

GENERAL INSTRUCTIONS FOR EXCEL TEMPLATE:

1. Do not leave blank rows above or between comments.
2. Do not modify or delete the instructions or the column headings (*i.e.* the grey areas).
3. Each comment must have an associated topic and recommendation.
4. All formatting (*i.e.* bullets) will be lost when this file is uploaded to the Online Comment Table.
5. If necessary, adjust the cell width and height in order to view all text.
6. Cutting and pasting comments from WORD documents cannot include hard returns (spaces between paragraphs).
7. If you would like to create paragraphs within a single cell, please use a proper carriage return (ALT & ENTER).

<u>TOPIC</u>	<u>COMMENT</u>	<u>RECOMMENDATION</u>
<i>Be as specific as you think is appropriate; for example a section or page of the document, a recommendation #, general comment, etc.</i>	<i>Comments should contain all the information needed for the proponent and the Board to understand the rationale for the accompanying recommendation.</i>	<i>Recommendations can be for the proponent or for the Board. Recommendations should be as specific as possible, relating the issues raised in the "comment" column to an action that you believe is necessary.</i>
Origins of the Draft Terms of Reference	It would be helpful to know whether DDEC used other Terms of Reference as a model in drafting the version presented in its Project Description.	DDEC is requested to provide information on how it drafted the Terms of Reference and whether any specific models were used.
s. 1.2 Referral to Environmental Assessment, footnote 1	In some cases it may be more appropriate to compare project-related changes or impacts to expected conditions without the project rather than compared to baseline conditions. For example, changes in caribou populations where the numbers increase and could be attributed to the project rather than natural trends.	Add " or expected conditions without the project, as may be appropriate to the context " to the end of the footnote."
s. 2.3 Geographic Scope, item 6	This section sets the minimum geographic scope for the EA. For greater certainty the geographic scope for cumulative effects on migratory species and species-at-risk should be set as their home range.	Add the following sentence at the end of item 6, " For the purposes of a cumulative effects assessment (s. 3.3.3), the range of any potentially affected species should be considered. "
s. 2.3 Geographic Scope, second paragraph from end	This paragraph discusses the communities to be considered during the EA, but Bathurst Inlet and Umingmaktok, which use Bathurst caribou, are not included.	The DAR should explain why Bathurst Inlet and Umingmaktok (formerly Bay Chimo) were excluded or the second last sentence should be changed to read "This also included the communities of Kugluktuk, Bathurst Inlet and Umingmaktok, Nunavut."

s. 3.1.3 Assessing the Impacts of the Environment on the Development	This section sets out what impacts on the environment are to be assessed from the development. Given the central role that alternative means of carrying out the project should play in this EA, there should be specific reference to assessing the impacts from different alternatives.	The following words should be added at the end of the first sentence " and for the alternative means of carrying out the project as shown in s. 3.5 [or s. 3.3.1.1 Key Lines of Inquiry if the Alternative Means of Carrying Out the Project is move to this part of the ToR as recommended by the Agency below] " to cross-reference the section on Alternative Means of Carrying Out the Project
s. 3.2.1 Summary Materials, item 1	The Weledeh dialect should be included in the languages for plain language materials.	Add Weledeh to the list of languages for plain language materials.
s. 3.2.4 Description of the Existing Environment	While the AEMP and WEMP are referenced, there is no mention of the Air Quality Monitoring Program which is an important part of site-wide monitoring for environmental impacts.	Add in "and the Air Quality Monitoring Program" to the end of the third sentence.
s. 3.2.4 Description of the Existing Environment	There is no mention of the need to properly state or qualify baseline data and information about the existing environment. It would be helpful for the Review Board and other parties to have a good understanding of the adequacy of baseline information to evaluate confidence intervals, uncertainties and related matter when making significance determinations.	Add the following part at the end of the first section: The developer should provide the following assessment of its baseline information in the describing the existing environment: (1) an assessment of the adequacy of the existing baseline dataset in terms of geographic coverage, certainty, how recently it was collected, whether there are any trends apparent, veracity of techniques, QA/QC and any other relevant matter; and, (2) a plan to supplement the baseline information before construction if necessary.
s. 3.2.4 Description of the Existing Environment, Biophysical Environment, item 5	Total Suspended Solids should be included.	Add Total Suspended Solids to the list.

s. 3.2.4 Description of the Existing Environment, Biophysical Environment, item 8, 8c.	The <u>movements</u> of wildlife in this area should be documented, not just seasonal migrations. The scale of migration is larger than the scale of localized movements; both are important. Also, special emphasis should be placed on grizzly bears, since they have the ability to negatively interact with development.	Amend the wording of the first and second sentences of this item to read: " 8. Wildlife (including resident and migratory bird species), wildlife habitat, and movement /migration corridors. Special emphasis will be placed on key harvested species including caribou and furbearers, and grizzly bears. " Similarly, amend the wording of 8c to read: "c. movement and migration routes, patterns, and timing including typical patterns and the range of known variation".
s. 3.2.4 Description of the Existing Environment, Biophysical Environment, item 9(c)	There is an error with the "#10" shown in this item.	Correct the number.
s. 3.2.4 Description of the Existing Environment, Biophysical Environment, item 11(h)	Eskers are critical habitat for wildlife denning, migration and insect refuge, and should be clearly identified and discussed in the DAR.	Add the words: "including eskers" at the end of this item.
s. 3.2.4 Description of the Existing Environment, Human Environment, item 24	It is important to document and understand past economic activities in the study area such as wildlife outfitting camps, fishing camps, mineral exploration sites and other possible disturbance to properly assess cumulative effects.	Amend the wording of this item to read: "24. Other past and current economic activities in the environmental assessment study area; and,"
s. 3.2.5 Development Description, New Infrastructure, Facilities, and Management Plans Proposed as Part of the Project, item 3	It would be helpful to know the status of other regulatory applications a the time of the filing of the DAR to better understand timelines into the future.	At the end of this item, add the following words: " and the status of such instruments at the time of the DAR filing. "
s. 3.2.5 Development Description, New Infrastructure, Facilities, and Management Plans Proposed as Part of the Project, item 10	The Project Description notes that approximately 30% of the Jay waste rock will be PAG, and that this rock will be encapsulated with non-PAG granite, including a 5 m thick cover. While the volumes of available non-PAG seem adequate, the DAR should provide a schedule of annual waste rock production by waste rock type, such that it is demonstrated that sufficient non-PAG will be available in the final years of production to construct the appropriate cover.	Add the following wording at the end of item 10: " including a schedule that shows annual waste rock production by waste rock type, or other means of ensuring the availability of clean granite when needed ".

s. 3.2.5 Development Description, New Infrastructure, Facilities, and Management Plans Proposed as Part of the Project, item 11	It is important to know whether the developer intends to construct roads with any specific mitigation design features for wildlife, and to have more specific information on the anticipated vehicle use of the proposed roads.	Amend Item 11 to read as follows: 11. The proposed new site access roads, including construction (width of right-of-way, road bed type, and any specific features to facilitate wildlife movements) and maintenance schedule, required construction material, techniques to minimize erosion and bank instability and the expected number of trips on the road (including number and types of vehicles), water crossings, as well as the type and weight of loads, any related storage, transfer and
s. 3.2.5 Development Description, New Infrastructure, Facilities, and Management Plans Proposed as Part of the Project, item 12	It is important to understand where the processed kimberlite will be deposited to properly assess alternatives and trade-offs during the EA.	Add the following words to the end of this item: " with locations and schedules for its management and disposal ".
s. 3.2.5 Development Description, New Infrastructure, Facilities, and Management Plans Proposed as Part of the Project, item 13	The Project Description for the Jay-Cardinal Project discusses the need for pipelines and pumping stations and water management structures--additional detail on these should be presented in the DAR. A water treatment plant may be needed for the North Inlet or LLCF as a result of this development--the economic and technical feasibility issues and should be discussed in more detail in the DAR.	Add the following words at the end of this item: " pipelines, pumping stations and potential contingency measures such as water treatment. "
s. 3.2.5 Development Description, New Infrastructure, Facilities, and Management Plans Proposed as Part of the Project, item 15	It is important to know the decommissioning and reclamation plans for construction materials brought to the site.	Add the following words at the end of this item: " and ultimate removal or disposal plans of same ".
s. 3.2.5 Development Description, New Infrastructure, Facilities, and Management Plans Proposed as Part of the Project, item 20	The routing and general details of the proposed transmission line to the work site should be described.	Add the following words at the end of this item: " including any transmission lines and substations ".

<p>s. 3.2.5 Development Description; Existing Infrastructure, Facilities, and Management Plans Potential Relevant to the Proposed Extension Project, preamble</p>	<p>The developer states in its Project Description that existing facilities at the Ekati Mine will be used to the extent possible but it is necessary to know whether these facilities have the capacity to handle any additional workloads or materials that may come from Jay-Cardinal.</p>	<p>Amend the preamble to read as follows: "For previously assessed, existing, and approved facilities that are to be used as part of the Project, DDEC must provide a full description of the project component, how it will be used in the context of the proposed Project, capacity of existing facilities to handle the proposed Project, and any changes to the existing infrastructure or facilities that will occur as a result of the proposed development."</p>
<p>s. 3.2.6 Public Engagement, last bullet</p>	<p>Traditional Knowledge holders should be engaged in the design of monitoring programs, not just assessing baseline conditions and potential impacts.</p>	<p>Amend this last bullet to read: "How DDEC has engaged or intends to engage, traditional knowledge holders in order to collect relevant information for establishing baseline conditions and, assessing the effects of potential impacts and the design of monitoring programs, as well as a summary table indicating where and how in subsequent sections (3.3 to 3.7) traditional knowledge was incorporated, and who was consulted (see Review Board's Guidelines for incorporating Traditional Knowledge in Environmental</p>
<p>s. 3.3 Impact assessment steps and significance determination factors, fifth bullet in the first list</p>	<p>In some cases it may be more appropriate to compare project-related changes or impacts to expected conditions without the project rather than baseline conditions. For example, changes in caribou populations where the numbers increase and could be attributed to the project rather than natural trends.</p>	<p>Amend the first sentence, fifth bullet in the first list, to read: "Compare the predicted impacts to pre-development conditions or conditions without the project, as appropriate."</p>
<p>s. 3.3 Impact assessment steps and significance determination factors</p>	<p>While this section references the application of mitigation measures to the predicted impacts for purposes of evaluation, it does not explicitly identify assessment of the likely effectiveness of applied mitigation to reduce the impacts. Analysis is required in the DAR for assessors to determine how effective the proposed mitigation and management measures are to be, and identify any limitations or uncertainties about the proponent's ability to effectively implement the proposed measures</p>	<p>Insert a new #4 bullet to the list of assessment steps in s.3.3, to read as follows: "Identify and evaluate any proposed mitigation measures as to their technical and economic feasibility to reduce the predicted impacts, and discuss constraints, uncertainties, and implementation challenges to the effective use of the proposed measures.</p>

<p>s. 3.3 Impact assessment steps and significance determination factors</p>	<p>Determinations of significance depend on the subjective informed judgement of decision-makers. Hence including such considerations as societal values at the EA stage will be helpful.</p>	<p>Add the following sentence at the end of the second last paragraph in this section, as follows: "The above will be used by the developer as a basis for its justification of significance for potential impacts from this Project. Where the developer is aware of differential impacts on various parties or differences in views of the significance for potential impacts from this Project, the developer should describe these differences."</p>
<p>s. 3.3.1.1 Key Lines of Inquiry</p>	<p>The Agency disagrees with the specific list of KLI topics as identified in the draft TOR: i.e., impacts to water quality; impacts to water quantity; and impacts to caribou. First, we agree that impacts to water should be a KLI. However, the category does not explicitly address aquatic resources (such as fish and fish habitat) which will be significantly affected if certain project designs are implemented. Impacts to aquatic life should be a priority subject for assessment and, therefore, a KLI for the DAR.</p> <p>Second, our view would be that water quantity is a lesser area of potential concern than 'water quality', and could justifiably be subsumed under 'water quality' as a KLI.</p>	<p>We recommend that the draft list of KLI topics be changed to: KLI#1 - Water Quality (and Quantity); KLI#2 - Aquatic Life and, KLI#3 - Caribou</p> <p>(See item #29 below regarding proposed KLI#4)</p>
<p>s. 3.3.1.1 Key Lines of Inquiry</p>	<p>The Agency is of the view that the discussion on alternative means to carry out the project (as currently identified in Sec.3.5), for the explicit purpose of managing the effects of the project, is a critical issue for this assessment. It is also a specific requirement under Sec.117(2) of the MVRMA, which states that 'every environmental assessment and environmental impact review of a proposal for a development shall include a consideration of...(e) any other matter, such as the need for the development and any available alternatives to it, that the Review Board ... determines to be relevant.' The topic should be moved into s.3.3.1.1 as an added KLI.</p>	<p>[1] The DAR should address the topic 'Alternative Means of Carrying Out the Project' as a KLI.</p> <p>[2] The DAR should also provide an assessment of the following additional alternatives to various components of the project:</p> <ul style="list-style-type: none"> • Alternative waste rock storage areas, and pit backfilling options; and, • Alternative road alignments to minimize caribou disturbance and barriers to movements.

<p>s. 3.3.1.1 Key Lines of Inquiry</p>	<p>Given the extensive environmental footprint of the Project and the potential for significant adverse impacts to fish, water quality and caribou, a key area of concern (definition of a KLI) must be project design. Consequently, the DAR should include a comprehensive and rigorous review of alternative means of carrying out the project, including relative impacts, and the economic and technical feasibility of each identified alternative. This analysis is central to ensuring that differential footprints and impacts are understood, evaluated with explicit explanation of any trade-offs and within limits of acceptable change.</p> <p>The three reports by different engineering firms on alternatives provided with the Project Description use different methodologies and do not provide data or information that readily lend themselves to comparative evaluation. Multiple Accounts Analysis is an industry best practice that can provide a systematic, consistent and comprehensive comparison of alternatives and their trade-offs. *</p> <p>* for guidance see,</p>	<p>[1] The DAR should employ a multiple accounts analysis (MAA) of the four alternative means of carrying out the project as currently identified in s. 3.5.</p> <p>[2] The consideration of alternatives (i.e., MAA) should include an economic analysis of capital and operating costs and scheduling, anticipated employment and other socio-economic benefits, and assessment of environmental impacts of each alternative. The DAR should provide a rationale and justification for the proponent's preferred alternative that considers the trade-offs and analysis required above.</p>
<p>s. 3.3.1.1 Key Lines of Inquiry, Impacts to water quantity</p>	<p>The current text does not cover reflooding of any areas that are temporarily drawn down in terms of flow and recharge.</p>	<p>Add a bullet to this section that reads: "the management of reflooding any areas that were temporarily drained for mining operations".</p>
<p>s. 3.3.1.1 Key Lines of Inquiry, Impacts to water quality</p>	<p>The text as drafted does not cover reflooding of any areas that are temporarily drawn down in terms of erosion and resubmergence of vegetation.</p>	<p>At the end of the third bullet, add the words: "including reflooding".</p>
<p>s. 3.3.1.1 Key Lines of Inquiry, Impacts to caribou</p>	<p>Although DDEC identified habitat disruptions, exposure to contaminants and possible changes in predator-prey relationships, there is no reference to disruptions to caribou movements or migration from the numerous roads, dykes and other infrastructure associated with the Jay-Cardinal Project.</p>	<p>Add a new second bullet as follows: "DDEC must describe the potential for disruption of caribou movements and migration patterns through the proposed project area and quantify possible effects on this species.C30"</p>

3.3.1.2 Subjects of Note, SoN-1 Impacts to air quality	The listed items do not include emissions from blasting during construction or mining operations.	Add a new fourth bullet as follows: " the emissions from construction and operations activities, including blasting; "
3.3.1.2 Subjects of Note, SoN-3 Impacts to aquatic life	The impacts to aquatic life from a 10-20 year potential drawdown of major portions of Lac du Sauvage are likely to be significant adverse effects and should be elevated to a Key Line of Inquiry.	Identify and evaluate 'aquatic life' as a Key Line of Inquiry (see item #29 above).
s. 3.3.1.3 Biophysical Environmental Monitoring and Management Plans	The current terminology for environmental matters at Ekati uses "monitoring programs" and "management plans" so it is preferable to stick with this wording.	<p>[1] Amend the last sentence in the first paragraph to read: "Further, the developer will describe the framework for proposed monitoring programs and management plans or amendments to existing programs and management plans that will guide their evaluation of and adaptive management for impacts to water quality."</p> <p>[2] Amend the first sentence in the paragraph before the second set of bullets to read: "For all other valued components , describe the framework for proposed monitoring programs and management plans or amendments to existing programs and management plans that will guide DDEC's evaluation of and adaptive management for impacts to valued components."</p>
3.3.2.2 Subjects of Note, SoN-6 Impacts to cultural aspects	The last bullet ends without a complete sentence.	Please provide the missing text.
s. 3.3.3 Cumulative Effects	<p>The assessment of cumulative effects on water quantity and quality should include Lac de Gras.</p> <p>The requirement for cumulative effects assessment for wildlife should include other species besides caribou.</p>	<p>[1] At the end of the first and second bullets, add the words: "including any impacts on Lac de Gras".</p> <p>[2] At the end of the last bullet, add the words: "wolverines, grizzly bears and any species-at-risk".</p>

s. 3.3.3 Cumulative Effects	The DAR should provide a broader context on DDEC's current cumulative effects assessment and management efforts, and more specifically, how it contributes to such efforts.	Add a final sentence to this section as follows: " Current efforts towards cumulative effects assessment and management should be described, including DDEC's efforts to coordinate its monitoring and management to contribute towards a regional approach. "
s. 3.4 Accidents and Malfunctions, item 1	<p>The coverage of accidents and malfunctions should include the use of Failure Modes and Effects Analysis (FMEA) as an industry best practice in assessing risks and consequences of failure, including the use of scenarios to describe reasonably conceivable future outcomes.</p> <p>*</p> <p>The FMEA should include the failure of water containment systems as a one of the accidents or malfunctions considered.</p> <p>* See, for guidance http://www.infomine.com/library/publications/docs/Robertson2012b.pdf</p>	<p>[1] Amend the 3rd sentence in s.3.4 to read: "This analysis will be conducted as a Failure Modes and Effects Analysis, and will include..."</p> <p>[2] Amend the wording of item 1 to read: "Develop and describe reasonably conceivable scenarios for the FMEA to describe likelihood and consequences of accidents, malfunctions, or "impacts of the environment on the development" that may affect water quantity and quality and the ability of the water management system to function."</p> <p>[3] Add a new item 1(c) as follows: "failure of water containment facilities and pumping systems."</p>
s. 3.5 Alternative Means to Carrying Out the Project	See comments for item #29.	See recommendation #29 above.
s. 3.6 Closure and Reclamation	The reference at the end of the first paragraph has been superseded with the release of the new MVLW-AANDC closure guidelines.	Amend the second sentence in the first paragraph to read: " The developer will be guided by existing guidance, in particular the Mackenzie Valley Land and Water Board-AANDC Guidelines for the Reclamation of Advanced Mineral Exploration and Mine Sites in the NWT when developing its reclamation plan for the Jay-Cardinal Project, (http://mvlwb.com/sites/default/files/documents/wg/WLWB_5363_Guidelines_Closure_Reclamation_WR.p

s. 3.6 Closure and Reclamation	There may be aspects of the Jay-Cardinal Project that differ markedly from the rest of the Ekati mining operations--for example, reflooding a lakebed that has been exposed for 10-20 years. These novel aspects may require special closure planning and entail new uncertainties that do not lend themselves easily to the existing ICRP. The DAR should identify any such special aspects of the Jay-Cardinal Project, describe the closure planning and any uncertainties that may be associated with these special aspects.	Add a new bullet 4 that reads as follows: " Identify and describe any unique, novel or experimental aspects of the development that are distinct from the rest of the Ekati project components or conventional industry experience with respect to reclamation, and discuss any uncertainties posed and how these will be resolved in the closure planning process. "
s.4 Conclusion	The paragraph provided is significantly limited in describing the scope of the information to be provided in the DAR--it focuses only on impact prediction and the Board's ability to evaluate the predictions. In addition to impact prediction, the Board also has to evaluate the proponent's mitigation measures and management plans in order to determine that these will be effective, as well as economically and technically achievable, in mitigating the predicted impacts to an acceptable level. If this is the correct expectation, then it is worth capturing it in the concluding section.	Replace the provided sentence with..."The Review Board expects that the requirements described in this document will result in a Developer's Assessment Report that clearly describes DDEC's predictions of impacts from the Jay-Cardinal Project, and the likely effectiveness of proposed mitigation and management plans that are demonstrably viable both economically and technically , while providing sufficient detailed information and analysis for the Review Board and parties to analyze and evaluate the environmental acceptability of the proposed development.
Appendix A - Scope of Development	Underground mining is an element of the project, but is not explicitly identified in the scope of the development.	To the construction section of the table in Appendix A add a new line item: construction of underground mining and associated infrastructure.