

Type B WL - AANDC- Giant Mine, NT

#	Reviewer	Topic	Reviewer Comment	Reviewer Recommendation	Company Response	Board Staff Recommendation	Board Decision
1	DFO	Not Applicable	As noted in the comment summary table attached to the "Community Engagement Log" of the LUP application (pdf pg 31-33), DFO has reviewed a draft application and provided comments to the Giant Mine Remediation Team on October 24th, 2012. It is DFO's position that our comments have been adequately addressed.	Not Applicable	Not Applicable	Not Applicable	Not Applicable
2	EC	General	All mitigation measures identified by the Proponent should be strictly adhered to. This will require awareness on the part of the Proponent's representatives (including contractors) conducting operations in the field.	EC recommends that all field operations staff be made aware of the Proponent's commitments to the mitigation measures and provided with appropriate advice / training on how to implement the measures.	Please see Attachment A under Comment 2 - Environment Canada.		
3	EC	Giant Mine Roaster Complex Deconstructions – Waste Management Plan, Page 21	On Page 21 of the Waste Management Plan for the Giant Mine Roaster Complex Deconstructions it is stated that “All waste water generated during deconstruction of the roaster complex will be captured and contained in a system to be designed by the contractor” and “the contractor will determine the appropriate means of transporting the ...water to the Northwest Tailings Pond.” EC would like the opportunity to review and comment on the design of this system prior to it being implemented.	EC recommends that the design of the system for waste water collection and transportation of such waste water be submitted to the Board for approval prior to work commencing.	The Project Team agrees with Environment Canada's suggestion and has proposed the following item for inclusion in the Deconstruction Plan under Schedule 2, Item 1(i): <i>i) Design of the recycled water collection and transport system, and related spill prevention measures.</i>		

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4	YKDFN	Roaster	<p>We would have preferred that there were additional clarity in terms of the criteria that will be met during tear down, but given the nature of the situation, we trust that the Board will employ standards protective of the very high use of the receiving environment.</p> <p>FOR FURTHER INFORMATION PLEASE SEE COMPLETE LETTER FROM YKDFN DATED FEBRUARY 15, 2013.</p>	Not Applicable	Please see Attachment A, Comment 4 - YKDFN for the full response.		
5	YKDFN	Objectives and Criteria	<p>YKDFN are concerned that the Objectives and Criteria presented as part of this plan* are lacking. While YKDFN have accepted that the proposed reclamation plan is the best approach at this time, we still want to have a clear understanding if the work being done has met expectations.</p> <p><i>*Site Stabilization Plan</i></p> <p>FOR FURTHER INFORMATION PLEASE SEE COMPLETE LETTER FROM YKDFN DATED FEBRUARY 15, 2013.</p>		Please see Attachment A, Comment 5 - YKDFN for a full response.		
6	Alternatives North	MVLWB Draft WL Conditions	<p>The draft conditions are not complete. We request that the MVLWB make a complete draft of the license available comment given the public interest in this undertaking, the confused and inconsistent engagement by the applicant and the potential for significant adverse environmental and human health effects. Further rationale is provided in the covering letter.</p>	The MVLWB make a full draft license with schedules available for comment.	<p>We appreciate that a draft license was circulated to encourage focused discussion. We note that a number of Parties, including Alternatives North, provided comments on the draft, and we have incorporated many of their suggestions into our proposed revisions to the draft license. Our proposed revisions to the license are embedded within the draft water licence conditions included in our response package.</p>	<p>Board staff prepared the water license (WL) draft in such a way as to generate discussion and as an initial attempt at the conditions that should be contained within it. Reviewers were welcome to suggest changes and additions on this draft that was sent out with the WL application.</p> <p>If another draft will be circulated for review is dependant on what the Board decision is regarding s.119 and this application in general.</p>	

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7	Alternatives North	MVLWB Draft WL Condition B7	The Licensee is required to keep a copy of the license at the site at all times. All approved plans pursuant to the license should also be kept at the site to ensure that operators, contractors and staff have access to and carry out all approved plans.	Amend B7 by inserting "and all approved plans under this License" after the work "License".	<p>The Project Team agrees with Alternative North's suggestion and has proposed the following wording change to Condition B7:</p> <p><i>"The Licensee shall ensure a copy of this License and all approved plans under this License are maintained at site operation at all times."</i></p>		
8	Alternatives North	MVLWB Draft WL Condition F1c	A report on unauthorized waste discharge is helpful but does not necessarily deal with prevention and any requirements for clean-up.	Amend F1c to include a requirement that the report indicate whether any clean-up is necessary, how it will be carried out and preventative measures to avoid any further unauthorized discharges.	<p>The Project Team agrees with Alternative North's suggestion and has proposed the following wording change to Condition F1c:</p> <p><i>c. Submit to an Inspector a detailed report on each occurrence not later than 30 days after initially reporting the event that includes a summary of clean-up actions and preventative measures to avoid any further unauthorized discharges as applicable.</i></p>		
9	Alternatives North	MVLWB Draft WL Condition H1	This clause requires the submission a detailed deconstruction plan within 60 days of beginning the work. In other words, only AFTER the work has begun. Given the potential for significant adverse environmental and human health effects, the lack of details on the how the undertaking will be carried out, mitigation measures and management plans, we believe it is essential that this plan be approved at least 30 days BEFORE any work begins, and that the plan be subject to WVLWB approval with an opportunity for public comment. Further rationale provided in the covering letter.	Amend H1 to state that there is a requirement for an approved detailed deconstruction plan at least 30 days before any work can begin on the roaster complex.	<p>We agree that the plan should be submitted for approval prior to starting deconstruction work.</p> <p>The condition needs to be written such that mobilization to site, site preparation and other activities required as preparation for the physical act of deconstruction are permitted prior to plan approval. This distinction is important because, to finalize the information requested in Schedule 2, the contractor needs to be installed at the site.</p> <p>Suggested wording for condition H1: <i>"The Licensee shall, 60 days prior to starting deconstruction of the Roaster Complex, submit to the Board for approval a detailed deconstruction plan. This plan shall contain the items as listed under Schedule 2, item 1."</i></p>		

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10	Alternatives North	MVLWB Draft WL Condition H2	Same comment as above on the timing of approval for the detailed Stabilization Plan, given the potential for arsenic trioxide emissions from openings to the underground and during the work.	Amend H2 to state that there is a requirement for an approved detailed stabilization plan at least 30 days before any work can begin on the stabilization.	<p>We agree that the plan should be submitted for approval prior to starting stabilization work.</p> <p>The condition needs to be written such that mobilization to site, site preparation and other activities required as preparation for the physical act of backfilling and bulkhead reinforcement/repair are permitted prior to plan approval. This distinction is important because to finalize the information requested in Schedule 2, the contractor needs to be installed at the site.</p> <p>Suggested wording change for condition H2: <i>"The Licensee shall, 60 days prior to starting backfilling of stopes or chambers, construction of new bulkheads or repair of existing bulkheads, beginning work in the Underground Work Stabilization Area, submit to the Board for approval a detailed stabilization plan. This plan shall contain the items as listed under Schedule 2, item 2."</i></p>		
11	Alternatives North	MVLWB Draft WL Condition H	The Roaster Complex Detailed Project Description (page 16) mentions that wetting agents may be used to control dust. MSDS sheets for such agents should be submitted and the agents only used after MVLWB approval, similar to other water license requirements for approval of drilling muds.	Add condition H6 that requires approval by the MVLWB of any wetting agents prior to use in the deconstruction of the roaster complex.	<p>The Project Team agrees with Alternatives North's recommendation and have incorporated a new condition into the WL (Condition H3):</p> <p><i>3. The Licensee shall, 30 days prior to the use of any wetting agents during decontamination, submit to the Board for approval the Material Safety Data Sheet(s) for the wetting agents.</i></p>		

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12	Alternatives North	MVLWB Draft WL Condition Schedule 1, 1d	While a list of unauthorized discharges is helpful, it would be important to know if any remedial actions were taken and what if any preventative measures have been implemented. This will ensure that there is a better opportunity for adaptive management.	Amend Schedule F1d to include reporting on remedial measure with respect to any unauthorized discharges including clean-up and prevention.	The Project Team agrees with Alternatives North's recommendation and recommends the following wording for Schedule 1, 1d: <i>d. A list of unauthorized discharges, including any clean-up actions taken and preventative measures implemented to prevent future discharges;</i>		
13	Alternatives North	MVLWB Draft WL Condition Schedule 1, 1f	Given the confused and inconsistent communications from the applicant with regard to this application and the entire Giant Mine Remediation Project as detailed in the covering letter and attachments, we believe that it is appropriate that there be a license requirement for an approved Public Engagement Plan, similar to the requirement in the NTPC Taltson water license MV2011L4-0002 (condition B7). At the Giant Mine EMS Working Group AN has made suggestions about public live reporting of the roaster deconstruction air quality monitoring program similar to GNWT ambient air quality monitoring stations, and for live internet webcams at the site during the summer months when deconstruction activities are to be carried out.	Include a license condition that requires the Licensee to submit Public Engagement Plan for MVLWB approval at least 60 days prior to commencement of any work commencing.	Please see Attachment A, Comment 13 - Alternatives North for the full response.		
			(comment 13 continued) Although the applicant has undertaken to consider these ideas, we prefer that there be a Public Engagement Plan submitted to the MVLWB for approval with an opportunity for public comment.				

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14	Alternatives North	MVLWB Draft WL Condition Schedule 2, 1a	We strongly support the inclusion of this condition that covers workers at the site. Given the close proximity of the site to the Ingraham Trail with its vehicular, pedestrian and bicycle traffic and the nearby recreational use of Back Bay by boaters, we suggest that this condition be expanded by adding the general public.	Amend 1 a by adding the words "and general public" after the word "workers" in the current draft condition.	<p>We request that the referenced condition be removed from the WL for the following reasons:</p> <ul style="list-style-type: none">• A number of regulators are charged with regulating the same aspects at site for different purposes (for example, hazardous substances). While deconstruction methods are within the jurisdiction of the Board to the extent appropriate to deal with waters and related waste issues, we respectfully suggest that regulating the deconstruction for the purpose of protecting worker safety and others in proximity to the worksite be attended to by the WSSC under the Mine Health and Safety Act.• The Emergency and Spill Response Plan outlines the training, equipment needs and procedures for responding to a variety of incidents, including arsenic trioxide releases, tailings releases and petroleum hydrocarbon releases, among other incidents. Any new information or changes to the existing spill response information requires approval by the Board under Part F and Schedule 2.		

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15	Alternatives North	MVLWB Draft WL Condition Schedule 2, 1f	It is important to know and understand what the packaging and storage procedures will be for both the non-hazardous and hazardous waste. A definition of hazardous and non-hazardous wastes should be included in the deconstruction plan, including specific thresholds and contamination criteria. Presumably arsenic trioxide is considered a hazardous waste but this should be clearly defined in the plan.	Amend 1f to require a definition of hazardous and non-hazardous wastes with contamination criteria, and that both hazardous and non-hazardous waste are included in the requirement for details on size reduction, stacking, packaging type and quantities.	<p>Non-hazardous and hazardous wastes are defined in the waste management plan (see Section 2.1, items 3 and 4 in the Roaster Complex Deconstruction Waste Management Plan). Under the hazardous waste definition (item 4), arsenic trioxide is clearly listed as a type of hazardous waste in the first 7 items in the bulleted list.</p> <p>The Project Team supports the inclusion of the condition put forward by the MVLWB in the draft WL that requires the submission of details on size reduction, stacking, packaging, and storage procedures for non-hazardous waste. We also support the inclusion of arsenic-containing hazardous waste into the condition.</p>		
16	Alternatives North	MVLWB Draft WL Condition Schedule 2, 2e	There are no requirements in this condition for reporting of leachability testing of any paste using tailings, especially for arsenic and its impact on water treatment capability and capacity. Similarly, there is some potential for arsenic trioxide emissions from surface openings during backfilling operations and there should be details provided on how this will be mitigated and monitored. the final design of the paste backfill and performance criteria should be submitted to the MVLWB for approval prior to the work taking place.	Amend 2 e to require submission of leachability investigations and testing for any proposed paste backfill using tailings, submission of final design of the backfill mix and its performance criteria, and details on mitigative measures and monitoring for any arsenic trioxide emissions during backfilling operations.	Please see Attachment A, Comment 16 - Alternatives North for the full response.		

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17	Alternatives North	AECOM Dec. 17, 2012 Letter	This letter states that "demolition specifications" have been completed. Given the lack of detail provided in the application supporting materials on the exact methods to be employed, it would be helpful to see the specifications at this point.	The applicant should be directed to submit the detailed demolition specifications to the MVLWB now as part of this application process.	<p>The two phase procurement process entered into for the procurement of the Roaster Contractor does not permit the release of the tender specification documents until after the award of the contract. Tender specification documents will be available following contract award.</p> <p>Project details provided in support of the Water License application incorporate requirements set out in the tender specification documents. The application materials already filed provide a significant basis to safely assess the project for purposes of licensing. The detailed plans required in the water license will also be subject to Board approval.</p>		
18	Alternatives North	Water License Application section 9	The description of other persons or properties affected by the undertaking does not indicate that the work take place just metres away from the Ingraham Trail used by vehicles, pedestrians and cyclists, or the townsite area where the NWT Mining Heritage Society has an interest, the boat launch and the Cruising Club has a marina. We expect that there will be disruptions to all of these activities given the need for project-related traffic and possible dust control management responses.	AANDC should amend the application to clearly indicate the other adjacent users of the Ingraham Trail and the townsite areas as potentially affected parties by this undertaking.	Please see Attachment A under Comment 18 - Alternatives North.		

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19	Alternatives North	Water License Application section 12	This section of the license application does not contain all the items referenced or submitted as part of the application. For example, the AECOM and Golder letters of Dec. 17, 2012.	The applicant should update the license application to ensure it contains current information on the studies undertaken and any further information available on the contracting.	The list provided in Section 12 of the application form is complete and is supplemented by the application materials which included the Dec. 17 letters.		
20	Alternatives North	Roaster Complex Deconstruction Detailed Project Description pages 16-17	There is no information provided on the specifications for the temporary storage units to be used for toxic or hazardous materials, including arsenic. We are concerned as to whether the containers will be air tight and the anticipated length of time for the temporary storage.	AANDC should amend the project description to indicate whether the containers for temporary storage will be air tight and how long they will be stored temporarily.	Please see Attachment A, Comment 20 - Alternatives North for the full response.		
21	Alternatives North	Roaster Complex Deconstruction Detailed Project Description s. 2.3.6 page 18	section 2.3.6 states that sewage from the work site will be disposed of at a "licensed facility such as the City of Yellowknife". Please provide details of any discussions and agreement with the City of Yellowknife to accept such waste. This waste may contain arsenic and require treatment.	Please provide evidence that the City of Yellowknife has agreed to take such waste and what level of arsenic is expected in the waste water.	Please see Attachment A, Comment 21 - Alternatives North for the full response.		

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22	Alternatives North	Roaster Complex Deconstruction Detailed Project Description s. 3 Table 1	The mitigation measures and monitoring set out in this table are general and vague as many details are apparently being left to a contractor.	If AANDC cannot specify with any clarity what the exact mitigation measure and monitoring will be, contract specifications should be submitted and/or the contractor should be filing the application as has been done for other remediation projects such as Tundra and Colomac. If AANDC is not prepared to accept this option, then the detailed plans for mitigation and monitoring should be approved by the MVLWB a minimum of 30 days in advance of any work at the site.	Please see Attachment A, Comment 22- Alternatives North for the full response.		
23	Alternatives North	Giant Mine Roaster Complex Deconstruction Waste Management Plan s. 1.3	Federal and Territorial policies and legislation are listed but not municipal.	This plan should be amended to include applicable City of Yellowknife legislation and policy including the Building By-law, Emergency Measures By-law, Solid Waste Management By-law and others.	<p>The Water License draft clearly states that "Compliance with the terms and conditions of this Licence does not absolve the Licensee from the responsibility for compliance with the requirements of all applicable federal, territorial, and municipal legislation." (Part A, Item 3). The list of applicable legislation and policies provided in Section 1.3 of the Roaster Complex Waste Management Plan is not meant to be an exhaustive list of all legislation related to the project as a whole. The presence or absence of an item in this listing has no effect on the compliance obligations of the project.</p> <p>Likewise, the list is not final. The potential application of other legal requirements will be explored with other regulators before finalization of the project plans. With specific reference to municipal regulation, the Project Team will be applying for the appropriate permits from the City of Yellowknife in March. This will provide a useful opportunity to explore this issue in detail prior to plan finalization.</p>		

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24	Alternatives North	Giant Mine Roaster Complex Deconstruction Waste Management Plan s. 2.1	There are no specific criteria provided for the various waste types and details on how segregation will be accomplished. In plain language, how do we know when something is contaminated with arsenic or not and will it be handled as hazardous material or not, and how. See for example the details provided on water treatment in Table 2 but nothing comparable for solid waste.	AANDC should amend the plan to include specific criteria for each of the waste types and provide details on how segregation will be carried out.	Please see Attachment A, Comment 24-Alternatives North.		
25	Alternatives North	Draft Environmental Management Plan for the Giant Mine Roaster Complex Deconstruction	This Plan reads more like instructions to a contractor than a document that serves the needs of the public or regulators in understanding how environmental effects will be managed. It bears little resemblance to other management plans routinely submitted to and approved by Land and Water Boards. The current document should be combined with part of the project description and perhaps the contracting specifications to provide an appropriate level of details on: <ul style="list-style-type: none">• objectives (organized around closure of various mine components);• potential environmental effects and mitigation measures;• measureable performance or closure criteria (measures of success);	The MVLWB should provide clear direction on expectations for management plans for the roaster complex and request that AANDC resubmit the plan prior to a decision on this application.	Please see Attachment A under Comment 25 - Alternatives North.		

#	Reviewer	Topic	Reviewer Comment	Reviewer Recommendation	Company Response	Board Staff Recommendation	Board Decision
			<p><i>Comment 25 continued</i></p> <ul style="list-style-type: none">• monitoring systems to track performance;• triggers or thresholds for specific actions; and• research and design work and a schedule to fill gaps, where there is uncertainty. <p>Much of the detail is apparently being left to a contractor to design and carry out, but a management plan serves a different purpose in setting standards and direction to satisfy regulators and the public that there is a system in place to mitigate adverse effects and ensure adaptive management.</p>				
			<p><i>Comment 25 continued</i></p> <p>It is not clear what the relationship of this plan is to the Waste Management Plan and proposed Air Quality Monitoring Plan. It is our understanding that the applicant is prepared to revise this plan in light of input on structure, organization and content from the Giant Mine EMS Working Group.</p>				

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26	Alternatives North	Draft Environmental Management Plan for the Giant Mine Roaster Complex Deconstruction	There is very little information in this document about public reporting of monitoring results and performance.	AANDC should incorporate public reporting of monitoring and management results into the plan. Alternatively, the MBLWB should require a Public Engagement Plan as a condition of the water license with strong public reporting requirements given the strong public interest in this work.	<p>Reporting commitments are outlined in the SSP Communications Plan which was circulated for review and comment to the Parties as part of the engagement period (review of second draft of the application package initiated on November 28, 2012) and submitted to the MVLWB as part of the final application package. No feedback from Alternatives North on the SSP Communications Plan has been received either within or outside the Board's process. The SSP Communications Plan commits the Project Team to providing summaries of air and water quality monitoring on a monthly basis to a wide audience (emails and web updates).</p> <p>In addition, the Project Team has recommended that the data report under Schedule 1, Item 1 be submitted to the MLVWB every 6 months rather than 12 months as proposed in the draft license as a means to keeping parties informed regularly.</p>		
27	Alternatives North	Draft Environmental Management Plan for the Giant Mine Roaster Complex Deconstruction, pages 11-15 Monitoring	The few specifics for monitoring, for example, ponding of water on page 11, provide no specific locations or triggers (i.e. a puddle or pond of x metres in size will be pumped within 24 hours). All dead animals found on site should be reported (see monitoring on page 13) and may require necropsy to determine whether contamination contributed to the death. Are there any objective measures for “visible emissions of dust” (see page 15)?	AANDC should amend the plan to include specific performance criteria (including visible dust), reporting and necropsy of all dead animals found at the site.	Please see Attachment A, Comment 27-Alternatives North.		

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28	Alternatives North	Draft Environmental Management Plan for the Giant Mine Roaster Complex Deconstruction, page 26 Record Keeping	Should the contracting authority not inherit all the documentation kept by the contractor and keep this for some minimum period of time, before archiving?	AANDC should amend the plan to clearly indicate what the record keeping requirements may be and that it retains all the records, some of which may be requirements for water license compliance and enforcement.	Please see Attachment A, Comment 28-Alternatives North.		
29	Alternatives North	Underground Stabilization Detailed Project Description, page 10 and 12 Engineering Review/Planning	There is no indication in this document whether there has been any leachability testing done on the use of tailings paste backfill. "Laboratory tests to determine the final paste mix design" is mentioned on page 12, but there is no reference to leachability.	AANDC should provide any results from leachability testing using Giant Mine tailings and indicate how it intends to inform the MVLWB and public about the final design of the paste mix and related performance criteria. The final design and performance criteria should be submitted to the MVLWB for approval in advance of the underground stabilization work being carried out and should be included as a condition of the water license.	Please see Attachment A, Comment 29 -Alternatives North.		

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30	Alternatives North	Underground Stabilization Detailed Project Description, page 12 and 13 Exhaust Air Control and Treatment	There is no detail provided as to what the anticipated effects may be of the exhaust, what levels of arsenic trioxide might be expected and how it will be mitigated and monitored. Given the health effects and public concern, more details are necessary than simply leaving it up to a contractor. Note there are few details provided in Table 1, page 20 other than a specialized contractor is to design an exhaust air system. Details are provided on water treatment but there is nothing comparable on exhaust control or performance criteria.	AANDC should provide specific details on the anticipated effects of exhaust during the backfilling, what the mitigation and monitoring requirement will be. This information should be submitted in a revised plan before the license is approved.	Please see Attachment A, Comment 30 -Alternatives North for the full response.		

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31	Alternatives North	Underground Stabilization Waste Management Plan, s. 1.3 Environmental Policy and Legislative Framework, pg. 5-6	Federal and Territorial policies and legislation are listed but not municipal.	This plan should be amended to include applicable City of Yellowknife legislation and policy including the Building By-law, Emergency Measures By-law, Solid Waste Management By-law and others.	<p>The Water License draft clearly states that "Compliance with the terms and conditions of this Licence does not absolve the Licensee from the responsibility for compliance with the requirements of all applicable federal, territorial, and municipal legislation." (Part A, Item 3). The list of applicable legislation and policies provided in Section 1.3 of the Roaster Complex Waste Management Plan is not meant to be an exhaustive list of all legislation related to the project as a whole. The presence or absence of an item in this listing has no effect on the compliance obligations of the project.</p> <p>Likewise, the list is not final. The potential application of other legal requirements will be explored with other regulators before finalization of the project plans. With specific reference to municipal regulation, the Project Team will be applying for the appropriate permits from the City of Yellowknife in March. This will provide a useful opportunity to explore this issue in detail prior to plan finalization.</p>		

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32	Alternatives North	Underground Stabilization Waste Management Plan, s. 2.1 Waste Types, pg. 7-9	There are no specific criteria provided for the various waste types and details on how segregation will be accomplished. In plain language, how do we know when something is contaminated with arsenic or not and will it be handled as hazardous material or not, and how. See for example the details provided on water treatment in Table 2 but nothing comparable for solid waste.	AANDC should amend the plan to include specific criteria for each of the waste types and provide details on how segregation will be carried out.	<p>This same comment was made on the roaster waste management plan. Sound waste management is a key activity for roaster deconstruction and testing is required to classify waste according to very specific criteria. The waste management program for the underground stabilization work is much more straight-forward because very little waste will be generated and the wastes that are generated are typical for the mine site. Waste types that will be generated include domestic refuse (food); sewage and greywater; and used consumables such as paper, wood and plastics; minor amounts of tailings bleed water; and used oil filters and rags. Spills of hydrocarbons, tailings, and arsenic dust may occur and the resulting contaminated soils will be managed in accordance with the Emergency and Spill Response Plan and the Waste Management Plan.</p> <p>These waste materials can be classified easily using visual means, making it unnecessary to set criteria for the underground stabilization work in any greater detail than that already in the Waste Management Plan.</p>		

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33	Alternatives North	Draft Environmental Management Plan for the Giant Mine Underground Stabilization	<p>This Plan reads more like instructions to a contractor than a document that serves the needs of the public or regulators in understanding how environmental effects will be managed. It bears little resemblance to other management plans routinely submitted to and approved by Land and Water Boards. The current document should be combined with part of the project description and perhaps the contracting specifications to provide an appropriate level of details on:</p> <ul style="list-style-type: none">• objectives (organized around closure of various mine components);• potential environmental effects and mitigation measures;• measureable performance or closure criteria (measures of success);• monitoring systems to track performance;	<p>The MVLWB should provide clear direction on expectations for management plans for the underground stabilization and request that AANDC resubmit the plan prior to a decision on this application.</p>	<p>This comment is the same as that provided under Comment 25. For our response, please refer to Attachment A under Comment 25 - Alternatives North.</p>		

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			<p><i>Comment 33continued</i></p> <ul style="list-style-type: none">• triggers or thresholds for specific actions; and• research and design work and a schedule to fill gaps, where there is uncertainty. <p>Much of the detail is apparently being left to a contractor to design and carry out, but a management plan serves a different purpose in setting standards and direction to satisfy regulators and the public that there is a system in place to mitigate adverse effects and ensure adaptive management. It is not clear what the relationship of this plan is to the Waste Management Plan and proposed Air Quality Monitoring Plan. It is our understanding that the applicant is prepared to revise this plan in light of input on structure, organization and content from the Giant Mine EMS Working Group.</p>				
34	Alternatives North	Draft Environmental Management Plan for the Giant Mine Underground Stabilization	There is very little information in this document about public reporting of monitoring results and performance.	AANDC should incorporate public reporting of monitoring and management results into the plan. Alternatively, the MBLWB should require a Public Engagement Plan as a condition of the water license with strong public reporting requirements given the strong public interest in this work.	This comment is the same as that provided under Comment 26. For our response, please refer to Attachment A under Comment 26 - Alternatives North.		

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35	Alternatives North	Communications Plan for Duration of Site Stabilization Activities	Although this plan was submitted with the application, we see little evidence that it has been implemented. AN has had to ask several times for updates on the contracting process, most recently at the Feb. 6 Giant Mine EMS Working Group meeting (see attachment 1 to the covering letter). The monthly meetings do not include Alternatives North, even though we have been a party to the ongoing Environmental Assessment. Although this is a helpful start on improving communications, we were not consulted in the preparation of this document. We have also made suggestions around public reporting of monitoring results (there should be live ambient air quality monitoring on the internet as carried out by GNWT)and live webcams.	Given the confused and inconsistent communications from the applicant with regard to this application and the entire Giant Mine Remediation Project as detailed in the covering letter and attachments, we believe that it is appropriate that there be a license requirement for an approved Public Engagement Plan, similar to the requirement in the NTPC Taltson water license MV2011L4-0002 (condition B7).	Please refer to Attachment A under Comment 35 - Alternatives North.		
			<i>Comment 35 continued</i> Given the past track record of the applicant on engagement, our clear preference is that a formal Public Engagement Plan be prepared and submitted to the MVLWB for approval with an opportunity for public comment. In this way only, will the commitments for engagement be tracked and made enforceable.				

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36	Alternatives North	Requirements for the Ambient Air Quality Monitoring Roaster Complex Deconstruction	Dust management and related air quality monitoring is critical to successful mitigation and adaptive management for the roaster complex demolition. This is likely the single most important monitoring of any surface work that will take place at Giant Mine. Given the importance of this work and the potential risks involved, we had expected to see a very detailed monitoring plan with clear actions levels and well articulated rationale. This is not to be found in the documentation prepared to date as AANDC appears to be leaving most of the details to the contractor.	AANDC should be directed to submit a proper dust management and monitoring plan, either separately or as part of an overall detailed deconstruction plan and preferably combined with the required exhaust management and monitoring required of the underground stabilization plan to ensure consistency of approaches and results. This document needs to be for approval of the MVLWB with an opportunity for public comment, before any work at site commences.	Please see Attachment A, Comment 36 - Alternatives North for a full response.		

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37	Alternatives North	Requirements for the Ambient Air Quality Monitoring Roaster Complex Deconstruction	It appears that there are very few details for an air quality monitoring program at this point. AANDC states: “specific details will be provided once a contractor is in place, a detailed schedule for work completion has been obtained, and climate conditions under which monitoring will be required are clear. The contractor’s reviewed and accepted Deconstruction Plan will also outline the specific mitigative methods that will be implemented to control dust”. Given the significance to human health and the environment of arsenic control releases, and the significant public concern with this work, there needs to be a full dust management plan and monitoring program now.	AANDC should submit a full dust management plan and monitoring program with clear objectives, a rationale for the selection of the methods including selection of equipment and key indicators and any relevant standards selected for use from other jurisdictions. Thresholds and action levels should be identified with specific management responses. This document should be submitted to the MVLWB for approval as part of this application. If not as part of this application, the requirement for this plan should become a condition of the water license and require approval of the MVLWB (with an opportunity for public review) before any work starts at the site. No consideration appears to have been given to snow sampling as another method to establish baseline conditions, so this method should be evaluated.	Please see Attachment A, Comment 37 - Alternatives North for a full response.		
			<i>Comment 37 continued</i> It should combine the overall site ambient air quality monitoring and environmental effects monitoring required of the roaster complex demolition and underground stabilization work. There should be a clear set of objectives, rationale for the methods including selection of equipment and key indicators (it appears that "live" monitoring of arsenic is not possible). Thresholds and action levels should be identified with specific management responses.				

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#	Reviewer	Topic	Reviewer Comment	Reviewer Recommendation	Company Response	Board Staff Recommendation	Board Decision
38	Alternatives North	Requirements for the Ambient Air Quality Monitoring Roaster Complex Deconstruction	No rationale is provided for the selection of PM10 as a surrogate or key indicator for arsenic in dust generated from the work at the Giant Mine site. No information is provide on past monitoring efforts and any relationship between PM10, PM2.5, TSP and arsenic. No information is provided on whether arsenic speciation of TSP results has been done to consider bioavailability and toxicity. Such work might be helpful in establishing baseline conditions at the site for comparative purposes and to possibly identify the source of windblown arsenic (tailing ponds, roaster demolition or other sources as each may have its own signature).	AANDC should provide a rationale for the selection of PM10 as a surrogate for arsenic, explaining why PM2.5 and TSP are not suitable. Data from the previous on-site air quality monitoring program that explains the relationship between PM10, PM2.5, TSP and arsenic should be provided. AANDC should provide information on whether it is possible to do arsenic speciation to determine the bioavailability and toxicity of the two valences for arsenic compounds and whether this can be considered in the design of the dust management plan and monitoring program, interpretation of the results and implementation of mitigative measures and management responses.	Please see Attachment A, Comment 38 - Alternatives North for a full response.		

#	Reviewer	Topic	Reviewer Comment	Reviewer Recommendation	Company Response	Board Staff Recommendation	Board Decision
39	Alternatives North	Requirements for the Ambient Air Quality Monitoring Roaster Complex Deconstruction	As we understand it, the action levels identified in Table 1 relate to the acute and chronic health effects of PM10 and not arsenic. Without knowing what the relationship may be amongst PM10, PM2.5, TSP and arsenic, workers at the site and the general public may be exposed to levels of arsenic in the dust from the site, that could be hazardous to health. No rationale was provided for the selection of the Ontario standard that was developed in the 1970s. Is it truly protective of human health and the environment? Although this standard appears to have been recently reviewed, what conclusions were reached and on what basis?	AANDC needs to develop a proper dust management plan and monitoring program with action levels related to exposure to arsenic and not simply PM10. A clear rationale for the thresholds, action levels and specific actions needs to be provided before any work takes place at the site.	Please see Attachment A, Comment 39 - Alternatives North for a full response.		
			<i>Comment 39 continued</i> Roaster complex demolition is likely a very rare and special occurrence and should this standard be applied to this work? There appears to be some commitment from AANDC to improve these thresholds and action levels from the February 6 Giant Mine EMS Working Group meeting (see attachment 1 to the covering letter), but there is no clear timeline. It is not in the public interest to leave this critical work to a contractor to develop at some unspecified date, possible after work has begun at the site.				

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#	Reviewer	Topic	Reviewer Comment	Reviewer Recommendation	Company Response	Board Staff Recommendation	Board Decision
40	Alternatives North	Requirements for the Air Quality Monitoring Plan Industrial Hygiene Roaster Complex Deconstruction	Dust management and related air quality monitoring is critical to successful mitigation and adaptive management for the roaster complex demolition. This is likely the single most important monitoring of any surface work that will take place at Giant Mine. Given the importance of this work and the potential risks involved, we had expected to see a very detailed monitoring plan with clear actions levels and well articulated rationale. This is not to be found in the documentation prepared to date as AANDC appears to be leaving most of the details to the contractor.	AANDC should be directed to submit a proper dust management and monitoring plan, either separately or as part of an overall detailed deconstruction plan and preferably combined with the required exhaust management and monitoring required of the underground stabilization plan to ensure consistency of approaches and results. This document needs to be for approval of the MVLWB (and perhaps the Workers Safety and Compensation Commission) with an opportunity for public comment, before any work at site commences.	Please see Attachment A, Comment 40 - Alternatives North for a full response.		
41	Alternatives North	Requirements for the Air Quality Monitoring Plan Industrial Hygiene Roaster Complex Deconstruction	It appears that there are very few details for an industrial hygiene monitoring program at this point. AANDC states: "the selected contractor will be required to develop and execute an air quality monitoring plan for the purposes of ensuring safe industrial hygiene". Given the significance to human health and the environment of arsenic control releases, and the significant public concern with this work, there needs to be a full industrial hygiene plan and monitoring program now. It should combine the overall site ambient air quality monitoring and environmental effects monitoring required of the roaster complex demolition and underground stabilization work.	AANDC should submit a full industrial hygiene management plan and monitoring program with clear objectives, a rationale for the selection of the methods including selection of equipment and key indicators and any relevant standards selected for use from other jurisdictions. Thresholds and action levels should be identified with specific management responses. There should be tiered action levels. Plain language rationale for the selection of any methods, standards, action levels and specific actions should be provided. This document should be submitted to the MVLWB for approval as part of this application.	<p>A number of regulators are charged with regulating the same aspects at site for different purposes (for example, hazardous substances). While deconstruction methods are within the jurisdiction of the Board to the extent appropriate to deal with waters and related waste issues, we respectfully suggest that regulating the industrial hygiene aspects of deconstruction for the purpose of protecting worker safety be attended to by the WSSC under the Mine Health and Safety Act.</p> <p>Additional details regarding the industrial hygiene monitoring program were included in our responses to Alternatives North questions on the first draft of the application package (see page 11 in our Responses to Alternatives North's Questions - First Draft of the SSP WL Application Package provided under Tab 8 in the application). In addition, revised air quality plans were also submitted to the MVLWB with the application package.</p>		

#	Reviewer	Topic	Reviewer Comment	Reviewer Recommendation	Company Response	Board Staff Recommendation	Board Decision
			<i>Comment 41 continued</i> There should be a clear set of objectives, rationale for the methods including selection of equipment and key indicators (it appears that "live" monitoring of arsenic is not possible). Thresholds and action levels should be identified with specific management responses. The only action level identified in this document appears to be a "stop work".	If not as part of this application, the requirement for this plan should become a condition of the water license and require approval of the MVLWB (with an opportunity for public review) before any work starts at the site.			
42	Alternatives North	Ambient Air Quality Monitoring Plan Underground Stabilization	Same concerns as noted above on the roaster complex demolition in terms of vagueness of the current plan and leaving too much to contractors (items 36-39). Same issues regarding the action levels identified and the lack of clear actions at anything below a stop work response. Unclear what will be reported and if any of the results will be made public. Same concerns about the lack of rationale for use of the Ontario arsenic criterion for air quality.	See comments above in items 36-39.	Please refer to the responses provided under Comments 36-39 in Attachment A.		

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#	Reviewer	Topic	Reviewer Comment	Reviewer Recommendation	Company Response	Board Staff Recommendation	Board Decision
43	Alternatives North	Site Stabilization Plan for the Giant Mine Remediation Project	This plan was secretly developed and approved by the Minister of Aboriginal Affairs and Northern Development. AN is concerned that this is the real remediation plan for Giant Mine and that there will be little else that will actually ever get done. There are still very significant redactions made to this document, which is most unusual for a supporting material for a water license application. While we can understand the need not to disclose budgeted costs for work not yet tendered, these redactions should be limited in nature (i.e. \$XX,XXX) rather than whole blocks of text (for example, see page 8). We suspect that other reasons may be behind such large redactions. Given the public interest in this project and public concern, there should be limited redactions to this document.	The MVLWB should direct AANDC to reconsider the redactions made to the document in an effort to provide full public disclosure of risks and considerations for the work proposed.	As per the Board's request on January 7, 2013, AANDC submitted a new version of the Site Stability Plan on January 22, 2013. The only change to the document was the removal of all redactions except for the specific dollar-cost estimates.	RO notes that this document was re-submitted to the Board as per a directive from MVLWB. However, the document itself was not included on the website at the time of the review period. It has since been re-posted.	
44	Alternatives North	Failure Mode Effects Criticality Analysis (FMECA)	The MVLWB should know that there was no involvement from interested parties in the development or application of risk assessment criteria. Parties have requested numerous times during the Environmental Assessment that AANDC and GNWT begin to include the interested parties in the assessment and evaluation of risk at the site.	The MVLWB should include a requirement in the water license for prior approval of a Public Engagement Plan, that should include engagement of interested parties in risk assessment and evaluation and other matters.	Please see Attachment A under Comment 44 - Alternatives North.		

#	Reviewer	Topic	Reviewer Comment	Reviewer Recommendation	Company Response	Board Staff Recommendation	Board Decision
45	Alternatives North	Hazardous Building Materials Assessment Report Roaster Complex Giant Mine Site (Golder 2012), page 12	Page 12 states "Additionally al large portion of the samples collected had leachable concentrations of arsenic above the leachable criteria of 2.5 mg/L provided to Golder by the Client as the Site's arsenic disposal criteria." This is the first time we have seen this criterion for waste and this begs the question of what other criteria has AANDC developed for the waste streams that will come from the roaster complex demolition.	AANDC should provide a full list of its waste criteria and rationale, for the roaster complex demolition.	Please see Attachment A, Comment 45- Alternatives North for a full response.		