Lupin Mines Incorporated

A wholly owned indirect subsidary of Mandalay Resources Corporation

Lupin Mine Site

Nunavut, Canada

Care and Maintenance Plan

(Care and Maintenance)

March 2016

Lupin Mines Incorporated
Mandalay Resources Corporation
76 Richmond Street East, Suite 330
Toronto, Ontario M5C 1P1

Document Control

Revision No	Date	Details	Author	Approver
1.0	20/03/12	Reformatted to Lupin Mines standard. Revised and updated to reflect new ownership and contact information. Updated discussion of site occupation to reflect current site activities. Updated discussion of solid waste management to reflect current practices. Added reference to *Wildlife Management Plan*. Added reference to *Stormwater Management Plan* and updated plan to include liquid waste and water management. Added section and reference to *Fuel Containment Management Strategy*. Address comments from EC (2009) and AANDC (2010).	S. Hamm	P. Downey
2.0	30/03/13	Updated contact information. Updated environmental policy. Included information on site access. Updated to reflect current site activities and procedures. Proposed management of exposed tailings revised.	D. Vokey	W. Osborne
3.0	25/03/16	Updated to reflect new water licence Updated contact and general information Updated Section 2 Occupation of the Site Added links to Landfill and Landfarm management plans in Section 3 Added brief description of the TCA in Section 4 Updated Section 4.3 Exposed Dry Tailings Updated freshwater usage in Section 6 Liquid Waste and Water Management Updated Section 7 Fuel Management to reflect achievement of compliance with EC Removed Fuel Management Strategy as upgrades have been completed Added Monitoring and Inspection Schedule as Appendix 4	SRK	K.Lewis

Executive Summary

Lupin Mines Incorporated (LMI), a wholly owned indirect subsidiary of Mandalay Resources Corporation (Mandalay), has prepared this Care and Maintenance Plan (the Plan).

This Plan is designed to outline management and monitoring measures on site while the Lupin Mine is under care and maintenance with respect to the requirements within Water License Number 2AM-LUP1520, Part I (4). This includes guidance on the management of waste, fuel storage, as well as water and tailings management and monitoring.

A review of the Plan takes place and revisions are submitted as necessary with the annual report. The current Type A water licence 2AM-LUP1520 (Water Licence) for the Lupin Gold Mine (Lupin or the Lupin Mine or the Site) is valid until August 18, 2020.

Executive Summary Inuktitut

Awaiting translation – to be provided as soon as possible

Executive Summary Inuinnaqtun

Awaiting translation – to be provided as soon as possible

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1 Introduction

Lupin Mines Incorporated (LMI), a wholly owned indirect subsidiary of Mandalay Resources Corporation (Mandalay), has prepared this Care and Maintenance Plan (the Plan).

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1.1 Project and Company Information

Mandalay is a Canadian based company focused on producing assets in Australia, Chile and Sweden, a development project in Chile and the exploration and development of the past-producing Lupin Gold Mine and the Ulu gold project, both located in Nunavut, Canada.

Mandalay purchased Elgin Mining Inc., which owns LMI and the Lupin Mine, in September 2014. Lupin was in operation from 1982 to 2005 with temporary suspensions of activities between January 1998 and April 2000, and again between August 2003 and March 2004. The mine resumed production in March 2004 until February 2005. Since 2005, the Site has remained in Care and Maintenance.

General site maintenance and facilities upgrades are underway at the Lupin Mine to assess operational requirements. The activities underway were screened by the Nunavut Impact Review Board under file 99WR053 and approved by the Nunavut Water Board under Water Licence 2AM-LUP1520. Surface exploration is conducted under Water Licence 2BE-LEP1217. All camp infrastructure required for the surface exploration program currently exists at the Lupin Mine

Company:	LMI
Project:	Lupin Mine, Nunavut
Company Address:	Suite 330, 76 Richmond Street East, Toronto, ON M5C 1P1
Telephone:	778-386-7340
Email:	klewis@elginmining.com
Attention:	Karyn Lewis, General Administration

Effective Date: March 18, 2016

Distribution List:

Karyn Lewis	General Administration
Discovery Mining Services	Site Contractor
Golder Associates	Site Consultant
SRK Consulting	Site Consultant

Additional copies of this Plan are available from General Administration. This Plan will be posted in key locations at the site, and all employees and contractors will be made aware of its contents.

1.2 Site Location

The Lupin Mine is located in the Kitikmeot Region, Nunavut, 400 km north of Yellowknife, Northwest Territories and 285 km southeast of Kugluktuk, Nunavut. 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 (Figure 1).

1.3 Environmental and Sustainable Development Policy

Lupin Mine Incorporated (LMI) is committed to maintaining a safe, clean, compliant and respectful work environment. LMI 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, LMI seeks to earn the public's trust and be recognized as a respectful and conscientious employer, neighbor and environmental steward.

1.4 Purpose and Scope

This Plan is designed to outline management and monitoring measures on site while the Lupin Mine is under care and maintenance with respect to the requirements within Water License Number 2AM-LUP1520, Part I (4).

The objectives of the Plan are to:

- Outline waste management measures,
- Outline fuel storage and management,
- Outline water management measures, and
- Provide details on tailings management and monitoring.

2 Occupation of the Site

Bi-weekly inspections will be conducted during freshet (May and June), and monthly during the remainder of the open water period (July to October) of the TCA, sewage ponds and fuel systems. The Monitoring and Inspection Schedule is included as Appendix 4.

The site is occupied in support of general site maintenance and the treatment and discharge of water from the tailings containment area. Occupation of the site increases during surface exploration activities and when the site shifts from Care and Maintenance to the Transition Phase where underground activities commence.

People are accommodated on site in the guesthouse, the 1300 wing of the accommodation complex, and additional wing(s) of the accommodation complex, depending on the number of personnel on site. In 2012 and 2013, 150 rooms were refurbished. The domestic water supply is Contwoyto Lake. Sewage and grey water are conveyed to the Sewage Lakes system (Figure 2).

2.1 Site Access

The Lupin Mine property is accessible by fixed wing or rotary aircraft from Yellowknife. A 1,950 m long gravel airstrip suitable for Boeing 727 and Hercules sized aircraft is located on the property. A facility to handle float-equipped aircraft is located on the shore of Contwoyto Lake. The property can be serviced by a winter road from Yellowknife, which currently operates between February and April to service the

diamond mines south of Lupin. The Lupin spur has been inactive for several years, but can be reactivated to allow for the delivery of bulk items.

2.2 General Responsibilities

Responsibilities of site personnel include:

- Controlling fugitive dust,
- Managing snow and storm water in accordance with best management practices (BMPs),
- Maintaining secondary containment dry in petroleum storage areas,
- Preventing the release of petroleum products,
- Implementing the *Spill Contingency Plan*, as needed,
- Managing all wastes according to *Waste Management Plan (Solid and Hazardous)* and *Liquid Waste Management Plan,*
- Inspecting water and domestic sewage pipelines,
- Operating, maintaining and monitoring tailings and sewage facilities in accordance with this Plan,
- Maintaining environmental licenses, permits and authorizations,
- Conducting monitoring programs, and
- Regularly reviewing and updating contingency, mitigation and management plans.

3 Solid Waste Management

While under care and maintenance, LMI shall conduct appropriate solid waste identification, segregation, and disposal as outlined in the *Waste Management Plan (Solid and Hazardous)* and its appendices the *Incineration Operation and Maintenance Procedure, Landfill Management Plan and Landfarm Management Plan* are appended (Appendix 3). All wastes generated by its activities will be managed by appropriately trained personnel. LMI has obtained a waste generator number (NUG 100047) and waste shipment off site will be manifested as required. Appropriate and approved waste receivers will be utilized.

4 Tailings Containment Area

The Tailings Containment Area (TCA) is located approximately six (6) km south of the Lupin Mine, and covers an area of about 361 ha within the 750 ha land lease. There is a substantial amount of water present within the tailings containment area (TCA) (Figure 2). The containment is divided into three main components: solids retention cells (Cells 1, 2, 3, and 5), polishing ponds (Cell 4, Pond 1 and Pond 2) and the End Lake area (not used).

4.1 Dam Integrity

A visual inspection of the dams' physical conditions and seepage will be carried out during snow-free periods when the TCA is accessible, and when safely accessible during winter months. A request has been submitted to NWB regarding inspection schedules. Inspection records will be maintained on site, for review upon the request of an inspector. During geotechnical 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 Water Management

Water within the TCA is contained in Cell 4, Cell 5, Pond 1 and Pond 2. All of this water is periodically transferred downstream to maintain a 1 m freeboard at all times at the perimeter dams. 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 water is transferred directly to Pond 1 via siphon. Pond 2 is the largest pond; here, water is treated with lime and eventually discharged to the environment by way of siphon.

At the start of the season a water level survey of all ponds and cells will be conducted. 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. Water levels will be monitored as part of the dam inspections.

4.2.1 Discharge from Pond 2

Review of historical documentation associated with the site has shown that the accumulation of runoff and seepage in the ponds of the TCA builds up over a period of two to three years to the point where a discharge to the external environment is required to lower the pond levels. LMI plans to have a release every three years, or as current conditions on site require.

Water in the TCA is treated and tested prior to discharge to the environment to ensure it is in compliance with Part E(5) of the Water Licence and the Metal Mining Effluent Regulations (MMER). If compliant, water is discharged at LUP-10 (Figure 4, UTM NAD83, Zone 12N, coordinates: 485911E 7289875N). In accordance with Part E(2) and Part E(3) of the Water Licence. Discharge can commence no sooner than July 15 of any calendar year and the volume discharged cannot exceed 70,000 m^3 per day. More detailed information is available in the *Liquid Waste Management Plan* and its appendix the *Water Quality Monitoring Plan and Quality Assurance/Quality Control Plan* are appended (Appendix 2).

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 241,000 m^2 of tailings within the TCA that have yet to be covered. It is understood that there is approximately 155,000 m^2 of Cell 5 and 86,000 m^2 of Cell 3 remaining to be covered. The tailings contained in Cell 5 are currently covered with water therefore eliminating any potential for dust contamination. A study conducted to assess the presence of recent

windblown tailings adjacent to the TCA detected no deposition of tailings material on surface (SRK 2015).

5 Wildlife Management

A *Lupin Mine Wildlife Management Plan* has been developed, outlining measures designed to mitigate impacts to wildlife which may arise from air traffic, waste management and ongoing site activities (Appendix 3).

6 Liquid Waste and Water Management

The *Liquid Waste Management Plan* (March 2016) has been developed to outline water and liquid waste management practices currently in place at Lupin (Appendix 2). The *Water Quality Monitoring Plan and Quality Assurance/Quality Control Plan* (March 2016) is an appendix of the *Liquid Waste Management Plan*. It provides a set of standardized procedures for sampling, analysis and reporting for the water quality monitoring program.

Drinking water is obtained from Contwoyto Lake at LUP-01.It is currently pumped from the lake and trucked to the storage tanks at the accommodation complex. An eight (8) inch insulated pipeline are in place to provide water from a pumphouse at Contwoyto Lake. A maximum quantity of 5,000 m^3/year can be withdrawn for all uses during the current Care and Maintenance Phase of the Project and 500,000 m^3/year, during the Transition Phase of the Project, as stipulated by the Water Licence.

Liquid waste resulting from camp accommodations and kitchen facilities (dishwater and sanitary waste) is stored in a sewage tanks and then hauled to the Upper Sewage Lake for disposal as needed. Water accumulating in sewage lakes is tested prior to discharge to the environment to ensure it is in compliance with Part E (9) of the Water Licence. If compliant, water is discharged from LUP-14 to the environment.

Stormwater results from precipitation events on the ground surface and building roofs on site. Overland flow quality and quantity are managed through implementation of a series of BMPs to minimize effects to the environment that may result from stormwater run-off. Safe material handling and storage procedures minimize introduction of potential contaminants to the site environment, which may in turn, be mobilized by stormwater. BMPs including erosion control measures, snow removal, site grading and ditching are in place to minimize impacts from the movement of surface water over surficial materials.

Water accumulating in secondary containment of fuel storage facilities is tested prior to discharge to the environment to ensure it is in compliance with Part E(10) of the Water Licence. Water that is not in compliance is pumped to storage containers where it is held until it can be treated and subsequently released to the environment at LUP-27. Snow that is contaminated with hydrocarbons is collected and melted. The hydrocarbon portion is skimmed of the water using sorbent towels. The water is then tested and either discharged or stored prior to treatment and release to the environment.

7 Fuel Management

A *Fuel Containment Management Strategy* was developed early in 2012, for maintenance and upgrades to the fuel containment facilities. Work on the fuel systems was conducted in 2014 as reported in the 2014 annual report to bring the systems into compliance.

Legend

Project Location

Coordinate System: NAD_1983_UTM_Zone_12N

Map Sources/Notes:
Various Canadian Government Websites - Feb 2012

0 60 120 240 360 480 600 Km

1:15,000,000

Approved By: AL
Project No.: LUP
File Name: Lup-13-08-01-LocationMap-A.mxd

Prepared By: PW
Date Revised: 15 Apr 2013

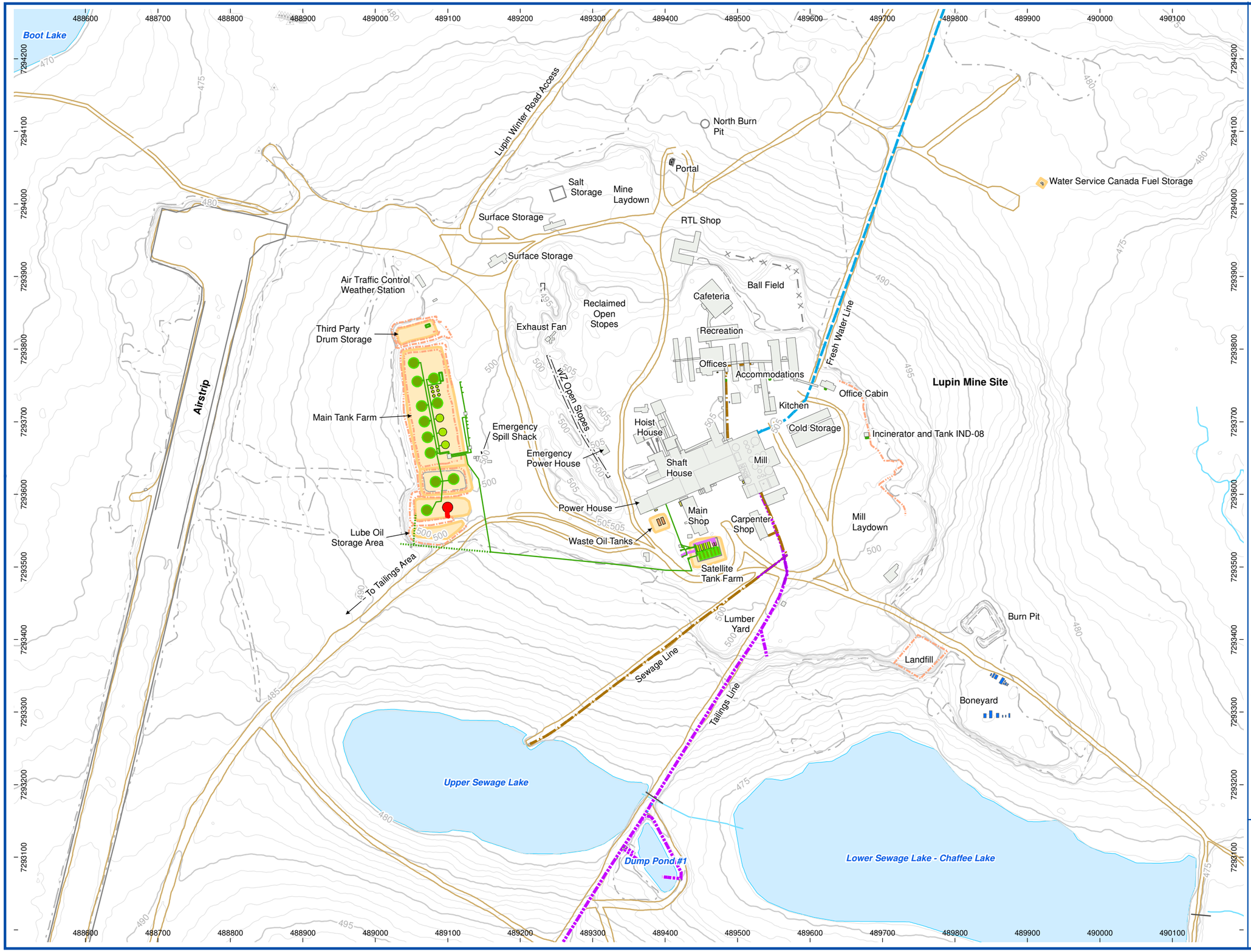
Project: **Lupin Project**
Location: Kitikmeot Region, Nunavut, Canada

Location Map

Lupin Mines Incorporated

ELGIN MINING INC.

Figure: 1
Rev: 130415



Legend

- Building
- Tank Farm Berm Outline
- Lake
- Edge of Disturbed Area
- Stream
- Road
- Topographic Contour (5m)
- Topographic Contour (1m)
- Sewage Pipeline (6 in Diam)
- Tailings Line Route
- Water Pipeline (8 in Diam)

Pipe - Fuel Type, Status

- Diesel, Active
- Diesel, Abandoned
- Diesel, Uncertain
- Gasoline, Active
- Jet A, Active

Location of Tank - FuelType

- Diesel P-40
- Diesel P-50
- Diesel
- Water
- Jet-A
- Gas
- Glycol
- Waste Oil
- Empty
- Unknown

N W E S

Map Sources/Notes:
Topographic features and site layout from Satellite image dated Aug 21, 2012
Fuel tank and Fuel Containment layouts adapted from drawings by Emerson Engineering dated Oct 17, 2011 and from data updated to March 01 2013

Coordinate System: NAD_1983_UTM_Zone_12N

Meters
0 50 100 200

1:5,000

Approved By: AL
Prepared By: PW
Project No.: LUP
Date Revised: 15 Apr 2013
File Name: Lup-13-08-03-MinesiteArea-B.mxd

Project: **Lupin Gold Mine**
Location: Kitikmeot Region, Nunavut, Canada

Minesite Area

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Figure: 3
Rev: 130415

Appendices

Appendix 1: Lupin Mine Waste Management Plan (Solid and Hazardous)

Appendix 2: Lupin Mine Liquid Waste Management Plan

Appendix 3: Lupin Mine Wildlife Management Plan

Appendix 4: Monitoring and Inspection Schedule