



Ms. Dawn Keim  
Acting Senior Manager  
Contaminants and Remediation Directorate  
P.O. Box 1500  
4923 52<sup>nd</sup> Street  
Yellowknife, NT  
X1A 2R3

June 20, 2025

CIRNAC-CARD Rayrock Remediation Project

**RE: Land Use Permit W2020X005, Water License W2020L8-0003 – Rayrock Remediation Project**

Dear Ms. Keim,

An inspection of CIRNAC-CARD Rayrock Remediation Project was completed by Resource Management Officer Erika Nissen and Environmental Specialist Megan Larose on May 26th, 2025. The inspection was conducted to ensure compliance with the terms and conditions of the land use permit, water licence, quarry permit, and approved management plans during the start of the summer construction season at Rayrock and Sunmain Mine sites.

The attached inspection report contains details and photos that were taken during the inspection.

If you have any questions or concerns, please contact me at (867) 669-2442.

Thank you,

Erika Nissen  
Resource Management Officer (Inspector)  
Resource and Land Management  
Crown-Indigenous Relations and Northern Affairs Canada

cc. WLWB – via email  
CIRNAC Resource and Land Management – via email  
CIRNAC CARD – via email



INSPECTION DATE – May 26, 2025

ENVIRONMENTAL INSPECTION REPORT (W2020X0005 & W2020L8-0003)

Permittee:	CIRNAC- CARD Rayrock	November 17 <sup>th</sup> , 2026	March 12, 2025
		Permit Expiry Date	Last Previous Inspection
Land Use Permit No.	W2020X0005		
Quarrying Permit No.	2023QP0001		
Water Licence No.	W2020L8-0003		
Contractor:	Sanexen Environmental Services		

Location(s) Inspected:	Rayrock Camp, Facilities, Fuel Storage, Confined Disposal Facility (CDF), tailings cap, and camp wastewater treatment and secondary containment structure. Sunmain fuel storage, equipment laydown, and camp.
------------------------	---

Current Stage of Operation:	CDF construction season and active remediation
-----------------------------	--

Program Modifications Approved:	None
---------------------------------	------

Condition of Operation “A” – Acceptable “U” – Unacceptable “N/A” – Not Applicable “N/I” – Not Inspected

	Operating Condition	Aspect Inspected				Condition Reference
		Camp/Activities				
A	Location and Area	A				
B	Time	A				
C	Type and Size of Equipment	A				
D	Methods & Techniques	A				
E	Type, Location, Capacity, and Operation of All Facilities	A				
F	Control or Prevention of Ponding of Water, Flooding, Erosion, Slides, and Subsidence of Land	A*				C33
G	Use, Storage, Handling, and Ultimate Disposal of Any Chemical or Toxic Material	A				
H	Wildlife and Fish Habitat	A				
I	Storage and Handling of Refuse and Sewage	A				
J	Historical / Archaeological Sites	A				
K	Objects and Places of Recreational, Scenic, and Ecological Value	N/A				
L	Security Deposit	N/A				
M	Fuel Storage	A*				C64, C75
N	Methods and Techniques for Debris and Brush Disposal	A				
O	Restoration of Lands	A				
P	Display of Permits and Permit Numbers	A				
Q	Biological and Physical Protection of the Land	A				
R	Sections 8 to 12 / 14 to 16 M.V.L.U.R.	A				
S	Quarrying Methods	N/A				



ENVIRONMENTAL INSPECTION REPORT

(Continued)

Date:	May 26, 2025	Permit #:	W2020X0005; W2020L8-0003
-------	--------------	-----------	--------------------------

**Explanatory Remarks:**

An inspection of the CIRNAC-CARD Rayrock remediation project was conducted by Erika Nissen and Megan Larose on May 26, 2025. The purpose of the inspection was to evaluate compliance with the terms and conditions stipulated in the applicable land use permit, water license, quarry permit, and approved management plans. Additionally, the inspectors visited site to assess the progress of the start of the 2025 construction season at Rayrock and Sunmain camps.

Rayrock camp was in operation during the inspection, with work concentrated on adding cover material to areas of previously capped tailings. While doing this work, some areas of uncapped tailings that were not remediated to standard during previous remediation work were discovered. Vegetation clearing and radiation sweeps were occurring in an area adjacent Beta Lake during the inspection (Photo #1, Photo #2). The Inspector reminded on-site staff that nest sweeps for breeding birds are to be conducted in any areas of additional vegetation removal required for the tailings cover work to minimize disturbance to wildlife per permit condition 26(1)(q) 87.

The camp accommodations have moved back to the summer trailer setup, with the winter camp trailers moved via winter road network to Sunmain to support a small satellite crew. Boards were placed over the grey water sumps used during the winter camp period to mark them and prevent wildlife interaction (Photo #3).

Camp wastewater operations were active and effectively treating water during the inspection. A new camp wastewater treatment system was brought to site during the winter road season. Compliant, treated water was being directed to the drainage field (Photo #4, Photo #5). The wastewater containment structure contains free water from snow melt, as well as the two bladder tanks which remain intact (Photo #6). The bladder tanks contain non-compliant wastewater from last season that will be gradually treated to meet license criteria for camp wastewater, and drained throughout the summer season (Photo #7). New tears were observed in the liner of the secondary containment structure that require repair, along with the tears noted in the fall prior to camp shut down. The Inspectors would like a plan and schedule for addressing these tears as per the Secondary Containment Structure Construction, Maintenance and Decommissioning Plan. Bear activity on site has been high this spring, with a curious bear interested in one of the pumps related to the wastewater treatment facility. To prevent pump roughhousing, the cover on one of the pump systems had been temporarily removed (Photo #8).

Assorted waste remain on site and was sorted, and compiled together. Metal (Photo #9), waste stored in white megabags (Photo #10), and wood products (Photo #11) were assimilated together, and when appropriate, contained in secondary containment (Photo #12). Secondary containment berms containing waste and fuel had melt water in them and should be pumped out to continue to function effectively as secondary containment measures (Photo #13). There was a noticeable fuel odor coming from one berm; as such, the water will require appropriate disposal and the stored materials inspected for potential leaks. Some minor tears were also observed that require repair.

Minor ground rutting was observed and coincided with wet, low-lying areas where water accumulated (Photo #14). Extra care should be taken to drive slowly and avoid if possible.

Fuel and refueling points were well managed, with effective drip trays placed under valves and nozzles (Photo #15). The machinery shop on site continues to be well organized and clean. Oils and greases were stored in secondary containment and a recycling bag for empty canisters noted (Photo #16).

The inspectors visited the confined disposal facility (CDF) construction site, where additional work will be completed this summer on dredging and treating water from Mill Lake, and further construction of the CDF structure. Water levels in Mill Lake remain low, making the use of the filled aqua-dam on site redundant (Photo #17). Silt fence were observed in place in many areas to reduce sediment and erosion during spring melt and precipitation events. A water truck was in use to manage dust on roadways. Minor corrective measures were requested to the silt fence at the site of the water withdrawal point on



site (Photo #18).

The Inspectors also visited Sunmain camp. Fuel on site was stored within a berm; however, the spill kit associated with the fuel cache was insufficiently small to effectively manage a spill and should be replaced or supplemented with a larger one (Photo #19). Machinery around site had drip trays effectively placed (Photo #20). Buildings at Sunmain were secure apart from one room (#3), where the door was open. Inspectors placed rocks outside of the door to keep it closed, but this should be secured at the earliest opportunity to prevent wildlife from entering camp facilities (Photo #21).

The Inspectors extend their gratitude to Marc Barrère and Devin Dupuis at Sanexen for implementing corrective actions following this inspection and for Sanexen's continued commitment to regulatory compliance during the construction season.

For any inquiries or concerns, please contact Erika Nissen at (867) 669-2442.

  
\_\_\_\_\_  
Inspectors Signature



**Photo #1: Overview of work being completed to add cover to a small tailings area.**



**Photo #2: A tailings cover area being prepared for remediation capping near Beta Lake.**



**Photo #3: Grey water sump from the winter camp with boards covering it to prevent wildlife interaction.**



**Photo #4: Part of the new camp wastewater treatment plant.**



**Photo #5: Portion of the camp wastewater discharge line that continues into the trees to a discharge field.**



**Photo #6: Overview of the wastewater containment structure, holding free water and two blue bladder tanks.**



**Photo #7: One of the blue bladder tanks on site within the wastewater containment structure. Water will need to be treated before being discharge this summer.**



**Photo #8: Water pump associated with the camp wastewater treatment plant. A curious bear has been removing the cover.**



**Photo #9: Metal waste continues to be stored on-site.**



**Photo #10: Mega-bags containing waste materials that will eventually be removed from site after remediation.**



**Photo #11: Consolidated wood debris. Some non-wood material was observed in the pile (tarp) that requires removal and appropriate handling.**



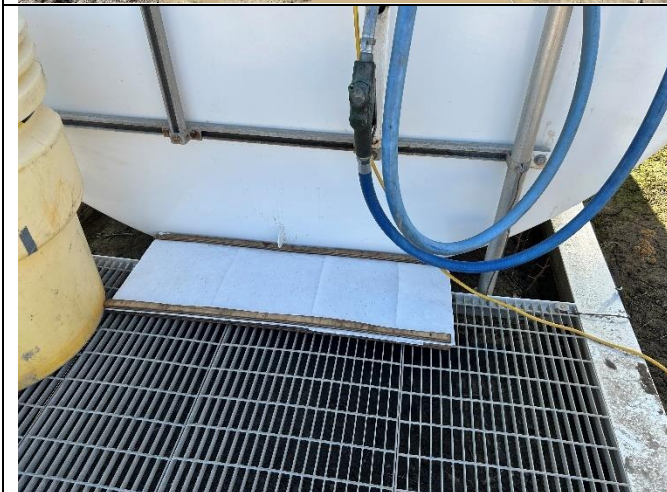
**Photo #12: Water in a secondary containment berm containing the megabag waste bags. This water will need to be drained and appropriately disposed to ensure the secondary containment can effectively function.**



**Photo #13:** Water in the secondary containment berms needs to be drained and appropriately disposed of for the berms to effectively function as secondary containment.



**Photo #14:** Minor rutting and standing water at a low-lying spot at camp.



**Photo #15:** A fresh drip-pad placed under the active fuel tank on site.



**Photo #16:** A well organized and clean mechanic shop.



**Photo #17: Aqua-dam and silt curtains adjacent to Mill Lake. Water levels are low, and these are not currently needed to hold back water from draining into Sherman Lake.**



**Photo #18: A silt fence near the water withdrawal point that requires repositioning.**



**Photo #19: Sunmain fuel cache and a small spill kit which is not sufficient for the size of the fuel cache.**



**Photo #20: A drip tray appropriately placed under heavy machinery at Sunmain.**



**Photo #21: Cabin #3's door before being closed at Sunmain.**



**Taiga Environmental Laboratory**  
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9  
Tel: (867)-767-9235 Fax: (867)-920-8740

**Taiga Batch No.:**  
**250617**

## **- FINAL REPORT -**

**Prepared For:** Indigenous and Northern Affairs Canada

**Address:** P.O. Box 1500  
4923 - 52nd Street  
Yellowknife, NT  
X1A 2R3

**Attn:** Erika Nissen

**Facsimile:**

**Final report has been reviewed and approved by:**

**Bradley Koswan**  
**Quality Assurance Officer**

### **NOTES:**

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to ISO/IEC 17025 as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
  - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
  - Environment Canada
  - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

**ReportDate:** Monday, June 9, 2025

**Print Date:** *Monday, June 9, 2025*

*Page 1 of 3*



Taiga Environmental Laboratory  
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9  
Tel: (867)-767-9235 Fax: (867)-920-8740

Taiga Batch No.:  
**250617**

**- CERTIFICATE OF ANALYSIS -**

Client Sample ID: **SNP 1663-11**

Taiga Sample ID: **001**

**Client Project:**

**Sample Type:** Wastewater

**Received Date:** 26-May-25

**Sampling Date:** 26-May-25

**Sampling Time:** 12:30

**Location:** Rayrock Remediation Project

**Report Status:** Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifier
<b><u>Inorganics - Nutrients</u></b>						
Biochemical Oxygen Demand	42	2	mg/L	27-May-25	TEL019	
<b><u>Inorganics - Physicals</u></b>						
Chlorine, Residual	0.04	0.01	mg/L	29-May-25	TEL049	
pH	8.09		pH units	27-May-25	TEL058	
Solids, Total Suspended	10	3	mg/L	27-May-25	TEL008	
<b><u>Microbiology</u></b>						
Coliforms, Fecal	< 1	1	CFU/100mL	26-May-25	TEL017	
<b><u>Subcontracted Organics</u></b>						
Mineral Oil and Grease	< 5.0	5	mg/L	31-May-25	BCMOE	

**ReportDate:** Monday, June 9, 2025

**Print Date:** *Monday, June 9, 2025*

*Page 2 of 3*



**Taiga Environmental Laboratory**  
4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9  
Tel: (867)-767-9235 Fax: (867)-920-8740

**Taiga Batch No.:**  
**250617**

---

**- CERTIFICATE OF ANALYSIS -**

---

**Client Sample ID: SNP 1663-11**

**Taiga Sample ID: 001**

---

**\* Taiga analytical methods are based on the following standard analytical methods**

SM - Standard Methods for the Examination of Water and Wastewater

EPA - United States Environmental Protection Agency

**ReportDate:** Monday, June 9, 2025

**Print Date:** *Monday, June 9, 2025*

*Page 3 of 3*