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# Structure Description and Construction Plan

## Waste Rock and Ore Storage

For MV2020L2-0002

June, 2021

## Executive Summary

The Structure Description and Construction Plan summarizes the non-engineered storage of waste rock and ore (non sensu stricto) on the Mon Gold Project area under MV2020L2-0002. An anticipated 2,400 m<sup>3</sup> of NAG waste is anticipated on an annual basis to be used for construction of mine roads and laydown areas. No PAG or AG waste rock is expected, but as a contingency these rocks could be placed on the NAG laydown areas. Gold-bearing quartz vein material will be temporarily held on the NAG waste laydown areas prior to processing.

All construction will be either on peat covered quaternary aggregate or on bedrock. The peat forms an excellent thermal barrier in summer and when saturated, becomes a thermosiphon in winter. Topography will be followed in all cases. The waste area including roads totals 18,500 m<sup>2</sup> of surface area which can hold all of the waste rock anticipated to a depth of 1 m. The ore stockpile extends over 800 m<sup>2</sup> on the waste pad and can contain 1 month of production for each m of elevation. Mine roads will be up to 1 km of rough trail for mine vehicles only. No other access is permitted nor possible. These are very small disturbances.

All drainage off of these piles will be monitored at the existing SNP stations, or additional ones to be proposed should obvious pooling of waters be observed.

## Contents

Executive Summary .....	2
1.0 Introduction.....	4
2.0 Facility Description .....	4
Location .....	4
Background of area .....	4
Specification .....	4
Operations.....	6
Engineering.....	6
Construction Schedule.....	6
Materials required .....	7
Potential Effects on the Receiving Environment.....	7
Monitoring of the Construction .....	7
Linkages to other Monitoring Programs.....	7
Evaluation of Monitoring .....	8
References .....	9
Appendixes .....	10

## 1.0 Introduction

This Structure Description and Construction plan describes how the rock is piled and pushed to a stable slope. The details into choosing where the rock is to be placed, and why this was selected is presented. The general setting of the pad and trail is presented, how the storage facility is acceptable for its design purposes, and how we will operate and maintain the storage facility. A brief explanation why it is not needed to have an engineer design storage facilities or mine trails is explained. The schedule for placing the waste rock and a list of materials needed for this hole is presented including the sources, quantities, physical and geochemical characteristics of these materials.

The potential effects on the receiving environment are described as well as measures to mitigate these impacts. The monitoring of the construction of the roads and storage facilities, explaining where and how frequently inspections will take place, explaining the rationale in determining this monitoring program as well as linkages to other monitoring programs is presented. A description of how the monitoring will be evaluated and what actions might occur as a result of this.

## 2.0 Facility Description

### Location

The roads and waste rock storage facilities on the property are shown on the attached Site Plan Map. The underlying contours prior to placement are shown.

### Background of area

The waste storage and roads are placed on bedrock or unconsolidated Quaternary sediments that are overlying Archean rocks of the Yellowknife Supergroup. The Quaternary sediments are composed of peat overlying minor boulders, gravels and sand on top of clays. This was exposed during construction of the historic tailings storage facility. Existing mine roads (trails) occur on the property.

### Specification

The roads and waste storage facilities have similar specifications. Constructing the roads and pads on relatively undisturbed peat has been used in Alaska and Norway with significant benefits in maintaining ground temperatures in patch permafrost terrains (Reckard et al., 1988). This is a current standard in Saskatchewan (Pers. com., Civil Projects Ltd.) Run of mine muck will be placed by scooptram or mine truck and then leveled by scooptram or bulldozer. Roadways will be 3m wide minimum and 4 m wide maximum. Roadway elevation will be 1 to 2 m with all trees and shrubs to be cut and placed flat on the site. Culverts are not needed for this site, but should be considered if ponding is noted.

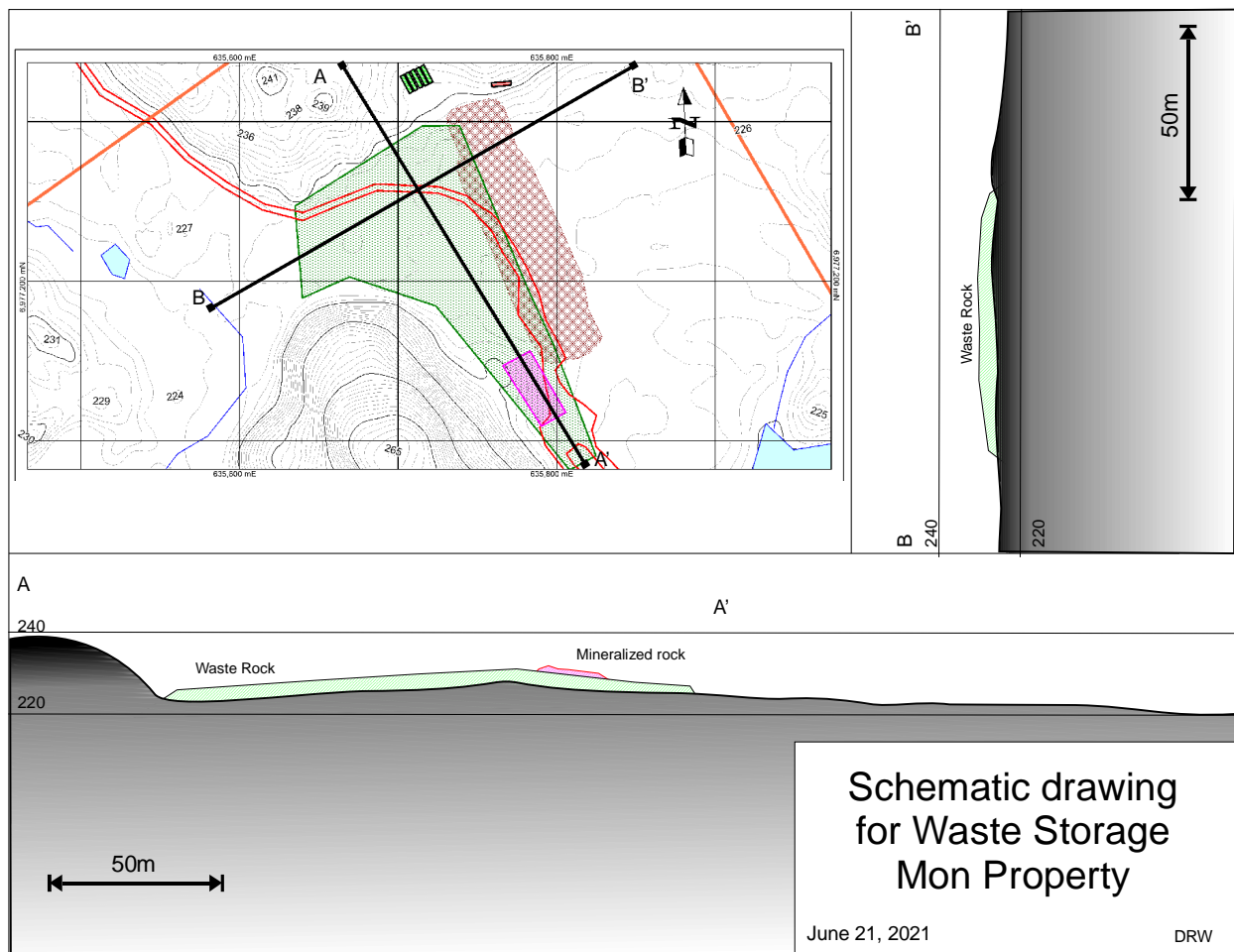


Figure 1. Schematic drawing for Waste Storage

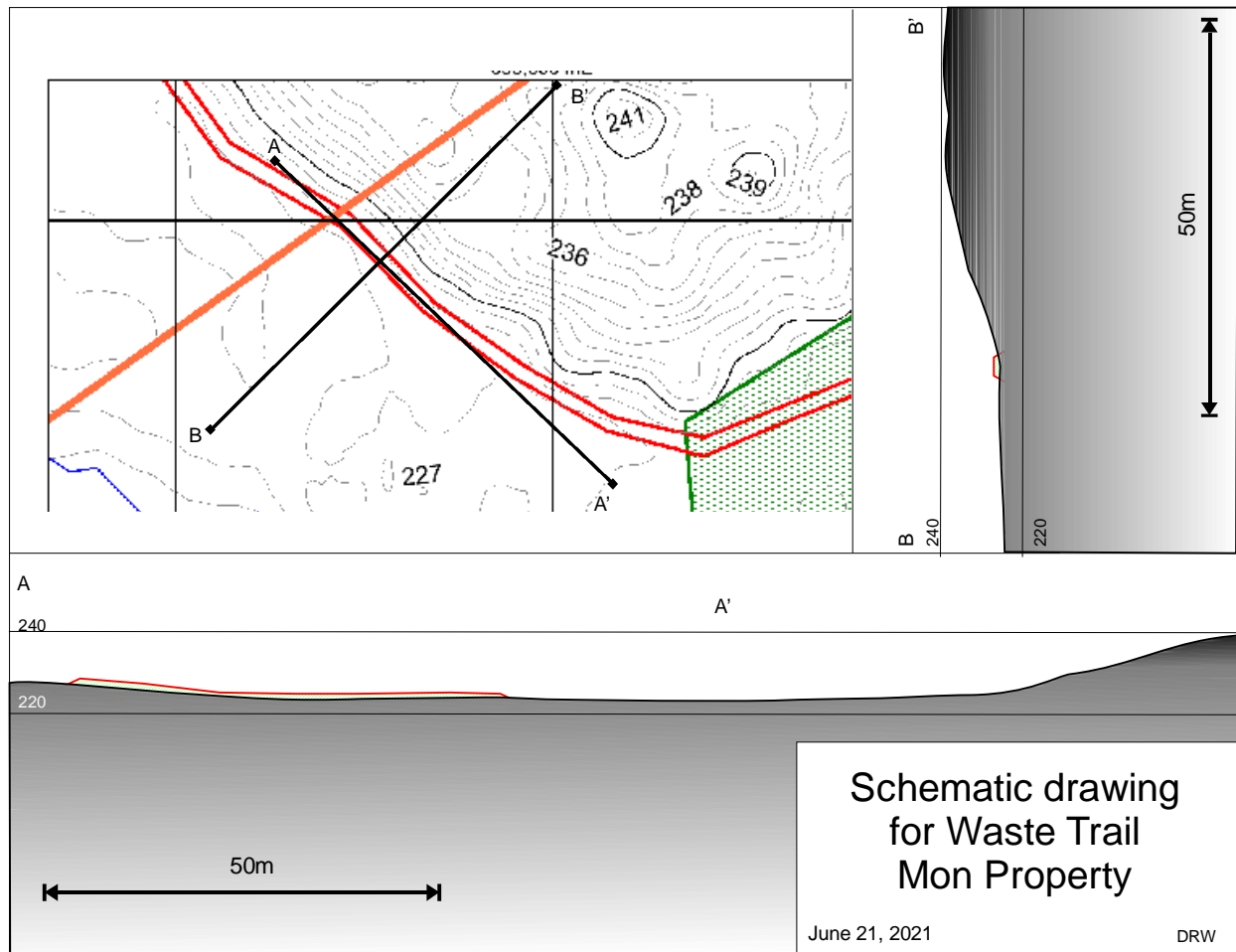


Figure 2. Schematic drawing for trail (roads).

## Operations

The road will be the highest priority and will be pushed laterally to the DST site. The waste pad will be expanded from the south to the north, with the existing Tailings Facility forming the eastern limit. A maximum elevation of 3 m above existing surface is planned, primarily in the southern portion of the laydown area.

## Engineering

It is believed that the roadway and waste storage facilities need not be designed by an engineer due to its small size, limited options, and minimal operations requirements. Failure may result in mass slumping or diversion/ponding of waters. The low height, coarse nature and innocuous chemical nature of the waste rock, its NAG characteristics, low sulphide, and very low SWEP-test results as well as the historic results from previous storage of these rocks at this site since 1937 suggest minimal potential impacts.

## Construction Schedule

Construction will commence once approved, and continue over the course of operations.

1. Trees and shrubs will be cut and laid flat.
2. Waste rock will be placed on the ground within the surface area shown on the appended Site Plan Map.
3. Surface contours of the road and waste stockpiles will be gentle to the sides, comparable to the underlying topography.

### Materials required

No materials will be needed as only run of mine rock will be deposited and graded.

### Potential Effects on the Receiving Environment

The waste rock has a direct foot print of 18,500 m<sup>2</sup>.

- The sides of the stockpiles may slump, as such it is recommended to monitor the slope of the sides of the waste piles.
- Drainage from these piles may be outside of the normal chemistries of waters and as such these should be monitored. It is recommended that SNP-09 and SNP-10 standards apply for any such samples with similar action plans.

### Monitoring of the Construction

The Mine Manager or his designate will monitor the excavation of waste rock and placement of this rock. Samples defined in the Waste Rock Management and Geochemical Characterization Plan will be implemented.

Records confirming:

- Source of the rock.
- What samples were collected, and what the results of any tests completed.
- Dimensions of monthly updates on:
  - The disturbed area
  - The roads and storage facility
- Number of inspections (frequencies)
- Any observations, recommendations and conclusions

### Linkages to other Monitoring Programs

This Structure and Design Plan is required under Schedule 3 of MV2020L2-0002 and affects the following plans:

- A. Groundwater and Water Monitoring Plan
- B. Waste Rock Monitoring and Geochemical Characterization Plan
- C. Waste Management Plan
- D. Spill Contingency Plan
- E. Explosives Management Plan
- F. Hydrocarbon-Stained Soil Operations and Management Plan

### Evaluation of Monitoring

The Construction of the waste and ore storage facilities, and road construction described in this Structure Description and Construction Plan, once approved will be conducted continuously. Monitoring of the road and storage facilities under this plan requires confirmation the mitigation measures are effective.

This will be reviewed monthly in reports from the Mine Manager to head office.



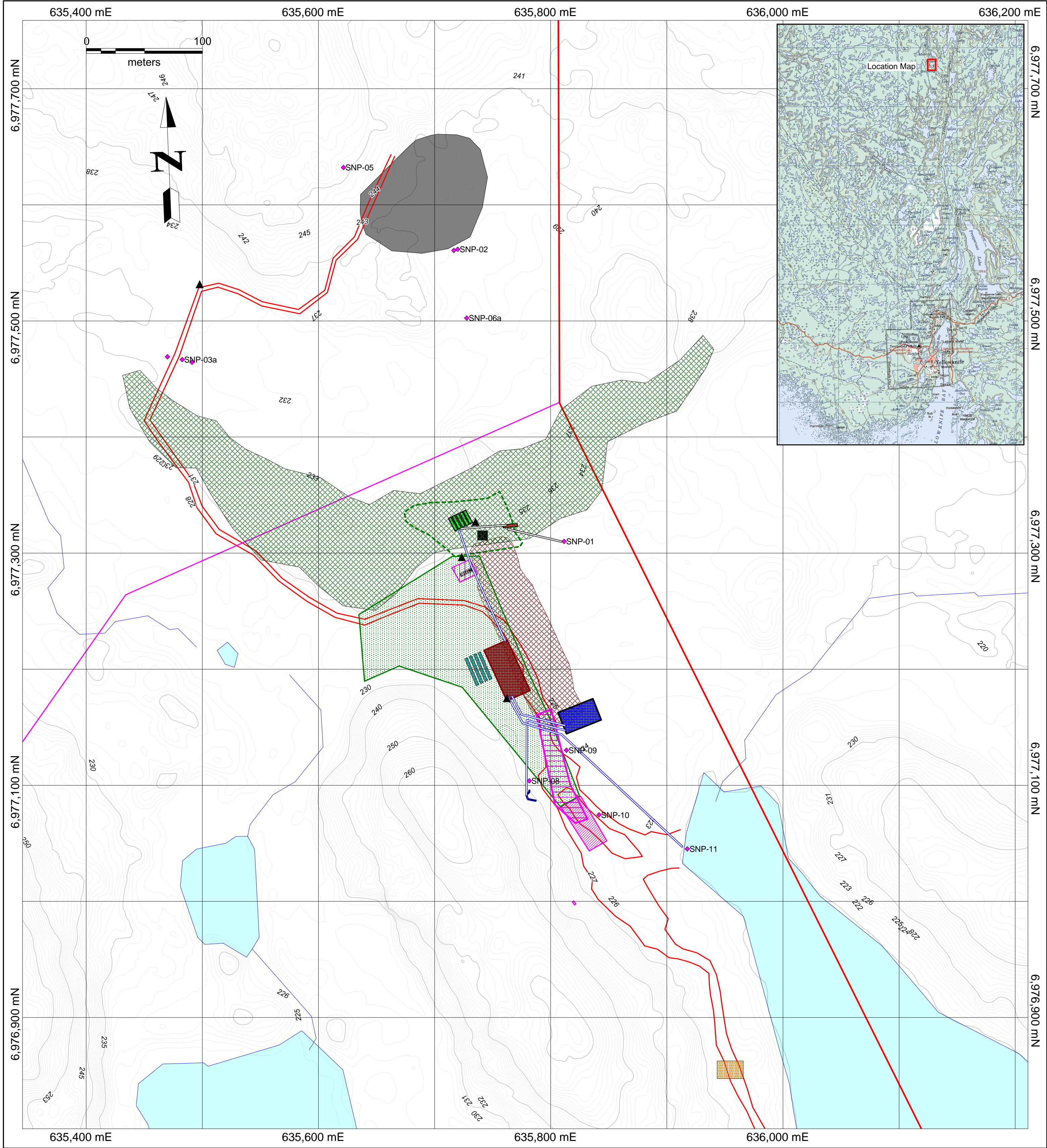
## References

Rekard, M., Esch, D., and McHattie, R., 1988. Peat used as Roadway Insulation over Permafrost.  
Results from Canyon Creek Site.

## Appendixes

Site Map





# Legend

	1 m Contours		Fuel_Storage		Ore_Storage		SpillKit
	10 m Contours		Shops		Gravel Quarry		Concentrate Storage
	Roads		75k Storage Tank		Esker_2		Shops
	WaterCourse		Bioreactor		CLTShaft		Mill_Site
	WaterBody		Camp Trailers		ANFO		Portal North Adit
	DST Storage		SNP_Stations		Waste Rock Storage		Underground, Ramp
	Hydrocarbon-Contaminated Soils		Historic Tailings				Water_Lines
	Mineral Claims						Sewage Lines
							Water_Tank

## Site Plan Waste Rock Storage

Date: June 2021	
Author: DRW	
Office: Vancouver, B.C.	
Scale: as shown	
Projection: UTM Nad 83, Zone 11	