

Environmental Management, Monitoring, and Follow-up

PBM has developed and will continue to develop and adapt comprehensive environmental management plans to avoid or mitigate adverse effects of the Morrison Copper/Gold Project facilities and activities during the construction, operation, and closure of the mine. These plans have been developed using best management practices and scientific and engineering studies focused on site-specific conditions.

PBM has proposed a number of different monitoring systems, each of which has been designed to monitor environmental components to ensure the environmental management plans are functioning effectively. As part of the adaptive management process, the environmental management plans will be updated and associated training programs enhanced to improve the level of environmental protection based on the results of these monitoring programs. Final details for these plans will be developed before the start of construction. Many of the plans will be requirements of provincial permits.

AIR QUALITY

During construction, adverse effects from diesel emissions will be limited by a number of practices including ensuring regular vehicle maintenance, implementing a no-idling policy, restricting speed limits, and avoiding fuel spills.

Dust will be reduced by implementing a number of practices, such as using water for a dust suppressant, restricting speed limits, and using graders to maintain unpaved road surfaces.

SURFACE WATER AND GROUNDWATER

Surface and groundwater quality and quantity is very important and its sustainability in the Morrison Lake watershed is paramount. PBM will carry out several practices as a means to reducing any effects of the mine on surface water quality. These include designing and managing for a zero-surface discharge TSF; ensuring proper storage and handling of fuels and other chemicals; endeavoring to keep existing vegetation intact, wherever possible, to reduce the potential of surface runoff and siltation; implementing a waste management plan and a spill contingency and emergency response plan in the event of a spill; and implementing a sediment and erosion control plan. Other practices that will be carried out will be to treat any discharge water if it is below the standards and properly decommissioning the facilities, contouring landscapes, removing culverts, and monitoring adjacent waterways to ensure aquatic environment is not affected. A complementary Metal Leaching/Acid Rock Drainage program will ensure proactive characterization, prediction, monitoring and control over all excavated rock and materials with potential to geochemically affect water environments. While it will be many years before the open pit fills to 728 masl after closure, it is anticipated that thereafter the pit lake water will need to be treated to remove metals before discharging clean water into Morrison Lake. PBM recognizes the high value that Lake Babine Nation members place on water quality and feels very confident of the efficacy of its commitment to the water management plans for the Project.

FISH

Mitigation measures have been developed to protect fish in the waterways that may be affected by the Project. They include educating site personnel in fish protection interventions, choosing blasting periods that will have low impact on fish and other aquatic life, and reducing and trapping sediments. As well, contingency plans will be developed for structural or process failure to remedy any erosion/sedimentation incident or chemical spill. Water will be re-routed from potentially affected streams into existing streams to maintain water flows in fish bearing streams. Other measures that will be implemented include a prohibition on sport fishing by site personnel.



Fisheries and Oceans Canada and the BC Ministry of Environment have been closely involved in the mine plan for assessing and designing appropriate fish avoidance, mitigation, and compensation strategies.

WILDLIFE

Mitigation measures developed for reducing the effects of the mine on wildlife include a no-hunting or trapping policy for personnel, a ban on firearms, and prohibiting domestic animals within the Project area. Efforts will be made to ensure that personnel avoid interactions with wildlife and buffer zones will be used around sensitive wildlife areas. Raptor nests will be relocated where there is a potential for disturbance to the nests. Measures such as establishing speed limits to reduce dusting and wildlife mortality will be implemented. Setting up 10-m wide wildlife crossing areas in snow banks every 100 m in high-use wildlife crossing areas is a practice that can reduce effects on wildlife crossing roads. Road salt use will be minimized as this is a wildlife attractant.



ARCHAEOLOGY

Mitigation strategies when archaeology sites are encountered comprise a hierarchy of measures. These range from completely avoiding effects to compensating or offsetting effects that cannot be avoided. If avoidance is not possible, mitigation measures will be used to reduce adverse effects to a negligible level. These measures range from creating a

buffer zone around a site to systematic data recovery through site excavation such as that anticipated for the archaeological site in the tailings storage facility area.