



# **SOUTH KITIKMEOT GOLD PROJECT**

## ***CLOSURE & RECLAMATION PLAN***

**NOVEMBER 2022**

**VIRIDIS MINING & MINERALS**  
Level 50, 108 St Georges Terrace  
Perth, WA 6000

## SUMMARY

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This Plan describes what Viridis Mining & Minerals will do to close the South Kitikmeot Gold Project exploration site annually, in the event of a temporary closure, and at the end of the program.

## REVISION HISTORY

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| Revision # | Date     | Section | Summary of Changes | Author  | Approver  |
|------------|----------|---------|--------------------|---------|-----------|
| 1          | Oct 2022 | All     | New document       | S. Hamm | A. Pervez |

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## GLOSSARY & ACRONYMS

| Term                    | Meaning   |
|-------------------------|---|
| Aurora                  | Aurora Geosciences Ltd., the exploration program manager acting on behalf of the proponent  |
| Backhaul                | Transport off site back to Yellowknife  |
| Closure goal            | Guiding statement that provides the vision and purpose of reclamation, attained once all closure objectives are satisfied.  |
| Closure objectives      | What the closure activities are aiming to achieve, guided by the closure principles.  |
| Closure principles      | Guide the selection of closure objectives and include four core principles: physical stability; chemical stability; no long-term active care requirements; future use |
| Final closure           | Planned decommissioning of the entire Project at the end of the final season of site use  |
| Progressive Reclamation | Work undertaken concurrent with exploration activities to minimize closure cost and efforts   |
| Project                 | South Kitikmeot Gold Project and all of its components  |
| Seasonal closure        | Planned annual site closure   |
| Site                    | Work areas associated with South Kitikmeot Gold Project   |
| Sump                    | A person-made depression to temporarily contain liquids   |
| Temporary closure       | Either a planned or unplanned closure which may occur at any time and not considered to be final  |
| Viridis                 | Viridis Mining & Minerals, the proponent  |
| Winter Road             | Tibbitt To Contwoyto Winter Road  |

## I INTRODUCTION

Viridis Mining & Minerals (Viridis) of Perth, Australia, is a junior exploration company with 100% ownership of the South Kitikmeot Gold Project (the Project) in the Kitikmeot Region of Nunavut. The Project is comprised of series of seven different claim blocks occurring over an area of approximately 11,000 ha, known as Hiqiniq, Ujaraq, Gold Bug, Esker, Bling, Uist, and Qannituq claim blocks, as illustrated in Figure 1.

The purpose of the Project is to conduct exploration-related activities to re-evaluate previously identified historic gold targets and locate new gold targets.

The purpose of this *Closure and Reclamation Plan* (the Plan) is to outline what tasks occur to secure the Project work site(s) (the Site) upon seasonal and temporary closure, and to outline how the Site will undergo final closure. This Plan considers the guidance and requirements provided in the documents listed in Table 1, which may be updated from time to time.

Table 1. Related project documents and authorizations.

| Document  | Authority  |
|---|--|
| Mine Site Reclamation Policy for Nunavut (2002)   | Indigenous and Northern Affairs Canada                 |
| <i>Transportation of Dangerous Goods Act</i> (1992) and <i>Regulations</i> (2015)                           | Transport Canada                                       |
| <i>Canadian Environmental Protection Act</i> (1999)   | Environment and Climate Change Canada                  |
| <i>Interprovincial Movement of Hazardous Waste Regulations</i> (2002)                                       | Environment and Climate Change Canada                  |
| <i>Nunavut Water Nunavut Surface Rights Tribunal Act</i> (2002) and <i>Nunavut Water Regulations</i> (2013) | Indigenous and Northern Affairs Canada                 |
| <i>Territorial Lands Act</i> (1985) and <i>Land Use Regulations</i> (2016)                                  | Indigenous and Northern Affairs Canada                 |
| Screening Decision  | Nunavut Impact Review Board                            |
| Water Licence   | Nunavut Water Board                                    |
| Land Use Licence  | Kitikmeot Inuit Association                            |
| Land Use Permit   | Crown-Indigenous Relations and Northern Affairs Canada |



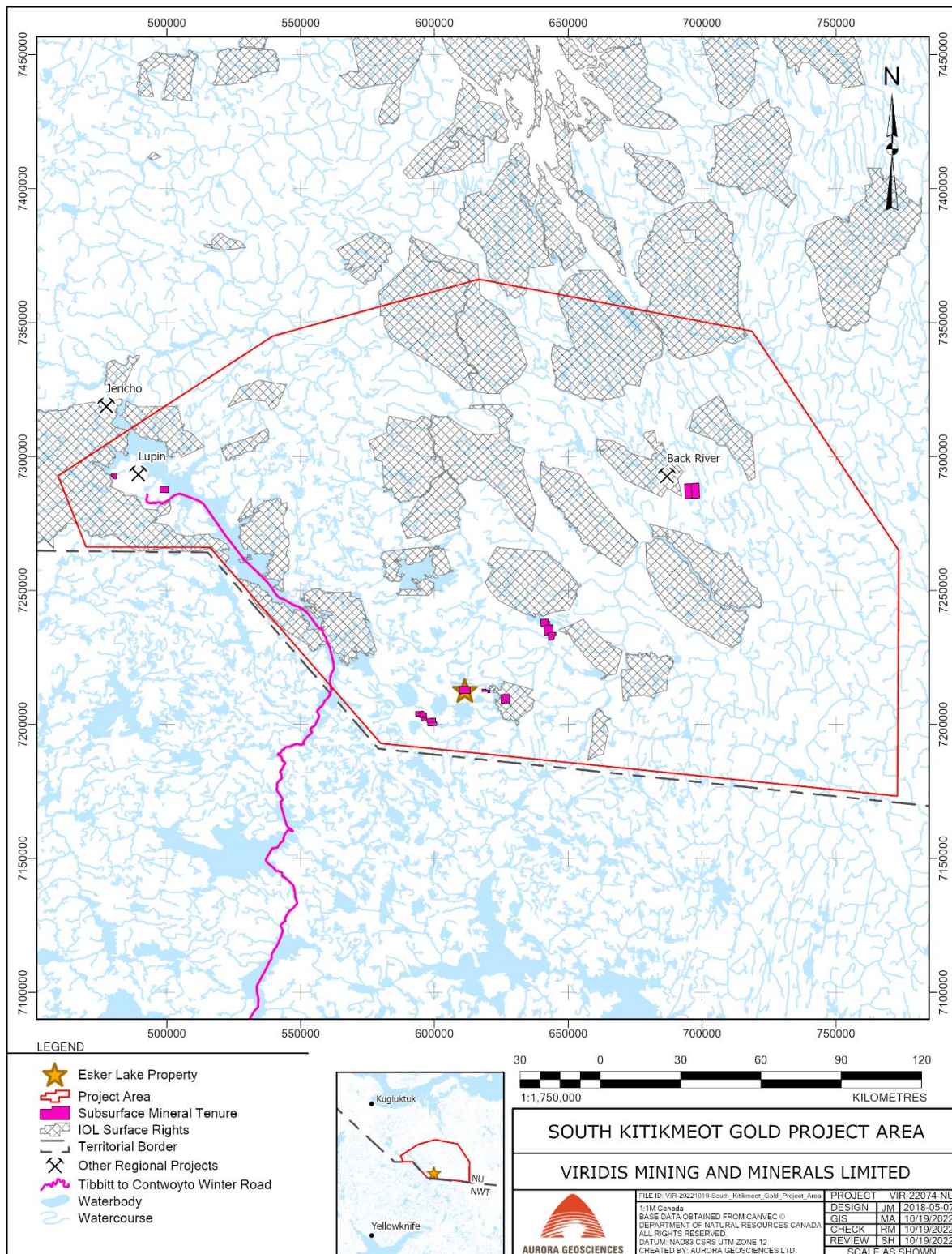


Figure 1. South Kitikmeot Gold Project area map

## 1.1 Scope

This Plan applies to seasonal, temporary and final closure of the Site including the camp, associated fuel caches, drill sites, winter trail and core storage areas, and includes progressive reclamation of all work areas.

Seasonal closure refers to planned annual site closure at the end of each season. Temporary closure refers to either a planned or unplanned closure which may occur at any time and not considered to be final. Final closure refers to a planned decommissioning of the entire Project at the end of the final season of site use. Progressive reclamation is action that can be taken during operations and before final closure to increase environmental protection and reduce efforts at final closure.

## 1.2 Site Description

The Project is located 424 km southeast of Kugluktuk, NU, 400 km northeast of Yellowknife, NT and 145 km east - southeast of the Lupin Mine on Contwoyto Lake (Figure 1). Yellowknife is the nearest major centre and main point of access and coordination.

The property is centred south of the informally named Esker Lake and includes a small lake in the eastern portion of the claim informally named Sheit Lake in past reports. Elevations on the property range from 390 m at Esker Lake to 430 m at the top of Brandon Hill (AGL 2016). Esker Lake and the historic camp location are located at 65°01' N 108° 01' W (Zone 12N and NAD 83). The historic exploration camp (decommissioned) was located at Esker/Sheit Lake.

The Project is located within the Southern Arctic Ecozone and the Takijuk Lake Upland Ecoregion. Much of this region is composed of unvegetated rock outcrops. Vegetative cover is characterized by shrub tundra, consisting of dwarf birch, willow, northern Labrador tea, avens species and blueberry species. Organic Cryosols are the dominant soils in the lowlands and permafrost is deep and continuous (Environment and Climate Change Canada (ECCC) 2022). Characteristic wildlife includes caribou (barren ground caribou of the Bathurst, Beverly and Ahiak herds , GNWT 2022), muskoxen, grizzly bear, wolverine, Arctic hare, Arctic fox, red fox and wolf. Small mammals (e.g., Arctic ground squirrel, voles, and lemmings) are distributed throughout the region and provide an important food source for predators. Many species of migratory birds are present in the area during the summer season, including waterfowl, raptors, songbirds, and shorebirds, while some bird species are present year-round (e.g., ptarmigan, gyrfalcon, and common raven) (ECCC 2022).

The area is characterized by very cold winters, brief cool summers and short fall and spring seasons. Climate data from the nearest weather station at the Lupin Mine, 145 km NE of the property, indicate that mean daily temperatures in the area vary from -30°C in January to +12°C in July and that average annual rainfall is 16.0 cm. The topography is gently undulating with sparse bedrock exposures. Lakes and some swamps cover much of the low lying areas (AGL 2016).



## 1.3 Closure Principles, Goals and Objectives

Closure principles guide the selection of closure objectives. Core closure principles applicable to the Project are:

- Project components are physically and chemically stable upon closure;
- Long term active care is not required;
- The closed site is compatible with future uses ensuring future generations of Inuit will be able to enjoy the land as Inuit do today (MWLWB/AANDC 2013).

The final closure goal for the Project is to return Project-affected areas to viable and, wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment and with human activities.

Accordingly, temporary closure objectives for the site are to ensure that:

- Facilities are not posing a risk to the physical environment, wildlife or humans during the reasonably foreseeable closure period; and
- Degradation of site facilities is minimized.

Final closure objectives for the site are to:

- Re-establish pre-disturbance terrain conditions, where possible;
- Restore areas occupied by the undertaking to a condition compatible with future land use.

Progressive reclamation objectives for the site are to:

- Ensure environmental protection to the extent necessary to minimize liability to Inuit, and yet support the continued use as an exploration site, allowing for future use and benefit to Inuit.
- Ensure that there is no danger to the health or safety of people and wildlife.

## 1.4 Facility Description

The main seasonal camp is located [to be completed once camp location confirmed] (Figure 2), with operations supported by small portable temporary satellite camp(s) for remote crew safety.

*[PLACEHOLDER: to be provided once camp location is confirmed]*

Figure 2. Main camp area, South Kitikmeot Gold Project

At its maximum capacity (60 persons) and scope (up to 6 drills), the Project camp may consist of a variety of temporary structures, as well as heavy and light duty equipment. Fuel is stored predominantly in drums. Fuel caches are typically proximal to the main camp and laydown area, however remote fuel caches may be established elsewhere proximal to drilling.

A detailed list of maximum project components expected on site can be found in Appendix A. This list corresponds to the components considered in the closure cost estimates.

The Property can be reached by helicopter, by fixed wing float or ski plane from Yellowknife or Kugluktuk. The property is 50 km east of the nearest point on the Tibbett Lake to Contwoyto Lake Winter Road (Winter Road) corridor. When the Winter Road is constructed and operational, the Project may be access overland by cat-train or winter trail to the Winter Road.

Fixed wing aircraft have historically landed either on Esker Lake or an adjacent esker airstrip. The nearby Jericho and Lupin mines also have all season airstrips that can support larger aircraft, and if authorized may be used to support project resupply.

## 1.5 Plan Management

This Plan is intended to fulfill requirements associated with all authorizations.

The Plan is reviewed annually by the Project Manager and updated as needed and following issuance of new or amended authorizations to ensure alignment with relevant terms and conditions. When material changes occur, the updated document is provided to parties in accordance with the *Engagement Plan*.

## 1.6 Plan Implementation

This Plan is effective upon approval and is valid throughout all phases of the Project.

The Project Manager or designate is responsible for Plan implementation.

A copy of this Plan is maintained on site in the office, in the local project office in Yellowknife, and in the head office in Perth.

# 2 ROLES AND RESPONSIBILITIES

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Viridis is responsible for activities associated with its exploration program in the South Kitikmeot Project area, including implementation and management of this Plan. Viridis's contact information is:

**Viridis Mining & Minerals**  
Level 50, 108 St Georges Terrace  
Perth, WA 6000  
Phone: 61 3 9071 1847  
**Contact: Agha Shahzad Pervez**  
Email: [agha@viridismining.com.au](mailto:agha@viridismining.com.au)

Aurora Geosciences Ltd. (Aurora) is Viridis’s exploration program manager. In some instances, Viridis may delegate its authority for program components to Aurora. Aurora’s contact information is:

**Aurora Geosciences Ltd.**

3506 McDonald Drive

Yellowknife, NT

X1A 2H1

Phone: 867-920-2729

**Contact: Dave White or Gary Vivian**

Email: dave.white@aurorageosciences.com, gary.vivian@aurorageosciences.com

## 2.1 Staff, Contractors, Suppliers and Visitors

All personnel conducting activities on site, including staff, contractors, suppliers and visitors, are required to implement this Plan as it pertains to their activities on site. Specifically, these responsibilities include:

- Taking all necessary steps to minimize negative effects to water, land and air;
- Cooperating fully with your supervisor and/or Viridis management to implement an environmental protection program in your work area;
- Only carrying out duties and tasks that you are experienced at and trained to perform;
- Where there is uncertainty, asking questions and bringing concerns to the attention of your supervisor when working with products or conducting tasks that may pose potential environmental risks;
- Reporting wildlife observations, spills and emergency situations in accordance with relevant management plans.

## 2.2 Managers and Supervisors

Managers and supervisors have a responsibility to ensure that staff, contractors, consultants and visitors have been trained in Viridis procedures, where relevant. Additional supervisor and manager responsibilities include:

- Maintaining a no blame work environment in implementing mitigation measures and follow-up actions;
- Ensuring site-, task- and material-specific training is provided to all departments and staff;
- Ensuring there are appropriate and sufficient supplies on site to support implementing mitigation measures and follow-up actions;
- Providing assistance in response to environmental hazards;
- Maintaining records of inspections, personnel training, equipment testing, maintenance and decommissioning;
- Ensuring compliance reporting is undertaken in a timely manner; and
- Engaging with relevant parties in a timely and transparent manner, where appropriate.

## 2.3 Program Manager

In addition to the responsibilities listed above the Program Manager is responsible for:

- Overseeing waste handling, transport, sampling, and management;
- Day-to-day oversight of all related reclamation efforts; and
- Coordinating with other managers and supervisors to ensure safe and appropriate allocation of resources on site.

## 2.4 Drill Contractors

Drill contractors are responsible for ensuring each drill site is cleaned up to the satisfaction of a Viridis inspector following each drill move and prior to commencing drilling at a new drill target. Closure-related activities to be undertaken include:

- Removing all drill timbers, hoses, equipment, debris and garbage from the drill site;
- Cutting drill stems flush with the ground surface;
- Capping or plugging drill holes;
- Backfilling flush with the ground surface any areas that may have eroded or subsided around the drill stem;
- Removing to a natural depression any drill cuttings that may have been spilled to the surrounding land or ice;
- Implementing erosion control measures where necessary.

# 3 SEASONAL AND TEMPORARY CLOSURE

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Seasonal and temporary closure may occur for different reasons; however, related closure activities are the same. Typical activities associated with temporary closure of each project component are outlined below.

## 3.1 Camp

Depending on the scale of seasonal operations, the camp may be either fully removed from the site or secured in place. If securing in place, valuables are removed from the camp to off-site storage. Remaining items key to the closure and start-up of the camp are secured inside one hard-sided building (i.e. sea can), reinforced to withstand heavy snow accumulation.

Tents are cleaned out, fuel disconnected, and doors wired shut to prevent snow and wildlife ingress.

All perishable food and most non-perishable food is removed to off-site storage. A small amount of non-perishable food may be left on site, stored in a manner such that it is not a wildlife attractant, as emergency rations.

The kitchen is emptied and cleaned, including the grease traps, in a manner such it is not a wildlife attractant.



The greywater sump is inspected to ensure it is stable and free from wildlife attractants. Erosion control measures are implemented where necessary. The sump is covered to prevent snow and subsequent meltwater accumulation.

The incinerator and surrounding area are cleaned out, ash and debris removed, and incinerator secured in such a manner as to prevent snow ingress into the chambers and wildlife attraction.

If installed, the small floating dock removed and stored securely above the high water mark.

## **3.2 Fuel and Material Storage**

Fuel and other materials such as drill additives, lubricants and coolants may remain in fuel caches for emergency use and to support camp closure and start-up. Fuel remaining in caches is inspected to ensure integrity of barrels or other storage containers.

## **3.3 Waste**

Hazardous and domestic waste generated during the preceding season is backhauled for off-site disposal or treatment in accordance with the *Waste Management Plan*.

## **3.4 Water Intake**

The water intake facility is removed from the lake and securely stored on site. Fuel is removed from the water pump prior to storage.

## **3.5 Core Shack**

The core shack is cleaned out, fuel disconnected and doors wired shut to prevent snow and wildlife ingress, and is reinforced to withstand heavy snow accumulation. Core storage areas are inspected for stability.

## **3.6 Drills**

Drills are demobilized from the field and stored in a designated, durable area on site. Fuel lines are disconnected, and fuel tanks are either emptied or stored in suitable containment. Drill cuttings deposits undergo a final inspection to ensure stability. Drill steel is pulled or cut flush with the ground surface. Drill holes are capped or sealed with plugs and/or concrete. The area around drill stems undergo a final inspection to ensure any areas of subsidence have been backfilled in such a manner as to prevent water accumulation.

### 3.7 Mobile Equipment

Any equipment that may be used to construct or traverse a winter trail in future years may be staged at the camp area, or as otherwise approved by the Inspector(s).

Any equipment staged is drained of fuel with a drip tray placed underneath to capture any fluid leaks.

### 3.8 Winter Trail

At the end of each season, planned abandonment of any winter trail requires removal of all supplies and equipment from the trails to the camp, and V-notching ice bridges at portages prior to freshet.

## 4 PROGRESSIVE RECLAMATION

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Progressive reclamation occurs concurrently with exploration activities and can include:

- Regularly removing equipment and supplies that are no longer needed from site;
- Regularly backhauling waste and empty fuel drums;
- Managing drill sumps and cleaning up drill sites following each drill move;
- Cleaning up any spills as they are detected; and
- Regularly backhauling contaminated and spent spill response materials.

## 5 FINAL CLOSURE

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Final closure at the end of the Project involves a planned abandonment of the property. Final closure entails removal of all temporary facilities rectified onsite.

Where possible, reusable equipment and supplies are be salvaged for reuse on other projects. Structures are emptied and dismantled. Clean wood is open-burned on site. Materials not suitable for reuse or open burning is transported off site for final disposal at appropriate facilities. Core remains on site, stored in a stable manner.

Fuel, hazardous wastes, recyclables and other materials are bulked and packaged in a manner suitable for off-site transport and disposal, recycle or resale, as appropriate.

Fuel caches are decommissioned. Any containment berms are inspected to determine if they are suitable for reuse on other sites. If not suitable for reuse, containment berms are disposed of off-site. Following fuel cache decommissioning, the land underneath is inspected for evidence of leaks resulting in contamination. If any soil contamination is detected, contamination delineation and clean-up is undertaken in consultation with the landowner.

## **6 REPORTING AND DOCUMENTATION**

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Annual reporting occurs in accordance with water licence and land use permit/licence terms and conditions. Temporary and final closure efforts are photo-documented.

## 7 REFERENCES

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*Canadian Environmental Protection Act. S.C. 1999, c.33*

*Interprovincial Movement of Hazardous Waste Regulations. SOR/2002-301*

*Nunavut Waters and Nunavut Surface Rights Tribunal Act. S.C. 2002, c.10*

*Nunavut Waters Regulations. SOR/2013-69*

*Territorial Lands Act. R.S.C., 1985, c. T-7*

*Territorial Land Use Regulations. SOR/2016 R-32, s.1.*

*Transportation of Dangerous Goods Act. S.C. 1992, c.34*

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