

APPLICATION FOR A NEW WATER LICENCE OR AMENDMENT OF EXISTING LICENCE.

Application/License No:
(amendment)

<p>1. Name and Mailing Address of Applicant</p> <p><u>Fortune Minerals Limited</u></p> <p><u>140 Fullarton Street, Suite 1902</u></p> <p><u>London, Ontario N6A 5P2</u></p> <p>Telephone: <u>(519) 858-8188</u></p> <p>Fax: <u>(519) 858-8155</u></p>	<p>2. Address of Head Office in Canada if Incorporated</p> <p><u>Fortune Minerals Limited</u></p> <p><u>140 Fullarton Street, Suite 1902</u></p> <p><u>London, Ontario N6A 5P2</u></p> <p>Telephone: <u>(519) 858-8188</u></p> <p>Fax: <u>(519) 858-8155</u></p>
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3. Location of Undertaking (describe and attach a map, indicating watercourses and location of any proposed waste deposits).

Latitude 63° 33' North Longitude 116° 45' West

Figures 1 illustrates the study area covered for this mine application (see cover letter). Figure 2 shows drainage patterns for the study area and Figure 3 shows the natural topography of the proposed mine area and the location of previous exploration activities. Figure 4a indicates the location of the proposed open pit mine, plant facilities, tailings and mine rock management areas, and related infrastructure. Figure 4b presents possible granular borrow quarry sites and possible rockfill borrow quarry sites (if required).

4. Description of Undertaking (describe and attach plans)

The project comprises a mine site with open pit and underground operations, ore processing mill facilities, tailings and mine rock management areas, a service complex and mine equipment maintenance building, a camp site, power generation and heat recovery facilities, reagent storage, waste management facilities, roads within the mine site. Water intake pipelines will run from the water intake pump houses at Lou and Burke Lakes to the mine site (Figure 4a).

Mine

Underground and open pit mines targeting the NICO deposit will be constructed at the NICO property (Figure 4a). Ore reserves totaling 21.8 million tonnes (Mt) have been identified and are sufficient for a planned 15 year mine life at an annual processing rate of 1.696 Mt. Mining will be

primarily by open pit with a combination of underground and open pit during the first two years of operations. Dimensions of the open pit will be approximately 1,340 metres (m) long by 460 m wide, and 230 m deep. Mine rock from the open pit will be stored in the Mine Rock Management Area (MRMA) south of the open pit. During the construction phase, a 10 Mt pre-strip program will be conducted in the open pit to remove overburden rock from above the ore body. A portion of the rock excavated during this phase will be used to construct site roads and the dam structures of the tailings management area.

Facilities and service systems related to underground and open pit dewatering, fuel storage, ammonium nitrate storage, ammonium nitrate-fuel oil (ANFO) production, and mobile plant maintenance (truck shop) will be constructed in association with the mining activities.

Mill and Processing Facilities

The mill will perform standard crushing followed by ball mill grinding. There will be two flotation circuits producing bismuth and cobalt concentrates, which are processed in two separate hydrometallurgical circuits. These circuits consist of pressure acid leaching/precipitation/ionic exchange/electrowinning (for cobalt) and chloride leaching/electrowinning/cementation (for bismuth). Copper cement or metal is produced as a by-product. Processed residues are treated for gold recovery using cyanidation. Products from the mill will be gold doré, cobalt carbonate or metal (preferred), and bismuth metal and cement (byproduct). A tailings management area (TMA) will be constructed to accommodate processed rock (tailings). Mine rock will be placed in the MRMA. Laboratory facilities will be established to handle routine analyses for the site.

Camp

Permanent camp facilities are currently planned to be constructed southeast of the mine operations west of Nico Lake. It will have capacity for approximately 150 people during normal operations and approximately 600 people during construction. A workforce of 225 people is expected to be hired for the overall mining operation at NICO. The camp will be divided into dormitories and one general complex which will contain kitchen, storage areas, preparation areas, dining room for approximately 120 people, washrooms, offices and recreation area. A pioneer camp at the present exploration camp at Lou Lake will facilitate early construction, including construction of the permanent camp and temporary construction camp wing.

Buses will be available to transport employees to and from the site from Yellowknife and local communities. An airport will be maintained at Burke Lake for construction and emergencies, and possibly charter transport. The work rotations are currently planned to be 7, 5, or 4 day periods. A float plane and boat dock will be maintained on Lou Lake.

Potable water will be produced on site and sewage treatment facilities will be constructed.

5. Type of Undertaking.

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|-----------------------|---------------|------------------|-------|
| 1. Industrial | _____ | 5. Agriculture | _____ |
| 2. Mining and Milling | _____ X _____ | 6. Conservation | _____ |
| 3. Municipal | _____ | 7. Recreation | _____ |
| 4. Power | _____ | 8. Miscellaneous | _____ |

water will be treated prior to discharge to remove arsenic and other metals, and control pH. Treated water will be discharged through a pipeline to Peanut Lake.

Tailings Management Area

The TMA will be located in the Grid Pond basin (Figure 4a). These ponds are not fish bearing and have naturally high levels of arsenic. The TMA includes four water retaining dam structures, emergency spillways, effluent discharge pump barge and pipeline to the Effluent Treatment Facility (ETF), a potential reclaim water pipeline, and seepage collection systems. The TMA will be constructed in stages.

Mine Rock Management Area

Non-reactive mine rock will be used selectively to the extent practical for construction of the tailings dams and on-site access roads. The results of geochemical testing indicate that the majority of the mine rock will be non-acid generating, with a low potential for release of dissolved metals.

The underground mine will use cemented rock fill as the backfill method, which will utilize rock generated from both underground and open pit activities.

Results of leach extraction tests and seep samples collected from mine rock outside of the exploration drift indicate that arsenic concentration in discharges from the mine rock may exceed receiving water standards. Rock containing elevated arsenic levels will be segregated and not utilized for construction materials.

A single MRMA is planned and is located south of the open pit. Runoff from the MRMA will be captured with a diversion ditch and directed into a collection sump where it will be pumped to the ETF.

Effluent Management

Cyanide destruction will occur in slurry, in the process plant, by the SO₂-Air process prior to discharge to the TMA.

The ETF will add ferric sulphate and lime to the effluent to remove arsenic and other metals, and control pH. Effluent from the ETF will pass through a sedimentation pond from which it will discharge into Peanut Lake. The water from Peanut Lake ultimately drains into the Marian River through Burke Lake.

NICO will also operate a sewage treatment plant to process domestic sewage produced from the camp and mine site, discharging the effluent to the TMA. A number of sediment collection ponds will be constructed to collect site runoff and return it to the process.

Other Waste Management Facilities

In addition to mine waste management (*i.e.* tailings, rock, effluent), other wastes generated from processing, such as containers, construction materials, automotive fluids, scrap metals, etc., as well as domestic wastes generated from the camp, will be handled on site. Attachment 5 to this application package provides our general waste management strategies.

We will operate a waste management facility in the vicinity of the ETF in which wastes will be received and sorted for reusables, recyclables, food and combustibles, etc. An on-site incinerator, installed with a scrubber system, will handle combustible and food wastes. Potentially hazardous wastes, (e.g. reagent containers) will be segregated for transportation off site to appropriate receivers. Residual non-hazardous wastes that cannot be reused, recycled or incinerated will be placed in a waste disposal facility within the footprint of the tailings management area. A land farm will also be established in the area of the waste handling facilities to treat soils in which biodegradable substances may be spilled (e.g. petroleum).

9. Other persons or properties affected by this Undertaking (give name, mailing address and location. Attach a list if necessary.

The site is isolated from human habitation; therefore, no direct impact on other people or property is anticipated. Water originating at the NICO property flows through Tłı̄ch̄q lands and ultimately drains into the Marian River that flows south into Marian Lake and Great Slave Lake.

A summary of community consultation activities is provided in Attachment 6.

10. Predicted environmental impacts of undertaking and proposed mitigation.

Attachment 3 of the Mining Industry Questionnaire provides a screening level summary of predicted impacts and proposed mitigation strategies for development of the mine. Baseline data for the main water bodies in the study area is summarized in a report prepared by Golder Associates Ltd. entitled "Environmental Surveys at Fortune Minerals Limited NICO Deposit, 1998 – 2004." An electronic copy of this report has been provided to the board in response to Question 7.2 of the Mining Industry Questionnaire.

11. Contractors and sub-contractors (names, addresses and functions). Attach a list if necessary.

Contractors will be used during the detailed engineering and construction of the NICO mine. Their duties will range from civil, mechanical, structural and electrical work as well as mine development & road construction. Fortune Minerals has not yet selected the contractors that will work at NICO but will update the board when selections have been carried out. The following contractors and consultants have been used for the NICO exploration, feasibility, and front end engineering, and will likely continue to be used during operations.

- Tłı̄ch̄q Logistics
- Tłı̄ch̄q Landtran
- Tłı̄ch̄q Explosives
- Tłı̄ch̄q Road Constructors
- Tłı̄ch̄q Air
- KeTe Whii Ltd.
- KeTe Whii Procon
- Golder Associates
- EBA Engineering Consultants
- Rescan Environmental Services
- Micon International
- SGS Lakefield Research
- KVK Consulting Associates
- EHA Engineering
- Met-Chem Canada
- Aker Solutions

12. Studies undertaken to date. Attach a list if necessary.

Electronic and hard copies of the reports listed below will be provided to the board as part of this application.

- Golder Associates Ltd. 1998. *Environmental scoping for Fortune Minerals NICO and Sue-Dianne properties*, 70 p.
- Golder Associates Ltd. 1999. *A review of geotechnical data and recommendations for pit slope design configurations, Nico deposit*, 41 p. plus appendices.
- Golder Associates Ltd. 2003. *Heritage resources impact assessment of Fortune Minerals Nico gold prospect, Northwest Territories. Archaeologists Permit #2003-942*, 41 p.
- Golder Associates Ltd. 2004. *2003 Environmental surveys at Fortune Minerals Nico property*, 59 p.
- Golder Associates Ltd. 2004. *Tailings basin site selection study, Nico project, Northwest Territories*, 12 p. plus appendices.
- Golder Associates Ltd. 2004. *Interim factual report on static geochemical results for Nico Au-Co-Bi project, Northwest Territories*, 18 p. plus appendices.
- Golder Associates Ltd., 2004. *Heritage Resources Impact Assessment, Fortune Minerals NICO Gold Prospect, Northwest Territories, Archaeologists Permit #2003-942*.
- SGS Lakefield Research Limited. 2004. *Final report on environmental monitoring of Nico locked cycle flotation products*, 14 p. plus appendices.
- SGS Lakefield Research Limited, 2005. *Environmental Monitoring and Treatment Testing of NICO Flotation Tailings*.
- EBA Engineering Ltd., 2005. *NICO Mine Access Route Evaluation*
- KVK Consulting Associates, 2005. *Revised Process Water and Pulp Flow Rates at NICO*.
- Golder Associates Ltd., 2005. *Heritage Resource Impact Assessment, Fortune Minerals NICO Mine All-Weather Access Road, Northwest Territories, Class 2 Archaeologists Permit No 2004-963*.
- Golder Associates Ltd. 2005. *Environmental Surveys at Fortune Minerals Limited NICO Deposit, 1988-2004*.
- Golder Associates Ltd.. 2005. *Factual Report on Geotechnical and Hydrogeological Investigations for the Proposed Open Pit and Underground Workings, NICO Deposit, Northwest Territories*.
- Golder Associates Ltd., 2006. *Waste rock monitoring and contingency plan, Fortune Minerals Limited, Nico Co-Au-Bi Project, NWT*.
- Golder Associates Ltd. 2006. *Terrestrial Baseline Studies for Fortune Minerals' NICO Project, NWT, 2003-2005*.
- Golder Associates Ltd. 2006. *Supporting Environmental Report for Marian River Bridge Crossing at the NICO Mine Site*.
- Golder Associates Ltd. , 2006. *NICO Interim Air and Noise baseline data collection Interim Report*.
- Golder Associates Ltd., 2006. *Draft Report on Surface Water Monitoring Program, 2005, NICO Project*.
- Golder Associates Ltd.. 2006. *Draft Report Aquatic Baseline Summary Report - Fortune Minerals NICO Property, 2006*.
- Rescan Environmental Services Ltd., 2006. *Social and Economic Components for NICO Gold-Cobalt-Bismuth Mine Project* .
- SGS Lakefield Research Limited, 2006. *Environmental Characterization of NICO Hydrometallurgical Tailings, NICO Project*.
- Golder Associates Ltd. 2007. *Surface Water Monitoring Program 2005 NICO Project*. 23 p. plus appendices.
- Golder Associates Ltd, 2007. *Draft Technical Memorandum – Kinetic Testing Geochemical Results, NICO Au-Co-Bi Project, Northwest Territories*.

EBA Engineering Ltd., 2007. *Proposed Bridge, Marian River Crossing.*

Work Currently Underway

2008 Terrestrial Baseline Assessments (includes wildlife, vegetation and avian surveys)
2008 Hydrology Baseline Assessments including assessment of winter flows in the Marian River
2008 Aquatics Baseline Assessments
2008 Noise and Air Quality Baseline Assessments
Pilot Plant Testing of Ore Processing and Metal Recoveries
Front End Engineering Design

Work Proposed for 2009

Field Geochemical Testing of Waste Rock and Tailings
Traditional Knowledge and Use Studies
Socio-economic Studies
Heritage Resources Surveys
Aquatic Environment Baseline Surveys (Note: Additional surveys are required to determine the influence of the forest fire on the pre-development conditions in water bodies near the NICO site)

13. Proposed time schedule.

Start date: November 2008 Completion date: December 2026

Name (print): Robin E. Goad

Signature: _____

Title (print): President

Date: November 05, 2008

FOR OFFICE USE ONLY

Please make all cheques payable to "Receiver General of Canada"

Application Fee Amount: \$ 30 Receipt No: _____

Water Use Deposit Amount: \$144 (7,200 m³/day) Receipt No: _____

Total Cheque Amount: \$174 Receipt No: _____