

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).

<p><u>TOPIC</u></p> <p><i>Be as specific as you think is appropriate; for example a section or page of the document, a recommendation #, general comment, etc.</i></p>	<p><u>COMMENT</u></p> <p><i>Comments should contain all the information needed for the proponent and the Board to understand the rationale for the accompanying recommendation.</i></p>	<p><u>RECOMMENDATION</u></p> <p><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></p>
<p>Pigeon Waste Rock Disposal Options--Covering Letter (page 2) and DDEC attachment (s. 2 Pigeon Waste Rock Storage Area, page 10)</p>	<p>The proposed disposal of substantial volumes of PAG on surface represents a heightened degree of long term environmental risk of deleterious mine drainage compared to previous wasterock piles. The covering letter mentions that Panda backfilling using Pigeon waste rock is not possible due to safety concerns and "potential operational delays". DDEC also states that "remining and haulage of granite for [should read "from"] the Panda/Koala WRSA would be cost prohibitive". The DDEC attachment does not indicate where the proposed 1 m final clean granite cover would come from but the EBA report (s. 3.4, pg. 4) states this would "probably" come from the Panda/Koala WRSA. There is currently insufficient information to meaningfully assess and compare the various alternatives for Pigeon waste rock disposal.</p>	<p>The WLWB should direct DDEC to prepare a proper comparative assessment of the alternatives for Pigeon waste rock disposal including the following options: 1) Panda Pit backfilling; 2) Traditional Waste Rock Pile design with 5 m clean granite cover; 3) Proposed 3 m till cover with 1 m clean granite; 4) 5 m till cover (see rationale below in comment #3); and any other option the company sees fit. The comparison of options should include costs, scheduling implications, performance in terms of thermal modelling, potential for Acid Rock Drainage, ecological risks (including impacts on the LLCF), evaluation criteria and rationale for the selection of the preferred alternative.</p>
<p>Confirmatory Sampling and Analysis of Mixed Granite and Metasediment--DDEC attachment (s. 1.1, pg. 4)</p>	<p>The company states "further confirmation would be advisable before assuming this classification for long-term performance" but there is no details as to what will be done.</p>	<p>DDEC should provide some details on how it will carry out confirmatory sampling and analysis of mixed granite and metasediment, when it would be carried out, how it would be reported and how it would influence or impact the design and operation of the proposed Pigeon Waste Rock Storage Area.</p>
<p>Source of Clean Granite--DDEC attachment (s. 2, pg. 11)</p>	<p>DDEC proposes a final 1m cap of clean granite for the Pigeon Waste Rock Storage Area but does not state the source of this material.</p>	<p>DDEC should clearly state the source of the clean granite for the final cover on the proposed Pigeon Waste Rock Storage Area.</p>

<p>Balance of the Till--DDEC attachment (s. 2, page 11)</p>	<p>DDEC proposes to use only about a half of the available till (1.44 million cubic metres out of total of 2.8 million cubic metres, see EBA report, pg. 2-3). The surplus till is to be moved and trucked to the Panda/Koala WRSA. It is not clear why DDEC could not or should not use more or all of the till as cover to cover the Pigeon waste rock. It would probably be less expensive to place it on top of the Pigeon waste rock than to move it all over to the Panda/Koala WRSA. The additional till could provide additional long-term thermal protection and reduce infiltration and possibly reduce the risk associated with Acid Rock Drainage.</p>	<p>DDEC should provide an explanation as to why the excess till from Pigeon is to be moved to the Panda/Koala WRSA and not used for additional cover for the Pigeon waste rock. The explanation should include consideration of costs, long-term thermal protection, effects on infiltration and ARD risk.</p>
<p>Seepage Monitoring, Waste Rock Storage Area Performance and Contingencies--DDEC attachment (s. 3, pg. 12)</p>	<p>DDEC has provided no details on how it intends to monitor the proposed Pigeon Waste Rock Storage Area in terms of its performance, seepage and any adaptive management strategies or contingencies.</p>	<p>DDEC should provide details on how it intends to monitor the performance of the proposed Pigeon waste rock pile, the specific adaptive management program that would be implemented, and what contingencies are planned for.</p>
<p>Climate Change Projections--EBA report (s. 4.5, pg. 6)</p>	<p>EBA uses an Environment Canada 2009 report as the basis for projecting climate change. As climate change is a quickly evolving field, the Agency is not clear whether there may be more recent modelling or whether engineering best practices have been adopted including the use of worst case scenarios.</p>	<p>DDEC should explain the limitations of the use of the 2009 Environment Canada report for climate projections and whether more recent information or modelling may be available. If a worst case scenario for climate change was not used, DDEC should rerun the thermal modelling to provide this information.</p>
<p>Effects of Infiltration on Unfrozen Zones--EBA report (s. 6.4.2, pg. 10)</p>	<p>DDEC and its consultants have indicated that modelling predicts unfrozen zones that may persist for at least 12 years (Figure 9 seems to indicate 16 years). There is no discussion of the potential for infiltration, acid generation and metal leaching. There is also no discussion of the potential for metal leaching under neutral conditions.</p>	<p>DDEC should clarify the period that unfrozen zones will persist in the proposed Pigeon Waste Rock Storage Area. DDEC should discuss the potential for infiltration into these unfrozen zones, acid generation and metal leaching. DDEC should also discuss whether there should be efforts to limit infiltration including additional till cover and compaction. DDEC should discuss the long-term potential for metal leaching under neutral conditions.</p>