

APPENDIX 1 – TABLE OF CONCORDANCE

MARATHON PGM-CU PROJECT TABLE OF CONCORDANCE – A COMPARISON OF EIS GUIDANCE AND EIS DOCUMENTATION

| GUIDELINE DOCUMENT REFERENCE | MARATHON PGM-CU PROJECT DOCUMENTATION | |
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| | Main EIS Report | Supporting Documentation |
| 2.1 INTRODUCTION AND BACKGROUND | | |
| ...include an introduction that orients the reader to the EIS by briefly introducing the geographic setting, the Project, the underlying rationale or need for the Project, the Proponent, the provincial and federal review process and the content, organization and format of the EIS. | Section 1.0, Section 1.2, Section 1.3.1.4, Section 1.4, Section "Organization of the Environmental Impact Statement and Supporting Documentation" | |
| 2.1.1 The Proponent | | |
| ...describe the Proponent by providing pertinent corporate information, including the following: - contact information (i.e., name, address, phone, fax, email etc.); - history of the Proponent; - the name of the legal entity that would develop, manage and operate the Project; - an explanation of corporate and management structures, as well as insurance and liability management related to the Project; - the mechanism used to ensure that corporate policies will be implemented and respected for the Project; - a description of the Proponent's record of performance pertaining to environmental and socio-economic issues in past operations; - the policies with regard to Aboriginal consultation, procurement, community engagement, hiring and corporate social responsibility; and - key personnel, consultants, contractors, and/or sub-contractors responsible for preparing the EIS, where available. | Section 1.2.1 Section 1.2.2.2 Section 1.2.2.1 Section 1.2.2.3 Section 1.2.2.3, Section 1.2.2.5, Section 7.1 Section 1.2.3 Section 1.2.4 Section 1.2.5 | |
| ...provide information on the nature of the Proponent's management structure and organizational accountability for: -the design, construction, operation, modification, closure and decommissioning of the Project; -the implementation of Environmental Management Systems and Plans, mitigation and monitoring; and -key elements of the environmental and health and safety management systems and how the systems will be integrated into the Project. | Section 1.2.2.3 Section 1.2.2.5 Section 1.2.2.4 | |
| 2.1.2 Legal Framework and Role of Government | | |
| ...identify, for each jurisdiction, the government bodies involved in the EA. The EIS will identify the planning context for the EA of the Project, including government policies, regulations, and land use plans that have a bearing on the Project. The EIS will also identify the local government(s) and applicable official community plans of communities potentially affected by the Project. | Section 1.3.1 Section 1.3.3 Section 1.3.3.1 | |
| ...identify the reasons why the requirements of the <i>Canadian Environmental Assessment Act</i> and the Ontario <i>Environmental Assessment Act</i> apply. ...identify provincial and federal legislation, agreements, conventions, and key policies and/or guidelines applicable to the Project...identify regulatory approvals that may be required for the Project, and which of those approvals, if any, will be requested for concurrent review with the EIS. A table summarizing the regulatory requirements of the Project shall be provided as an appendix to the EIS (containing the name of the issuing department/ministry, the pertinent act/regulation, and specific permit/authorization/approval required, and the relationship of the regulatory requirement to the Project)...summarize and discuss the approach, including the role of regulatory bodies, to ensure compliance with existing federal and provincial environmental legislation applicable to the Project. | Section 1.3.1.1 and 1.3.1.2 Section 1.3.3 Section 1.3.4 Section 1.3.2 | |
| 2.2 PROJECT DESCRIPTION | | |
| 2.2.1 Need for and Purpose of the Project | | |
| ...describe the rationale or need for the Project...define the problem or opportunity the Project is intending to solve or satisfy...identify the main function of the Project...present the fundamental rationale for proceeding with the development at this time within the context of regional, provincial and national economies, as well as global implications of supply and demand on metal prices and markets. | Section 1.4.1.1 | |
| ...clearly describe the purpose of the Project by defining what is to be achieved by carrying out the Project. In addition, the purpose of each of the Project facilities and activities and their relevance to the overall project development plan will also be discussed. | Section 1.4.1.2 | |
| The "rationale or need for" and "purpose of" the Project shall be established from the perspective of the Proponent and provide the context for the consideration of alternatives. | Section 1.4.1.3 | |
| 2.2.2 Project Setting | | |
| ...include a concise description of the geographic setting in which the Project is proposed to take place and will include site, regional, watershed, and bathymetric maps. The following shall be considered for each map type: - Site map – shall be to an appropriate scale and show all relevant features of the mine site (e.g., tailings pond, waste rock storage area, etc.); - Regional map – two shall be provided, one to 1:100 000 scale and a second to a 1:50000 scale; Watershed map - shall be appropriately scaled and show discharge and sampling locations; Bathymetric maps - shall be provided for potentially impacted and reference lakes; and - Land Use maps – depicting municipal boundaries, mining tenure, claims and leases, Crown land tenure, private land tenure and land use designations. | Section 1.4.2.1 Figure 1.4-12, Figure 1.4-8 (1 :50 000), Figure 1.4-9 (1 :250 000), Figure 1.4-10 (watershed), Figure 5.4-1 (flow monitoring) Figure 1.3-2, Figure 1.3-3, Figure 1.3-4, Figure 1.4-7, Figure 1.4-11 | EcoMetrix, 2012a (bathymetry maps) |
| ...in order to illustrate the regional setting and clearly locate the Project within that setting, the EIS shall include site plans at the appropriate scale and photographs (as necessary). | Figure 1.4-6, Figure 1.4-12 | |

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| <p>The description of the Project setting shall be focused on those aspects of the environment important for understanding the potential environmental effects of the Project. This description shall integrate the natural and human elements of the environment in order to explain the interrelationships between the physical and biological aspects and the people and their communities. This description may include the following information:</p> <ul style="list-style-type: none"> - main ecological constraints of the environment; - any existing designated environmentally sensitive areas, such as national, provincial and regional parks, ecological reserves, designated fisheries areas, wetlands, estuaries, and habitats of provincial or federally listed species at risk , habitats of bi-national importance, and other sensitive areas; - with regard to woodland caribou, the description will include mapping and attribute details of the typical and non-typical habitat of the costal caribou range, as well as in the adjacent discontinuous distribution that overlaps with the study area delineated for caribou impact and effects assessment; - physical or cultural heritage resources, and built heritage and cultural heritage landscapes; - the current land use in the area and the relationship of the Project facilities and components with any existing land use including traditional, private and crown lands; - regional and/or local planning or policy frameworks that relate to the protection of the environment (e.g., Lake Superior Lakewide Management Plan, Great Lakes Bi- National Toxics Strategy, Peninsula Harbour Area of Concern, Caribou Conservation Plan, Cervid Ecological Framework, etc.) - detailed land requirements; - local communities; and - the environmental significance and value of the surrounding area. | <p>Section 1.4.2.3 Figure 1.4-11, Figure 1.4-12 Section 1.4.2.3, Figure 1.3-3, Figure 1.3-4, Figure 1.3-5</p> <p>Section 5.2.8</p> <p>Section 1.4.2.4, Section 5.11 Figure 1.4-11, Section 1.4.2.3.1</p> <p>Section 1.3.3</p> <p>Section 5.9.2.1</p> | <p>gck 2012</p> |
| <p>The EIS will describe land uses in the project area, including resource development, fishing, recreational use and registered hunting, trapping and guiding areas.</p> | <p>Section 1.4.2.3</p> | |
| <p>2.2.3 Project Description</p> | | |
| <p>...describe the general layout of the components of the mine site, the location of the transmission line corridor, the new access roads and areas for road upgrades, and load-out and any other supporting facilities.</p> | <p>Section 1.4.3.1 Figure 1.4-12</p> | |
| <p>...describe the Project as it is planned to proceed, including project phases and activities (construction, operation, modification (if relevant), closure, post-closure, decommissioning and abandonment (if relevant)).</p> | <p>Section 1.4.3.2</p> | |
| <p>...contain sufficient detail to be able to identify major mine components or structures which are likely to have a high failure consequence during construction, operation, closure and post-closure and where monitoring efforts will be required for the purposes of risk analysis.</p> | <p>Section 1.4.3 Section 6.3</p> | |
| <p>...include an estimated timeline for all phases of the Project and a discussion of all Project components. This information will be provided in sufficient detail to allow the Proponent to predict potential effects and address concerns of interested parties.</p> | <p>Section 1.4.3.8 Figure 1.4-26</p> | |
| <p>...include a description of the phases of the Project, including site preparation, construction, operation, modification (if applicable), closure and post-closure, and decommissioning and abandonment (if applicable) as described in the Marathon Platinum Group Metals and Copper Mine Project – Project Description (July 2010) and any subsequent Project updates.</p> | <p>Section 1.4.3.2</p> | |
| <p>In describing the phases of the Project, the Proponent shall include any relevant socio-economic components, such as estimated employment numbers and worker housing and transportation arrangements.</p> | <p>Section 1.4.3.2 Section 1.4.3.7.2</p> | |
| <p>The description of project phases shall include, but not be limited to, the following activities:</p> <p>Site Preparation:</p> <ul style="list-style-type: none"> - clearing, grubbing and stripping of vegetation, topsoil and other organic material; grading with topsoil; - drilling and blasting to develop the open pits and plant site area; - excavating and pre-stripping to remove mine rock and overburden; - preparation of construction surfaces and installation of temporary construction facilities; - site preparation for waste management; management of surface water and groundwater on the site, including seepage and run-off; - maintenance and management of mine rock and overburden stockpiles (including run-off and seepage) to protect groundwater and surface water quality; and - monitoring of groundwater and surface water quality and quantity. | <p>Section 1.4.3.2.1 Table 1.4-5</p> | |
| <p>The description of project phases shall include, but not be limited to, the following activities:</p> <p>Construction:</p> <ul style="list-style-type: none"> - construction of administration buildings, storage buildings, other ancillary structures and site services such as parking lots, area fencing, security systems; - construction of explosives factory and magazine facilities; - construction of tailings containment dams; - management of surface water and groundwater on the site, including seepage, run-off, and mill process water; - maintenance and management of mine rock stockpiles, tailings impoundment areas (TIAs), and the process water pond (including run-off and seepage); monitoring of groundwater and surface water quality and quantity; - construction of water management facilities and drainage works (including but not limited to pipelines, dewatering facilities, storm water management, polishing ponds, and sediment control ponds and mine process water reservoirs); - dewatering of natural water bodies in the project area; - construction of new mine site access and haul roads including any water crossings, and water body shoreline works or undertakings; - upgrading of the existing mine access road(s) and entrance(s) to the project area including any water crossings and water body shoreline works or | <p>Section 1.4.3.2.2 Section 1.4.3.4 Section 1.4.3.5 Section 1.4.3.6 Section 1.4.3.4.10</p> | |

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| <p>undertakings;</p> <ul style="list-style-type: none"> - construction of a 115kV electrical transmission line within a new right-of-way from the existing sub-station on Highway 626 to the mine site; <p>aggregate sources and amounts;</p> <ul style="list-style-type: none"> - management of waste; - fish compensation works; and - any works or undertakings associated with upgrading a rail load-out facility for mine concentrate. | | |
| <p>The description of project phases shall include, but not be limited to, the following activities:</p> <p>Operation:</p> <ul style="list-style-type: none"> - drilling, blasting, loading of mine rock from the pit to mine rock storage areas and the ore to the crusher; - operation of explosives factory and magazine facilities; - handling, transportation, use and disposal of explosives; - transportation of crushed run-of-mine material; - transportation of mill feed (ore) to the grinding section of the processing facility; - mill processing; transportation of filtered concentrate; - management and maintenance of the entire mine waste stream, including but not limited to, tailings, waste rock, process water pond, and mine rock; - decommissioning of the temporary process water pond (proposed during mine operations), including removal or breaching of dams; - dewatering activities (e.g. open pit); - management of surface water and groundwater on the site; including seepage, run-off, mill process water and storm water; - management of surface water on site during dam removal or breaching; - management of domestic waste from the workers camp; - management of hazardous waste; - monitoring activities; and - environmental safety procedures. | <p>Section 1.4.3.2.3</p> <p>Section 1.4.3.4</p> <p>Section 1.4.3.5</p> <p>Section 1.4.3.6</p> <p>Section 1.4.3.7</p> <p>Section 1.4.3.7.3</p> | |
| <p>The description of project phases shall include, but not be limited to, the following activities:</p> <p>Closure and Post-Closure:</p> <ul style="list-style-type: none"> - installation of security fencing around the pit perimeters; - management of inputs from groundwater and surface water run-off into pits; - decommissioning, dismantling and/or disposal of equipment; - demolition/removal of surface buildings and associated infrastructure and disposal of resulting rubble; - decommissioning/removal of explosives factory and magazine facilities; - removal of power lines and electrical equipment; - decommissioning of the potable water and sewage treatment systems (e.g., settling ponds associated with mine rock storage, roads and plant site); - maintenance and management of mine rock stockpiles and TIAs (including runoff and seepage); - following removal of infrastructure, soil, groundwater, and surface water testing for residual contamination, and disposal of contaminated soils and treatment of groundwater and surface water, as required; plans for reclamation and restoration of landscape (including water bodies) to productive capacity including management and monitoring; - management of flooded pits to protect groundwater and surface water quality during flooding and pit overflow; and - adaptive management, follow-up, compliance and effects monitoring | <p>Section 1.4.3.2.4</p> | <p>TGCL, 2012d</p> |
| <p>2.2.3.1 Mine Plan</p> | | |
| <p>...include an accounting of the defined mineral resource, including measured, indicated and inferred categories. The tonnes mined in the reserve mine plan and grades used will also be included.</p> | <p>Section 1.4.3.3</p> <p>Tables 1.4-6 and 1.4-7</p> | |
| <p>...include:</p> <ul style="list-style-type: none"> - the results of geological, geotechnical and geohydrological site investigations, particularly for the location of the mine rock storage area, tailings impoundments, temporary stockpiles, process water and other facilities and open pits; - as appropriate, the results for geotechnical site investigations for any other mine site infrastructure (other than those listed above) requiring either shallow or deep foundation systems; - and as appropriate, details of any geotechnical work undertaken to determine the integrity and stability of infrastructure outside of the mine site, such as the access road, transmission line and concentrate transfer station facilities. | <p>Section 1.4.3.3</p> <p>Section 5.1</p> | <p>EcoMetrix, 2012b, 2012d, 2012e</p> <p>MICON, 2010</p> |
| <p>2.2.3.2 Mine Development</p> | | |
| <p>Where known, the sequence and scheduling of mine development will be provided, including but not limited to the following components:</p> <ul style="list-style-type: none"> - open pit development plan including location, design and production scheduling; - pit wall management; - mine rock storage area development plan; | <p>Section 1.4.3.4</p> <p>Section 1.4.3.4.1, Figure 1.4-14 to Figure 1.4-17</p> <p>Section 1.4.3.4.1</p> <p>Section 1.4.3.4.4, Figure 1.4-14 to Figure 1.4-17</p> | |

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| <ul style="list-style-type: none"> - identification, segregation and management of acid rock drainage / metal leaching (ARD/ML) rock; - low grade ore stockpile; - concentrate stockpile; - overburden storage; - topsoil storage for reclamation; - surface and groundwater management activities and facilities (e.g., storm water management ponds, sedimentation ponds, tailings ponds, etc.); - crushing and conveying ore; - mine site and access roads and drainage control; - explosives use, manufacturing and storage facilities; - dust management and vehicle emissions; - truck shop and maintenance facilities; - mine rock storage areas and TIA plan including tailings embankments which will identify location, preliminary designs, preliminary data on geotechnical properties and foundation conditions, seepage and surface water controls. The location and design of major structures will be based on geotechnical investigation and evaluation of foundation condition. Details concerning how these mine components will be maintained throughout all phases will be provided. - dangerous goods and hazardous material handling, storage and/or distribution; - borrow sources for dam construction and site preparation; - condemnation drilling plan in areas of proposed permanent mine structures; and - construction materials for roads, infrastructure/facilities pads and impoundments. | <p>Section 1.4.3.4.4 Section 1.4.3.4.2 Section 1.4.3.4.3 Table 1.4-5, Section 6.2.5.1.1 Table 1.4-5 Section 1.4.3.4.7 Section 1.4.3.4.2 Section 1.4.3.1, Section 1.4.3.4.10, Section 1.4.3.4.2 Section 1.4.3.4.1, Section 1.4.3.4.12 Section 1.4.3.4.2, Section 1.4.3.4.3, Section 6.2.1.1.1 Section 1.4.3.6 Section 1.4.3.1, Section 1.4.3.4.4, Section 1.4.3.4.5, Section 5.1, Section 1.4.3.6.5</p> <p>Section 1.4.3.4.1, Section 1.4.3.4.13, Section 1.4.3.6.4 To be determined Section 1.4.3.2.1, Table 1.4-5, Section 1.4.3.4.10</p> | <p>TGCL, 2012b</p> <p>Knight Piesold, 2012</p> |
| <p>2.2.3.3 Process Plant</p> | | |
| <p>...describe the process plant, including but not limited to the following components:</p> <ul style="list-style-type: none"> - ore storage for the mill and low grade ore; - tailings characterization; - physical and chemical ore processing options; - reagent handling and storage; - where known, a list of reagents that will be used, including concentrations and quantities to be kept on site; - concentrate slurry handling, storage and pumping facility; - TIA with pipeline and reclaim water facilities; - process water storage reservoir, intakes pipelines and distribution; - plant runoff and sedimentation control facilities; - dust management and fugitive emissions; - spill contingency plans; - metallurgical and assay laboratories; and - water budget along with methods to ensure appropriate water sources and a discussion of contingencies should water quantities not be available for drought or seasonal reasons. Appropriateness may be determined by evaluating the environmental effects of various water-taking options. | <p>Section 1.4.3.5 Section 1.4.3.4.2 Section 1.4.3.6.6 Section 1.4.3.4.2, Section 1.4.3.5 Section 1.4.3.4.14, Section 1.4.3.6.6 Section 1.4.3.5 Section 1.4.3.4.3, Section 1.4.3.6.9 Section 1.4.3.4.6, Section 1.4.3.4.9 Section 1.4.3.4.6, Section 1.4.3.4.7, Section 1.4.3.4.9 Section 1.4.3.4.7 Section 1.4.3.4.2, Section 1.4.3.4.3, Section 6.2.1.1.1 Section 7.1.2.2 Section 1.4.3.6.6 Section 1.4.3.4.6, Section 1.4.3.4.7</p> | <p>Knight Piesold, 2012</p> <p>TGCL, 2012b</p> <p>Knight Piesold, 2012</p> |
| <p>...describe any waste water management initiatives to be undertaken by the Proponent with respect to the process plant.</p> | <p>Section 1.4.3.4.7, Section 1.4.3.4.8, Section 1.4.3.4.14</p> | |
| <p>2.2.3.4 Maintenance, Administration and On-Site Support Facilities</p> | | |
| <p>...describe ancillary facilities and operations required at the mine site to support the mining of the ore body. The description shall include, but is not limited to the following:</p> <ul style="list-style-type: none"> - mine services buildings; - power generation facilities; - explosives storage and associated facilities, including: <ul style="list-style-type: none"> • the type of explosives to be manufactured and stored, • maximum quantity of explosives at each facility, • specified location, with distances to vulnerable features such as dwellings, roads, camps, etc. The Proponent needs to demonstrate that safety distances required have been considered and met. Explosive magazine locations shall also be specified, • fuel and ammonium nitrate storage plans (storage of ammonium nitrate to be in conformance with any guidelines), • liquid effluent disposal plans, • spill contingency plans, and • information on any temporary explosive facilities to be used for starting the Project; - storage and management of fuels for equipment and vehicles; - storage and management of hazardous materials, domestic and industrial wastes, used oil, recyclable wastes (types, volumes and disposal methods and waste minimization to be employed); - proposed monitoring systems and maintenance plans; | <p>Section 1.4.3.6</p> <p>Section 1.4.3.6.7 Section 1.4.3.4.11, Section 1.4.3.7.1 Section 1.4.3.4.12 Section 1.4.3.4.1 To be determined during the detailed design process Section 1.4.3.4.12</p> <p>Section 1.4.3.4.12 Section 1.4.3.4.8 Section 7.1.2.2, Table of Commitments Section 1.4.3.4.12 Section 1.4.3.6.1 Section 1.4.3.6.5, Section 1.4.3.4.14</p> <p>Section 1.4.3.6.2, Section 7.0</p> | |

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| <ul style="list-style-type: none"> - conceptual design details of the freshwater intake screen that will be used to ensure fish are not impinged or entrained in the intake system as per the Fisheries and Oceans Canada (DFO) <i>Freshwater Intake End-of-Pipe Fish Screen Guideline</i> (1995); - surface water diversion, collection or storage works (water balances); - pumping systems and any pipelines; - all water supply requirements (e.g., source, volumes, temporal usage); and - potable water sources. | <p>Section 1.4.3.4.7 Section 1.4.3.4.6, Section 1.4.3.4.9 Section 1.4.3.4.6 Section 1.4.3.4.6</p> | <p>Knight Piesold, 2012; Calder, 2012b</p> |
| <p>For all proposed new roads and road upgrades, the EIS will describe the following:</p> <ul style="list-style-type: none"> - the entrance to the proposed mine site on the existing provincial Highway 17 that will be utilized during construction and operations; - road use strategy for any portion of roads located on Crown land; - existing and new road design specifications; - the location of water body crossings and preliminary design specifications for any required crossings; - sources of road construction materials (quarriable materials, gravel, fill); and - management of runoff, stormwater and sediment control. | <p>Section 1.4.3.4.10 (further detail to be developed during provincial permitting)</p> | <p>ENL, 2012</p> |
| <p>2.2.3.5 Off-Site Support Infrastructure for Mine Development and Operations</p> | | |
| <p>...describe the design of the transmission line and the proposed right-of-way, including the proposed route, including width, and will list any water body crossing. An outline of the schedule and preliminary construction details will be provided. Details concerning lighting or marking requirements will be discussed and information regarding the need for and location of maintenance access routes will be provided...describe maintenance requirements and techniques for the right-of-way.</p> | <p>Section 1.4.3.7.1 Section 1.4.3.7.4 Figure 1.4-20</p> | <p>ENL, 2012</p> |
| <p>...describe the loading, transport and unloading of concentrate from the mine site to the concentrate transfer station facilities...identify the anticipated average number of truck or train trips per day (both to and from the associated facilities), and the anticipated load capacity of concentrate trucks or trains. Concentrate handling, storage and transportation measures designed to reduce or eliminate concentrate discharge to the environment will be discussed.</p> | <p>Section 1.4.3.4.3 Section 1.4.3.7.3</p> | |
| <p>With respect to road upgrades to Highway 17, the results of the Transportation Impact Study undertaken by the Proponent shall be described in the EIS.</p> | <p>Section 1.4.3.7.4 Section 6.2.9</p> | <p>ENL, 2012</p> |
| <p>2.2.4 Project Development Schedule</p> | | |
| <p>...provide an estimated timetable and schedule for construction of the Project with an estimate of timing to reach commercial production.</p> | <p>Section 1.4.3.8 Figure 1.4-26</p> | |
| <p>2.3 PROJECT SCOPING</p> | | |
| <p>2.3.1 Summary of the Project</p> | | |
| <p>The scope of project shall include all components of the Project as proposed by the Proponent.</p> | <p>Section 2.0</p> | |
| <p>2.3.2 Factors to be Considered</p> | | |
| <p>...include a consideration of the following factors in the EIS...in assessing the environmental effects of the Project...where "Environment means:</p> <ol style="list-style-type: none"> a) air, land, water, b) plant and animal life, including human life, c) the social, economic and cultural conditions that influence the life of humans or a community, d) any building, structure, machine or other device or thing made by humans, e) any solid, liquid gas, odour, heat, sound, vibration, or radiation resulting directly or indirectly from human activities, or f) -any part or combination of the foregoing and the interrelationships between any two or more of them. | <p>Table 2.3-1, Section 6.0,</p> | |
| <p>"Environmental effect" means:</p> <ol style="list-style-type: none"> a) any change that the Project may cause in the environment, and b) any change that the environment may cause to the Project; whether such change occurs within or outside Canada. | <p>Section 2.3-1 Table 2.3-1, Section 2.4</p> | |
| <p>The assessment by the Joint Review Panel will include:</p> | | |
| <ol style="list-style-type: none"> a) the purpose of the Project; b) the rationale or need for the Project; c) alternatives to the Project (including the "do nothing" alternative), the environmental effects of such alternatives to, and the advantages and disadvantages to the environment of such alternatives to; d) alternative means of carrying out the Project that are technically and economically feasible, the environment of such alternative means; e) the significance of the environmental effects, including the following: <ul style="list-style-type: none"> • malfunctions or accidents that may occur in connection with the Project; and • any cumulative environmental effects that are likely to result from the Project in combination with other projects or activities that have been or will be carried out. f) measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the Project g) measures to enhance any beneficial environmental effects; | <p>Section 1.4.1.2 Section 1.4.1.1 Section 3.1 Section 3.2 Section 6.1 Section 6.3 Section 6.6 Section 6.2 Section 6.2</p> | |

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| <ul style="list-style-type: none"> h) the capacity of renewable resources that are likely to be significantly affected by the Project to meet the needs of the present and those of the future; i) extent to which biological diversity (e.g. ecosystems and/or species diversity) is affected by the Project, including any listed wildlife species, its critical habitat or the residence of individuals of the species and/or its protected habitat; j) extent of application of the precautionary principle to the Project; k) the need for, and the requirements of, any follow-up program in respect of the Project; l) description of the consultation undertaken by the Proponent with the public and Aboriginal groups during the preparation of the EIS; m) comments from the public and Aboriginal groups that are received during the review; and n) community knowledge and Aboriginal traditional knowledge and the current use of lands and resources for traditional purposes by Aboriginal persons. | <p>Section 6.5</p> <p>Table 6.2-1, Section 6.2.3.5, Section, Section 6.2.4, Section 6.2.6, Section 6.2.7, Section 6.2.8</p> <p>Section 1.1.4</p> <p>Section 6.6.1.8, Section 7.4</p> <p>Section 4.0</p> <p>Section 5.9.3, Section 5.9.10, Section 5.9.11</p> | <p>EcoMetrix, 2012g; Northern Bioscience, 2012a, 2012b</p> <p>Ross Archaeological Research Associates, 2009; Woodland Heritage Services Ltd., 2008</p> |
| <p>2.3.3 Scope of the Factors</p> <p>The effects analysis shall consider the magnitude, aerial extent, duration, frequency and reversibility of residual effects.</p> | <p>Section 2.2, Section 6.0, Table 6.1-4</p> | |
| <p>The analysis shall consider both the cumulative effects and assimilative capacity of the receiving environment</p> | <p>Section 2.2, Section 6.0, Section 6.2.3, Section 6.6.1.5</p> | <p>EcoMetrix, 2012f</p> |
| <p>The likelihood of the occurrence of effects should be assessed separately</p> | <p>Section 2.2, Section 6.0, Table 6.1-4</p> | |
| <p>2.3.4 Valued Ecosystem Components</p> <p>...explain and justify methods used to predict the effects of the Project on each VEC, which includes biophysical and social, economic and cultural components, the interactions among these components and on the relations of these components within the environment. The information presented shall be substantiated... describe how the VECs were selected and what methods were used to predict and assess the adverse environmental effects of the Project on these components. The value of a component not only relates to its role in the ecosystem, but also to the value placed on it by humans. The culture and way of life of the people using the area affected by the Project may themselves be considered VECs. The spatial and temporal boundaries used in the assessment may vary as appropriate, depending on the VEC.</p> | <p>Section 2.3.3</p> <p>Table 2.3-1</p> <p>Section 6.1.1</p> <p>Section 2.4</p> <p>Section 2.5</p> | |
| <p>The VECs that will be assessed in the EIS will include, at a minimum:</p> <ul style="list-style-type: none"> - atmospheric environment; - climate change; - acoustic environment; - water quality and quantity, including surface and groundwater and the Lake Superior watershed; - fish and fish habitat (as defined by the <i>Fisheries Act</i>), aquatic ecosystems, including benthos and sediment quality and federally and provincially listed species at risk, with particular attention to lake sturgeon; - terrain and soils; - vegetation, including country food (e.g. wild game, berries, plants); - wildlife and wildlife habitat including avifauna, federally and provincially listed species at risk with particular attention to woodland caribou, alternate prey species and their associated predators; - economic and social environment, including resource uses and human health; - commercial land and resource use; - navigable waters; - physical and cultural heritage resources; - the current use of Crown lands and resources for recreational purposes; and - the current use of lands and resources for traditional purposes by Aboriginal people and groups. | <p>Section 2.3.4, Table 2.3-1 (with additional VECs added)</p> <p>Section 5.2</p> <p>Table 6.1-1, Table 6.1-4</p> <p>Section 5.3</p> <p>Section 5.4.1, Section 5.4.2, Section 5.4.3</p> <p>Section 5.4.5, Section 5.8</p> <p>Section 5.5</p> <p>Section 5.6, Section 5.8.2.4, Section 5.11.3.2</p> <p>Section 5.6, Section 5.8</p> <p>Section 5.9, Section 5.11</p> <p>Section 5.9.1, Section 5.9.3</p> <p>Section 5.9.5</p> <p>Section 5.10</p> <p>Section 5.9.3</p> <p>Section 5.11.4, Table 5.11-3</p> | <p>TGCL, 2011a; EcoMetrix, 2012h</p> <p>EcoMetrix, 2012g</p> <p>TGCL, 2011b</p> <p>EcoMetrix, 2012c</p> <p>EcoMetrix, 2012g</p> <p>EcoMetrix, 2012b</p> <p>Northern Bioscience, 2012a; Golder Associates, 2009; gck, 2012</p> <p>gck, 2012</p> <p>gck, 2012</p> <p>Ross Archaeological Research Associates, 2009; Woodland Heritage Services Ltd., 2008</p> <p>gck, 2012</p> |
| <p>This list of VECs in the EIS shall be modified as appropriate by the Proponent, as a result of consultation undertaken with Aboriginal groups, the public, federal and provincial government departments and relevant stakeholders</p> | <p>Section 2.3.3</p> <p>Section 2.3.4</p> | |
| <p>2.3.5 Spatial Boundaries</p> <p>A description of the boundaries of the Project in a regional context showing existing and planned future land use, current and proposed resource development projects, and current infrastructure (i.e. transportation routes, urban areas, and proposed improvements to these infrastructure) shall be provided.</p> <p>A description of any traditional land use and any established or asserted Aboriginal and treaty rights from Aboriginal people and groups within the wider regional context shall be provided.</p> <p>Sensitive areas including national and provincial parks, wetlands, critical habitats as defined under the <i>Species at Risk Act</i> and archaeological sites found within the regional context shall be described. General habitat description or habitat regulations as defined under the <i>Endangered Species Act, 2007</i>, and preliminary woodland caribou population ranges as identified through the Caribou Conservation Plan shall also be described.</p> | <p>Section 2.4, Figure 1.3-2, Figure 1.3-3, Figure 1.3-4, Figure 1.4-11, Figure 2.4-1, Figure 2.4-2, Figure 2.4-3</p> <p>Section 1.4.3.2.1, Section 5.11.2</p> <p>Section 1.4.2, Section 5.0, Section 5.6.2, Section 5.8.2, Section 5.10.2</p> <p>Section 2.4</p> | |
| <p>The study area for the EA shall be based on the aerial extent of project facilities and activities and their likely effects. It shall encompass:</p> <ul style="list-style-type: none"> - the immediate mine site plus the corridor for the transmission line and access roads; | <p>Section 2.4</p> <p>Figure 2.4-1</p> | |

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| - those specific areas in which the direct and indirect effects of the Project may be felt; and - a wider area for comparison purposes when assessing the significance of those effects | Figure 2.4-2 Figure 2.4-3 | |
| In determining the spatial boundaries to be used in assessing the potential adverse and beneficial environmental effects, the Proponent shall consider, but not be limited to, the following criteria: - the physical extent of the Project, including any worker camps, offsite facilities or activities, such as the transmission line corridor, new access road and the concentrate transfer station facilities; - the extent of cultural heritage resources that may be affected by the Project, including potential built heritage resources and cultural heritage landscapes adjacent to the project area; - the extent of aquatic and terrestrial ecosystems potentially affected by the Project; - the extent of potential effects arising from noise, light and atmospheric emissions. In assessing the effects of the Project on the atmospheric and acoustic environment, the Proponent shall consider not only the location of potential receptors, but also property lines and other such designations (e.g. land use permit boundaries that are currently zoned for or can otherwise be utilized by sensitive receptors); - the extent to which species of conservation concern potentially affected by the Project utilize the landscape; - the extent to which traditional land use, asserted or established Aboriginal and treaty rights could potentially be affected by the Project; - lands used for residential, commercial, industrial, recreational, cultural, and aesthetic purposes by communities whose areas include the physical extent of the Project; and - the size, nature and location of past, present and reasonably foreseeable projects and activities which could interact with the items above including any on-going exploration. These boundaries shall also indicate the range of appropriate scales at which particular baseline descriptions and the assessment of environmental effects are presented...The EIS shall contain a justification and rationale for all boundaries and scales chosen. | Section 2.4, Section 5.0, Section 6.0 Figure 1.4-12, Section 1.4.3 Figure 2.4-2, Section 5.10, Section 5.11 Figure 2.4-2, Section 5.4.4, Section 5.4.5, Section 5.6, Section 5.7, Section 5.8 Figure 2.4-2, Section 5.2, Section 5.3 Section 5.8 Figure 2.4-2, Section 5.10, Section 5.11 Figure 2.4-2, Section Section 6.6 Section 2.4, Section 6.6 | Woodland Heritage Services Ltd., 2008; Ross Archaeological Research Associates, 2009 |
| The geographic study areas for the EIS shall encompass the areas of the environment that can reasonably be expected to be affected by the Project, or which may be relevant to the assessment of cumulative environmental effects. Study areas shall encompass all relevant components of the environment, including people, non-human biota, land, water, air and other aspects of the natural and human environment, notably, traditional land use. Study boundaries shall be defined taking into account traditional knowledge, ecological, technical, social and political considerations. | Section 2.4 Figure 2.4-3 | |
| 2.3.6 Temporal Boundaries | | |
| The temporal boundaries of the Project shall cover all phases of the Project as well as decommissioning, abandonment and the reclamation of the sites affected by the Project. If the Proponent does not believe the full temporal boundaries should be used, the EIS shall identify the boundaries used and provide a rationale for the temporal boundaries selected. | Section 2.5 | |
| ...consider the current baseline environment and environmental trends within the study area. The description of the existing baseline and the environmental trends shall include a consideration of past projects and activities carried out by the Proponent and/or others within the regional study area. | Section 5.0 | |
| ...consider the effects of the Project in combination with other past, present and future projects that are either "certain" or "reasonably foreseeable" as defined in Canadian Environmental Assessment Agency's guidance <i>Addressing Cumulative Environmental Effects under the Canadian Environmental Assessment Act (2007)</i> . | Section 6.6 | |
| ...the temporal boundaries shall indicate the range of appropriate scales at which particular baseline descriptions and the assessment of environmental effects are presented. | Section 2.5 | |
| take into account the following elements: - hazardous lifetime of the contaminants associated with waste or with releases to the environment during both normal operation and postulated accidents and malfunctions; - duration of the operational period; - design life of engineered design elements; - duration of both active and passive controls; - frequency and duration of natural events and human-induced environmental changes (e.g., seismic occurrence, flood, drought, climate change, etc.); and - duration of the potential for foreseeable adverse environmental effects. | Section 2.4 Section 7.0 Section 7.0 Section 1.4.3 Section 1.4.3 Section 5.1.4, Section 5.2.2.2 Table 6.1-4, Section 6.0 | Knight Piesold, 2012 |
| 2.4 PROJECT ALTERNATIVES | | |
| 2.4.1 Assessment of the Alternatives and Selection of the Proposed Project | | |
| ...include an analysis of alternative means of carrying out the Project that are technically and economically feasible and the environment effects of any alternatives means...include a consideration of the alternatives to the Project. | Section 3.1 | |
| 2.4.2 Alternatives to the Project | | |
| ...include an analysis of alternatives to the Project, including the "do nothing" alternative, describing functionally different ways to meet the Project's need or rationale and achieve the Project's purpose from the perspective of the Proponent. For each identified alternative to the Project...explain how the Proponent developed the criteria to identify the major environmental, social and cultural, economic and technical costs and benefits of those alternatives, and how the | Section 3.1, Section 3.2 Table 3.2-2, Table 3.2-3 | |

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| Proponent identified the preferred project based on the relative consideration of the environmental, social and cultural, economic and technical benefits and costs. This shall be done to a level of detail which is sufficient to allow government departments and ministries, the public and Aboriginal groups to compare the preferred project with the alternatives. | | |
| 2.4.3 Alternative Means of Carrying out the Project | | |
| ...identify and describe alternative means to carry out the various components of the Project that are, from the perspective of the Proponent, technically and economically feasible. If there is more than one alternative means that is technically and economically feasible, the EIS shall also describe the environmental effects of each alternative means. In describing the preferred means, the EIS shall identify the relative consideration of environmental effects, and technical and economic feasibility. The alternative means that were considered but determined not to be technically and economically feasible should be identified and the rationale as to why they were determined not to be feasible should be documented. The criteria used to identify alternative means as unacceptable, and how these criteria were applied, shall be described, as shall the criteria used to examine the environmental effects of each remaining alternative means to identify the preferred alternative. | Section 3.2.1, Section 3.2.2 Table 3.2-3 | |
| ...identify and describe the alternative means that have been considered to avoid or minimize adverse effects on protected species and habitat. Reasonable alternatives should reflect a broad spectrum of possibilities. An alternative means that would completely avoid adverse effects on the protected species and habitat present on and/or surrounding the activity location must be considered and described. | Section 3.2.2.1.1, Section 3.2.2.2.1, Section 3.2.2.3.1, Section 3.2.2.4.1, Section 3.2.2.5.1, Section 3.2.2.6.1, Section 3.2.2.7.1, Section 3.2.2.8.1, Section 3.2.2.9.1, Section 3.2.2.10.1, | |
| Alternatives that were considered but were deemed not feasible due to social, economic, technical considerations should also be identified. | Section 3.2.2 | |
| 2.4.3.1 Assessment of Alternatives for Mine Waste Disposal | | |
| ...include an assessment of the alternative means of carrying out the Project, which includes the disposal of mine waste. The Proponent has identified the need to use one or more natural water body(ies) frequented by fish for the disposal of mine waste, including tailings and waste rock, as well as the management of process water. If the Project receives the required approvals through the EA process, the Metal Mining Effluent Regulations (MMER) would need to be amended to add these water bodies to Schedule 2 to designate them as TIAs in order to allow the use of water bodies for mine waste disposal. This regulatory process would not be initiated until a detailed assessment of alternatives for mine waste disposal had been undertaken by the Proponent. | Section 3.3.2, Section 3.3.3 | |
| The assessment of alternatives for mine waste disposal shall include all aspects of the Project that may contribute to the predicted impacts associated with the proposed TIA(s). | Section 3.3.1 | |
| ...consider all available options for mine waste disposal, including options that do not involve the use of a natural water body(ies) frequented by fish as a TIA. ...assessment should qualitatively and quantitatively assess the effects of each alternative on the environment. Both the short term impacts of each alternative and the long term risks through the closure and post-closure phases should be assess. The assessment of alternatives for mine waste disposal shall include all aspects of the Project that may contribute to the predicted impacts associated with the proposed TIA(s). The economic component of the assessment of mine waste alternatives should consider the full costs of each alternative through the mine life cycle, from construction through post-closure, including long term maintenance and monitoring requirements, as well as costs associated with the legislated requirement for a compensation plan to offset fish habitat loss. | Section 3.3.2, Section 3.3.3 | |
| 2.5 CONSULTATION | | |
| ...involve Aboriginal people and groups in determining how best to deliver that information (e.g. the types of information required, translation needs, different formats and the possible need for community meetings). | Section 4.2.1.3 Section 4.0 | |
| 2.5.1 Aboriginal Consultation | | |
| ...identify the resulting effects of any such changes on the current use of lands and resources for traditional purposes by Aboriginal persons, physical and cultural heritage, and on the capacity of renewable resources that are likely to be significantly affected by the Project to meet the needs of the present and those of the future. | Section 6.2.11.1 – Section 6.2.11.9 | |
| 2.5.1.1 Engagement and Consultation | | |
| ...include a summary of the consultations undertaken with Aboriginal people and groups prior to the submission of the EIS. The Proponent will also explain the results of the EIS in a clear and direct manner to make the issues understandable to as wide an audience as possible. | Section 4.0, Appendix 4A-E, Appendix 3 | |
| ...describe in the EIS how the concerns respecting Aboriginal people and groups will be addressed. That description shall include a summary of discussions, the issues or concerns raised, and shall consider and describe any asserted or established Aboriginal and treaty rights... document the potential effect of the Project on asserted or established Aboriginal and treaty rights, and the measures to prevent or mitigate those potential effects. | Section 4.0, Appendix 4D | |
| The EIS will: - describe consultations undertaken prior to the submission of the EIS, the methods used and their rationales, perspectives and opinions expressed about the Project, issues raised and the ways in which the Proponent has responded to these issues; - and outline a proposal for a consultation process with Aboriginal people and groups which the Proponent, as directed by government, intends to carry out for the purposes of the review of the EIS. | Section 4.0 | |
| A summary of the completed, ongoing and future consultation with Aboriginal people and groups will be provided...include information from each group respecting concerns related to the Project and which asserted or established Aboriginal and treaty rights are potentially affected by the Project and how such rights may be affected...include a description of how the concerns of groups or potential impacts to asserted or established Aboriginal and treaty rights have been considered or addressed. There shall also be a summary of any outstanding issues that remain. | Section 4.0 | |
| 2.5.1.2 Aboriginal Traditional knowledge | | |

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| ...describe where and how Aboriginal traditional knowledge is incorporated into the assessment, including in effects prediction, and determining mitigation measures. Where Aboriginal traditional knowledge is not available or not provided in a timely manner the EIS will describe efforts taken to obtain it. | Section 4.4 | |
| 2.5.1.3 Key Issues | | |
| ...include a list and discussion of key issues identified throughout the engagement and consultation activities with Aboriginal people and groups. Information on each issue will be included in a Table of Concordance which in turn will clearly indicate which section of the EIS includes a discussion of the issue. | Section 4.4.3, Appendix 4B | |
| 2.5.1.4 Community Interest and Benefit | | |
| ...include details describing how community and Aboriginal interests and benefit intentions, practices and programs have been and will continue to be carried out. | Section 4.4.3 | |
| 2.5.2 Public Consultation | | |
| ...must provide in the EIS the highlights of this engagement, including the methods used, the results, and the ways in which the Proponent intends to address the concerns identified, including a summary of issues raised during such engagement. | Section 4.6 | |
| The EIS will: | | |
| - describe public consultations undertaken prior to the submission of the EIS, the methods used, perspectives and opinions expressed about the Project, issues raised and the ways in which the Proponent has responded to these issues; | Section 4.6.1, Section 4.6.2, Section 4.6.3 | |
| - outline a proposal for a public consultation program that the Proponent plans to carry out for the purposes of the review of the EIS. The location and timing of the proposed open houses and other consultation activities to be undertaken during the review of the EIS will be specified; | Section 4.6.4 | |
| - describe the ongoing public consultation activities and any plans for further public consultation about the Project; | Section 4.6.4 | |
| - summarize the comments made by the public to-date with respect to the Project; and | Section 4.6.5 | |
| - identify the key issues of concern raised by the public and how the Proponent has, or intends to, address them. | Section 4.6.5 | |
| ...detail consultations undertaken with local governments, stakeholder organizations, and federal and provincial government organizations. | Section 4.6, Appendix 3 | |
| 2.6 EXISTING ENVIRONMENT | | |
| ...provide a baseline description of the environment, including the components of the existing environment and environmental processes, their interrelations and interactions as well as the variability in these components, processes and interactions over time scales appropriate to this EIS. | Section 5.0 | EcoMetrix, 2012a, 2012b, 2012c, 2012d; TGCL, 2011a, 2011b, 2011c; Calder, 2012a, gck, 2012; Northern Bioscience, 2012a; Golder Associates, 2009; NAR, 2007; Ross Archaeological Research Associates, 2009; Woodland Heritage Services Ltd., 2008 |
| The Proponent's description of the existing environment shall be in sufficient detail to permit the identification, assessment and determination of the significance of potentially adverse environmental effects that may be caused by the Project, to adequately identify and characterize the beneficial effects of the Project, and provide the data necessary to enable effective testing of predictions during the follow-up program. | Section 5.0 | |
| ...include results from studies done prior to any physical disruption of the environment due to initial site clearing activities planned as part of the site preparation phase. The baseline description shall include characterization of environmental conditions resulting from historical and present activities in the local and regional study area (see Cumulative Effects section)...compare baseline data, in areas on which the assessment will focus, with applicable federal, provincial, municipal or other legislative requirements, standards, guidelines or objectives. | Section 5.0 | |
| ...include those VECs, processes and interactions that are likely to be affected by the Project...describe the nature and sensitivity of the area within and surrounding the Project... indicate the specific geographical areas or ecosystems that are of particular concern, and their relation to the broader regional environment and economy. Relevant information about the VECs is to be presented graphically to document physical and biological (e.g., home range) characteristics. | Section 5.0 | |
| If the background data have been extrapolated or otherwise manipulated to depict environmental conditions in the study areas, modeling methods and equations shall be described and shall include calculations of margins of error and other relevant statistical information, such as confidence intervals and possible sources of error. | Section 5.0 | EcoMetrix, 2012a, 2012b, 2012c, 2012d, TGCL, 2011a, 2011b, 2011c; Calder, 2012a, (as applicable) |
| 2.6.1 Physical and Biological Environment | | |
| ...take an ecosystem approach that considers both scientific and traditional knowledge and perspectives regarding ecosystem health and integrity... consider the extent to which biological diversity (e.g. ecosystems and/or species diversity) is affected by the Project...propose and present a rationale for the indicators and measures of ecosystem health, human health, and social health and integrity it uses. These shall be related to project monitoring and follow-up measures. | Section 5.0 (specific sub-sections included below) | |
| ...consider the sensitivity/resilience of species populations, communities and their habitats...summarize pertinent historical information on the size and geographic extent of populations as well as density for both terrestrial and aquatic ecosystems. Habitat at regional and local scales shall also be defined, as appropriate, in ecological mapping of aquatic and terrestrial vegetation types and species (e.g. ecological land classification mapping). Habitat use shall be characterized by type of use (e.g., spawning, breeding, migration corridors, feeding, nursery, rearing, wintering), frequency and duration. Emphasis shall be on those species, communities and processes identified as VECs. However, the interrelations of these components and their relation to the entire ecosystem and communities of which they are a part shall be indicated. The Proponent shall address issues such as habitat, nutrient and chemical cycles, food chains, productivity, to the extent that they are appropriate to understanding the effect of the Project on ecosystem health and integrity. Range and probability of natural variation over time shall also be considered. | Section 5.0 (specific sub-sections included below) | |

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| <p>2.6.1.1 Geology</p> <p>The EIS will provide the following:</p> <ul style="list-style-type: none"> - a discussion of the soils, surficial and bedrock geology of the deposit, host rocks, and overburden units, which includes geological maps and cross-sections of soil units, surficial geology units, and bedrock geology units. Where appropriate, the following geologic parameters will be included: <ul style="list-style-type: none"> • representative lithologic descriptions including age, colour, grain size, mineralogy, physical strength, hardness, weathering characteristics, depositional setting and correlations, • representative soil descriptions including, but not limited to: depth, texture, classification, colour, grain size, organic matter, hydraulic conductivity and permeability; borehole and test pit logs, • spatial distribution and thickness of lithologic units, or links to vegetation and landforms, • alteration styles, mineralogy, occurrence and intensity, • structural fabric (e.g. fractures, faults, foliation and lineations, etc.) and structural relationships, • ore mineralogy, including sulphide types, abundance, mode of occurrence, extent of previous oxidation and an estimate of relative sulphide reactivity, • type and grade of metamorphism, and regional geologic framework including tectonic belt, terrain, regional metamorphism and structure; - delineate the regional and local geological structures in the project area that may affect the proposed infrastructure, and show their potential effect on the proposed infrastructure as well as links to ARD/ML mitigation geochemistry. This includes major structural features as well as lesser local structures. This information will be used by the Proponent to assist in developing the surface and groundwater quality predictions for the Project. | <p>Section 5.1.2 (host rock), Section 5.1.3 (deposit), Section 5.1.5.4.1 (overburden), Figures 5.1-3, Figure 5.1-5,</p> <p>Section 5.5.2</p> <p>Figure 5.1-1, Figure 5.1-2, Section 5.1.5.6</p> | <p>EcoMetrix, 2012b (overburden) EcoMetrix, 2012d</p> |
| <p>Components of the Project that will be assessed for Acid Rock Drainage /Metal Leaching (ARD/ML) potential include but are not limited to the pit walls, waste rock dumps, low grade ore and ore stockpiles, tailings/waste rock impoundments. Borrow materials, plant site and roads.</p> <p>The EIS will include:</p> <ul style="list-style-type: none"> - a description of the chronology of ARD/ML investigations and the design of an ARD/ML characterization program, including the geological and mine plan context for the additional work; - predictions of the ARD/ML potential of all materials (bedrock and surficial) to be disturbed or created (i.e. tailings) during all phases (construction, operation, closure and post-closure) of the Project. This will include a discussion of the expected time required for the onset of ARD for each lithological/alteration/waste management unit and mine component, the expected time required to deplete available sources of neutralization, metal leaching and the predicted drainage chemistry for each mine component, including the types and concentrations of major and trace elements; - a comprehensive discussion of the geology of the deposit and its relationship to ARD/ML potential for all of the lithological units which will be disturbed during mine development, based on the preliminary mine sequence. Where applicable, for each lithological unit, how its origin, field occurrence, alteration, relationship to other lithological units, as well as the mineralogy, textures, structures and materials handling plans affects the potential for ARD/ML will be explained; - a discussion on how mine sequencing, particularly how changes to sequencing could affect the results of the ARD/ML assessment; - a description of all the static and kinetic test work conducted to date. This includes a detailed description of the rationale, advantages and disadvantages of the sample selections and the methodology for all test work; - population assessments for each lithological/alteration/waste management unit. Populations have been assessed in terms of vertical and horizontal distribution and sampling biases to ensure that a waste management unit is properly characterized over its range of variability; - raw baseline and predictive data from the ARD/ML assessment program that is properly identified and clearly tabulated, with sample calculations, clear interpretations and conclusions for all data. Tabulated data include the number of samples of each lithological/alteration/ waste management unit, with minimum, maximum, mean, median, standard deviation, and 10th and 90th percentile values as appropriate; - clear, concise cross-sections which relate the ARD/ML assessment (static/kinetic sample locations and results), geology and development plans; - graphical representation of the information collected from the static and kinetic test work. Where appropriate, data presented will include the number of samples of each lithological/alteration/waste management unit and other statistical information, such as minimum, median, maximum, and 10th and 90th percentile values; and - delineation of source terms, methods and assumptions utilized in the geochemical modeling. | <p>Section 5.1.5.2, Section 5.1.5.6</p> | <p>EcoMetrix, 2012e</p> |
| <p>2.6.1.2 Atmospheric Environment</p> | | |
| <p>...describe the climate and meteorological conditions at the site, local and regional study areas. Any off-site data used in the description shall be thoroughly discussed, including an analysis of how representative data are of conditions at the project site. Its use would be qualified with an understanding of local and regional variability and the geographic locations of any on-site and off site meteorological stations.</p> | <p>Section 5.2.1, Section 5.2</p> | <p>TGCL, 2011a</p> |
| <p>Climate and meteorological information provided should include:</p> <ul style="list-style-type: none"> - air temperature, relative humidity, evaporation, precipitation, wind speed and direction, atmospheric pressure, and solar radiation; - seasonal variation in weather conditions; - description of current air quality; and - occurrence of weather phenomena (i.e. tornadoes, lightning, temperature inversions and fog) with special consideration given to extreme and rare meteorological phenomena. | <p>Section 5.2.2.1, Table 5.2-1 Section 5.2.2.1 Section 5.2.2.3 Section 5.2.2.2</p> | <p>TGCL, 2011a</p> |
| <p>The influence of regional topography or other features that could affect weather conditions in the study areas shall be described.</p> | <p>Section 5.2.2.1</p> | <p>TGCL, 2011a</p> |
| <p>2.6.1.3 Acoustic Environment</p> | | |

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| ...describe current ambient noise levels at the site and in the local study areas, and include information on its source(s), geographic extent and temporal variations...provide ambient noise levels for other areas which could be affected by the Project, such as along the proposed transmission corridor. | Section 5.3.2 | TGCL, 2011b |
| 2.6.1.4 Water Quality and Quantity | | |
| 2.6.1.4.1 Hydrology and Hydrogeology | | Calder, 2012a (hydrology); TGCL, 2012a (Hydrogeology) |
| ...describe surface water hydrology at the site, local and regional study areas...include delineation of drainage basins at the appropriate scales and a description of hydrological data such as water levels and flow rates collected over the years...describe hydrological regimes, including monthly, seasonal fluctuations and year-to-year variability of all surface waters. Normal flow, 7Q20 flows, flooding, and drought properties of lakes and streams shall be provided. The interactions between surface water and groundwater flow systems that may produce "coldwater" discharges into streams and lakes shall also be addressed...establish a conceptual plan for long term monitoring and watershed management...include a commitment to establish hydrological stations within areas of concern, and the verification of appropriate methods to validate predicted flows over time. | Section 5.4.1.2, Section 7.3, Table 7.3-1, Table of Commitments | |
| include the following baseline information: - description of hydrometric monitoring program(s) on site including an assessment of completeness and accuracy of data; - review of regional hydrometric data and assessment of hydrologic similarity with hydrological conditions found at the project site; - theoretical residence time for lakes; and - for each drainage basin that may be impacted by the proposed mine site: • mean monthly and annual run-off and streamflow, • seven-day low flow estimates for mean annual conditions for the 10-yr return period (7Q10), • estimates of peak stream flow with a 100, 50 and 10 year return periods, and • an estimate of the provincial regulatory flood event. | Section 5.4.1.1 Section 5.4.1.2.2 Section 5.4.1.2.3, Table 5.4-3 Section 5.4.1.2.3, Table 5.4-4 (Pic River) Table 5.4-4 (Pic River) | Calder, 2012a EcoMetrix, 2012f Calder, 2012a, 2012b; Knight Piesold, 2012 |
| ...provide a detailed description of the hydrogeological environment at the site, local and regional study areas... must characterize the physical and geochemical properties of hydrogeological units such as aquitards and aquifers, delineate groundwater flow patterns, identify recharge and discharge areas, and identify groundwater interaction with surface waters. | Section 5.4.2.2.1, Section 5.4.2.2.3, Section 5.4.2.2.5 | TGCL, 2012a |
| ...define the subsurface conditions in enough detail to: - allow for a reasonable evaluation of the level of groundwater impacts that might occur as a result of the undertaking; and - predict the main contaminant migration pathways, potential receptors, potential for off-site migration, and expected contaminant attenuation capacities and mitigation. | | TGCL, 2012a |
| A baseline groundwater monitoring framework shall be established in sufficient detail to permit the collection of appropriate data to allow for the identification, assessment and determination of the significance of potentially adverse environmental effects that may be caused by the Project. | | TGCL, 2012a |
| A groundwater monitoring framework shall be developed which: - considers all phases of the Project; -establishes background/ baseline hydrogeological conditions, groundwater quality and quantity, both at the site and within the regional study area for the proposed project; - includes the lithology for all wells from which data was collected; - identifies potential seasonal fluctuations; - identifies groundwater to surface water discharge; - takes into consideration the potential for ARD/ML and the potential impacts due to mine dewatering on baseflow to surface water features, including wetland features; - identifies water quality objectives from the perspective of socio-economic/human health and ecological health; and - includes ongoing monitoring of planned site activities. | Section 5.4.2.2.6, Section 7.3, Table 7.3.-1 | TGCL, 2012a |
| ...shall include groundwater monitoring wells within the footprint of the planned operation works, for baseline characterization and later decommissioning; with an aim of having the majority of the groundwater monitoring wells remaining in-place during all phases of the undertaking. | Section 5.4.2.1, Figure 5.4-2 | TGCL, 2012a |
| An appropriate hydrogeologic model (e.g. 3-Dimensional numerical groundwater flow model) shall be presented for the project area, which discusses the hydrostratigraphy and groundwater flow systems. These models will be used in predicting the influence of the mine construction, operation and closure on groundwater flow, quantity and quality, and performing a quantitative assessment of residual effects for the post-closure period. | Section 5.4.2.2.7 | TGCL, 2012a |
| The models shall be calibrated against baseline conditions and should be physically tested to confirm the generated models with the groundwater monitoring data for the site. The models shall incorporate the anticipated groundwater seepage locations, rates, seepage quality, and direction, into or from: - open pits; - mine rock stockpiles and other stockpiles; - process solids management areas; - primary sedimentation pond and process water pond; and - open pits during any future overflow | Section 5.4.2.2.7 | TGCL, 2012a |

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| <p>The EIS shall also include the following information and items related to the hydrogeological assessment for the project site:</p> <ul style="list-style-type: none"> - an inventory of existing information on the hydrogeological conditions in the project area, including: published reports, geological maps, and well record data; - review of the physical geography and geology of the area, as it pertains to local and regional groundwater flow systems and aquifer/aquitard systems; - description of local and regional potable groundwater supplies, including their current use and potential future use; - measurements of hydraulic conductivity for all hydrogeological units in the project area; - hydrogeologic maps and cross-sections for the project area, outlining: <ul style="list-style-type: none"> • the extent of aquifers, including bedrock fracture zones, • location of groundwater monitoring wells with respect to proposed facilities and works, topography, and surface water features, • location of groundwater divides, • location of springs, • groundwater flow directions, and • groundwater contours (piezometric surfaces). | <p>Section 5.4.2.2.1 Section 5.4.2.2.2 Section 5.9.5.1.2 Section 5.4.2.2.4</p> <p>Figure 5.4-2</p> | <p>TGCL, 2012a</p> |
| <p>2.6.1.4.2 Water Quality and Aquatic Ecology</p> | | |
| <p>provide a description of water quality sampling protocols and analytical methods. Where appropriate, maps and figures shall be provided.</p> | <p>Section 5.4.3.1</p> | <p>EcoMetrix, 2012c</p> |
| <p>The EIS will include the following baseline information:</p> <ul style="list-style-type: none"> - description of the monitoring program, including the location of all monitoring locations on site and off site in the receiving systems, and reference sites; - monitoring protocol for collection of surface water data before and during construction, operation, closure and post-closure; - details of quality assurance / quality control (QA/QC) protocols; - analysis of water chemistry, which must include mercury; - temporal and spatial trends analysis of water quality data, where possible; and - assessment of productivity measurements (e.g., chlorophyll A). | <p>Section 5.4.3.1</p> <p>Table 5.4-10 Section 5.4.3.2</p> | <p>EcoMetrix, 2012a, 2012c</p> |
| <p>...describe all surface water sources used for drinking water in the area.</p> | <p>Not applicable.</p> | |
| <p>2.6.1.4.3 Sediment Quality and Benthos</p> | | |
| <p>...shall include information on sediment quality and benthic invertebrate communities, including characterization of the community diversity, distribution and abundance. The baseline sediment data gathered shall be sufficient to support the development of biological monitoring programs and shall assess variation relative to historical data.</p> | <p>Section 5.4.4 Section 5.4.4.2 (Benthos)</p> | <p>EcoMetrix, 2012a; NAR, 2007; Golder Associates, 2009</p> |
| <p>...include the following baseline information:</p> <ul style="list-style-type: none"> - description of the monitoring program, including the on and off site monitoring locations and reference sites; - monitoring protocol for collection, including details of timing (for reproducibility of ongoing monitoring) and use of comparable substrates/ habitats; - details of QA/QC protocols; details of identification methods for benthos; and - details of statistical tools and data interpretation. | <p>Refers to EcoMetrix, 2012a in Section 5.4.4.2.1</p> | <p>EcoMetrix, 2012a;</p> |
| <p>2.6.1.5 Fish and Fish Habitat</p> | | |
| <p>The EIS will include:</p> <ul style="list-style-type: none"> - scientifically defensible baseline data that characterizes fish habitat, fish habitat use and fish community, including aquatic species of conservation concern, within each water body and their inter-connecting channel(s) in the context of the local and regional sub-watershed areas. This shall include, as appropriate to the circumstances: <ul style="list-style-type: none"> • the characterization of fish habitat use as spawning, rearing/nursery, feeding, migratory corridor and overwintering/summer refuge, • a quantification of habitat by watercourse reach and/or type within the local watershed, including measures such as direction of flow, length of stream, surface area and/or mean bank full width, depths, monthly/seasonal/annual discharge volumes/velocities and natural or anthropogenic barriers to fish passage, and • for each potentially affected water body, measures of: total surface area, water elevation above mean sea level, shoal area, surface area of submerged and emergent aquatic vegetation, maximum and mean depths and water quality parameters (e.g., profiles of water temperature, turbidity, pH, dissolved oxygen); - distribution, abundance and characterization of fish by species and life stages; - characterization of existing metal levels, including mercury, in fish muscle and liver in areas that may be impacted by effluent or seepage from the mine; and - the results of fish and fish habitat surveys along proposed new roads and the transmission line right of way. <p>Proponent should follow the methodologies and guiding principles presented in Portt et al (2008). Any variation from those methods should be scientifically justified and referenced.</p> | <p>Section 5.4.5.2 Summarized by watershed in Section 5.4.5.2</p> <p>Sampling methods refers reader to EcoMetrix, 2012a in Section 5.4.5.1 of the report</p> | <p>EcoMetrix, 2012a; NAR, 2007; Golder Associates, 2009</p> |
| <p>2.6.1.6 Terrain and Soil</p> | | |
| <p>The EIS will include:</p> <ul style="list-style-type: none"> - baseline mapping of soils within the project area, including the transmission line and access roads, to support the effects assessment for all terrestrial disciplines; | | <p>EcoMetrix, 2012b</p> |

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| - map soil depth by horizon within the mine site area to support soil salvage and reclamation efforts; - details of soil sample analysis completed and the quality assurance/ quality control program followed; and - summary of baseline data on the concentration of trace elements in site soils prior to Project development. | Section 5.5.2 | |
| 2.6.1.7 Vegetation | | |
| ...will characterize the baseline vegetative communities within the area potentially affected by the Project...include information on the following key communities, species groups or ecosystems that have intrinsic ecological or social value: - forests (e.g. species composition, age, forest unit, volume) including information for all lands to be cleared; - wetland ecosystems; - riparian ecosystems; - plant species and ecological communities of conservation concern; and - description of current proposed forest management activities that overlap with the Project. | Section 5.6.2.1.2 Section 5.6.2.1.4, Section 5.8.2.4 Section 5.6.2.1.5 | Northern BioScience, 2012a; Golder Associates, 2009 |
| 2.6.1.8 Wildlife | | |
| The EIS shall describe and identify: - the terrestrial species and their habitat at the site and within the local and regional study areas; - any species of conservation concern and their associated habitat (general, regulated or critical), with particular attention to woodland caribou; - any wildlife corridors and physical barriers to movement that exist within the project area; - all protected and conservation areas established by federal, provincial and municipal jurisdictions (e.g. wilderness areas, parks, sites of historical or ecological significance, nature reserves, federal migratory bird sanctuaries and wildlife management areas). | Section 5.7.2.1, Section 5.7.2.2 Section 5.8, Section 5.8.2.2.3 (Woodland Caribou) Section 5.7.2.3 Section 5.7.2.4 | Northern BioScience, 2012a, 2012b, 2012c; Golder Associates, 2009 |
| The results of wildlife surveys conducted during the seasons and during times of day which facilitate detection of the target species or species groups will be summarized in the EIS (with further detail provided in accompanying appendices). The following will be provided: - identification of species of conservation concern that may occur at any point throughout the year in the project area and information on relative abundance, distribution and habitat use of these species; - identification of ungulate/ cervid species occurring in the project area and along the transmission corridor; - the results of aerial surveys to collect data on the relative abundance and distribution of moose, white-tail deer and woodland caribou by season (winter, summer) will be provided and used in conjunction with other data sources (e.g., provincial government surveys and mapping) to verify the habitat mapping and provide a baseline from which to predict and mitigate effects; - information on the level of use of the mine site area by large carnivores such as black bears and wolves; - information on furbearer and small mammal species known and potentially occurring in the proposed mine development area. The relative abundance of furbearer species in the area will be described; - information on raptors and raptor habitat in the proposed mine site area, and their abundance; and - information on the relative abundance, distribution and density of migratory birds, including: • breeding, migration, staging and stopover as well as wintering populations, and • available data from Environment Canada and Ontario Ministry of Natural Resources. | Section 5.8 Section 5.7.2.1.2, Section 5.8.2.2.3 Section 5.7.2.1.2, Section 5.8.2.2.3 Section 5.7.2.1.5 (black bear), Section 5.7.2.1.6 (grey wolf) Section 5.7.2.1.9 Section 5.7.2.1.9, Section 5.8.2.1 | Northern BioScience, 2012a, 2012b, 2012c; Golder Associates, 2009 |
| ...shall describe and identify any biological species of conservation status at a federal, provincial, regional or local level and their critical habitats, as outlined in the sections above. This includes information pertaining to species of conservation concern (i.e., species listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), species listed under the <i>Species at Risk Act</i> , the <i>Endangered Species Act</i> , 2007, and species at risk in Ontario) that may occur at any point throughout the year in the project area, including their conservation status and the type of habitat protection they receive under legislation. | Section 5.8 | Northern BioScience, 2012a, 2012b, 2012c |
| ...shall provide a description of the relative abundance, distribution and habitat use of wildlife species of conservation concern, including a detailed description of the methodology for each species of conservation concern identified. For woodland caribou, the implications of Ontario's Woodland Caribou Conservation Plan in relation to baseline data collection shall be discussed, and, in particular, a discussion of the preliminary caribou population range(s) in which the Project will be located shall be provided (i.e. the Lake Superior Coastal Range and Discontinuous Range). A map which clearly delineates the boundaries of the mine and all associated project components (e.g., road, transmission lines, tailings impoundment areas, etc.) in relation to the preliminary caribou population ranges shall also be provided. | Section 5.7.2.1, Section 5.8 | Northern BioScience, 2012a; Golder Associates, 2009 |
| EIS shall include the following information: - summary of the species at risk surveys employed specific to each species at risk and their habitat; - the number of species and habitat observations recorded in the project area, the dates, times and where appropriate, the geographic coordinates of each species/habitat observation; - the habitat features found in the project area. Where available, photos of the habitat areas and key features should be submitted; and - how the habitat is being used by the species to carry out its life processes (e.g. reproduction, rearing, hibernation, overwintering, migration, feeding), any other life process. A map that clearly identifies each protected species and habitat occurrence found in the project area using points or polygons should be provided. | Section 5.8 Figure 6.2-3 Figure 6.2-4 | Northern BioScience, 2012a; Golder Associates, 2009 |
| 2.6.2 Socio-Economics, Culture and Human Health | | |
| ...provide information on the functioning and health of the socio-economic environment, encompassing a broad range of matters that affect the people and | Section 5.9 | gck, 2012 |

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| communities in the study area in a way that recognizes interrelationships, system functions and vulnerabilities. A description of the rural and urban settings likely to be affected by the Project shall be provided. | | |
| ...describe any agreements with partners with respect to emergency plans or protective actions. | Not applicable. | |
| 2.6.2.1 Economic Issues | | |
| ...describe the general economic conditions at the local and regional study areas. A description of the local and regional economies shall also be provided, including workforce and employment. Information shall be provided on the available labour supply and rates of employment in the surrounding communities and region. | Section 5.9.3 | gck, 2012 |
| The EIS will provide a profile of the study area that includes the following information: - a clear definition, including map representation, of the geographic area under consideration in the effects assessment; - a general demographic profile of the region, including age groups, gender, family status and social assistance levels; - a profile of the local labour force and labour market conditions, including a description of the existing labour pool and unemployment rates, particularly as they relate to the types of jobs which will be created by the Project, both during construction and at the operations stage; - existing economic conditions in the study area; and - a profile of existing community services. | Figure 5.9-1 Section 5.9.2.2 Section 5.9.3.2 Section 5.9.3 Section 5.9.2.5 | gck, 2012 |
| 2.6.2.2 Social Issues | | |
| ...include information regarding community demographics, including but not limited to the following: - a map identifying the location of nearest human receptors to the Project, including residents and transient residents (e.g. recreational cabins). - information on existing and projected population densities and distributions in the Town of Marathon, including resident populations and transient populations. Information shall be presented by both Project phase and for the life of the Project; information on housing markets and housing availability in the Town of Marathon; - a description of the proximity of the Project to affected communities in the regional study area; and - information on fluctuations in population and population attributes (age groups, employment) in the local and regional study area. | Figure 5.9-1, Figure 1.4-10 (shows Hare Lake cabins) Table 5.9-1 (Current population density) Section 5.9.2.3 (Housing) Section 5.9.1, Figure 5.9-1 Section 5.9.2.2, Section 5.9.3.2 | gck, 2012; Stantec, 2012 |
| ...identify the existing demand for housing in the project area, the existing traffic volumes and patterns in the project area, including local communities...outline the base case conditions for existing community services (i.e. police, fire, ambulance, social services, recreation, justice, commercial, retail and industrial services) that are available to residents...include information on basic infrastructure that is present, such as transportation, public health, municipal water supply, wastewater treatment, and garbage disposal. | Section 5.9.2.7 (Traffic) Section 5.9.2.5 (Community Services) Section 5.9.2.6 (Existing Infrastructure) | |
| 2.6.2.3 Resource Uses | | |
| ...describe land use in the local and regional study areas...identify past, current and planned land use(s) of the study areas or beyond, that may be impacted by the Project...include the following information: -current land tenure and land uses within the proposed mine site area and, as applicable, adjacent to the mine site area; - a description of recreational fisheries that could be affected by the Project, including water body use, catch success, and the importance of the water body in a regional and provincial context; - estimates of the current and projected value of the recreational and tourist industry (e.g., fishing, hiking, parks, kayaking, and cottages) for the study areas, including commercial recreation tenures and activities located in the project area; - estimates of the current and projected value of the hunting, trapping, fishing and guiding industry for the study areas, including the number of trapping and guiding territories in the project area; - current forest resources and activities in the project area; - current mining projects and existing mining leases/rights; and - current agricultural resources and activities. | Figure 1.4-10 Section 5.11 (Aboriginal land use) Section 5.9.4.1 Section 5.9.4 (regional information provided) Section 5.9.4.3 Section 5.9.4 (regional information provided) Section 5.9.4.1, Section 5.9.4.2 Section 1.4.2.3.5 Section 1.4.2.3.5 Section 1.4.2.3.5 | |
| 2.6.2.4 Human Health | | |
| ...use a broad definition of human health in describing the aspects of human health. The Proponent is encouraged to include all baseline information relevant to human health in one section of the EIS. | Section 5.9.5 | |
| ...describe the current health profiles of the communities likely to be affected by the Project. A description of community and public health services available to the residents of communities and to Aboriginal people and groups in the regional study area shall also be included. | Section 5.9.5.1, Section 5.9.5.3, Section 5.9.5.4 | |
| If relevant, the Proponent is encouraged to provide background levels of electric and magnetic fields at selected locations along the proposed transmission corridor for use in the assessment of the potential effects on human health from exposure. If the Proponent is unable to provide this information, a justification or rationale shall be provided in the EIS. | Section 5.9.5.2 | |
| ...describe the location of domestic water supplies and any wells used for drinking water within the Town of Marathon, as well as their current and projected use. | Section 5.9.5.1.2 | |
| 2.6.2.5 Navigable Waters | | |
| ...identify all waterways and water bodies that will be directly affected by components of the Project, including representative width, depth, gradient, and flow. Photographs of all potentially affected waterways shall be included in the EIS. | Section 5.9.6 | EcoMetrix, 2012i |
| 2.6.3 Physical and Cultural Heritage Resources | | |

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| ...identify any terrestrial and aquatic areas containing features of historical, archaeological, paleontological, architectural or cultural importance. A description of the nature of the features located in those areas shall be provided. | Section 5.10 | Woodland Heritage Services Ltd., 2008; Ross Archaeological Research Associates. 2009 |
| ...include an archaeological assessment by an archaeologist licensed under the Ontario <i>Heritage Act</i> , in order to allow for the assessment of the potential effects of on site and off site components of the Project on known and potential archaeological resources. | Section 5.10.2 | |
| 2.6.4 Aboriginal Considerations | | |
| ...describe Aboriginal land use at the site and within the local and regional study areas...identify the lands, waters and resources of specific social, economic, archaeological, cultural or spiritual value to Aboriginal people and groups, including Métis, which assert Aboriginal and treaty rights, or in relation to which Aboriginal and treaty rights have been established and that may be affected by the Project. | Section 5.11 | |
| 2.6.4.1 Aboriginal Groups | | |
| Include a description of each Aboriginal group that may be affected by the Project, and how such groups were identified. Potentially affected Aboriginal people and groups include those: - where any component of the Project will be located within their identified traditional territory, and/or - who may have asserted or established Aboriginal and treaty rights that may be impacted by the Project. | Section 5.11.2 | |
| Where available, traditional territory maps shall be included in the EIS...include a map indicating where the Project may intersect or overlap the asserted boundaries of Aboriginal Group traditional territories. If this information is not available...outline the effort taken to obtain the information. | Figure 5.11-1, Figure 5.11-2 | |
| ...describe why groups have not been included in discussions, particularly if the group has self-identified as having an interest in the project area. | Section 5.11.2 | |
| The geographic limits of the analysis undertaken to address considerations of Aboriginal people and groups will be provided, supported with maps as required. The boundaries of the study area will be determining by considering the traditional territories of each Aboriginal group, relative to the Project footprint. | Section 5.11.2 | |
| 2.6.4.2 Health of Aboriginal People | | |
| A discussion on Aboriginal people's health-related traditional activities, including the accessibility to spiritual sites within regional study area will also be included, where available. Health-related traditional activities could include gathering of country foods for consumption (hunting, fishing, trapping, planting and harvesting of plants for medicinal purposes) and activities of spiritual importance. | Section 5.11.3 | |
| ...provide a description of traditional dietary habits and dependence on country foods and harvesting for other purposes, including harvesting of plants for medicinal purposes. Information on current consumption of country foods and its quality by food type, amounts consumed, parts consumed (whole body as opposed to a specific organ) by Aboriginal people and groups shall be provided, where available. | Section 5.11.3.2 | |
| 2.6.4.3 Current Use of Lands and Resources for Traditional Purposes | | |
| ...discuss the current use of lands and resources for traditional purposes within the study area, as provided through consultation with Aboriginal groups. Any current use information that is deemed to be sensitive by the respective Aboriginal groups will be described to the level of detailed allowed by the group. | Section 5.11.4 | |
| Potential areas that are of cultural importance to Aboriginal people and groups at the mine site, transmission line corridor and access roads will also be identified. | Table 5.11-3 | |
| Current land use areas can include: - places where animals are harvested; - places where plants are harvested; - places where fish are harvested; - places where rocks and minerals are collected for tools, weapons, medicines, etc...; - notable animal use areas (ex. salt licks, breeding grounds, staging areas); - habitation sites; - burial groups and grave sites; - spiritual places, includes places where people have died and places used for spiritual training; and - travel and trade routes, non-timber resources, such as cedar strips, as indicators of timber resource harvesting sites. Current use areas can relate to the use of certain specific locations within the overall traditional territory of an Aboriginal group. | Section 5.11.4, Table 5.11-3 | |
| 2.6.4.4 Aboriginal and Treaty Rights | | |
| A discussion of the asserted or established Aboriginal and treaty rights supported with maps, legal cases and treaties as appropriate will be provided in the EIS. | Section 5.11.5 | |
| 2.6.4.5 Aboriginal Archaeological Resources | | |
| ...include a discussion of the archaeological, cultural and historical resources in the project area that are of particular interest to Aboriginal people and groups. | Section 5.11.6 | |
| 2.7 IMPACT ASSESSMENT | | |
| 2.7.1 Approach to the Effects Prediction, Mitigation Measures and Significance of Residual Effects | | |
| 2.7.1.1 Effects Prediction | | |
| ...describe the effects of the Project on the: - biophysical; | Section 6.1 (Assessment Framework), Table 6.1-1, Table 6.1-2 Table 6.1-4, Section 6.0 Section 6.2.1 (Atmospheric Environment) Section 6.2.2 (Acoustic Environment), Table 6.2-1 | TGCL, 2012b; EcoMetrix, 2012f TGCL, 2012b |

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| <p>- social, economic and cultural environments, on human health; and,</p> <p>- on Aboriginal people and groups.</p> <p>Potential effects from all components of the Project included in the scope of Project, and all project phases, shall be discussed. In predicting and assessing the Project's effects, the Proponent shall clearly state the elements and functions of the environment that may be affected, specifying the location, extent and duration of the effects and their overall effect.</p> | <p>Section 6.2.3 (Water Quality and Quantity), Table 6.1-1 Section 6.2.3.2 (Surface Water Flow), Table 6.2-7 Section 6.2.3.3 (Surface Water Quality), Section 6.2.3.4 (Hydrogeology), Table 6.2-10 Section 6.2.3.5 (Sediment Quality and Benthos) Section 6.2.4 (Fish and Fish Habitat), Table 6.1-1 Section 6.2.5 (Terrain and Soils), Table 6.1-1 Section 6.2.6 (Vegetation), Table 6.1-1 Section 6.2.7 (Wildlife), Table 6.1-1 Section 6.2.8 (Species at Risk), Table 6.1-1 Section 6.2.9 (Socio-economic, Culture and Human Health), Table 6.1-2, Table 6.1-4, Section 6.2.10 (Physical and Cultural Resources), Section 6.2.11 (Aboriginal Considerations)</p> | <p>TGCL, 2012c</p> <p>EcoMetrix, 2012f TGCL, 2011c; 2012a; Calder, 2012a; EcoMetrix, 2012f EcoMetrix, 2012a; Golder Associates, 2009; NAR 2007 EcoMetrix, 2012g; Golder Associates, 2009; NAR, 2007 EcoMetrix, 2012b ; Northern Bioscience, 2012a, 2012b, 2012c Northern Bioscience, 2012a, 2012b, 2012c Stantec, 2012; EcoMetrix, 2012j ; TGCL, 2012b, 2012c, 2012e; ENL, 2012</p> <p>gck, 2012; Stantec, 2012;Woodland Heritage Services Ltd., 2008;Ross Archaeological Research Associates, 2009;;</p> |
| <p>The assessment of the effects of the works and activities associated with all phases of the Project shall be based on a comparison between the predicted future conditions with the Project and the predicted future conditions without the Project. The assessment shall describe the environmental effects of the Project, the mitigation measures proposed to be implemented and an assessment of the effectiveness of those measures. Where mitigation measures are proposed to be implemented for which there is little experience or for which there is some question as to their effectiveness, the potential risks and effects to the environment should those measures not be effective shall be clearly and concisely described.</p> | <p>Table 6.1-4 Section 6.2.1 (Atmospheric Environment) Section 6.2.2 (Acoustic Environment) Section 6.2.3 (Water Quality and Quantity) Section 6.2.3.2 (Surface Water Flow) Section 6.2.3.3 (Surface Water Quality) Section 6.2.3.4 (Hydrogeology) Section 6.2.3.5 (Sediment Quality and Benthos) Section 6.2.4 (Fish and Fish Habitat) Section 6.2.5 (Terrain and Soils) Section 6.2.6 (Vegetation) Section 6.2.7 (Wildlife) Section 6.2.8 (Species at Risk) Section 6.2.9 (Socio-economic, Culture and Human Health) Section 6.2.10 (Physical and Cultural Resources)</p> <p>Section 6.2.11 (Aboriginal Considerations)</p> | <p>TGCL, 2012b</p> <p>EcoMetrix, 2012f TGCL, 2011c, 2012a; Calder, 2012a; EcoMetrix, 2012f EcoMetrix, 2012a; Golder Associates, 2009; NAR, 2007 EcoMetrix, 2012a, 2012g, 2012j; Golder Associates, 2009; NAR, 2007 EcoMetrix, 2012g EcoMetrix, 2012b EcoMetrix, 2012b, 2012e; TGCL, 2012b; Northern Bioscience, 2012a Northern Bioscience, 2012a, 2012b Northern Bioscience, 2012b,2012c Stantec, 2012; EcoMetrix, 2012g; gck, 2012; ENL, 2012 Woodland Heritage Services Ltd., 2008; Ross Archaeological Research Associates, 2009 Gck, 2012; Stantec, 2012; Woodland Heritage Services Ltd., 2008; Ross Archaeological Research Associates, 2009</p> |
| <p>...consider the broad range of potential environmental effects but will focus on interactions between the Project and the identified VECs</p> | <p>Section 6.1.1, Table 6.1-2, Table 6.1-4</p> | |
| <p>...discuss changes to the Project caused by the environment. Each environmental change shall be described in terms of whether it is direct or indirect and positive or adverse.</p> | <p>Section 6.4 Section 6.1.1, Table 6.1-4</p> | |
| <p>...include comprehensive analyses of both the short and long term effects of the Project on the environment...indicate the degree of certainty in predicting the environmental effects identified. When numerical models are used (e.g., a quantitative ecological risk assessment model, a population level ecological risk assessment model), scientific defensibility should be demonstrated by performing model verification (e.g., peer review of model theory), calibration (e.g., adjusting key parameters to site-specific data), validation (e.g., comparison of predicted to observed), sensitivity and uncertainty analysis.</p> | <p>Table 6.1-4 Section 6.2.1 (Atmospheric Environment) Section 6.2.2 (Acoustic Environment) Section 6.2.3 (Water Quality and Quantity) Section 6.2.3.2 (Surface Water Flow) Section 6.2.3.3 (Surface Water Quality) Section 6.2.3.4 (Hydrogeology) Section 6.2.3.5 (Sediment Quality and Benthos) Section 6.2.4 (Fish and Fish Habitat) Section 6.2.5 (Terrain and Soils) Section 6.2.6 (Vegetation) Section 6.2.7 (Wildlife)</p> | <p>TGCL, 2012b</p> <p>EcoMetrix, 2012f TGCL, 2011c, 2012a; Calder, 2012a; EcoMetrix, 2012f EcoMetrix, 2012a; Golder Associates, 2009; NAR, 2007 EcoMetrix, 2012a; Golder Associates, 2009; NAR, 2007, EcoMetrix 2012c, 2012h EcoMetrix, 2012b EcoMetrix, 2012b; TGCL, 2012b; Northern Bioscience,</p> |

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| | Section 6.2.8 (Species at Risk) Section 6.2.9 (Socio-economic, Culture and Human Health) Section 6.2.10 (Physical and Cultural Resources) Section 6.2.11 (Aboriginal Considerations) | 2012a Northern Bioscience, 2012a Northern Bioscience, 2012b, 2012c Stantec, 2012; EcoMetrix, 2012j; gck, 2012a; ENL, 2012 Woodland Heritage Services Ltd., 2008; Ross Archaeological Research Associates, 2009 Woodland Heritage Services Ltd., 2008; Ross Archaeological Research Associates, 2009 |
| ...employ standard ecological risk assessment frameworks that categorize the levels of detail and quality of the data required for the assessment. These categories are as follows: Tier 1: Qualitative (Expert opinion, literature review, and existing site information); Tier 2: Semi-quantitative (Measured site-specific data and existing site information); and Tier 3: Quantitative (Recent field surveys and detailed quantitative methods). Thus, if the Tier 2 assessment still indicates a potential for significant negative effects, then a Tier 3 assessment would need to be conducted to reduce the level of uncertainty. If the risk characterization component is uncertain this may necessitate probabilistic modeling about the effect. | | EcoMetrix, 2012f |
| The consideration of views from Aboriginal groups and the public, including any perceived changes attributed to the Project, shall be recognized and addressed in the assessment method. | Section 4.0 Table 6.1-4, Section 6.2.4 (Fish and Fish Habitat) Section 6.2.8 (Species at Risk), Section 6.2.8.3 Section 6.2.9 (Socio-economic, Culture and Human Health), Section 6.2.9.1 (Education and Training), Section 6.2.9.2 (Economic Factors), Section 6.2.9.3 (Effect on Resource Uses) Section 6.2.10 (Physical and Cultural Resources) Section 6.2.11 (Aboriginal Considerations) | EcoMetrix, 2012b Northern Bioscience, 2012b, 2012c Stantec, 2012; gck, 2012; ENL, 2012 Woodland Heritage Services Ltd., 2008; Ross Archaeological Research Associates, 2009 gck, 2012; Stantec, 2012; Woodland Heritage Services Ltd., 2008; Ross Archaeological Research Associates, 2009 |
| 2.7.1.2 Mitigation Measures | | |
| ...describe the standard mitigation practices, policies and commitments that constitute mitigation measures and that will be applied as part of standard practice...describe its conceptual environmental protection plan and its environmental management system, through which it will deliver this plan. The plan shall provide an overall perspective on how potentially adverse effects will be minimized and managed over time...describe its commitments, policies and arrangements directed at promoting beneficial or mitigating adverse social, economic and cultural effects...discuss the mechanisms it will use to require its contractors and sub-contractors to comply with these commitments and policies and with auditing and enforcement programs...indicate which measures respond directly to statutory or regulatory requirements. | Section 7.1.2.1, Section 7.1.2.2, Section 7.1.2.3, Section 7.1.3, Section 7.1.4, Table 6.1-4, Section 6.1.1.3 | |
| For all of the adverse biophysical and social, economic and cultural effects, the Proponent shall present the mitigation measures that they intend to implement. Wherever possible, it shall provide detailed information on the nature of these measures, their implementation, their management and the post-installation follow-up. | Table 6.1-4, Section 6.2, Section 7.3 | |
| All proposed mitigation shall be described by project phase, timing and duration. Sufficient detail shall be provided on methods, equipment, procedures and policies associated with the proposed mitigation that allows the identification and analysis of the significance of the environmental effect of the Project ...discuss and evaluate the effectiveness of the proposed measures and assess the risk of mitigation failure and the potential severity of the consequences of such failures. Information shall be provided on similar mitigation methods used with similar projects and the degree of success achieved. | Table 6.1-4, Section 6.2, Section 7.1, Section 7.2, Section 7.3, Table 7.3-1 | |
| ...specify the actions, works, minimal disturbance footprint techniques, best available technology, corrective measures or additions planned during the Project's various phases to eliminate or reduce the significance of adverse effects ...present an assessment of the effectiveness of the proposed mitigation measures. The reasons for judging if the mitigation measure reduces the significance of an adverse effect shall be made explicit. | Table 6.1-4, Section 6.2.1.3.1, Section 6.2.1.3.2, Section 6.2.2.6, Section 6.2.3.2.5, Section 7.1, Section 7.2, Section 7.3, Table 7.3-1 | |
| ...indicate what other mitigation measures were considered, including the various components of mitigation, and explain why they were rejected. Trade-offs between cost savings and effectiveness of the various forms of mitigation shall be justified ...identify who is responsible for the implementation of these measures and the system of accountability. | Section 3.0, Table 6.1-4, Section 1.2.2.3, Section 7.1.2, Table of Commitments | |
| For species at risk defined by the federal <i>Species at Risk Act</i> , pursuant to subsection 79(1) of that Act, the Canadian Environmental Assessment Agency shall notify the appropriate federal Minister if any listed wildlife species, its critical habitat or the residences of individuals of that species may be adversely impacted by the Project. Pursuant to subsection 79(2) of the <i>Species at Risk Act</i> , if the Project is carried out, responsible authorities shall also ensure that measures are taken to avoid or lessen those effects and to monitor them; these measures shall be taken in a way that is consistent with any applicable recovery strategy and | Section 6.2.8 (Species at Risk) | Northern Bioscience, 2012b, 2012c |

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| action plans...include information in the EIS that will allow the Canadian Environmental Assessment Agency and responsible authorities to meet this requirement. | | |
| For species at risk listed on the Species at Risk in Ontario List under the <i>Endangered Species Act, 2007</i> as endangered or threatened and where an adverse effect of the Project has been identified to protected species or habitat, the Proponent shall include a description of the reasonable steps that will be taken to minimize adverse effects on individual members of the protected species. | Section 6.2.6.4., Section 6.2.8 (Species at Risk) | Northern Bioscience, 2012b, 2012c |
| In instances where avoidance of adverse effects to protected species or habitat is not possible, authorization under the <i>Endangered Species Act</i> will be required to avoid a contravention | Section 6.2.8 (Species at Risk) | Northern Bioscience 2012b, 2012c |
| ...document the Proponent's plans to verify whether required mitigation measures were implemented. This type of monitoring on its own does not satisfy the requirements for a follow-up program described previously in these Guidelines, but serves to track conditions or issues during the Project lifespan or at certain times. For each environmental component potentially affected by the Project, the EIS shall describe any proposed monitoring programs that will be designed, as outlined in Section 2.8. | Section 1.2.2, Section 7.1.2.3, Section 7.1.2.4 Section 7.3, Table 7.3-1 | |
| 2.7.1.3 Compensation | | |
| For certain VECs, where adverse residual effects are anticipated and are unavoidable, the Proponent shall implement compensation measures. These measures shall apply both to the biophysical environment and the human environment. The choice of measures is made in cooperation with the users and relevant authorities. Any compensation measures put in place for the Project, including those provided under agreement, shall be described. | Section 6.1.1.4, Table 6.1-4, Section 6.2.4 3, Section 6.2.9.2.6, Section 6.2.9.2.7, | EcoMetrix, 2012g; Stantec, 2012 |
| ...present a compensation program for losses in fish habitat productive capacity that complies with Fisheries and Oceans Canada's policies (see also Section 2.4.3.1 above) | Section 6.2.4 (Fish and Fish Habitat) | |
| ...identify and characterize the extent to which fish population and fish habitat, the productive capacity of waterbodies, recreation values, wildlife, wildlife habitat and the habitat of species at risk values may be effected and discuss how these effects can be avoided, reduced or mitigated. | Table 6.1-4, Section 6.2.4 (Fish and Fish Habitat) | |
| With respect to the fish population, fish habitat, the productive capacity of lakes and the fishery they support, the EIS will include a conceptual fish and fish habitat compensation plan. | Section 6.2.4 (Fish and Fish Habitat), Section 6.2.7 (Wildlife), Section 6.2.8 (Species at Risk) | EcoMetrix, 2012g; Northern Bioscience, 2012b, 2012c |
| 2.7.1.4 Cumulative Effects Assessment | | |
| ...identify and assess the cumulative environmental effects of the Project, including on site and off site components, in combination with other past, present or reasonably foreseeable projects and/or activities within the study areas | Section 6.6 | |
| ...identify and justify the components of the environment that will constitute the focus of the cumulative effects assessment ...emphasize the cumulative effects on the main VECs that could potentially be most affected by any components of the Project ...consider the following components likely to be affected by the Project: - fish and fish habitat, including sediment and benthos; - wildlife and wildlife habitat; including provincially or federally listed species at risk, - water quality and quantity, including groundwater and surface water resources, aquatic resources and watersheds, - economic and social environment, including resource uses and human health, and - asserted or established Aboriginal and treaty rights. | Section 6.6.1.1, Table 6.6-1, Section 6.6.1.2, Table 6.6-2 | |
| ...present spatial and temporal boundaries for the cumulative effect assessment for each VEC selected. The boundaries for the cumulative effects assessments will again depend on the effects being considered (i.e., will generally be different for different effects). These cumulative effects boundaries will also generally be different from (i.e. larger than) the boundaries for the corresponding Project effects | Section 6.6.1.3 | |
| ...identify the sources of potential cumulative effects. Specify other projects or activities that have been or will be carried out that could produce effects on each selected VEC within the boundaries defined, and whose effects would act in combination with the residual effects of the Project. In particular, consideration shall be given to the proposed transmission line routing in combination with other proposed routings. Boundaries shall be determined in consultation with the public, Aboriginal groups, federal and provincial government departments and relevant stakeholders | Section 6.6.1.4, Figure 6.6-2, Table 6.6-3, Figure 6.6-3, Table 6.6-4 | |
| ...describe the mitigation measures that are technically and economically feasible. | Section 6.6.1.6 | |
| ...determine the significance of the cumulative effects...assess the effectiveness of the measures applied to mitigate the cumulative effects. In cases where measures exist that are beyond the scope of the Proponent's responsibility that could be effectively applied to mitigate these effects... identify these effects and the parties that have the authority to act...summarize the discussions that took place with the other parties in order to implement the necessary measures over the long term | Section 6.6.1.5, Section 6.6.1.7 | |
| ...develop a follow-up program to verify the accuracy of the assessment or to evaluate the effectiveness of mitigation measures for certain cumulative effects | Section 6.6.1.8, Section 7.3 | |
| If the Project is likely to result in improved infrastructure in the area or may facilitate access into the area...evaluate the likelihood of further development in the area that could result in increased cumulative effects on the same VECs. | - | |
| ...describe the analysis of the total cumulative effect on a VEC over the life of the Project, which requires knowledge of the incremental contribution of all projects and activities, in addition to that of the Project...include different forms of effects (e.g., synergistic, additive, induced, spatial or temporal) and identify impact pathways and trends. | Section 6.6.1.7 | |
| 2.7.1.5 Determination of the Significance of Residual Effects | | |

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| ...present any residual effects of the Project on the components of the biophysical and human environments persisting despite the proposed mitigative activities. | Table 6.1-4, Table 6.6-1 | |
| ...include a summary of the Project's residual effects so that the reader clearly understands the real consequences of the project, the degree of mitigation of the effects and which effects cannot be mitigated or compensated for. A summary table that presents the effects before necessary mitigation measures on the various components of the environment, the mitigation measures applied and the residual effects shall be included in the study. | Table 6.1-4, Table 6.6-1 | |
| ...identify the criteria used to assign significance ratings to any predicted adverse effects...contain a detailed analysis of the significance of the potential residual adverse environmental effects it predicts...contain clear and sufficient information to enable the joint review panel, Aboriginal groups and the public to understand and review the Proponent's judgment of the significance of effects...define the terms used to describe the level of significance. | Table 6.1-3, Table 6.1-4, Section 6.1.1.5 | |
| ...assess the significance of predicted adverse effects according to the following categories, as applicable: - magnitude of the effect; - geographic extent of the effect; - timing, duration and frequency of the effect; - degree to which effects are reversible or mitigable; - ecological and social context, including bio diversity; and - existence of environmental standards, guidelines or objectives for assessing the effect. | Table 6.1-4 | |
| ...clearly explain the method and definitions used to describe the level of the adverse (e.g., minimal, low, medium, high) for each of the above categories and how these levels were combined to produce an overall conclusion on the significance of adverse effects for each VEC. This method shall be transparent and reproducible. The final ranking of overall effect will be based on the following criteria: HIGH = Potential effect could threaten sustainability if the resource within the Project study area and should be considered a management concern; MEDIUM = Potential effect could result in a decline in a resource within the study area to lower than baseline, but stable, level in a study area after Project closure and into the foreseeable future; LOW = Potential effect may result in a slight decline in resource in the study area during the life of the Project; and MINIMAL = Potential effect may result in a slight decline in resource in the study area during construction, operation and closure, but the resource should return to baseline levels. | Table 6.1-3 | |
| ...employ relevant existing regulatory documents, environmental standards, guidelines, or objectives such as prescribed maximum levels of emissions or discharges of specific hazardous agents into the environment or maximum acceptable levels of specific hazardous agents in the environment. | Table 6.1-4 | |
| If significant adverse effects are identified, the Proponent shall determine the probability that they will occur...address the degree of scientific uncertainty related to the data and methods used within the framework of its environmental analysis. | Not applicable – no significant adverse effects identified. | |
| 2.7.1.6 Summary of Effects Assessment | | |
| Provide in a table format, a summary of the following key information: - a concise summary of the Project's beneficial and adverse effects; - a summary of mitigation and compensation measures; - a brief description of any potential residual effects; - a brief description of cumulative effects; - a determination of the significance of residual effects; and - for those adverse effects found to be significant, a determination of whether the effect is likely to occur. | Table 6.1-4 | |
| 2.7.2 Physical and Biological Environment | | |
| 2.7.2.1 Atmospheric Environment | | |
| ...identify potential effects on air quality associated with all project phases, including point and mobile sources. | Table 6.1-1, Table 6.1-4, Section 6.2.1.1.1, Table 6.2-1 | TGCL, 2012a |
| The analysis will include the following: - an assessment of emissions and short-term air quality effects from site preparation and construction-related activities, including open burning; - a source emissions inventory table for the mine site describing the source (i.e. mine rock), operating period, pollution control equipment if any, contaminants (i.e. fugitive dust, PM10, VOCs, etc) and predicted concentrations; a discussion of: <ul style="list-style-type: none"> measures considered to minimize the release of greenhouse gases and air contaminants (dust - both emissions and fugitive, particulate exhaust fumes and other air contaminants), atmospheric dispersion of emissions with emphasis on PM2.5 and PM10 on a local and regional scale, wet and dry acidic deposition resulting from release of gases such as NOX and SOX, the worst-case dispersion modeling results (including mapping) and noting the location of key and sensitive receptors, combined predicted cumulative air quality concentrations during the various Project phases with suitably conservative estimates of background concentrations to arrive at the worst-case cumulative air quality concentrations, predicted cumulative air quality concentrations compared with the national ambient air quality objectives and Canada wide standards for air quality and any applicable provincial ambient air quality criteria, | Table 6.2-1, Section 6.2.1.1, Section 6.2.1.1.5, Table 6.2-2, Table 6.2-1, Section 6.2.1.1 Section 6.2.1.1.5 Section 6.2.1.1, Figure 6.2-1, Section 6.2.1.3.1 Section 6.2.1.1.2., Section 6.2.1.1.3, Section 6.2.1.1.4 Section 6.2.1.1.3, Section 6.2.1.2, Figure 6.2-1 Table 6.2-2 Table 6.2-2 | TGCL, 2012a |

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| <ul style="list-style-type: none"> • impact on biological receptors such as vegetation, fish, wildlife and human health, and • demonstration of compliance with applicable federal and provincial air quality standards and guidelines; <p>- use of an appropriate Air Quality Dispersion Model(s) to:</p> <ul style="list-style-type: none"> • predict ground level concentrations for criteria and other air contaminants in accordance with existing dispersion model guidelines, and • assess the potential for effects on human health at sensitive and other receptors, including camps where workers temporarily reside. | <p>Section 6.2.6, Section 6.2.4, Section 6.2.7, Section 6.2.8, Section 6.2.9.5.1</p> <p>Section 6.2.1.1, Section 6.2.1.3, Section 6.2.1.4, Section 6.2.1.5</p> <p>Section 6.2.1.1, Section 6.2.9.5.2</p> | |
| <p>The EIS documentation relating to dustfall will consider:</p> <p>- predicted data for mass of dustfall per area per unit time and predicted metals concentration in the dustfall; and</p> <p>- measures to mitigate dustfall by exposed tailings beaches, and other sources, during closure and post-closure phases, including the likelihood of establishing and maintaining native plant cover on tailings and other surfaces.</p> | <p>Table 6.1-4</p> <p>Section 6.2.1.1.1, Table 6.2-1, Section 6.2.1.1.2, Table 6.2-2, Section 6.2.1.1.3, Table 6.2-3, Section 6.2.1.1.4, Section 6.2.1.2, Section 6.2.1.3.1</p> | |
| <p>With respect to Greenhouse Gases (GHGs), the EIS will:</p> <p>- discuss the analytical techniques and relevant policies considered in the EIS;</p> <p>- list and estimate the emissions of GHGs predicted for all relevant project sources and compare to Provincial and National totals;</p> <p>- discuss possible changes in the climate;</p> <p>- identify mitigation measures considered to control GHG emissions related to the Project; and</p> <p>- discuss the sensitivity of the Project to changes in specific climate and related environmental parameters, including total annual rainfall, total annual snowfall, frequency and/or severity of precipitation extremes, lake levels and stream flow.</p> | <p>Section 5.2.2.4, Table 6.1-4, Section 6.2.1.1.5, Table 6.2-4, Section 6.2.1.3.1</p> | EcoMetrix, 2012h |
| <p>...identify potential effects on the environment resulting from artificial light pollution at the mine site, and will provide a description of management measures to mitigate any such effects.</p> | <p>Table 6.1-4, Section 6.2.1.1.6, Section 6.2.1.2, Section 6.2.1.3.2</p> | |
| <p>2.7.2.2 Acoustic Environment</p> | <p>Table 6.1-4</p> | TGCL, 2012c |
| <p>...assess the potential for noise effects resulting from the Project. The EIS will:</p> <p>- identify and quantify potential noise sources including reference to construction and operational phases as well as to noise associated with loading concentrate into rail cars and increased road traffic;</p> <p>- identify and evaluate impacts from noise on potential wildlife receptors;</p> <p>- identify and evaluate impacts from noise on potential human receptors, such as lots zoned for use by traditionally sensitive receptors (e.g. provide residences, cottages, trapper cabins) at property lot lines and/or at land use permit boundaries;</p> <p>- describe the proximity of identified receptors to Project components; and</p> <p>- describe mitigation and noise management measures to be incorporated into a conceptual Noise Management Plan, including the conditions for mitigation and evaluate compliance with appropriate noise guidelines.</p> | <p>Section 6.2.2 (Acoustic Environment)</p> <p>Table 6.1-1</p> <p>Section 6.2.7</p> <p>Table 6.2-5, Table 6.2-6</p> <p>Figure 6.2-2</p> <p>Section 6.2.2.1</p> <p>Section 6.2.2.6, Section 6.2.2.7, Section 6.2.2.8</p> | |
| <p>2.7.2.3 Water Quality and Quantity</p> | <p>Table 6.1-1, Table 6.1-4</p> | |
| <p>2.7.2.3.1 Hydrology and Hydrogeology</p> | <p>Table 6.1-1, Table 6.1-4</p> | |
| <p>...the EIS shall:</p> <p>- assist in the development of the site water balance;</p> <p>- document run-off and sediment control works;</p> <p>- determine water supply requirements;</p> <p>- assess impacts on fish and fish habitat due to modification of stream flows and lake levels; and</p> <p>- assist in the development of water quality predictions and mitigation requirements.</p> | <p>Section 5.4.1, Section 5.4.2, Section 6.2.3.2, Table 6.2-7, Section 6.2.3.2</p> <p>Section 1.4.3.6</p> <p>Section 6.2.4</p> <p>Section 6.2.3.3</p> | <p>Calder, 2012a; TGCL, 2012c</p> <p>Knight Piesold, 2012</p> <p>EcoMetrix, 2012f</p> |
| <p>The EIS will:</p> <p>- provide an assessment of changes to the hydrologic regime resulting from site construction (deforestation, removal of overburden, dewatering, increased drainage, etc.), operation, closure and post-closure, with a focus on lakes and streams that relate to existing fish, fish habitat and proposed fish compensation plans;</p> <p>- include details about changes in lake levels and the magnitude of stream flow, timing and duration for normal, dry and wet hydrologic conditions;</p> <p>- include maps that show future basins delineation, drainage direction, proposed diversions channels and runoff management features;</p> <p>- include consideration of the effects of climate change and variability on the future flow regime and water balance assessment, hydrology, such as peak flow rates and the location of ice jams that could affect the environment or project infrastructure.</p> | <p>Table 6.1-1, Table 6.1-4, Section 6.2.3.2, Section 6.2.4</p> <p>Section 6.2.3.2</p> <p>Figure 1.4-10</p> <p>Section 6.2.3.2</p> | |
| <p>...include a detailed water balance for the mill, open pits, TIAs and any other associated infrastructure, during various project activities (construction, operation, decommissioning and abandonment) and throughout the life of the Project, including closure and post-closure phases, for a range of hydrological conditions. The water balance model will include the following:</p> <p>- an evaluation of the average precipitation scenario as well as a full range of possible wet and dry scenarios. The possible effects of each different precipitation sequence on mine water management activities will be tracked, and the results presented in terms of probabilities of occurrence;</p> <p>- and the predicted water balance for each year of the mine life and all inflows and outflows in tabular format. Appropriate return periods shall be defined and methodologies for the evaluation of wet, dry and expected scenarios shall be discussed.</p> | <p>Section 6.2.3.2</p> | |

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| <p>...the EIS will:</p> <ul style="list-style-type: none"> - predict the surface run-off coefficient and rate of run-off for the different areas of the mine site, and describe contingency plans for extreme run-off events and drought conditions; - recommend measures for dealing with water inflows to the open pits during operation; - profile the open pits and show levels to which flooding can be achieved after closure based on hydrology and the pit design and contours and provide predictions with respect to flooding rates and ultimate water levels for the open pits after closure; - provide the conceptual design features of all collector and diversion ditches, culverts, bridges, and water storage facilities (including sediment ponds and seepage collection ponds); - provide an assessment and prediction for all site water diversions including volumes, discharge structures and locations, and potential effects on the receiving environment hydrology; and - identify, map and characterize any faults located in the open pits and the extent of the faults beyond the confines of the open pits. Include an assessment of the hydraulic connection between the open pits and the adjacent water courses; and - recommend measures for mitigating the effects of the Project on any springs that may be found within the transmission line corridor. | <p>Section 1.4.3.4.7</p> <p>Section 1.4.3.4.7 Section 1.4.3.2.4</p> <p>Section 5.4.2.2.2, Section 5.4.2.2.4, Table 5.4-5, Table 5.4-6</p> | <p>Knight Piesold, 2012; Calder, 2012b</p> <p>Knight Piesold, 2012; EcoMetrix, 2012f TGCL, 2012d</p> |
| <p>The EIS will:</p> <ul style="list-style-type: none"> -provide a groundwater assessment to determine how the Project and related facilities and activities will impact: <ul style="list-style-type: none"> • the local hydrogeological and groundwater units, • groundwater flows, quality and quantity, and • fish and fish habitat; <p>The assessment will outline the need for mitigation and/or monitoring measures, and assist with ARD/ML prediction work;</p> <ul style="list-style-type: none"> - provide results of the hydrogeological assessment that determines groundwater seepage location, rates, seepage quality, and direction into or from applicable project features and from the pits during future overflow. Potential seepage to other water bodies will be emphasized and assessed for potential impacts to fish and fish habitat; - provide drawings and/or figures showing equipotential contours to determine/illustrate projected seepage conditions for applicable Project components; - provide drawings and/or figures showing groundwater contours (piezometric surfaces) to illustrate projected seepage conditions for the applicable Project components; - provide a discussion of the potential for off-site migration of impacted groundwater, and an analysis of contaminant attenuation capacities within the hydrogeological units within the project area; - provide a description of any proposed mitigation strategies for groundwater seepage within the project area; - provide the results of a groundwater flow model of the local catchment for the postclosure period incorporating all major permanent mine components, including the open pits, TIAs, and mine rock stockpiles; - include an analysis of the potential for sulphide oxidation within surficial and bedrock units as a result of groundwater drawdown within the project area; - demonstrate how and if the withdrawal of groundwater, or the creation of physical changes to the aquifers within the project area, will affect the availability of groundwater for applicable users (e.g. mine site facility operations, on-site drinking water systems) or baseflows in surface water (surface watercourses), thereby causing surface water impacts; - include a conceptual Water Management Plan for all dams, including flows and levels during construction, operation, closure and post-closure. <p>The assessment shall include diversions and impacts to aquatic systems from increased and decreased surface flows; and</p> <ul style="list-style-type: none"> - include effects of surface infiltration on groundwater flows that may affect discharges into streams and lakes. | <p>Section 6.2.3.4, Table 6.2-10, Section 6.2.4</p> <p>Section 6.2.3.4</p> <p>Section 6.2.3.4.1, Section 6.2.9.5</p> <p>Section 6.2.3.2.3</p> <p>Section 6.2.3, Section 7.3, Table 7.3-1</p> <p>Section 6.2.3.4.1</p> | <p>TGCL, 2012a; Calder, 2012b; EcoMetrix, 2012a, 2012c, 2012f, 2012h</p> <p>TGCL, 2012a</p> <p>TGCL, 2012a</p> <p>EcoMetrix, 2012e</p> <p>TGCL, 2012a</p> <p>TGCL, 2011c, 2012a; Calder, 2012a; EcoMetrix, 2012f</p> |
| <p>2.7.2.3.2 Water Quality and Aquatic Ecology</p> | | |
| <p>...include the following:</p> <ul style="list-style-type: none"> - graphical presentation of key variables and stream flows over time for key sites to illustrate patterns and variability; - power and confidence calculations for key variables at key sites once the effects have been predicted to guide future monitoring. Key variables are those that the impact assessment indicate may contribute to degraded water quality, and key sites are those sites where the discharge of key variables might take place; - the entire range of data in addition to mean values, because extreme events that have serious environmental consequences can be lost when using only mean values. For example, high levels of metals or acidity may occur briefly during the first flush of spring freshet, but could wipe out large numbers of sensitive aquatic organisms present in the receiving waters at that time of the year; - and all of the data in an appendix, including summaries of the maximum, minimum, mean or median, standard deviation and coefficient of variation for each site. | <p>Figure 6.2-1, Figure 6.2-2, Section 6.2.3.3, Table 6.2-8, Table 6.2-9</p> | <p>Calder, 2012b EcoMetrix, 2012a, 2012c, 2012f</p> |
| <p>...include a discussion on whether the principle of “zero discharge” into Lake Superior can be met as a result of the Project, as outlined in the Lake Superior Lakewide Management Plan. If the Project will result in discharge to Lake Superior...</p> | <p>Not applicable, the Project as envisaged does not anticipate discharging any of the these substances</p> | <p>EcoMetrix, 2012f</p> |
| <p>...describe how changes in water quality resulting from the Project will impact Lake Superior.</p> | <p>Section 6.2.3.3</p> | |

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| <p>...integrate results of the ARD/ML prediction work and surface hydrology and water balance information to develop water quality predictions for input into the impact assessment work.</p> | <p>Section 6.2.3.3.1, Section 6.2.3.3.2, Section 6.2.3.3.3, Figure 6.2-1, Figure 6.2-2</p> | <p>EcoMetrix 2012f</p> |
| <p>The EIS will include the following:</p> <ul style="list-style-type: none"> - information describing how current baseline and ongoing surface and groundwater quality and flow rates are anticipated to be altered by individual mine components. Information will focus particularly on the open pits, ore and low-grade ore stock piles, waste rock piles, and TIAs; - an assessment and prediction of water quality for major mine components (waste rock stockpiles, open pits, low grade ore stockpiles, etc.) and all site water discharges, including groundwater discharge points in lakes and streams, for the different phases of the Project (i.e. construction, operation, closure, post-closure). This assessment shall include volumes, water quality, discharge structures and location, potential effects on the receiving environment and the description of any mitigation strategies and/or treatment processes; - a description of contingency plans if there are significant uncertainties or risks associated with the predicted water quality, and for dealing with excessive run-off events and drought conditions if necessary; - strategies for management of surface run-off from the various mine components, including mitigation strategies to separate contact water from non-contact water and how to prevent erosion and sediment discharge during the construction, operational, closure and post-closure phases; - and details on additional water requirements (if applicable) necessary to maintain full saturation of the potentially acid generating (PAG) material. If exposure is expected, the results of kinetic test work will be provided to assist in the evaluation of potential effects from exposure. | <p>Section 6.2.3.2, Section 6.2.3.4</p> <p>Section 5.1.5.1.2, Section 6.2.3.2, Section 6.2.3.3, Figure 6.2-3, Figure 6.2-4, Section 6.2.3.4, Section 6.2.3.5</p> <p>Section 6.2.3.2, Section 6.2.3.3, Section 6.2.3.2</p> <p>Section 6.2.3.2, Section 6.2.3.5</p> <p>Section 5.1.5.2.2, Section 5.1.5.1.1,</p> | <p>TGCL, 2011c, 2012a; Calder, 2012b; EcoMetrix 2012f</p> <p>EcoMetrix, 2012b, 2012e 2012f; TGCL, 2011c</p> <p>EcoMetrix, 2012f; Knight Piesold, 2012</p> <p>EcoMetrix, 2012e</p> |
| <p>Additional information will be provided on the following:</p> <ul style="list-style-type: none"> - waste rock, tailings and low grade ore characterization, volumes, segregation/disposal methods, mitigation/management plans, contingency plans, operational and post-closure monitoring and maintenance plans; - assessment of the feasibility to successfully segregate PAG and non-potentially acid generating waste materials during operations, proposed geochemical segregation criteria and identification of operational methods that will be required to achieve geochemical characterization during operations (i.e. geochemical surrogates, on site lab, procedures needed, etc); - sensitivity analysis to assess the effects of imperfect segregation of waste rock; - estimates of potential lag time to ARD/ML onset for PAG materials (including various waste rock, tailings, low grade ore) and ability to fully saturate PAG materials during operation and post-closure; - pit water chemistry during operation and post-closure, and pit closure management measures (e.g. flooding). This will include geochemical modeling of pit water quality in the post-closure period; - surface and seepage water quality from the waste rock dumps, tailings/waste rock impoundment facility, stockpiles and other infrastructure during operation and post-closure; - analysis of metal leaching under various pH conditions; and -ARD/ML prevention/management strategies under a temporary or early closure scenario, including low grade ore. | <p>Section 1.4.3.4.1, Section 1.4.3.4.4, Section 1.4.3.4.5, Table 1.4-8</p> <p>Section 1.4.3.4.1, Section 1.4.3.4.4, Section 1.4.3.4.5</p> <p>Section 6.3.2.20</p> | <p>EcoMetrix, 2012e</p> |
| <p>...assess the environmental effects on surface water quality from increased sedimentation resulting from erosion associated with timber harvesting along the proposed transmission line corridor.</p> | <p>Section 1.4.3.6, Table of Commitments</p> | |
| <p>...consider the following:</p> <ul style="list-style-type: none"> - effluent characterization and quality predictions. Predicted effluent quality should be directly compared to toxicity data, where available; - waste discharge and seepage flows, concentrations, and loadings shall be predicted using data from various sources, which include: <ul style="list-style-type: none"> • quantity and quality of groundwater and surface drainage from the area to be mined, • if any lakes are to be drained, quantity and quality of water to be released from those lakes into the receiving water, • quantity and quality of tailings pore water from milling process tests, • quantity and quality of leachate from samples of tailings, waste rock, and ore, • mine effluent management (effluent, run-off, seepage) including where mine effluent would be discharged to the environment, • quantity and quality of effluent to be released from the site into the receiving waters. And • quantity and quality of humidity cell or column test liquid from acid rock testing; - use of the predicted waste loads in a mass balance model of the mine area to predict the resulting receiving water quality for all Project phases under normal and worst case conditions (e.g., 1-in-10 year flood and low flows); <ul style="list-style-type: none"> - the EIS shall include predictions of waste loads and water quality on a month by month basis for the critical years of mine site development (critical years are those years when worst-case contaminant loads are expected such as during construction, years when significant construction events or water use change occur, milestone years of operation, and at closure); - assessment of the spatial extent of effects downstream of the Project (e.g., effluent dilution modeling) down to a magnitude that is indistinguishable from natural variability (e.g. baseline plus or minus 2 standard deviations if outside 95% of measured results or some other, well-rationalized criterion); and - assessment of the environmental effect of the predicted waste loads and receiving water quality under worst case conditions, and assess the environmental effect of the resulting water quality on aquatic organizations using federal and/or provincial water quality objectives. | <p>Section 6.2.3.3</p> | <p>EcoMetrix, 2012e, 2012f; Calder, 2012b</p> |
| <p>Modeling shall be used to determine concentration-based effluent limits.</p> | <p>-</p> | <p>EcoMetrix, 2012f</p> |
| <p>...include recommendations for developing watershed-specific water quality objectives for key variables on all watercourses with the potential to be impacted by</p> | <p>Section 6.2.3.3</p> | <p>EcoMetrix, 2012f</p> |

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| effluent discharge or seepage, with the intent of meeting the Ministry of Natural Resources' fishery management objectives for the area, and taking into consideration provincial water quality objectives and the Canadian Council of Ministers of the Environment (CCME) Canadian Environmental Quality Guidelines for water, sediment and biota, existing baseline conditions for water, sediment and biota quality, and the existing and potential water uses that should be designated for protection, including, if applicable, drinking water. | | |
| ...provide details of a surface water quality monitoring program (SWQMP) for the mine site... provide a basis for the formulation of site-specific water quality objectives for the aquatic environment (if applicable), provide the basis for the determination of allowable maximum waste water discharge and seepage rates based on specific water quality objectives and support biological monitoring programs. In particular, any water quality objectives that are developed for the mine site shall be consistent with the goals and objectives that have been developed for the Lake Superior Lakewide Management Plan, including those substances listed in the Lake Superior Zero Discharge Demonstration Program. | Section 7.3, Table 7.3-1 Section 6.2.3.3 | EcoMetrix, 2012f |
| The SWQMP will include the characterization of the range and measure of water and sediment quality and aquatic ecology characteristics. | Section 7.3, Table 7.3-1 | |
| ...provide a conceptual SWQMP for the transmission line corridor. | Not applicable | |
| 2.7.2.3.3 Sediment Quality and Benthos | | |
| describe the effects of the Project on sediment quality and on biota as follows: - discuss how potential changes related to construction, operation, closure and post-closure may affect toxicity and physical habitat requirements (e.g., particle size) for benthos and fish eggs, utilizing sediment quality baseline data; - identify sediment parameters that may be present at elevated levels, in comparison to applicable federal and provincial sediment quality guidelines, and, if necessary, use this information to propose site-specific sediment quality objectives; and - invertebrate species. | Table 6.1-4 Section 6.2.3.5, Section 6.2.3.5.1, Section 6.2.3.5.2, Section 6.2.3.5.3, Section 6.2.4, Section 6.2.3.5.5 Section 6.2.3.5.4 Section 6.2.3.5.5, Section 6.2.3.5.6 | |
| 2.7.2.4 Fish and Fish Habitat | | |
| ...identify potential effects on fish and fish habitat during all phases of the Project. Mitigation strategies for avoiding the harmful alteration, disruption and destruction of fish and fish habitat and a compensation plan for unavoidable losses, based on DFO's policy of the Management of Fish Habitat and the related principle of no net loss of the productive capacity of fish habitat will be included. | Table 6.1-4, Section 6.2.4 | EcoMetrix, 2012g |
| The potential effects and planned mitigative strategies for avoiding Harmful Alteration, Disruption and Destruction (HADDs) of fish habitat will be identified for the following: - footprint of development; - infrastructure development; - dewatering activities; - flow changes from water management and diversions; and - compensation activities. | Section 6.2.4 | EcoMetrix, 2012g |
| The analysis of potential effects will consider: - productive capacity of aquatic systems. This will include consideration of a comparison with other similar habitat or ecosystems in the region and the province and a variety of other parameters such as fish density, biomass or productivity, biomass and diversity and water quality parameters such as nutrients, pH, dissolved oxygen, or temperature; - all water bodies that may experience changes to Aboriginal, commercial and/or recreational fisheries resources; - habitat loss or alteration, including aquatic vegetation and sensitive areas such as spawning grounds, nursery/rearing areas, feeding areas, summer/winter refuges and migration corridors; - species of cultural, spiritual or traditional use importance to Aboriginal people and groups; - potential for changes in migratory fish behaviour as a result of changes in water quality and quantity; and - mortality of fish. | Section 6.2.4.1, Section 6.2.4.2 Section 6.2.4.1 Section 6.2.4.1 Section 6.2.4.1 | EcoMetrix, 2012g |
| ...outline separate conceptual Fish and Fish Habitat Mitigation and Compensation Plans for sub-section 35(2) authorization(s) under the <i>Fisheries Act</i> for the HADD of fish habitat, and under the MMER Schedule 2 requirements for the deposit of deleterious mine waste in natural water bodies frequented by fish. Sufficient detail will be provided in each compensation plan to demonstrate that no net loss of productive capacity of fish habitat can be achieved and that plan measures are technically, economically and biologically feasible. | Section 6.2.4.3 | EcoMetrix, 2012g |
| In addition to DFO's requirement to develop and implement a fish habitat compensation plan, if a project component affects a species at risk, particularly one with a higher status designation and protection under provincial legislation (as is the case for lake sturgeon), the Proponent shall provide an overall benefit plan. | Section 6.2.4.3, Section 6.2.4.4, Section 6.2.4.5, Section 6.2.8.1 | |
| ...provide details of metal levels in fish. Using the baseline data on metal levels in fish muscle and liver in areas that may be impacted by effluent or seepage from the mine, the EIS shall evaluate changes in metal levels due to the Project. | - | EcoMetrix, 2012a, 2012f |
| 2.7.2.5 Terrain and Soil | | |
| ...identify potential effects on terrain and soil during all phases of the Project. | Table 6.1-4, Table 6.2-1, Section 6.2.5.1 | EcoMetrix, 2012b |
| ...provide a terrain and soils survey that will: - outline a conceptual baseline and monitoring program to assess trace element uptake in soils at mine closure, and where possible, during the mine life; - outline a conceptual soil erosion and sedimentation plan for the mine site and access road; and | Section 7.3, Table 7.3.1 | EcoMetrix, 2012b |

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| - include details of soil sample analysis completed and the QA/QC program followed. | Section 6.2.5.2 | EcoMetrix, 2012b |
| Based on the results of the terrain and soils survey...include an assessment of terrain stability. The information collected from the terrain and soil survey and mapping will be used in the soil salvage and soil erosion control assessments and preparation of the conceptual closure plan. The assessment of terrain stability will also include any maintenance access routes required for the proposed transmission line. | Will be developed during development of Closure Plan | |
| In order to facilitate determination of soil salvage requirements, the rooting depth, soil horizon and depth to growth impediments will be compiled in a tabular form for each profile in each soil management unit. Typical or representative soil profile descriptions shall be appended to the soil survey report. | - | EcoMetrix, 2012b |
| The terrain and soil survey will be carried out following standard provincial and federal systems. In describing the survey...reference <i>The Canadian System of Soil Classification</i> (Agriculture and Agri-food Canada (1998). | - | EcoMetrix, 2012b |
| 2.7.2.6 Vegetation | | |
| ...identify potential effects on vegetation during all phases and on all the components of the Project, including the mine site, transmission line and access road...develop appropriate mapping products to assist in assessing the effects of the Project on key vegetative communities, and identifying rare ecosystems and species at risk. | Section 6.2.6.1 | EcoMetrix, 2012b, 2012e; TGCL, 2012b |
| ...include a detailed assessment of key indicator communities, species groups or ecosystems that have intrinsic ecological or social value, are representative of overall ecosystem condition and are sensitive to Project activities. The vegetation key indicators that should be assessed include: - forests; - wetland ecosystems; - riparian ecosystems; - rare plants; - ecological communities of conservation concern; and - specific country foods identified by local and Aboriginal people and groups as being important. | Section 6.2.6.1 Figure 6.2-5 Section 6.2.6.1 Section 6.2.6.1 Figure 6.2-6, Figure 6.2-7 Section 6.2.6.1 Section 6.2.11 | Northern Bioscience, 2012a |
| The EIS will: - assess the potential effects of the Project on vegetation, including species known to be important to Aboriginal people and groups; - document ambient concentrations of trace elements in wetland and upland vegetation to determine the potential for contamination of vegetation that may be consumed by wildlife or people; and - develop mitigation measures to minimize or eliminate Project effects on vegetation, ecosystem function and wildlife habitat. | Section 6.2.6.2 Section 6.2.6.3, Section 6.2.6.4 | Northern Bioscience, 2012a, EcoMetrix, 2012a (wetland vegetation) |
| With respect to the proposed transmission line, the EIS shall include a discussion of the following issues: - the potential effects of invasive vegetation within the corridor and proposed methods of controlling invasive or undesired vegetation; - whether the proposed corridor will be seeded and any potential effects on range movement; and - identification of access requirements specific to timber harvesting activities within the transmission line and the identification of whether maintenance access routes will be required. | Section 6.2.6.3 Section 6.2.6.3, Section 6.2.7 Section 6.2.6.3 | Northern Bioscience, 2012b |
| 2.7.2.7 Wildlife | | |
| address wildlife issues for the areas potentially affected by the Project, including the mine site, transmission line corridor and access roads | | |
| include the following: - the identification and assessment of the potential effects of the Project on cervids, large carnivores, furbearers, small mammals, bats, raptors, waterfowl and other birds, reptiles, and amphibians that may be affected by the Project with particular attention to riparian, wetland, cliff and forest ecotone habitats, where applicable; - a management strategy for dealing with potential human-bear and human-wolf conflicts; - a summary of the amount and type of wildlife habitat potentially impacted by the Project. These summaries will include wildlife habitat suitability interpretations for cervids, black bear and species of conservation concern that are known or likely to occur in the project area; - an analysis to predict the anticipated effects on migratory birds based on anticipated changes in habitat; - identification of mitigation measures to minimize or eliminate any adverse effects on wildlife, including wildlife habitat, and to reduce potential bird loss resulting from collisions with the transmission line, particularly in the vicinity of wetland, lake and riparian habitats and on migratory corridors; and - an evaluation of the effect of any new road access and the creation of the transmission line corridor on wildlife mortality risk and movement patterns, and where a concern exists. | Table 6.1-1, Table 6.1-4, Section 6.2.7, Section 6.2.7.5, Section 6.2.7.7, Section 6.2.7.8, Section 6.2.8 Section 6.2.7.2, Section 6.2.7.3, Section 6.2.7.4, Section 6.2.7.5, Section 7.1.2.1 Section 6.2.7.2, Section 6.2.7.3, Section 6.2.7.4, Section 6.2.7.5 Section 6.2.7.2, Section 6.2.7.3, Section 6.2.7.4, Section 6.2.7.5 Section 6.2.7.2, Section 6.2.7.3, Section 6.2.7.4, Section 6.2.7.6 Section 6.2.7.2, Section 6.2.7.3, Section 6.2.7.4 | Northern Bioscience, 2012b |
| ...address issues related to species at risk for the areas potentially affected by the Project, including the mine site, transmission line corridor and access roads. | Table 6.1-1, Table 6.1-4, Section 6.2.8 | |
| ...include the identification and assessment of the potential effects of the Project on wildlife species of conservation concern | Section 6.2.8 | Northern Bioscience, 2012b, 2012c |
| A description of the reasonable steps that will be taken to minimize adverse effects on individual members of protected species shall be provided. | Section 6.2.8.3 | |
| ...include an assessment of whether the Project is likely to 'kill', 'harm', or 'harass' an individual member of a protected species and its ability to carry out its life processes. A discussion on the likelihood of the Project to 'damage' or 'destroy' a protected habitat of a species at risk shall also be included. | Section 6.2.8 | Northern Bioscience, 2012b, 2012c |
| With respect to woodland caribou, the EIS will discuss the effects of the Project on habitat and population management objectives of the relevant Cervid Ecological Zone and Wildlife Management Unit(s) and on the achievement of the following objectives identified in the Caribou Conservation Plan: | Table 6.1-1, Table 6.1-4, Section 6.2.8.1, Section 6.2.8.2, Section 6.2.8.3, Section 6.2.8.4, Section 6.2.8.5 | Northern Bioscience, 2012c |

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| - Ontario will develop a management strategy for the discontinuous range management to enhance connectivity between the northern continuous range and the southern coastal Lake Superior populations. This connectivity will improve the prospects for persistence of the coastal population. Discontinuous range will not be managed broadly for caribou habitat to support self-sustaining populations. Instead it will focus on specific landscapes that may support temporary caribou occupancy or movement between the continuous range and Lake Superior. | | |
| - where caribou distribution is discontinuous, Ontario will look for opportunities through forest management planning and other land use planning to improve future connectivity between local caribou populations and isolated populations. | | |
| - the Lake Superior coastal population will be managed for population security and persistence. The focus will be to protect and manage habitat and encourage connectivity to caribou populations to the north. | | |
| 2.7.3 Socio-Economics, Culture and Human Health | | |
| ...include an assessment of potential effects of the Project to the social, economic, and cultural environment and to human health. | Table 6.1-2, Table 6.1-4, Section 6.2.9 | Stantec, 2012 |
| ...measure both the positive and negative and direct and indirect effects of the Project on individuals, organizations, communities and governments. | Section 6.2.9.1 Section 6.2.9.1.4 | |
| ...clearly identify which social, economic and cultural issues relate directly to changes the Project may cause in the environment. | Section 6.2.9.1.4 | |
| 2.7.3.1. Economic Issues | | |
| ...assess the economic impacts of the Project. This includes, but is not limited to: | Table 6.1-2, Table 6.1-4, Section 6.2.9.2 | Stantec, 2012 |
| - an estimate of the direct, indirect and induced income for construction, operation, closure and post-closure phases of the Project; | Section 6.2.9.2.1, Section 6.2.9.2.2, Section 6.2.9.2.3 | |
| - the effects of the Project on the Town of Marathon, and on regional and provincial economic development including the benefits of economic diversification; | Section 6.2.9.2.1, Section 6.2.9.2.2, Section 6.2.9.2.3 | |
| - a description of future economic activity without the Project; | Section 6.2.9.2.1, Section 6.2.9.2.2 | |
| - an estimate of government expenditures that may be required as a result of development of the Project and describe any proposed measures to offset these expenditures (if any); | Not applicable | |
| - where applicable, any education or training program that the Proponent would provide or sponsor; and | Section 6.2.9.1.1 Section 6.2.9.1 | gck, 2012 |
| - a labour market analysis profiling the Project labour requirements and labour supply in the project area, throughout Ontario and outside the province. | | |
| ...clearly document and include supporting analysis, statistics, rationale or examples and assumptions and information sources used. | Section 6.2.9.1, Section 6.2.9.2 | Stantec, 2012; gck, 2012 |
| ...consider the context in which economic effects occur and a clear distinction between effects on the immediate local area and effects on regional centres will be made. | Section 6.2.9.2.1, Section 6.2.9.2.2, Section 6.2.9.2.3 | |
| ...estimate taxes that are net gains i.e. mining royalty, corporate income tax, sales tax on major items and incremental personal income tax and remove taxes that are "fee for services" such as fuel, property, water rentals and various municipal taxes. | Section 6.2.9.2.1, Section 6.2.9.2.2, Section 6.2.9.2.3 | |
| ...discuss the direct workforce requirements for each phase (construction, operation, closure and post-closure) of the Project, develop a labour supply profile for the Project describing employment, unemployment and occupational characteristics, education levels, and experience in the project area and will assess the labour supply required over the life of the Project. | Section 6.2.9.2.1, Section 6.2.9.2.2, Section 6.2.9.2.3, Appendix 3 | Stantec, 2012 |
| 2.7.3.2 Social Issues | | |
| The EIS will: | Table 6.1-2, Table 6.1-4 | Stantec, 2012; ENL, 2012 |
| - estimate the effects of the Project on the population of the project area, as well as those communities specifically identified, for each major phase (construction, operation, closure and post-closure) of the Project. Family characteristics and local constraints shall be considered in developing refined population increments resulting from the Project; | Section 6.2.9.1 | |
| - estimate the housing requirements and evaluate the settlement options for the construction, operation and closure phases of the Project; and | Section 6.2.9.1 | |
| - provide an assessment of transportation and traffic issues that considers social, economic, health and safety perspectives. | Section 6.2.9.1 | |
| The assessment of workforce settlement and housing will include an assessment of the need for off-site housing and the identification of the type of housing that may be required. | Section 6.2.9.1 | |
| The assessment of traffic and transportation will include the following: | | Stantec, 2012 |
| - identification of Project related traffic volumes; | Table 6.1-2, Table 6.1-4, Section 6.2.9.1 | ENL, 2012 |
| - the identification of the increment of Project traffic to local traffic in affected communities; | Section 6.2.9.1 | |
| - identification and assessment of accident rates along highway routes and potential safety issues and conflicts with existing traffic on access roads; | Section 6.2.9.1 | |
| - evaluation of the new mine site access road in relation to other land uses currently undertaken in the area; | Section 6.2.9.1 | |
| - assessment of the effect of the new access road on other sectors such as the economy and recreation; | Section 6.2.7 | |
| - assessment of the demand that will be placed on the rail facilities; | Section 6.2.9.1.2 | |
| - assessment of the demand for air service; and | | |
| - identification of required infrastructure improvements (if applicable). | | |
| For community services, the EIS will: | | Stantec, 2012 |
| - assess the demands that the Project will place on services in the project area and the effect of that demand; | Table 6.1-2, Table 6.1-4, Section 6.2.9.1, Section 6.2.9.1.4, Section | |
| - describe the increase in demand, where possible and reasonable; and | | |
| - where practical, distinguish where the Project has the effect of advancing an expansion of capacity verses creating an incremental increase. | | |
| ...base case conditions as described in Section 2.6.2 will be compared to the forecasted demand for services over the life of the Project. | Section 6.2.9.1 | Stantec, 2012 |

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| In assessing the effect on community services the EIS will: - assess the demand for services generated by the Project; - identify specific types of services that are likely to be in greatest demand; - identify services that will be available on site; - compare demand to existing capacity and the schedule for expanding capacity in the Project's absence; - discuss both service ability to deal with general increased demand as well as with emergency situations; and - identify areas where significant effects may occur. | Table 6.1-2, Table 6.1-4, Section 6.2.9 Section 6.2.9.1.1, Section 6.2.9.1.2, Section 6.2.9.1.3, Section 6.2.9.1.4 Section 6.2.9.1.4 Section 6.2.9.1.5 Section 6.2.9.1.6 Section 6.2.9.1.2 Section 6.2.9.1.7 | Stantec, 2012 |
| ...include an assessment of the health effects resulting from the Project and describe any proposed mitigation...consider the facilities and services, including the supply of and demand for community based health services, provision of services at the mine site and the interaction between those services and local community services. | Section 6.2.9.1, Section 6.2.9.1.2, Section 6.2.9.1.3, Section 6.2.9.1.4, Section 6.2.9.1.5 | Stantec, 2012 |
| 2.7.3.3 Effects on Resource Uses | | |
| ...assess the potential effects of the Project, including both onsite and offsite components, on other regional economic activities identified, such as forestry, recreation and tourism, and agriculture. | Table 6.1-2, Table 6.1-4, Section 6.2.9.3 | |
| ...provide relevant data to identify effects of all phases of the Project on current and forecasted land uses in the region for proposed monitoring, mitigation and compensation measures | Section 6.6, Table 6.6-1, Section 7.3 | |
| ...identify all land tenures and land uses potentially affected by all phases of the Project and will accurately delineate the boundaries of the mineral claims so that it is apparent where mine facilities are located relative to the claim boundaries...include asserted or established Aboriginal and treaty rights, where available. | Section 1.4.2.2, Figure 1.4-7, Section 6.2.9.3, Section 6.2.9.10, Section 6.2.9.11. Section 6.2.11, Figure 5.11-1, Figure 5.11-2 | |
| Overlays for the land tenure and land use maps and spatially referenced databases of proposed mine facilities (e.g. pits, waste dumps, plant site, TIA) will be included in the EIS. | Figure 1.3-2, Figure 1.3-3, Figure 1.3-4, Figure 1.4-12 | |
| The EIS shall also: - compare current and forecasted land tenure and land uses within the proposed mine site area; and - determine ancillary land uses/site developments that will be placed on Crown land and that are not covered by the permits, licenses or approvals issued by the province. | Section 6.2.9.3, Section 6.2.11 Section 6.2.11, Section 6.6.1 | |
| With respect to fishing, the EIS will provide an assessment of the effects of all phases of the Project on the commercial and/or recreational lake and stream fisheries affected by the Project, and present mitigation and/or compensation plans...provide results of visitor and creel surveys conducted to examine lake and streams use, catch success, and the importance of the lake and streams in a regional and provincial context. | Table 6.1-2, Table 6.1-4, Section 5.4.5, Section 5.9.4, Section 5.11.4, Section 6.2.4 | EcoMetrix, 2012a |
| With respect to outdoor recreation and tourism provide an assessment of the effects of all phases of the Project on these activities...the EIS will: - identify commercial recreation tenures and activities affected by the Project; - identify areas that have high wilderness recreational value affected by the Project; - assess the importance of the areas affected, relative to regional use by residents and visitors; and - provide an estimate of the value of recreation and tourism in both the project area and in the broader area, including Pukaskwa National Park, and assess the effect of the Project on park and recreation features and on tourism and recreation opportunities. | Table 6.1-2, Table 6.1-4, Section 5.9.4, Section 6.2.9.3 Section 6.2.9.3 (no estimate provided; qualitative assessment only) | |
| With respect to hunting, trapping and guiding provide an assessment of the effects of all phases of the Project on these activities. | Section 6.2.9.3, Section 6.2.11 | |
| ...the EIS will: - identify the number of trapping and guiding territories affected by the Project and describe the nature of the effect in terms of the specific trapline and guiding area affected; - assess the importance of the areas affected relative to overall area traplines and guiding territories and, to the extent possible, quantify the effect on guide outfitters and trappers; - propose mitigation measures for diminished wildlife and wilderness values of the guide outfitter territories and registered traplines affected, where appropriate; and - identify potential effects on recreational hunting opportunities in the immediate and adjacent areas. | Table 6.1-2, Table 6.1-4, Section 5.9.4, Section 6.2.11 | |
| ...identify the effect of the Project footprint on the forestry values and targets identified in regional and local resource management plans for the project area such as local and landscape affects to the Kenogami, Pic River Ojibway, Black River and Big Pic Forest Management Plans. | Section 6.2.9.3, Figure 6.2.9.8 | |
| ...identify how all phases of the Project will affect both current and future forest resources and uses. This assessment will include a determination of current and future forest resources and activities in the project area. | Table 6.1-2, Table 6.1-4, Section 6.2.9.2, Section 6.2.9.3 | |
| ...include an agricultural assessment completed to identify how all phases of the Project could potentially affect both current and future agricultural resources and activities. | Table 6.1-2, Table 6.1-4, Section 6.2.9.3 | |
| 2.7.3.4 Navigable Waters | | |
| In order to complete an assessment of the potential effects of the Project on navigable waters, the EIS will: - identify any Project components that will affect waterways and water bodies, including a description of any activities (e.g., dredging, alteration of water bed | Table 6.1-2, Table 6.1-4, Section 6.2.9.4 | EcoMetrix, 2012i |

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| and/or water banks) that may affect waterways and water bodies; - describe any ancillary and temporary works (e.g., cofferdams, detours, fencing, or temporary bridges) including, where available, approximate dimensions; - describe the anticipated direct and indirect effects on the waterways and water bodies, including, but not limited to, changes in water level and flow; and - provide information on current and/or historic usage of all waterways and water bodies that will be directly affected by the Project, including current Aboriginal uses, where available | | |
| 2.7.3.5 Human Health | | |
| ...include consideration of the potential effects of all project phases (i.e. construction, operation, closure and post-closure) when assessing impacts to human health | Table 6.1-2, Table 6.1-4, Section 6.2.9.5 | |
| ...examine the potential effects of the Project on human health, specifically related to potential chemical releases to the environment. | Section 6.2.9.5.1, Section 6.2.12 | TGCL, 2012b |
| ...involve both quantitative and qualitative risk assessment methods which will be detailed and include consideration of the following: - water supply and watersheds, including the effect on water supply and quality for local residents, communities and the mine site, as well as potential site and potential health risks from discharges (if any). Any water designated for drinking will be assessed for potential contamination and shall meet Ontario Drinking Water Quality Standards and guidelines. Use of drinking water treatment systems or drinking water alternatives as appropriate will be discussed; - the effect of the Project on air quality around the mine site, including worker camps, and in the broader study area, and potential health risks from proposed air emissions and dust generated at the mine and by traffic related to the mine; and - accepted standards or guidelines for protection of human health (e.g. Canada wide Standards, National Ambient Air Quality Objectives, provincial regulations) for specific criteria air contaminants, including, but not limited to, the following: <ul style="list-style-type: none"> • sulphur oxides [SOx], • nitrogen oxides [NOx], • particulate matter [PM] including total PM, PM10, and PM2.5, • volatile organic compounds [VOCs], • carbon monoxide [CO], • ammonia [NH3], • ground-level ozone [O3], and secondary particulate matter [secondary PM]), • air pollutants on the <i>List of Toxic Substances</i> in Schedule 1 of the <i>Canadian Environmental Protection Act, 1999</i> (Canadian Environmental Protection Act Registry, 1999), and • diesel PM; - where available, information on possible health effects from electro-magnetic field exposure and as appropriate, descriptions of the measures that will be taken to address public concerns over the possible human health effects of project-related electro-magnetic fields; - the expected duration of noise due to Project activities during all phases and an evaluation of the severity of predicted changes in noise levels and how they may affect human health; - mitigative measures and monitoring of air quality, water quality, noise, electric and magnetic fields, and country foods, as appropriate; and - risks to human health from current consumption by Aboriginal people and hunters/trappers of traditional country foods exposed to: <ul style="list-style-type: none"> • pesticides/herbicides used at the mine site or along the transmission line corridor; • metal contaminated dust; • seepage; • runoff or effluent discharges from the mine site (if any); • impounded water at the mine site; • metal contaminated vegetation growing within the projected dust fall area surrounding Project operations; and • soils contaminated by metals | Section 6.2.9.5.1 Section 6.2.1, Section 6.2.9.5.1 Section 6.2.9.5.1 Not applicable. Section 6.2.9.5.1 Section 6.2.1.3, Section 6.2.3.3.5, Section 6.2.2.6., Section 6.2.11.9 Section 6.2.11.4 (exposure discussion as appropriate to perceived risks) | TGCL, 2012b TGCL, 2012b |
| 2.7.4 Physical and Cultural Heritage Resources | | |
| Physical and cultural heritage resources shall be considered in the EIS. | Table 6.1-2, Table 6.1-4, Section 5.10, Section 6.2.10 | Woodland Heritage Services Ltd., 2008; Ross Archaeological Research Services, 2009 |
| 2.7.4.1 Archaeology | | |
| ...assess the effects of the Project on existing archaeological resources and will include proposed measures to mitigate effects to archaeological resources that conform to the Ministry of Tourism and Culture's <i>Standards and Guidelines for Consultant Archaeologists</i> (2011). | Table 6.1-2, Table 6.1-4, Section 6.2.10.1.1, Section 6.2.10.3 | |
| 2.7.4.2 Built Heritage and Cultural Landscapes | | |
| ...assess the potential effects of on-site and off-site components of the Project on known and potential built heritage and cultural heritage landscapes. | Table 6.1-2, Table 6.1-4, Section 6.2.10.1.2, Section 6.2.10.3 | |
| 2.7.5 Aboriginal Considerations | | |
| ...provide information regarding the effects of the Project of Aboriginal people and groups interests and on asserted or established Aboriginal and treaty rights at the mine site, and along the transmission line corridor and access roads. | Table 6.1-2, Table 6.1-4, Section 6.2.11 | |

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| ...the effects assessment for all VECs shall include consideration of issues of concern to Aboriginal peoples and groups, including the effects of the Project on the current use of lands and resources for traditional purposes. | Section 6.2.11 | |
| <p>...Based on information provided by Aboriginal Groups or if Aboriginal Groups do not provide, identify:</p> <ul style="list-style-type: none"> - any potential social and/or economic effects to Aboriginal groups that may arise as a result of the Project on a group by group basis; - any potential effects on current and proposed uses of land and resources by Aboriginal groups for traditional purposes including, but not limited to, hunting, fishing, trapping, cultural and other traditional uses of the land (e.g. collection of medicinal plants, use of sacred sites); - any effects on lifestyle, culture and quality of life of Aboriginal groups; - measures to avoid, mitigate, compensate or accommodate effects on the current use of lands and resources for traditional purposes; - any effects of alterations to access into the area on Aboriginal groups, including deactivation or reclamation of access roads; - any effects of the Project on heritage and archaeological resources in the project area that are of importance or concern to Aboriginal groups; - the residual impacts of any effects identified above on asserted or established Aboriginal and treaty rights; and - a discussion of any factors may inhibit or foster the flow of economic and other benefits to Aboriginal communities. | <p>Section 6.2.11 Section 6.2.11.3, Section 6.2.11.4, Section 6.2.11.5</p> <p>Section 6.2.11.3, Section 6.2.11.6 Section 6.2.11.9 Section 6.2.11.5, Section 6.2.11.6 Section 6.2.11.6, Section 6.2.11.7 Section 6.2.11.10 Section 6.2.9.2</p> | Stantec, 2012 |
| 2.7.6 Accidents and Malfunctions | | |
| ...include a discussion of the potential environmental effects that may result from accidents and malfunctions that may occur in connection with the Project. | Section 6.3.2.1.3, Section 6.3.2.2.3, Section 6.3.2.3.3, Section 6.3.2.4.3, Section 6.3.2.5.3, Section 6.3.2.6.3, Section 6.3.2.7.3, Section 6.3.2.8.3, Section 6.3.2.9.3, Section 6.3.2.10.3, Section 6.3.2.11.3, Section 6.3.2.12.3, Section 6.3.2.13.3, Section 6.3.2.14.3, Section 6.3.2.15.3, Section 6.3.2.16.3, Section 6.3.2.17.3, Section 6.3.2.18.3, Section 6.3.2.19.3, Section 6.3.2.20.3 | |
| <p>The EIS will:</p> <ul style="list-style-type: none"> - identify the probability of potential accidents and malfunctions related to the Project, including an explanation of how those events were identified, potential consequences (including the potential environmental effects), the worst case scenarios and impacts; - explain the potential magnitude of an accident and/or malfunction, including the quantity, mechanism, rate, form and characteristics of the contaminants and other materials likely to be released into the environment during the malfunction and/or accidental event; - identify the capabilities, resources and equipment available to safely respond to any accidents and malfunctions; and - describe the planned response such as communication between stakeholders, and alerting and warning personnel working on the mine site. The EIS will also describe the contingency, clean-up or restoration work that would be required immediately following or in the long-term after the postulated malfunctions and accidents. | Section 6.3.2.1.2, Section 6.3.2.2.2, Section 6.3.2.3.2, Section 6.3.2.4.2, Section 6.3.2.5.2, Section 6.3.2.6.2, Section 6.3.2.7.2, Section 6.3.2.8.2, Section 6.3.2.9.2, Section 6.3.2.10.2, Section 6.3.2.11.2, Section 6.3.2.12.2, Section 6.3.2.13.2, Section 6.3.2.14.2, Section 6.3.2.15.2, Section 6.3.2.16.2, Section 6.3.2.17.2, Section 6.3.2.18.2, Section 6.3.2.19.2, Section 6.3.2.20.3 | |
| <p>The assessment of the environmental effects of potential accidents and malfunctions shall include, but is not limited to those considerations associated with the following Project activities or eventualities:</p> <ul style="list-style-type: none"> - the transport of goods which are potentially harmful to the environment, to and from the Project site, including the potential transport of concentrate to an off-site handling facility; - waste management and disposal (solid and liquid); - handling and use of chemicals on-site; - evaluation of worst case scenarios (e.g. tailings impoundment structural failure, accidental explosion); - premature closure of the Project during any phase; - controlled and uncontrolled discharges (surface water and groundwater); and - any other Project component or system that has the potential, through accident or malfunction, to adversely affect the natural environment.- explain the potential magnitude of an accident and/or malfunction, including the quantity, mechanism, rate, form and characteristics of the contaminants and other materials likely to be released into the environment during the malfunction and/or accidental event; | Section 6.3.2.1.1, Section 6.3.2.2.1, Section 6.3.2.3.1, Section 6.3.2.4.1, Section 6.3.2.5.1, Section 6.3.2.6.1, Section 6.3.2.7.1, Section 6.3.2.8.1, Section 6.3.2.9.1, Section 6.3.2.10.1, Section 6.3.2.11.1, Section 6.3.2.12.1, Section 6.3.2.13.1, Section 6.3.2.14.1, Section 6.3.2.15.1, Section 6.3.2.16.1, Section 6.3.2.17.1, Section 6.3.2.18.1, Section 6.3.2.19.1, Section 6.3.2.20.3 | |
| <ul style="list-style-type: none"> - A conceptual Environmental Protection Plan to address potential accidents and malfunctions will be included in the EIS. describe the planned response such as communication between stakeholders, and alerting and warning personnel working on the mine site. The EIS will also describe the contingency, clean-up or restoration work that would be required immediately following or in the long-term after the postulated malfunctions and accidents. - identify the capabilities, resources and equipment available to safely respond to any accidents and malfunctions | Section 6.3.2.1.5, Section 6.3.2.2.5, Section 6.3.2.3.5, Section 6.3.2.4.5, Section 6.3.2.5.5, Section 6.3.2.6.5, Section 6.3.2.7.5, Section 6.3.2.8.5, Section 6.3.2.9.5, Section 6.3.2.10.5, Section 6.3.2.11.5, Section 6.3.2.12.5, Section 6.3.2.13.5, Section 6.3.2.14.5, Section 6.3.2.15.5, Section 6.3.2.16.5, Section 6.3.2.17.5, Section 6.3.2.18.5, Section 6.3.2.19.5, Section 6.3.2.20.3 | |
| <p>The assessment of the environmental effects of potential accidents and malfunctions shall include, but is not limited to those considerations associated with the following Project activities or eventualities:</p> <ul style="list-style-type: none"> - the transport of goods which are potentially harmful to the environment, to and from the Project site, including the potential transport of concentrate to an off-site handling facility; - waste management and disposal (solid and liquid); - handling and use of chemicals on-site; - evaluation of worst case scenarios (e.g. tailings impoundment structural failure, accidental explosion); | Section 6.3.2, Table 6.3-1 | |

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| - premature closure of the Project during any phase; - controlled and uncontrolled discharges (surface water and groundwater); and - any other Project component or system that has the potential, through accident or malfunction, to adversely affect the natural environment. | | |
| A conceptual Environmental Protection Plan to address potential accidents and malfunctions will be included in the EIS. | Section 7.1.2.2 | |
| 2.7.7 Effects of the Environment on the Project | | |
| ...consider any change to the Project that may be caused by the environment. | Section 6.4 | |
| ...take into account how local water conditions and natural hazards, such as severe weather conditions and external events could adversely affect the Project. Longer-term effects of climate change shall also be discussed up to the end of the projected post-closure phase of the Project. | Section 6.4.2 Section 6.4.1.3 | EcoMetrix, 2012h |
| ...provide details of a number of planning, design and construction strategies intended to minimize the potential effects of the environment on the Project. | Section 6.4.1.3, Section 6.4.2, Section 6.4.3, Section 6.4.4.4 | |
| ...consider the following types of natural environmental issues or events that could have an effect on the Project: - climate change, including the potential long term effects of changing groundwater and surface water levels on maintaining an adequate water cover in the TIAs; - extreme weather (severe rainstorms, snow storms, flood events, wind, drought); - forest fires; and - seismic activity. | Section 6.4.1.3 (water cover in TIA not applicable) Section 6.4.2, Section 1.4.3.4.6 (dry years) Section 6.4.3 Section 6.4.4 | |
| Consideration of applicable climate elements shall include, but not be limited to: - an estimate of its importance to the Project; - an estimate of how sensitive the Project is to variations of this element; - a discussion of climate data used; and - changes in lake levels, stream flow. | Section 6.4, described for each event/issue as appropriate | |
| Sensitivity of the Project to long-term climate variability and effects shall be identified and discussed. | Section 6.4.1.3 | |
| 2.7.8 Capacity of Renewable Resources | | |
| ...include an assessment of the capacity of renewable resources that are likely to be significantly affected by the Project to meet the needs of the present and those of the future...identify those resources likely to be significantly affected by the Project, and describe how the Project could affect their sustainable use...identify and describe any criteria used in considering sustainable use. | Section 6.5 | |
| 2.8 ENVIRONMENTAL MANAGEMENT | | |
| ...describe the Proponent's Environmental Management System (EMS) for the Project. The objective of the EMS is to provide a consistent approach to environmental management through resource allocation, the assignment of responsibilities and ongoing evaluation of environmental practices, procedures and processes. | Section 7.1, Section 7.1.1, Section 7.1.2 | |
| 2.8.1 Environmental Management Plans | | |
| ...describe the conceptual Environmental Management Plans (EMPs) proposed for all stages of the Project and include a commitment by the Proponent to implement the EMPs should the Project proceed. | Section 7.1.2.1, Section 7.1.2.2, Section 7.1.2.3, Section 7.1.3, Section 7.1.4 | |
| The EMPs will include direction on the following, as appropriate for the Project phase: - construction management; - access management; - concentrate transfer station management; - tailings impoundment operations plan; - materials handling (non-mined materials); - emergency response and spill contingency, including measures taken to prevent spills, such as policies, procedures and protocols; - geotechnical stability monitoring; - soil salvage and storage plan; - surface erosion prevention and sediment control; - air quality management; - noise Management; - water quality/quantity management and monitoring; - waste management; - ARD/ML management; - vegetation management, including invasive species; - protection of migratory birds - bear-human and wolf-human conflict management; - cultural and heritage protection; - reclamation and closure; | Table 6.1-4 Section 1.4.3.6.7 Section 6.3.2.6.1 Section 1.4.3.4.4, Section 1.4.3.4.5 Section 7.1.2.1 Section 6.3.2.2.4, Section 6.3.2.2.5, Section 6.3.2.3.4, Section 6.3.2.3.5 Table 7.3-1 Table 7.3-1 Table 6.1-4 Table 7.3-1 Table 7.3-1 Table 7.3-1 Table 7.3-1 Section 7.1.2.1 Section 7.2, Table 7.3-1 Table 7.3-1 Table 7.3-1 Section 7.4 Table 7.3-1 Section 7.2 | |

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| <ul style="list-style-type: none"> - occupational health and safety; - follow-up and monitoring; - surface water and groundwater quality and quantity management, and monitoring; including controlled and uncontrolled seepage, run-off, and discharge; - follow-up , compliance and effects monitoring of groundwater and surface water quality and quantity during closure and post-closure; and - others, as appropriate. | <p>Section 7.4 Table 7.3-1 Table 7.3-1 Table 7.3-1</p> | |
| <p>The EIS shall also identify any EMPs or other mitigation tools that can be used to minimize potential effects on Aboriginal people and groups. Such EMPs and/or related mitigation tools will be developed in consultation with the Aboriginal groups, and may include:</p> <ul style="list-style-type: none"> - archaeological and heritage resources monitoring plan; - traditional use monitoring plan; and - others, as needs are identified. | Table 7.3-1 | |
| 2.8.2 Decommissioning and Closure Plan | | |
| ...include details of a conceptual decommissioning and closure plan for the Project according to the information requirements of the Ontario Regulation 240/00 of the <i>Mining Act</i> . | Section 7.2 | TGCL, 2012d |
| ...include ownership, transfer and control of the different project components as well as the responsibility for monitoring and maintaining the integrity of some of the structures. | Section 7.2 | TGCL, 2012d |
| <p>will include information on:</p> <ul style="list-style-type: none"> - short and long term plans for the dams in regard to water flows and levels; - monitoring of biotic resources affected by the dams or diversions; - residual soil; - vegetated areas that will/will not be reclaimed; - vegetative communities and species to be renewed; - groundwater, and surface water contamination; - maintenance and/or management of open pits, mine rock stockpiles, permanent TIAs; and - anticipated pit overflow. | <p>Table 7.3-1 Table 7.3-1 Table 7.3-1 Section 7.2 Section 7.2 Section 7.2 Section 7.2</p> | TGCL, 2012d |
| 2.8.3 Monitoring and Follow-up Programs | | |
| ...include a framework upon which follow-up and effects monitoring, and compliance monitoring will be based throughout the life of the Project, including the post-closure phase, should the Project proceed. | Table 7.3-1 | |
| ...discuss the monitoring program for the Project. | Table 7.3-1 | |
| ...describe the compliance monitoring methods to be used, including reporting frequency, methods and format. | Table 7.3-1 | |
| ...propose a schedule for the compliance monitoring program. The schedule shall indicate the frequency and duration of monitoring. | Table 7.3-1 | |
| ...outline a follow-up and effects monitoring program, designed to verify the accuracy of the conclusions of the environmental assessment and to determine the effectiveness of the measures implemented to mitigate the adverse environmental effects of the Project. | Table 7.3-1 | |
| ...discuss follow-up and effects monitoring program objectives, which shall include confirming the effectiveness of mitigation measures, confirming that assumptions made in the EIS were appropriate and verifying predicted effects. | Table 7.3-1 | |
| The description of the follow-up program shall include any contingency procedures/plans or other adaptive management provisions as a means of addressing unforeseen effects or for correcting exceedances as required to comply or to conform to benchmarks, regulatory standards or guidelines. | Table 7.3-1 | |
| ...describe roles and responsibilities for the program and its review process, by both peers and the public. | Table 7.3-1 | |
| <p>The EIS shall provide a discussion on the need for, and requirements of, a follow-up and effects monitoring program and include:</p> <ul style="list-style-type: none"> - the need for such a program and its objectives; - a tabular summary and explanatory text of the main components of the program, including: <ul style="list-style-type: none"> • description of each monitoring activity under each component, • discussion on which of the program objectives the activity is fulfilling (i.e. confirming mitigation, confirming assumptions; verifying predicted effects), • specific statement from the EA that goes along with that generic objective and will be the focus for that activity, such as the example below: <ul style="list-style-type: none"> - follow-up objective: verify predicted effects, - environmental assessment effect: no adverse effects at the population level for white-tailed deer because of vehicle strikes due to increased traffic within the site study area, • specific monitoring objective for that activity, such as the example below: <ul style="list-style-type: none"> - monitoring objective: record occurrence of vehicular collisions with deer on-site to verify predicted effects; - how the program would be structured; - a schedule for the finalization and implementation of the follow-up program; - roles to be played by the Proponent, regulatory agencies, Aboriginal people and groups and others in such a program; - possible involvement of independent researchers; | <p>Section 7.3 Table 7.3-1</p> | |

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| - the sources of funding for the program; and - information management and reporting. | | |
| ...include a description of how the Proponent's responses to Aboriginal issues and concerns will be monitored during Project construction and operation, and during decommissioning and abandonment of temporary facilities and will outline any process for handling issues that may arise (e.g. stop work plans, modification of design, etc.). | Table 7.3-1, Section 6.2.11.9 | |
| 2.9 TABLE OF COMMITMENTS | | |
| ...summarize the Proponent's key commitments in implementing mitigations, contingency plans, monitoring, taking corrective actions, reclaiming the site and providing offsets for unavoidable Project effects. | | |
| The summary of commitments shall include: - a summary of all significant management commitments; - any applicable standards, legislation and/or policies; - a discussion of any special management practices or design feature commitments; and - a table summarizing the timing and responsibility for each of the actions for which a commitment has been made. | | |
| 2.10 ASSESSMENT SUMMARY AND CONCLUSION | | |
| ...summarize the overall findings with emphasis on the main environmental issues identified. | | |