	<2.0	<2.0	<2.0
Selenium (Se)-Total ( mg/L)	<0.0020	<0.0010	<0.0010	<0.0010
Silicon (Si)-Total ( mg/L)	0.755	0.715	0.718	0.483
Silver (Ag)-Total ( mg/L)	0.000031	0.000017	0.000021	0.000014
Sodium (Na)-Total ( mg/L)	5.3	5.1	5.1	5.2
Strontium (Sr)-Total ( mg/L)	0.0371	0.0342	0.0332	0.0346
Thallium (Tl)-Total ( mg/L)	<0.00020	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total ( mg/L)	0.00958	0.00572	0.00119	0.00267
Titanium (Ti)-Total ( mg/L)	<0.010	<0.010	<0.010	<0.010
Uranium (U)-Total ( mg/L)	0.000169	0.000097	0.000115	0.000087
Vanadium (V)-Total ( mg/L)	<0.0020	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Total ( mg/L)	0.0316	0.0139	0.0224	0.0157

**2008 Assessment Report on the  
Annual Water Report for the Baker Lake Basin Property**

**APPENDIX I**

**Photos of Drill Water Return Sump**

*Photo 1. Sump Low lying natural Depression*



*Photo 2. Drill cuttings captured in bag*



**2008 Assessment Report on the  
Annual Water Report for the Baker Lake Basin Property**

**APPENDIX II**

**Photos of Drill Water Supply Pump**

*Photo 1. Aerial picture of water withdrawal site*



*Photo 2. Water facility*





*Photo 3. Water Pump and Generator*



*Photo C. Spill kit and secondary containment of fuel drums*



**2008 Assessment Report on the  
Annual Water Report for the Baker Lake Basin Property**

**APPENDIX III**

**Photos of Site Conditions**

**Aurora Energy Resources Inc.**

Suite 303, 10 Fort William Place, St.John's, NL, A1C 1K4

*Photo A. Core logging facility.*



*Photo B. Cam McLean, Geologist.*





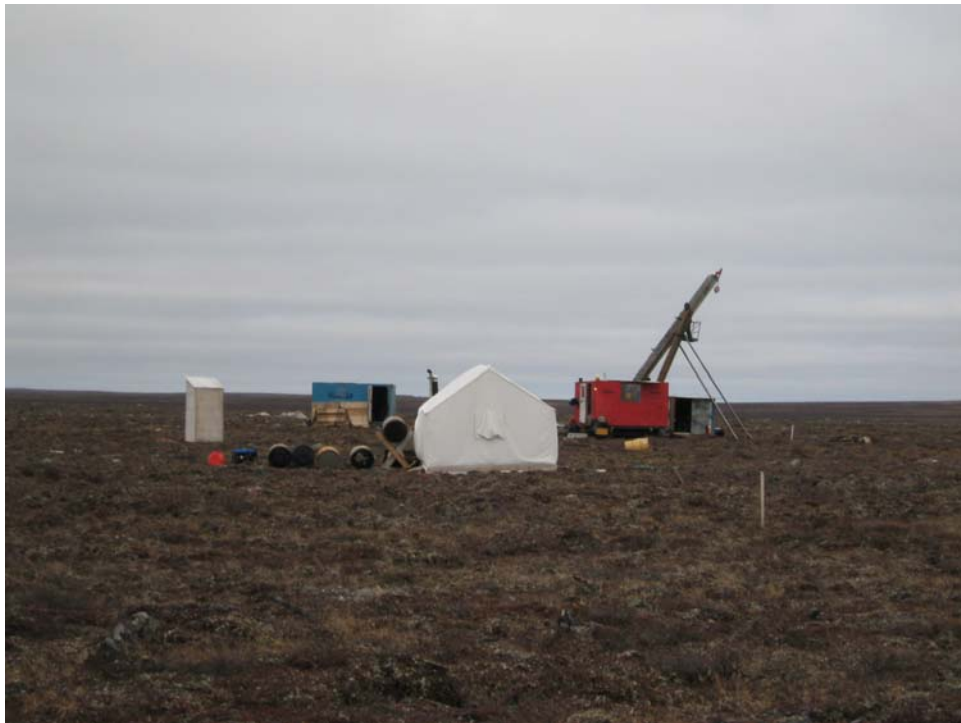
*Photo C. Drill rig.*



*Photo D. Nick Mitchell, Drill foreman and Mark Noah.*



*Photo E.* Drill rig and safety tent.



**2008 Assessment Report on the  
Annual Water Report for the Baker Lake Basin Property**

**APPENDIX IV**

**Analytical Laboratory Qualifications**

## Qualifications of the Analytical Laboratory (ALS Chemex)

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**2008 Assessment Report on the  
Annual Water Report for the Baker Lake Basin Property**

**APPENDIX V**

**Waste Management Table**

Waste Type		Composition	Quantity	Treatment Methods	Disposal	
Sewage		Human Waste	0.05 m³/day	Main Camp - Storburn Toilets uses propane, Fly Camp - latrine sump - Minimum of 31 metre buffer from high water mark of any water body, Dailey Inspections	Sumps will be back filled and recontoured, ashes bagged be transported to a Solid Waste Disposal Facility	
Solid Waste		Household Garbage	55 kg/day	Remove recyclable containers, kept in metal containers until disposed of and checked routinely for leaks, No open burning, Dailey Inspections	5 kg per day of non combustibles will be transported to a Solid Waste Disposal Facility, 50 kg combustibles incinerated creating 2.5 kg bagged for disposal at a Solid Waste Disposal Facility,	
Hazardous	TGD	Fuel (Jet, Diesel & Gas) Propane Fuel System Treatment Batteries Paints Aerosol Cans	60 Drums cylinders as needed as needed as needed	10	Caches of > 19 Fuel Drums will be cached in pop-up berms, Empty drums will be removed from site on a regular basis and at the end of the project, Daily Inspections/weekly documentation conducted throughout program, Spill Contingency Plan, A Waste manifest will be kept,	Drums will be transported to a recycling facility; canisters transported off site and disposed of at an approved facility
	Other	Motor Oil Lubricating Grease Hydraulic Fluid Antifreeze	0.1 m³ as needed as needed as needed		Removed from site on a regular basis & at the end of the project, Daily Inspections/weekly documentation conducted throughout program, Spill Contingency Plan	Waste oil will be transported to an approved Disposal Facility, Canisters transported off site and disposed of at an approved facility
Greywater		Soaps Chemicals Cleaning	0.25 m³/day	discharged into sumps located a minimum of 31 metre buffer from high water mark of water bodies, Grease Trap, Dailey Inspections	Grease Incinerated	
Salt		NaCL	1100 to 4400 kg	Stored on wooden pallets caoved in plastic tarp (per drill), used to keep drill casings from freezing while pulling rods due to permafrost	transported off site at end of program	
Cement		Limestone and rock	1100 to 4400 kg	Stored on wooden pallets caoved in plastic tarp (per drill), used for grouting drill holes	transported off site at end of program	
Drill Mud		Non-hazardous liquid polymer	410 to 2050 litres	Stored on wooden pallets covered in plastic tarp	transported off site at end of program	
Drill Cuttings		rock/mud	~ 1.4 m³	Sumps used to collect cuttings and drill mud, If uranium mineralization is encountered in a drill hole, the drill mud solids or cuttings with a uranium concentration greater than 0.05 per cent will be collected pending completion of the hole at which time they will be disposed down a drill hole and sealed by grouting the upper 30 meters of bedrock.	sumps will be back filled and recontoured, Any drill hole that encounters mineralization with a uranium content greater than 1 .0 per cent over a length of > 1.0 metre, and with a metre-per-cent concentration > 5.0, will be sealed by grouting over the entire length of the mineralization zone and not less than 10 metres above or below each mineralization zone. The top 30 metres of the hole within bedrock will also be sealed by grouting once any radioactive cuttings and sludge have been disposed down the hole.	