



Giant Mine Remediation Project

MV2007L8-0031

Giant Mine Working Group

11 August, 2016 Meeting Summary

DRAFT

September 2, 2016 version



Aboriginal Affairs and
Northern Development Canada

Affaires autochtones et
Développement du Nord Canada



Giant Mine Remediation Project

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1. INTRODUCTION

The Giant Mine Remediation Project (GMRP) Team organized a meeting of the Giant Mine Working Group (GMWG, or simply WG). The meeting was held on the 1st floor of the Greenstone Building in Yellowknife, NT, and was scheduled from 9:00 am to 2:15 pm MT on August 11th, 2016. After approving the agenda, the meeting commenced at 9:05 am, with a break from 10:30 am -10:45 am, a lunch from 1200 pm – 1:05 pm and adjourned at 2:05 pm.

Giant Mine Remediation Project Team	Team Member
Indigenous and Northern Affairs Canada (INAC)	Natalie Plato Jane Amphlett (on telephone) Geneva Irwin Sharon Low
Government of Northwest Territories (GNWT)	Erika Nyssonen
Public Works and Government Services Canada (PWGSC)	Brad Overton Chris Doupe (on telephone)
GMRP Interested Party	Representative
City of Yellowknife	Wenyan Yu
Health Canada (HC)	Luigi Lorusso (on telephone)
Alternatives North (AN)	Tee Lim
Yellowknives Dene First Nation (YKDFN)	William Lines
North Slave Metis Alliance (NSMA)	Shin Shiga
Health Canada	Asish Mohapatra
Department of Fisheries and Oceans	Tara Bortoluzzi (on telephone)
Other	Representative
Bill Slater Environmental Consulting	Bill Slater (on telephone)
Government of Northwest Territories – Health and Social Services	Peter Workman Kami Kandola
Canada North Environmental Services Limited (CanNorth)	Harriet Phillips Leah Leone

*Notes were taken by Geneva Irwin - GMRP.

OBJECTIVES

The intent of this meeting:

- Review previous minutes and action items
- Provide updates on activity on site
- Discuss Human Health and Ecological Risk Assessment and draft Terms of Reference (TOR) for Health Study Advisory Committee

MEETING MATERIALS (PROVIDED IN APPENDICES)

- Appendix A: Meeting Agenda
- Appendix E: CanNorth Powerpoint Presentation

2. HHRA PRESENTATION

The group moved directly into the Risk Assessment presentation by CanNorth (Appendix E). The information presented at the previous meeting was reviewed and CanNorth moved forward to inform the WG of the progress being made. Harriet informed the group that they had completed the data gap analysis, incorporating the information provided by the WG. They reviewed the data, looking at the areas that were discussed and how they would use it within the risk assessment from both a Human Health Assessment perspective and an Ecological Risk Assessment perspective.

Harriet moved on to discuss the data available for the HHRA in terms of Human Exposure Pathways. The two data gaps that were identified were water, soil and sediment data from Long Lake as well as bioavailability measurements in the soil and the sediments from the Giant town site. It was determined that all other data was sufficient for use in the HHRA.

CanNorth explained that in order to provide a more robust statistical sample size, in terms of soil for the evaluation of a Latham island receptor, they would combine the soil samples for Latham Island and Ndilo in the assessment of Latham Island. This was met with some hesitation from William, who preferred that the samples not be combined for the comfort of the YKDFN Membership. It was clarified that the report would consider both areas as receptors separately; it would only be the soil samples that were combined for the Latham Island assessment (they would not be combined for the Ndilo assessment). The WG agreed that combining the samples would be acceptable.

Erika asked what sampling program was used in the 2000 Dettah soil sampling; it was explained that it is old data used in the 2006 Con Mine risk assessment. Harriet also mentioned that a student from Queen's University has been doing some work and it may be possible to have 2 more samples from the Dettah area. Asish asked for confirmation that these samples would be total arsenic and not speciated arsenic.

In terms of fish data, Harriet confirmed there is a large sampling and CanNorth believed there was adequate data for the study. Shin asked to confirm whether or not we know the fish move back and forth between Yellowknife river and

Horseshoe Bay, Harriet indicated that there was no way to discern this but that arsenic levels in the river are lower than those in the Bay and that there is some speciation in the samples.

Kami asked if they would be providing information on the frequency of consumption of fish in terms of toxicity. Harriet clarified that this risk assessment will not make recommendations on consumption of fish etc, rather it will be looking at all the pathways to determine the incremental risk associated with the Giant project for people who eat fish, garden produce, etc. The speciation would be used to determine the toxic form of arsenic in the fish which would be used in their risk assessment calculations. Bill Slater asked where the Background fish Samples would be coming from – Harriet responded that they would be coming from Horseshoe Island and Yellowknife River.

William asked if CanNorth planned on getting any more data on trout, Harriet confirmed they were open to obtaining additional trout samples and taking it into consideration in order to make the YKDFN more comfortable.

Can North moved on to discuss Bioaccessibility and Bioavailability which they defined as the amount of arsenic in the various media that has been sampled is available for uptake of the body. There have been a fair amount of studies done on several different media but there was a lack of data for the Giant Town Site and Long Lake. Jane confirmed there would be sampling done along the shoreline of the Town Site

The discussion moved on to slide 12 of appendix E which discussed other data availability and whether or not there was adequate information. They believed the air data was sufficient but did not have any data for house dust but would be able to use the assumption that house dust is comprised of 30% soil. Garden Produce data from 2001 could be used for the study as CanNorth believed it to still be accurate and as a general rule, imported soil was often used. Kami pointed out that the depth of planting would make an impact as raised beds were generally used in gardens. CanNorth asked the group whether they believe that Garden Produce should be used as a potential pathway given these considerations and that the Giant project is unlikely contributing to Garden produce as a source of Arsenic and have no effect on soil or vegetable concentrations.

Leah went on to discuss background concentrations and what is considered to be appropriate, which is outlined on slide 13 of the presentation. While discussing which statistics should be used to describe the background data. Luigi from Health Canada commented that it is a good idea to look at many different options for defining background to compare and come up with one number to use that all are comfortable with. Leah discussed the background soils information available from the Geological Survey of Canada (GSC) and indicated that if the 2000 data was used that the background arsenic concentrations were 150 mg/kg; however, these data considered samples that were on the Giant Mine site and in and around the City of Yellowknife. (slide 15). If these data were removed and other data from the GSC considered (1991 and 2001), then the background arsenic concentration would be around 70 mg/kg. Erika will be discussing the issue with senior management and the group will discuss the matter, as it may affect the current GNWT guidelines. Harriet said that she would send the spreadsheets with the background soil calculations to Erika and INAC. The group decided to revisit this issue after taking some time to think it over.

CanNorth went on to discuss recommendations for the HHERA. Harriet explained that they would like to get some additional bioaccessibility data of the Town site and the shoreline and that it is ongoing. They would like to collect surface water, soils and sediment data from Long Lake, looking at metals and bioaccessibility of arsenic. She discussed that a Queen's University student had collected water and sediment samples from the Long Lake area in the spring. They would also like to get voluntary samples of game, berries, etc. Shin mentioned that NSMA has some available samples in the freezer.

After a short break, the group reconvened to discuss feedback received from the GMAC meeting. Harriet covered the different types of wild plants and animals generally consumed and the samples CanNorth would be searching for, hopefully collecting them by fall so that the analyses would be completed by the end of the year. Shin suggested contacting Canadian Wildlife services for data on bird/bird eggs in the Dettah area or ENR North Slave Office for Wildlife harvesting data. Natalie pointed out that non-aboriginal people in the Yellowknife area often consume more traditional food than those in a larger southern city. Erika mentioned that a student is doing work with the Toxic Legacies project conducting interviews with YKDFN about land use. GNWT had touched base with this student and are hoping to be granted access to the study. Jane mentioned that there will also be a deer mice study taking place on site in early September to fill gaps for the Ecological Risk Assessment. Natalie asked that trout be added to the voluntary sampling program.

Harriet wanted to inform the group that they would be conducting an Ecological Risk Assessment (ERA) to build on the one conducted in 2006. The availability of data was discussed; CanNorth believes there is adequate data for the majority of pathways. CanNorth recommended that more vegetation and deer mice be collected from site.

Leah went on to discuss receptors that would be included in the ERA. She mentioned they would like to focus mostly on smaller mammals as they give a better idea of bio magnification up the food chain and do not cover as large an area as the large mammals would. CanNorth will be splitting the mine site into 4 different areas in order to ensure sampling is not focused on hot spots.

As far as next steps, Leah covered a proposed schedule (slide 32, 33) which included several more consultations over the next year. CanNorth would like to add in a consultation in the beginning of December to discuss approaches to future concentrations if the WG finds it important. Jane asked for an HHRA consultation to be tentatively added to the October and December WG agendas, although with the health study and SDE upcoming in the fall, time may be limited. Shin would like to see a schedule lined up, combine with other non-HHRA related engagements associated with the Giant Mine Project.

3. HEALTH STUDY TERMS OF REFERENCE ADVISORY COMMITTEE

After a lunch break, Jane discussed the upcoming Health Study, led by Dr. Laurie Chan. She asked that YKDFN, NSMA, Health Canada and the City of YK appoint someone to sit on the committee beginning as early as September. The names being put forward for the committee could have local health expertise and/or local knowledge to assist with the study. Likely, the tenure will be years and will require a minimum of 2 face-to-face meetings per year. Natalie confirmed that costs would be covered for those groups that already have contribution agreements in place.

Erika thought it may be a good idea to allow more than one representative from the GNWT Health departments in order to maximize the health expertise on the committee, this was agreed upon by the group, although only in a “back-up” capacity. Erika mentioned that Kami would like to sit on the committee, as well as Laura from GNWT.

Shin asked if NSMA could appoint a health professional who is not a member to sit on the committee on their behalf. Jane responded that the intent is to have medical expertise, as well as community knowledge (such as those from aboriginal groups) and that would be the main focus. If there are gaps in knowledge in the group, it may be a good idea to appoint someone in order to fill those gaps. Jane proposed a kick-off meeting with Dr. Chan in September and to finalize the committee at that point.

It was also noted that GMOB are not currently included in the draft TOR for the Advisory Committee, however the project will check with them on if and how they would like to participate.

With no additional comments, Natalie asked that the WG send comments and names for the committee via email prior to the next WG meeting on Sept 13.

4. INTERIM DUST MITIGATION

Natalie tabled the final wrap up of the dust mitigation program. GMRP has decided to use EnviroTac as the new dust suppression method. The group will be reporting on application and updates through WG. The product has been ordered and will be applied in the upcoming weeks.

Brad confirmed that there were 50 barrels of Soil Sement to be used up, so they would be placing a small order of EnviroTac for use this year and a large order in Spring 2017 as it is not to be stored in cold climates.

5. SITE UPDATE

Natalie Listed the following items that had been taking place on site:

- Water treatment plant is operating 24 hours doing regular water sampling and treated water and is still discharging into Baker Creek
- Continuing maintenance and hygiene improvements to the underground refuge stations

- Painting fuel tanks and general repairs
- Cleaning underground refuge stations
- Surface diamond drillers are doing void monitoring investigation
- Electrical upgrades on 3 transformers
- RTL and EnviroVac are beginning deconstruction on A-shaft, Headframe, Assay lab and Curling Rink
- Golder doing soil sampling on site
- Preparing for deer mice study.
- Erika also pointed out that the University of Ottawa will be publishing a paper on their recent research work on Pocket Lake.

6. ADMINISTRATIVE MATTERS

ACTION ITEMS FROM JULY 14, 2016 MEETING

Natalie ran through the status of action items declared at the previous meeting.

1. Final Soil Assessment Report

Status: Bring Forward

In final stages, hopefully available by September 13.

2. Natalie to look into security assessment being shared with the WG

Status: Bring Forward

Will be shared when it is available – March 2017

3. Erika to provide CanNorth with Information for HHRA

Status: Complete

4. GMRP to brief the WSCC on the HHRA in one of their regular meetings

Status: Make note, remove from Action Items.

5. William to get in touch with Randy Freeman (traditional knowledge)

Status: Complete

Randy is preparing studies to be sent over and Alex Power is also looking into studies.

6. Jane to Confirm that project has all recent items from Chetalat

Status: Complete

7. UPCOMING MEETINGS

The next meeting of the Working Group is planned for September 13, 2016 at 9:00 am on the 2nd floor Boardroom of the Greenstone Building in order to accommodate Dr. Laurie Chan.

8. ACTION ITEMS

Action Item	
1	Check with Northland Utilities regarding Easement with respect to the Niven Air Station.
2	WG to send comments and suggestions for Health Effects Monitoring Program Advisory Committee (HEMPAC) representatives.
3	Project send list of all studies/reports on and off site compiled as a result of the Gap Analysis to the Working Group.
4	Project Team inform Working Group if and how GMOB will be participating in HEMPAC.
5	Project Team provide engagement timeline (including HHRA sessions) to the Working Group.

9. UPCOMING AGENDA ITEMS

Date	Topic
September	<ul style="list-style-type: none">• Water Treatment Plant – Outfall Location• Dr.Laurie Chan - Health Study
October	<ul style="list-style-type: none">• HHRA Dietary Survey Consultation• COPC Selection and Updated Problem Formulation
November	<ul style="list-style-type: none">•
December	<ul style="list-style-type: none">• HHRA Future Concentrations Consultation



Agenda

Description	Giant Mine Remediation Project Working Group Meeting		
Place	Greenstone Building 1 st Floor		
Date	Thursday August 11 @ 9 – 2:15 pm		
Organizer	Erika Nyssonen	Telephone No.	1-866-885-0884 #1715

Participants

William Lines	Yellowknives Dene First Nation (YKDFN)
Wenyan Yu	City of Yellowknife (City)
Gordon Hamre	Alternatives North (AN)
Tee Lim	Alternatives North (AN)
Shin Shiga	North Slave Metis Alliance (NSMA)
Thomsen D'hont	North Slave Metis Alliance (NSMA)
Sharon Low	Indigenous and Northern Affairs Canada (INAC)
Bill Slater	Technical Advisor (phone)
Erika Nyssonen	Government of Northwest Territories (GNWT)
Jane Amphlett	Indigenous and Northern Affairs Canada (INAC) (phone)
Natalie Plato	Indigenous and Northern Affairs Canada (INAC)

Linda Pickett	Public Works and Government Services Canada (PWGSC)
Tara Bortoluzzi	Department of Fisheries and Oceans (phone)
Asish Mohapatra	Health Canada (HC)
Luigi Lorusso (on telephone)	Health Canada (HC)
Jody Small	Environment Canada
Ben Nind	Giant Mine Oversight Board (GMOB)
Secretary: Geneva Irwin	Indigenous and Northern Affairs Canada (INAC)
Harriet Phillips	CanNorth

SCHEDULE

TIME	AGENDA ITEM	Lead
9:00	Introductions and Approval of Agenda	Natalie
9:10	HHRA Presentation	Harriet Phillips
10:30	Break	
10:45	HHRA Presentation (con't)	
12:00	Lunch	
1:00	Health Study Terms of Reference Advisory Committee	Jane
1:30	Interim Dust Mitigation	Natalie
1:45	Site Update	Natalie
2:00	Minutes and Action Items	Natalie
2:15	Meeting adjourned	

**Giant Mine Remediation Project (GMRP)
Health Effects Monitoring Program Advisory Committee (HEMPAC) Terms of
Reference**

DRAFT June 30, 2016

Background

The Giant Mine Remediation Project Team is currently conducting a long-term remediation project at the Giant Mine site in Yellowknife, NT. The project was approved by the Mackenzie Valley Environmental Impact Review Board subject to 26 measures aimed at preventing significant adverse impacts on the environment and to mitigate public concern.

Measure #9 states: The Developer will work with other federal and territorial departments as necessary to design and implement a broad health effects monitoring program in Ndilo, Dettah and Yellowknife focusing on arsenic and any other contaminants in people which might result from this Project. This will include studies of baseline health effects of these contaminants and ongoing periodic monitoring.

Dr. Laurie Chan of the University of Ottawa has been contracted to be the Principal Investigator (PI) of the Health Effects Monitoring Program (HEMP) and will work closely with the Advisory Committee.

Mandate

To provide advice and make recommendations to the Principal Investigator and Project Team in the development and implementation of the HEMP by utilizing expertise and knowledge of regional and community level issues.

Membership

Membership of the HEMPAC will consist of one representative from:

- 1) INAC
- 2) GNWT – Environment and Natural Resources

- 3) GNWT - Department of Health
- 4) Chief Public Health Officer - NWT
- 5) Health Canada
- 6) City of Yellowknife
- 7) Yellowknives Dene First Nation
- 8) North Slave Metis Alliance

Membership shall continue until the HEMPAC member is no longer employed in their respective position, in which case replacement of any member of the HEMPAC shall be the responsibility of the participating department and organizations. Additional divisional and external expertise can be added to the group, as may be required, to address specific issues or concerns, upon the approval of GMRP.

In an effort to reduce knowledge gaps as a result of staff turnover, temporary absences, and workload, each member is to identify a secondary contact/knowledge expert. In the event one member cannot attend a meeting where all others have confirmed, attendance by the secondary contact if the preferred option before rescheduling is considered.

Chair

The HEMPAC will be chaired by the INAC representative. The INAC rep will provide a communication link between the HEMPAC, the Principal Investigator and the GMRP Team. The INAC rep will plan meeting agendas, preside over the meetings, and coordinate activities of the HEMPAC. The Chair is a full member of the HEMPAC.

Responsibilities

Specific responsibilities of the Advisory Committee include but are not limited to:

- Provide technical expertise for the development of the HEMP
- Oversee the implementation of the HEMP
- Provide advice on best practices and policies to ensure proper implementation of health study
- Provide advice on the development of policies for collection, use and disclosure of personal health information

Tenure

Members are appointed for a term of 5 years. The term can be renewable upon mutual agreement.

The Committee will exist until the work of the Committee is completed or may be dissolved sooner by consensus.

Recommendations

Recommendations to the Principal Investigator and GMRP will be made by consensus.

Meetings

Meetings shall be held at times convenient for a majority of members. An attempt will be made to schedule at least two face-to-face meeting per year at a time and place convenient for all members.

All members will have the responsibility for reporting HBSAC activities and discussions back to their respective organizations.

Secretariat Support

The GMRP team will provide secretariat support by coordinating meetings, drafting records of decisions, coordinating meeting agendas, etc.

Costs

Costs associated with HBSAC activities, including travel, meetings, and technical review, will be the responsibility of the respective organizations.

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