



# ARKTIS SOLUTIONS INCORPORATED

:: 117 Loutitt Street :: Yellowknife, NT:: X1A 3M2 ::

:: Phone: 867.446.0036 :: Fax 866.475.1147 ::

June 1<sup>st</sup>, 2009

Mr. Alan Ehrlich  
Senior Environmental Assessment Officer  
Mackenzie Valley Environmental Impact Review Board  
200 Scotia Centre  
PO Box 938, 5102-50th Avenue  
Yellowknife, NT X1A 2N7

Mr. Ehrlich,

**RESPONSE TO MVEIRB'S OUTLINE AND INSTRUCTIONS FOR SCOPING  
PHASE OF THE ENVIRONMENTAL ASSESSMENT OF FORTUNE MINERALS  
NICO PROJECT [EA0809-004]**

The Mackenzie Valley Environmental Impact Review Board (hereafter referred to as the "*Review Board*") is currently undertaking the environmental assessment of the Fortune Minerals Limited (FML) proposed NICO project. The *Review Board* is currently completing the information gathering phase of the environmental assessment which includes project scoping. On April 2<sup>nd</sup>, 2009 the *Review Board* invited Interested Parties to submit comments for their consideration. The comments will also be entered into the public record for the NICO environmental assessment. The Interested Parties' submitted comments will be used to identify the scope for the following assessment. Arktis Solutions Incorporated (ASI), on behalf of our Client the Tłıchq Government (TG), is pleased to provide the *Review Board* with a summary of the comments related to environmental assessment scoping of the proposed NICO project. As advertised through a December 30, 2008 letter developed and circulated by the Tłıchq Government, ASI has and will continue to act as an administrative window to the Tłıchq Government on all matters related to the NICO Project. It should be clearly understood that although ASI provides a *gatekeeper* function, the Tłıchq Government will always flagship its' own executive directives and authorities.

It is important to note that at this stage of the environmental assessment, all details of the proposed development are not available for review by Interested Parties. As such, not all of the potential impacts from the proposed development are understood and therefore may not be captured within the scoping phase of the environmental assessment. Furthermore, although some members of the TG and Tłıchq Community participated in the *Review Board* scoping sessions, the *Review Board* should note that a TG sanctioned Traditional Knowledge (TK) study and community consultation sessions have not been completed. As a result, this letter is limited in its content. Additional concerns may be raised to the *Review Board* as more information becomes available. Currently, ASI is examining options to ensure the development satisfies the *Review Board's Guidelines for Incorporating Traditional Knowledge in Environmental Impact Assessment (July 2005)*. Currently, a TK Agreement has not been administered between FML and the TG.



# ARKTIS SOLUTIONS INCORPORATED

:: 117 Loutitt Street :: Yellowknife, NT :: X1A 3M2 ::

:: Phone: 867.446.0036 :: Fax 866.475.1147 ::

FML's NICO Project is entirely surrounded by Tłıchǫ Lands and is the first mining development to occur within the Wek'èezhìi since the completion of the Tłıchǫ Agreement. This environmental assessment occurs prior to the completion of the Tłıchǫ Land Use Plan. As per the *Review Board's* correspondence of April 2<sup>nd</sup>, 2009 to Interested Parties, ASI has considered the *Review Board's* five broad questions to assist in defining the scope of the project. Each question along with a summary of comments is provided below. The *Review Board* shall note that the information presented in ASI's correspondence is not an exhaustive list of what may be considered in the environmental assessment.

**1. What biophysical, socio-economical and cultural issues should be considered during the environmental assessment and why?**

The following select concerns were expressed by the TG and Tłıchǫ Community Members during the scoping sessions and/or are viewed as important to be included in the environmental assessment. These concerns encompass biophysical, socio-economical and cultural issues that should be considered during the environmental assessment, as well as, security evaluation for Tłıchǫ citizens and communities.

**a. Water quantity and quality concerns:**

- i. The temporal and spatial water quality and quantity changes, both upstream and downstream from the proposed NICO project during construction, operation, and post-closure are not completely defined or characterized;
- ii. Tłıchǫ community drinking water sustainability and financial implications;
- iii. Water used and discharged from the mine site may impact groundwater and surface water quantity and quality. Impacts to traditional users, wildlife, fisheries, etc. are not completely defined and characterized;
- iv. Water monitoring plans were limited in the detail provided in the project description. Additional information is necessary to understand: geographical extent of the project; parameters to be monitored along with spatial and temporal characteristics and methodology; and,
- v. Water is precious. Water use should be optimized on site water through the development of water recycling management plan, detailed water balance, and water treatment design and operation.

**b. Wildlife, birds, and fisheries concerns:**

- i. Site activities and infrastructure such as the tailings ponds, landfill, waste rock piles, and stockpiles, have potential to impact wildlife and fisheries. Impacts of site activities and infrastructure on wildlife are not completely defined and characterized; and,

- ii. The ability of wildlife and birds to safely move through and/or diverted from the mine site and associated infrastructure is important. Special consideration should be given to TEK in site design, management plans, and mitigation strategies. Consideration should also be given to traditional and innovative measures and technologies to manage wildlife and birds.

**c. Mine site concerns:**

- i. Impacts from on-site and off-site processing of ore, along with the associated impacts to the environment, employment, and overall site management, is not fully defined and characterized.

**d. Socio-economic concerns:**

Select socio-economic impacts on the North Slave economy and culture include:

- i. Direct and indirect impacts on Tłı̄ch̄ǫ business;
- ii. Income and employment in the four Tłı̄ch̄ǫ communities during construction, operation, and post-closure;
- iii. Cultural and social impacts from the mine on the four Tłı̄ch̄ǫ communities during construction, operation, and post-closure. This includes potential cultural and community well-being linkages due to mine proximity and direct transportation access (road); and,
- iv. Evaluation of mine worker shifts and impacts to cultural and home life for each on-site and off-site processing option.

**e. Access to the NICO Site:**

- i. FML has stated that an all-weather road is required for the NICO Project. Currently there are no formal plans to develop and construct an access road over Tłı̄ch̄ǫ Lands to the NICO site. Impacts associated from an access route to the NICO Project should be included in an environmental assessment that considers, but not limited to, traditional and current land use and Tłı̄ch̄ǫ citizen's health and safety. ASI acknowledges the questions posed in the *Review Board's* correspondence to FML on May 1<sup>st</sup>, 2009 (Re: *Request for Clarifications Regarding the FML NICO Cobalt-Gold-Bismuth-Copper Project*) related to access to the NICO site.

**f. Traditional Knowledge Study:**

- i. As aforementioned, a TG sanctioned Tłı̄ch̄ǫ TK study and community consultation sessions have not been completed to date. Currently, a TK Agreement between FML and the TG has not been administered.

**g. Additional Items of Importance:**

- i. ASI has also included other macroscopic topics which should be considered. These include, but are not limited to, the following:



# ARKTIS SOLUTIONS INCORPORATED

:: 117 Loutitt Street :: Yellowknife, NT:: X1A 3M2 ::

:: Phone: 867.446.0036 :: Fax 866.475.1147 ::

- a. Air quality;
- b. Permafrost conditions;
- c. Geology;
- d. Geochemistry, acid rock drainage, metal leaching, and mineralogy;
- e. Surface and ground water quantity and quality;
- f. Vegetation;
- g. Landscape and landform features;
- h. Noise;
- i. Community health;
- j. Environmental impacts from past forest fires including impacts from the most recent fire (2008) and how it has influenced scientific baseline efforts, how it will be considered in evaluating impacts directly related to NICO, and how impacts due to forest fires will be adequately evaluated;
- k. Community and culturally significant values, traditional and current land and water activities, and community travel; and,
- l. All living and non-living things that form the ecology of the area.

## 2. **What physical works and activities should be considered part of the development?**

The scope of the development should consider all physical works or activities that are required for the construction, operation and closure of the proposed NICO project, including, but not limited to, the following items:

### a. **Mining, milling and materials storage works and activities, such as:**

- i. Use of existing underground mine and development of an underground and open pit mine;
- ii. Extraction and crushing of ore-bearing rock;
- iii. Transport, storage, and use of explosives;
- iv. Mine dewatering;
- v. Construction and management of a Mine Rock Management Area and Tailings Containment Area;
- vi. Ore processing operations;
- vii. Management of dense media separation reject rock, ore, and tailings stockpiles including the construction of associated foundations, buildings, and water treatment and management;
- viii. Mining equipment operation, including vehicles and materials conveyance systems;
- ix. Extraction, transportation, consumption, recycling, treatment and discharge of water; and,
- x. Storage, handling, use and disposal of milling process additives and chemicals.



# ARKTIS SOLUTIONS INCORPORATED

:: 117 Loutitt Street :: Yellowknife, NT:: X1A 3M2 ::

:: Phone: 867.446.0036 :: Fax 866.475.1147 ::

**b. On-site and off-site infrastructure and use, such as:**

- i. Construction and operation of tailings containment area;
- ii. Construction and operation of buildings;
- iii. Construction and use of drainage control structure and process/wastewater pipelines;
- iv. Construction and use of new roads;
- v. Use of a potential winter road realignment;
- vi. Construction and operation of a new water treatment plant;
- vii. Construction and operation of waste disposal facilities (e.g., landfill, sewage, etc.);
- viii. Additional construction and use during mine operations of existing on-site water management facilities, including: sewage treatment plant, polishing pond, runoff collection pond, culverts and gates at discharge points, and flood protection dykes around the property; and,
- ix. Extraction of water for use as portable water and to support mining and processing operations.

**c. Support / Ancillary facilities and activities, such as:**

- i. Transport of products (e.g. concentrate) from NICO Property to railhead (TBD) along an access road and Highway #3;
- ii. Transport of goods, fuel, contractors and employees by air and road/winter road that support the NICO operation; and,
- iii. Development and use of borrow sources for construction at the mine site.

**d. Reclamation and monitoring, such as:**

- i. Removal of all structures and equipment;
- ii. Reclamation of water storage pond and all other site water management facilities;
- iii. Reclamation of access roads and NICO site road networks;
- iv. Reclamation of on-site infrastructure such as: foundations, dykes, piping, and buildings;
- v. Re-vegetation of areas affected by mining and support activities;
- vi. Reclamation of the waste rock pile, tailings containment area, dense media separation reject rock, tailings and ore stockpiles, and any other surface materials storage locations;
- vii. Short and long term environmental, geotechnical, and ecological monitoring; and,
- viii. Short and long term mine water outflow monitoring / management around the mine site.

**3. Within which time period and area should impacts (including project-specific and cumulative impacts) be considered?**

The time period over which impacts should be considered include: activities to support construction, construction, mine operation, reclamation, and post closure. In general, the time period should begin when site activities commence and until post-closure monitoring concludes that future impacts from the mine site are acceptable to the TG.

The area over which impacts should be considered should include locations that support the physical works and activities. Additionally, the area should also consider the geographical extent to which the site physical works and activities impact land surface and vegetation, wildlife, fisheries, traditional land use, and water quality and quantity. This includes all Tłıchǫ and Community Lands and lands surrounding and contained within Mōwhí Gogha Dé Nîitáée.

**4. What evidence (if any) from previous studies, management plans, or environmental assessments should be transferred onto the public record for this environmental assessment, and why?**

The following select concerns were expressed by the Tłıchǫ Community Members and Elders during the scoping sessions and should be transferred onto the public record:

- a. There are concerns with ammonia entering water bodies and its impacts on fish. Ammonia-related studies conducted at Diavik Diamond Mine and alternatives to ANFO (ammonium nitrate and fuel oil) should be considered.
- b. There are concerns about the past impacts that mining has had on the Tłıchǫ People. The impacts of past, present and future developments are important to understand impacts from the proposed NICO project. The assessment should include the cumulative effects of existing mines, including, Ekati Diamond Mine, Diavik Diamond Mine, and previous mines, including, Colomac Mine, Rayrock Mine, Inadore/Beaver Lodge Mine, and North Inca.

**5. What alternative ways of carrying out this development should be considered during the EA?**

An analysis that includes the advantages and disadvantages of completing the following site activities should be considered:

- a. On-site versus off-site processing of ore including, but not limited to, implications regarding power, operation and reclamation costs, employment, Tłıchǫ Community economies and businesses, transportation of goods and products to and from the proposed NICO site, chemical usage amounts and



## ARKTIS SOLUTIONS INCORPORATED

:: 117 Loutitt Street :: Yellowknife, NT :: X1A 3M2 ::

:: Phone: 867.446.0036 :: Fax 866.475.1147 ::

types, and short and long term water quality discharged from the tailings containment area. ASI has included (attached) a Saskatoon Regional Economical Development Authority Incorporated Industry Profile Event Information involving FML for *Review Board* consideration. ASI also acknowledges the question posed in the *Review Board's* correspondence to FML on May 1st, 2009 (Re: *Request for Clarifications Regarding the FML NICO Cobalt-Gold-Bismuth-Copper Project*) related to processing. Off-site processing should include an option for activities outside of Tłıchʔ lands on old airport road, near kilometre 198.

- b. Post-closure water treatment of water discharged from the Tailings Containment Area.
- c. Water use and recycling.
- d. Short and long-term storage and management of waste (i.e., tailings, mine rock, landfill, etc.)

On behalf of the TG, ASI would like to thank the *Review Board* for the opportunity to contribute as an Interested Party in the FML NICO Project scoping phase. ASI is looking forward to other opportunities, presented through the *Review Boards* Initial Decision and Terms of Reference Phases, where we may provide meaningful contributions to the NICO environmental assessment. If you have any questions regarding the contents of this letter please feel free to contact myself at (867) 446-0036 or [murdock@arktissolutions.com](mailto:murdock@arktissolutions.com).

Sincerely,

Joe Murdock  
Chief Executive Officer

***Attached – Saskatoon Regional Economical Development Authority Incorporated Industry Profile Event Information***

***Attached – Letter from Tłıchʔ Government to Distribution List RE: Introducing the Technical and Regulatory Liaison for the Fortune Minerals Ltd. NICO Project and Other Associated Project Components***



# ARKTIS SOLUTIONS INCORPORATED

:: 117 Loutitt Street :: Yellowknife, NT :: X1A 3M2 ::

:: Phone: 867.446.0036 :: Fax 866.475.1147 ::

## **Saskatoon Regional Economical Development Authority Incorporated**

(<https://www.picatic.com/ticket/fortuneminerals/index.php>)

### **Saskatoon Region: Under Consideration for \$150 Million Hi-Tech Metals Processing Facility**

Fortune Minerals Limited is a Canadian mineral development company that is listed and trades on The Toronto Stock Exchange. Fortune owns a number of mineral deposits in Canada, including the NICO Gold-Cobalt-Bismuth-Copper deposit located in the Northwest Territories, approximately 160 km northwest of the City of Yellowknife.

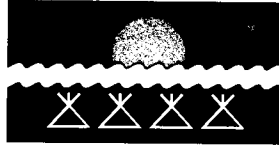
Fortune Minerals is searching for a site for the construction of an ore processing facility in southern Canada where there is readily available, lower cost power and a skilled workforce to operate a state of the art metallurgical plant. This plant will use innovative hydrometallurgical process methods to produce 99.8% cobalt cathode, 99.5% bismuth cathode, gold doré and copper. The facility will have an initial capital investment of \$150 million and will create 85 new jobs during a minimum 15-year period. It is anticipated that this facility could also be used to recycle hybrid car batteries. Construction of this facility is expected to begin in 2010, with production in late 2011 or early 2012 (depending on the permitting process underway). *Your location* is one of the areas under consideration to build this process plant.

#### **Site Selection Criteria:**

- ½ to 1 section of land
- Industrial land park or existing brownfield location is ideal, although not necessary
- Access to CN rail line is preferred since ore will be transferred via CN rail from Hay River (14 cars per day, 24/7)
- Rail spur will be an asset, although not necessary
- Industrial and potable water required; during start-up the plant will require 3,000 m<sup>3</sup> per day; steady-state consumption is estimated at 150 m<sup>3</sup> per day
- Power consumption will be 90 megawatt hours per year with a connected load of 10 to 12 megawatts that will require a power line of 115 kva or greater to service the area
- Good grid road or highway access year round
- Natural gas service
- Domestic sewer preferred
- An industrial sewer or process solutions not suitable for recycling
- Available municipal tax incentives

Additional information on Fortune Minerals Limited can be found at [www.fortuneminerals.com](http://www.fortuneminerals.com)





**Tłıchō Government**

Box 412, Rae-Edzo, NT X0E 0Y0 • Tel: (867) 392-6381 Fax: (867) 392-6389 www.tlicho.ca

December 30, 2008

*Delivery: Email*

**DISTRIBUTION LIST**

**Introducing the Technical and Regulatory Liaison for the Fortune Minerals Ltd.  
NICO Project and Other Associated Project Components**


The Tłıchō Government is pleased to announce the retention of Arktis Solutions Incorporated to provide technical analysis and advisory on the NICO Project and other associated project components.

Mr. Joe Murdock will act as the liaison for all matters related to the NICO Project and other associated project components including communications.

In relation to the Nico Project, any interested and affected parties/individual can contact Mr. Murdock. Mr. Murdock is based in Yellowknife and can be reached at 867-446-0036 or email at [murdock@arktissolutions.com](mailto:murdock@arktissolutions.com).

If you have any questions, I can be contacted at 867-392-6381, 867-765-4908 or by email at [jzoe@tlicho.com](mailto:jzoe@tlicho.com). Masi.

In Tłıchō Unity,



John B. Zoe  
Tłıchō Executive Officer,