# **MELIADINE WEST GOLD PROJECT**

UNDERGROUND MINERAL EXPLORATION

And

ASSEMBLE A BULK SAMPLE

**PRELIMINARY** 

**MITIGATION and MONITORING PLAN** 

COMAPLEX MINERALS CORPORATION CALGARY, AB **August 2007** 

#### INTRODUCTION

The Meliadine West Gold Project is located on Inuit Owned Land in the Kivalliq Region of Nunavut. Land use here is regulated by the Kivalliq Inuit Association (KIA) in accordance with the Nunavut Land Claims Agreement which established the Nunavut Impact Review Board (NIRB) to assess land use applications for environmental effects and recommend mitigation measures and environmental monitoring procedures.

Comaplex Minerals Corporation, the proponent of the Meliadine West Gold Project applied to the KIA to undertake underground exploration and assemble a bulk sample in aid of advancing the Project toward a mine feasibility study. The screening decision from NIRB (file No.: 07EN044) called for the proponent to develop a comprehensive Mitigation and Monitoring Program for the project that covers all stages of the project activities: construction, operation, closure and post-closure. The NIRB screening decision called for the following elements in a Mitigation and Monitoring Program:

- air quality
- noise
- vegetation
- wildlife and critical wildlife habitat
- water quality including acid rock drainage, metal leaching and ammonia run-off.

Mitigation measures and monitoring for each of these environmental parameters over the life of the Project is described in the pages that follow.

The effectiveness of this Mitigation and Monitoring Program is supplemented by the ongoing application of specific contractor's plans and the Proponent's Environmental Management System which include:

- Mine Rescue Plan JS Redpath
- Environmental Procedures Manual Nuna / M&T
- Waste Management Plan Comaplex
- Fuel Management and Spill Contingency Plan Comaplex
- Field Operations Advanced Exploration: Drilling Environmental Management

System

Comaplex

#### PROJECT OVERVIEW AND SCHEDULE

### Overview

A ramp and to a mine portal will be excavated from the surface of the tundra. The portal will lead into an underground decline to access two goal bearing geological structures. This conventional underground mining procedure will produce rock that will be brought to surface where it will be placed adjacent to the ramp as rock pads on which will be placed more "waste" rock for long term storage and mineralized rock for assembling a bulk sample of crushed "ore". All work will be based at the existing Meliadine West Gold Project exploration camp.

### **Schedule**

Construction and Operation

Ramp construction will commence in early August 2007. The portal will be established in late October when an underground mining contractor will commence underground mining which will continue to April 2008. Mining in "ore" is expected to begin in February when crushing "ore" at

surface will commence and continue concurrently with mining operations. All mining and crushing is expected to be complete by mid-May 2007 when the assembled bulk sample will be sent to southern facilities for extensive assay and metallurgical testing.

### Closure and Site Reclamation

Reclamation will involve returning mineralized rock to underground space within the zone of permafrost. Waste rock storage piles will be contoured and stabilized; pads and roads will be contoured, stabilized and scarified.

# Site Monitoring

Site conditions will be monitored as appropriate to demonstrate closure effectiveness to the point of approval and sign-off for abandonment by the KIA and NWB.



# **AIR QUALITY**

Risks to air quality include emissions from equipment exhaust and dust from traffic on the short road between camp and the underground exploration site.

# **Mitigation Measures**

#### Construction

- construction equipment will be kept in optimum running condition to ensure that exhaust emissions can be kept to the minimum;
- vehicle speed on the road will be slow to reduce the amount of traffic generated dust.

# **Operation**

- construction equipment will be kept in optimum running condition to ensure that exhaust emissions can be kept to the minimum;
- vehicle speed on the road will be slow to reduce the amount of traffic generated dust.

#### Closure

- construction equipment will be kept in optimum running condition to ensure that exhaust emissions can be kept to the minimum;
- vehicle speed on the road will be slow to reduce the amount of traffic generated dust.

### Post-closure

- vehicle speed on the road will be slow to reduce the amount of traffic generated dust.

# **Monitoring**

Air quality monitoring and related modeling at the underground exploration site will be conducted in the context of developing an Environmental Impact Statement for an operating gold mine at Meliadine West.

#### NOISE

Risks to ambient sound levels are associated with equipment operations and use of explosives at the underground exploration site.

# **Mitigation Measures**

#### Construction

- construction equipment will be kept in optimum running condition and mufflers that meet or exceed manufacturers specification in place on all equipment;
- all blasting will be executed in compliance with applicable regulations regarding noise and public safety generally.

# **Operation**

- construction equipment will be kept in optimum running condition and mufflers that meet or exceed manufacturers specification in place on all equipment;
- all blasting will be executed in compliance with applicable regulations regarding noise and public safety generally.

#### Closure

- construction equipment will be kept in optimum running condition and mufflers that meet or exceed manufacturers specification in place on all equipment;

#### Post-closure

- no noise will be generated.

### **Monitoring**

Noise monitoring and related modeling at the underground exploration site will be conducted in the context of developing an Environmental Impact Statement for an operating gold mine at Meliadine West.

### VEGETATION

Tundra terrain and vegetation will be disturbed in the course of this underground exploration program.

# **Mitigation Measures**

#### Construction

- the use of construction equipment will be restricted to the area required for the program and so the area of disturbance can be kept to the minimum;
- the area of the ramp leading to the portal has been designed to cover as small a footprint as practical;
- the area of the pads will be kept to a minimum.

# **Operation**

- the use of construction equipment will be restricted to the area required for the program and so the area of disturbance can be kept to the minimum;
- the area of the pads will be kept to a minimum.

#### Closure

- the use of construction equipment will be restricted to the area required for the program and so the area of disturbance can be kept to the minimum;
- no increase to the area of the pads will be required.

#### Post-closure

- no terrain disturbance or risk to vegetation is required.

# **Monitoring**

The project proposal estimated that 3.6 ha of tundra habitat will be disturbed in the course of the program. Ongoing surveillance will monitor changes in the perimeter of the project in relation to that aerial projection.

### WILDLIFE AND CRITICAL WILDLIFE HBITAT

Site development and operations will require alteration to 3.6 ha of terrestrial habitat occupied by small mammals and ground nesting birds. Habitats affected are well drained transition communities midway between dry ridge and wet meadow. No declared plant "species at risk" are known for the project area.

The primary risk of interaction between the proposed underground exploration project and wildlife species will be at the site or along the re-supply routes. The re-supply routes will be active only in the late fall and early winter. In summer activity will be confined to the project site plus helicopter traffic between the site and Rankin Inlet.

# **Mitigation Measures**

#### Construction

- site development will be completed in fall and winter conditions and so no active nests will be affected.
- wildlife will always have the "right of way" as the principal mitigation measure to avoid and prevent project related mortality due to surface traffic.
- helicopter over flights will continue to be configured to reduce disturbance to people and wildlife below to the maximum extent possible.
- wildlife harvesting by workers on site will be prohibited.

# **Operation**

- operations generally will be completed in fall and winter conditions and so no active nests will be affected.
- wildlife will always have the "right of way" as the principal mitigation measure to avoid and prevent project related mortality due to surface traffic.
- helicopter over flights will continue to be configured to reduce disturbance to people and wildlife below to the maximum extent possible.
- wildlife harvesting by workers on site will be prohibited.

#### Closure

- site closure will not add to the area of terrain and habitat disturbance.
- wildlife will always have the "right of way" as the principal mitigation measure to avoid and prevent project related mortality due to surface traffic.
- helicopter over flights will continue to be configured to reduce disturbance to people and wildlife below to the maximum extent possible.
- wildlife harvesting by workers on site will be prohibited.

#### Post-closure

- wildlife harvesting by workers on site will be prohibited.

### **Monitoring**

The project proposal estimated that 3.6 ha of tundra habitat will be disturbed in the course of the program. Ongoing surveillance will monitor changes in the perimeter of the project in relation to that aerial projection.

A log recording all significant wildlife observations in the project area will be maintained.

# WATER QUALITY

Risks to air quality include natural runoff carrying explosive residue on rock from underground, and from acid rock drainage (ARD) and leachate dissolved from the same rock in pads and storage piles.

### **Mitigation Measures**

# Construction

- use only inert rock for pad construction;
- if rock with ARD potential is brought up and incorporated into the pad, it will be encapsulated with neutralizing rock;
- the rock pads will be built on height of land that does not have high runoff through or around the base of the pads;
- keep natural terrain disturbance in the area to a minimum.

# **Operation**

- use only inert rock for pad construction;
- if rock with ARD potential is brought up and incorporated into the pad, it will be encapsulated with neutralizing rock;
- the rock pads will be built on height of land that does not have high runoff through or around the base of the pads;
- keep natural terrain disturbance in the area to a minimum:
- isolate ore piles on pads of neutralizing rock to avoid ARD runoff.

### Closure

- no incremental rock storage or terrain disturbance will occur;
- ore will be returned underground into permafrost zone.

### **Post-closure**

- no land use activities that affect or alter water quality are contemplated.

### Monitoring

- document all rock types encountered in the course of underground development. Any rock type that has not been assayed to date will be analyzed for potential ARD and leachate and handled according to geochemical properties of the rock.
- water from underground operations will be recirculated and not discharged to the environment other than the water entrained in the muck (waste and ore) brought to surface;
- water samples will be taken at locations shown on map attached and analyzed for ammonia and metals that could originate with the rock pads and piles at the underground exploration site.

This mitigation and monitoring plan for water quality will be updated to conform to the plan prepared in response to the terms and conditions in the Water Use License as issued by the Nunavut Water Board.