



GREENRIDGE
EXPLORATION

RADIATION HAZARD CONTROL PLAN

Nut Lake Property, NU

Prepared for:

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Table of Contents

1	Introduction.....	1
1.1	Project Description	1
1.2	Greenridge Exploration Environmental Statement	2
2	Regulatory Sources and Guidelines	3
3	Radiation in Uranium Exploration.....	3
3.1	Potential Sources of Radiation Exposure for Explorations Crews.....	3
4	Radiation Safety.....	4
4.1	Radiation Protection Basics	4
4.2	Radiation Protection Guidelines	4
4.3	ALARA – As Low as Reasonably Achievable.....	5
5	Training.....	5
5.1	Worker Responsibilities	5
6	Shipping and Transport.....	5
6.1	Requirements for an Excepted Package	5
6.2	Requirements for Shipping Low Specific Activity – (LSA-1) Packages	6
6.3	Standard Units of Measure	6

Appendices

Appendix 1 : Figures

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 May 2024, pending approval from all relevant regulatory bodies and will be replaced if there are any significant changes to the activities outlines 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 three contiguous mineral claims covering approximately 4,036 hectares (~40km²) located on National Topographic System (“NTS”) map sheet 065O01 and centered at 533,130mE, 6993205mN North American Datum 1983 (“NAD83”) Universal Transverse Mercator (“UTM”) Zone 14N. Greenridge Exploration 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). See Appendix 1 for Property Location Map.

Greenridge is proposing a 2024 field program for the Property that is anticipated to commence on July 25, and finish on or around August 26. The 2024 exploration program will include the establishment of a seasonal eight-person camp with fuel cache to be constructed around the northeast portion of the property near an unnamed lake (potential camp 1: 529783mE, 6996000mN; potential camp 2: 529021mE, 6995340mN). Structures for the proposed camp will include 3 sleeper tents, 1 kitchen tent, 1 dry tent (with showers), 1 office tent, generator shack, and outhouses/pacto system. Most of the structures will be 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, and 1 camp manager. Total amount of time spent on site will amount to approximately 208 man-days.

All waste will be brought back to Qamani’tuaq (Baker Lake) for disposal.

The proposed field program will consist of general exploration activities such as prospecting, geological mapping, geochemical sampling (rock, soil, and till), drone photogrammetry and/or airborne geophysical survey.

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).

Greenridge is awaiting NPC determination to determine if a Nunavut Impact Review Board ("NIRB") Screening will be required. The Company is also currently applying for a Land Use Permit ("LUP") from Crown-Indigenous Relations and Northern Affairs Canada ("CIRNAC") and a Nunavut Water Board ("NWB") water license to authorize the proposed seasonal 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 in Uranium Exploration

The proposed 2024 field program for the Nut Lake Property consists of geochemical sampling of rock found in outcrops that will contain uranium mineralization. The rock samples will be handled and transported by geologists throughout the whole duration of the program.

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.

3.1 Potential Sources of Radiation Exposure for Explorations Crews

Exploration crews working with uranium face radiation exposure from various sources including gamma radiation emitted by uranium mineralization, inhalation of radon and its decay products from mineralized rocks, inhalation, and ingestion of radioactive dust. The primary source of exposure is external gamma radiation, which depends on factors like mineralization grade, time spent near mineralized rocks, number of mineralized rocks present, and distance from workers. However, exposure from inhaling or ingesting radioactive dust is not a concern as work areas are well-ventilated out in the field. Workers should wash their hands after handling radioactive materials and before eating or smoking.

4 Radiation Safety

4.1 Radiation Protection Basics

During uranium exploration, the main radiation risk comes from uranium mineralization. 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.

4.2 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 mandatory safety measures when the work environment has the potential to contain radioactive materials:

- Minimize time handling radioactive material
- Maximize distance from radioactive material
- Wash hands regularly
- Wear personal protective equipment
- Avoid wearing work clothes in non-work settings
- 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
- Wash hands after handling rock and before eating or smoking
- Avoid eating, drinking, or smoking in areas 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
- Control the spread of contamination by following field protocols
- Wear thermoluminescent radiation dosimeters (TLDs) at all times

4.3 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.

5 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.

5.1 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.

6 Shipping and Transport

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 5µSv/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.

The proposed 2024 field program for the Nut Lake Property consists of geochemical sampling of rock found in outcrops that will contain uranium mineralization. The plan is to transport the rock samples with the geologists to Baker Lake at the end of the program, from where they will be shipped.

6.1 Requirements for an Excepted Package

If radiation intensity is < 5 µSv/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/cm² averaged over 300 cm².
- 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.

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

If the radiation dose rate on the package's exterior exceeds 5 µSv/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 µSv/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."

6.3 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:

- 1kBq = kilobecquerel = 1000 Bq = 1×10^3 Bq
- 1MBq = megabecquerel = 1,000,000 Bq = 1×10^6 Bq
- 1GBq = gigabecquerel = 1,000,000,000 Bq = 1×10^9 Bq
- 1TBq = terabecquerel = 1,000,000,000,000 Bq = 1×10^{12} 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 mSv = millisievert = 0.001 Sv = 1×10^{-3} Sv
- 1 μ Sv = microsievert = 0.000001 Sv = 1×10^{-6} Sv

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

APPENDIX 1
FIGURES

