



Canada – Lupin Mine Care and Maintenance Plan

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TABLE OF CONTENTS

1	OBJECTIVE	5
2	OCCUPATION OF THE SITE	5
	2.1 GENERAL RESPONSIBILITIES	5
3	WASTE MANAGEMENT	6
4	TAILINGS CONTAINMENT AREA	6
	4.1 DAM INTEGRITY	6
	4.2 TAILINGS WATER MANAGEMENT	6
	4.2.1 Internal Water Management	6
	4.2.2 Discharge of Pond 2	7
	4.3 EXPOSED DRY TAILINGS	7
5	ADDITIONAL INFORMATION	7
6	AMENDMENTS	7

APPENDICES

Appendix A	Lupin Waste Management Plan	8
Appendix B	Lupin TCA Discharge Procedure	9
Appendix C	Lupin TCA Discharge Sampling Procedure	10
Appendix D	Lupin Wildlife Management Plan	11
Appendix E	Lupin Stormwater Management Plan	12



Canada – Lupin Mine
CARE AND MAINTENANCE PLAN

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1 OBJECTIVE

MMG recognises that maintenance of environmental quality is vital to the Company's existence, progress, and continued development. The Company will maintain high environmental standards limited only by technical and economic feasibility. The Company will take positive action to protect the safety of its workers, conserve natural resources, and minimise the impact of its activities on the environment through diligent application of appropriate technology and responsible conduct at all stages of its operations including the care and maintenance stage at the Lupin Mine site.

2 OCCUPATION OF THE SITE

The site will be occupied as needed to carry out the planned work at various times in the year. The number of staff will be commensurate with the tasks that are being carried out at the time. The most critical facility at the site is considered to be the Tailings Containment Facility (TCF) and the staffing of the site will be planned around maintenance of the integrity of this facility and management and monitoring of the discharge from the TCF to the receiving environment.

Experience has shown that the accumulation of runoff and seepage in the ponds of the TCF builds up over a period of two to three years to the point where a discharge to the environment is required to lower the pond levels. We therefore plan to have a release every three years. In late April to early May of a release year, a crew of 3-5 persons will mobilise to the site to spread lime over the ice of the pond(s) to adjust the pH of the water prior to the summer discharge. This activity will take approximately 2 weeks to complete.

Around the first week of June, a two person crew will mobilise to the site to prepare for the discharge, which will commence on or about 15 July. During this time period, there may be an additional 2-3 individuals on site to do electrical and/or mechanical maintenance and repair work on mobile and stationary equipment. The discharge time period is expected to be approximately 3 months duration, on average. During this time, a staff compliment of two to three individuals will be on site.

Individuals will be accommodated on site in the mine manager's cabin, the 1300 wing of the accommodation complex, or in a temporary tent camp, depending on the number of personnel on site. The domestic water supply will be Contwoyto Lake. Sewage and grey water will be conveyed to the Sewage Lakes system.

In non-release years,

2.1 GENERAL RESPONSIBILITIES

- Control fugitive dust;
- Maintain storm water Best Management Practices (BMPs);
- Prevent the release of petroleum products;
- Implement Spill Prevention and Contingency Plan;
- Manage all wastes according to Waste Management Plan;
- Maintain industrial waste landfill;
- Inspect water and municipal sewage pipelines;



- Operate, maintain and monitor tailings and sewage facilities in accordance with this Management Plan;
- Maintain secondary containment in petroleum storage areas;
- Maintain environmental licenses, permits and authorizations;
- Conduct Monitoring programs;
- Regularly review and update contingency, mitigation and management plans.

3 WASTE MANAGEMENT

The Lupin Mine site, while under care and maintenance, shall determine if wastes generated by its operations and activities are hazardous or non hazardous. In order to determine if a solid waste is hazardous the Lupin Mine shall:

- Check the CCINFO website for MSDS if one isn't available on site;
- The list of Hazardous Materials will be reviewed on an annual basis.

Common knowledge can be used to determine that materials such as paper, untreated wood, concrete and food scraps are not hazardous wastes when disposed of.

All hazardous waste will be shipped off site, at which point will be handled by a third party expeditor. The Waste Management Plan (Appendix A) outlines the requirements for the proper management of all wastes located in the Appendixes of this plan.

4 TAILINGS CONTAINMENT AREA

4.1 DAM INTEGRITY

A weekly inspection of the dams will be carried out during the time that the site is occupied by MMG employees and a record will kept for review upon the request of an inspector. This will be a visual inspection pertaining to the observations concerning both the physical conditions and seepage. During these inspections, thermistor readings will be taken for the assessment of dam performance. The dams will be inspected by an independent geotechnical consultant on an annual basis.

4.2 TAILINGS WATER MANAGEMENT

4.2.1 Internal Water Management

There is still a substantial amount of water present within the TCA, this water is located in Cell 4, Cell 5, Pond 1 and Pond 2. All of this water will be periodically transferred downstream by manual means to maintain a 1 meter freeboard at all times. The water in Cell 4 is transferred to Pond 1 via gated valve, from here the water is transferred from Pond 1 to Pond 2 by way of siphon. Cell 5 is directly upstream of Pond 1 and therefore is transferred directly to Pond 2 via siphon. Pond 2 is the largest pond, from here the water is treated with lime and eventually discharged to the environment.



At the start of the season a full survey will be conducted on the TCA outlining the water levels for all ponds and cells. A base point elevation will be marked on all ponds and cells containing water to allow onsite staff to maintain the appropriate freeboard within the TCA. Free board will be monitored as part of the weekly dam inspections.

4.2.2 Discharge of Pond 2

Pond 2 is the furthest most downstream pond within the TCA. It is at this point where the water is treated with lime and discharged to the environment via siphons. See the associated documents *Lupin TCA Discharge Procedure* (Appendix B) and *Lupin Discharge Sampling Procedure* (Appendix C) attached to this management plan.

4.3 EXPOSED DRY TAILINGS

After a thorough review of historical documents received from the previous owner of the site it has been determined that there is approximately 206,852 m² of tailings within the TCA that have yet to be covered. During occupation of the site by MMG this coming field season this number will be verified. Cell 5 contains 119,524m² of exposed tailings and Cell 3 contains 87,328m² of exposed tailings. All of the tailings contained in Cell 5 are currently covered with water therefore eliminating any potential for dust contamination.

It is assumed that the exposed tailings within cell 3 are dry and do have dust contamination potential. The actual extent of the exposed dry tails will be determined during the occupation of site this coming field season. The total area of Cell 3 is approximately 590,000m², meaning only 15% of the entire cells tailings are not covered.

To contain the tailings solids that are not covered with water year-round we propose to complete the tailings cover in these areas with the appropriate layer of sand and gravel, consistent with previous tailings cover works. Cover material will be obtained from the various gravel borrow pits located on site. The actual thickness of the cover over the currently exposed tailings will vary depending on the current surface grades and trafficability of the tailings; however, the amount of cover will be sufficient to isolate the tailings solids from the wind and limit evaporation of water from the tailings mass. This will preclude wind-borne transport of the tailings solids to the adjacent areas outside of the Tailings Containment Facility.

5 ADDITIONAL INFORMATION

Note that also included in the Appendices of this Plan are an updated Wildlife Management Plan (Appendix D) and an updated Storm Water Management Plan (Appendix E).

6 AMENDMENTS

Version	Version Date	Revised By	Approved By	Reason for Change
	17/3/10	A.A		Updated for 2009 Report



Canada – Lupin Mine
CARE AND MAINTENANCE PLAN

Appendix A Lupin Waste Management Plan



Canada – Lupin Mine
CARE AND MAINTENANCE PLAN

Appendix B Lupin TCA Discharge Procedure



Canada – Lupin Mine
CARE AND MAINTENANCE PLAN

Appendix C Lupin TCA Discharge Sampling Procedure



Canada – Lupin Mine
CARE AND MAINTENANCE PLAN

Appendix D Lupin Wildlife Management Plan



Canada – Lupin Mine
CARE AND MAINTENANCE PLAN

Appendix E Lupin Stormwater Management Plan