

ESTABLISHMENT REPORT

July 2015 | December 2016

GIANT MINE
Oversight Board



GIANT MINE **Oversight Board**



Box 1602

5014 - 50th Avenue

Yellowknife, NT X1A 2P2

Phone 867.675.0788

Fax 867.675.0789

Table of Contents

<u>Glossary</u>	4
<u>Message from the Chair</u>	5
<u>The Giant Mine Oversight Board</u>	
<u>Vision</u>	6
<u>Mission</u>	6
<u>Mandate</u>	7
<u>Activity Report 2015-2016</u>	
<u>Establishment of the Giant Mine Oversight Board, Staff, and Office</u>	8
<u>GMOB Budget 2016-2017</u>	9
<u>GMOB Flexibility in Funding Arrangements</u>	9
<u>GMOB Financial Statement</u>	9
<u>GMOB Work Plan 2016-2017</u>	10
<u>GMOB Schedule of Mandated Meetings Completed and Anticipated, 2016-2017</u>	10
<u>GMOB 2016 Research Program</u>	11
<u>GMOB Establishment Report</u>	11
<u>What We Heard</u>	12
<u>GMOB Observations and Recommendations</u>	14
<u>Priority Activities for 2017</u>	27
 APPENDICES	
APPENDIX A	
<u>The Giant Mine Site: Background</u>	29
APPENDIX B	
<u>Review of the 2015-16 Annual Report Giant Mine Remediation Project</u>	30
<u>Summary Table of Review Comments and Responses for the 2015-16 Annual Report of the Giant Mine Remediation Project</u>	30
APPENDIX C	
<u>Giant Mine Oversight Board Workshop Report</u>	37

Glossary

Agreement	Giant Mine Remediation Project Environmental Agreement
Co-Proponents	Federal Government, represented by Indigenous and Northern Affairs Canada (INAC), and the Government of the Northwest Territories (GNWT)
ETP	Effluent Treatment Plant
FCSAP	Federal Contaminated Sites Action Plan
GMOB	Giant Mine Oversight Board
GNWT	Government of the Northwest Territories
HHERA	Human Health and Ecological Risk Assessment
HHRA	Human Health Risk Assessment
INAC	Indigenous and Northern Affairs Canada (Government of Canada)
MVEIRB	Mackenzie Valley Environmental Impact Review Board
MVLWB	Mackenzie Valley Land and Water Board

NSMA	North Slave Métis Alliance
NWT	Northwest Territories
Parties	Yellowknives Dene First Nation, North Slave Métis Alliance, Alternatives North, City of Yellowknife, Government of the Northwest Territories, Indigenous and Northern Affairs Canada
Project	Giant Mine Remediation Project
Project Team	Indigenous and Northern Affairs Canada, Government of the Northwest Territories, Public Works and Government Services Canada, and other federal government departments
SDE	Surface Design Engagement
SSP	Site Stabilization Plan
SSWQO	Site Specific Water Quality Objectives
YKDFN	Yellowknives Dene First Nation

Message from the Chair

It gives me great pleasure to present the first report of the Giant Mine Oversight Board (GMOB or the Board). In this report, we summarize our activities to date, offer observations on the status of the Giant Mine Remediation Project (Project), and provide a series of recommendations for the proponents and other Parties.

The GMOB was established as a condition of the Giant Mine Remediation Project Environmental Agreement (Agreement) signed in June 2015 by the federal and territorial governments, the Yellowknives Dene First Nation (YKDFN), North Slave Métis Alliance (NSMA), Alternatives North, and the City of Yellowknife. The publication of an annual report is a requirement for the GMOB under the Agreement; since this is the first such report from our board, we have called this an Establishment Report. It covers the time since the signing of the Agreement until December 2016. Below, I wanted to provide a few highlights from the Board's first year of operation.

In October 2015, Todd Slack was appointed as Interim Chair and I want to thank him for getting the ball rolling on the set-up of the GMOB. Since that time, we have hired two full time staff and set up an office in downtown Yellowknife. We have also worked to formalize our internal practices through the development of administrative and governance policies and procedures. We launched our website in December 2016 and are currently finalizing a Communications Plan. We are pleased that our office is becoming a place where members of the public can come and learn about many aspects of the Project.

An extremely important part of our mandate is the development of a research program towards a permanent solution for the arsenic trioxide currently stored underground at the Giant Mine site. As discussed later in this report, our first task in this regard was to contract a comprehensive update to the state of knowledge review of arsenic trioxide remediation methods that was originally performed

in 2001. The updated review will inform the development of the GMOB research strategy during 2017.

Over the past year, Board members and staff worked together, with input from our appointing Parties, to develop a clear work plan of the priority activities we need to carry out to fulfill our mandate. Board members and staff attended over 33 meetings focusing on various aspects of the Project and hosted several meetings with the proponents and other Parties. We are working hard to build good relationships with all Parties while maintaining our independence.

Within this report, we have tried to reflect both what we heard in the meetings we attended, and to provide some thoughts and recommendations for the Project. Our recommendations are based on our assessment of information from meetings, plans, reports, and, importantly, on our own diverse areas of expertise and experience. We hope that our analysis will be helpful to all Parties.

Overall, the GMOB is satisfied with the progress we made this past year. We believe that our work to date provides a solid foundation to implement our mandate in ways that honour the terms and conditions of the Agreement, and respect the interests of the Parties to the Agreement as well as those of local residents. We encourage everyone who reads this report to share your thoughts with us as to how we might improve it for next year.

In closing, I would like to acknowledge all of the hard work and commitment that clearly went into creating the Agreement and the GMOB. The Board members are honoured to have been appointed and are fully committed to realizing the mandate set out for us. Finally, I want to recognize and thank my fellow board members and our staff for their continued enthusiasm, dedication, and wisdom.

Dr. Kathy Racher
Chair, Giant Mine Oversight Board

The Giant Mine Oversight Board

The *Report of Environmental Assessment and Reasons for Decision: Giant Mine Remediation Project*, EA 0809-001 (June 20, 2013) is the basis for the *Giant Mine Remediation Project Environmental Agreement*, signed on June 9, 2015 by the:

- Government of Canada (Indigenous and Northern Affairs Canada - INAC)
- Government of the Northwest Territories (GNWT)
- Yellowknives Dene First Nation
- North Slave Métis Alliance
- Alternatives North
- City of Yellowknife

The *Agreement* sets out the specific requirements for the GMOB.

The GMOB is an autonomous body that functions under the direction of a six-member Board of Directors appointed individually by each of the Parties to the *Agreement*. The GMOB is incorporated as a non-profit society under the *Societies Act of the Northwest Territories*.

VISION

The GMOB vision is that the remediation of the Giant Mine site, including the subsurface, is carried out in a manner that is environmentally sound, socially responsible, and culturally appropriate.

MISSION

The GMOB mission is to independently monitor, promote, advise and broadly advocate for the responsible management of the remediation of the Giant Mine site, and manage a research program to seek a permanent solution to the arsenic trioxide stored underground at the site.

MANDATE

The GMOB five-part mandate is derived from our mission.

1. Monitor and report on the:

- Environmental aspects of the Project
- Nature and quality of the federal and territorial governments' engagement with the public regarding remediation activities and the effectiveness of their public communications
- Implementation of the Agreement

2. Review, report, and/or make recommendations on the:

- Environmental programs, plans and engineering studies
- Integration of traditional knowledge
- Research towards a permanent solution to arsenic trioxide stored onsite
- Federal and territorial governments' annual reports
- Status of the Environment Report and the 20-year independent Giant Mine Remediation Project review.¹

3. Undertake communications activities to:

- Promote public awareness of the Agreement and the role of the GMOB
- Provide information to the signatories of the Agreement relevant to their responsibilities, and to the general public
- Establish a publicly-accessible records repository of relevant information

4. Report through:

- An annual report and an annual public meeting in each of the first five years of operations
- Publicly available reports issued about the GMOB activities, observations, evaluations, and/or advice.

5. Research and administer funding for designated research to find a permanent solution to the arsenic trioxide stored underground at the site, by:

- Identifying priorities
- Conducting studies
- Making results available to the public

¹These reports are named and required under the Agreement. The first Status of the Environment Report will provide a comprehensive review of the Project and is required in 2022.

Activity Report 2015-2016

This section summarizes key milestones and budget information from the date of incorporation as a Society to the end of 2016.

ESTABLISHMENT OF THE GIANT MINE OVERSIGHT BOARD, STAFF, AND OFFICE

July 2015

- One month after the signing of the Agreement, an Interim Implementation Committee was established made up of representatives of the six Parties to the Agreement.
- A Secretariat to the Interim Implementation Committee within the Department of Environment and Natural Resources, Environment Division, GNWT was established.
- The GMOB was incorporated under the Societies Act of the Northwest Territories.

October 2015

- The six signatories to the Agreement appointed their GMOB Directors.
- The GMOB Directors and the Secretariat participated in an orientation session in Yellowknife, NWT.

January to March 2016

- Office space in Yellowknife NWT was leased for three years.
- An Executive Director was hired.
- The GMOB Administrative Policies and Procedures Manual was adopted.
- The GMOB Governance Policies and Procedures Manual was drafted.

July to September 2016

- A request for proposals for a State of Knowledge Review and Assessment on Arsenic Trioxide Remediation Methods Report was released, generating three inquiries and one active respondent.
- An Office Administrator was hired.
- The GMOB held an internal workshop to report on and discuss the expectations and priorities of the Parties to the Agreement. Interviews were conducted with each Party prior to the workshop to better focus the session and achieve effective outcomes.

October to December 2016

- The website for the GMOB was launched. www.gmob.ca
- Public displays including maps, site models and relevant information were installed at the GMOB office.
- A GMOB Communications Plan was drafted and is expected to be completed in early 2017.

GMOB BUDGET 2016-2017

The GMOB is funded by the federal and territorial governments (Co-Proponents) according to the conditions set out in Article 11 of the Agreement. Here are the highlights of the budget.

- The GMOB budget for 2016-2017 is \$841,500.00. This includes a 2% consumer price index adjustment.
- The GMOB budget is allocated to two categories - general operations and the research program.
- As set out in the Agreement, \$663,000 (79%) of the budget is allocated for general operations.
- The research program budget makes up \$178,500.00 (21%) of the budget. This portion of the budget is for research into finding a permanent solution to the arsenic trioxide currently stored underground at the Giant Mine site.

GMOB FLEXIBILITY IN FUNDING ARRANGEMENTS

- Clause 11.7 of the Agreement contains provisions requiring the federal and territorial governments to permit the GMOB to carry unspent funds over from one fiscal year to another. At this time, the governments have not fulfilled this part of the Agreement although they have stated their intent to do so before the end of the next fiscal year. The GMOB remains concerned about the lack of progress on this issue and notes that a failure to implement clause 11.7 could affect the GMOB's ability to fulfill its mandate.

GMOB FINANCIAL STATEMENT

Crowe MacKay LLP prepared the 2015-2016 Audited Financial Statements, formally accepted at the GMOB Annual General Meeting, held November 9, 2016. In its report, the Auditor stated, "In our opinion, the financial statements present fairly, in all material respects, the financial position of Giant Mine Oversight Body Society as at March 31, 2016, and the results of its operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations." The audited financial statements can be viewed at www.gmob.ca

GMOB WORK PLAN 2016-2017

The initial GMOB work plan for 2016-17 was developed in March 2016. Accomplishments to date include:

- The review of significant documents such as the Project team work plans for 2015-2016 and the format of the 2014-15 Draft Annual Report of the Giant Mine Remediation Project and the 2015-2016 Annual Report of the Giant Mine Remediation Project (see Appendix B).
- The design, development, and public launch of the GMOB website.
- A contract for a “State of Knowledge Review and Assessment on Arsenic Trioxide Remediation Methods Report” was initiated.
- An internal GMOB workshop to improve understanding of responsibilities and parameters, and identify priorities was held (see Appendix C).
- Meetings mandated under the Agreement and the Societies Act (see table below) took place. Since the GMOB establishment, its directors and staff have attended 33 formal meetings and a number of informal meetings. Meetings have involved the Parties to the Agreement and various community and technical agencies. The attending directors and/or staff consistently evaluated each meeting and shared those findings with other board members.

GMOB Schedule of Mandated Meetings Completed and Anticipated, 2016-2017

DATE	PARTICIPANTS	MANDATED REQUIREMENTS	FREQUENCY
May, 2016	GMOB and Parties	Agreement, Article 9.1	Biannual
November, 2016	Annual General Meeting	Societies Act of NWT	Annual
November, 2016	Co-Proponents	Agreement, Article 3.4 d	Annual
November, 2016	GMOB and Parties	Agreement, Article 9.1	Biannual
May, 2017	GMOB and Public	Agreement, Article 5.5	Annual

GMOB 2016 RESEARCH PROGRAM

The GMOB's research program is focused on finding a permanent solution for the arsenic trioxide currently stored underground at the Giant Mine site. The GMOB intends to develop a strategy that will describe how its research budget will be spent over the next few years. To ensure that the strategy supports research on the most promising technologies, the GMOB commissioned a comprehensive update of a state of knowledge report originally prepared by INAC in 2001. The report will examine methods in place or in development for the long-term management of arsenic trioxide. A request for proposals was released in August 2016 through the MERX electronic contracting system. Three inquiries and one proposal were received. The contract for the State of Knowledge Review and Assessment: Arsenic Trioxide Remediation Methods Report was awarded to Arcadis Canada Inc. The report, due in early 2017, will inform the development of the GMOB's research strategy.

GMOB ESTABLISHMENT REPORT

This first report of the GMOB has been prepared as an establishment report rather than an annual report. There are two reasons for this:

1. The report covers the 18-month period from incorporation (July 2015) to December 31, 2016.
2. The activities undertaken over this 18-month period have focused, for the most part, on establishing the Board operations.

What We Heard

In our meetings with the Parties to the Agreement, the public and others, the GMOB heard a wide variety of issues and concerns. To our knowledge, these concerns are not consistently documented or addressed by the Project Team (see Appendix B, Subject #12). For this reason, we tried, in this section, to summarize some of what we heard, especially those concerns that were raised more than once. Note that the GMOB does not necessarily agree with the points of view described in the issues listed below, but it does consider these observations in the recommendations made later in this report. Some of these issues are within the purview of the Project while others speak to broader community concerns.

1. Health Issues

- Human health impacts were raised with respect to relocating portions of the Ingraham Trail/ Highway 4 and the possible use of Yellowknife Bay as a future site for Yellowknife’s water supply. In both cases, concerns were expressed about the possible elevated risk of exposure to arsenic.
- Insufficient capacity and priority by the GNWT were raised with respect to the monitoring, staffing and tracking of potential human health impacts. In particular, there was concern that the GNWT’s cumulative effects monitoring activities do not include health effects, and that the GNWT does not employ a specialist with the expertise to analyze potential human health impacts.
- There was a query as to how a 1970s health baseline study, that measured arsenic levels within the local population, will inform upcoming health studies.

2. Engagement/Consultation

- The Co-Proponents are engaged in a variety of Project activities and have several contractors working on their behalf. Concerns have been expressed about the inclusiveness of consultations and the consistency of messages among the Parties and contractors. Recent examples include: YKDFN’s desire to be included in a planned technical meeting regarding Baker Creek only to have the Project Team revert all consultations on this particular issue to the Giant Mine Working Group without clearly communicating the reasons to YKDFN; in another case the Project Team presented a decision about the new outfall location to the Giant Mine Working Group without first providing the technical background to support the decision.

3. Environment

- For other industrial projects in the NWT, the GNWT provides useful and necessary technical reviews during the regulatory phase. Since the GNWT is a co-proponent, there was concern about the lack of independent expertise to review and/or complete various designs and plans relevant to the GNWT’s responsibilities prior to its application for a water license for remediation activities.

4. Safety

- Some local residents are worried for their personal safety. This fear is often related to their belief that the underground stopes and chambers containing arsenic trioxide dust are located under their homes and/or Back Bay.

5. Community Related Concerns

- Studies conducted by the GNWT's Cumulative Impact Monitoring Program (and its research partners) have found high levels of arsenic in soils, vegetation, and lakes within a 30-kilometre radius of the Giant Mine site. Many people are concerned about contamination and responsibility for it in areas outside of the Project site (off-lease)
- There continues to be requests for compensation for the harm caused, and expected, to future generations of YKDFN members and to the Chief Drygeese Territory in general. The need for an impact benefit agreement with the YKDFN was also raised.
- There is concern about how local communities and stakeholders will access socio-economic benefits, including jobs, associated with remediation activities.

6. Funding

- The need was raised for intervenor funding to assist stakeholders to better engage in the remediation process. This issue is particularly relevant to the water-licensing phase when intervenor funding will be required.

Observations and Recommendations

The following observations and recommendations for the Project are based on: the various meetings and discussions the GMOB has had with the remediation team and the Parties to the Agreement; materials directly provided by the Project Team; observations at various committee and public meetings and analysis of materials presented; and, the community concerns identified in the previous section.

The GMOB's observations and recommendations are based on the belief that the Giant Mine Remediation Project should be guided by the following principles:

- **Trust** – evidence and confidence that the agencies and individuals involved in the remediation process are doing what they committed to do and are ensuring the safety of the people and the land.
- **Transparency** – governments and decision makers are open and accountable for processes and decision-making.
- **Communication and Engagement** – meaningful dialogue and the legitimate exchange of knowledge and ideas takes place, rather than a one-way information flow that has historically characterized government-community communications and engagement activities.
- **Reconciliation** – the decisions and actions of past governments and corporate interests are acknowledged, and an apology is made for the impacts that these decisions and actions have had on the YKDFN and NSMA memberships and the people of the Yellowknife/Great Slave Lake region in general.
- **Social License** – credibility is established between and among the Project core partners that leads to a view that the process is legitimate and results in trust and community support.
- **Culture** – the role and importance of tradition and culture is understood along with how the different technical and non-technical approaches to remediation can honour traditions and provide opportunities to re-build and strengthen social capital.
- **Knowledge** (Western scientific and Indigenous/traditional knowledge) - notwithstanding past efforts, that serious effort is made to view the Project from both Western and Indigenous perspectives and accord equal value to each.
- **Community** – the Giant Mine Remediation Project process is used to strengthen human communities and make them fundamentally better.

1. Giant Mine Project Plan

An important task for the Board is to track and assess the overall progress of the Project. Over the past several months, the GMOB has received briefings on remediation activities and reviewed the detailed work plans used to guide and monitor activities. However, there is no overall plain language Project work plan. This makes it difficult to assess overall progress, and to relay clearly both plans and progress to the public. In our opinion, a formal work plan is necessary to gauge planned activities against actual achievements.

RECOMMENDATION

GMOB recommends that a plain language work plan be developed that sets out the main activities planned for the next five years. The work plan should be presented in a plain language format, complete with budgets, timelines, and performance measures. The plain language multi-year work plan should be submitted to the GMOB and made widely available to the public. Consistent language and numbering should be used to link the work plan with the annual report.

We note that the Co-Proponents agree with the GMOB's recommendation to include an annual work plan as an appendix in the Project Team's annual report (see Appendix B, GMOB Subject #3).

2. Means to Measure Progress/Performance Metrics

As the GMOB noted in its comments on the federal and territorial governments' *Giant Mine Remediation Project 2015-2016 Annual Report*, the absence of performance measures makes it difficult to assess intended progress and the appropriateness of mitigation measures.

Monitoring and measuring progress and effectiveness requires comparison with baseline data for various elements of the remediation Project. The data must be gathered, targets determined, and a timeline set out for achieving these targets. Any variation should be reported, analyzed, and corrected as required. In the GMOB's opinion, this is a standard requirement for proper project management. We note that the federal government provided similar guidance to departments through such documents as the Government of Canada's *Supporting Effective Evaluations: A Guide to Developing Performance Measurement Strategies*.

In its comments on the *Giant Mine Remediation Project 2015-2016 Annual Report*, the GMOB recommended that quantifiable performance measures be developed and included in the annual report; however, the Project Team has stated such measures will not be put in place until the "implementation phase of the Project" (see response to Subject #4 in Appendix B). The GMOB assumes that implementation means when the final remediation plan is initiated, after the issuance of the water license. The GMOB notes that the Project Team is already implementing many remediation activities through care/maintenance (e.g., treatment and discharge of mine water), emergency interventions (e.g., taking down buildings, stabilizing stopes), public engagement, socio-economic improvements, and work on the 26 measures set out in the environmental assessment report; therefore, it is not clear why it is not possible to develop performance measures immediately.

The Project has an annual budget, which it reports on at year-end. However, in the absence of clear, quantified performance targets and timelines, and any discussion of variances, it is difficult for the GMOB to assess Project performance and expenditures relative to budgeted amounts in areas including environmental quality, socio-economic costs and benefits, and health and safety targets. Further, the *Giant Mine Remediation Project 2015-2016 Annual Report* mentions 'objectives', 'commitments', and 'vision' but these terms are not defined or supported by any measurable indicators.

RECOMMENDATION

The GMOB recommends that quantifiable performance measures and timelines be developed as soon as possible and reported in future Project annual reports.

3. Communication and Engagement

The Project Team spent considerable effort to communicate with the public and key interest groups about remediation plans and activities. While there is much to be commended, communication and engagement efforts have been inconsistent and sometimes ineffective.

The Surface Design Engagement (SDE) outreach strategy appears to have been largely effective but other efforts to reach out to local communities have been less so. For instance, Yellowknife public meetings, hosted by the Project Team, have been very poorly attended; the website hosted by the Project Team is out of date; there is no plain language Project plan; nor an accessible office where the interested public can easily obtain current information directly from the Project Team.

The GMOB suggests that the lack of consistently effective communication and engagement with the public and other outside Parties may in part be due to relatively less planning and fewer resources devoted to these activities compared to the investment in on-the-ground remediation efforts. This may be understandable given the nature of the remediation Project, but inadequate communication and engagement at this stage will inevitably result in a more difficult path ahead when the Project enters the formal regulatory phase. This is not unprecedented: many of the recommendations of the Mackenzie Valley Environmental Impact Review Board (MVEIRB) stemmed from what the public perceived as the Project Team's inadequate communication and engagement efforts prior to and during the environmental assessment.

Notably, the Project Team has not effectively and meaningfully responded to the YKDFN's continuing demand for a formal apology and compensation for past harm from Giant Mine operations. These demands seem to have largely been ignored despite the Government of Canada's current commitment to reconciliation with Indigenous peoples. The GMOB is of the view that a formal apology would help to heal the harms of the past and greatly facilitate the ability of the Parties to move forward together. Failure to address the issues of a formal apology and a commitment to compensation are likely to affect the success of community engagement and the future of the remediation Project.

RECOMMENDATIONS

The GMOB recommends that communication and engagement be treated with an importance equal to other aspects of the Project and that they be resourced accordingly. Specifically, the Project website must be updated and kept current; and the Project Team should establish an accessible office where the general public can obtain current information on remediation activities, progress, plans, and opportunities to become involved (e.g., jobs, contracts, consultations).

The GMOB recommends that the Project Team improve efforts to determine what kinds of communication and engagement tools will be most successful when communicating with the public in all local communities.

In the spirit of continued reconciliation, the GMOB recommends that the Federal Government formally respond to requests of Indigenous groups for an apology and compensation related to the historic operations at the Giant Mine.

4. Traditional Knowledge and Community Relations

The Project Team is commended for its efforts to incorporate traditional knowledge in the SDE process. Other remediation activities would be strengthened by similar efforts. A comprehensive traditional knowledge strategy would give some assurance to all Parties to the Agreement that traditional knowledge and relationships with knowledge holders are valued, and will be included in remediation decisions and day-to-day activities. Currently, no comprehensive traditional knowledge strategy exists.

The Project Team has been less successful in developing meaningful, effective, and ongoing community relationships that ensure solid engagement, shared commitment, and real partnerships with the Indigenous Parties to the Agreement. The full engagement of YKDFN and the NSMA in decision-making processes is critical to the success of remediation activities and the integration of traditional knowledge.

RECOMMENDATIONS

The GMOB recommends that the Project Team draw on best practices to develop a comprehensive traditional knowledge strategy. This should be done in close collaboration with the affected Indigenous peoples and include a timeline for immediate implementation.

5. Care and Maintenance/Advanced Remediation

A wide range of care and maintenance activities were completed to mitigate potential environmental impacts associated with the site (e.g., maintenance of critical infrastructure and treatment of contaminated water). These activities were generally implemented according to plan and achieved intended objectives.

The Project Team conducted a Site Stabilization Plan (SSP) to address urgent site risks prior to the full remediation Project. The plan included the demolition of unstable and contaminated structures and reinforcement of potentially unstable mine workings. A cautious approach was taken when determining which actions to include in the stabilization plan. Therefore, it is possible that some aspects of it were not truly urgent (e.g., surface crusher). Nonetheless, the SSP has successfully reduced the risk profile of the site. It is the understanding of the GMOB that, subject to evolving site conditions, further advanced remedial work may be necessary prior to implementation of the full remediation Project.

RECOMMENDATION

The GMOB recommends that the Project Team identify foreseeable additional advanced remedial work that may be reasonably required prior to full remediation. The team should provide appropriate justification for such work.

The GMOB recommends that the Project Team document and communicate trends in the risk profile of the site. The trends should clearly illustrate: a) any increasing risks caused by site deterioration (e.g., aging infrastructure); and, b) risk reductions achieved by advanced remedial works such as the SSP.

6. Remediation Planning

The MVEIRB Report required that the Giant Mine Remediation Project Team revisit multiple aspects of the remediation plan. Over the past year, the Project Team has made important progress towards the development of a final remediation plan. Specific initiatives include:

- **Freeze Optimization Study:** 237,000 tonnes of toxic arsenic trioxide dust stored underground represents the greatest risk to humans and the environment. The technique selected to manage the dust is to freeze it in place. The Project Team recently completed a multi-year field trial of the technique. Referred to as the Freeze Optimization Study, the field trial demonstrated that ground freezing can effectively isolate the dust, and provided critical information to support detailed engineering.
- **Surface Design Engagement (SDE):** There are numerous surface risks that need to be mitigated in addition to the arsenic trioxide stored underground. Through the SDE process, the Project Team has worked with a broad group of stakeholders to gather their insights and preferences on the remediation of the site. The outcome of the SDE process, scheduled for early 2017, represents a critical milestone for the Giant Mine Remediation Project. In the opinion of the GMOB, the SDE process provided an effective and respectful forum for engagement on the remediation of the Giant Mine site.
- **Baker Creek:** Passing through the centre of the site, Baker Creek is linked to many aspects and risks associated with Giant Mine. Selecting the most appropriate strategy for the remediation of Baker Creek is complex and will inevitably involve trade-offs and difficult decisions. In an effort to address this complexity, the Project Team recently initiated a process to re-evaluate options for Baker Creek. Consistent with the requirements of the Agreement, the GMOB is contributing to this planning process. We will report on our feedback on the outcomes and effectiveness of the process in 2017.

Overall, the GMOB is of the view that the Project Team is making progress towards the development of a revised and fully integrated closure and reclamation plan. However, based on the rate of progress to date, the GMOB is concerned that the finalization of the plan may not occur within expected timelines. This would delay the regulatory phase and subsequent remediation activities.

RECOMMENDATION

The GMOB recommends that the Project Team work with interested Parties to identify and mitigate potential delays to the remediation planning process. Opportunities to accelerate the planning process should be considered.

7. Environmental Issues

It is the view of the GMOB that progress is being made on several environmental issues. In particular,

- **Environmental Monitoring:** The Project Team continues to operate and expand a series of environmental monitoring programs. Viewed in isolation, each of these monitoring programs appears to be technically appropriate. However, insufficient progress has been made towards the development of a fully integrated monitoring regime and environmental management system.
- **Environmental Quality:** A broad array of site characterization and monitoring data has been collected. While this information is a valuable resource for understanding site conditions, there has been limited analysis of the data to identify trends in environmental quality. The Project Team has indicated that it will perform such analyses once full remediation has been initiated. The GMOB is of the view that assessments of environmental quality trends should begin immediately.
- **Regulatory Affairs:** Following the completion of the environmental assessment process, the Project Team developed a multi-year plan to work towards obtaining the regulatory approvals necessary to implement the Project. In the interim, regulatory authorizations have been obtained for advanced remedial work such as site stabilization. However, some activities at the site continue to occur without the necessary authority. Of particular note, the Project Team has discharged treated effluent into Baker Creek without a water license for more than a decade. While the discharges have reportedly complied with the provisions of the former operating license, the GMOB is not aware of the Project Team's rationale for operating without the regulatory authority that would typically be required.

RECOMMENDATION

The GMOB recommends that the Project Team:

- Expedite the development of a fully integrated Environmental Management System.
- Use and expand upon existing monitoring information to identify trends in environmental quality for soil, water and air. It is important that such trends be clearly documented prior to the initiation of full remediation. Also, see the GMOB's recommendation #6 on the Project Team's 2015-16 Annual Report (Appendix B).
- Present the rationale for the ongoing practice of discharging effluent to Baker Creek without the required authorizations and describe what steps the Project Team is taking to become fully compliant with legislation.

The GMOB also recommends that INAC provide a plain language explanation of how they monitor and report on activities at the Giant Mine site in the absence of a full remediation water licence and land use permit.

8. Off-Site Contamination

The former Giant Mine lease defines the boundaries for the remediation Project that underwent an environmental assessment. However, the historic operation of Giant Mine resulted in environmental impacts that extend well beyond this area. It is noteworthy that while Giant was the largest operation in Yellowknife, there were two other sources of airborne and water-borne arsenic as both the Con and Negus Mines contributed to contamination in the region. All three operations used roasters to process ore.

Elevated concentrations of arsenic have been measured in soils and some small lakes in the Yellowknife area. While some of the elevated concentrations are in remote locations, others are in areas frequently used by the public. The GNWT recently issued health advisories to reduce potential public exposures to off-site contamination, which originated more than 50 years ago. The extent and severity of off-site contamination and risks have not been fully documented, though a number of research studies have recently been initiated by universities.

The GNWT has established an inter-departmental working group to coordinate efforts related to off-site contamination throughout the NWT. However, no government department has accepted responsibility for assessing and remediating off-site contamination caused by historic operations at Giant Mine. The GMOB notes that the Project is being designed and implemented in isolation, due to the absence of a broader strategy to address NWT mining off-site contamination.

RECOMMENDATION

The GMOB recommends that the federal, territorial, and municipal governments make it a priority to initiate a process to ensure off-site contamination is appropriately addressed to protect public health and the environment.

9. Capacity

The GMOB has repeatedly received the message at meetings that capacity is an issue for the six Parties to the Agreement, especially given the magnitude of the Project and the plethora of technical information generated. The YKDFN, NSMA, and Alternatives North have neither the staff nor the money to hire technical expertise to undertake technical reviews to ensure their interests are addressed. This not only severely limits the Parties' capacity to provide input on an ongoing basis but also compromises their ability to meaningfully participate in upcoming regulatory hearings.

RECOMMENDATION

The GMOB recommends that steps be taken immediately to address capacity issues including meeting the current capacity needs and committing to providing intervenor funding during the regulatory review process.

10. Delivery Model

The Project encountered challenges associated with the environmental assessment process. These challenges have resulted in the requirement to meet a wide range of MVEIRB conditions prior to application for a water license. The water license is required prior to fully implementing remediation activities.

The GMOB acknowledges that the Project Team is making progress on MVEIRB requirements but has substantial work to complete before applying for a water license. The Co-Proponents estimate that a water license will be in place by 2021. Given that the Project was called to an environmental assessment in 2008, it will have taken 13 years and several million dollars to move the Project through regulatory processes. The GMOB notes that this timeframe contrasts sharply with the norm, which tends to be four or five years for private sector companies to successfully complete environmental and regulatory review stages.

The GMOB also notes that the effort required by the Project Team to satisfy internal government administrative demands is enormous. These challenges point to a need to seek a more efficient and effective model than that currently in place. We suggest that rather than a government-driven approach, a private-public or a private sector approach to the remediation of the Giant Mine site may be warranted.

RECOMMENDATION

The GMOB recommends that the Project Team carefully examine options other than the current government-driven and controlled approach to the Project to expedite the regulatory process and reduce costs. If a new model is impractical, then a very careful review of efficiencies should be undertaken with the results implemented quickly and effectively to reduce or eliminate further delays and unnecessary costs.

11. Establishing the Socio-Economic Costs and Benefits

The Giant Mine Remediation Project exists within the Federal Contaminated Sites Action Plan (FCSAP). Therefore, it is expected to follow the Federal Decision Making Framework for FCSAP and the related suite of policies and processes. One area where the GMOB sees gaps, is where the Site Management Strategy (SMS) is defined and options analyzed, while taking stakeholders' inputs into consideration.

The Project will affect the well-being of local people for generations to come. The Project performance should be measured not only by minimizing negative impacts as it achieves its clean-up goals but also in terms of how it maximizes benefits from the Project. Given the size, scope, potential impacts, and length of the Project, remediation activities should be a major economic driver of the local and territorial economies. If done properly, major economic spinoffs could be identified; and potential problems could be identified and mitigated early in the process. This would be in keeping with the Project's stated goals. There is this commitment in the *Government of Canada – Government of Northwest Territories Cooperation Agreement*:

“Both Parties agree to maximize northern economic development opportunities in carrying out the Giant Mine Remediation Project.”

The *Giant Mine Environment, Health and Safety, and Community Policy* describes this goal:

“The Giant Mine Remediation Project will implement strategies to maximize the economic opportunities for Northerners and local Aboriginal people through employment and procurement.”

These goals are consistent with the Federal Contaminated Sites Policy, which states:

“Many FCSAP Projects have socio-economic benefits, particularly in Aboriginal communities and in northern or rural areas. Through joint ventures established between some custodial departments and local communities, work conducted on FCSAP sites offers opportunities for local residents and contractors to learn and develop skills, and to build careers and businesses. The partnerships forged among employed people and businesses, especially at the local level, help to foster a sense of ownership of the Project results”.

RECOMMENDATION

The GMOB recommends that the Project Team apply a structured and deliberate framework, such as a Health Impact Assessment (HIA) or Social Economic Impact Assessment to evaluate the social, economic, and cultural aspects of the Project from a community health and well-being perspective. The framework should assist the Project Team to analyze and optimize local education, training, procurement, and jobs skills development opportunities. Further, this evaluation should aim to minimize negative effects while maximizing the positive effects of the Project; for example, the potential negative impacts of transient labour and major contractors on local housing, medical and social resources. (Examples of resources which could assist the Project Team include: the National Collaborating Centre for Healthy Public Policy, the Society of Practitioners of Health Impact Assessment, the Alaska HIA Program, and the International Association for Impact Assessment.)

12. Health and Community Well-Being

Concern about the toxicology and health effects of historic and current arsenic exposures is prevalent in discussions regarding the Project. The Human Health and Ecological Risk Assessment (HHERA), formerly referred to as the Human Health Risk Assessment (HHRA), and the Health Effects Monitoring Program intend to address quantitative science questions that typically become the focus of health-related concerns. The GMOB has seen positive progress in both of these initiatives. The GMOB anticipates release of the HHERA report in 2017. The Health Effects Monitoring Program will engage with communities to finalize the recruitment and monitoring approach and seek ethics approval in the spring of 2017 and begin their sample collection in that year.

The Project Team recognizes that current human health research efforts do not address qualitative well-being issues. To this end, the Team has stepped outside the traditional remediation delivery model to engage a research program on the issue of stress and its impact on health. The GMOB commends this as a critical step in acknowledging that health and community well-being depend on many interdependent factors, including those highlighted at the outset of this Observations and Recommendations section.

RECOMMENDATION

The GMOB recommends that the Project Team actively embrace the principles of trust, transparency, and communication and engagement to communicate Project risk with respect to health and community well-being. The progress and outcomes of the HHERA and Health Effects Monitoring Program are essential elements of Project risk communication. Perceptions of risk, beyond quantitative science, must be addressed.

Priority Activities for 2017

The GMOB priority activities for the coming year include:

1. Review of the Project Team activities and reports including:

- Annual Report
- Project Plan
- Project Team Work Plans (as needed)
- Human Health and Ecological Risk Assessment
- Health Effects Monitoring Program Report
- Quality studies
- Observation of Project Team Public presentations
- Freeze Optimization Study
- Air Quality Reports
- Risk Mitigation Measures

2. Participation in Committees:

- Giant Mine Working Group
- Communicating with Future Generations
- Surface Design Engagement
- Baker Creek Engagement
- Environmental Giant Mine Advisory Committee (YKDFN)
- Health Effects Monitoring Program Advisory Committee

3. Giant Mine Oversight Board initiatives:

- GMOB Annual Report
- GMOB meeting with the Parties, Project Team and the Public
- Completion of the “State of Knowledge Review and Assessment on Arsenic Trioxide Remediation Methods Report”
- GMOB Research Strategy
- GMOB Communications Strategy
- GMOB Website and Database
- Public Information Tools

APPENDICES

APPENDIX A

The Giant Mine Site: Background

Gold was found on the Giant Mine site in 1935 but a commercial ore body was not confirmed until 1944 when a massive gold-bearing shear zone was uncovered beneath the Baker Creek Valley. The Burwash Mine, Con Mine and Negus Mine were all developed in the area before the Giant claims entered into production. Giant Yellowknife Gold Mines Limited poured its first gold brick on June 3, 1948 and the mine remained in operation until 2004. Over this period, the Giant Mine generated over seven million ounces of gold.

To access the gold, arsenopyrite ore had to be roasted at extremely high temperatures. This process caused the release of an arsenic rich gas as a highly toxic by-product. During the mine's first several years of operation, arsenic was released directly into the air, resulting in human health impacts, including widespread contamination of local soil and vegetation, and archival evidence of one child's death. The introduction of pollution control equipment in the 1950s reduced the arsenic air emissions but resulted in the accumulation of arsenic trioxide dust, which is approximately 67% arsenic. The storage of this approximately 237,000 tonnes of dust, is currently onsite in 14 underground stopes and chambers.

Arsenic trioxide dissolves in water and is dangerous to both people and the environment. If left unmanaged, the arsenic trioxide dust could gradually dissolve and arsenic concentrations in groundwater would increase. Contaminated groundwater could make its way into local water bodies downstream of the site, particularly into Great Slave Lake. There are other legacy concerns at the site such as 14 million tonnes of tailings that contain arsenic; arsenic contaminated soils across the site; and more than 100 buildings onsite, many of which

are contaminated with arsenic and asbestos. Open pits and openings to the underground mine also represent health and safety hazards.

During the life of the mine, ownership moved through the hands of a number of companies including Giant Yellowknife Mines, Ltd. (a subsidiary of Falconbridge – 1948-86), Pamour (1986-1990), Royal Oak Mines (1990-1999) and Miramar Mining Corporation (1999-2004). When Royal Oak went bankrupt in 1999, the Government of Canada became responsible for cleaning up the Giant Mine site. After many studies, workshops and community consultation, the options to deal with the arsenic trioxide stored underground were reduced from 56 to 12 and finally to two options. One option would keep the arsenic trioxide underground as a frozen block and another would involve removing it and storing it above ground. The leave-underground option was selected and the frozen block method was incorporated into the Remediation Plan for Giant Mine.

In 2007, the Project submitted a water license application to the Mackenzie Valley Land and Water Board for the remediation of the site. This triggered an environmental assessment, and in 2014 the Ministers responsible issued their decision, which stipulated 26 legally-binding measures. The water licensing process has not resumed, since some of environmental assessment measures must be completed prior to regulatory approvals.

The Giant Mine site encompasses everything within the boundaries of the lease in place during the operational period of the mine.

APPENDIX B

Review of the 2015-16 Annual Report Giant Mine Remediation Project

The GMOB reviewed the 2015-2016 Annual Report of the Giant Mine Remediation Project entitled Remediating the Mine dated October 2016. The document was reviewed in accordance with the requirements set out in Article 5.2 of the Agreement. It is important to note that the GMOB’s review focused on the report itself and did not include an assessment of the overall progress of the remediation Project.

Although the GMOB identified areas where we believed the report could be improved in future, overall we found that the Annual Report addressed

the requirements outlined in Article 5.2 of the Agreement. The GMOB notes that it is clear that the Project Team put significant effort into summarizing a large amount of information and endeavoured to produce a report that will be useful for a diverse audience. In its comments on this report, the GMOB realized that this was the first report under the terms of the Agreement and that it was early days for reporting under this structure.

Summary Table of Review Comments and Responses for the 2015-16 Annual Report of the Giant Mine Remediation Project

SUBJECT 1: PLAIN LANGUAGE SUMMARY	
GMOB Observation	The Agreement requires that the report contain a plain language summary. The Report Summary, on pages 8 - 11, is very technical and cannot, in our opinion, be classified as a “plain language” summary. A stand-alone, plain language summary document would be very beneficial for distribution to the Parties to the Agreement and the general public.
GMOB Recommendation (November 3, 2016)	The GMRP should either revise the language of the Report Summary next year so that it is more accessible to readers at all levels of technical knowledge and/or that it provide a standalone plain language summary document. The latter document could be produced independently from the Annual Report and be made available for wider public distribution.
Project Response (December 12, 2016)	The GMRP will provide a plain language summary of this report for the GMOB, as a template for future summaries that will form part of the report but also be available as a stand alone document for wider circulation.
GMOB Response (February 3, 2017)	We look forward to reviewing the plain language summary and note the commitment by the Project Team to include it in the 2016-2017 Giant Mine Annual Report.

SUBJECT 2: REPORTING CYCLE

GMOB Observation	The reporting cycle for the Annual Report covers activities that took place from April 2015 to March 2016 with mention of some activities that took place in 2014. As the Annual Report was provided to the GMOB in October 2016 and we are now at the end of the field season for 2016, the reporting is one year behind the Project's activities. The nature of this reporting cycle means that there is little opportunity for Parties to use the Annual Report information as a basis for recommendations for the next year's Project activities.
GMOB Recommendation (November 3, 2016)	The GMOB would like to discuss with the Project Team how best to maximize the utility of the Annual Report. For example, one way to address the reporting cycle issue might be through the presentation of a preliminary Project report in May of each year so that feedback from the GMOB and the community could be applied adequately to the following year's planning cycle.
Project Response (December 12, 2016)	The Annual Report is intended to be a more comprehensive description of Project activities and outcomes; there is no way to have a comprehensive report on a fiscal year basis any earlier, due to when information comes in, can be collated, organized and summarized and then approved. Our intention with sharing our 5-year work plan (with a focus on the upcoming fiscal year) with GMOB prior to each field season is to provide an opportunity for recommendations for upcoming activities.
GMOB Response (February 3, 2017)	The provision of a 5-year work plan along with the regular Project updates in the Working Group meetings may mitigate GMOB's concerns in this regard. Also, please see discussion under Recommendation #1 of this report.

SUBJECT 3: ANNUAL PROJECT PLAN

GMOB Observation	There is no Project Plan included in the Annual Report. Without it, the process for reporting progress is not meaningful. The approved working plan is necessary so that cross-referencing of what was planned and what was delivered can be clearly followed and explained. The Annual Report, as it stands now, does not allow for an assessment of actual schedule performance against a baseline schedule on a multi-year basis. For example, does the current Project status align with plans that were established 3 or 5 years ago? If not, why?
GMOB Recommendation (November 3, 2016)	An Annual Project Plan be included in the Annual Report.
Project Response (December 12, 2016)	Our approved Annual Work Plan will be attached as an Appendix in future reports.
GMOB Response (February 3, 2017)	Attachment of the approved Annual Work Plan as an appendix in future reports along with the Project Team's commitment to provide a 5-year work plan may mitigate the concerns expressed by the GMOB on this issue. Also, please see discussion under Recommendation #1 of this report.

SUBJECT 4: PERFORMANCE MEASURES

GMOB Observation	There are no stated performance measures included in the Annual Report. Information in the Annual Report is listed as either “objectives”, “commitments” or “vision”. Without performance measures, it is hard to know whether mitigation measures are working as intended or expected.
GMOB Recommendation (November 3, 2016)	Quantifiable performance measures should be further developed and included in the Annual Report.
Project Response (December 12, 2016)	Quantifiable performance measures will be developed for the implementation phase of the Project. At this stage, while the remediation plan is still being developed, any performance targets are qualitative in nature. Also, the Department is updating its Performance Measurement framework in line with Government of Canada objectives and so Giant will be updating its own performance targets to align with this initiative. In the meantime, specific in-year performance targets will continue to be monitored (i.e. Project team performance in meeting the goals established in the annual Detailed Work Plan.
GMOB Response (February 3, 2017)	GMOB respectfully disagrees that it is not possible to define quantifiable performance measures prior to the initiation of full site remediation. Also, please see discussion under Recommendation #2 of this report.

SUBJECT 5: EXPENDITURES

GMOB Observation	The Project expenditure figures are provided in the Annual Report as only a lump sum figure and there is no comparison of planned versus actual expenditures.
GMOB Recommendation (November 3, 2016)	A further breakdown of the Project expenditure figures as well as a multi-year trend analysis of the total cost estimate of spending versus budget would be helpful to include in future annual reports. The latter item should include a justification for any significant variances. The cost vs. budget trend analysis would help us to understand if and where there may be issues with scope creep, schedule slippage, etc.
Project Response (December 12, 2016)	GMRP will in the future provide a similar breakdown as the FCSAP categories (Care & Maintenance, Regulatory, Consultation, Investigation & Assessment, Remediation, Monitoring, Program Management), planned vs. actual. GMRP Project will explore options to create a separate annex for more detailed budget information, one that would not be released for general consumption.
GMOB Response (February 3, 2017)	The GMOB looks forward to reviewing the Project Team’s proposed breakdown and/or annex prior to incorporation into the next Annual Report.

SUBJECT 6: TRENDS

GMOB Observation	Contrary to what is stated in the Annual Report, we do feel that there is more than adequate historical information collected by the Project that could be analyzed for trends (e.g., water quality, health and safety indicators, engagement, socio-economic measures, and regulatory compliance).
GMOB Recommendation (November 3, 2016)	There are a lot of potential datasets that could be analyzed for trends but likely only a few key analyses would be truly useful. We recommend that the Project Team consult with the Parties to the Agreement as to what datasets should be analyzed for trend reporting in the Annual Report.
Project Response (December 12, 2016)	GMRP will examine ways to consult with the Parties on how best to look at trend analysis through the Working Group.
GMOB Response (February 3, 2017)	The GMOB requests that the Project Team define how and when it plans to consult with the Parties on this issue so that there is sufficient time to incorporate changes into the 2016-2017 Giant Mine Annual Report. Please update GMOB as soon as possible with specifics of how the team will address this.

SUBJECT 7: AIR

GMOB Observation	The Annual Report refers to the Air Quality Monitoring Program and there are very helpful links to the monitoring data online. However, there is no reference or link provided to the current Air Quality Monitoring Plan. As a result, an assessment of the basis for the current monitoring program is not possible.
GMOB Recommendation (November 3, 2016)	The Air Quality Monitoring Plan should be referenced in the Annual Report and a link to the plan provided.
Project Response (December 12, 2016)	Agreed.
GMOB Response (February 3, 2017)	The GMOB will look for this reference in the 2016-2017 Giant Mine Annual Report.

SUBJECT 8: WATER

GMOB Observation	The report includes information on the outfall design/location, the potential re-routing of Baker Creek, and the design of the new Effluent Treatment Plant (ETP) and the development of the site-specific water quality objectives (SSWQO) but there is no clear explanation of how these important items relate or how work on these items will be sequenced. In addition, we note that unlike the air quality monitoring results, the GMRP Project does not seem to have any way of sharing water quality monitoring results from routine or special studies. Finally, there is mention of a settling pond dredge being removed but we were unable to find mention of how the dredge was managed after removal.
GMOB Recommendation (November 3, 2016)	It would be helpful if the Annual Report could provide a roadmap and timeline as to how the outfall design, the re-routing of Baker Creek, the ETP design and the development of SSWQO relate to each other and how the Project team plans to sequence work on these items. The GMRP Project should work with the Parties to develop a way of sharing key water monitoring data as is done for air quality. All operational details, such as the dredge removal, should be followed through in future Annual Reports.
Project Response (December 12, 2016)	Future reports will have an expanded sections, or provide links/references to more detailed information.
GMOB Response (February 3, 2017)	The GMOB requests further discussion with the Project Team on the kinds of routine water monitoring data that could be made available on an ongoing basis and how this information would be shared. The GMOB will also look for these proposed changes in the 2016-2017 Giant Mine Annual Report.

SUBJECT 9: BIODIVERSITY

GMOB Observation	In the section on Biodiversity, there does not seem to be a direct link between monitoring results and actions for biodiversity components. For wildlife and birds, the actions are to consider results or recommendations in the future for remediation design but no further detail is provided. For Environmental Effects Monitoring, the only action listed is to continue monitoring.
GMOB Recommendation (November 3, 2016)	As written, it is not clear what the objective of monitoring wildlife/birds is or what mitigations or plans this monitoring will inform. It would be helpful if there were a more systematic way to link the results of monitoring to corrective actions or to design planning.
Project Response (December 12, 2016)	Future reports will describe how the monitoring results are incorporated into work planning (i.e. considerations when planning physical work at the site) as well as how the results will be incorporated into the overall remediation planning and execution.
GMOB Response (February 3, 2017)	The GMOB will look for these proposed changes in the 2016-2017 Giant Mine Annual Report.

SUBJECT 10: LAND

GMOB Observation	Much of the work to date in this section of the Annual Report deals with soil sampling and characterization, which will inform a remediation plan.
GMOB Recommendation (November 3, 2016)	No specific recommendation; however, the GMOB is interested in reviewing the proposed soil remediation plan, including the development of soil criteria, as this aspect of the Project moves forward.
Project Response (December 12, 2016)	Acknowledged.
GMOB Response (February 3, 2017)	We look forward to reviewing the proposed soil remediation plan, including the development of soil criteria, as this aspect of the Project moves forward.

SUBJECT 11: HEALTH

GMOB Observation	In the section on Health and Safety in the Annual Report, it would be helpful to have an analysis on the effectiveness of the measures used to address the exceedances of urinalysis tests for onsite workers. The current work in the next year on the Human Health Risk Assessment and the Health Effects Monitoring Program will be very important elements that GMOB will be tracking.
GMOB Recommendation (November 3, 2016)	The Annual Report should include a section on the effectiveness of the measures used to address the exceedances of urinalysis tests for present onsite workers.
Project Response (December 12, 2016)	Future reports will describe how the monitoring results have improved our Health & Safety practices at the site, our understanding of arsenic risks as they relate to on-site workers, as well as how the results will be incorporated into the overall remediation planning and execution.
GMOB Response (February 3, 2017)	The GMOB will look for these proposed changes in the 2016-2017 Giant Mine Annual Report.

SUBJECT 12: COMMUNITY AND ENGAGEMENT

GMOB Observation	The number of attendees at engagement events is not very meaningful without an analysis of the concerns identified by the attendees and what will/is being done to address these concerns. The efforts to heal the legacy issues created by the long history of the mine, as well as previous Project activities, also remain to be addressed. Perhaps it is beyond the scope of the Project Team to deal with activities outside the immediate remediation but it is within the purview of the Co-Proponents to undertake a long-term proactive community based healing process.
GMOB Recommendation (November 3, 2016)	This section of the Annual Report could to be strengthened by, for example, including an analysis of concerns identified during engagement and how those concerns are being addressed.
Project Response (December 12, 2016)	Future reports will describe engagement particulars, and how these are shared within the Project for consideration when conducting work, planning activities, and incorporated into lessons learned and the overall remediation planning and execution.
GMOB Response (February 3, 2017)	The GMOB will look for these proposed changes in the 2016-2017 Giant Mine Annual Report. The Project Team may want to consider responding to the concerns the GMOB has summarized in the "What We Heard" section of the GMOB Establishment Report. It would be beneficial to all Parties if there were a formal mechanism to record concerns raised as well as follow-up or responses.

SUBJECT 13: EMPLOYMENT

GMOB Observation	The employment data provided in the Annual Report does not provide sufficient detail to allow for analysis. For example, the figures provided are not clear as to whether each group reported is separate and distinct from each other. There is little information on the number of contractors, value of contracts, and jobs created, etc.
GMOB Recommendation (November 3, 2016)	The Annual Report should provide more detailed information on employment, contractors and value of contracts as well as any other information linked to direct socio-economic activity. The Project team should consult with GMOB and the Parties about exactly what kinds of information would be most useful to report on.
Project Response (December 12, 2016)	This is very difficult metric to report on, as all reporting is voluntary. But we can commit to working with GMOB and Parties to try to improve on reporting. There are provisions within the future Main Construction Manager contract that should improve the quality of data we get on socio-economic aspects of the Project.
GMOB Response (February 3, 2017)	The GMOB continues to believe that its recommendation is achievable by the Project Team and will make itself available to work with the team on this issue. The GMOB also requests that the Project Team define how and when it plans to consult with the Parties on this issue so that there is sufficient time to incorporate changes into the 2016-2017 Giant Mine Annual Report. Please update the GMOB as soon as possible with specifics of how the Project Team will address this issue

SUBJECT 14: TRAINING

GMOB Observation	It is not clear, if the training information in the Annual Report is comprehensive or only drawn from contractors who are required to deliver Health and Safety and Orientation sessions to their workers. The Project itself could be much more proactive in its efforts to identify how and what local training, employment opportunities and economic spinoffs to the community were maximized.
GMOB Recommendation (November 3, 2016)	The Project team should consider including a section in the report that describes the overall socio-economics of the Project including, for example, comprehensive and measurable local training and employment initiatives as well as secondary economic effects of the Project.
Project Response (December 12, 2016)	Additional clarity will be provided in future reports. There are provisions within the future Main Construction Manager contract that should improve the quality of data we get on socio-economic aspects of the Project.
GMOB Response (February 3, 2017)	GMOB will look for these proposed changes in the 2016-2017 Giant Mine Annual Report. Also, please see discussion under Recommendation #11 of this report.

SUBJECT 15: TRADITIONAL KNOWLEDGE

GMOB Observation	There is no mention of consultations regarding traditional knowledge or the incorporation of any traditional knowledge for Project activities in the Annual Report. This is an important aspect of the Project team's community consultation and Project planning.
GMOB Recommendation (November 3, 2016)	A specific section reporting on consultation and incorporation of traditional knowledge should be included in the Annual Report.
Project Response (December 12, 2016)	Agreed.
GMOB Response (February 3, 2017)	The GMOB will look for these proposed changes in the 2016-2017 Giant Mine Annual Report. Also, please see discussion under Recommendation #4 of this report.

SUBJECT 16: OFF-SITE CONSIDERATIONS

GMOB Observation	The surface contamination present within the Project boundaries extends to off-site locations. The Annual Report does not indicate how the Project Team is working with the applicable authorities to ensure the effective and consistent management of both off and onsite contamination.
GMOB Recommendation (November 3, 2016)	The Annual Report should describe how the Project Team is working with applicable authorities to ensure the effective and consistent management of both off and on site contamination.
Project Response (December 12, 2016)	This can be included in future annual reports as part of our report on engagement. The Project does not lead on this, but is a participant in discussions through the INAC NWT Regional Office.
GMOB Response (February 3, 2017)	The GMOB understands that the Project Team is not itself responsible for the off-site issues; however, the Co-Proponents are responsible. Please see Recommendation #8 in this report, for additional discussion. The GMOB will look for these proposed changes in the 2016-2017 Giant Mine Annual Report.

SUBJECT 17: EMERGENCY MEASURES

GMOB Observation	The Annual Report does not reflect what the criteria is for work to be categorized as an emergency measure versus care and maintenance. GMOB would like to understand how the Project makes these determinations. There is also no mention in the Annual Report of any Emergency Preparedness Plan to deal with potential system or structural failures.
GMOB Recommendation (November 3, 2016)	The Annual Report should provide the criteria and rationale used to categorize on-site activities that are deemed to be of an emergency measure and describe or provide a link to an Emergency Preparedness Plan.
Project Response (December 12, 2016)	Agreed.
GMOB Response (February 3, 2017)	The GMOB will look for these proposed changes in the 2016-2017 Giant Mine Annual Report

SUBJECT 18: PLANS TO INCORPORATE NEW REMEDIATION TECHNOLOGIES IN THE FUTURE

GMOB Observation	There is no information in the Annual Report explaining how the Project Team intends to address potential changes in remediation technologies, techniques, or processes that may be recommended because of the research program currently undertaken by GMOB. For example, how will the Project Team's remediation plan address future access to stopes and access to the site for possible arsenic trioxide remediation?
GMOB Recommendation (November 3, 2016)	The Annual Report should outline the process and actions taken to address any potential changes in remediation technologies, techniques, or processes that may be recommended because of the research program currently undertaken by GMOB.
Project Response (December 12, 2016)	Additional detail will be provided in future reports, in the context of remediation planning.
GMOB Response (February 3, 2017)	The GMOB looks forward to seeing how the Project Team incorporates additional detail about how future changes in remediation technologies will be accommodated. The GMOB expects that the 2016-2017 Giant Mine Annual Report will begin to address this issue.

APPENDIX C

Giant Mine Oversight Board Workshop Report

The GMOB held a facilitated workshop on September 14 - 15, 2016 in Ottawa, ON. The primary goals of the workshop were to:

- Continue to build a collective GMOB understanding and consistent approach to meeting its mandate.
- Better understand the expectations and priorities of the GMOB itself, and compare these to the expectations of the signatories to the Agreement.
- Better understand the financial and human resource realities of the GMOB.
- Make decisions on the GMOB priorities using the above information and decisions.
- Apply the collective GMOB understanding and priorities to creating tangible deliverables.

One of the major results of the Workshop was a better understanding of the four roles of GMOB that are set out in Article 2.3 of the Agreement. Each of the roles, summarized below, are in reference to the GMOB's expectations and priorities as discussed during the Workshop.

i. Promote public awareness of the Project, disseminate information about the Project, and promote public engagement in processes related to the Project

One of the 'core roles' of the GMOB is to ensure that the remediation Project is as effective as possible. It is essential that the GMOB understand the Project and its various components, and that it communicate its understanding, its observations and its research findings. While the GMOB has a mandate to promote public awareness, it should not be expected to directly reassure or convince the public that the site is safe - that is the Co-Proponent's primary responsibility.

The GMOB's mandate requires that it be an objective observer. It is not responsible for Project management. Rather, the GMOB will draw on its expertise in evaluating Project information to come to its own independent conclusions. For example, completed health studies provided to the GMOB will be reviewed and evaluated, and responses provided based on the information presented. In effect, the directors and staff of the GMOB are technical advisors and technical reviewers that provide feedback, but are not technical "doers." The GMOB does however, have a very hands-on management role with respect to its research mandate.

The GMOB members agree that they need to clearly define their role with respect to engagement. For example, the role of GMOB is not to promote the Co-Proponents or the Project, nor to push a vested interest or view. It is important that the GMOB encourage the Co-Proponents to engage in a meaningful way with the public and provide advice on how to do so.

One form of engagement is the dissemination of information, be it at the GMOB (storefront) office, working group meetings, or community sessions. The GMOB will produce and distribute its own materials; it will not act as a distribution office for the material of the Co-Proponents or other Parties. The GMOB office will provide general information pertaining to the Project and can point visitors to sources of additional Project information. In summary, the GMOB:

- will produce and disseminate its own GMOB materials
- is not a distribution office for the Co-Proponents or the Parties
- will point people to the Co-Proponent/Project Team for additional Project information
- will complete its own communication strategy.

It is important to know how to respond to Project-specific questions when engaging with the public (e.g., ‘here is our understanding, but here is the responsible proponent authority who can speak with you on this particular topic’). Being transparent with the Co-Proponents, the Parties and the public in terms of what the GMOB is (and is not) doing is central to the GMOB’s mandate. GMOB is not in partnership with the Co-Proponents or the Project Team.

ii. Provide independent advice to the Co-Proponents on the management of the Project as the GMOB considers appropriate

A central role of the GMOB is to provide constructive criticism of the information provided to it and challenge that information. Perhaps the greatest value the Board can provide is to encourage the Co-Proponents and Project Team to ‘think outside the box’ by providing an independent perspective.

Mechanisms for providing advice to the Co-Proponents include working group meetings, advisory committee meetings, and a review of the Co-Proponent’s Annual Report, the GMOB’s annual report, and public meetings. It is also through these mechanisms that the Board will be receiving other reports and information.

Sharing and communicating advice within the GMOB is equally important. Respectful and open dialogue between the Board, the Co-Proponents, and other technical experts is essential. When one member of the Board speaks with and/or provides advice to other Parties, this should be communicated to all board members and staff. One director stated: “No one should be surprised by the advice presented in the GMOB annual report.” Consistency and sound communications are key. In this context, the GMOB members engaging with others (be it asking questions or providing advice) will provide a brief overview to inform other GMOB members. This can be coordinated through the GMOB staff.

The GMOB must determine and communicate its

expectations for transparency within the GMOB and with the Co-Proponents and other Parties. The GMOB could use the working group meetings as a communication tool to provide advice and/or express GMOB concerns and/or questions. The GMOB’s annual report presents another opportunity to address outstanding issues and recommendations.

iii. Provide independent advice on the monitoring and management of the Project to regulatory authorities, the Parties, the public and to whomever else the GMOB considers appropriate

The GMOB’s annual report should incorporate advice, observations and recommendations for regulatory bodies and other agencies, including federal agencies. The discussion concerning advice to the Parties also focused on what the Board is not.

- The GMOB is not the Parties replacement, nor does it represent the Parties.
- The Parties should not anticipate that the GMOB will undertake the Parties roles or speak for them.

iv. Manage the program for research toward a permanent solution for dealing with arsenic at the Giant Mine site as set out in the Agreement Article 7 (“Active Research Toward a Permanent Solution for Arsenic”) and section 8.2 (“Research Results”).

One of the first actions for the Board is a state of the knowledge review. The review will be useful for the Board as it prioritizes future research actions for subsequent fiscal years.

Board of Directors



Dr. Kathleen Racher
Chairperson
Yellowknife, NT



Ginger Stones
Director
Ottawa, ON



David Livingstone
Director
Yellowknife, NT



Kenneth Hall
Director
Yellowknife, NT



Tony Brown
Secretary-Treasurer
Uxbridge, ON



Dr. Ken Froese
Director
Calgary, AB

PAST DIRECTORS

Todd Slack
Interim Chairperson
Yellowknife, NT

Dr. Istvan Gabos
Past - Vice Chair
Edmonton AB

CONTACT

IN PERSON Giant Mine Oversight Board
5014-50th Avenue
Yellowknife, NT

MAIL Box 1602
Yellowknife, NT X1A 2P2

TELEPHONE 867.675.0788

FAX 867.675.0789

EMAIL admin@gmob.ca

Or visit our website www.gmob.ca

Office Staff



Ben Nind
Executive Director



Letitia Pokiak
Office Administrator