

2019 ANNUAL REPORT







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Glossary

Agreement	Giant Mine Remediation Project Environmental Agreement
CIRNAC	Crown-Indigenous Relations and Northern Affairs Canada
CRP	Closure and Reclamation Plan
Co-Proponents	Federal Government, represented by Indigenous and Northern Affairs Canada (CIRNAC) and the Government of the Northwest Territories (GNWT)
ENR	Environment and Natural Resources, GNWT
GMOB	Giant Mine Oversight Board
GNWT	Government of the Northwest Territories
HHERA	Human Health and Ecological Risk Assessment
MVLWB	Mackenzie Valley Land and Water Board

NSMA	North Slave Métis Alliance
Parties	Yellowknives Dene First Nation, North Slave Métis Alliance, Alternatives North, City of Yellowknife, Government of the Northwest Territories, Crown-Indigenous Relations and Northern Affairs Canada
Project	Giant Mine Remediation Project
Project Team	Federal Government, represented by Indigenous and Northern Affairs Canada (CIRNAC) and the Government of the Northwest Territories (GNWT)
QRA	Quantitative Risk Assessment
YKDFN	Yellowknives Dene First Nation
YkHemp	Yellowknife Health Effects Monitoring Program

Message from the Chair

The Giant Mine Oversight Board was established as a condition of the 2015 *Giant Mine Remediation Project Environmental Agreement*. The Agreement requires the Oversight Board to publish an annual report as part of its oversight role. This is our fourth annual report.

Our relationships with the various Parties to the Environmental Agreement and with the community strengthened in 2019. We are now recognized as an independent organization with a clear mandate to look after the public interest through our oversight, research, and public communications.

While the Project deals with the environmental and human health risks posed by Giant Mine contamination, the Board has always believed that the extensive socio-economic opportunities created by the Project are also important. Effective remediation using an inclusive approach can directly contribute to reconciliation with local Indigenous peoples. Even though the federal government is committed to reconciliation, we believe it is not yet firmly integrated into all aspects of the Project. These and other concerns are described in this report, as are GMOB's recommendations, some of which have appeared in previous annual reports.

In 2020, our Board will continue to seek opportunities with the Parties and the public to progress on all fronts, especially on the water licence process and the socio-economic challenges and opportunities presented by the Remediation Project. We will also continue to work with our partners on the research program to deal with the underground arsenic trioxide at the mine site.

Thank you to everyone involved in the Giant Mine remediation and to the community. We all want the Project to proceed in an environmentally sound, socially responsible and culturally appropriate way. I strongly encourage everyone to continue to share your ideas and views about the Project with the Oversight Board. You can do that during public meetings, through our website or by visiting our office.

Dr. Kathy Racher,
Chair, Giant Mine Oversight Board

Introduction

The 2015 *Giant Mine Remediation Project Environmental Agreement* (Agreement) established the Giant Mine Oversight Board (GMOB). GMOB is guided by a six-member Board of Directors. Each director is appointed by a party to the Agreement. The Parties are:

- Government of Canada, Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)
- Government of the Northwest Territories (GNWT), Environment and Natural Resources (ENR)
- Yellowknives Dene First Nation (YKDFN)
- North Slave Métis Alliance (NSMA)
- Alternatives North
- City of Yellowknife

CIRNAC and the GNWT are Co-Proponents. They work together as the Giant Mine Remediation Project Team (Project Team).

GMOB'S MANDATE

- Monitor and report on the Giant Mine Remediation Project (the Project).
- Review, report, and make recommendations on Project's programs, research, annual reports, etc.
- Conduct communications activities with the public and Parties to the Agreement.
- Research a permanent solution to the arsenic trioxide stored underground at the site.
- Report to the public through GMOB public meetings, reports, and annual reports.

GMOB'S VISION

The remediation of the Giant Mine site, including the sub-surface, be carried out in a manner that is environmentally sound, socially responsible, and culturally appropriate.

GMOB'S MISSION

To independently monitor, promote, advise, and 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 mine.

You can find a more details about GMOB including the Board's Operating Principles at www.gmob.ca/about/#mandate.

The Structure of this Report

This report provides GMOB's evaluation of progress made on the remediation Project in 2019, including our recommendations to improve the Project. We document the observations and concerns GMOB heard from the public during 2019. Finally, we report on GMOB's own progress on research to permanently eliminate the threat created by the arsenic trioxide dust stored underground at the Giant Mine site.

We direct our recommendations to senior governments, the Project Team, and other Parties.

- Recommendations to senior government decision makers relate to policy and strategic matters.
- Recommendations to the Project Team relate to onsite remediation operations.
- Recommendations to other parties are based on their mandates.

GMOB recommendations fall under the following three themes.

- Project impacts on community opportunities and wellness.
- Project management and planning.
- Environment and health.

Most of our recommendations this year are updates on our recommendations from previous years. This reflects our observation that improvements are still needed, in spite of efforts and some progress on all aspects of the Project. Appendix 1 summarizes our 2018 recommendations and the Project Team's responses to them.

This report is informed by GMOB's meetings and discussions with the Project Team and Parties to the Agreement, its review of materials provided by the Project Team, its analysis of materials presented at committee and public meetings, and its understanding of concerns raised by the public.

The report also briefly describes GMOB's anticipated plans for 2020, including our research program, work on the water licencing process during 2019, and our advocacy for stronger socio-economic plans and programs.

What We Heard

GMOB heard a variety of issues and concerns from residents and community groups during 2019.

1. Recreational and commercial boaters were concerned about the lack of public communication on plans to close the Giant Mine boat launch and on alternative temporary launch sites.
2. The Great Slave Sailing Club and the Yellowknife Historical Society raised concerns about the status of their City leases. They also wanted information about the schedule and details of the remediation plans that would affect their facilities and operations.
3. Members of the local business community raised concerns with GMOB Board members about the length of time the Main Contract Manager (Parsons) has taken to make decisions and about delays in paying contractor invoices.
4. The public raised concerns about the stability of the underground arsenic chambers and the quantity and quality of the mine's sub-surface water.
5. Onsite contract workers were concerned with the lack of clear information about arsenic testing protocols for onsite and contract workers.
6. Members of the public suggested that a permanent occupational hygienist be onsite to oversee worker safety.
7. GMOB has noted concerns raised by the Parties that the current socio-economic planning for the Project has been limited in its scope, despite our previous recommendations. The Parties' concerns are that the direct social impacts on community infrastructure, services, health and well-being must be addressed with equal weight as economic impacts/opportunities.
8. GMOB has heard concerns that socio-economic planning for the Project has been both slow and of questionable efficiency. We have heard the concern that without a comprehensive socio-economic plan in place before the project launches its full remediation operations, it will be challenging to measure current and long-term socio-economic community impacts and benefits.

Highlights of Project Progress in 2019

As part of its oversight mandate, GMOB monitors the effectiveness and performance of the Giant Mine remediation work. GMOB was pleased to see advances made in 2019.

Project Impacts on Community Opportunities and Wellness

- Working relationships among Project Team members, the Parties, and GMOB continue to improve. We are all committed to site remediation that protects the environment and residents, though our expectations about how and when this happens might vary. Despite a heavy workload, the Project Team maintained, and even enhanced, its engagement with the Parties this past year.
- Discussions continued between the Yellowknife CIRNAC office and YKDFN about an apology and compensation for harm done by the operations of Giant Mine over the decades.
- Progress on socio-economic matters was noted but slow. CIRNAC Yellowknife released its Socio-economic Strategy to the public and established multi-agency committees to better coordinate socio-economic and capacity building opportunities. Key Performance Indicators for the Socio-economic Strategy were developed in consultation with stakeholders to help measure success in Strategy implementation.
- The Parties received enhanced capacity funding to help them participate in Project-related matters, including the Project's water licence application to the Mackenzie Valley Land and Water Board (MVLWB).
- The City of Yellowknife made progress with the Project Team on the issues of sub-leases and onsite boat launches.

Project Management and Planning

- The Project Team's site stabilization program effectively reduced risks at the mine site.
- The water licencing process for the Project proceeded on schedule and allowed extensive participation of the Parties and the public.
- The Project Team made increasingly effective use of independent experts, especially during the water licencing process.
- Early on in the water licencing process, many concerns were expressed about the need for large amounts of borrow material for remediation. In response, the Project Team hosted a series of public meetings allowing the public and the Parties to share their concerns and ideas.
- The Project Team began engaging with Parties on the Perpetual Care Plan. The Perpetual Care Plan is a requirement of the Environmental Agreement that is meant to guide the long-term care of the site after remediation is complete. A task force, with representatives of each of the Parties, has been set up to advance the development of the plan.
- Progress was made in the development of a Quantitative Risk Assessment for the Project as required by Environmental Assessment Measure 5. The Measure is expected to be fulfilled in 2020.

Environment and Health

- The Yellowknife Health Effects Monitoring Program (YkHEMP) and other contaminants-related studies progressed.
- Studies and discussions continued to determine the extent of off-site contamination and how it should be managed.
- The GNWT more effectively supported the Project and took the lead on some key issues, including off-site contamination, risk communications, and education materials for schools.

Observations and Recommendations

THEME 1

Project Impacts on Community Opportunities and Wellness

During 2019 the Project Team understandably focused its efforts on site maintenance and its application for a water licence. While progress has been made in many aspects of the Project, in GMOB's view there continues to be an imbalance in the level of effort on economic and human well-being compared to that related to the physical remediation work.

The Project Team is dominated by an engineering and technical approach. On this front, the Project Team is skilled and advancing the technical aspects of the Project. In GMOB's opinion, however, the Project Team lacks sufficient in-house capacity or experience to improve the community economic benefits, resolve reconciliation matters, and deal with indirect remediation effects such as off-site traffic management and the effects to be felt by an influx of workers. Federal, territorial and municipal governments should better support the Project Team, so that all direct and indirect aspects of the Project are addressed.

Article 2.2 of the Environmental Agreement emphasized protection of "the economy, way of life and well-being of the aboriginal peoples of Canada in the vicinity of Yellowknife, and of other residents of Yellowknife, the Northwest Territories and Canada", in addition to addressing environmental matters. Mr. Serge Beaudoin, Assistant Deputy Minister of CIRNAC, had this message in the Giant Mine Remediation Project (GMRP) 2018-19 Annual Report:

"We are committed to following the mandate given to us by the Government of Canada to use public investment to spur economic growth, job creation, and to improve economic opportunity for Northerners and Indigenous Peoples. We will use this opportunity to support the effort towards reconciliation and the renewed relationship between Canada and Indigenous Peoples based on recognition, rights, respect, cooperation, and partnership."

Despite these statements GMOB suggests again that more needs to be done to ensure that Indigenous and non-Indigenous residents of the NWT benefit from the remediation work and that reconciliation is fully incorporated into the Project.

As in previous years, GMOB believes there is a need for a comprehensive vision that encompasses the environmental, socio-economic, and cultural aspects of the Project. Without a comprehensive and integrated vision, elements of the Project will continue to proceed in isolation from each other. For example, economic aspects of the Project are separated from the technical site remediation responsibilities, and the goal of advancing reconciliation remains elusive.

GMOB has raised this issue in its past reports and in its meetings with the Project Team, the Parties, and CIRNAC with limited success. GMOB concludes that the federal Minister should appoint a special envoy to bring all aspects of the Project together into a single integrated long-term vision and a plan with actions and milestones.

What We Found

Previous GMOB annual reports concluded that not enough attention has been given to the socio-economic and community well-being aspects of the Project. In the past year, CIRNAC released a Socio-Economic Strategy and established multi-agency committees with a mandate of better coordinating socio-economic and capacity building opportunities. While these are positive steps, we have not seen evidence that the Government of Canada and the GNWT have adequately prepared local communities and businesses—Indigenous and non-Indigenous, large and small—to capture the significant economic benefits of the Project.

Northern businesses and potential employees continue to report that they face barriers preventing them from capturing economic and capacity-building opportunities.

If allowed to continue, this failure will seriously affect the local economy and community wellness. It also presents a missed opportunity to advance reconciliation with Indigenous peoples.

Socio-economic opportunities

To develop a better understanding of the economic opportunities associated with the Project, GMOB asked the Project Team for estimates of expected Project expenditures. The Project Team's estimates are preliminary and show:

- Project spending since 2005-06 is about \$500 million.
- The Project Team expects \$750 million will be spent on future active remediation.

Estimates for 100 years of long-term care of the site (post-remediation) range from \$235 million (CIRNAC) to more than \$566 million (Deloitte LLP, July 2019, Development of Options for Consideration for Long Term Funding for Giant Mine).

Based on these estimates, the total cost of the Project is estimated to exceed \$1.5 billion.

In 2018-19, the Project Team reported the following with respect to local benefits and spending:

- 44% of employees were northerners;
- 19% of employees were Indigenous;
- 22% of employees were women;
- 56% of suppliers were northern; and,
- 28% of suppliers were Indigenous.

Unfortunately, this level of detail does not easily translate into a quantitative assessment of the resulting direct and indirect benefits. For example, while 56% of suppliers are reported as northern, we are unable to determine what this means in terms of actual concrete benefits to locals and local businesses (e.g., staff hired, local purchases, etc.).

We note that there is a high degree of variability between some of these metrics when compared to prior years. For example, in 2018, the Project's annual report noted that employees and contractors on the Project were only 20% Northern and 4% Indigenous. The Project Team has not given detailed reasons for differences in year-to-year numbers of northern and Indigenous workers and contracts. Overall, we find that there isn't conclusive evidence about whether these numbers will remain stable or if they will go up or down in future.

We are also unable to understand what is happening regarding social aspects of socio-economic benefits including capacity building and ensuring that barriers to local employment or contracting are minimized. For example, the Project Team reports hours worked, rather than the types of and numbers of jobs held by northerners. This fails to satisfy concerns that northerners and Indigenous people are in lower-wage, entry-level positions to a greater degree than other workers. Some residents have said their expectations for northern contracts are not being met, partly because of what they say are restrictive purchasing practices for local businesses (e.g., liability insurance requirements, the size of contracts offered). Overall, residents continue to express anxiety about whether they will be able to take full advantage of the employment and business opportunities that will increase when full site remediation begins in 2021.

GMOB has repeatedly expressed concerns that the local economy is unprepared to capitalize on this significant opportunity. These concerns echo what we are hearing from local residents. We also note that the urgency to develop and implement an effective plan also increases yearly. GMOB concluded that the challenge is rooted in the absence of an effective and experienced champion to carry these messages forward and coordinate them to an effective end.

NEW RECOMMENDATION

Appoint a Special Envoy to Lead the Socio-Economic Aspects of the Project

RECOMMENDATION 2019-1

Directed to: Minister, CIRNAC

We recommend the CIRNAC Minister appoint a special envoy to work with federal, territorial, municipal, and Indigenous agencies and the Parties to develop and implement a comprehensive and integrated economic strategy. The strategy should identify and capture the Project economic, social, and educational opportunities and help deal with community health concerns and reconciliation efforts.

The responsibilities of the special envoy would, for example, include:

- Coordinate the development and implementation of the socio-economic strategy with governments, community representatives and organizations.
- Monitor the outcomes of the two socio-economic committees, evaluate their effectiveness, and negotiate changes as required.
- Report directly to the relevant federal and territorial Ministers on the strategy and its progress and make those findings public in an annual report.
- Identify barriers and recommend improvements to the strategy and its implementation.
- Facilitate information sharing with the broader Yellowknife community, including the city, education and business organizations, health services, social services, policing services, tourism and recreation associations, transportation and infrastructure organizations.
- Facilitate discussion on Project-related reconciliation.

The special envoy should have significant experience in senior level positions across government and industry, and experience negotiating complex northern and cross-cultural issues. The special envoy should have experience reporting directly to Federal and Territorial Ministers.

Reporting

The special envoy should report directly to both the relevant federal Minister and territorial Minister.

Resources and Timing

The special envoy should be given enough money and people to do their job effectively, ideally from an office in Yellowknife. The position should remain in place until the community sees that this role is no longer needed.

Why This is Needed

Since 2016, GMOB has advocated that all levels of government make local economic opportunities and benefits associated with the Giant Mine Remediation Project their priority.

In each of our Annual Reports, we recommended more efforts to create meaningful economic opportunities in time for residents to capture those opportunities. This is essential if the Project is to incorporate the principles of reconciliation and correct some systemic social and economic disparities within the Indigenous communities.

Given the lack of progress during 2019, GMOB views the appointment by the CIRNAC Minister of a special envoy as the best option to resolve the impasses, develop novel solutions to the problems, and to champion local opportunities. We expect this recommendation to result in an experienced and independent individual leading the social and economic aspects of the Project.

■ **UPDATED RECOMMENDATION**

Give each Party the Needed Resources

RECOMMENDATION 2019-2

**Directed to: Minister and Deputy Minister CIRNAC;
Minister and Deputy Minister, ENR**

GMOB recommends that the Parties continue to receive the necessary funding to support their full engagement in all aspects of the Project, including regulatory processes, health and mental stress studies, economic opportunities, and site remediation planning and implementation.

Why This is Needed

In our last annual report, we made a recommendation (2018-2) intended to help the Parties to the Environmental Agreement participate in various aspects of the Project. In 2019, the Project Team was able to provide capacity funding to all of the Parties. This helped the Parties participate in such matters as the water licence reviews, technical sessions and hearings.

The Parties are concerned about their future capacity. Capacity pressures remain with such responsibilities as upcoming health and mental stress studies and regulatory reviews. For this reason, we have updated our previous recommendation to extend capacity funding beyond the initial water licencing phase and into subsequent phases of the Project.

If this recommendation is implemented, we expect the Co-Proponents to ensure that the ongoing capacity needs of the Parties are met. This includes financial resources and accommodations to avoid consultation overload.

■ UPDATED RECOMMENDATION

Increase City Involvement

RECOMMENDATION 2019-3

Directed to: Mayor and Council, City of Yellowknife

GMOB recommends that the City of Yellowknife continue to improve its ability to fully engage in aspects of the Project affecting residents of Yellowknife.

Why This is Needed

The Giant Mine Remediation Project and its legacy will have significant implications for the City of Yellowknife. The City improved its engagement with the Project Team since GMOB's last report and previous recommendation (2018-4). This was achieved in part by capacity funding provided by the Project Team that has allowed the City to hire a consultant with remediation project responsibilities. Nonetheless, GMOB views more engagement as essential to meet the interests of residents. The City needs to be more proactive in making sure residents know about the many implications of the Project.

In GMOB's view, the City has not planned for unintended negative impacts from the Project, such as potential traffic congestion, and the effects of in-migration of perhaps many southern workers. In GMOB's view, the City has not planned for unintended negative impacts from the Project, which range from increased traffic congestion to the effects of a possible influx of workers from the south. Finally, many residents are unsure about what aspects of the Project the City has been or will be involved in, so it would be helpful if the City could find ways to better share that information publicly.

■ UPDATED RECOMMENDATION

Reconciliation and Legacy Issues

RECOMMENDATION 2019-4

Directed to: Minister, CIRNAC

GMOB recommends that the Federal Government immediately resolve the repeated requests from YKDFN for an apology and compensation for the historic operations at the Giant Mine. We also expect funding to continue for legacy documentation projects being led by the YKDFN.

Why This is Needed

Public concern about the legacy of Giant Mine remains a key issue and is particularly acute for the YKDFN. GMOB made recommendations (e.g., 2018-5) on this issue in all of its annual reports.

We note that there has been some progress, as discussions continue between the Yellowknife CIRNAC office and YKDFN leadership. The GNWT has provided resources to YKDFN to support their research and preparation of materials regarding the historic effects upon their community.

We look forward to further progress on this recommendation in the coming year.

THEME 2

Project Management and Planning

GMOB's mandate is to evaluate the effectiveness of the Giant Mine remediation. To do this GMOB must understand the remediation plan. We must understand its various parts, and schedules, and how these components fit together. GMOB and other parties need a detailed plan to track progress and assess whether the Project Team's remediation plans are feasible.

GMOB also wants assurance that the final closure plan appropriately considers the results from all the studies conducted. These studies should be integrated into management and monitoring plans.

What We Found

The Project Team spent the past several years preparing for its water licence application to the Mackenzie Valley Land and Water Board. The formal process began in April of 2019 when the Project Team submitted its Closure and Reclamation Plan, plus an additional series of management/monitoring plans and study results. Throughout 2019, the Parties and the public had several opportunities to submit comments, ask questions, and discuss issues both in writing and orally in Technical Sessions. Please see "GMOB Activities in 2019", below, for additional details on the water licence process.

Despite the additional information submitted to the MVLWB, GMOB continues to lack information on the status of various components of the Project and how they might all eventually come together. The Project Team has not yet been clear about the sequence, timing and integration of necessary Project tasks nor about performance measures.

This information should have been available before the start of the regulatory process. We also lack a clear statement of responsibility and discussion about options for the long-term management of the site. GMOB continues to be concerned about the level of federal commitment to long-term funding.

UPDATED RECOMMENDATION

Information on Plans, Schedules, How Activities are Connected and How Performance is Measured

RECOMMENDATION 2019-5

Directed to: Project Team and GMOB

GMOB recommends a dedicated meeting between the Project Team and GMOB to come to a common understanding on a sufficiently comprehensive Project plan that meets the expectations described in previous GMOB recommendations.

Why This is Needed

Since its establishment, GMOB has asked the Project Team for a high-level Project plan that clearly lays out the multi-year timeline and critical path for all Project elements and major activities (e.g., recommendation 2018-6). The plan should contain performance measures so that GMOB and other parties are able to assess if the Project Team is meeting its goals and targets, and where improvements should be made. Finally, the plan should allow us to assess whether the Project Team's remediation schedule is feasible and incorporates the results from all the Project-related studies.

The kind of project plan GMOB seeks is a common practice for major industrial developments. Although the Project Team provided GMOB with some documentation, these responses do not adequately address our request. We expect the Project Team to plan for closure and lay out the key steps leading to that outcome despite its differences from the private sector.

There is clearly a lack of understanding regarding the intent of GMOB's previous requests. Instead of restating previous recommendations, GMOB believes it is necessary to meet with the Project Team to come to a common understanding of just what is possible. We look forward to resolving this issue with the Project Team.

NEW RECOMMENDATION

Use Legislation to Guarantee Long-Term Funding

RECOMMENDATION 2019-6

Directed to: Minister, CIRNAC

GMOB recommends that the CIRNAC Minister develop legislation to guarantee long-term funding for the Giant Mine remediation and maintenance. Residents need to know that there will be guaranteed funding, independent of changes in government and policy.

Why This is Needed

Measure 6 of the Environmental Assessment required the Project Team to report on options for long-term funding of the Project (i.e., for the funding necessary to safely maintain the remediated site for the long-term). In 2019, the Project Team provided a report on long-term funding as prepared by the company Deloitte LLP. Despite the Project Team's efforts, GMOB is of the view that Measure 6 has not been satisfactorily addressed. Post-remediation budget estimates, governance issues, and confidence in the Deloitte report raised questions and concerns that remain unresolved.

For example, the Project Team's initial estimate of \$2.5 million for annual care and maintenance post-remediation lacked specific assumptions and rationale. Cost estimates provided later continue to get higher. This moving cost estimate undermines confidence in other aspects of the Project Team's response to the long-term funding requirement by the Environmental Assessment. The estimates also don't deal with who will be responsible after the mine closure when reclamation work is done. This is a problem because the "who" and the "how" of long-term management of the site will affect not only the cost estimate but also the way the funding is ultimately provided so that it will be stable over the years.

The status quo for funding the Project is through applications to the Treasury Board of Canada. Unfortunately, the Deloitte report did not provide an objective analysis of this way of funding the long-term care of the site. For example, while the report evaluated the administrative costs of different long-term funding models, it did not consider the financial costs associated with the government's existing processes. This and other aspects of the evaluation skewed the selection towards the status quo approach and away from other options that might otherwise be superior.

Local residents need to know that changes in the federal government or its policies will not put at risk the health of the land and local people. For this reason, we have recommended that long-term funding be secured through legislation.

THEME 3

Environment and Health

Managing the environmental and human health risks posed by contamination at the Giant Mine site is the main objective of the Project, in combination with social well-being. Giant Mine has had significant social and stress-related effects on local residents, especially Indigenous residents. Environmental health, economic health, human health and social well-being are closely linked, so it is important to make sure they are all safeguarded. This includes greenhouse gas emissions resulting from Project activities.

What We Found

The Project Team achieved solid progress on surface remediation and stabilization of subsurface mine workings. It has reduced or removed significant risks on the site. A long-term health study is underway (YkHEMP), and a stress, or mental health, and well-being study is planned. A Quantitative Risk Assessment of the Project, as required by Measure 5 of the Environmental Assessment, is almost complete and will be used to improve the closure and reclamation plan.

As discussed in earlier sections, progress is slow on the economic, social and human well-being parts of the project. In addition, little or no attention has been paid by the Project Team and regulators to the Project's greenhouse gas emissions. This deficit cannot continue given the federal government's broad commitment to reducing climate change.

■ PROGRESS ON RECOMMENDATION

Integrate and Improve Environmental Monitoring

Our understanding is that the Project Team is incorporating environmental management and protection plans into an integrated Environmental Management System. This marks good progress on our recommendation made last year (2018-9).

The Project Team continues to conduct a broad range of environmental monitoring programs on and around the remediation site. The Project Team's annual report lists these programs and uses them to evaluate current environmental conditions and to support remediation planning. GMOB routinely reviews the environmental reports distributed by the Project Team and provides comments or suggestions as appropriate. Overall, the quality of the reports is good.

GMOB has and will continue to advocate for the environmental programs necessary for the remediation and post-remediation phases of the Project. Once the water licence has been approved, the Project Team will likely have to adjust its environmental management and monitoring programs to meet licence conditions. This may provide an opportunity to better understand how our previous recommendations on this topic are being addressed. Once remediation is underway, environmental monitoring results will be publicly available on the MVLWB website.

RECOMMENDATION 2018-9

Directed to: Project Team

We again recommend that the Project Team develop an in-depth and integrated way to regularly review, evaluate, and improve its various environmental actions. We recommend that the team explain its environmental programs and make it easy for the public to find the program results.

PROGRESS ON RECOMMENDATION

Public Understanding of Arsenic Risks

Our past annual reports and recommendations (2018-10) emphasized the need to strengthen the public's understanding of arsenic risks. In the past year, there has been a clear increase in efforts to address those recommendations, particularly from the GNWT's Interdepartmental Legacy Contaminants Committee. For example, the committee hosted monthly meetings with the Parties. It also updated websites with maps to explain safe places to drink water, or pick berries and mushrooms.

While much good work has been done, GMOB will continue to monitor progress.

We look forward to the development of a school curriculum and more attention to distinguishing between the risks on the mine site itself and off-site contamination. At the core of our concern is the actual effectiveness of risk communication efforts.

RECOMMENDATION 2018-10

Directed to: Project Team;
Minister, Health and Social
Services, GNWT

We continue to recommend
that the Project Team develop
a communication and
education plan to improve
the public's understanding of
arsenic risks and safety.

■ UPDATED RECOMMENDATION

Offsite Legacy Contamination Issues

RECOMMENDATION 2019-7

Directed to: Minister and Deputy Minister, CIRNAC; Minister and Deputy Minister, ENR; City of Yellowknife; YKDFN; NSMA.

As in 2016, 2017 and 2018, GMOB recommends that the federal, territorial, municipal and Indigenous governments work together and finally resolve off-site contamination issues. These issues include public health and environmental concerns, land use planning, safety measures to reduce potential exposure, and other remediation, management and planning concerns.

Why This is Needed

The issue of off-site arsenic contamination (sometimes called “toxic legacy” from roaster operations) remains unresolved and extends beyond the effects of the Giant Mine. Both Con and Negus mines operated roasters—Con for decades and Negus for a few years—that also contributed to off-site contamination. While the Project is focused on the Giant Mine site itself, off-site contamination cannot be ignored by the Co-Proponents. Limiting attention to the Giant Mine site only is neither responsible nor effective.

In the past year, we have seen progress on our previous years’ recommendation (2018-11) on this topic. For example, the GNWT’s Interdepartmental Legacy Contaminants Committee brought in consultants to perform a Human Health Risk Assessment on arsenic impacted areas outside the Giant Mine site. We note that the Committee worked with YKDFN and NSMA to ensure that the off-site risk assessment includes environmental samples from traditional and other commonly used areas.

With respect to our updated recommendation, GMOB believes that both the federal and territorial governments are responsible for resolving the off-site toxic legacy. But leaders from the affected communities—Yellowknife, Ndilo, and Dettah— should also be involved in the development of a strategy and action plan to deal with issues that affect public confidence in residents’ health, safety, and quality of life. Community leaders should represent the concerns of their constituencies and more effectively advocate that senior governments resolve the off-site toxic legacy.

NEW RECOMMENDATION

Land Use Planning

RECOMMENDATION 2019-8

Directed to: Minister and Deputy Minister, CIRNAC; Minister and Deputy Minister, ENR; City of Yellowknife; YKDFN; NSMA.

GMOB recommends that by 2025 the federal, territorial, municipal and Indigenous governments jointly develop and approve a land use plan for the Giant Mine site post-remediation. In addition to addressing post-remediation uses of the site, the land use plan should incorporate related aspects of the long-term care plan.

Why This is Needed

There is no consensus among the key parties, let alone the general public, regarding what the Giant Mine site should look like after remediation is complete. How should the Giant Mine site be used? Who will make decisions about it? What should the site look like? A land use plan for the area is needed.

A land use plan for the area will be linked to long-term care requirements that are meant to be described in the Perpetual Care Plan. These requirements include post-closure governance (i.e., who will be responsible for managing the site after closure) and long-term funding. The process of developing the land use plan and the long-term care plan will require reconciling the different visions for the site and reaching a consensus vision that will provide needed certainty for residents now and into the future.

We understand that, at this time, there does not seem to be a clear process for how such a land use plan could be developed. We encourage the Parties to begin with laying out a feasible process along with their core interests and to integrate this work with discussions on the Perpetual Care Plan.

PERPETUAL CARE vs. LONG-TERM CARE

At the time the Environmental Agreement was negotiated, the Parties believed the site would require care in perpetuity, or forever. For this reason, the Environmental Agreement contains a requirement for a Perpetual Care Plan that requires the Co-Proponents to “address improvements in records management, communication with future generations, long-term access to funds for the Project and analysis of different possible future scenarios that might affect the Perpetual Care of the Project.”

Given advances in technology for arsenic treatment and surface remediation plans, GMOB believes that care would be better characterized as “long-term” rather than “perpetual”. Changing the terminology will reinforce the view that in the foreseeable future there will be effective alternatives to today’s *freeze in place* option and that we should focus on a long-term plan as an interim measure until a permanent solution is found.

NEW RECOMMENDATION

Greenhouse Gas Emissions

RECOMMENDATION 2019-9

Directed to: Project Team

GMOB recommends that the Project Team factor into its plans and activities any associated greenhouse gas emissions.

- Where feasible, the Project Team should choose options that generate the lowest emissions.
- Where this is not feasible, the Project Team should investigate and implement greenhouse offsets.
- The Project Team should conduct a baseline energy use and greenhouse gas emissions audit. It should annually document and report its greenhouse gas emissions and offsets against the baseline.

Why This is Needed

The Government of Canada places great emphasis on reducing and adapting to climate change. Climate change is largely driven by human-caused greenhouse gas emissions resulting from the burning of fossil fuels. The Project uses huge amounts of fuel, especially diesel and gasoline, but has not assessed the greenhouse emissions. The assessment of different options for site remediation have largely ignored the greenhouse gas implications. In the current context—including the rapidly warming temperatures in the North—this needs to change.

For all future decisions, greenhouse gas emissions should be a key consideration in the evaluation of site remediation options. When practical, the least greenhouse-gas costly options should be chosen. If another option is chosen, the Project should offset those costs through other means. Where possible, renewable energy sources should be used to power operations, for example wind turbines and solar panels, to generate electricity.

Finally, the Project Team should undertake a comprehensive baseline audit of Project energy use and greenhouse gas emissions. It should follow this up with annual reports on its emissions, the factors considered when selecting remediation options, and greenhouse gas offsets where those were implemented.

GMOB Activities in 2019

Based on discussions with the Parties and the general public, we believe that we are seen by the public and the Parties as effectively carrying out our oversight mandate. This year, the water licence process strained our capacity and resources at times with some directors devoting considerably more time to GMOB business than anticipated.

Appendix 2 details our 2019 activities. Appendix 3 provides an update of work done on our mandated tasks and provides a link to our audited financial statement for the fiscal year ending March 2019.

THE GIANT MINE REMEDIATION PROJECT WATER LICENCE

The Remediation Project water licencing process continued in 2019 with the Project Team supplying an updated Project Description, Closure and Reclamation Plan and associated Management Plans. These were requested by the Mackenzie Valley Land and Water Board (MVLWB). The MVLWB then circulated this package for public review and comment.

Other activities associated with the Project's water licence application during 2019 included technical sessions, information requests/responses, submission of water compensation claims, and submission of interventions to the public hearing.

The final stages in the process included a public hearing before the MVLWB (January 2020), an opportunity to provide comments on a draft water licence (March 2020) and submission of intervenor Closing Comments (March 2020). The MVLWB's decision on the water licence is anticipated to be sent to CIRNAC in May 2020. The Minister of CIRNAC has up to 90 days to approve or reject the licence and return a decision to the MVLWB.

GMOB's Role

GMOB participated actively in all parts of the water licence process. It submitted an intervention for the MVLWB's consideration on November 7, 2019. GMOB intervened on nine topics.

- Freeze Program
- Engagement and communication
- Site Runoff
- Effluent Quality Criteria
- Aquatic Effects Monitoring Program
- Plan Content and Approvals
- Greenhouse Gas Emissions
- Licence Term

Our submission can be found online at www.gmob.ca.

Our intervention included 24 recommendations. We intended that these assist the MVLWB with drafting appropriate terms and conditions for the Project water licence.

How Did it Go?

As the licencing process unfolded, GMOB noted a positive evolution in the responsiveness of the Project Team to concerns raised by the intervenors. Initially, the Project Team appeared reluctant to meaningfully entertain concerns raised by the reviewers, and instead focused on defending what was presented.

By the end of the process, a more positive working relationship had developed between the Project Team and the reviewers. The Project Team began to address reviewer concerns, and reviewers developed a more complete understanding of the constraints faced by the Project Team. This led to more constructive discussion regarding how to best regulate the project through the terms and conditions of a water licence.

In GMOB's view the process worked well and the list of issues was narrowed down so that the few remaining issues can be resolved leading to approval of a water licence for the Project.

What's Next?

Once the water licence has been issued, the MVLWB regulatory focus will change to licence administration. In the immediate future, this will involve finalizing remediation designs and updating management and monitoring plans for remediation of the site. The water licence application gives enough detail to regulate care and maintenance activities at the site, but additional information is required before actual remediation can begin.

The Project Team submitted what it considers a Final Closure and Reclamation Plan with the water licence application, however in GMOB's view it does not contain the full level of detail required. The Project Team indicated it will provide that kind of detail in the Design Plans and Construction Plans for each remediation component. In this way it will be possible to continue to have input into design details prior to construction.

GMOB understands that the Project Team intends to begin implementing active remediation in 2021. The MVLWB will need to approve Design Plans before physical work begins. GMOB anticipates the Project Team will submit Design Plans for the following components in 2020.

- Underground Mine Workings
- Freeze Program
- Borrow and Coarse Rock (what's needed and where it will be sourced)
- Onsite Non-hazardous Landfill

Updates to the management and monitoring plans need to be submitted and approved once final designs are more completely understood, but before physical work begins. The Project Team indicated that it will submit an updated Engagement Plan within six months of getting a water licence (i.e. before the end of 2020), and that an update of plans related to construction fill and managing explosives will be submitted in 2020/2021.

Other Regulatory Activities in 2020

Other regulatory activities will occur in the next year. These include the release of the Quantitative Risk Assessment and additional engagement on construction fill, the Aquatic Effects Monitoring Program, and closure criteria. GMOB will participate actively in all of these initiatives.

GMOB Research Program

GMOB's research program focuses on finding a means to permanently remove the threat posed by the 237,000 tonnes of arsenic trioxide stored underground at the Giant Mine site.

The Environmental Assessment of the remediation project concluded that the *frozen block* method was the most appropriate technical solution currently available. However, it also determined that freezing should not be viewed as the permanent solution and that emerging technologies should continue to be investigated. The Project Team's current plan is to freeze the arsenic trioxide in chambers below ground. Groundwater will also need to be collected and treated to avoid potentially significant impacts to Great Slave Lake.

The Environmental Agreement tasked GMOB with supporting research into technical approaches that could serve as a permanent solution for the management of arsenic trioxide that does not require constant care and maintenance.

While starting later than anticipated (in part a result of complex negotiations with partner organizations), the GMOB research program is now underway in partnership with a consortium of researchers referred to as TERRE-NET. TERRE-NET is a network of experts from Canadian universities that are focused on the identification of sustainable ways to deal with hazardous mine wastes. These experts work in various scientific and social science fields.

GMOB and TERRE-NET are currently focused on technology that will stabilize the arsenic trioxide, rather than extract it. This decision is based on financial considerations and the knowledge that there is little other arsenic trioxide stabilization research taking place elsewhere.

In 2019, GMOB signed a four-year Master Research Agreement with TERRE-NET (through the University of Waterloo). This agreement guides the GMOB Research Program and covers the following four research initiatives.

Research Project 1: Examine arsenic trioxide dust makeup and its ability to dissolve in a liquid, solid or gas solvent. This will be led by researchers at the University of Saskatchewan and Queen's University.

Research Project 2: Changing arsenic trioxide into arsenic trisulphide, a form of arsenic that dissolves less in water and is chemically less toxic than the current dust. This will be led by researchers at the University of Ottawa.

Research Project 3: Stabilization of arsenic trioxide dust in cemented paste backfill. This will be led by researchers at the University of Alberta and the Université du Québec en Abitibi-Témiscamingue.

Research Project 4: Understanding how stable arsenic trioxide is when the dust is transformed into a kind of glass (vitrification). This will be led by researchers at the University Waterloo.

GMOB is keeping the door open to independent research proposals and possible links with other expert groups. GMOB will continue to update the public as the research program progresses.

Looking Ahead: Priorities for 2020

GMOB is committed to being accountable and transparent. Its directors monitor GMOB's effectiveness on an ongoing basis. In the next year, the Board will begin work on an independent five-year evaluation of the effectiveness of GMOB.

Based on an internal assessment of its performance over the last year, GMOB has identified areas that require additional effort in 2020: communications, the research program, and community engagement.

- A more deliberate and targeted effort will expand and strengthen stakeholder and public understanding of the GMOB research program.
- GMOB will use webinars, video, and plain language summaries of its reports to reach a broader audience and encourage more public understanding and engagement in the Project.
- GMOB will extend its effective use of supplementary technical expertise during the water licencing process by accessing this kind of help in the fields of statistical analysis, (e.g., for the Aquatic Effects Monitoring Program) , geochemistry, and socio-economics.

Key Activities in 2020:

1. Preparation for the meeting with the Project Team (January 2020).
2. Preparation, participation and follow up for the MVLWB Water Licence hearing.
3. GMOB Research Program.
4. Participation in the Giant Mine Remediation Project Long Term Care discussions.
5. Participation in a community mental stress study.
6. Participation in the Project Working Group.
7. Participation in socio-economic discussions and initiatives led by the GNWT, the City of Yellowknife, the Project Team, and the special envoy.
8. Maintenance of the GMOB document library and website.
9. Arrangements for independent evaluation of GMOB.
10. Commitment to GMOB accessibility and administrative excellence.

APPENDICES

APPENDIX 1

GMOB 2018 Recommendations and Project Team Responses

2018-1	
GMOB 2018 Recommendations	<p>Directed to: Minister and Deputy Minister, CIRNAC</p> <p>We recommend that the Yellowknife CIRNAC office make it a priority to produce a socio-economic strategy and act on it.</p> <ul style="list-style-type: none"> • The strategy should identify barriers to local business and job opportunities and ways the Project will improve community well-being, increase trained workers, and other community assets. • CIRNAC should work with federal, territorial, municipal, and Indigenous agencies to develop and act on this strategy.
Project Team Responses	<p>The Giant Mine Remediation Project has developed and is implementing a socio-economic strategy to ensure Northerners and Indigenous persons are positioned to benefit from opportunities that result from the remediation of the Giant Mine site. A summary of the strategy was shared with partners and stakeholders in December 2018. The Project team intends to make the strategy publicly available in 2019 and will work with the Socio -Economic Working Group to start developing the Action Plan to implement the strategy.</p> <p>The Project team would like to highlight that this strategy includes measures to support successful participation in the Project and reduce and limit barriers that might prevent Indigenous and Northern persons, including those living in the Mòwhi Gogha De Niitlee claim area and Akaitcho Asserted Territory, from benefitting from employment opportunities that arise out of the Giant Mine site's remediation. It also looks at ways to support and build capacity in the North, such as access to relevant training to support work required at the site, and includes working within the Department and with other federal departments, the Government of the Northwest Territories, community groups, and local service providers.</p> <p>As part of implementing the Strategy, the Project has:</p> <ul style="list-style-type: none"> • Completed an update in 2018 to the Labour Resource Study Report. This assessed local employment and procurement capacity and assessed against the needs of the Project. It also described training programs that can address identified gaps. • Funded the Yellowknives Dene First Nation Dechita Naowo environmental monitoring training program. • Funded three full time positions at the Yellowknives Dene First Nation, including a Giant designated Economic Development Officer. • Established the Socio-Economic Advisory Body, a senior level committee responsible for coordinating regional socio-economic programs and • Maximizing opportunities from remediation activities on the Giant Mine site. It consists of senior management representatives from federal, territorial, municipal and Indigenous partners. The Advisory Body's purpose is to provide the Project with strategic advice and input on socio-economic aspects of the project, to brief their respective organizations on Project's approaches, and to raise potential organizational barriers to implementation so ways to address them can be explored. • Held an Industry Day on November 26, 2018 in Yellowknife. Close to 100 participants attended. Presentations focused on: <ul style="list-style-type: none"> • the main work packages over Term 1 (2018-2020) and Term 2 (2020-2028), as well as employment needs; • the procurement approach for the project, including key steps and components; the Procurement Strategy for Aboriginal Business (PSAB); and, Aboriginal Opportunities Considerations (AOCs).

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2018-1 CONTINUED
**GMOB 2018
Recommendations**
Directed to: Minister and Deputy Minister, CIRNAC

We recommend that the Yellowknife CIRNAC office make it a priority to produce a socio-economic strategy and act on it.

- The strategy should identify barriers to local business and job opportunities and ways the Project will improve community well-being, increase trained workers, and other community assets.
- CIRNAC should work with federal, territorial, municipal, and Indigenous agencies to develop and act on this strategy.

Project Team Responses

- Developed a set of Key Performance Indicators for the Project.
- Worked with Parsons on developing an Indigenous Socio-economic Benefits Strategy, including a Skills Inventory to inform Parsons' recruitment and hiring of local staff.
- Established a working group between the Yellowknives Dene First Nation, Parsons (Main Construction Manager) and the Project team, whose purpose is to create an inventory of Yellowknives Dene First Nation members' labour and skill capacity, as well as identify potential barriers to employment and training. Parsons and CIRNAC plan to do a similar exercise with the NSMA and Tłıchǫ.

The Giant Mine Remediation Project has a good track record of maximizing benefits to Northern and Indigenous groups and businesses; for example, of the \$ 430.8 million in contracts awarded to date for the Giant Mine Remediation Project, approximately \$196.5 million were awarded to Indigenous businesses. Contracts with Indigenous businesses have also increased, from 28% in 2015-16 to 45.6% in 2018-19, as a proportion of total spending on this Project.

The Project team also notes that the Indigenous workforce participation on the project between 2007-2017 averaged 18%, and between 2013-2017 Northern participation averaged at 27%. The Northern workforce category was not tracked prior to 2013. There are a variety of factors that have contributed to the numbers in previous years, including the relatively short nature of the contracts, specialization required for some of the work, as well as competition from other mines and major projects throughout the NWT for skilled workers.

The Project team is providing funding for training to begin preparing community members to participate more fully as the Project moves closer to implementation. The Project team provided \$115,000 in 2017/18 and \$166,895 in 2018/19 to the Yellowknife Dene First Nation for the Dechita Naowo Program, as well as an additional \$5,800 in 2018/19 specific to professional development for the Yellowknives Dene First Nation's Giant Mine Community Liaison and Technical Advisor. The Project team provided \$88,809 to the North Slave Métis Alliance for capacity and training in 2018/19.

2018-2	
GMOB 2018 Recommendations	<p>Directed to: Minister and Deputy Minister CIRNAC; Minister and Deputy Minister, ENR</p> <p>We recommend that the federal and territorial government give each Party enough resources so they can fully participate in all aspects of the Project, including:</p> <ul style="list-style-type: none"> • Critical review of technical reports linked to water licencing. • Informed participation in water licencing workshops and hearings. • Adequate consultation with their constituents.
Project Team Responses	<p>The Project team recognizes that capacity is an issue across the Northwest Territories, and takes a number of actions to help stakeholders participate meaningfully in the project. This includes working to both adapt Project engagement and technical processes and schedules in response to stakeholders needs. It also includes funding to support participation in the Project.</p> <p>The Project team funds annual proposals from the Yellowknives Dene First Nation, North Slave Métis Alliance, City of Yellowknife and Alternatives North for technical and administrative resources to participate in the Project. For example, based on the work proposed by the parties, the Project team has provided the following funding to facilitate participation in the Project:</p> <ul style="list-style-type: none"> • Approximately \$315,000 in 2016/17, \$309,000 in 2017/18, and \$582,000 in 2018/19 to the Yellowknives Dene First Nation, with \$520,000 in funding anticipated for 2019/20. This does not include the training funding for Dechita Naowo noted above, which was provided in addition to this funding. • Approximately \$26,000 in 2016/17, \$26,000 in 2017/18, and \$89,000 to the North Slave Métis Alliance, with \$149,000 in funding anticipated for 2019/20. • Approximately \$35,000 in 2016/ 17, \$37,000 in 2017/18, and \$53,000 in 2018/19 to Alternatives North, with \$53,000 in funding anticipated for 2019/20. • Approximately \$60,000 to the City of Yellowknife in 2018/19, with \$125,000 in funding anticipated for 2019/2020.

2018-3	
GMOB 2018 Recommendations	<p>Directed to: Minster and Deputy Minister, CIRNAC; all Parties; GMOB</p> <p>We recommend again that the Project Team give its duty to communicate and engage with the public an equal importance to other parts of the Project by:</p> <ul style="list-style-type: none"> • Funding communication and engagement activities adequately. • Evaluating their effectiveness. • Responding to gaps. <p>The Parties and GMOB should assist the Project Team by:</p> <ul style="list-style-type: none"> • Asking their audiences how to best ensure the Project Team understands their interests. • Asking their audiences how to best help them understand the Project Team's challenges and opportunities.
Project Team Responses	<p>The Project team appreciates the perspective from the Board when it comes to engagement. The Project team is fully committed to communication and engagement with stakeholders and the public, and considers this an important and valued part of the Giant Mine remediation process.</p> <p>Over the past year our focus has been on preparation of the Water Licence Package and has focused engagement to help all parties to prepare to participate meaningfully in this regulatory process.</p> <p>Engagement activities throughout 2018 included:</p> <ul style="list-style-type: none"> • The Annual Public Forums (March 2018) with the Yellowknives Dene First Nation, the North Slave Métis Alliance, and Yellowknife-area public, which included an update on project and introductions to the Main Construction Manager, the Socio-Economic Approach and the Water Licence timeline, and the Closure and Reclamation Plan. • Participation in the Yellowknives Dene First Nation Job Fair. • Quantitative Risk Assessment (QRA) engagement, with several sessions over 2018, which focused on community sessions to identify risks and identify thresholds. • Engagement to complete the Archaeological Impact Assessment (AIA), which was included as part of Giant Mine Advisory Committee (a group that represents the Yellowknives Dene First Nation interests in the remediation Project) meetings, at the Yellowknives Dene First Nation Elders Senate, as well as ground-truthing on site with YKDFN members, and with NSMA Elder interview input. • Participation in the Yellowknife Chamber of Commerce Spring Trade Show. • Community meetings with Yellowknives Dene First Nation and Yellowknife general public specific to pre-engage on the Water Licence Package in June 2019, as well as a three day session to discuss technical elements in Fall 2019. • Funding a Traditional Knowledge Study, which is currently underway (being conducted by Trailmark). • Engagement on the Stress Study discussions with the Giant Mine Working Group and the Giant Mine Advisory Committee. • Site tours with Yellowknives Dene First Nation and North Slave Métis Alliance members, focused on closure plan aspects. • Project participation in the NWT Geoscience Forum Trade Show. • Hosting of an Industry Day specific to Project procurement for Indigenous/Local businesses.

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2018-3 CONTINUED

GMOB 2018 Recommendations	<p>Directed to: Minster and Deputy Minister, CIRNAC; all Parties; GMOB</p> <p>We recommend again that the Project Team give its duty to communicate and engage with the public an equal importance to other parts of the Project by:</p> <ul style="list-style-type: none"> • Funding communication and engagement activities adequately. • Evaluating their effectiveness. • Responding to gaps. <p>The Parties and GMOB should assist the Project Team by:</p> <ul style="list-style-type: none"> • Asking their audiences how to best ensure the Project Team understands their interests. • Asking their audiences how to best help them understand the Project Team's challenges and opportunities.
Project Team Responses	<p>A record of the Project team's engagement activities has been provided to the Mackenzie Valley Land and Water Board, and is available on the public registry.</p> <p>In addition to these specific activities, the Project team continued with its regular meetings including monthly Giant Mine Working Group Meetings, Giant Mine Advisory Committee meetings based on the schedule supported by the Yellowknives Dene First Nation, and with other groups on an as and when needed basis.</p> <p>The GMRP also engaged with the GMRP Working Group on the draft Engagement Plan late 2018 to request input from affected parties. Valuable input from received on improvements to engagement objectives and considerations for reconciliation.</p> <p>The Project team works hard to address stakeholder concerns about how information is communicated. In 2018, the Project team worked to make presentations more visual (e.g. videos) in response to stakeholder recommendations. The Project team also developed a virtual reality tour of the site to assist stakeholders to better understand and visualize the site. This was enhanced in 2019 to reflect what the site could look like following implementation of the Closure and Reclamation Plan. The Project continues to look at new ways to use this technology.</p> <p>The Project team does collect and track stakeholder concerns, and acknowledges that we can improve how we report back on these concerns. The Project remains open to ideas for improvement in this area.</p>

2018-4

GMOB 2018 Recommendations	<p>Directed to: Mayor and Council, City of Yellowknife</p> <p>We recommend that the City of Yellowknife do more to make sure its citizens are informed, involved, and realize the possible social and economic benefits from the remediation Project. The Project could impact City residents in several ways, including:</p> <ul style="list-style-type: none"> • Availability of clean construction fill. • Possible change in city boundary. • Possible change in city tax base. • Public boat launch closure. • Blasting noise and dust.
Project Team Responses	Recommendation not directed to the Project Team

2018-5	
GMOB 2018 Recommendations	<p>Directed to: Minister, CIRNAC</p> <p>We recommend the federal government immediately respond to the YKDFN requests for an apology and compensation for the historic operations at the Giant Mine.</p>
Project Team Responses	<p>Legacy issues, including apology and compensation are led by the NWT Regional office of Crown-Indigenous Relations and Northern Affairs Canada, as they are outside the scope of the Giant Mine Remediation Project. The NWT Regional office has provided the following response:</p> <p>The Government of Canada recognizes this issue is of great importance to the Yellowknives Dene First Nation. Senior officials from CIRNAC's NWT Region have met with the Chiefs to discuss how best to engage the community, and especially the Elders.</p> <p>In October 2018, Minister Carolyn Bennett wrote to Chief Ernest Betsina and Chief Edward Sangris to advise that she instructed Matthew Spence, Regional Director General, CIRNAC NWT Region, to further engage with the Yellowknives Dene First Nation on this matter. The reason for the engagement is to better understand the nature of the Yellowknives Dene First Nations concerns and how Canada can meaningfully address them in the interests of reconciliation and strengthen our nation-to-nation relationship with them.</p> <p>The Department is currently reviewing and assessing the historical record so Canada can respond to the Yellowknives Dene First Nation in a meaningful way. This process is ongoing, and the findings will be shared with the First Nation.</p> <p>Canada is committed to working with the Yellowknives Dene First Nation in support of our commitment towards reconciliation and is working closely with them on next steps.</p> <p>The Region would like to note that, in the last quarter of 2018-2019, the Department, via the Regional office, provided the YKDFN with \$197,000 in funding to cover the costs associated with their research. This includes their review of historical documents and traditional knowledge.</p>

2018-6**GMOB 2018
Recommendations****Directed to: Project Team**

We recommend that the Project Team provide a five-year project plan that:

- Shows how activities are linked, scheduled, ordered, and integrated.
- Highlights major milestones.
- Includes the budget.
- Includes targets to measure performance.
- Includes a flowchart that shows how and when Project decisions are made.

The Project Team's annual report should detail:

- Achievements, and compare them to plans.
- Reasons if achievements did not meet goals
- The budget and the money actually spent.

Project Team Responses

The Giant Mine Remediation Project team has provided a five-year work plan to the Giant Mine Oversight Board, which included a schedule, information about budget activities, and the critical path as part of the document. The team commits to working with the Board to determine how to better present this information and provide it in a format that meets their needs. In the meantime, the Project team will continue to provide the Giant Mine Oversight Board with annual reports and regular Project updates via the Giant Mine Working Group, and to work closely with the Board to provide additional information they request.

The Project would like to clarify that the five-year work plan provided to the Board was clear that remediation activities will be implemented starting in 2021, not 2020. The Project team has stated that it anticipates regulatory approvals should be in place in 2020, followed by implementation of the Closure and Reclamation Plan in 2021.

The Project has submitted the Closure and Reclamation Plan and associated management and monitoring plans to the Mackenzie Valley Land and Water Board as part of the Water Licence and Land Use Permit processes.

The Project remains committed to keeping partners, stakeholders, and interested parties apprised should the regulatory process impact the anticipated timelines.

2018-7	
GMOB 2018 Recommendations	<p>Directed to: Project Team</p> <p>We recommend that the Project Team describe in detail the responsibilities of the Main Construction Manager, Parsons Inc., and how they will share duties. The Team should also describe how the construction manager will work with the Parties, GMOB, the Project Team, and the public.</p>
Project Team Responses	<p>The Government of Canada, along with the Government of the Northwest Territories as co-proponent, are responsible for the Giant Mine site and its remediation.</p> <p>The Main Construction Manager is a key partner and advisor as it relates to procurement, scheduling, resourcing, and other aspects related to the socio-economic benefits. They maintain a website where they provide information about upcoming contracts and socio-economic opportunities. http://www.giantminerp.ca</p> <p>Parsons also has an office located downtown Yellowknife to ensure easy access to Parsons staff on any number of issues from the public.</p> <p>The Main Construction Manager has also taken over the role of Mine Manager, which is a role required under Northwest Territories Mining Regulations. Since the Government of Canada, assumed responsibility of the site, the sites' Care and Maintenance contractor has filled this role.</p> <p>The Main Construction Manager took over this role from the previous care and maintenance contractor, Deton Cho/Nuna.</p> <p>The Project team has taken the opportunity to explain Parsons Inc.'s role on several occasions, including:</p> <ul style="list-style-type: none"> • March 2018 and March 2019 annual community forums for the Yellowknives Dene First Nation, for the North Slave Métis Alliance, and for the Yellowknife -area general public; • various Giant Mine e-newsletters; • Industry Day session in November 2018; and, <p>Parsons Inc. were present at the annual community forums in 2018 and 2019. The Project team will continue to ensure Parsons Inc. is present at public engagement related to the MCM role in contracting and socio-economic opportunities, as appropriate.</p> <p>The Project team appreciates the Giant Mine Oversight Board clarifying the intent of the recommendation, including additional listing of the specific roles and responsibilities of the Main Construction Manager. The roles and responsibilities of Parsons were defined in the Terms of Reference included in the tender solicitation documents. These documents are publicly available on Buy and Sell: https://buyandsell.gc.ca/procurement-data/tender-notice/PW-GMP-012-6553</p>

2018-8	
GMOB 2018 Recommendations	<p>Directed to: Project Team</p> <p>We recommend that the Project Team immediately:</p> <ul style="list-style-type: none"> • Complete a quantitative risk assessment for the remediation plan. • Complete its report on long-term funding and management options for the Giant Mine site. <p>These actions were among the conditions set out in the Project environmental assessment.</p>
Project Team Responses	<p>The Project team is working to progress those environmental assessment measures that must be completed prior to receiving a Water Licence.</p> <p>With regard to Measure 5 which is the direction to carry out a Quantitative Risk Assessment (QRA), engagement started with the Giant Mine Working Group in 2017 and engagement sessions for the implementation of the Quantitative Risk Assessment occurred throughout 2018. The process to complete a Quantitative Risk Assessment is complicated, and the work being done by the Project team is leading edge. As the Project team and participants began to scope out the work, it became evident that the initial engagement plan and schedule needed to be adjusted and adapted. To complete the Assessment work, further sessions were planned for 2019. All parties have expressed satisfaction with the inclusiveness of the process and are overall pleased with the opportunities to provide valuable input. The Quantitative Risk Assessment will be finalized later in 2019. Outcomes of the QRA will be used to further inform management and monitoring plans.</p> <p>With regard to Measure 6, which is the direction to evaluate long-term funding options, a draft report was completed and the Project team presented this to the Giant Mine Working Group in 2017. A consultant was hired to further develop the report. A subcommittee of the working group has been involved in discussions and feedback on the development of the report and presented with a final draft in March 2019. The Project Team is working toward finalizing the report and anticipates this will be complete in 2019. The development of the Perpetual Care Management Plan, as required by the Environmental Agreement, will begin, in consultation with affected parties this June. This work will provide a framework for further assessment of long-term funding mechanisms for the Project.</p>

2018-9	
GMOB 2018 Recommendations	<p>Directed to: Project Team</p> <p>We again recommend that the Project Team develop an in-depth and integrated way to regularly review, evaluate, and improve its various environmental actions. We recommend that the team explain its environmental programs and make it easy for the public to find the program results.</p>
Project Team Responses	<p>The Giant Mine Project team currently has a working Environment, Health, Safety and Community Management System in place for the Project. It includes aspects of an Environmental Management System (ISO -14001), Health and Safety (OHSAS-18001), and socio-economic aspects. The Project continues to update the Management System to be compliant with the revised 2015 ISO 14001 Standard. The Project is currently working with the MCM to develop an integrated management system.</p> <p>Environmental Management Plans and associated Environmental Protection Plans will be encompassed within this integrated system. The Project team will provide this to the Mackenzie Valley Land and Water Board (MVLWB), where they will be publicly available once completed.</p> <p>Comprehensive environmental monitoring at Giant Mine is ongoing, with results included in various annual reports and submitted to Environment and Climate Change Canada, the Giant Mine Oversight Board, and the Mackenzie Valley Land and Water Board. The Project team continues to work to ensure the public is informed about the Project via communication mechanisms such as the regular newsletter, and public forums, as well as notifications to the Project distribution list of Affected Parties such as the ongoing weekly Air Quality Monitoring Report.</p> <p>In addition, the team is happy to provide members of the public with information and reports, which can be requested by contacting the Project team at aadnc.giantmine.aandc@canada.ca or 669-2426.</p>

2018-10	
GMOB 2018 Recommendations	<p>Directed to: Project Team; Minister, Health and Social Services, GNWT</p> <p>We continue to recommend that the Project Team develop a communication and education plan to improve the public's understanding of arsenic risks and safety.</p>
Project Team Responses	<p>The Giant Mine Remediation Project team recognizes that there remain public concerns about the risks associated with arsenic exposure, and will continue to work to ensure the public is aware of risks as they relate to the Project.</p> <p>Public information sessions on the results of the Human Health and Ecological Risk Assessment (HHERA), which confirmed that risks from the site were low to very low, were held in October 2017, prior to finalizing the report in January 2018. In addition to the public sessions in October, the Project team has continued to communicate results of the Human Health and Ecological Risk Assessment in its newsletter and at the community forums with the Yellowknives Dene First Nations members; North Slave Métis Alliance members, and members of the Yellowknife-area public in March 2018 and 2019. The full report is also available via a Sharepoint, and a Plain Language Summary of the report is available on the giant.gc.ca website.</p> <p>While the Human Health and Ecological Risk Assessment evaluated current and future risks to ensure remediation work onsite will not increase exposure, the Project team recognizes that health concerns remain among area residents. A separate health study, called the Health Effects Monitoring Program, is being conducted to look at current exposure to arsenic and other chemicals of concern to residents of Dettah, Ndilo and Yellowknife, and to monitor exposure over time. This study is being conducted by Dr. Laurie Chan of the University of Ottawa. Dr. Chan was in Yellowknife to present the results of the study in May 2019. As part of this work, the Health Effects Monitoring Program Team is working to develop a volunteer program to facilitate engagement with youth, between the ages of 11 to 19 in Yellowknife, Ndilo and Dettah, in order to foster interest and build knowledge around the Health Effects Monitoring Program as part of the Giant Mine Remediation Project. More information is available at ykhemp.ca</p> <p>The GNWT Interdepartmental Legacy Contaminants Committee has also identified the need to better inform residents about arsenic exposure from all sources and to put exposure to Giant Mine related arsenic in perspective and context. The GNWT-ENR and GNWT-HSS are leading this work and will be developing outreach material that will help better inform the public and youth educators of the risks related to arsenic in the Yellowknife area.</p> <p>The Chief Public Health Officer continues to monitor any new information related to arsenic in the Yellowknife, Ndilo and Dettah area and will update public health messaging as necessary. Current public health messaging on the subject is available on the GNWT public health advisories web page.</p> <p>In October 2018, the federal government announced that the more recent soil sampling data taken close to the Kalemi Dene School in Ndilo showed that the arsenic levels in the area were below residential standards. Representatives from Crown-Indigenous Relations and Northern Affairs Canada met with the Yellowknives Dene First Nation, including Chief Edward Sangris of Dettah, to discuss that finding and the issue was deemed closed.</p>

2018-11	
GMOB 2018 Recommendations	<p>Directed to: Minister and Deputy Minister, CIRNAC; GNWT Minister and Deputy Minister, ENR; Mayor, City of Yellowknife</p> <p>We again recommend that the federal, territorial and municipal governments work together to ease the environmental and health concerns about arsenic levels on land outside the Giant Mine remediation site.</p>
Project Team Responses	<p>Legacy issues, including apology and compensation are led by the NWT Regional office of Crown-Indigenous Relations and Northern Affairs Canada.</p> <p>The Government of the Northwest Territories (GNWT) and the Government of Canada are working together to carry out a Human Health Risk Assessment (HHRA) on legacy contamination in the Yellowknife area.</p> <p>The purpose of the HHRA is to examine, and determine the risks associated with exposure to legacy arsenic and other contaminants in soil, water, sediment, fish, country foods, air, dust, plants and mushrooms. The focus of the HHRA is on the areas west of Giant Mine and around Con Mine. The HHRA will also look at areas where people have cabins, camp and fish to the east of Giant Mine (e.g. Ingraham Trail area), and other traditionally used areas identified by local Indigenous communities within a 25 km radius around Yellowknife, at which point contaminant levels reflect local background conditions.</p> <p>The outcomes of the risk assessment will be reviewed by both the GNWT and Government of Canada to determine what remedial actions or risk management options, if any, are required. These next steps will include engagement with the community in the fall of 2019 on the draft HHRA.</p> <p>The GNWT Interdepartmental Legacy Contaminants Committee will also review the outcomes of the risk assessment to determine what appropriate messaging and communication tools are required to better inform local residents of the results.</p>

APPENDIX 2

GMOB Activity Report 2019

November 15, 2018 – December 13, 2019

GMOB BUDGET 2019-2020

The GMOB budget for 2019-2020 was \$957,072.00. This was received as a grant from CIRNAC. It included a 2% Northwest Territories Consumer Price Index adjustment.

- The Core Operations budget was \$691,489.00 or 72% of the total budget.
- The Research Program budget was \$265,583.00 or 28% of the total budget.

GMOB WORK PLAN 2019-2020

- The 2018-2019 GMOB work plan was submitted to CIRNAC February 2019
- GMOB Board and staff attended 109 meetings involving either the Giant Mine Remediation Project, the Mackenzie Valley Land and Water Board (MVLWB) water licence process, or the GMOB Research Program.

GMOB ACTIVITY SUMMARY

Reviews

GMOB was an active party in the MVLWB's land use permit and water licencing process for the Giant Mine Remediation Project since the application was submitted on April 1, 2019. The GMOB activities supporting this process included the following:

- Public review and comment on the updated Project Description package.
- Participation in two technical sessions (July and September).
- Participation in two rounds of information requests and responses.
- Review of water compensation claims from affected individuals and response to these claims from the Project Team.
- Submission of GMOB intervention and presentation.
- Review of party intervention submissions and Project Team responses.
- Review of intervention presentations by the intervenors and the Project Team.

GMOB also reviewed and commented on the following documents:

- 2017-2018 Annual Report of the Giant Mine Remediation Project.
- Study design for the proposed Community Stress Study.
- Giant Mine Remediation Project Historical Employment and Contracting Statistics.
- Terms of Reference for the Project Socio-Economic Advisory Body.
- YkHEMP draft Results Analysis correspondence.
- Role of the Working Group's Technical Advisor during the Water Licensing Process (GMOB and Alternatives North)
- Draft Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) report: Development of Options for Consideration for Long Term Funding for Giant Mine.

GMOB Reports, Presentations and Workshops

- Pre-release presentation of the 2018 GMOB Annual Report Recommendations to the Parties, April 12, 2019.
- Water Licence presentation with Parties and Public Interest Groups, April 18, 2019.
- GMOB 2018 Annual Report release, April 23, 2019.
- GMOB Public Meeting, May 1, 2019.

Engagement and Communications

- Attended committee meetings and public engagement sessions listed in *Appendix 5*.
- GMOB continues to host residents, visitors to the community, and scheduled school tours at the GMOB storefront office. People want information about the Board, its activities, and ask questions about Giant Mine and the status of the remediation project.
- The GMOB Chair had three media interviews or information sessions.
- THE GMOB website and online library was updated regularly.

APPENDIX 3

GMOB 2019 Performance Measures Table

MANDATE REQUIREMENTS	WHAT WAS DONE	RATING
Review and make recommendations to the Co-Proponents' Annual Report.	The 2018-2019 Co-Proponents Annual Report received by GMOB on November 29, 2019. The Report was reviewed by the Board. No comments were submitted.	Completed
Review and make recommendations to the Co-Proponents' Status of the Environment Report.	The Status of the Environment Report was not submitted by the Project Team for review.	Not Started
Review and make recommendations to the 20-year Independent Project Review.	The 20-year Independent Project Review was not submitted by the Project Team.	Not Started
Participate in and advise on the Co-Proponents' process to assess options for the management of Baker Creek.	In 2019, GMOB reviewed the remediation plans for Baker Creek through the land permit and water licencing process of the MVLWB.	Completed
Manage the Research program, toward a permanent solution for arsenic at Giant Mine.	In 2019, GMOB signed a five-year Master Research Agreement with the University of Waterloo and approved four research streams with TERRE-NET.	Ongoing
Promote public awareness of the Environmental Agreement, GMOB and its roles under this Agreement.	Continued maintenance of the GMOB storefront office, development and enhancement of public displays, web-based public information tools and public information sessions.	Ongoing
Establish a public source of records that it considers relevant to its responsibilities.	GMOB maintains an ongoing collection of legacy and current records related to Giant Mine, the Giant Mine Remediation Project, arsenic trioxide, and arsenic research. This information is available on the GMOB website library and the GMOB office.	Ongoing
Provide all of its reports and evaluations to the Co-Proponents and make them available to the public.	All GMOB reports, minutes and financials are delivered to the Parties electronically and made available to the public on the GMOB website or by requesting a printed copy.	Completed
Issue an annual report each year and hold an annual public meeting during the first five years of its operations.	GMOB released its 2018 Annual Report on April 23, 2019. GMOB held its 2018 -19 Annual General Meeting on January 16, 2020.	Completed
COMMUNICATIONS	WHAT WAS DONE	RATING
Provide opportunities and communicate with the Parties to the Agreement, the Project staff, and the public to provide information and comments by GMOB and to increase the awareness of GMOB actions and positions.	GMOB communicates with the Parties, Project staff, and the public through daily business, public presentations, and Working Group meetings. GMOB records formal evaluations of meetings and public presentations.	Ongoing
Provide feedback to the Parties and the Project staff about Project activities.	GMOB staff keeps an ongoing list of public issues, comments and concerns and incorporates them into the GMOB Annual Report.	Ongoing

RESEARCH PROGRAM	WHAT WAS DONE	RATING
Manage the Research program toward a permanent solution for dealing with arsenic at the Giant Mine.	In 2019, GMOB signed a five-year Master Research Agreement with the University of Waterloo and approved four research streams with TERRE-NET.	Ongoing

FINANCIAL AND PHYSICAL RESOURCE MANAGEMENT	WHAT WAS DONE	RATING
Provide the necessary financial records to the appropriate authorities in a timely fashion.	The GMOB Financial Statement is delivered annually to CIRNAC and then presented to the Parties to the Environmental Agreement at the GMOB AGM.	Completed
Manage GMOB funds in a prudent and responsible way that receives a positive annual audit review.	GMOB is funded by the federal government according to the terms set out in Article 11 of the Agreement. Crowe MacKay LLP prepared the 2017-2018 Audited Financial Statements, formally accepted at the GMOB Annual General Meeting on November 15, 2018. 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, 2018, 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: https://gmob.ca/wp-content/uploads/2019/09/GMOB-Financial-Statement-March-31-2019-Final-Signed.pdf	Completed
Manage GMOB physical resources in a prudent and responsible manner.	GMOB completed the 2019 annual inventory of assets on January 15, 2020, according to GMOB policy.	Completed

HUMAN RESOURCE MANAGEMENT	WHAT WAS DONE	RATING
Maintain an appropriate level of staff to assist in GMOB activities.	As required by GMOB Operational Policy, GMOB administration and board members review staffing requirements every three months.	Ongoing
Maintain positive relations with GMOB employees.	As required by GMOB Operational Policy, the Board monitors staff relations.	Ongoing
Provide employees with an annual evaluation and performance feedback.	As required by GMOB Operational Policy, the GMOB staff received annual evaluations and performance feedback.	Completed
Provide employees with training as required.	As required by GMOB Operational Policy, staff training is supported.	Completed

GMOB Board of Directors



Dr. Kathleen Racher
Chairperson
Yellowknife, NT



Mark Palmer
Director
Edmonton, AB



David Livingstone
Director
Yellowknife, NT



Kenneth Hall
Director
Yellowknife, NT



Tony Brown
Secretary-Treasurer
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Dr. Ken Froese
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