



**Mackenzie Valley**  
**Environmental Impact**  
**Review Board**

***DRAFT Terms of Reference and Work Plan***  
*for the*  
***Environmental Assessment***  
*of*  
***Tyhee NWT Corp's***  
***Yellowknife Gold Project***

July 19<sup>th</sup>, 2005

**Mackenzie Valley Environmental Impact Review Board**

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## **Glossary of Acronyms**

ARD – Acid rock drainage  
EA – Environmental assessment  
COSEWIC – Committee on the Status of Endangered Wildlife in Canada  
DAR- Developer's assessment report  
DFO – Department of Fisheries and Oceans  
EEM – Environmental Effects Monitoring  
INAC – Indian and Northern Affairs Canada  
IR – Information Requests  
MI – Metal leaching  
MMER – Metal Mine Effluent Regulations  
MVEIRB – Mackenzie Valley Environmental Impact Review Board  
MVLWB – Mackenzie Valley Land and Water Board  
MVRMA – Mackenzie Valley Resource Management Act  
SARA – Species at Risk Act  
TK – Traditional Knowledge  
TCA – Tailings Containment Area  
ToR – Terms of reference  
VEC – Value Ecological Component  
YGP – Yellowknife Gold Project

## Overview

This document outlines the process and the information required for the environmental assessment (EA) of a gold mining project proposed in the North Slave region of the Northwest Territories by Tyhee NWT Corp. It is divided into the following sections:

- Section 1 – Introduction, including the reasons for EA referral, as well as the legal context;
- Section 2 – The Scope of Development that is being proposed;
- Section 3 – The Scope of the Assessment, i.e. the issues that will be addressed in the EA;
- Section 4 – The Terms of Reference (ToR) that will direct the production of a *Developer's Assessment Report* (DAR); and
- Section 5 – Definition of the responsibilities of those involved in the EA, as well as an overview of the EA process and a work plan.

*This is a draft document that will be finalized by the Mackenzie Valley Environmental Impact Review Board (MVEIRB or the "Review Board") following the receipt and consideration of comments from interested parties regarding its contents.*

### 1.2 Referral to Environmental Assessment **comment- numbering-NO 1.0 or 1.1**

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Tyhee NWT Corp (Tyhee) applied for a Water License (MV2005L2-0003) and Land Use Permit (MV2005D0009) to the Mackenzie Valley Land and Water Board (MVLWB) on March 18, 2005, in support of its proposed Yellowknife Gold Project (YGP or the "Development"); a 1500 tonne/day gold mining and milling operation. A *Project Description Report* and supporting appendices were filed by Tyhee as part of its application<sup>1</sup>. The MVLWB carried out a preliminary screening of the Development according to Section 124 of the *Mackenzie Valley Resource Management Act* (MVRMA).

The MVLWB completed its preliminary screening on May 4, 2005, and, pursuant to Section 125(1) of the MVRMA, decided to refer the application to environmental assessment, based upon the likelihood that the proposed project might have a significant adverse impact on the environment. Specifically cited in the referral were the following concerns:

- The YGP's potential to generate acid rock drainage (ARD) and the associated release of metals from waste rock and tailings; and

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<sup>1</sup> Copies of the *Project Description Report* have been distributed to all Parties to the EA who requested them. Electronic copies are available; contact the Review Board for more information.

- The YGP's use of cyanide to extract gold from the floatation concentrate and the subsequent disposal of the leach residues in a tailings containment ~~area~~ to be constructed in Winter Lake, which will operate with a net release of water to the receiving environment.

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The Review Board subsequently notified Tyhee that the YGP had been referred to environmental impact assessment on May 6, 2005.

### 1.3 Legal Context

This EA is subject to the requirements of Part 5 of the MVRMA. It is also subject to the Review Board's *Rules of Procedure* and *Environmental Impact Assessment Guidelines*. Those documents can be accessed on the MVEIRB web site ([www.mveirb.nt.ca](http://www.mveirb.nt.ca)) or by contacting the MVEIRB office for further information.

## 2 Scope of Development

Tyhee has applied to develop a gold mining and milling operation approximately 88 kilometers north of the City of Yellowknife, on property adjacent to the ~~historic~~ Discovery Mine. Pursuant to section 117(1) of the MVRMA, the Review Board determined that the scope of the development is that described in the *Project Description Report* submitted by Tyhee to the MVLWB, unless otherwise specified in this document. Alternatives identified in the ToR are also to be considered part of the Scope of Development.

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The MVEIRB has defined the Scope of Development to consist of the following physical works or activities that will occur during the construction, operation and closure phases:

### Mining Process

- Development of underground workings, portals, adits, raises, drifts, stopes and all other mine workings;
- Management of topsoil, waste rock and overburden stockpiles, including associated water treatment and management;
- Management of ore stockpiles, including associated water treatment;
- Storage and use of explosives;
- Management of rock with potential for metal leaching / acid rock drainage (ML/ARD);
- Transportation of ore from Ormsby Zone or Nicholas Lake deposits to the process plant;
- Mine dewatering and treatment of mine water; and
- ~~Mining equipment and operation.~~

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### Milling Process

- Construction and operation of the process plant;
- Consumption of fresh water from Giauque Lake;
- Storage, handling, use, and disposal of process chemicals;
- Disposal of process water and tailings; and
- Construction and operation of tailing containment area, including recycling and disposal of process water, as well as its<sup>1</sup> treatment and discharge to the receiving environment.

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### Support/Ancillary Facilities and Activities

- Transportation activities that support the YGP's operation, including use of the winter road for YGP specific support activities;
- Expansion of the winter road for the purpose of supporting YGP operations;
- Construction and use of all-weather roads;
- Stream crossings and any proposed modifications to water courses;
- Construction and use of drainage control structures;
- Development and use of borrow sources for aggregate production;
- Construction and operation of power plant and transmission infrastructure;
- Construction and operation of the change house, compressor house, offices, warehouses, storage yards, maintenance shops, laboratory and all other support buildings;
- Construction and operation of hydrocarbon storage and handling facilities;
- Construction and operation of camp facilities;
- Treatment of camp wastewater at Ormsby Zone and Nicholas Lake developments;
- Solid and hazardous management and construction and operation of containment areas; and
- Modifications and operation of existing; airstrip or construction and operation of a new airstrip.

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### Closure and Reclamation Activities

- Removal of structures and equipment;
- Reclamation of the Tailings Containment Area (TCA);
- Reclamation of the road network;
- Reclamation of infrastructure foundations;
- Re-vegetation of mining-impacted areas; and
- Reclamation of waste rock and overburden piles.

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The Review Board recognizes that certain infrastructure associated with the Discovery Mine may also be included in the Scope of Development, depending upon negotiations between Indian and Northern Affairs Canada (INAC) and Tyhee.

### 3 Scope of Assessment

The Scope of Assessment is the determination of which issues and items will be examined in the EA as described in the ToR. The Review Board has reviewed Tyhee's *Project Description Report* and supporting appendices, however it requires more information on the potential social, economic, cultural and biophysical impacts of the Development.

To better understand the information requirements of the interested parties who intend to participate in the EA, as well as to identify issues of public concern, the Review Board organized Issues Scoping Sessions in Yellowknife on June 15 and 16, 2005, and in Dettah on June 22, 2005. Results from the scoping sessions, in addition to the Review Board's own analysis, are reflected in the items requested in Section 4 of this document. Reports of the scoping sessions are available on the MVEIRB's web site at:

<http://www.mveirb.nt.ca/asp/Results.asp?ProjectID=60&cid=24>

The Review Board has determined the geographical scope of this EA to include Tyhee's mineral leases, mining claims and the Local Study Area<sup>2</sup>. It will also consider project impacts on all areas that may be impacted in some identifiable way by the Development, including the Yellowknife River Basin downstream of the YGP, the ranges of wildlife using the area and the areas potentially-impacted by transportation activities, including on the winter road. The geographical scope for assessing impacts on the human environment shall include, but not necessarily be limited to, the communities of Yellowknife, Dettah, N'Dilo, **Comment- we believe that the communities of interest should be as shown above, based on previous discussions with the Dogrib communities.** The concerns of communities without a defined geographic scope, or other communities of interest that use any of the areas identified in the geographic scope, such as the Métis, may also merit consideration.

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The Review Board recognizes that the determination of baseline conditions for this EA is complicated by the history of heavy industrial activity in the Local Study Area, particularly around the Ormsby Zone deposit and the Round Lake watershed. The Nicholas Lake area may have been less impacted from past activities at the Discovery Mine, but nonetheless it may have also been affected in a quantifiable way. The Review Board recognizes that it may be difficult to use quantitative methods to assess the impacts of developments or activities that occurred in the distant past, particularly as it applies to establishing "baseline conditions". Older developments, for which insufficient data are available, may be treated in a more qualitative fashion where the best professional judgment or expert opinion is used,

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<sup>2</sup> The Local Study Area as identified in Figure 2-1 (Page 16) of the *Project Description Report*.

from either traditional knowledge or scientific sources.

Temporal boundaries for this EA must be set according to potential future impacts, rather than just the duration of YGP operations. For example, the proposed TCA could impact local and regional water resources long after mining is completed. Therefore the temporal scope is determined to include all phases of the YGP, from construction to post-closure, until such time that no significant adverse impacts attributable to the Development are predicted to occur.

The scope of this EA will also include an examination of the cumulative impacts of past, present and reasonably foreseeable future developments. Such cumulative impacts will be assessed at a geographic and temporal scale appropriate to the particular environmental component under consideration.

## 4 Terms of Reference

### 4.1 General Terms

Tyhee is to provide the Review Board with the information requested in section 4.2.

As a general consideration, Tyhee is reminded that the Review Board gives Traditional Knowledge (TK) equal weight to science in its deliberations. Tyhee therefore shall make all reasonable effort to collect and facilitate the collection of TK relative to the YGP. Traditional Knowledge, where it is applicable, is to be used as a tool to evaluate the specific items required in Section 4.2. In the assessment of each environmental component, Tyhee shall identify all areas where it has attempted to engage with communities in the collection and/or sharing of TK. Where TK is determined by Tyhee to be not applicable, a rationale will be given for this determination. Where TK is not available or not provided to Tyhee in a timely manner, despite appropriate diligence, Tyhee shall describe efforts taken to obtain it. The Review Board has recently released its *Guidelines for Incorporating Traditional Knowledge into the Environmental Impact Assessment Process*. While the YGP's referral to environmental impact assessment predates the enactment of these guidelines, Tyhee is strongly recommended to review and consider them in the preparation of its DAR. The guidelines are located on the MVEIRB's website at:

<http://www.mveirb.nt.ca/HTML/MVGuides/MVdocs.asp>.

In both the planning of the YGP, as well as for the assessment of potential impacts, the effects of the physical environment on the Development, such as climate change or precipitation, must be considered in each of the applicable items of Section 4.2. Any changes or modifications to the Development as a result of the effects of the environment should be noted in the relevant sections.

### 4.2 Specific Items

#### A Summary

- I. Provide a plain language, non-technical summary of the DAR; and
- II. Provide a table that cross references the items in the ToR with relevant sections of the DAR.

#### B Developer

Provide the following information regarding Tyhee NWT Corp:

- a. The company's corporate history;
- b. The organizational structure of the company, with particular emphasis

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upon the relationship between Tyhee NWT Corp and Tyhee Development Corp;

- c. The method by which Tyhee intends to finance the development of the YGP; **[Comment- we do not feel this applies to an EA process and should be removed]**
- d. A detailed record of the environmental performance of the company and its contractors during exploratory work in support of the Development; and
- e. Any policy, directives or terms of reference concerning Tyhee's Environmental, Health and Safety Committee.

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### C Description of the Existing Environment

**Preamble:** The Review Board will require a clear description of the baseline environmental conditions into which the proposed YGP will be placed. In order to understand any impacts that might be expected as a result of the YGP, Tyhee shall provide a brief and clear textual and graphic depiction of the existing environment. The existing environment also includes contemporary/past land use and occupancy in the region.

The Description of the Existing Environment shall include, but not be limited to the following:

- I. Air, **Noise** and climate;
- II. Site hydrology
- III. Surface, ground water and mine water quality and quantity;
- IV. Aquatic **resources** and habitat;
- V. Wildlife and wildlife habitat, including migratory birds;
- VI. Vegetation and plant communities;
- VII. **Terrain, surficial geology, structural geology, bedrock geology, seismicity, and permafrost;**
- VIII. Socio-economic conditions, including social services infrastructure for the potentially-impacted communities;
- IX. **Historic and present land usage; and**
- X. Cultural and heritage resources.

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### D Development Description

**Preamble:** The Review Board requires a description of the YGP. In this section

Tyhee is only asked to provide details on the Development itself, not to comment on potential impacts from the Development. It should be noted that a lack of detail concerning the Nicholas Lake component of the YGP was identified both in the MVEIRB's review of the Project Description Report, as well as by parties who participated in the Issues Scoping Sessions. Tyhee is strongly advised to ensure that an adequate description of its planned activities at Nicholas Lake is included in the DAR. The use of detailed maps or other visual tools in the depiction of the proposed infrastructure is encouraged.

The Development Description shall include, but not be limited to the following:

- I. All existing or proposed access roads in the project area;
- II. Aggregate sources that Tyhee intends to utilize for construction, operational and reclamation purposes. The description should provide information on the timing of use and predicted amounts of material required over the life of the YGP, as well as an estimate of the volume of extractable quantities at the eskers that may be utilized for aggregate extraction;
- III. A description of the solid and hazardous waste facilities, which should provide their location, conceptual designs of the facilities and an estimate of the volume of material that can reasonably be expected to be deposited in the solid waste site;
- IV. A description of ore, waste rock, soil and overburden storage facilities, including water management and treatment considerations;
- V. A description of the TCA, including preliminary designs for the internal dyke, control structure, polishing area and any anticipated water treatment scenarios;
- VI. A description of the process plant and associated infrastructure, including fuel and chemical storage;
- VII. A full description of infrastructure proposed for the Nicholas Lake development, including camp facilities and water treatment considerations;
- VIII. A description of water intake infrastructure to be located at Giauque Lake;
- IX. A description of an airstrip suitable to support the operational mine;
- X. A description of water management structures, including preliminary plans of diversion and water treatment structures;
- XI. A description of the types of explosive to be used, their storage, handling and application; and
- XII. A description of human resource requirements and details concerning proposed work scheduling.

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## E Alternatives

**Preamble:** The Review Board requires that alternatives approaches to planning, developing, operating and closing the YGP are considered in the DAR. The Review Board has listed a number of areas where it believes alternatives should be considered. Where alternatives that would mitigate impacts on the environment and/or enhance the socio-economic performance of the proposed mine are deemed not feasible, economically or otherwise, the engineering and economic analysis to determine feasibility shall be summarized and presented. Indicate where, in the course of community consultation, the YGP design has been altered to incorporate community values or concerns. Where alternatives to the current approach have been requested but not acted upon, describe why.

- I. Provide a detailed evaluation and comparison of TCA alternatives to Winter Lake, including an evaluation of other alternatives in combination with paste backfill of the underground workings;
- II. Evaluate the possibility of using alternate milling processes that would not require the use of cyanide, including a discussion of the properties of the ore, originating from both the Ormsby Zone and the Nicholas Lake deposit and their suitability to various technologies.
- III. Evaluate alternatives, such as rock crushing, to produce aggregate other than developing local esker formations;
- IV. Evaluate alternatives to transporting ore from Nicolas Lake to the process plant other than by all-season road;
- V. Evaluate alternative locations of the airstrip, other than on the Discovery Mine tailings cap;
- VI. Evaluate alternatives to diesel power generation, with particular consideration to utilizing hydro-electric power; and  
Evaluate alternative employee work schedules and living conditions while on site.

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## F Public Consultation

**Preamble:** The purpose of public consultation is to provide those who might be potentially impacted by the proposed Development with the opportunity to participate in the EA. Consideration should be given to consultation with any community, aboriginal group or other organization with activities related to areas that might be impacted by the Development. Reasonable effort must be made and the results shown of this consultation effort.

The following items are required for consideration of Public Consultation:

- I. In addition to identifying consultation dates, individuals and organizations consulted with, and discussion topics, as noted in Appendix G of the Project

*Description Report*, identify and reference the following:

- a. Methods used to identify, inform and solicit input from potentially-interested parties;
  - b. All commitments and agreements made in response to issues raised by the public during these consultations, and how these commitments altered the design of the proposed YGP; and
  - c. All issues that remain unresolved, and document any further efforts envisioned by the parties to resolve them.
- II. Identify any plans, strategies or commitments of Tyhee, alone or in combination with any other group, to maintain consultation ties in a set forum during the EA process and throughout the life of the YGP. This could include formal meetings at set times, Advisory Committees, or any other form of public consultation.

## **G Assessment Boundaries**

**Preamble:** *The spatial boundaries for this EA should be set according to the environmental component being assessed, rather than solely using the Local Study Area established in the Project Description Report. The study area for potential impacts on terrain, for instance, may be limited to those watersheds or sub-watersheds in which development takes places. The study area for air quality, on the other hand, will likely encompass a larger area and will be based on prevailing wind conditions rather than physical features in the landscape. The spatial boundaries for the social, economic and cultural impact assessment should include those communities<sup>3</sup> where a discernable impact may be expected (These will be considered the potentially-impacted communities for the EA).*

Provide the following information regarding Assessment Boundaries:

- I. A rationale for Tyhee's establishment of spatial boundaries for the assessment of potential impacts noted in the following sub-sections. The spatial boundary should be appropriate to the nature of each impact. Where the spatial assessment boundaries differ from the Scope of Assessment established in this ToR, please provide a rationale to explain the difference.
- II. A rationale for setting the temporal boundaries for the assessment of impacts noted in the following sub-sections. The temporal boundary should be appropriate to the nature of each potential impact.

Note: Section K (Cumulative Impacts) asks for additional identification of geographic and temporal scales of assessment.

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<sup>3</sup> Community – A group viewed as forming a distinct segment of society living in the same geographic locality.

## H Human Environment

**Preamble:** Assessment of the human environment (social, economic and cultural impact assessment) is an important part of any EA in the Mackenzie Valley, in relation to both the identification of potential adverse impacts on the environment and of public concerns. The Review Board takes social, economic and cultural impact assessment very seriously and the impact assessment process should follow procedures as rigorous as those used in the impact assessment of biophysical environment. Experience has shown the determination of social, economic and cultural impacts is most effective when the developer works with potentially-affected communities in an iterative way through each step of the impact assessment, from issues scoping through to significance prediction. Tyhee will make all reasonable efforts to include potentially-affected communities in the assessment of potential social, economic and cultural impacts. Over the course of the EA, further potential impacts may be identified that were not considered in the DAR. In such a case these may be considered later. The DAR should examine all components of the human environment that might be impacted by the YGP, whether those impacts are positive or negative.

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In addition to considering the specific questions posed, the proponent is required to address the following impact assessment steps for each of the subsections herein. In assessing the different impacts on the human environment, the DAR will for each element at minimum:

- Include a rationale for determining which communities are being included in the assessment;
- Identify any valued social, economic or cultural components used, and how they were determined;
- For each valued component, identify and provide a rationale for the criteria and indicators used to measure any historical and current baseline conditions;
- Identify the sources, timelines and methods used for data collection;
- Clearly identify the baseline conditions, both historic and current, including analysis of any discernible trends;
- Identify any potential direct or indirect impactson the valued social, economic or cultural components that may result because of the proposed development;
- Predict the likelihood of each impact occurring, prior to mitigation measures being implemented;
- Describe any plans, strategies or commitments to avoid, mitigate or manage identified likely impacts; and
- Assess the significance\* of any residual impacts estimated to remain after the imposition of mitigation measures.

When describing impacts and assessing their significance, Tyhee NWT Corp must characterize the impact by:

- The nature or type of the impact
- The direction of the impact (i.e., beneficial vs. adverse);
- The magnitude of the impact;
- The geographic range of the impact;;
- The timing of the impact (including duration, frequency and extent);
- The likelihood of the impact occurring; and
- The reversibility of the impact.

H-1 Economy: **Preamble:** *The Review Board, in each EA, is required to have regard for the economic well being of the residents and communities of the Mackenzie Valley. Understanding the impacts of a development on economic well-being requires in-depth analysis of what sorts of impacts (both positive and negative) will occur, how they will be distributed geographically and among populations, and how impacts can be mitigated. Tyhee will assess the potential impacts of the YGP on the economies of the identified potentially-affected communities, North Slave and Tlicho regions, and the NWT.*

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While conducting an impact assessment based on identified valued components, specific consideration shall be given to, but not be limited to:

### Direct Employment

- I. Provide a listing of all employment requirements by skills category over the life of the YGP.

- II. Discuss Tyhee's strategies, plans or commitments with respect to maximizing the proportion of YGP employment that accrues to NWT residents, aboriginal persons, and residents of potentially-impacted communities.
- III. Provide information on any identified barriers to employment, advancement and retention for Northern workers (with particular emphasis on residents of potentially-impacted communities), including minimum skill requirements, availability of employees, and lack of training opportunities for community members.
- IV. Assess the requirements for any training, education, and other improvements necessary to maximize employment of residents of potentially-affected communities in the workforce of the mine.

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**Business Development**

- I. Identify and assess the opportunities for local, regional and territorial businesses to supply the required goods and services, both directly to the proposed development, as well as to meet new demand created by economic growth spurred by the YGP.
- II. Assess how the YGP will contribute to opportunities to diversify the economic base at the local, regional and territorial level. New local and regional economic development associated with the YGP, including the production and supply of new goods and services, should be included in this assessment.
- III. Assess how the Development will help prepare potentially-affected communities for the eventual transition to a post-mining economy, and the ability to withstand future economic fluctuations.

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**Distribution of Positive and Negative Economic Impacts**

- I. List estimates of all identified predicted economic affects, both positive and negative, stemming from the YGP, including but not limited to:
  - a. Gross revenues and expenditures related to all phases of the YGP, including the commodity price assumptions underlying project valuation estimates;
  - b. Federal, territorial and municipal taxes remitted, by Tyhee and from linked economic development, including the impact of commodity price fluctuations;
  - c. Employment numbers, including a prediction of employment multipliers, and estimated impacts on employment levels in potentially-impacted communities;
  - d. Predicted increases in local income and disposable income levels;
  - e. Information of what potential impacts the YGP will have on local and

regional inflationary pressures and cost of living;

- f. Any increases in physical and social service infrastructure predicted to be required as a result of the YGP; and
- g. Possible impacts of the YGP on other types of economic activity occurring in the potentially-impacted area, with emphasis on the traditional economy.

II. For each of the items listed above, estimate how the economic impacts identified will be distributed among potentially-impacted communities. An estimate is required of how much of the economic benefit of the Development will accrue to the potentially-affected communities, the NWT, and other Canadian jurisdictions, as well as among all identified potentially-affected communities.

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III. Assess the economic impacts of in- and out-migration among potentially-affected communities in the North Slave and Tlicho regions.

IV. Assess any infrastructure or social services pressures caused by the mobilization of local labour away from potentially-affected communities to the YGP workforce.

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V. Assess any particular sub-populations within potentially-impacted communities that are more vulnerable to any of the discussed potential economic impacts.

VI. For each of the above, include any plans, strategies or commitments designed to mitigate the identified negative impacts.

## H-2 Society and Culture

**Preamble:** The MVRMA requires the identification and mitigation of impacts on the social and cultural environments as part of the EA process. Tyhee will use recognized social science methods, community input and TK, to undertake social and cultural impact assessment.

While conducting an impact assessment based on identified valued components, specific consideration shall be given to, but not be limited to:

- I. Community/population health and associated indicators such as alcohol and drug use, family violence, housing pressures, educational access and education completion levels.
- II. The physical, mental, spiritual and cultural health of mine workers and mine workers' families.
- III. Assess the existing and required social services networks that will support community health and wellness.

- IV. Social cohesiveness and the maintenance of cultural values, traditions and language.
- V. For each identified potential impact, describe how the YGP may impact valued social and cultural components:
  - a. At the regional level;
  - b. At the local level for each potential-affected community; and
  - c. Among particularly vulnerable sub-populations with potentially-impacted communities, such as women, children and elders.
- VI. Identify lessons learned from social and cultural impacts of previous mine developments in the NWT and how they have been incorporated into the impact identification, prediction and mitigation for this development.
- VII. Discuss the development of a Human Resources Management Plan and any programs that will be offered at the mine site to identify and mitigate social problems.

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### H-3 Heritage Resources

**Preamble:** The protection of known or potential heritage resources is an essential element of EA in the Mackenzie Valley. The MVRMA definition of "impact on the environment" expressly recognizes any effect on heritage resources.

While conducting an impact assessment of how the YPG will potentially impact Heritage Resources, specific consideration shall be given to, but not be limited to:

- I. Identify all known archaeological and heritage resources, as well as sites or areas of cultural significance in or near the Local Study Area. To protect these resources, their exact locations should NOT be included in the DAR.
- II. Identify any areas within the Local Study Area that have medium to high probability of containing currently unknown cultural and/or heritage resources.
- III. List all correspondence and consultation with experts (traditional knowledge holders, archaeologists, anthropologists) used to make the above assessments. List all recommended mitigation measures identified for the protection of local known and high potential areas of cultural and heritage resources. Particular emphasis should be put on engaging local TK holders in this EA.

### H-4 Traditional and Contemporary Land Use and Wildlife Harvesting

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**Preamble:** Effects on wildlife harvesting are recognized by the MVRMA as an "impact on the environment" that must be considered by the Review Board. Given

the essential role of communal land use and associated wildlife harvesting as the engine of the traditional economy, consideration must be given to any potential impacts the Development will have on land use and traditional economic harvesting activities. In addition, contemporary land usage is an important element of the social, economic and cultural well-being of area users.

While conducting an impact assessment of how the YPG will potentially impact Traditional and Contemporary Land Use and Wildlife Harvesting, specific consideration shall be given to, but not be limited to:

- I. Describe any potential direct and indirect impacts that the YGP may, on its own and in combination with other cumulative developments, have on hunting, fishing and trapping for persons from the potentially-impacted communities.
- II. Identify all mitigation measures required and commitments made by Tyhee to mitigate against impacts on both traditional land use and resource harvesting from the land.

#### H-5 Protected and Withdrawn Areas

- I. Identify any locations within, proximate to, or potentially impacted by YGP operations, that are currently protected by law, subject to special management rules and regulations, or are proposed to become withdrawn areas in the future. These areas can be readily identified through consultation with community leaders and staff of the NWT Protected Areas Strategy.

#### H-6 Visual and Aesthetic Resources

- I. Identify any particular landforms, locations of special interest, or other unique environments that merit special attention in the Local Study Area and discuss any mitigation measures proposed to reduce potential impacts to them. Analysis of the nearby esker identified as a potential gravel source and/or airstrip is specifically required.
- II. Discuss the potential visual impact of the proposed development.
- III. Identify any other area users who may be potentially impacted – economically (tourism operators), socially and/or culturally by the visual and aesthetic impacts of the proposed development.

**Deleted:** <#>Describe and provide sources of traditional land use patterns and the cultural identities of the land users in the potentially-impacted area. This should be accomplished, where possible, with the assistance of local elders and other TK holders.¶

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**Deleted:** <#>Identify contemporary uses of the land, including both present activities of traditional users, and any use by other communities of interest (recreation, tourism operators, non-aboriginal resource harvesters, industry), and any potential impacts on these users' ability to use the land. ¶

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List any plans related to the monitoring, assessment, and adaptive management of social, economic and cultural impacts related to the Development. Include any commitments, plans and strategies that are proposed to monitor the following:¶  
 <#>Business opportunities;¶  
 <#>Employment, continued education and training;¶  
 <#>Social impact mitigation;¶  
 <#>Traditional harvesting; and¶  
 <#>Worker and community health and wellness. ¶  
 Report on any discussions with communities, federal and territorial governments related to Impact Benefit or Socio-economic Agreements to monitor and mitigate any of the above. Include a discussion of Tyhee's general approach toward negotiating Impact Benefit Agreements and/or Socio-Economic Agreements. In addition, include any plans, commitments or strategies on how monitoring results will be reported to regulators and potentially-affected communities.

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## I Biophysical Environment

In addition to considering the specific questions posed, the proponent is required to address the following impact assessment steps for each of the subsections herein. In assessing the different impacts on the physical and biological environment, as required by the subsections below, the DAR will for each element at minimum:

- Identify any valued ecosystem components (VECs) used, and how they were determined;
- Identify the sources, timelines and methods used for data collection;
- Clearly identify any known VEC baseline conditions, both historic and current, including analysis of any discernible trends;
- Identify any potential direct or indirect impacts on the VECs that may result because of the proposed development, and what development activity or activities they are related to;
- Predict the likelihood of each impact occurring, prior to mitigation measures being implemented;
- Describe any plans, strategies or commitments to avoid, mitigate or manage the identified likely impacts, along with evidence and a rationale showing the effectiveness of the mitigation measures; and
- Assess the significance\* of any residual impacts estimated to remain after the imposition of mitigation measures.

When describing impacts and assessing their significance, Tyhee NWT Corp must characterize the impact by:

- The nature or type of the impact
- The direction of the impact (i.e., beneficial vs. adverse);
- The magnitude of the impact;
- The geographic range of the impact;;
- The timing of the impact (including duration, frequency and extent);
- The likelihood of the impact occurring; and
- The reversibility of the impact.

Together, these seven criteria shall be used by the Developer to assess individual impact

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### I-1 Water Resources

**Preamble:** In the Review Board's scoping sessions, the potential impact to water quality was identified as a major EA issue. It is acknowledged that the YGP will be required to adopt the Metal Mines Effluent Regulations (MMER), which includes Environmental Effects Monitoring (EEM). ~~However, it is the Review Board's task to assess the YGP's potential impact to water quality, regardless of any applicable regulatory legislation, as significant adverse impacts to water may still occur despite the observance of the MMER or other relevant legislation. [Comment- This sentence is unnecessary as it appears as a directive to the Board as opposed to the proponent].~~ In regards to specific concerns, the issue of impacts to water occurring due to the potential generation of acid rock drainage (ARD) has been recognized. Additionally, the potential impact from the discharge of cyanide and metal-containing effluent into the environment was also raised.

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Notable among water quality concerns expressed by parties thus far have been the YGP's use of cyanide, possible impacts to Yellowknife's drinking water and the deep impressions left by legacy of the Con, Giant and Discovery Mines concerning gold mining's effects on water.

While conducting an impact assessment based on identified VEC's, specific consideration shall be given to, but not be limited to:

- I. A listing of all applicable water quality guidelines and regulations that the YGP will adhere to;
- II. A discussion regarding the areas where specific guidelines or regulations do not exist for water quality parameters that may be of potential concern during YGP operations. ~~[Comment: Not appropriate- all parameters of concern are regulated.]~~
- III. Potential impacts of the YGP on water quality downstream of the proposed TCA and Nicolas Lake development, which shall include, but not be limited to:
  - a. A prediction of the quality and quantity of effluent discharged to the receiving environment that shall address all regulated water quality parameters;
  - b. A detailed conceptual plan of the management and treatment of effluent emitted from the TCA and Nicholas Lake development; and
  - c. A prediction of contaminant loading and dispersion into the receiving environment, from the TCA and Nicholas Lake development effluent during mine operation and after closure.
- IV. A discussion concerning the MMER and its role in the YGP's operation, which shall include, but not be limited to:
  - a. An overview of the MMER and its proposed application in the YGP;
  - b. A description of the conceptual Effluent and Water Quality Monitoring Studies to be conducted under the Environmental Effects Monitoring (EEM) portion of the MMER;
  - c. A description of the conceptual Biological Monitoring Studies to be conducted under the EEM portion of the MMER;
  - d. The applicability of the results to be generated by the studies identified in items b) and c) to the site-specific northern conditions of the YGP area;
  - e. A discussion of the suitability of the species proposed to be tested in the Biological Monitoring Studies to draw conclusions about the potential impacts on northern organisms; and

V. The potential impact of YGP operations on promoting erosion and

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- Deleted: including concentrations of metals, nutrients, major ions, process chemicals and bacteria
- Deleted: <#>Discussion of any metals and other water quality parameters, not listed under Schedule 4 of the MMER, which may still be of concern for the effluent discharged into the receiving environment.¶
- <#>Assess the YGP's capacity to meet water quality parameters and monitoring requirements in excess of those prescribed in the MMER if the impacts to water quality, notwithstanding MMER compliance, are predicted to be significantly adverse.¶
- <#>The potential impact of YGP operations on increasing contaminant concentrations in the sediments of Narrow and Nicholas Lake. ¶
- <#>The potential impacts from the discharge of nutrients to the environment, which shall consider, but not be limited to the following: ¶
- <#>All potential sources of nutrients, such as the cyanide-destruct circuit, explosives residues, treated sewage, etc.¶
- <#>Consideration of possible changes in trophic status in downstream water bodies due to the potential discharge of nutrients; and ¶
- <#>A discussion of the proposed sewage treatment technology and its capacity to treat effluent to a level that poses no significant adverse impact to water quality.¶
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sedimentation.

VI. The potential impact of mine water discharge from the Ormsby and Nicholas Lake developments, which shall include, but not be limited to the following:

- a. Predicted quality and quantity of mine water that will be discharged into the receiving environment from the mine workings;
- b. Water balance predictions and contingencies for potential higher than expected inflows to the mine workings; and
- c. Mine de-watering effects on the hydrology, groundwater flows and chemistry of the local study area.

VII. The potential impact of YGP operations on the hydrology and water balance of the Local Study Area, which shall include, but not be limited to:

- a. Predicted changes in timing, volume and deviation of peak and minimum water flows resulting from the Development;
- b. Water balance effects from the operation of the TCA; and
- c. Water drawdown on the water balance of Giauque Lake.

VIII. The potential impact of the YGP on the promotion of metal leaching and acid rock drainage (ML/ARD), which should include but not be limited to the following:

- a. A discussion of the results of ML/ARD testing for tailings, waste rock and low-grade ore generated through YGP and their implications on water quality; and
- b. Conceptual procedures for the identification, segregation, handling and disposal of rock with potential for ML/ARD.

IX. The role that YGP activities will have on the discharge of arsenic into the receiving environment and its potential impact on water quality.

X. The role that YGP activities will have on the discharge of cyanide into the receiving aquatic environment and its potential impact.

XI. A discussion of the potential impact that YGP activities will have on the Yellowknife River basin downstream of the Development with particular emphasis on potential impacts to the City of Yellowknife's drinking water quality. The possible establishment of remote water quality monitoring points shall be addressed in this discussion.

XII. The potential impact that water intake from Giauque Lake will have on the disturbance of the lake's contaminated sediments.

XIII. Provide a conceptual plan for water quality monitoring that shall include, but not be limited to the following considerations:

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- a. A discussion around adopting water quality monitoring practices and parameters that have been identified and supported by potentially-impacted communities;
- b. A discussion concerning the implementation of an “Adaptive Management” strategy to address unacceptable impacts to water quality that are identified in the course of YGP operations; and
- c. How Tyhee will report results to regulators and potentially-affected communities

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## I-2 Aquatic Habitat

**Preamble:** Potential direct and indirect impacts to aquatic animals and their habitat were identified as issues of concern through the MVEIRB's scoping exercises. Some of the major items raised were impacts associated with the location and construction of the TCA, as well as potential effects to aquatic habitat quality downstream of the TCA and effects associated with the footprints of infrastructure to be developed. Public concern has also been noted concerning the YGP's potential to further contribute to the contamination of local fish stocks. This is a concern that is at least partially attributable to the legacy of Discovery Mine.

It is recognized that regulatory agencies, particularly the Department of Fisheries and Oceans (DFO), have an important role in permitting the alteration or destruction of fish habitat. However, the purpose of an EA is to assess whether any significant adverse impacts to aquatic organisms and their habitat will occur as a result of the Development. The Review Board is required to determine this independently of any permitting process mandated by the DFO or other such regulatory body.

While conducting an impact assessment based on identified valued components, specific consideration shall be given to, but not be limited to:

- I. The potential impact of YGP operations on Giauque Lake's aquatic organisms and habitat which shall include, but not be limited to:
  - a. The potential impact of freshwater withdrawal on Giauque Lake's over-wintering habitat, littoral habitat and oxygen concentration; and
  - b. The potential impact of the freshwater intake and supporting infrastructure footprints.
- II. The potential downstream impact of all potential effluents originating from YGP operations on aquatic organisms and their habitat. This should consider, but not be limited to effluent from the TCA, Ormsby Zone and Nicholas Lake infrastructure, roads and borrow areas.

- III. The potential impact of YGP operations on the aquatic organisms and habitat of Nicholas Lake with specific regard to any proposed infrastructure that may be located in aquatic habitat, as well as fresh water withdrawal from Nicholas Lake.
- IV. The potential impact of YGP operations on the aquatic organisms and habitat of Narrow Lake with specific regard to any proposed infrastructure that may be located in aquatic habitat there.
- V. An assessment of Winter Lake's value as habitat for aquatic organisms.
- VI. A discussion of how the DFO's *Principle of No Net Loss* will be considered during the YGP's operation.
- VII. The potential impact that road development, including water crossings, will have on aquatic organisms and habitat.
- VIII. ~~A discussion on the potential impact that underground blasting may have on aquatic organisms and habitat; [Comment- should be deleted as it is not a valid pathway.]~~
- IX. The potential impact that YGP operations may have in increasing contaminant concentrations in fish.
- X. A discussion as to how the EEM plan will trigger adaptive management measures to the ensure protection of aquatic organisms and habitat.
- XI. ~~A conceptual plan for the monitoring of aquatic resources, including reporting to regulators and potentially impacted communities. [This should be deleted as it is covered in I-1 Water Resources under EEM Plan]~~

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### I-3 Vegetation

**Preamble:** Concerns about YGP effects to vegetation were fairly limited in the scoping sessions. The majority of the discussion on this component was related to species that may potentially be employed in site reclamation activities. Those concerns are addressed in Section J – Abandonment and Reclamation.

While conducting an impact assessment based on identified valued components, specific consideration shall be given to, but not be limited to:

- I. An assessment on the potential impact of the YGP on rare plant communities, particularly SARA listed species, if applicable, in the Local Study Area.
- II. The potential impact of YGP operations on culturally significant species – as identified through traditional or community knowledge.
- III. The potential impact of vehicle, mill and power plant emissions on vegetation.

- IV. The potential impact of dust emissions on vegetation.
- V. A conceptual plan for monitoring of impacts on vegetation, including plans for reporting to regulators and impacted communities.

#### I-4 Wildlife and Wildlife Habitat

**Preamble:** Potentially adverse impacts to wildlife and wildlife habitat were noted in the scoping sessions. Specific concerns were related to impacts on wildlife from use of high value wildlife habitat such as eskers. The development of a wildlife management plan that is applicable to a wide range of species was also identified as being needed.

While conducting an impact assessment based on identified valued components, specific consideration shall be given to, but not be limited to:

- I. The rationale and methodology for the selection of the Valued Ecological Components (VECs) species.
- II. The effects that each YGP component may have on wildlife and wildlife habitat VECs, which shall include, but not be limited to:
  - a. Potential direct impacts to habitat with a per-VEC quantification of that loss;
  - b. Potential indirect impacts to habitat with a per-VEC quantification of that loss;
  - c. Historic, current and expected wildlife use of potentially-contaminated water sources, and an assessment of impacts predicted from such activity;
  - d. Potential impacts to VECs from vehicle traffic, including YGP related travel on the Winter Road;
  - e. Potential impacts of dusting, originating from YGP operations, on wildlife habitat;
  - f. Physical barriers to wildlife erected as a result of the construction;
  - g. Disruption, blockage, impediment and sensory disturbance, of daily or seasonal wildlife movements (e.g., migration, home ranges); and
  - h. A discussion as to how site planning for the mine has considered potential impacts on wildlife and wildlife habitat; this should include minimizing potentially high use areas such as eskers.
- III. Potential impact of YGP operations on *Species at Risk Act (SARA)* listed species as pursuant to Section 79 of the SARA.
- IV. A discussion of the potential impact of YGP operations on species listed by

the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and the General Status Ranks of Wild Species in the NWT.

- V. The potential impacts of YGP operations on wildlife and proposed mitigation measures.
- VI. A conceptual wildlife management plan, including furbearers, migratory birds, waterfowl, large ruminants and large carnivores, in regards to activities occurring at the mine site and in the transportation corridor, including but not limited to:
  - a. Identification of adaptive management measures to avoid, minimize, and mitigate potential impacts to wildlife; and
  - b. How monitoring results and mitigation efforts will be reported to regulators and potentially-impacted communities.

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Deleted: a discussion on how Tyhee intends to restrict wildlife access on the mine footprint, with particular emphasis on the TCA, waste rock and ore stockpiles, transportation routes

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## I-5 Terrain

**Preamble:** There exists a fairly broad range of potential project effects that are covered under the terrain environmental component. The scoping sessions noted concerns about use of the Discovery Mine airstrip and its susceptibility to degradation. Expansion of the winter road beyond its current alignment was identified as a concern, as were potential impacts to the permafrost.

While conducting an impact assessment based on identified valued components, specific consideration shall be given to, but not be limited to:

- I. The potential impacts of all YGP operations on the terrain which shall include, but not be limited to:
  - a. All buildings and mining support infrastructure;
  - b. The complete road network;
  - c. The TCA and associated infrastructure;
  - d. The proposed airstrip, particularly in regards to the long term and increased use of the Discovery Mine airstrip
  - e. Aggregate extraction; and
  - f. Any envisioned expansions to the winter road as may be required for the YGP beyond the existing scope of the current winter road.
- II. The potential impact of YGP operations on terrain due to potentially increased sedimentation and erosion.
- III. The potential impact of YGP operations on land subsidence in the area of the Ormsby Zone and Nicholas Lake mine workings.
- IV. A discussion of Tyhee's commitment to minimize the overall footprint of the

mine, as well as its consideration for locating its infrastructure on brownfields<sup>4</sup> sites.

V. The potential impact of YGP operations on permafrost conditions in the mining area.

VI. **Management plans to examine the impacts on local terrain, including:**

- a. A conceptual quarry management plan;
- b. A conceptual waste management plan;
- c. A conceptual geotechnical monitoring; and
- d. A discussion of how monitoring results will be reported to regulators and potentially-impacted communities.

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## I-6 Air Quality and Climate

**Preamble:** *It is acknowledged that in the Northwest Territories there is presently no enforceable regulatory regime for air quality. In the scoping sessions, it was noted that Tyhee has suggested a commitment to meet the Guideline for Ambient Air Quality Standards in the Northwest Territories and GNWT Guideline for Dust Suppression, as well as other possible guidelines. However, significant adverse impacts to air quality may still occur despite the adherence to the aforementioned guidelines. It is the purpose of the EA and the task of the Review Board to assess the YGP's potential impacts to air quality.*

While conducting an impact assessment based on identified valued components, specific consideration shall be given to, but not be limited to:

- I. A discussion of the standards, guidelines and regulations that will be applied to the YGP operation in all areas related to air quality.
- II. A discussion of the technology that will be utilized in YGP operations to ensure that significant adverse impacts to air quality are not incurred.
- III. The potential impact of YGP operations on air quality through the atmospheric dispersion of emissions and dust on a local and regional scale. This shall include, but not be limited to estimates of:

- a. Emissions from waste incinerator(s), with particular emphasis on the generation of dioxins, furans and mercury;
- b. Dust from roads, waste rock and ore stockpiles, quarries, and mill activities;

**c. Emissions from the gold refinery; and**

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<sup>4</sup> Brownfield land is an area of land previously used or built upon, as opposed to greenfield land which has never been built upon

- d. Emissions from vehicles and diesel generators.
- IV. The potential impact of YGP operations as a source of acidic precipitation.
- V. A discussion of the potential impact of YGP operations in generating greenhouse gas emissions, which shall include but not be limited to the following:
  - a. Predicted total annual atmospheric loading of greenhouse gases in CO2 equivalent values;
  - b. Comparison of the value determined in a) to the total emission generated in NWT, as well as Canada as a whole; and
  - c. A discussion of Tyhee's consideration to minimize greenhouse gas emissions.

~~VI. A conceptual air quality monitoring plan, which shall include a discussion of how monitoring results will be reported to regulators and impacted communities.~~

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I-7 ~~Environmental Agreements~~

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- ~~I. Report on any discussions with communities, federal and territorial governments related to Environmental Agreements to monitor and mitigate any of the above sections, with particular consideration to environmental components not covered by regulation. Include a discussion of Tyhee's general approach toward negotiating Environmental Agreements.~~ [Comment- Tyhee feels this should be deleted as we are committed to meet all regulatory requirements (MMER in particular). See cover letter.]

**J Abandonment and Restoration**

**Preamble:** *Given the context of mining history in the Northwest Territories, it was not surprising that abandonment and restoration (A&R) issues were noted on a number of occasions in the scoping sessions. Although A&R is normally dealt with in detail at the regulatory phase of a development, public concern around this issue demands that it be considered in a appropriate and substantial manner for this EA.*

The following items are required for consideration of this environmental component:

- I. A description of the policies, regulations and industry standards that will be considered in the development of the A&R Plan.

- II. A conceptual A&R Plan for the purpose of this environmental assessment, which shall include, but not be limited to:
  - a. A list of A&R components and activities;
  - b. The rationale for the selection of proposed activities versus alternatives that have been dismissed;
  - c. Conceptual details of the methods and location for materials on and off-site disposal;
  - d. A visual depiction of the site at the completion of mine reclamation based upon the current development description;
  - e. A cost-estimate component of proposed reclamation activities; and
  - f. A conceptual post-closure monitoring plan, for protection of both the biophysical and human environment. Include a discussion of how monitoring results will be reported to regulators and potentially-impacted communities.
- III. A discussion concerning the adequacy of the TCA closure design to prevent ARD, with respect to providing a sufficient barrier for the prevention of tailings oxidation, or the re-suspension of tailings due to wave action or any other major disturbance.
- IV. The potential social and economic impacts of the mine closure.
- V. A discussion regarding Tyhee's consideration to work with potentially-impacted local communities and aboriginal groups to ensure that public values are taken into consideration during A&R.
- VI. A discussion concerning the establishment of a self-sustaining vegetation community on the mine site after closure, which shall include but not be limited to the following:
  - a. Proposed re-vegetation techniques including a discussion on what species will be considered for this activity;
  - b. Predicted vegetation productivity and re-growth rates; and
  - c. The feasibility of re-vegetating sites disturbed by mining activities.

**K** **Cumulative Effects**

**Preamble:** Pursuant to Section 117(2)(a) of the MVRMA, the Review Board considers cumulative impacts in its determination. During the scoping sessions, three major cumulative impact concerns were identified:

- Cumulative biophysical impacts on water quality in the Yellowknife River

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system;

- *Cumulative social, economic and cultural impacts associated with the increasing number of operating mines in the Mackenzie Valley, and the ability to maximize benefits remaining in the North; and*
- *Cumulative biophysical impacts, from historic and current industrial development, on the immediate Discovery Mine and Yellowknife Gold Project areas with specific regard to the use of the Discovery Mine airstrip and impacts to the water resource that the Discovery Mine may have on baseline conditions for the YGP, such as cumulative impacts to Round Lake and Giauque Lake.*

*In addressing this section, Tyhee is strongly encouraged to refer to Appendix H of the Review Board's Environmental Impact Assessment Guidelines.*

The following items are required for consideration of cumulative impacts:

- I. An analysis of the Valued Ecosystem Components (VECs) to be considered in the cumulative impact assessment.
- II. Identification and rationale for the geographic and temporal scale that will be applied to the cumulative impacts assessment of the VECs under consideration.
- III. Discussion of the approach and methodologies used to identify and assess cumulative effects. This shall include the provision of explicit documentation of the assumptions, models and information sources used, as well as information limitations and associated levels of uncertainty.
- IV. A cumulative impacts assessment, which considers, but is not limited to the following:
  - a. Potential impacts to the VECs likely to result from the proposed development in combination with past, present or reasonably foreseeable developments;
  - b. The rationale for including the developments considered in a);
  - c. A discussion of developments considered, but not included in the cumulative effects assessment, and the rationale for that decision;
  - d. The delineation of effects to the biophysical environmental which are attributable to either the Discovery Mine or the YGP; and
- V. A conceptual plan for the monitoring of cumulative impacts and the reporting of results to potentially-impacted communities and regulators.

## **L Accidents and Malfunctions**

**Preamble:** *Pursuant to Section 117(2)(a) of the MVRMA, the Review Board*

*considers the impact of malfunctions or accidents that may occur in connection with the Development. While details concerning emergency response plans are normally reviewed in detail at the regulatory phase of a development, certain details concerning accidents and malfunctions must be provided in this EA.*

The following items are required for consideration of accidents and malfunctions:

- I. A discussion regarding company policies, industry standards, guidelines or regulations to be considered in the planning and operation of the YGP.
- II. A conceptual emergency response plan that shall include, but not be limited to the following:
  - a. Storage, transportation and handling system failures of hydrocarbons;
  - b. Storage, transportation and handling system failures of ANFO and other explosives;
  - c. Storage, transportation and handling system failures of cyanide and other hazardous process chemicals;
  - d. Storage, transportation and handling system failures of any other hazardous compounds to be used at the YGP
  - e. Failures of the TCA system, including catastrophic failure of the dyke, as well as tailings spills; and
  - f. Responses to vehicle and industrial accidents.
- III. A discussion as to how Tyhee will attempt to prevent or reduce malfunctions associated with activities conducted by its contractors, with particular consideration to use of the winter road.
- IV. A discussion as to how site planning and engineering considerations have been undertaken to prevent or reduce the likelihood of malfunctions and accidents during YGP operations.

## 5 Assessment Process

### 5.1 Responsibilities

The roles and responsibilities of the Review Board and its staff, government bodies, Tyhee and other parties in the EA are explained in this section. Further information regarding the structure of the EA process is available in the Review Board's *Environmental Impact Assessment Guidelines* and the *Rules of Procedures*.

All submissions received from all sources will be considered during the Review Board's decision-making. Usually such submissions will be public documents and will be posted on the Public Registry. However, the Review Board can and will accept documents on a confidential basis if required. Submissions should be in a format that is easily available to all stakeholders and should follow any templates provided by the Review Board.

#### Review Board

The Review Board, assisted by its staff, is required to undertake the following in relation to this EA:

- Conduct the EA in accordance with Section 26(3) of the MVRMA;
- Take into account any previous screening or assessment report made in relation to the development, in accordance with Section 127 of the MVRMA;
- Determine the Scope of Development, in accordance with Section 117(1) of the MVRMA;
- Consider EA factors, in accordance with Section 17(2) of the MVRMA;
- Make a determination regarding the environmental impacts and public concern of the development, in accordance with Section 128(1) of the MVRMA;
- Identify areas and extent of impacts in or outside the Mackenzie Valley in which the development is likely to have a significant adverse impact or be a cause of significant public concern, in accordance with Section 128(4) of the MVRMA;
- Report to the Federal Minister in accordance with Section 128(2) of the MVRMA.

The Review Board's Environmental Assessment Officer (EAO) is the primary point of contact between the Review Board and the developer, government bodies (federal, territorial and municipal), non-government organizations (NGOs), first nations, expert advisors (expert consultants contracted directly by the Review Board), the public and other interested parties. This does not limit or preclude the developer's contact with other parties during the EA process.

This Environmental Assessment will be principally coordinated and facilitated by Patrick Duxbury, Environmental Assessment Officer.

### **Government Bodies**

Government bodies may be involved in the EA process as:

- A Regulatory Authority as defined in the MVRMA;
- A Responsible Minister as defined in the MVRMA;
- A Federal Minister as defined in the MVRMA; or
- Advisor to the Review Board.

### **Developer**

Tyhee is expected to respond in a suitable and timely manner to directions and requests issued by the Review Board. Tyhee may present additional information at any time to the Review Board beyond what was requested during the EA process. The Review Board encourages Tyhee to continue consulting all potentially-impacted communities and organizations throughout the EA process.

### **Other Parties**

First Nations, aboriginal groups, NGOs, the public and other interested parties may request and be granted party standing by the Review Board, as per the MVEIRB *Rules of Procedure*. Parties may provide the Review Board with information relevant to the EA of their own volition, or they may be asked by the Review Board to provide any relevant information they may have. Parties are expected to participate and respond to directions and requests issued by the Review Board in a suitable and timely manner.

In addition to the expertise available from parties, the Review Board may also choose to hire expert advisors to provide technical expertise on specific aspects of the EA.

## 5.2 Milestones

Table 1 summarizes the milestones and responsibilities in the EA process.

**Table 1 - Milestones + Responsibilities in the EA Process**

Milestone	Developer	Government Bodies	Other Parties	Review Board and Staff
EA start-up				✓
Scoping Sessions	✓	✓	✓	✓
Draft Terms of Reference and Work Plan				✓
Review and comment on draft ToR and WP	✓	✓	✓	
Final ToR and WP				✓
Developer's Assessment Report	✓			
Conformity Check and Deficiency Statement (if required)				✓
Deficiency Statement Response	✓			
Information Requests (if required)		✓	✓	✓
Information Request Responses or Roundtable technical meeting (if required)	✓	✓	✓	✓
Technical Analysis		✓	✓	✓
Public/Community Hearing (at Board's discretion)	✓	✓	✓	✓
Review Board Report of EA and Reasons for Decision				✓
Response from the Minister of Indian Affairs and Northern Development (if required)		✓		
Consultation - throughout / as required	✓	✓	✓	✓

### **5.3 Deliverables**

The following section lists and explains the various deliverables to be produced during the EA process. They are listed in the order they will be produced.

#### ***Public Registry, public notification, government notification, developer notification, expert advisor identification, identification of EA roles***

The Review Board has initiated the notification measures required by the MVRMA. The Review Board has opened the Public Registry on the EA. The Public Registry will be updated regularly. The Review Board will identify expert advisors if and as required. Please refer to Section 3.7 of the *Environmental Impact Assessment Guidelines* for further detail.

#### ***Approved Terms of Reference and Work Plan***

A final Terms of Reference and Work Plan will be developed by incorporating written comments on the draft document received from parties, as well as comments and conclusions drawn from the issues scoping session. This document will contain the scope of the development, the scope of the assessment, directions to the developer, a description of the EA process and an EA schedule. Please refer to Section 3.10 of the *Environmental Impact Assessment Guidelines* for further information.

#### ***Developer's Assessment Report***

Tyhee will be responsible for submitting to the Review Board a DAR that will provide the information listed in Section 4 of these Terms of Reference. Tyhee should use diagrams, charts and maps for clarifying information presented in the text where appropriate and should consider the use of a glossary for technical or uncommon terms.

#### ***Conformity Check, Review Board Deficiency Statement and Developer's Response***

The Review Board will review the DAR to ensure that Tyhee has provided the information required. If needed, the Review Board will issue a deficiency statement identifying those areas in which Tyhee has not provided sufficient information to address an item listed in the Terms of Reference. Tyhee will be asked to submit information to the Review Board to fill the information gaps identified by the deficiency statement. If the Review Board is not satisfied with the information received, it will halt the EA until it has received an adequate response. Please refer to Section 3.12 of the *Environmental Impact Assessment Guidelines* for details.

### **Information Requests and Responses to Information Requests**

Information Requests (IRs) are very specific and focused requests for clarification or additional information. They may be required for the Review Board to complete its analysis and reach a conclusion about the information provided by Tyhee. The first round of IRs issued will be developed by the Review Board. The second round will be open to all EA participants.

IRs can be issued by any party in the EA and can be directed to any other party. However, all IRs must be submitted to the Review Board for approval and they must also be submitted in the form required by the Review Board. If approved, the Review Board will then issue the IR under its authority to the intended IR recipient. The IRs and the responses will be included in the Public Registry and be used as evidence for the consideration of the Review Board. See Section 3.14 of the *Environmental Impact Assessment Guidelines* for details.

### **Roundtable Technical Meeting(s) Report**

The Review Board, in lieu of, or in addition to the above-mentioned IR process, may choose to hold a roundtable technical meeting to permit a face-to-face question and answer sessions between interested parties, Tyhee and Review Board staff. In advance of a roundtable technical meeting, parties will submit their questions/comments to Tyhee, or to other parties, by way of the Review Board, to allow Tyhee or parties sufficient time to develop a response. To ensure a fair process, the Review Board exercises discretionary control over what issues may be brought forward in the meeting. Review Board staff will ensure that a record of the meeting is made. Following the meeting, the Review Board will issue a report that details the nature of the proceedings and any technical issues that were identified, discussed, resolved or left outstanding.

### **Technical Reports from EA parties**

The Review Board staff will undertake the analysis of the EA with the assistance of federal and territorial governments, aboriginal groups, the public, and other interested parties. A thorough analysis of the YGP is essential to assist the Review Board to make the best EA decision. This is a critical stage in the EA process where the key issues and impacts are identified and evaluated. Tyhee can formally provide and present its views on the information brought to the Review Board's attention including any proposed amendments, additions or refinements to the development or the environmental assessment documents. The technical reports from EA parties are to clearly state the reviewer's conclusions, recommendations and supporting rationales. See Section 3.13 of

the *Environmental Impact Assessment Guidelines* for details.

### **Review Board's Report of Environmental Assessment (EA Decision)**

The Review Board will provide the Minister of Indian and Northern Affairs Canada (INAC) with its Report of Environmental Assessment as per Section 128(2) of the MVRMA. The Minister of INAC will distribute the report to every responsible minister as per Section 128(2)(a) of the MVRMA. The developer and the other EA parties will also receive copies of the Review Board's Report of EA. See Section 3.16 of the *Environmental Impact Assessment Guidelines* for details.

### **5.4 Schedule**

Table 2 provides **estimated** time lines for the completion of each milestone in the EA process. Days refer to working days. The Review Board may amend the schedule at its discretion.

**Table 2 - EA Schedule**

<b>MILESTONE</b>	<b>Duration</b>	<b>Estimated Date</b>
<b>Terms of Reference and Work Plan</b>		
Referral and start-up of the EA	3 days	
Scoping Sessions and preparing draft Terms of Reference and Work Plan	48 days	July 20 <sup>th</sup> , 2005
Comments on draft ToR and WP	10 days	August 3 <sup>rd</sup> , 2005
Final Terms of Reference and Work Plan	10 days	August 17 <sup>th</sup> , 2005
Developer's Assessment Report	90 days	~January 3 <sup>rd</sup> , 2006
Review Board Conformity Check and Deficiency Statement (if required)	10 days	
Developer's response to the Deficiency Statement (if required)	15 days	
Review Board IRs to developer	12 days	
Developer's response and preparation of technical questions by Review Board and parties	20 days	
Technical session preparation	11 days	April 6 <sup>th</sup> , 2006
Technical sessions and pre-hearing conference	3 days	April 12 <sup>th</sup> , 2006
Parties' technical reports	15 days	
Preparation for Public or Community Hearing(s)	5 days	
Conduct of Public or Community Hearing(s)	5 days	May 17 <sup>th</sup> , 2006
Closure of Public Registry	2 days	
Review Board EA decision	50 days	

<b>MILESTONE</b>	<b>Duration</b>	<b>Estimated Date</b>
Review Board's Report of EA to the Minister of INAC	1 day	August 1 <sup>th</sup> , 2006
Federal Minister's response to the Review Board's Report of EA	---	