

# **Cleanup of Abandoned Uranium Sites in Northern Saskatchewan**

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Environmental Remediation  
Saskatchewan Research Council



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# SRC Overview

*SRC is Canada's second largest research and technology organization and has worked with industry, government and communities around the world for 75 years*

## **Role as a Treasury Board Crown Corporation**

SRC is governed by The Research Council Act. It is overseen by an independent Board of Directors and is accountable to the Minister Responsible for SRC

We receive a portion of our funding from government with the remainder coming from contract research and fee-for-service work



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# Project CLEANS

## Cleanup of Abandoned Northern Sites

- Started in 2007
- Managed by SRC Environmental Remediation
- Funded by:

Province of Saskatchewan  
Ministry of Energy &  
Resources

Government of Canada  
Natural Resources Canada

### 37 abandoned uranium sites from the 1950-60s:

- ✓ Gunnar Mine and Mill Site
- ✓ Lorado Mill Site
- ✓ 35 smaller mine sites (i.e., Satellite Sites)



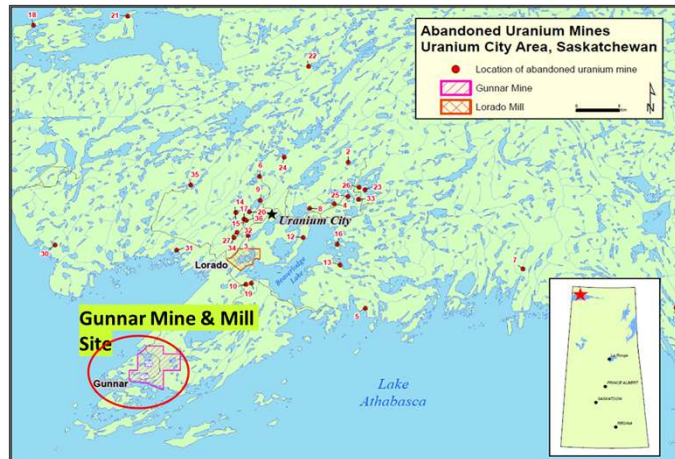
### CLEANS logo:

The concept was suggested  
by a school student from  
Uranium City

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# CLEANS Sites



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The project includes 37 sites with the total area of ~130 km<sup>2</sup>: Gunnar Uranium Mine and Mill Site; Lorado Uranium Mill Site; and 35 legacy uranium mine sites. Gunnar Mine and Mill Site was the largest mine which started in 1953 and ceased in 1964. It is located approximately 25 km South of Uranium City, on the shore of Lake Athabasca (Crackingstone Peninsula)

# Environmental Hazards

- Ambient radiation
- Radioactive dust
- Petroleum Hydrocarbons (PHC), metals and acid drainage in:
  - Soil
  - Surface water
  - Ground water
- Asbestos-containing materials
- Physical hazards:
  - Remaining infrastructure
  - Mine headframe/openings
  - Waste rock piles
  - Mining and mill debris

Example: Gunnar Mine and Mill Site



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# Project Objectives

1. Endpoint: allow for safe travel and traditional land use
2. Reduce physical safety risks
3. Reduce environmental risks to the nearby receiving environment
4. Reduce radiation risks and adhere to the ALARA principal
5. Adheres to federal and provincial regulations
6. Cost effective and efficient project management
7. Increase in local sustainable development



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# Addressing Applicable Biodiversity Targets

As per [Kunming-Montreal Global Biodiversity Framework](#)

**Target 2:** ensure that at least 30 per cent of degraded areas of terrestrial, inland water and marine and coastal ecosystems are under effective restoration by 2030

- Total lease area of Project CLEANS sites is over 132 square kilometres

**Target 6:** eliminate, minimize, reduce and/or mitigate the impacts of invasive alien species on biodiversity

- Invasive and alien species are a part of routine monitoring
- Only natural plant species are used for site revegetation



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# Addressing Applicable Biodiversity Targets

As per [Kunming-Montreal Global Biodiversity Framework](#)

**Target 7:** reduce pollution risks and the negative impact of pollution from all sources to levels that are not harmful to biodiversity and ecosystem function by 2030

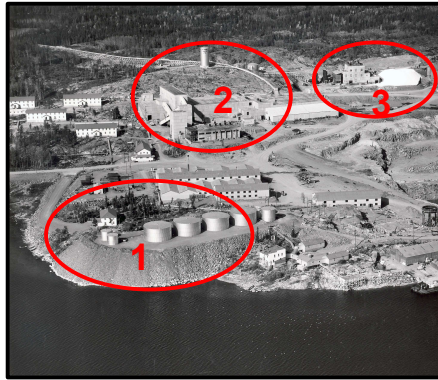
- **Sites will be cleaned up from legacy and hazardous materials**
- **Contaminant released from the sites to air and water will be minimized**

**Target 11:** restore, maintain and enhance nature's contributions to people, including ecosystem functions and services

- **Ensure safe and sustainable environments for traditional land use**
- **Climate change trends are taken into consideration at the design stage**



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**Gunnar Mine and Mill  
Townsite (1955)**



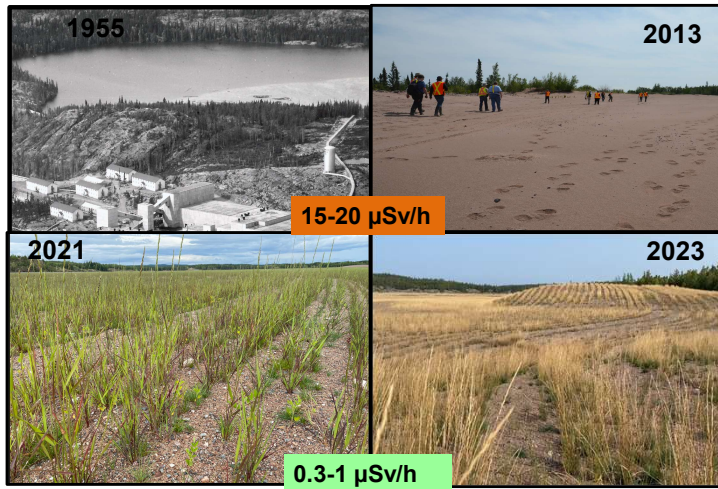
**Gunnar Mine and Mill  
Townsite (Oct. 2022)**



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## Covering and Revegetating Gunnar Tailings



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# Questions?



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