# Lupin Mines Incorporated

A wholly owned indirect subsidary of Elgin Mining Inc.

## Lupin Mine Site

Nunavut, Canada

# Monitoring and Inspection Schedule

(Care and Maintenance Plan)

May 2013

Lupin Mines Incorporated
Elgin Mining Inc.
#201 - 750 West Pender Street
Vancouver, BC  V6C 2T7

**Document Control**

| Revision No | Date | Details | Author | Approver |
|---|---|---|---|---|
| 1.0 | 01/05/13 | Monitoring and Inspection schedule while Lupin mine is in Care and Maintenance and in un-occupied status. | D. Vokey | W. Osborne |

**Table of Contents**



**Appendices**

# 1 Introduction

Lupin Mines Incorporated (LMI), a wholly owned indirect subsidiary of Elgin Mining Inc. (Elgin), has prepared a Care and Maintenance Plan (the Plan) with respect to the requirements within Water License Number 2AM-LUP0914, Part I, Item 2. This Monitoring and Inspection Schedule (Schedule) is a supplement to the Care and Maintenance Plan and outlines LMI's plan to provide site coverage during periods when the mine site is un-occupied.

An annual review of the Plan, its appendices and supplements takes place and revisions are submitted as necessary with the annual report. The current Type A water licence 2AM-LUP0914 (Water Licence) for the Lupin Gold Mine (Lupin or the Lupin Mine) is valid until March 31, 2014 and has been kept in good standing.

## *1.1 Project and Company Information*

Elgin is a Canadian based company focused on the production at the Björkdal Gold mine located in Sweden, and the exploration and development of the Lupin Mine and Ulu Gold Project, both located in Nunavut, Canada.

Elgin purchased LMI, which owns the Lupin Mine, from MMG Resources Ltd. in July 2011. The Lupin site was an operational underground gold mine from 1982 to 2005 with temporary suspensions of activities between Jan 1998 and April 2000, and again between Aug 2003 and March 2004. The mine resumed production in March 2004 until 2005. Since 2005, the site has remained in care and maintenance.

| | |
|---|---|
| Company: | LMI |
| Project: | Lupin Mine, Nunavut |
| Company Address: | 201 – 750 W Pender St, Vancouver, BC, V6C 2T7 |
| Telephone: | 604-682-3366 |
| Email: | jcurrie@elginmining.com |
| Attention: | James (Jim) Currie, Chief Operating Officer |

Effective date: 01 May 2013

Distribution List:

| | |
|---|---|
| Patrick Downey | Chief Executive Officer |
| Peter Tam | Chief Financial Officer |
| Jim Currie | Chief Operating Officer |
| Michele Jones | Manager, Corporate Affairs |
| Wayne Osborne | Project Manager |
| David Vokey | Sr. Environmental Coordinator |
| Karyn Lewis | General Administration |

Additional copies of this Monitoring and Inspection Schedule are available from General Administration.

### *1.2 Site Location*

The Lupin Mine is located in Kitikmeot Region, Nunavut, 400 km north of Yellowknife, Northwest Territories and 285 km southeast of Kugluktuk. The airport serving this Site is at 65° 46'00" N and 111° 14'41" W. The Site is on the western shore of Contwoyto Lake, approximately 60 km south of the Arctic Circle.

### *1.3 Environmental and Sustainable Development Policy*

Elgin Mining Inc. and its subsidiaries (collectively, "Elgin Mining") are committed to maintaining a safe, clean, compliant and respectful work environment. Elgin Mining looks to our employees, contractors and managers to adopt and grow a culture of social responsibility and environmental excellence. Together we achieve this by:

- Promoting environmental stewardship in all tasks. Nothing is too important that it cannot be done in a clean and responsible manner. We strive towards maintaining a zero-incident work place.
- Recognizing that we have a shared responsibility as stewards of the environment in which we operate. We will not walk away from a non-compliant act.
- Identifying, managing and mitigating environmental, business and social risks in an open, honest and transparent manner.
- Planning our work so it is done in the cleanest possible manner and executing work according to plan.
- Continually improving environmental and operational performance by setting and reviewing achievable targets.
- Providing appropriate and necessary resources in the form of training, personnel and capital, including that required for closure planning and reclamation.
- Managing our materials and waste streams, maintaining a high degree of emergency response preparedness and minimizing our operational footprint to maintain environmental protection at all stages of project development.
- Procuring goods and services locally, where available, and favouring suppliers with environmentally and socially responsible business practices.
- Seeking to understand, learn from and mitigate the root causes of environmental incidents and near misses when they do occur.
- Employing systems and technology to achieve compliance, increase efficiency and promote industry best practices in development, operations and environmental stewardship.
- Working with stakeholders to identify and pursue opportunities for sustainable social and economic development and capacity building.

- Conducting early and ongoing stakeholder engagement relevant to the stage of project and mine development and operation.
- Recognizing diversity in the workplace and building meaningful relationships with all stakeholders in a timely, collaborative and transparent manner.

Through implementation of this policy, Elgin Mining seeks to earn the public's trust and be recognized as a respectful and conscientious employer, neighbor and environmental steward.

*Approved by the Board of Directors on August 10th, 2012*

### *1.4 Purpose and Scope*

This schedule is designed to outline management and monitoring measures on site while the Lupin Mine is under care and maintenance and is un-occupied.

The objective of the schedule is to:

- Identify areas requiring monitoring and inspection,
- Outline method of recording and documenting the monitoring and inspection, and
- Provide a schedule for site visits during the un-occupied phase.

## 2 Occupation of the Site

Measures are taken to secure the site and protect the environment during periods that the site is un-occupied. All buildings are locked and secured. All fuel tank valves are closed and all tanks containing fuel in the Main Tank Farm (MTF) and Satellite Tank Farm (STF) have the valves closed and locked. All water and sewer lines are drained. All food removed from the camp, and all garbage incinerated and/or removed from site for off-site disposal at an approved facility in Yellowknife, NT.

Responsibilities of LMI personnel during the Monitoring and Inspection visits include:

- Inspect hydrocarbon storage tanks and associated piping at the MTF, STF, Waste Oil Tank Farm (WOTF), all generators, Volcano Glycol Boiler tank, and all tanks connected to heating appliances for signs of leaking and/or compromised integrity;
- Inspect all drums and oil cubes in the hazardous waste storage area for signs of leaking and/or compromised integrity;
- Inspect all drums and oil cubes in the Third Party Berm for signs of leaking and/or compromised integrity;
- Implement *Lupin Mine Spill Contingency Plan*, as needed;
- Inspect sewage lagoon dams for erosion, tension cracks, etc. and monitor water levels;

- Inspect TCA dams for signs or erosion, tension cracks, etc., and monitor water levels in each pond;
- Monitor run-off and water movement from snowmelt and divert flows if necessary;
- Monitor wildlife presence and/or migration; and
- Inspect all buildings for signs of entry and/or recent damages and/or deterioration.

## 3 Record Keeping

During each site visit LMI will utilize checklists for each area indicating the date and time of the inspection, as well as the name(s) of the person(s) involved. These checklists will be maintained on file and be available to the Aboriginal Affairs and Northern Development Canada (AANDC) Inspection Officer (the Inspector) upon request. A copy of the checklists can be found in Appendices A, B, and C.

## 4 Monitoring and Inspection Schedule

LMI will commence performing the site visits to conduct the monitoring and inspections during the last week of May. At the start of May LMI commences communication with personnel working in the region at MMG's Izok project, Sabina's Goose Lake project, and Xstrata's Hackett River project weekly (at a minimum) to assist in determining when signs of the onset of the freshet become evident. LMI will commence monitoring the daily weather recordings made at Environment Canada's Lupin weather station and posted on http://www.wunderground.com/weather-forecast/CA/Lupin_Airport.html the second week of May. Based on this communication and temperature trends noted in the Lupin weather forecast, LMI may make a site visit earlier than the last week of May.

Additionally; In 2013 LMI will have a consultant on site and utilizing a helicopter undertaking an Environmental Effects Monitoring (EEM) program prior to the onset of freshet. The consultant will provide temperature and precipitation observations, an estimate of the extent of snow cover remaining, distance to nearest open water observed and the rate of snow melt observed during the EEM program.

LMI will continue to make weekly site visits to monitor and inspect the site until freshet. LMI will undertake routine monitoring and inspection visits every three weeks thereafter until fall freeze up. Additional site visits will be added if site conditions warrant it. LMI has on standby, a crew of operators, labourers, and supervisory staff that can and will be mobilized to site with minimal notification, should a situation occur that requires immediate attention.

At the start of freshet LMI will collect water samples from the tank farm secondary containment area. Upon receipt of analytical results, LMI will notify the Inspector of the results, and request approval to dewater the secondary containment areas. Should the water not meet the discharge criteria, LMI will pump the contaminated water into empty tanks and/or drums and hold it pending treatment or off-site disposal.

If the water level in any of the ponds associated with the mine site has risen to an unacceptable level, LMI will notify the Inspector of this immediately, and advice the Inspector that a crew will be mobilized to control the water levels by pumping and/or syphoning as agreed to by LMI and the Inspector.

## Appendix A: Fuel Containment Inspection Checklist – Tank Farms

| Fuel Containment Inspection Logs | Date & Time: | |
|---|---|---|
| Weekly//Monthly | Inspector: | |
| **Inspection Item** | **COMMENTS** | **OK ? (Y / N)** |
| **Main Tank Farm** | | |
| Measured Depth of water in berm?? (Cm) | No water in any of the berms before freeze up. | |
| Main Pump Shack | Temporarily out of service | |
| Pump Station 1 | Temporarily out of service | |
| Pump Station 2 | Temporarily out of service | |
| Jet A Pump station | Temporarily out of service | |
| Tanks M3, M5 to M12, M14 | All tanks empty and disconnected from piping header. All tanks temporarily out of service. | |
| Marclin tanks M16 - M21 | M16 contains oily water. All others are empty and temporarily out of service. | |
| Tank M22 | Tank is empty. Temporarily out of service | |
| Tanks M15, M13, M1, M2 and M4 | All tanks contain fuel. No leaks observed. | |
| IND-11 is a "pup" tanker trailer located in 3rd party berm. | Empty | |
| **PM check Main Tank Farm** | | |
| Inspect fuel pumps & control systems at Main Pump Shack. | Temporarily out of service | |
| Inspect active tanks for structure damage & leaks. | Only M15, M13, M1, M2 and M4 contain fuel | |
| Inspect valves, piping & connections for damage & leaks. | Only M15, M13, M1, M2 & M4 are connected | |
| Inspect fuel pumps & control systems at Pump Station 1 & 2. | Temporarily out of service | |
| Inspect line from transfer pump to underground line to Sat Farm | Permanently out of service | |
| Inspect liner and berm structure | Liner on SE corner of Tank 14 &15 is exposed 10 m along South berm and needs covered | |
| Inspect fuel line where it crosses the Tailings Service Road | Permanently out of service | |
| **Satellite Tank Farm** | | |
| Measured Depth of water in berm?? (Cm) | Water in berm? | |
| Fuel Truck Station | Temporarily out of service | |
| Powerhouse Pump Station | Temporarily out of service | |
| Fuel Dispensing Station DIESEL ONLY | Minor weep on solenoid valve outside building that needs repair. | |
| Fuel Transfer Line to Powerhouse Pump stn | out of service, valves closed | |
| Fuel Transfer Line to Fuel Truck stn | Temporarily out of service | |
| S1 to S10 | All tanks contain fuel. No leaks observed. | |
| S11 and S12 | MT. Temporarily out of service. (Gasoline tanks) | |
| **PM check Satellite Tank Farm** | | |
| Inspect fuel inlet at Diesel dispensing Station | No issues | |
| Inspect Diesel fuel delivery meter, nozzles & hose for leaks. | power turned off. Valves closed and locked. | |
| S1 to S10 tank line valves, piping & connections for damage & leaks. Each tank has a valve and each jct of the tank line to delivery line has a valve | Valves closed and locked. | |
| Inspect fuel storage tanks for structure damage & leaks. | No issues | |
| Inspect line where it enters from the Tailings Service Road | Permanently out of service, valves closed | |

## Appendix B: Fuel Containment Inspection Checklist – Other Tanks

| Fuel Containment Inspection Logs | **Date and Time:** | |
|---|---|---|
| Weekly//Monthly | **Inspector:** | |
| **Inspection Item** | **COMMENTS** | **OK ? (Y / N)** |
| **Camp Generator Two tanks** | | |
| Inspect fuel storage tanks for structure damage & leaks. | New double wall tanks | |
| Inspect valves, piping & connections for damage & leaks. | Flexible hose pending engineer deign | |
| **Mechanical Shop Generator Tank** | | |
| Inspect fuel storage tanks for structure damage & leaks. | Has secondary containment | |
| Inspect valves, piping & connections for damage & leaks. | Temp out of service | |
| **Incinerator Tank** | | |
| Inspect fuel storage tank for structure damage & leaks. | New double wall tanks | |
| Inspect valves, piping & connections for damage & leaks. | | |
| **Used Oil Two Tanks (Two) 90,000 l each** | | |
| Inspect 2 storage tanks for structure damage & leaks. 10k and 15 k l in them, so almost MT | Temporarily out of service. | |
| Inspect valves, piping & connections for damage & leaks. | Not in service. U/G Piping needs removed | |
| Inspect containment berm | Minimal water in it before freeze up | |
| **Office Day Tank** | | |
| Inspect valves, piping & connections for damage & leaks. | New double wall tank, no issues | |
| **Camp back up generator tank** | | |
| Inspect valves, piping & connections for damage & leaks. | Has secondary containment | |
| **Emergency Powerhouse Tanks (2)** | | |
| Inspect fuel storage tanks (2) for structure damage & leaks. | Has secondary containment. | |
| Inspect valves, piping & connections for damage & leaks. | | |
| **Tank at Volcano boiler, W of 600 wing.** | | |
| Inspect valves, piping & connections for damage & leaks. | Has secondary Containment. | |
| | | |

# Appendix C: TCA and Dams Monitoring Checklist

## Lupin Mine Dams Inspection Form

| | | | |
|---|---|---|---|
| **Date & Time:** | | **Weather:** | |
| **Inspector:** | | **Inspection Method (Ground/Air):** | |

| | Upstream Face | | | | | | | Crest (access road) | | | Downstream Face and Toe | | | | | Other | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Tailings Containment Area** | Water level relative to Dam Crest | Tailings Level relative to Dam Crest | Visual Cracks or Erosional Features (Y/N) | Displaced or Eroded Rip-Rap (Y/N) | Sink Holes or Settlement of Slope or nearby Beach (Y/N) | Water Entering into Upstream Face (Y/N) | Erosional Features (Y/N) | Sinkholes, Settlement, or Depressed Areas (Y/N | Visual Cracks (Y/N) | If Cracks Visible, note Length (m) | Visual Cracks or Erosional Features (Y/N) | Buldging or Deformation along Slope or Toe (Y/N) | Visable Seepage (Y/N) | If Seepage Visible, note Quantity (m3/sec) | If Seepage Visible, note if Sediment is Suspended (Y/N) | Other Atypical Conditions Observed (Y/N) | Thermister Readings Taken (Y/N) | Diagrams Attached (Y/N) |
| Dam 1A | | | | | | | | | | | | | | | | | | |
| Dam 1B | | | | | | | | | | | | | | | | | | |
| Dam 1C | | | | | | | | | | | | | | | | | | |
| Dam 2 | | | | | | | | | | | | | | | | | | |
| Dam 3 | | | | | | | | | | | | | | | | | | |
| Dam 4 | | | | | | | | | | | | | | | | | | |
| Dam 5 | | | | | | | | | | | | | | | | | | |
| Dam 6 | | | | | | | | | | | | | | | | | | |
| **Sewage Containment Area** | | | | | | | | | | | | | | | | | | |
| Tailings Dump Pond 1 Dike | | | | | | | | | | | | | | | | | | |
| Tailings Dump Pond 2 Dike | | | | | | | | | | | | | | | | | | |
| Upper Sewage Pond Dike | | | | | | | | | | | | | | | | | | |
| Lower Sewage Pond Dike | | | | | | | | | | | | | | | | | | |

| **Notes / Observations** |
|---|
| |
| |
| |
| |
| |
| |

Revised: 01 May 2013