



GREENRIDGE
EXPLORATION

RADIATION HAZARD CONTROL PLAN

Nut Lake Property, NU

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1 Introduction

This Radiation Hazard Control Plan (“RHCP”) has been developed on behalf of Greenridge Exploration (“Greenridge” or the “Company”) in accordance with applicable legislation, guidelines, and best practices which applies to activities associated with the Nut Lake Property (the “Property” or the “Project”), Nunavut, Canada.

The RHCP will come into effect in June 2025, pending approval from all relevant regulatory bodies and will be replaced if there are any significant changes to the activities outlined in the existing permits.

Along with this RHCP, an Emergency Response Plan (“ERP”), Abandonment and Restoration Plan (“ARP”), Spill Contingency and Fuel Management Plan (“SCFMP”), Environmental Management Plan (“EMP”) and Waste Management Plan (“WMP”) will be created for the Property as part of a property-wide management system.

1.1 Project Description

The Nut Lake Property (the “Property” or the “Project”) consists of four contiguous mineral claims covering approximately 5,853 hectares (~59km²) located on National Topographic System (“NTS”) map sheet 065001 and centered at 533130mE, 6993205mN North American Datum 1983 (“NAD83”) Universal Transverse Mercator (“UTM”) Zone 14N. Greenridge Exploration (“Greenridge” or the “Company”) entered into an Option Agreement with three optionors to acquire 100% interest in the Property. The Nut Lake Property is situated entirely on crown land and located approximately 175km southwest of Qamani’tuaq (Baker Lake). Exploration activities at the Property to date includes prospecting, geochemical sampling, mapping, and establishing and demobilizing a temporary camp.

Greenridge is proposing a 2025 summer field program for the Property that is anticipated to run for 30 to 60 days between May and September 2025. Similar field programs, including the same types of exploration activities, are expected to take place annually between April and September in subsequent years. Specific dates will be relayed to the CIRNAC engineer and any other necessary regulatory agencies. The proposed field program will include general exploration activities such as prospecting, geological mapping, geochemical sampling (rock, soil, and till), drone photogrammetry, airborne or ground geophysics, and diamond drilling of approximately 3,000m to 5,000m. Drillhole locations are still to be determined, but locations will be submitted to NWB and CIRNAC for approval prior to any ground disturbance. All planned drillhole pads will be inspected by an archaeologist prior to commencement of drilling.

The 2025 program will include the establishment of a seasonal 13-person camp with a fuel cache to be constructed at 529858mE, 6996110mN (same area as the camp constructed in 2024). Structures for the proposed camp will include 13 individual (Arctic Oven) sleeper tents, or 4 canvas sleeper tents or similar, 1 kitchen tent, 1 dry tent (with showers), 1 office tent, 1-2 core logging tent, a generator shack, incinerator and outhouses/pacto system. Most of the structures will be Arctic Oven sleeper tents or canvas prospector tents, or similar, with plywood floors.

Three camp construction personnel will be on site for a total of 8 days (5 days for set up and 3 days for take down). Staff on site for the duration of the work program will consist of 4 geologists, 2 helicopter-company personnel, 1 cook, 1 camp manager, and 5 drill-company personnel. Total amount of time spent on site will amount up to approximately 414 to 800 man-days.

All waste, including organic and inorganic materials, will either be incinerated on-site in accordance with regulatory guidelines or transported to Qamani’tuaq (Baker Lake) for proper disposal.

The proposed work will be helicopter-supported and require the occasional landing of the aircraft. To mitigate any potential impact on wildlife, the helicopter will always maintain a minimum altitude of 610 m (2,100 ft) above ground level except during landing, take-off or if there is a specific requirement for low level flying (e.g. airborne surveys). Wildlife will be avoided, and the helicopter will not land in the presence of wildlife except in an emergency.

All empty fuel drums will be brought back to Qamani'tuaq (Baker Lake) for disposal.

Activities on the Property are currently authorized by Crown-Indigenous Relations and Northern Affairs Canada ("CIRNAC") Land Use Permit ("LUP") N2024C0019 and Nunavut Water Board ("NWB") water use without license 2WLC-NUT2425. The current approved water usage authorized under the water use without license 2WLC-NUT2425 is 49m³/day for camp use. Greenridge is currently applying to amend water license 2WLC-NUT2425 to increase water usage to 299 m³/day (10m³/day for camp and 289 m³/day for drilling) to allow for the increase in camp size and proposed drilling program. Further, Greenridge will apply for a Class A Land Use License with CIRNAC to account for more than 400 man-days to be spent within the temporary work camp.

Absolutely no activities will be conducted that will interfere with caribou cows and calves, and no exploration activities will cause a diversion in the migration patterns of any caribou. Greenridge will communicate with all interested parties regarding caribou sightings and appraised movements in the area.

Notifications will be sent to the Hamlet and the Hunters and Trappers Organization, and in the event that further consultation is required, Greenridge will ensure that best efforts are made to engage with the community and organizations as advised by regulatory agencies.

1.2 Greenridge Exploration Environmental Statement

Greenridge Exploration's environmental statement is aimed at fully complying with existing laws and regulations to safeguard the environment. We plan to actively collaborate with other groups dedicated to environmental preservation and ensure that our employees, contractors, government entities, and the public are well-informed about our environmental protection procedures. The following are some objectives at the Nut Lake Property:

1. Develop the project in a socially and environmentally responsible manner.
2. Ensure full compliance with all relevant environmental legislation and regulations.
3. Collaborate with federal, territorial, and local governments, along with other pertinent regulatory bodies and the public, to address environmental concerns and policies.
4. Identify and mitigate potential environmental impacts while minimizing risks to the health and safety of all personnel and the public.
5. Implement an emergency response plan to mitigate the effects of unexpected incidents.
6. Offer continuous training on the Nut Lake Property's environmental policies, spill prevention, and response plans to all employees and contractors.
7. Enforce adherence to Nut Lake Property's environmental policies and procedures by contractors.
8. Maintain transparency by keeping employees, contractors, inspectors, government agencies, and regulatory bodies informed of any site changes or project activities.
9. Establish clear responsibilities and reporting protocols for spill incidents with the use of the Nut Lake Property SCFMP.
10. Offer site-specific details about facility infrastructure and emergency procedures.
11. Ensure easy access to emergency information for cleanup teams, management, and governmental bodies.
12. Encourage the safe management and utilization of potentially dangerous and radioactive substances.
13. Encourage efficient and secure recovery of spilled hazardous materials.
14. Minimize environmental harm caused by spills on both water and land.
15. Adhere to federal and territorial regulations and guidelines concerning the development of a Spill Prevention and Response Plan, as well as notification obligations in the event of a spill.

2 Regulatory Sources and Guidelines

Information contained in this document is compiled from several sources such as:

- General Nuclear Safety and Control Regulations
- IAEA Safety Standards - Regulations for Safe Transport of Radioactive Material
- Nuclear Safety and Control Act
- Nuclear Substances and Radiation Devices Regulations
- Packing and Transport of Nuclear Substances Regulations
- Radiation Protection Regulations
- PDAC 13.0 Guidelines for Radiation Protection during Exploration for Uranium
- Uranium in Nunavut Review

3 Radiation Overview

During mineral exploration, radiation originates from naturally occurring radioactive material (NORM), primarily uranium, thorium (which emits radon gas), and potassium. Radiation exists as ionizing and non-ionizing types, with ionizing radiation capable of removing electrons and posing health risks. While humans encounter radiation from both natural (soil, rocks, sun) and artificial sources (x-rays, smoke detectors), the aim is to minimize ionizing radiation exposure as much as possible.

There are three types of radiation in relation to NORM:

- **Alpha Particles:** Heavy, charged particles (helium nuclei) that can be easily stopped by materials like paper. They pose a health risk if inhaled or ingested.
- **Beta Particles:** Lighter charged particles (electrons or positrons) with moderate penetration. They can be blocked by clothing or plastic but may penetrate the skin. Like alpha particles, they pose the greatest risk if inhaled or ingested.
- **Gamma Rays:** High-energy electromagnetic radiation with strong penetrating power. They can pass through the human body or be absorbed by tissue, posing a whole-body radiation hazard. Dense materials like concrete or lead provide effective shielding.

4 Radiation in Uranium Exploration

The potential sources of mineralized material encountered during uranium exploration include:

- Naturally occurring mineralized outcrops or boulder fields
- Drill core
- Drill cuttings

Radiation exposure from these sources may occur through:

- Gamma radiation emitted from uranium mineralization
- Inhalation of radon (and the resulting radon progeny decay products) from drill core and drill cuttings
- Inhalation of radioactive dust
- Ingestion of radioactive dust

The level of exposure when handling mineralized material depends on:

- The grade of the mineralization
- The amount of time spent near the mineralization
- The proximity to the mineralization

- The amount or volume of mineralized material

The radiation exposure from naturally occurring mineralized outcrops is quite small therefore exploration crews are classified as “incidentally exposed workers” and are regulated provincially and territorially. The “Canadian Guidelines for the Management of Naturally Occurring Radioactive Materials (NORM)” by Health Canada documents radiation protection requirements for incidentally exposed workers.

5 Radiation Safety

5.1 Radiation Protection Basics

During uranium exploration, the main radiation risk comes from uranium mineralization in outcrops, drill core, and drill cuttings. To protect against this, follow the principles of **Time, Distance, and Shielding**:

- spend minimal time near radioactive material,
- increase distance from it, and
- use thick barriers like steel or concrete.

Avoid lingering near uranium deposits and keep them at least 30 meters away from work areas. When working near uranium, stay at least 2 meters away, complete tasks quickly, then move back. Minimize time and always maintain distance from radioactive material.

5.2 Radiation Protection Controls

Uranium exploration and drilling involve different grades of uranium ore with varying radiological hazards. A defined radiation level triggers Radiation Protection (RP) controls, implementing the guidelines below. If ore levels remain below this threshold, standard health and safety practices apply.

The RP level is based on Federal and Provincial guidelines for uranium exploration and radiological safety. Areas with exposure rates below **1 $\mu\text{Sv/h}$** do not require controls. However, exposure rates exceeding **1 $\mu\text{Sv/h}$** (equivalent to **1000 cps at one meter** on an exploration scintillometer) trigger Radiation Protection (RP) controls.

5.3 Radiation Protection Guidelines

The key consideration when dealing with Naturally Occurring Radioactive Materials (NORM) is personal hygiene. Wear Personal Protective Equipment (PPE), limit handling time, and increase distance from radioactive materials. Radioactive particles can spread from contamination zones to a worker's clothing or skin, so avoid wearing work clothes outside work areas. Wash hands regularly to prevent contamination.

The following are general mandatory guidelines on site:

- Minimize time handling radioactive material.
- Maximize distance from radioactive material.
- Wash hands regularly and especially after handling rock and before eating or smoking.
- Avoid wearing work clothes in non-work settings such as the kitchen tent, sleep tent, common areas, etc.
- Use gloves (e.g., cotton gloves) and safety glasses when handling soil, till, rock, or taking chip samples.
- Wash hands, hair daily, and clothes regularly.
- Do not lick any rock.
- Bandage open wounds.
- Avoid eating, drinking, or smoking in areas such as core shacks, splitting shacks, the dry, on any drill platform, or any other location with elevated radiation levels.
- Reduce dust by wetting the area or outcrop with water regularly.

- Check field clothes periodically with a scintillometer; rinse clothes on-site if readings exceed 100 CPS and continue rinsing until readings fall below the acceptable level.
- Keep radioactive materials stored at least 30 meters away from areas where people frequently work or gather, such as the drill shack and the core logging tent.
- Any spillage or accumulation of mineralized materials must be cleaned up immediately.

5.1 Mapping, Prospecting, and Geophysics

Exposure to uranium mineralization is expected to be minimal during geological field mapping, prospecting, and geophysical surveys. Therefore, no additional radiation-related precautions are necessary during these activities.

5.2 Drilling

Before constructing a drill setup, orientation tests will be conducted to determine the natural background radiation levels at the site. Once drilling begins, drillers will be informed about where to expect mineralization, how to identify it, and ways to minimize contact with the drill core and cuttings. Mineralized core should be stored 30 meters from the drill shack before being transported to the core logging tent, and a radiation placard must be posted at the storage area.

When uranium mineralization is found in a drill hole, drill mud solids or cuttings with a uranium concentration greater than 0.05% U_3O_8 will be either pumped back down the hole or collected in appropriate containers for short-term storage. Sealed drums containing drill cuttings will be temporarily stored on a flat, dry outcropping at least 100 meters from the high-water mark of any waterbody. The exact location will be determined later, and the radioactive waste storage location must be approved by NWB and CIRNAC before the drums are stored on-site. All drill waste drums will be removed for disposal at an accredited facility at the end of the field season.

Any drill hole with uranium content exceeding 1.0% U_3O_8 over a length greater than 1.0 meter and a meter-per-cent concentration above 5.0 will be sealed by grouting the entire length of the mineralization zone and at least 10 meters above and below it. The top 30 meters of the hole within bedrock will also be sealed with grout upon completion of drilling.

A suitable natural depression will be used as a sump for the disposal of benign cuttings, sludge, and non-recirculated return water during drilling. This sump must be located at least 31 meters from the ordinary high-water mark of any adjacent water body to prevent direct flow into it and avoid additional impacts. After drilling is completed, the sump will be restored to the pre-existing natural contour of the land. Reclaimed drill sites will be inspected and tested for radiation.

For handling mineralized cuttings, refer to Greenridge's WMP (Waste Management Plan). For details on drill hole grouting requirements, consult Greenridge's ARP (Abandonment and Restoration Plan).

5.3 Core Logging

The following are mandatory guidelines while handling and logging rocks:

- Radioactive core may be temporarily stored on the property in core stacks while awaiting transport from the drill.
- Boxes containing the radioactive core will be secured with a wooden or Plexiglass lid.
- The radioactive core will not be transported unless it is properly secured with a lid.
- All employees working with radioactive rocks or drill core must wear TLD badges, which are mandatory at drill rigs and in core tents.
- Workers should be aware of their surroundings when handling radioactive materials. Safety glasses, work gloves, and coveralls must be worn, and ½ face respirators are required when working with radioactive dust. Respirators should be stored in a clean plastic bag and removed from the work site when not in use. Gloves

and coveralls should be laundered and/or replaced regularly, and these items, along with other exposed outerwear PPE, should not be worn in the kitchen area.

- Workers must wash their hands thoroughly with soap and water after handling radioactive materials. Eating, drinking, or smoking while working with or near radioactive materials is prohibited.
- Ensure that all workstations exposed to radioactive materials have proper ventilation to maintain constant air turnover. Ventilation fans should be installed in the core tent, and both ventilation and extractor fans should be present at the core splitting station.
- Store radioactive core at least 30 meters away from the drill shack and core logging tent. Designate storage areas and the logging/splitting shacks as radioactive zones.
- Radioactive core must be logged in and out of the core logging tent, with the date, time, and gamma level recorded at 1-meter intervals. A radiation warning sign must be placed on the core shack door when radioactive core is present.
- Do not move or store radioactive core unless it is in core boxes secured with wooden or Plexiglass lids. Avoid loitering near mineralized drill core and mineralized drill cuttings.
- Do not wear work clothes in the kitchen, common areas, or sleep tents. Drillers, helpers, and others involved in drilling or handling radioactive drill core must change out of contaminated clothes and leave them at the drill site to prevent contamination of the helicopter.
- Follow all regulations and procedures regarding the shipment of radioactive materials.
- For spilled drill core, return it to the box and ensure that no remnants are left behind.
- For mineralized cuttings, scoop them into a suitable container for proper disposal (refer to Greenridge's WMP for more details).

5.4 ALARA – As Low as Reasonably Achievable

Greenridge Exploration is committed to minimizing personal and environmental radiation exposures to levels that are As Low As Reasonably Achievable (ALARA), with economic and social factors considered. This is accomplished by the implementation of personal and area monitoring procedures and, where applicable, the use of personal protective equipment.

6 Training

All employees entering the Nut Lake Property will receive an orientation program, which includes comprehensive Radiation Protection Training. Weekly safety meetings will be conducted to review Radiation Protection and discuss Radiation Hazards. Additionally, daily toolbox sessions will serve as crucial reminders about Radiation Hazards in the workplace.

6.1 Worker Responsibilities

All employees and contractors active on the Property must:

- Attend all mandatory training, safety meetings, and briefings.
- Follow and understand the Radiation Protection Guidelines.
- Only engage in tasks that can be safely performed.
- Report any unsafe conditions to the supervisor or Project Manager.
- Wear a TLD (dosimeter) badge at all times.

7 Shipping, Transport, and Storage

Shipping of radioactive materials (Class 7) from the Project site is regulated by the CNSC Packaging and Transport of Nuclear Substances Regulations (PTNSR) and Transport Canada's Transportation of Dangerous Goods Act and Regulations.

The Project Manager, certified to the standards required by the Transport of Dangerous Goods Regulations, supervises the shipping of radioactive materials.

Regulations dictate that Low Specific Activity consignments will be shipped as Excepted Packages if external surface radiation does not exceed $5\mu\text{Sv/hr}$, with containers bearing the UN Number and "radioactive" marking on an internal surface visible upon opening.

Transportation of uranium mineralization and ores with an average specific activity over 70 kBq/kg must comply with the Packaging and Transport of Nuclear Substances Regulations.

7.1 On-site Transportation and Storage

Radioactive core may be temporarily stored on the property in core stacks while awaiting transport from the drill. Boxes containing radioactive core will be secured with a wooden or Plexiglass lid. Transport of radioactive core will only occur if it is properly secured with a lid.

Once the uranium content has been determined through assaying, a decision will be made regarding the long-term storage of the core. If stored on the property, it will be placed in the designated long-term core storage area for radioactive materials, which must be at least 100 meters away from the normal high-water mark of any water body. This storage area will also be situated at least 31 meters from other working structures. Radiation levels must be reduced to below $1.0\mu\text{Sv}$ when measured at 1 meter from the surface and must not exceed $2.5\mu\text{Sv}$ in any case. Core storage areas will be marked with signs indicating radioactive hazards.

7.2 Off-site Transportation and Shipping

7.2.1 Requirements for an Excepted Package

If radiation intensity is $< 5\mu\text{Sv/hr}$, the shipment may be classified as an "Excepted Package" under CNSC and TDG regulations. Routine transportation conditions apply, treating it as a non-dangerous good. Specific procedures for shipping an Excepted Package include:

- Placing a "Radioactive Samples" label inside the package, visible to the person opening it.
- Ensuring removable radioactive contamination on the exterior does not exceed 0.4 Bq/cm^2 averaged over 300 cm^2 .
- Attaching the UN Number "UN2910" to one vertical side of the container.
- Displaying both Consignor and Consignee addresses on the exterior.
- Showing the weight if it exceeds 50 kilograms.
- Including the shipping name and UN number on the waybill.
- Providing three copies of documentation for the shipper, carrier, and receiver.

7.2.2 Requirements for Shipping Low Specific Activity – (LSA-1) Packages

If the radiation dose rate on the package's exterior exceeds $5\mu\text{Sv/hr}$, it will be shipped as a Low Specific Activity (LSA-1) shipment. The following guidelines must be adhered to when shipping any Low Specific Activity Package:

- Display both Consignor and Consignee addresses on the package's exterior.
- Show the weight on the exterior if it exceeds 50 kilograms.
- Attach the Shipping Name (Radioactive Material, Low Specific Activity) and the UN Number "UN2912" to two vertical and opposite sides of the shipping container.
- Provide three copies of documentation, one each for the shipper, carrier, and receiver.
- An LSA-1 shipment necessitates a shipper's document identifying it as a Class 7 dangerous good.
- Affix Radioactive Yellow II labels adjacent to the shipping name and UN number labels. On these labels, indicate:
 - "LSA – 1" in the radioactive contents section.

- Estimate the activity in the package in Bq (in Bq units).
- The Transportation Index, calculated as the gamma radiation intensity in $\mu\text{Sv/hr}$ at a distance of 1 meter from the exterior of the package divided by 10.
- Ensure that the package for an LSA-I Shipment meets the IAEA Requirements for Type 1 Industrial Packages (Type IP-1), which include:
 - The smallest external dimension of the package cannot be less than 10 centimeters.
 - The container must be durable and legally marked on the outside as "Type IP-1."

7.2.3 Standard Units of Measure

The standard unit of measure of the activity (number of atoms decaying per second) is the becquerel (Bq). Since 1 Bq is a very small quantity, larger multiples are used as follows:

- $1\text{kBq} = \text{kilobecquerel} = 1000\text{ Bq} = 1 \times 10^3\text{ Bq}$
- $1\text{MBq} = \text{megabecquerel} = 1,000,000\text{ Bq} = 1 \times 10^6\text{ Bq}$
- $1\text{GBq} = \text{gigabecquerel} = 1,000,000,000\text{ Bq} = 1 \times 10^9\text{ Bq}$
- $1\text{TBq} = \text{terabecquerel} = 1,000,000,000,000\text{ Bq} = 1 \times 10^{12}\text{ Bq}$
-

Becquerels replace the curie (Ci) as the unit of measure of activity. The radiation dose-equivalent is expressed in units of sieverts (Sv). Smaller fractions are often used as follows:

- $1\text{ mSv} = \text{millisievert} = 0.001\text{ Sv} = 1 \times 10^{-3}\text{ Sv}$
- $1\text{ }\mu\text{Sv} = \text{microsievert} = 0.000001\text{ Sv} = 1 \times 10^{-6}\text{ Sv}$

The sievert replaces the older unit for dose-equivalent, the "rem".

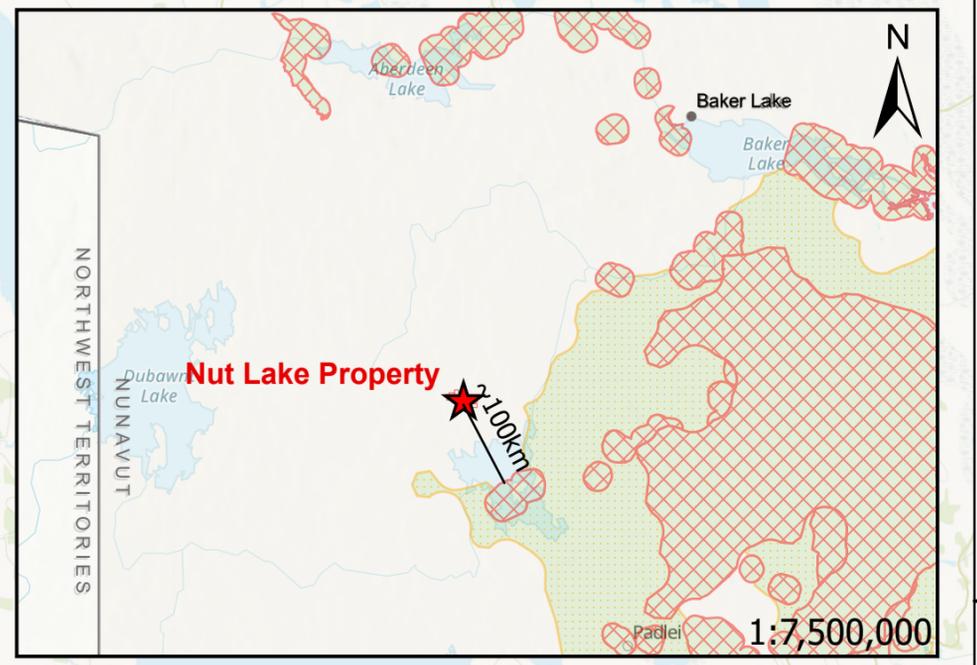
APPENDIX 1

FIGURES

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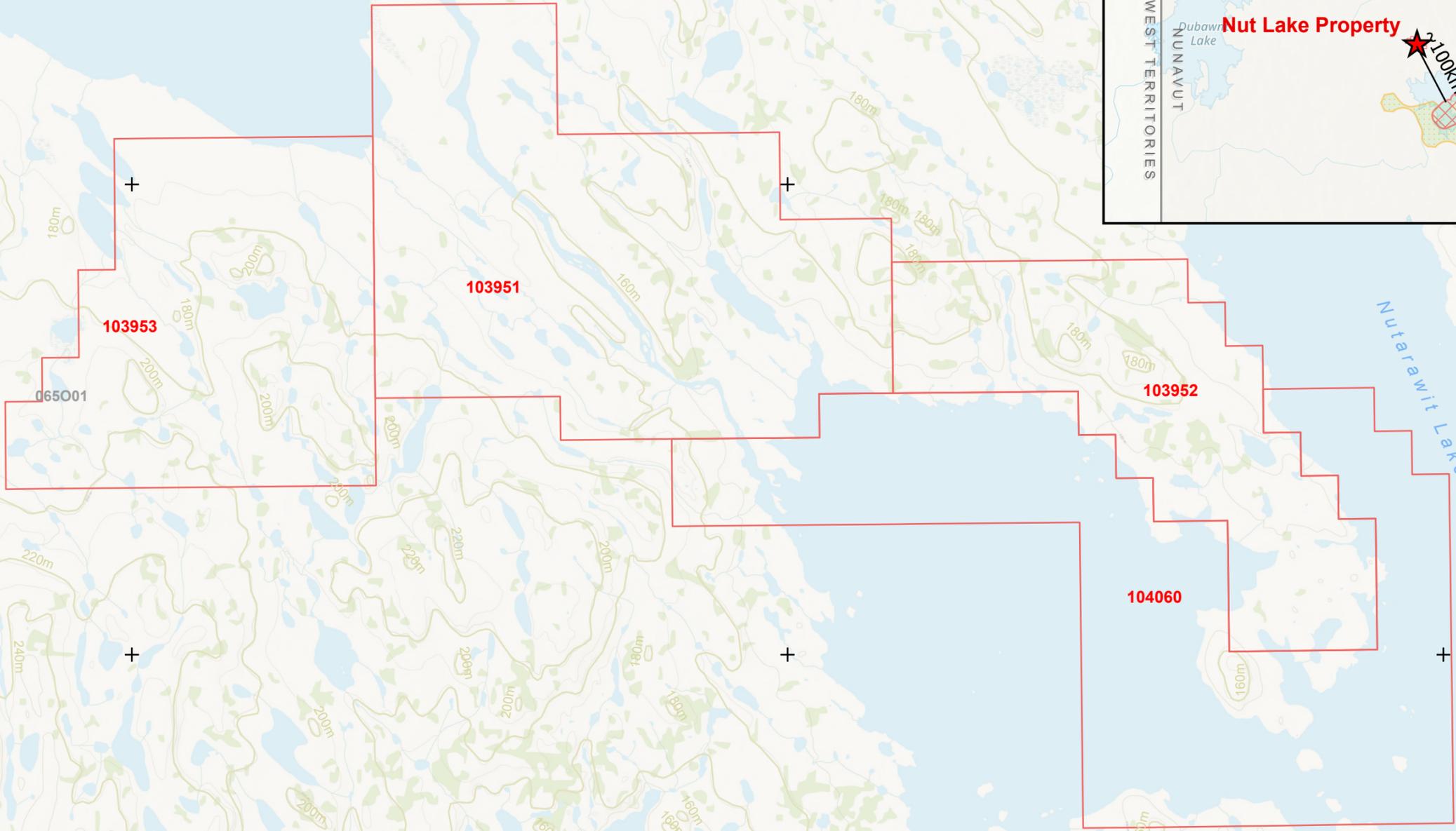


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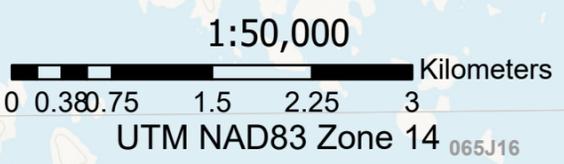
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Legend

- Topographic Contours (20m)
- 2023 Recommended Nunavut Land Use Plan**
- Conditional Use
- Limited Use
- all purpose
- conservation
- wildlife habitat
- 1:50,000 NTS Map Sheet
- Nut Lake Project



Nut Lake Property Location

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