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1. Introduction

1.1 Project Summary:

The Canada-Nunavut Geoscience Office is planning a 3-week (21 day) field program for July- August 2026, the Central Baffin Geoscience Program (CBGP). The CBGP will encompass NTS map sheets 27C12 and 27C05, a 2150 km² area near the terminus of the Barnes Ice Cap approximately 150 km southwest of Clyde River. The program will consist of regional (1:100 000 scale) and focused (1:50 000 scale) bedrock mapping and thematic studies.

Mapping studies will investigate the stratigraphy, structural evolution and age constraints of rock units in the mapping area. Thematic studies will investigate the mineral potential and weathering characteristics of sediment-hosted sulfide deposits and expand on research performed in the 1990s studying rare-element granite pegmatites. Approximately 14 days of the program will be allocated to bedrock mapping, and 7 days to thematic studies.

2. Location and Environment of Undertaking

The study area covers parts of NTS map sheets 27C12, 27C05, and camp location in 37A15 in central Baffin Island within the Macdonald Watershed and Southwestern Baffin Bay Watershed. This area includes Inuit Owned Land parcels with both surface and subsurface rights belonging to the hamlet of Clyde River.

Study Area:

NW 69.75 N, 71.00 W
NE 69.75 N, 72.00 W
SE 69.25 N, 72.00 W
SW 69.25 N, 71.00 W

The topography of the study area varies from flat land with till deposits in the west, rising to a maximum of 900m asl in the eastern side. The study area is directly adjacent to the Barnes Ice Cap and includes Clyde River, which flows northeast into Aaruja (Clyde Inlet, not within project area).

CNGO will not be drawing water or storing fuel in the study area.

Camp Location:

68.9 N, 73.2 W

Approximately 60km east of the western coastline of Baffin Island, the proposed site for the Central Baffin camp is located on a large sand bar on an unnamed lake. The plateaued sand bar allows for access via Twin Otter plane, and has been used by the Geological Survey of Canada in 2000-2002 for field camps.

3. Description of Undertaking, Infrastructure, and Equipment Used

The project will be based out of a field camp assisted by helicopter support. The camp will consist of personal tents, a kitchen tent, office tent, dry tent, and wooden outhouse. The crew will consist of 12 personnel. The impact of research activities will be minimal and sample sites will exhibit little to no evidence of visitation. Daily helicopter flights will occur between the Central Baffin camp and field area. Helicopter support will be required for regional bedrock mapping and sampling initiatives. Water will be pumped daily (using a gas-powered pump outfitted with a mesh screen filter on the intake hose) from the unnamed lake for cooking, cleaning, drinking, and personal hygiene purposes. Grey water will be processed through a grease trap before being disposed of in a hand-dug pit. Similarly, sewage will be disposed of in a hand-dug pit. Pits will be dug at least 50 metres from the high-water marks of all waterbodies in sandy, well-drained soils. All pits will be infilled, and the camp site cleared of debris upon completion of the work and demobilization of the camps each summer.

4. Fuels to be Used

The following fuels will be placed in a fuel containment berm at site for use during the 2026 field season:

- 60 drums (208L each) of Jet-A for aircraft use;
- 15 drums (208L each) of diesel for GeoStove and incinerator use;
- 4 drums (208L each) of gasoline for water pump and power generator use;
- 12 Cylinders (20lbs each) of propane for cook stove and refrigerator use.

4.1. Petroleum Storage, Inventory and Transfer:

At camp site Jet-A fuel drums will be stored in a large fuel containment berm. Insta-berms (4'x4') will be used to contain Jet-A fuel drums at the Central Baffin Camp site. Drums will be stored on their side with bungs rotated in a horizontal position, and secured so they do not roll. Electrical pumps supplied by the helicopter contractors will be used for the transfer of fuel from the drums into the helicopter. Smoking, sparks, or open flames are prohibited in fuel storage and fuelling areas at all times. A manual pump will also be available if necessary.

At Central Baffin Camp, diesel drums connected to GeoStoves will be placed on drum mounts inside of Insta-berms (4'x4'). Gasoline drums and portable jerry cans will be stationed in a separate Insta-berm (4'x4'). Fuel transfers will occur within a berm to minimize the impacts of potential spills or leaks. Smoking, sparks, or open flames are prohibited in proximity to these fuel containers and storage areas, and these areas will be inspected daily.

Propane tanks will be connected to cooking stoves and refrigerators with standard rubber tubing and brass fittings. The tank valves will be closed when stoves are not in use. Tanks will be placed outside the kitchen tent to minimize concentration of fumes in a confined space should there be a leak.

Empty fuel drums will be returned to Iqaluit to be crushed and stored in an empty sea container. At the end of the survey, the container will be loaded on the next available sealift destined for Montreal, where the empty drums will be recycled. Any full fuel drums will be removed from the field area and stored in Iqaluit for use on other research projects or donated to the community of Clyde River.

5. Spill Contingency Plans

5.1. Risk Assessment and Mitigation of Risk:

Petroleum products and other fuels

- 1) **Drummed products:** Leaks or ruptures may affect storage containers of petroleum products.
- 2) **Fuel containers:** Leaks or ruptures could affect plastic jerry cans containing gasoline or diesel.
- 3) **Propane cylinders:** Propane leaks may occur at the valves of propane containers.

Regular inspection and maintenance in accordance with recognized and accepted standard practices at the camp will reduce any risks identified above.

Tanks will be stored and secured in an upright position. Valves will be checked regularly and sealed with Teflon tape, where required.

Spill response training will be provided to all personnel in camp, with particular attention to those individuals who will regularly be handling fuels. The training will include a presentation, mock spill, review of spill kit contents and their use, and reporting.

Spill kits will be positioned at all refueling station. A description of the contents and configuration of the fuel spill kits is provided in section 6.4.

5.2. Responding to Failures and Spills

5.2.1 Spill Response Contact List

24 hour Spill Report Line

(867) 920-8130

<http://env.gov.nu.ca/node/66>

INAC Water Resources Inspector

Iqaluit, NU

(867) 975-4295

Environment Canada

Iqaluit, NU

(867) 975-4644

24-hour pager (867) 766-3737

Government of Nunavut – Department of Environment
(867) 975-7700
Manager of Pollution Control and Air Quality
(867) 975-7748

Qikiqtani Inuit Association – Lands Department
PO Box 1340
Iqaluit, NU X0A 0H0
Phone: (867) 975-8400
Toll Free: 1-800-667-2742
Fax: (867) 979-3238

Satellite phones and internet will be available for reporting use in the office tent.

5.2.2 Basic Steps – Spill Procedure

In the case of any spill or other environmental emergency, it is necessary to react in the most immediate, safe and environmentally responsible manner. No spill or incident is so minor that it can be ignored and every spill must be reported.

The basic steps of the spill response plan are as follows:

1. Ensure the safety of all persons at all times.
2. Identify and find the spill substance and its source, and if possible, stop the process or shut off the source of the flow.
3. Inform the on-site coordinator or their designate at once, so that they may take the appropriate actions. Appropriate action includes the notification of the spill to the 24-hour Spill Line and INAC Water Resource Officer, and compilation of a Spill Report Form (Addendum I, separate document).
4. Contain the spill or environmental hazard, as per its nature, and as per the advice of the Spill Line and the AANDC Water Resource Officer as required.
5. Implement any necessary cleanup and/or remedial action.

5.2.3 Basic Steps – Chain of Command

1. Immediately notify and report to the 24-hour Spill Line at (867) 920-8130, and the Water Resource Officer at (867) 975-4295, Environment Canada personnel at (867) 766-3737, Qikiqtani Inuit Association Land Use Inspector at (867) 975-8400
2. A Spill Report Form (Addendum 1, separate document) is filled out as completely as possible before or after contacting the 24-hour Spill Line.

5.2.4 Other Contacts for Spill Response/Assistance and Further Reporting

Nunavut Water Board..... (867) 360-6338

Fisheries and Oceans Canada, Habitat Impact Biologist..... (867) 979-8007
Government of Nunavut, Department of Environment..... (867) 975-5910
Qikiqtani Inuit Association, Land Use Inspector..... (867) 975-8400

5.3. Taking Action:

5.3.1 Spill Response Actions for Gasoline, Diesel and Aviation Fuel

Act only if safety permits. Stop the source flow if safe to do so and eliminate all ignition sources.

Never smoke when dealing with these types of spills.

On Land

Build a containment berm using soil material or snow and place a plastic tarp at the foot of the berm for easy capture of the spill after all vapors have dissipated.

Remove the spill by using absorbent pads or excavating the soil, gravel or snow.

Remove spill splashed on vegetation using particulate absorbent material.

Contact regulatory agencies for approval before commencing with the removal of any soil, gravel or vegetation.

On Muskeg

Do not deploy personnel and equipment on marsh and vegetation.

Remove pooled fuel with absorbent pads and/or skimmer.

Flush with low pressure water to herd fuel to collection point.

On advice from regulatory agencies, burn only in localized areas e.g., trenches, piles or windrows.

Do not burn if root systems can be damaged (low water table)

Minimize damage caused by equipment and excavation.

On Water

Contain spill as close to release point as possible.

Use containment boom to capture spill for recovery after vapors have dissipated

Use absorbent pads to capture smaller spills.

Use skimmer for larger spills.

On Snow and Ice:

Build a containment berm around spill using snow.

Remove the spill using absorbent pads or particulate sorbent material.

The contaminated ice and snow must be scraped and shoveled into plastic buckets with lids, 208 liter drums, or polypropylene bags

Storage and Transfer

All contaminated water, ice, snow, soil, and clean up supplies will be stored in closed, labeled containers. All containers will be stored in a well-ventilated area away from incompatible materials.

Disposal

Any contaminated material will be shipped to an appropriate and approved facility. The Department of Environment monitors the movement of hazardous wastes from generators, carriers to receivers, through a tracking document (Waste Manifest). A waste manifest will accompany all movements.

5.3.2 Spill Response Actions for Propane

Take action only if safety permits. Gases stored in cylinders can explode when ignited.

Never smoke when dealing with these types of spills.

On Land:

Do not attempt to contain the propane release

On Water

Do not attempt to contain the propane release

On Snow and Ice:

Do not attempt to contain the propane release

General

It is not possible to contain vapors when released.

Water spray can be used to knock down vapors if there is no chance of ignition.

Small fires can be extinguished with dry chemical or CO₂ fire extinguishers.

Personnel should withdraw immediately from the area unless the leak is small and can be stopped immediately upon being detected.

If tank is damaged, gas should be allowed to disperse, and no recovery attempt should be made.

Personnel should avoid touching release point on containers since frost forms very rapidly.

Keep away from tank ends.

Storage and Transfer

It is not possible to contain vapors when released

Disposal

Any contaminated material will be shipped to an appropriate and approved facility.

The Department of Environment monitors the movement of hazardous wastes from generators, carriers to receivers, through a tracking document (Waste Manifest). A waste manifest will accompany all movements.

5.4. Spill Equipment:

Spill kits will be on site at all designated refuelling stations. Spill kits consist of:

- heavy PVC tarp (12'x14'), impermeable to aviation, diesel, and gasoline spills
- aluminum stakes to secure impermeable tarp to ground
- particulate absorbent

- petroleum absorbent pads
- 2 pairs PVC gloves
- 2 pairs safety goggles
- disposable bags
- 1 shovel
- fire extinguisher

6. Water Use and Rights

6.1. Quantity of Water Involved

Maximum daily water use is estimated at <1000L per day (1.0 m³/day), from the unnamed lake for personal hygiene, drinking, cooking and cleaning. Used water will be disposed in greywater or waste pits and is estimated at <1000L per day (1.0 m³/day).

6.2 Water Rights of Existing and Other Users of Water

The project will not affect the quality, quantity, or flow of water in the area. No other water rights user is known for the proposed camp areas.

6.3. Inuit Water Rights

The project will not affect the quality, quantity, or flow of water flowing through Inuit Owned Lands.

7. Waste and Disposal Methods

Sewage:

- For a maximum of 15 people, sewage is estimated at 100L per day (0.10 m³/day).
- Holes will be dug in the ground at least 50m from the nearest water source and downstream from the main camp and water intake pump. A wooden structure will be used as a toilet facility and the holes will be filled as necessary.

Greywater:

- Greywater will be produced from washing dishes, washing clothes, and personal hygiene.
- All detergents used will be environmentally friendly and biodegradable.
- For a maximum of 15 crew, greywater is estimated at 900L per day (0.90 m³/day).
- Holes for greywater disposal will be dug in well-drained, sandy soil at least 50m from high-water mark of the nearest water source. These holes will be filled in as necessary.

Other:

- Combustible waste will be kept in wildlife-resistant containers until such time that it can be incinerated in a small, portable industrial incinerator.

- Incinerator ash and non-combustible materials, such as metal and glass waste, will be kept in buckets, returned to Iqaluit, and disposed of in the municipal landfill.
- All empty fuel drums will be crushed, stored in a sea container, and shipped by sealift to Montreal for recycling at the earliest availability.

8. Methods of Transportation

A Twin Otter aircraft on tundra tires will be used to fly field equipment, personnel, and fuel to and from Central Baffin camp and the fuel caches during camp mobilization (July 15th-23rd) and demobilization (August 15th-19th).

One Bell 206 LR helicopter will be dedicated to the bedrock mapping crews from July 24th to August 14th. It will be used to drop off and pick up mapping crews at the beginning and end of each day. Once dropped off, crews will walk across the land along ~10-12 km transects to their helicopter pick-up destination. The helicopter may also be used to make targeted site visits in areas where traverses would be too difficult or unsafe, or where bedrock outcrops are sparse.

9. Predicted Environmental Impacts and Proposed Mitigation Measures

No long-term environmental impacts are expected. The proposed work will have minimal impact on wildlife or major habitats that support wildlife in the study area. Twin Otter landings will be restricted to the airstrip at the Central Baffin camp. Helicopter landings have minimal physical disturbance to the ground, and helicopters will be shut down in cases where observation and sample collection requires more than 3 minutes on the ground. Helicopter flying will be done in a responsive manner to minimize any disruption of the wilderness, particularly the wildlife.

All gasoline, diesel, and Jet-A fuels will be stored in fuel-containment berms, and fuel transferring into portable containers will be conducted in berms. Fuel storage and transfer sites will be outfitted with spill kits to minimize potential impacts of leaks or spills.

10. Proposed Reclamation Plan

Demobilization of the 2026 Central Baffin camp will entail removal of all field equipment and garbage to Iqaluit for proper storage, disposal or shipping back to its source. Any disturbed ground will be restored to its original state, as best as possible, and the site will be thoroughly cleaned of loose debris following demobilization.

All fuel drums (full and empty) will be removed from the whole study area, and empty drums will be crushed, loaded into a sea container, and shipped to Montreal for recycling in the Fall of 2026. Any remaining full fuel drums will be retained for other research projects or donated to the community of Clyde River.

11. Permits and Licences

The project proponent has prepared the necessary applications for Land Use and research permits or exemptions, and has uploaded them to the Nunavut Planning Commission's Project Portal website. The project has been screened by the Nunavut Impact Review Board. The applications include:

- Research License from the Nunavut Research Institute;
- Application for Access to Inuit-Owned Land from the Qikiqtani Inuit Association;
- Application for Land Use Permit from Crown Indigenous and Northern Affairs Canada;
- Application for a Nunavut Territorial Parks Use Permit from the Government of Nunavut, Department of Environment;
- Applications for Nunavut Territorial Parks Firearms Permit from the Government of Nunavut, Department of Environment;
- Application for Approval for the Use of Water or Deposit of Waste Without a License from the Nunavut Water Board.

13. Contact Information

Project Proponent:

Zina Boileau

Regional Bedrock Mapping Geoscientist

Canada-Nunavut Geoscience Office

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Iqaluit, Nunavut, Canada X0A0H0

Tel: (867) 222-4217

alexina.boileaumorrison@nrcan-rncan.gc.ca

14. Location map

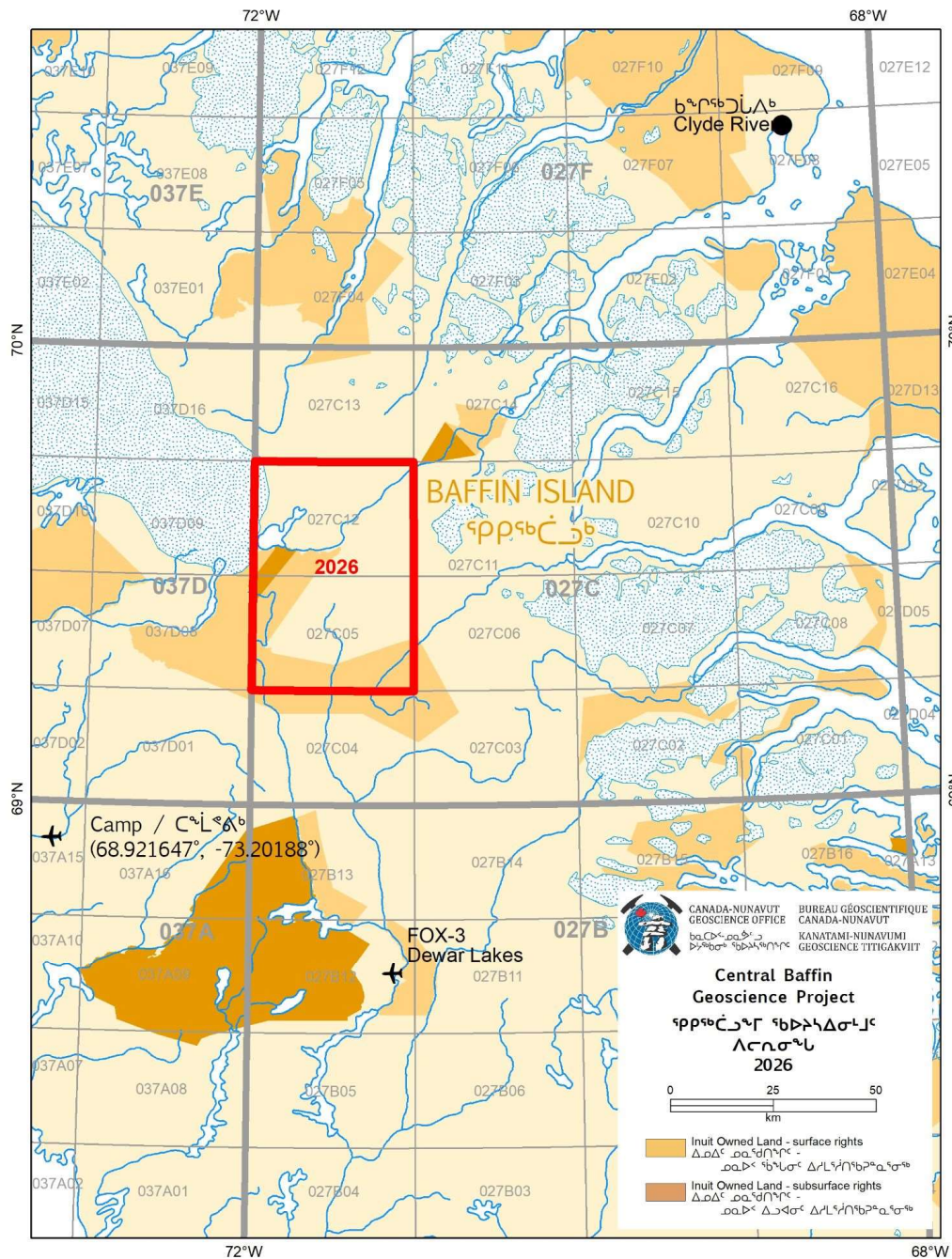


Fig 1. Map of camp location and study area (red outline).

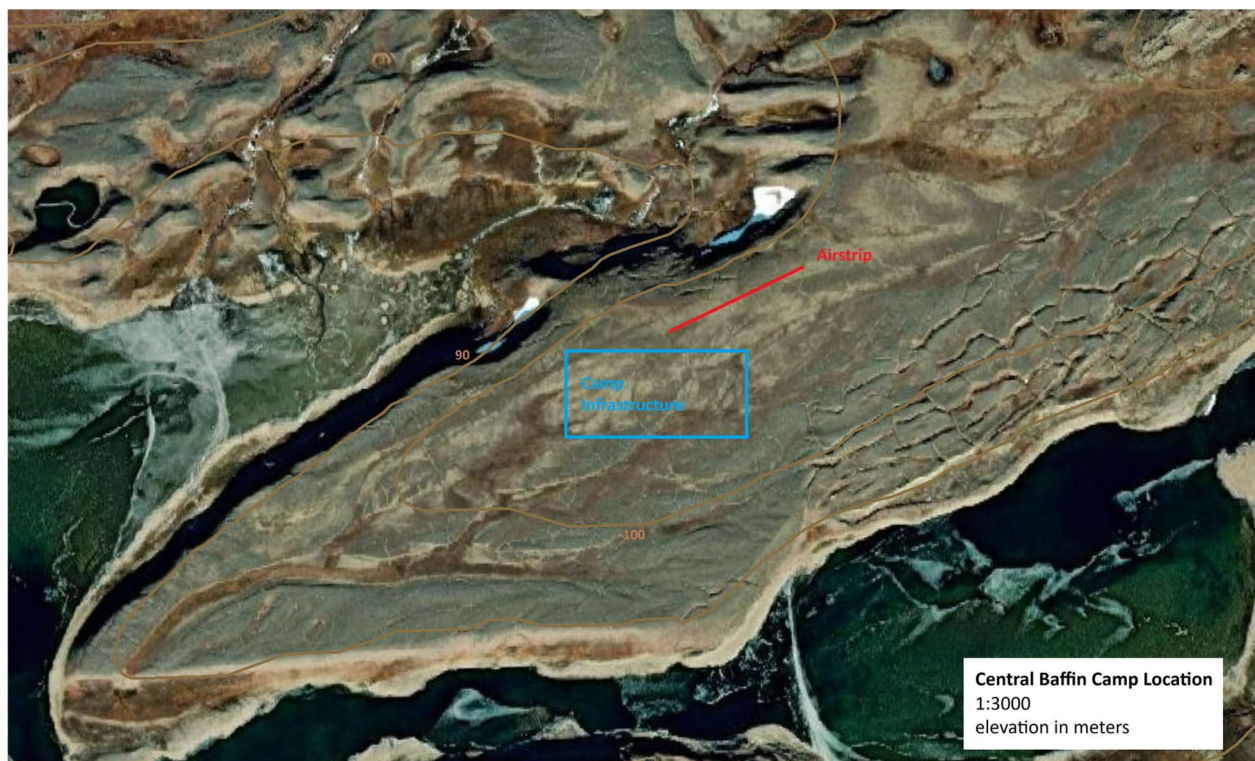


Fig 2. Map of camp location with topography

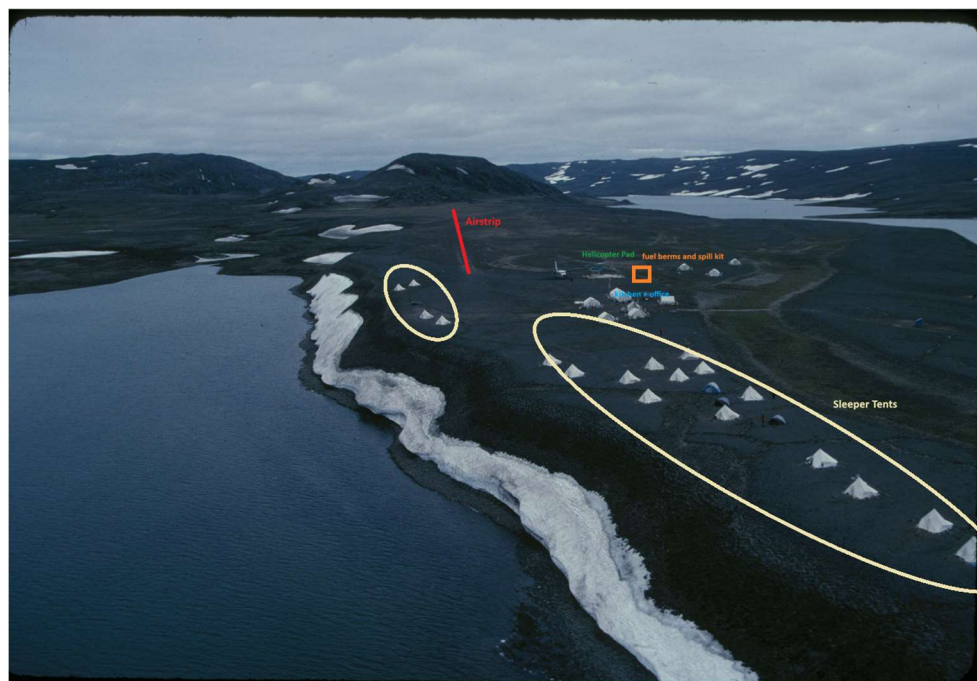


Fig 3. Image from 2002 GSC Camp with labelled infrastructure. 2026 Central Baffin Geoscience Camp will be in the same location and will resemble this layout.