



## **ABANDONMENT AND RESTORATION**

Meliadine West Gold Project Camp and Underground Exploration Area

**Comaplex Minerals Corp.**

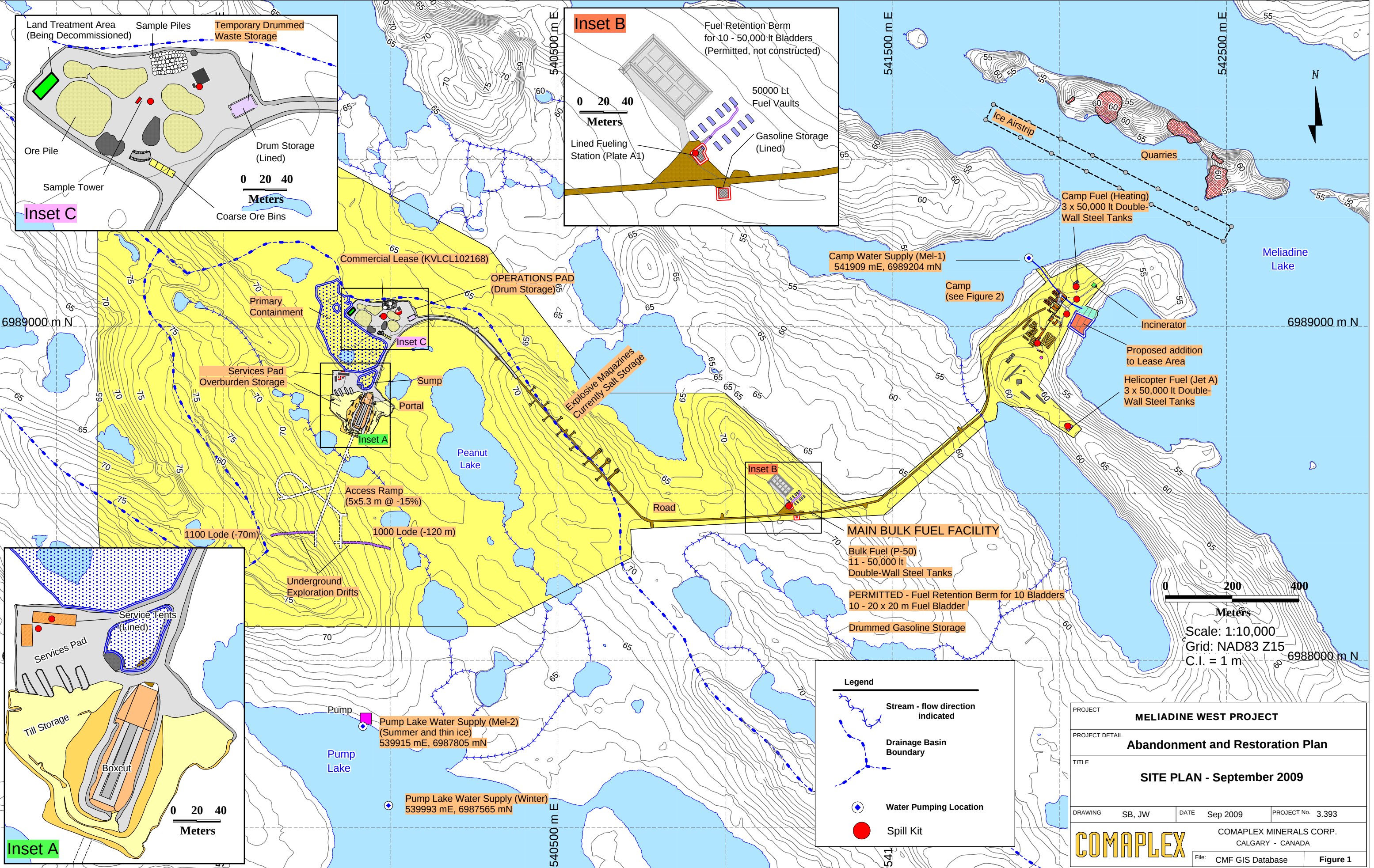
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## **1.0 Introduction and Background**

Comaplex Minerals (CMF) and its joint venture partners have been conducting mineral exploration in the Meliadine West area since June, 1995. The lands in the exploration area are Inuit Owned Lands (IOL) pursuant to the Nunavut Land Claims Agreement (NLCA). Land use for the exploration activities has been authorized by the Kivalliq Inuit Association (KIA), the Designated Inuit Association that holds title to IOL in the Kivalliq Region of Nunavut. Rules and procedures for the management of IOL have been established by Nunavut Tungavik Inc. These require that the intensively used lands in the exploration area, such as the camp, fuel storage areas and underground exploration site be held by a commercial lease, KVCL102J168. The lease requires that a Reclamation Plan be developed for the lease area.

A condition of the lease is that on lease termination, CMF will return the land in a condition as near to its original natural state as practical and possible. This interim abandonment and restoration plan will be filed with KIA as required by the commercial lease. A Final Plan will be developed and filed with KIA prior to lease termination. In the meantime, progressive reclamation practices will be undertaken to keep any negative environmental effects on the land to a practical minimum.

This Abandonment and Restoration Plan is effective for the term of the land lease and water licence, 2BB-MEL0914, presently in place on the project. It is assumed by CMF that extension of these land use and water permits will continue as the project advances towards the development of a mine. The underground exploration program was completed and the decline sealed. It is not expected to be opened again until commercial mining is underway. As the decline was sized to production standards, reclamation of the underground exploration portal site is not expected until after mine closure.

This Plan will be updated as the project changes. Each iteration of the plan will provide more detail and greater certainty regarding the sequence of events in abandonment and restoration. The Plan will be implemented at the time of planned closure, or upon temporary shutdown where the project is placed in care and maintenance. The time to complete the reclamation of the site would take two summers.

### **Meliadine West Gold Project Contacts**

|                     |               |                                                                   |                     |
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## **2.0 Location of Infrastructure**

The location of the following infrastructure is provided below in UTM coordinates (NAD83, Zone 15) and latitude and longitude:

| Area                         | Spill Kit | UTM_E  | UTM_N   | Lat_DD  | Long_DD  | Lat_DMS | Long_DMS  |
|------------------------------|-----------|--------|---------|---------|----------|---------|-----------|
| Camp (Centre of Area)        | 1         | 541935 | 6988949 | 63.0277 | -92.1713 | 63,1,40 | -92,10,17 |
| Main Fuel Tanks              | 1         | 541214 | 6988484 | 63.0236 | -92.1857 | 63,1,25 | -92,11,8  |
| Aviation Jet A Storage       | 1         | 542031 | 6988695 | 63.0254 | -92.1695 | 63,1,32 | -92,10,10 |
| Camp P-50 Storage            | 1         | 542050 | 6989129 | 63.0293 | -92.169  | 63,1,46 | -92,10,8  |
| Portal Fuel Tanks (22,700 L) | 1         | 539845 | 6988850 | 63.0271 | -92.2126 | 63,1,37 | -92,12,45 |
| Fuel Drum Storage            | 1         | 540054 | 6989039 | 63.0287 | -92.2084 | 63,1,43 | -92,12,30 |
| Portal Boxcut (Centre)       | 0         | 539912 | 6988732 | 63.026  | -92.2113 | 63,1,34 | -92,12,41 |

Note: DD – decimal degrees, DMS – degrees, minutes, seconds

## **3.0 Demobilization**

The following scenario assumes that CMF abandons seeking operating permits, licences and authorizations for a mine with the overall project entering reclamation and closure.

All equipment, structures and fuel tanks will be removed from the area of the lease prior to lease termination. Buildings and materials with ongoing value to the company will be removed by CMF. Local persons and businesses will be given the opportunity to salvage any remaining buildings and materials that would otherwise be dismantled or demolished as part of final site reclamation process. The only materials and structures remaining will be drill core stored in permanent racks on gravel pads, and the contoured earthworks associated with the underground exploration program.

### **3.1 Structures**

Structures presently on the site (Figure 1) include both soft sided Weatherhaven shelters, rigid “Atco” type trailers, stick built wooden shacks, stick built generator shelters, several fuel pump shelters, and several canvas tent frames. A rigid insulated and heated corridor network connects the main accommodation, kitchen/mess and shower structures. Weatherhaven units consist of four person “sleepers”, sixteen person “sleepers”, a kitchen / mess, a shower / laundry, an office, a TV/recreation room, a core logging and sample processing lab, and a geology office. At the portal site, 2 large Weatherhaven structures have been established.

It is expected that all Weatherhaven units will be salvaged by CMF. The rigid structures and Weatherhaven tent bases could be salvaged by local interests. All combustible materials that cannot be salvaged will be burned on site. The non-combustible remainder will be collected and removed to the Rankin Inlet municipal landfill.

### **3.2 Heavy Equipment**

The heavy equipment on site for the underground exploration program is valuable and reusable. After being utilized for site reclamation, the equipment will be moved to Rankin Inlet for sale to local interests or transported south on the annual sea lift.

### **3.3 Underground Services**

Materials installed in the underground will be left in place. This includes such things as electrical cables, metal supports, and metal pipe and ventilation ducting. These materials are inert, within the zone of continuous permafrost and will have no impact on the surface environment.

### **3.4 Drilling materials and fuel**

All fuel and fuel infrastructure will be removed to Rankin Inlet. Similarly, all useful material like salt, drilling compounds, and surplus peat and fertilizer will be relocated to Rankin Inlet for local disposal, sale or prepared for shipment south. All 50,000 L double walled tanks, empty bladders and barrels will likewise be relocated to Rankin Inlet. Here they will be sold to local interests or shipped south for sale in Southern Canada.

### **3.5 Non-combustible Waste**

All non-combustible waste will be removed to the Rankin Inlet municipal landfill. Material to be burned will be consolidated on a rock pad to reduce the number of sites used and to avoid burning on the tundra. All burn sites will be raked, any metal collected and moved to the Rankin Inlet municipal landfill.

## **4.0 Reclamation – Camp Area**

The camp area will be allowed to naturally re-vegetate. Revegetation will be slower in higher, drier areas than in lower-lying and moister ones. Where they exist, irregular surfaces will be left in place as these capture snow over the winter which in turn provides moisture to plants in the spring. The application of fertilizer is generally most effective in moist sites and while it helps on drier sites, the response by the tundra plant community on the higher ground occupied by the camp will be slower.

Five different surface conditions will require reclamation on termination of activities at the present camp site:

- Areas of heavy traffic - In these areas, the total amount of vegetation on surface is diminished thereby reducing the insulative layer over the permafrost. The effect is an eroded surface settlement and rocks protruding through to the surface. These areas are stable and reclamation will involve applications of fertilizer to accelerate natural revegetation. These sites will also receive applications of fertilizer in the interim to stimulate healthier plants and seed development on the margins of the disturbed areas.
- Gravel pads and walkways - Gravel has been placed on the lease area either to establish a level supporting surface under fuel tanks and buildings, or to replace wooden walkways in

high foot traffic areas. The natural surface remains stable and is bordered by natural vegetation. The gravel will be mixed with peat and fertilizer and be dispersed, while the original ground surface will be fertilized and allowed to re-vegetate naturally.

- Building and core rack bases - The prolonged presence of a building has prevented plant growth by blocking light to the plants on the site. Similar conditions existed at the former camp site which was vacated in late winter 1996. The natural revegetation of those building sites is slowly progressing. The ground surface at building sites remains stable and time alone will allow plants to become established. This will be enhanced by limited scarification to improve the germination of seeds from adjacent plants. Application of fertilizer throughout the lease area generally assists in the process.
- Burned and contaminated sites - Sites that have been used to burn remaining wood and other combustibles on demobilization will be few in number, limited in size and always on an existing rock pad or road surface. The sites will be raked, any metal removed, the ash scattered, the road surface scarified, and the sites fertilized. All sites with contaminated soils will be identified with GPS locations for monitoring.
- Roads and bridges - All bridges and culverts will be removed, streams re-established, riprap placed to limit water erosion, and roads contoured to reduce their vertical profile and scarified to enhance native plant growth.

## **5.0 Reclamation of Drill Sites**

Slightly less than half of all drill holes are located within the footprint of the future open pits, waste rock and overburden management areas, tailings management area, rock pads, roads and other infrastructure. Should a mine be approved, these drill sites would either be excavated as part of the open pits or covered by various infrastructure.

The remaining drill sites will be reclaimed. Following completion of a drill hole, the casing is cut off at or below ground level. Water and drill cuttings flow down the casing and because of the permafrost freezes in place and plugs the drill hole. In the spring or over the summer period, fertilizer and peat moss are applied to the drill site. This assists in the recovery of the plants in the vicinity of the drill hole and for the re-establishment of vegetation where plants were lost.

## **6.0 Reclamation – Underground Exploration Area**

A two phase reclamation plan is envisaged for the underground exploration area:

**Phase 1:** restoring the site during the snow free season.

**Phase 2:** removing remaining equipment and gear overland on a winter road.

### **6.1 Phase 1 – Site Restoration**

#### **Ore Stock Piles**

- A total of 6400 m<sup>3</sup> of crushed ore with potential for acid generation is presently stored on the 2 metre thick operations pad of neutralizing waste rock. The mineralized material would be

loaded onto a mine haul truck and disposed of underground in the permafrost environment of the ramp or drifts. The mineralized material would likely be moved underground in a frozen state. Even if the work were to be done in the late summer, when thawing would be at a maximum, the percentage of unfrozen material that would be moved underground would be small. This material would be mixed with frozen material and would soon freeze once in place underground.

INAC has requested that progress of freeze-back of the ore underground be monitored. Comaplex presently has 5 thermistors installed in the area of the boxcut (Figure 1). Three of the thermistors are about 100 meters from the portal and decline. These sites are monitored on a periodic basis and the temperature profile is well known. Freezing of tailings and other ore bearing materials in permafrost is a well established and accepted mitigation strategy.

- The remote likelihood of returning crushed ore underground and the likelihood of establishing a mine caused the ventilation system to be left intact. As well, loading and hauling equipment were purchased by CMF and remain on site for future mining. In the event of the mine not going ahead and reclamation taking place, the moving of the crushed ore underground would be the first thing done. Once completed the related infrastructure can be disassembled and the portal closed.
- INAC has requested that progress of freeze-back of the ore underground be monitored. CMF is investigating the cost and logistics of this aspect and can address it again when finalizing the Closure and Reclamation Plan with the KIA.

#### Phase 1 - Site Access Roads and Pads

- Road bed material near streams/creek crossings would be pulled back from the watercourse and contoured to prevent migration of sediments into the stream/creek. Areas that have the potential to block or dam the natural flow/runoff of surface water will be breached and contoured.
- All other roads and pad areas will be graded down and scarified to facilitate growth of natural vegetation. All natural drainage will be restored.

#### Phase 1 - Hydrocarbons/Waste Oils/Hazardous Materials

- In the event that there may be evidence of spills (diesel fuel, oils, etc.) that are too large to recover naturally, soil in the affected area would be excavated and moved to a land farm site on the project. Such a land farm could be established on a rock pad for soil remediation which on completion would enhance colonization of the pad. Acceptable limits for the remediation of hydrocarbon impacted soils are given in the CCME Canada Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (January 2008) and the Environmental Guideline for Site Remediation (Government of Nunavut, January 2002). Comaplex will work with the KIA in developing an acceptable strategy for the remediation of any such soils taking into consideration the appropriate guidelines.
- The present contaminated soil storage area located on the operations pad has been found to

meet the Nunavut Soil Remediation Guidelines for residential/parkland. CMF will leave the material in its present location. Upon reclamation, the material and the liner will be covered with waste rock to minimize erosion of the fine material by wind and water.

- Waste oils will be stored in 45 gallon drums and shipped to Rankin Inlet for recycling and/or disposal, in accordance with Comaplex's existing waste treatment program.
- Hazardous materials, such as hydrocarbon impacted rags, oil filters and old lead acid batteries will be appropriately crated for transportation during the winter demobilization – all items will be either recycled or properly disposed of in an approved facility down south, as per our present policy.

#### Phase 1 - Portal Box Cut

- A metal grate sufficient to hold back the neutralizing waste rock would be placed in the portal mouth. Neutralizing waste rock would then be piled in the portal and packed with the Cat D8 Dozer.
- The till pile surrounding the portal boxcut will be pushed into the cut covering the waste rock to a depth to match the surrounding topography. The topsoil pile would then be spread onto the till material, fertilizer spread onto the area and then leaving it to re-vegetate.

### **6.2 Phase 2 - Winter Demobilization Program**

Phase 2 comprises primarily of demobilizing materials and equipment that has previously been prepared and assembled for removal to Rankin Inlet during Phase 1 of the program.

#### Phase 2 - Execution Plan

- An advance crew will be sent to site from Rankin Inlet to get the camp operational and establish communications (tents could be left in place for this purpose).
- Equipment will have to be heated up and started so that snow can be removed from around the outbound freight and equipment.
- Caterpillar Challengers c/w sleighs will be used to demobilize the gear to Rankin Inlet. All loads will be hauled to a designated muster area in Rankin and either sold, salvaged, recycled, land-filled, and if necessary, prepared for shipment from Rankin via barge. Due to local demand, it is not currently foreseeable that anything excepting hazardous waste will be shipped out of Rankin Inlet.

## **7.0 Drill Core**

There are over 160,000 metres of drill core in storage at the site. More will likely be added prior to termination of the lease. If there is no further activity in the Meliadine West area by CMF at lease termination, the core will be evaluated for long term storage stability. Core deemed stored in unstable conditions will be restacked on more durable and stable gravel pads for long term storage and access.

## **8.0 Cost of Implementation**

Costs of executing this Abandonment and Restoration Plan, and of other Plans covering a worst case scenario with the ongoing exploration program are covered in the Site Liability Security Deposit Review document provided to the NWB in September 2007. This report provides details on Comaplex's \$950,000 security deposit (Letter of Credit) with the KIA that covers the entire project including both the camp and underground exploration site.

To ensure the \$950,000 Letter of Credit was sufficient for the ongoing and proposed programs, the KIA contracted an unrelated third party to determine what it deemed the complete reclamation cost of the entire Meliadine West project to be (camp and all underground and related infrastructure). The consultant came up with a figure of \$615,419, to which they added a 20% contingency fee for a total of \$738,503.

As part of this process, Comaplex requested recent estimates for the same work from two independent northern contractors with extensive experience in this type of work. One of the quotes was for \$413,839 (includes a 10% contingency) and the second was for \$652,140 with no contingency. In all cases, the present security deposit with the KIA is more than sufficient to cover the complete decommissioning and restoration of the entire camp and underground exploration site.

## **9.0 Post Closure Monitoring**

The longer term environmental monitoring of the site after the major restoration work has been completed is covered in the Site Water Management Plan, the Waste Rock and Ore Storage Management Plan, and/or the Mitigation and Monitoring Plan and is not repeated here. Clearly, water and soil sampling after the site has been re-habilitated is the primary method of ensuring that the area has been brought back to productive habitat suitable for use by wildlife and humans.

Environmental monitoring will continue during and after the post-closure phase of the reclamation until it can be established that licensed criteria have been met. The amount and frequency of post closure monitoring that is required will diminish with time as natural reclamation takes hold and all parties are satisfied that the reclamation has satisfactorily met its objectives.