

## MVLWB Registry

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**From:** Tyree Mullaney <tyree@mvlwb.com>  
**Sent:** Wednesday, January 7, 2015 11:47 AM  
**To:** 'MVLWB Registry'  
**Subject:** FW: Giant Working Group - Final meeting summary November 13-14 and Draft meeting summary December 11 2014  
**Attachments:** YELLOWKN-#675893-v3-  
GIANT\_-\_WORKING\_GROUP\_-\_MEETING\_SUMMARY\_DECEMBER\_11\_2014.DOCX;  
YELLOWKN-#674712-v5-  
GIANT\_-\_WORKING\_GROUP\_MEETING\_SUMMARY\_NOVEMBER\_13-14\_\_2014.DOCX

Please post to the 2007 Giant File

Thanks

T

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**From:** Jane Amphlett [mailto:Jane.Amphlett@aandc-aadnc.gc.ca]  
**Sent:** January 7, 2015 11:22 AM  
**To:** Natalie Plato; bslater@bslater.ca; Morag McPherson; Amy Sparks; Gordon Hamre; Erika\_Nyssonen@gov.nt.ca; asish.mohapatra@hc-sc.gc.ca; shin.shiga@nsma.net; Linda Pickett; kevin o'reilly; Wenyan Yu; jblack@ykdene.com; tslack@ykdene.com  
**Cc:** Katherine Ross; Lisa Colas; Krista Amey; Jen Potten; Tyree  
**Subject:** Giant Working Group - Final meeting summary November 13-14 and Draft meeting summary December 11 2014

Happy New Year everyone,

Attached is

- Final meeting summary November 13-14, 2014
- Draft meeting summary December 11, 2014

Please provide comments on the December 11 meeting summary by Wednesday **January 21, 2015**.

Our next meeting is scheduled for **Friday January 23, 2015**. Agenda to follow, please send any requests. Items proposed include:

- Discussion of comments received on SRK memo for proposed surface design process
- HHRA and how to proceed in assessment of stress effects

Thanks

Jane

Jane Amphlett

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# Giant Mine Remediation Project

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## Giant Mine Working Group

### 11 December 2014 Meeting Summary

17 December 2014

DRAFT



Aboriginal Affairs and  
Northern Development Canada

Affaires autochtones et  
Développement du Nord Canada



# Giant Mine Remediation Project

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# Giant Mine Remediation Project

## 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 in the 2<sup>nd</sup> floor Boardroom of the Greenstone Building in Yellowknife, NT, and was scheduled from 9:00 am to 5:00 pm MT on December 11, 2014. The meeting adjourned at 4:15.

Meeting participants included members of the GMRP team, as well as representatives from the Interested Parties.

<b>Giant Mine Remediation Project Team</b>	<b>Team Member</b>
Aboriginal Affairs and Northern Development Canada (AANDC)	Jane Amphlett Natalie Plato Katherine Ross Adrian Paradis (briefly in the afternoon)
Public Works and Government Services Canada (PWGSC)	Linda Pickett Chris Doupe (on telephone)
<b>GMRP Interested Party</b>	<b>Representative</b>
Environment Canada (EC)	Amy Sparks
City of Yellowknife (City)	Wenyan Yu
Alternatives North (AN)	Kevin O'Reilly (pm only) Gordon Hamre
Yellowknives Dene First Nation (YKDFN)	Johanne Black
North Slave Metis Alliance (NSMA)	Shin Shiga
Health Canada (HC)	Asish Mohapatra
<b>Other</b>	<b>Representative</b>
Bill Slater Environmental Consulting	Bill Slater (on telephone)
Stantec	Mark Richardson Joe Acorn Alexis Fast Lindsay Smith-Munoz

\*Notes were taken by Krista Amey, DPRA.





# Giant Mine Remediation Project

## OBJECTIVES

The intent of this meeting:

- Review previous minutes and action items.
- Commence discussions on scoping the Human Health Risk Assessment.

## MEETING MATERIALS (PROVIDED IN APPENDICES)

- Appendix A: *Meeting Agenda*
- Appendix B: *AANDC 1st quarter report for procurement, employment and training for the Giant project*
- Appendix C: *Discussion Items and Suggested Reading Related to the Human Health Risk Assessment for Giant Mine (Stantec)*

## 2. ADMINISTRATIVE MATTERS

### DISCUSSION OF MINUTES OF NOVEMBER 13-14 MEETING

- Jane Amphlett (AANDC) tabled the minutes of the November 13-14 meeting. Comments were received from Kevin O'Reilly (AN) and Johanne Black (YKDFN). Jane will incorporate all comments received. She noted that Kevin had supplied comments related to the portion of the meeting, for which he was absent (discussion of the Review Board's Suggestions), but stated that the meeting minutes should be a record of only what was said at the meeting. Any additional comments should be submitted separately.
- Linda provided an overview on air quality.
- Jane asked if the WG wants to continue to receive the weekly reports and the monthly reports, when the monthly reports provide nothing new. It was agreed to omit the monthly reports and that the WG will receive weekly reports and a full visual report on any results above the Risk Based Action Levels (RBALs). All results above RBALs will be included in the weekly report and then the full visual report would be circulated once the lab results are received. Monthly reports on all activities as required in the license will continue to be submitted to the Board.
  - Gordon asked how much of a delay would be expected between the exceedance and the lab results. Linda said that it can be up to 6 weeks. Johanne asked if it would be possible to request a rush for exceedance lab results. Linda said that she would look into that.

### ACTION ITEMS FROM NOVEMBER 13-14 MEETING

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

1. **Jane will confirm the following details for the MSA**
  - a) **snow is being removed from the bags**
  - b) **double-bagging is occurring and this is a change from 2013**
  - c) **criteria for further action to address leaks**





# Giant Mine Remediation Project

- d) procedure for checking the lower containers**
- e) condensation in the containers, is there any procedure to reduce (airing out/ventilating).**

STATUS: Complete. Jane had provided additional information regarding bagging/tarpping in an email on December 9<sup>th</sup>.

- Kevin had further questions concerning non-hazardous waste and asked what happens to that material. Adrian said that wood goes to the same storage location as the containers and is dealt with during final remediation. All arsenic contaminated waste coming off the roaster will go to the Material Storage Area (MSA) and subsequently placed in the freeze zone during full remediation. Non-hazardous waste from the roaster such as clean steel is currently stored in a staging area located across from the roaster area. The project will explore recycling and other off site options for clean steel. Remaining non-hazardous waste will eventually be placed in a landfill to be constructed onsite.
- Kevin asked if the contractors are penalized for miscalculating the number of containers needed. Jane said that, no, they are not penalized and added that it is very challenging to estimate the number of containers required.
- Jane said that currently there are about 3,700 bags of waste on site, with approximately 600 of them tarped.
- Kevin asked how many containers there will be in total and he estimated that currently there are between 300 and 400. He also asked, with the region's extreme weather and temperatures, if the containers (and the bags inside) will endure the 5 to 8 years until the Project's water licence is issued. Jane indicated that the main weather factor of concern is sunlight (ultra-violet damage), which the bags are currently protected from inside the containers. Kevin asked for information on the longevity of the bags with regard to weather.
- Kevin asked if there is enough room in B1 Pit for 400 containers plus soil. Jane responded that the project is investigating final disposal options however it is anticipated that the bags will be removed from the containers and the containers will either require disposal or could be cleaned and potentially reused.
- Kevin asked if tarped waste from 2013 was been moved to containers. Adrian said, yes, that it was done throughout the summer.
- Kevin asked if the tarps also meet the standards in the table in Appendix 3 of the proposed amendment to the Waste Management Plan, that is, with regard to extreme weather. Adrian said that the tarps do meet the standards in the table and added that the tarps are heavy-duty and are the best available. Jane said the term "tarp" is a bit misleading and that they are environmental liners.
- Kevin indicated that there is only one inspection report on the registry and asked if there were other inspections conducted, adding that if there was only one inspection



# Giant Mine Remediation Project

for the entire season that that is not good practice. Adrian said that the new inspectors have been on site to familiarize them with Giant, but cannot speak to the frequency.

- Kevin asked if Project personnel actually open up the containers or do they just inspect the exterior. Jane said that regular inspection is of the outside but if there is evidence of a leak identified, then they would inspect further and potentially open the container.
- Kevin asked if swabs were taken of the leaks. Jane said that some of the material that leaked out was tested but was uncertain if melt water was tested. Jane said that she would look into the tests completed and results.
- Kevin asked if the bags are sealed. Jane said that they are not vacuum-sealed. Adrian added that the bags are either double or triple-bagged but were never intended to be completely water tight. Kevin stated concern with that since arsenic trioxide is water-soluble.
- Kevin asked about the extent of the clean-up for the leaks - Jane responded that all of the leaks were very minor and so the clean-up was minor.
- Kevin recommended that SOPs are needed for inspecting the MSA, which would include taking swabs with mitigation procedures written.
- Kevin reiterated his disappointment expressed during the November WG meeting, that it took four months to develop a two-page incident report. He suggested that there ought to be third party reviews on the incidents.

**2. Jane to provide AANDC quarterly statistics report, including the number of Northern and the number of Aboriginal workers.**

STATUS: Complete. Jane provided AANDC's 1<sup>st</sup> Quarter Report on December 9<sup>th</sup>.

- Johanne asked if the percentage committed to AOC for each contract could also be included.
- Johanne indicated that previous quarterly reports also included incidents and requested this information.
- Jane said that she would request the additional info and clarify what the definitions are for AOC, Aboriginal, Northern etc.
- Johanne confirmed that she would like to continue to receive this information quarterly.

**3. AANDC to provide additional info on org chart, such as the list of members of the committees associated with the organization chart/Project.**

STATUS: Deferral requested.

**4. Jane and Erika will continue to look into developing high-level summary work plans and/or contract schedules to inform Bill's work plan and identifying priorities for WG members.**

STATUS: Deferral requested. The work plan is now being developed for next fiscal and will seek input from the Parties.



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- 5. Daryl will provide a draft 3-4 page document on what a site remediation engagement process might look like for Giant Mine. This would include scope, possible issues, groups involved, resources needed.**

STATUS: Complete. Jane asked for written comments to be submitted by December 19th and will discuss during the January meeting.

- Jane requested that the WG start thinking about involvement/capacity and when the engagement sessions can start.
- Wenyan said that there is no connection made with land use. Jane recognized that this may not meet the City's land use planning needs and that additional engagement may need to be done. She added that they will definitely continue discussions with the City re land use planning.
- Bill commented on Step 3 in the document. He highlighted that four bullets were included but it will be important to have enough information to evaluate each option against the objectives.
- Johanne said that there are many community members with trap lines throughout the area and to please keep trappers in mind. Jane said that they will need to talk with all groups.

- 6. Jane will review the minutes from the October 9<sup>th</sup> meeting and re-circulate**

STATUS: Complete.

- 7. Asish will share some literature (3-4 papers) regarding HIA case studies/best practice work.**

STATUS: Complete.

- 8. Sue to provide additional info on the 23 studies referenced in her presentation, as well as the Sa Dena Hes work.**

STATUS: In progress. Kevin has been following up with Sue and will circulate information when he receives it.

- 9. Jane to check with Erika regarding the map identifying 2014 soil sampling locations.**

STATUS: Pending. Jane said that the new sampling from 2014 is still pending and Jane expects that this report will cover off this action item. It was noted that similar to last year Chris Doupe could provide a presentation on the environmental monitoring program when reports are available in late winter / spring.

## C-SHAFT

Natalie explained that the wooden portion of the C-Shaft structure is a high risk to human safety and as such it needs to be taken down. She asked the WG for input on whether the metal portion of the structure should be taken down at the same time. The reason for this would be that (a) it would save money and (b) there is a chance that the metal structure gets compromised during the process of removing the wooden structure, in which case it would have to come down anyway. Natalie requested feedback in writing and that she would send an email to start the chain of discussion.





# Giant Mine Remediation Project

It was noted that notification should be wider than the WG and include the general public. Katherine asked the WG for suggestions as to how the topic could be opened up beyond the WG. Suggestions included a Public Service Announcement (PSA) and the upcoming public forum. Wenyan suggested that a paragraph be added to the City's Capital Update. Amy said that it could be added to the newsletter and asked if there was going to be video/web cam documentation of the removal. Jane agreed that it would be good to document it, similar to how the roaster stack deconstruction was documented.

## 3. HUMAN HEALTH RISK ASSESSMENT (STANTEC)

A team from Stantec (Mark Richardson, Joe Acorn, Alexis Fast and Lindsay Smith-Munoz) was in attendance to start discussions on scoping the Human Health Risk Assessment (HHRA) work. On December 5<sup>th</sup>, a document was circulated containing discussion items and suggested reading related to Giant Mine's HHRA. This document was used during this meeting to start the discussion process.

### CONTAMINANTS OF POTENTIAL CONCERN

Johanne said that she is not interested in residual contaminants, such as petroleum hydrocarbons.

Mark said that it is desirable to limit number of contaminants to focus on, so not to have too much data and then it becomes difficult to scientifically defend. He suggests staying focussed on arsenic, antimony, lead and nickel. Jane asked if there would be anything done differently if the additional contaminants were included, adding that if arsenic is the driver, won't the others be picked up in the process. Mark said that including the extra contaminants won't add much new information and will still address the concerns of the Review Board (RB).

### SCENARIOS TO BE ASSESSED

Alexis said that they need to know if a baseline HHRA should be conducted as well as one for post-remediation. Jane said that the main concern is the human health risk associated with the arsenic staying underground. Amy asked what would be gained in showing the risk of the current situation. Mark responded that if a baseline/current scenario is not done then there will be no way to compare against future risk; without a means to compare, it would not be known if the risk is increasing, decreasing or staying the same. Jane asked if two risk assessments would require a greater level of effort and also indicated the project should check if some assessment of the current scenario has already been completed by Senes or others.

Chris asked if the completed design would be necessary in order to assess future risk. Mark said that he assumes that there is enough information to predict risk.

Mark added that having some quantification of the base case would be more beneficial than to report national cancer statistics.





# Giant Mine Remediation Project

Jane said that it is important that realistic scenarios are chosen (not catastrophic, which will be addressed in Measure 5).

Shin asked about the relationship between the underground risk and the surface risk. Mark said that in theory, freezing the arsenic underground will end any migration potential to the surface, adding that there would be no exposure expected unless people actually go underground. It was noted that post remediation there will be residual risks underground due to arsenic trioxide located outside the freeze zones. In addition there are surface inputs to the underground (e.g. surface runoff from soil). Mark said that there will be assumptions made based on professional knowledge, local knowledge and scientific data.

Jane stated that freezing assumes 0% is coming out but that there will be monitoring in place to confirm this assumption. She also said that not all of the arsenic will be frozen, which is why there will be water treatment into perpetuity.

Chris said that baseline information has been collected because there was the desire to be able to have data to compare.

Bill said that it is important to know/understand that the proposed remediation project is good enough. He said that with the HHRA, we want to know that the health effects, when remediation is done, are as low as possible and that the remediation has been good enough. He said that there should be something, to which to compare post-remediation risk. Bill stated that at the “end of the day”, if post-remediation risk is not acceptable, then the project needs to change.

It was noted that the risk assessment will focus on the risks post remediation primarily driven by the underground arsenic trioxide (with some surface inputs from runoff etc). The project could also assess incremental risks from various surface remediation options still under consideration to identify any potential design improvements for surface (e.g. soil excavation, Baker Creek).

Jane said perhaps the scenario to compare would be “do nothing”, that is, a scenario where there is no underground freeze and water is untreated.

## **STUDY AREA/COMMUNITIES**

Suggested areas/“communities” to be included were Yellowknife River bridge area, house boaters, marina users, residents of the Ingraham Trail and perhaps other aquatic environments, such as Long Lake.

Johanne showed an aerial photograph on her phone of Ndilo, stating YKDFNs concerns with the sediment. She added that she will be showing the photo to Chief and Council.

Chris indicated that they have been compiling information from different sources that can be provided for the RA. Kevin said that studies that were done in the 1960s and 1970s (e.g., human tissue) could be





# Giant Mine Remediation Project

used as long the limitations are understood. Chris suggested that a list of sources be compiled and distributed for comment.

## RECEPTORS

Bill said that perhaps there are pathways through which industrial users would be exposed more than others or in combination with other exposure, such as eating fish, etc. Jane said that there will be industrial users (e.g., water treatment plant personnel).

Kevin said that past mine workers and residents should be considered. He then asked about ecosystem health (fish, furbearers) that are not considered here unless through human consumption. Jane responded that this RB Measure is human health focussed but that other measures address ecological risks through development of water quality objectives and Baker Creek.

## EXPOSURE PATHWAYS

Johanne asked about children swimming in the water and stirring up the sediment. Lindsay said that Health Canada did look at that and how much kids ingest through swimming.

## COUNTRY FOODS

Shin indicated that NSMA is interested in country foods and earlier had asked about mushroom collection and consumption. Jane asked Shin what the best way to gather input from NSMA, for example group discussion or questionnaire. Other potential sources could include snow melt and icicles. Project will check on available data.

## BIOAVAILABILITY/BIOACCESSIBILITY

Asish indicated that his group at Health Canada is developing guidelines for bioavailability – not for arsenic specifically, but still would be useful. Mark said that they will be using Chris Olsen's data (RMC PhD thesis completed in early 2000s) plus other sources. Chris Doupe indicated the project is also investigating options for obtaining additional bioavailability data.

## HAZARD ASSESSMENT

Nothing specific was discussed.

## RISK ASSESSMENT APPROACH

Mark said that the straightforward (probabilistic) approach can be just as informative as the more, in-depth (deterministic/statistical) approach. Mark indicated that he could provide the pros and cons of each approach. Jane said that it would be very helpful for Stantec to clarify what questions the Giant risk assessment will answer and what questions / concerns the public have that the risk assessment can't address. This would be an important communication piece and will identify gaps for the project and / or other departments to address elsewhere. It was noted that some areas of public concern not addressed by the HHRA will be addressed by the Health Effects Study.





# Giant Mine Remediation Project

## GENERAL DISCUSSION

Jane asked what the next step for pulling everything together is. Mark said that they will take the information and lay out the issues internally and then provide something back to the WG.

Kevin sought clarification that this will evolve into an RFP/TOR at some point. He said that he would like to know how the consultants who end up doing the work plan to carry out community engagement and that they are sensitive to the Giant Mine legacy. He added that they need to be able to put their deliverables in plain language.

Kevin asked how Sue Moodie's ideas regarding the impact assessment will be addressed. And also asked if peer review will play a part in this work (i.e. whoever gets this work will be subjected to peer review). There needs to be a role for peer review built in to the process. Mark stated that who will conduct a peer review is usually the client's choice but agrees that it is important to keep that degree of separation. Jane indicated that having the work peer reviewed should not be a problem as the Project would also seek to have it peer-reviewed.

Kevin stated that it is important to think about how risk will be communicated.

Jane asked about Tier I vs Tier II vs Tier III. Mark gave an example from Sudbury, Ontario, where there was a Tier III risk assessment conducted. He said that this study involved measurement of human urine, tissue collections from people/residents and community consultation. Jane said that Tier III scope will be covered under the Health Effects study (Measure 9).

Joe asked if Stantec would be able to have access to any relevant Project reports, etc.; Jane said, yes, she will facilitate document sharing.

## 4. OTHER BUSINESS

### FILMING OF WG MEETING

Natalie said that she had not received very many signed waivers and so decided to defer the filming and to remind members during today's meeting. Filming will occur during the January WG meeting.

## 5. NEXT WORKING GROUP MEETING

The next WG meeting will be held on Friday January 23, 2015 and may be up to a full day. It will be considered a general update meeting and the group will also discuss surface engagement.



# Giant Mine Remediation Project

## 6. ACTION ITEMS

1. AANDC to provide additional info on org chart, such as the list of members of the committees associated with the organization chart/Project.
2. Jane and Erika will continue to look into developing high-level summary work plans for 2015/16.
3. Sue Moodie to provide additional info on the 23 studies referenced in her November 13 presentation, as well as the Sa Dena Hes work.
4. Linda to send details on the dispersion modelling to DPRA for inclusion of the November meeting summary.
5. Linda to look into the feasibility and cost of rushing exceedance lab results.
6. Jane will provide additional information regarding the MSA, including:
  - a) Provide total number containers in the MSA
  - b) Information on the longevity of the bags with exposure to weather/UV
  - c) Results of the swabs taken from the leaks
7. Re quarterly report – Jane will follow up regarding reporting of incidents.
8. Jane will look into feasibility of providing the percentages of employment / training committed to under AOC by contractors. Clarify definitions.
9. Re 3-page Surface Engagement document - WG members to provide written comments by December 19<sup>th</sup>.
10. Re C-Shaft deconstruction
  - a) Natalie to send an email to the group in order to start the discussion chain.
  - b) Jane to look into videotaping the deconstruction of the C-Shaft
11. Johanne to forward posters from the GMAC meeting to Mark Richardson
12. Mark to provide pros and cons of the different approaches to HHRA
13. Mark to provide plain language clarification on what the Giant HHRA will cover and what public concerns it won't address.



# Giant Mine Remediation Project

## APPENDIX A – MEETING AGENDA

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Aboriginal Affairs and  
Northern Development Canada

Affaires autochtones et  
Développement du Nord Canada



# Giant Mine Remediation Project

## APPENDIX B – AANDC 1<sup>ST</sup> QUARTER REPORT FOR PROCUREMENT, EMPLOYMENT AND TRAINING FOR THE GIANT PROJECT

DRAFT



Aboriginal Affairs and  
Northern Development Canada

Affaires autochtones et  
Développement du Nord Canada



# Giant Mine Remediation Project

## APPENDIX C – DISCUSSION ITEMS AND SUGGESTED READING RELATED TO THE HUMAN HEALTH RISK ASSESSMENT FOR GIANT MINE (STANTEC)

DRAFT



Aboriginal Affairs and  
Northern Development Canada

Affaires autochtones et  
Développement du Nord Canada



# Giant Mine Remediation Project

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## Giant Mine Working Group

### 13 & 14 November 2014 Meeting Summary

28 November 2014



Aboriginal Affairs and  
Northern Development Canada

Affaires autochtones et  
Développement du Nord Canada



# Giant Mine Remediation Project

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# Giant Mine Remediation Project

## 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 in the 2<sup>nd</sup> floor Boardroom of the Greenstone Building in Yellowknife, NT, and was scheduled from 9:00 am to 5:00 pm MT on November 13, 2014 and from 9:00 am to 3:00 pm MT on November 14, 2014. On both days, the meeting adjourned about half an hour early.

Meeting participants included members of the GMRP team, as well as representatives from the Interested Parties.

<b>Giant Mine Remediation Project Team</b>	<b>Team Member</b>
Aboriginal Affairs and Northern Development Canada (AANDC)	Jane Amphlett Natalie Plato Katherine Ross
Public Works and Government Services Canada (PWGSC)	Linda Pickett Chris Doupe (on telephone Nov 13 only)
<b>GMRP Interested Party</b>	<b>Representative</b>
Environment Canada (EC)	Amy Sparks
City of Yellowknife (City)	Wenyan Yu
Alternatives North (AN)	Kevin O'Reilly Gordon Hamre
Yellowknives Dene First Nation (YKDFN)	Johanne Black (Nov 13 only) Todd Slack (Nov 13 only)
North Slave Metis Alliance (NSMA)	Matt Hoover Shin Shiga
<b>Other</b>	<b>Representative</b>
Health Canada (HC)	Asish Mohapatra
Bill Slater Environmental Consulting	Bill Slater
Stantec	Mark Richardson (Nov 13 only) Joe Acorn (Nov 13 only)
CCSG Associates	Sue Moodie

\*Notes were taken by Krista Amey, DPRA.





# Giant Mine Remediation Project

## OBJECTIVES

The intent of this meeting:

- Review previous minutes and action items.
- Presentations on Human Health Risk Assessment and to start discussing next steps.
- Work planning as it relates to the EA Measures.

## MEETING MATERIALS (PROVIDED IN APPENDICES)

- Appendix A: *Parsons Report on Material Storage Area – ISO Shipping Container Leak Investigation*
- Appendix B: *Draft Giant Mine Organizational Chart (October 31, 2014)*
- Appendix C: *Overview of Human Health Risk Assessment and its Application at Giant Mine (Stantec presentation deck)*
- Appendix D: *Giant Mine Health Impact Risk Assessment (Dr. Sue Moodie presentation deck)*

## 2. ADMINISTRATIVE MATTERS

### DISCUSSION OF MINUTES OF AUGUST 14 MEETING

- Jane Amphlett (AANDC) tabled the minutes of the October 9 meeting. Comments were received from Kevin O'Reilly (AN). Jane will incorporate all comments received.
- In his comments, Kevin had asked about BEI – Brian McGee will finish the memo – Jane asked if additional work being included – Linda will be finishing
- Page 10 – “resistance from AANDC” – Jane indicated the concerns were stated in the next sentence. Kevin indicated he was ok with any amendments.

### ACTION ITEMS FROM OCTOBER 9 MEETING

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

1. **DPRA will amend the minutes of Meeting 12 (August 14, 2014) to move explanatory comments regarding BEI to footnotes, and make changes to a WG member's name**  
STATUS: Complete.
2. **Jane will communicate to WG the results of the investigation into the June 20, 2014 spill at the MSA.**

STATUS: Complete. Parsons report distributed yesterday (Nov 12).

- Kevin expressed his disappointment that the report took 4 months and that the investigation and subsequent reporting was completed by Parsons and not done by a third party. Kevin further stated it is a significant problem that there have been four leaks within one year. Kevin was also disappointed that there were no recommendations in the letter report.





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- Kevin said that he had asked originally if the containers are air tight and he was concerned when he heard that they were not. He is concerned that there are no recommendations or serious efforts to prevent this from happening again.
- Jane noted that the intent of the containers was for weather protection not leak protection. A sprung building similar to the structure currently located on the tailings for underground was originally proposed for the MSA weather protection. Secondary containment is provided by the tailings and water treatment.
- Jane said that the inspector had indicated that he had no significant issues – it was a small leak, there are regular inspections occurring, it is a secure facility. The report, although short, confirms that the MSA is a good facility to safely store the material until full remediation. Jane further noted that the material is much safer than prior to deconstruction and the facility will continue to be closely monitored.
- Kevin asked if AANDC has an inspector. Jane responded that AANDC recently hired a full time inspector and the first inspection was planned this week to get him familiarized with the site.
- Kevin asked if there will be further inspection with respect to the MSA spill report in June. Jane indicated that the inspector has not identified any outstanding issues and will confirm the file is closed.
- Bill asked about the last paragraph of the report – he said that the report doesn't seem to provide solid conclusions as to the cause of the spill. He asked when the other three leaks occurred. Jane confirmed she did not have exact dates but they were discovered during subsequent inspections after the original June spill report.
- Bill asked if there will be more inspections of these containers. Jane indicated that the Care and Maintenance contractor will be monitoring weekly.
- Kevin wondered if part of the issue may have been because of the snow on the bags. He asked if there have been lessons learned. Jane said yes there have been lessons learned and they have been documented in this report by Parsons. Jane said that she assumes that they were removing snow but that she would confirm.
- Todd (YKDFN) asked if Jane could also check to see if they are double-bagging. He also expressed concern that there have been so many leaks in such a short period of time and said that he is curious to hear back about future inspections and the criteria for action by the project.
- Bill said that he had observed during the site visit that it appeared that only the upper containers had leaked (could see material running down the sides of the lower containers) – he said that if the inspectors were only looking at the upper containers that the lower containers, if leaking, may go undetected. Bill then asked how the lower containers are evaluated. Jane said that she would confirm how the lower containers are checked.



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- Kevin indicated that he would like to know if there is effort to remove snow from the bags and also if there is a plan to air out/ventilate the bags during the summer. Jane said that she will confirm these details.
- 3. Jane and Erika will continue to look into developing high-level summary work plans and/or contract schedules to inform Bill's work plan and identifying priorities for WG members.**  
STATUS: In progress. Erika was not in attendance but Jane indicated that she is working on it.
- 4. Jane will obtain an updated organizational chart for GMRP staff.**  
STATUS: Complete. Jane provided in advance of this meeting (Appendix B)
- Kevin asked for clarification that the left side was Giant Mine-specific but in Ottawa; while the right side of the organizational chart is in Yellowknife; and if there is no name, then the position is currently vacant. Jane said that they are trying to fill these positions but HR is a slow process. Kevin also asked about the various committees (for example PLC) and that it would be helpful to know who is on them.
- 5. Jane will provide information on the numbers of workers on the roaster to complement the information in the background sheet**  
STATUS: In progress
- It was clarified that the parties are interested in the total number of roaster workers and the number of Northern and Aboriginal workers.
  - Kevin said that he understands the need for confidentiality but is surprised that the number of northern and Aboriginal workers is not being tracked. Jane noted that these numbers are tracked quarterly and numbers of Aboriginal employment have been provided at previous public forums. Johanne requested a copy of the AANDC quarterly statistic reports that track employment and training (including Northern and Aboriginal).
- 6. Daryl will provide a draft 3-4 page document on what a site remediation engagement process might look like for Giant Mine. This would include scope, possible issues, groups involved, resources needed.**  
STATUS: In progress.
- Jane reported that this is close to being complete and will circulate next week. Kevin said that it is taking longer than he thought it would and expressed concern that the plan will be finalized before the WG can review. Jane assured him that the memo is draft and no engagement strategy will be finalized without input from the parties.
- 7. Adrian will look at the Contribution Agreement with Alternative North to see if it can be used to engage Sue Moodie as a technical resource at the November 13 WG meeting.**  
STATUS: Complete.
- Sue Moodie is in attendance today.
  - It was confirmed that the contribution agreement could be used to support Sue attending the November meeting, however it was noted that the agreement has still not been finalized for this fiscal year. Kevin said that they had submitted their reports in April and submitted their proposals in June. He said that they have invoices but no cash



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flow to continue. Natalie (AANDC) understands and she is trying her very best to move this along. She is going to suggest that for next year the whole process starts earlier and stated that it is her personal goal to for next year to have these processed earlier.

**8. Jane will provide the WG with an overview of outcomes of team meetings in week of October 13 to help inform work plan discussion at next meeting.**

STATUS: Complete. Jane indicated she did not attend the October 13<sup>th</sup> meeting so could not provide a specific update, however it was noted that this topic will be covered at the meeting the next day (Nov 14) during the WG discussion and input into work plans for the EA measures.

### **3. PRESENTATION: HUMAN HEALTH RISK ASSESSMENT (MARK RICHARDSON, STANTEC)**

Mark Richardson (Stantec) is the Senior Risk Assessment Specialist with Stantec and has over 30 years of experience in environmental and human health risk assessment. Mark noted that Joe Acorn is the local contact in Yellowknife for Stantec. See Appendix C for slides from the presentation.

Mark prefaced his presentation by saying that this talk is a broad overview and does not go through the ABCs of human health risk assessment (HHRA). He will discuss the strengths and weaknesses of certain aspects of HHRA. Mark will support work, including extensive engagement with the parties, to develop the terms of reference (TOR) and appoint an independent assessor for the HHRA work.

Kevin asked if the critical review that Mark will be conducting of SENES's work in 2006 will / is intended to fulfill the Review Board's (RB) Measure #10, Bullet #1. Mark explained that he needs to conduct a critical review of their work to complete his current scope to support developing the TOR - he needs to become familiar with the Senes work. Jane indicated that Mark will complete his own critical review and depending on input from the parties this could satisfy the requirements under Bullet #1 of Measure 10, or additional work may be necessary.

Mark said that his team will need to sit down with the WG either individually or as a group to get input on formulation of the next risk assessment. Mark also said that the TOR will be developed with the WG so that when the project team requests proposals, there will be no surprises.

Kevin asked that if Stantec goes through this process, would it exclude them doing the main work. Jane said that, contractually, Stantec may not be excluded from bidding on the work. Bill sought clarification that if Stantec is asked to do the work in the end, then their critical review would already done, but if another contractor is chosen then they either can accept Stantec's review or do another.

Kevin handed out copies of the RB's Measure 10 and the supporting appendices from the Report of EA.

#### **SLIDE #4**





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Mark explained the differences between deterministic (simple computational methods but uses only one person and so you lose the population aspect) and probabilistic (comparing multiple people) risk assessment. Sue Moodie (CCSG Associates) asked how these would apply to arsenic if there is no safe dose identified for arsenic. Mark responded that there is an acceptable “safe” exposure (there is some dose that is acceptable). Mark said that SENES had used a probabilistic approach, which allows you to draw some comparison/conclusion regarding population exposures (look at percentage).

## **RE SLIDE #8**

Todd said that if you are looking at the lowest effect, then you’d be looking at lesions.

Sue said that it is important to look at reference doses. Sue indicated that the reference dose for non-cancer effects of arsenic is actually lower than the arsenic dose associated with a cancer risk of 1 in 100,000 (the cancer risk level that Health Canada deems to be essentially negligible). Mark concurred. Mark said that the work would look at all appropriate safe doses. Todd said that lesions should be considered first. Mark agreed as long as there is supporting science and data to generate a reference dose for the given lesion. Amy said that it would be up to the stakeholders to discuss this – lesions or cancer rate –and decide what to focus on.

Kevin said that the assessment needs to consider stress, anxiety, people’s well-being – it is all part of mine legacy. The Review Board has included an evaluation of wellness within the scope of Measure 10 (See Appendix F of the Report of EA). Kevin asked how this fits into the HHRA. It was indicated that the Stantec project relates specifically to environmental risk assessment. Katherine stated that since the evaluation of wellness is included in Appendix F it must be completed to fulfil the measure, but this is not a component of the current Stantec scope of work.

Kevin asked if stress will be included/examined. Katherine said that yes, because it is in the appendices – how it develops into and fits into the TOR for the HHRA will be discussed with this group in coming months. Kevin said that he is pleased that those other items will also be considered.

Mark added that the project will be looking at other approaches as well (such as human biomonitoring; analysis of morbidity and mortality statistics), which will come up during future meetings on the HHRA.

Sue pointed out that risk communication was not included in the list of definitions. Mark said that yes, it would include consultation and communication.

## **RE SLIDE #11**

Sue asked if Tiers I&II were modelling exercises and if Tier III included the human element. Mark said that most risk assessments go Tier II and dabble in Tier III. Tier III could be done for Giant Mine to try to eliminate as many of the unknowns as possible.

Asish asked how different species of arsenic from different sources will get distinguished, adding the recognition that it would be challenging but would be helpful to be able to do that. Mark said the work





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would try to differentiate the likely arsenic species and sources – organic (sugars) common in foods vs. inorganic in air or soil (inhaled or ingested). He said that different approaches can be taken to determine incremental sources.

## **RE SLIDE #13**

Wenyan said that the City, with regard to land use, is interested in soil remediation but there are no identified contamination reports that include full delineation of soils at Giant. She said that it will be important to determine how to use the HHRA with City land use framework and determine appropriate uses. Mark said that there would be consultations with client/stakeholders to determine best land use. Stantec's work will look more at remedial closure rather than land use and soil remediation. Jane said that there are two separate issues (soil remediation versus long term management of the arsenic underground). The Giant remediation project is remediating soil contamination to industrial land use guidelines. Jane clarified that the HHRA submitted by Senes in 2006 focused on the underground arsenic risks and this is what the Review Board was addressing with Measure 10. The proposed HHRA that Stantec is supporting is also currently focussed on the management of the underground arsenic. It was noted that there can be additional risk assessment conducted for surficial soils, however it has not been determined whether this scope would be a separate risk assessment for soil, or whether this would be included in the TOR for the HHRA to support Measure 10.

Johanne said that traditional land use changes overtime so may be different now than in 2006. YKDFN also have their traditional land uses that have to be considered. The YKDFN have Kalemi Dene School kids collecting and eating fish in the Yellowknife Bay area for example.

Todd asked how areas outside of the Project's site fit in to the risk assessment. Mark said that effects may not necessarily be felt where they originated.

Mark said that it is as important to look at relative difference as it is to look at absolute difference; relative difference may actually be more informative/important.

Bill said that if done properly the land use issues can get addressed. Mark said that it is important to not rush this process – consultation is important.

Matt asked who is responsible for health. The response was GNWT HSS.

Kevin asked if the GNWT is revising their soil remediation guidelines for Arsenic (As) and said that he would like a definitive answer because it has been 10 years since the guidelines were derived and the scientific understanding of arsenic toxicity has changed over time.

## **RE SLIDE #18**

Bill said that it is easy to bias sampling based on location. Mark clarified that when the land use guidelines for arsenic in soil were derived in 2002, the Giant Mine data had been excluded (this addressed Bill's concern) but background values cannot be ignored. Amy asked if people adapt. Mark





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assumes that we do, but this could not be realistically considered when setting guidelines for arsenic in soil.

## **RE SLIDE #21**

Kevin and Johanne raised that there is an issue with combining Ndilo and Latham Island because land use and consumption are very different between the two locations.

## **RE SLIDE #23**

Asish said that subsistence/traditional use/ consumption all need to be taken into account.

## **RE SLIDE #26**

Todd said that selenium and arsenic exist in equilibrium - if have free levels of selenium then have free levels of arsenic. Mark said that selenium competes with arsenic for uptake into the body. Todd asked if this should be considered in the HHRA. Mark responded, likely yes, but has not given any thought to this. He said that when synergisms occur – they often lead to higher exposure levels. For example, mercury/lead, while mercuric mercury alone has no effect, but mercury and lead together result in higher levels of effect than lead alone.

## **RE SLIDE #37**

Johanne asked if the 6th bullet includes humans. Mark said, no, it examined information on food only. Bill asked if the reference levels have already considered bioaccumulation in humans. Mark confirmed that.

## **RE SLIDE #49**

Bill asked if the graph on right has taken into account/separated out those people whose exposure might be higher. Mark said, no, not in that study.

## **General Questions/Discussion**

Regarding deterministic versus probabilistic risk assessment methods, Asish asked if Mark is recommending not using certain statistical techniques based on how the information will be used for risk management decisions. Mark said no decisions have yet been made, but that he understands the role statistics will play in the decision-making process.

Kevin indicated that part of Measure #10 is to decide if a Tier III risk assessment is appropriate and then asked under what circumstances would one do a Tier III assessment. Mark said that money and politics are deciding factors and that he is often asked to do I, II, or III. Kevin said that one of the reasons to do Tier III may be complexity. Mark said that you could do an enhanced Tier II – can do hypothesis testing at Tier II.

Kevin said that Measure #9 requires monitoring. Mark said that following the risk assessment, a monitoring program can be set up and added that it can serve to verify predictions. Jane noted that the





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project team will be developing detailed monitoring plans that and these are good discussions to have in the future.

## **4. PRESENTATION: GIANT MINE HEALTH IMPACT RISK ASSESSMENT (DR. SUE MOODIE, CCSG ASSOCIATES)**

Dr. Sue Moodie founded CCSG Associates Consulting in 1992 and focuses on community-based health and environment risk assessments in the Yukon, nationally and internationally. Sue's presentation deck is presented in Appendix D.

Asish asked if all of the studies that were included in the presented summary of Health Impact Assessments (HIAs) were from the United States and if so perhaps there are indigenous and cultural differences. Sue responded, yes, that they are all American but that the approach to HIA is universal – social justice issues are very important and the generalized ideas are universal.

Kevin asked if the Project anticipates getting GNWT Health and Social Services (HSS) involved at some point. Jane said that we can discuss tomorrow during the work planning for all EA measures but HSS will be approached, particularly with respect to Measure 9 the Health Effects Monitoring Program. Kevin said that it'd be great to get them involved and Jane agreed.

Amy asked if Sue could give an example regarding the first bullet on slide #18 [Human health monitoring - defining indicators to determine progress based on community derived priorities]. Sue said, for example, people want to get access to berries and don't want them to be contaminated; access needs to come first and then over time they will not be contaminated.

Asish said that it is possible that if an HIA program starts now the circumstances can change in the future. Sue agreed and added that there has to be a commitment.

Kevin provided an example of Łutselk'e, where they were mapping concepts of well-being. They conducted interviews asking if things are getting better/worse, what can be done to increase the good and decrease the bad.

Sue said that there are lots of ways to do that, like web diagrams (this affects this and that) – it is a good way to figure out what are key and stronger links to problems.

Sue said that it is process predominantly – how do you bring them together. Jane re-emphasized that that there will be a focus on community engagement in the development of the HHRA. Sue said it'll be important to figure how to integrate the community engagement into each stage of the process to get a complete picture.

Kevin said that Sue takes the holistic human approach, while Mark Richardson does the response/chemical side of issue. The two are not polar opposites and the trick will be to bring together to meet expectations of those here and the community - struggle through and get both things done.





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Bill said that the good examples out of the 23 HIAs summarized, were likely the ones that involved the chemical side, too. He feels that it must be possible. Kevin said that the group would need documents, case studies, lessons learned to help figure things out. Bill added that it will be important to be transparent.

## 5. WORK PLANNING (DAY 2)

Day 2 of the November WG meeting was centred on the Project Team’s initial thoughts on how to address the RB’s 26 Measures. The group went through each measure in turn and discussed the current thinking on the approach to be taken in order to address each. The same process was taken in review of the RB’s Suggestions. It was noted that the items to be discussed were still draft and that they had not yet been endorsed by senior management and were therefore subject to change.

Kevin stated that the Giant Mine Remediation Project’s website does not reflect the outcome of the EA and therefore should be updated.

### Measure 1

Kevin noted that the 100 year timeframe needs to be incorporated into the development of design criteria for the underground and other project elements. Kevin maintains that the proposed project is an interim solution and expects to see reversibility as part of the design – particularly in the design criteria for the Freeze.

### Measure 2

This measure is currently being considered as part of negotiations regarding the Environmental Agreement. Kevin presumes that the Project, as the Developer, will find ways to involve the Interested Parties when it comes time for the 20-year review – circulate a draft RFP for comments, get feedback on the RFP (“in the spirit of collaboration”).

### Measure 3

This measure is currently being considered as part of negotiations regarding the Environmental Agreement. Kevin stated that funding for research is an issue and suggested that the group seeks a different model for contribution agreements. He said that Pembina researched other funding programs – such as endowment or trust; stable long-term funding.

### Measure 4

No comments

### Measure 5

Kevin said that Bullets 1 and 2 of Measure 5 is the reason why this measure is here – there had been no involvement of the potentially affected communities – the RB heard that Alternatives North and others had noted the need to involve the people who have to live with it. Kevin wonders how #1 and #2 will be





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done. He would like to see the RFP and perhaps have a public workshop and figure out how to involve the public in the risk assessment.

Jane stated that similar to Measure 10 for the HHRA the project team could conduct a workshop and 101 sessions on quantitative risk assessment; to at least start with that.

Kevin wondered about the linkages to the SRK Surface Design Engagement Process and the quantitative risk assessment.

Bill agreed that there needs to be community involvement and said that the risk assessment process is not conducted just by engineers or internal only to the project.

Amy noted the linkage to Measure 1 – originally it had been in perpetuity as opposed to 100-year timeframe and for example this may impact considerations of ‘low frequency’ but high consequence events.

## **Measure 6**

AANDC indicated that the project will draft a Memo to Cabinet for long-term funding and the final decision will be made by Treasury Board. It was noted that the measure does require stakeholder input. Kevin said that it seems as though only the first bullet of the measure is being addressed right now in the status comments. He said someone needs to do the legwork on long-term funding options and suggested that someone with knowledge of government processes look into it. He suggested that the public are consulted when looking into this issue as required by the third bullet. Kevin said that it would be a good idea to work with FCSAP partners and that the Pembina report is a good starting point.

Amy stated that there can be early discussions with stakeholders before it goes to the Treasury Board. Kevin suggested that an RFP be developed to contract someone to do the study and circulate the RFP amongst WG members. Bill said that someone needs to come up with options for long-term funding and allow the stakeholders to review. Kevin said that there are good examples internationally (EPA in US, trusts) – there are precedents. Matt suggested looking at Parks Canada as they have a long-term funding model. Amy suggested that perhaps the GNWT could conduct some of the work.

There is a timeframe of three years for the report and so there is a need to start consultation early to ensure timelines are met.

## **Measure 7**

This measure is currently being considered as part of negotiations regarding the Environmental Agreement.

## **Measure 8**

This measure is currently being considered as part of negotiations regarding the Environmental Agreement.

## **Measure 9**





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Jane said that as a first step the project team will coordinate meetings with the necessary agencies and parties to start discussions. Kevin suggested working with Ian Gilchrist (former Chief Medical Officer, NWT) and that he could participate in ongoing WG discussions (but likely not until early 2015). Kevin suggested that there could be a review of data on human health (tissue data from the 1950s, 1960s and 1970s) in order to get a handle on the data, limitations, analytical methods and do a gap analysis – there are some data in the NWT archives. He said perhaps the data review/gap analysis could start sooner rather than later.

Jane suggested that we get the early stages figured out (who will be involved, etc.), then look at the data review. Bill said that it will be important to get this underway sooner rather than later because the information will feed into the HHRA.

Kevin said that some data that may be helpful would be that on cancer (ethnicity, locations, etc. other attribute data) and that GNWT should have such data already.

Natalie said that the Inuit Health Study would be good to review. And Bill also suggested talking with Laurie Chan.

## **Measure 10**

The group discussed the timing for Mark Richardson (Stantec) to return to start engaging with the WG on the details of the problem formulation for the HHRA (one day with Working Group and second day with GMAC).

Bill asked for clarification on Stantec's deliverable. Jane replied that the final deliverable is a terms of reference (TOR), however it is noted that a decision needs to be made about the structure of the TOR – will there be one TOR for an integrated process OR 2 separate TORs (one for the chemical/environmental aspect and one for the evaluation of wellness aspect).

Shin Shiga (NSMA) indicated that NSMA would like to be involved in the HHRA process.

Kevin suggested getting Ian Gilchrist involved (for Measures 9 and 10).

## **Measure 11**

Jane highlighted the engagement requirements to fulfill this measure and complete an options analysis for Baker Creek; Daryl Hockley had presented a proposed surface design engagement strategy that would include an options analysis of Baker, but the project team is still obtaining input from the parties and has not finalized the approach. The engagement process will be a key area of focus next year and is particularly important with respect to Baker as this impacts many other design elements.

It was noted that AANDC has conducted additional assessment of the North Diversion route this year. Kevin asked who is doing the assessment. Jane responded that Stantec was conducting the work. The initial sampling of sediment, water, bathymetry and fish on the lakes (Trapper etc.) is done. Chris Doupe is leading that work. There are no results yet; the reports will be draft in the winter.





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Wenyan asked about the submission of the water licence application. Jane said that this has been pushed back while the project completes the EA measures. Katherine said that the MVLWB has stopped the clock on its submission and we have as long as it takes to get all of the necessary work done. Jane said the Project is anticipating a four-year delay. This Baker options analysis will be done before the submission of the water license application. Katherine added that additional gaps and studies maybe identified during surface design engagement process.

Bill asked if there are any efforts underway to characterize options prior to consultation on options.

Kevin said that Fisheries and Oceans Canada (DFO) have a key role with Baker Creek. He further stated that the project should work with DFO to develop a summary of what is known and what is not known on Baker.

Amy clarified that the project team along with EC and DFO were working on a summary and process for Baker but then the Measure came out then everything was pushed back. Jane suggested that the former group that had been working on that (DFO, EC, Senes, Jane and Chris Doupe) be reinstated. DFO has stated throughout the EA that they require an assessment of the North route.

## **Measure 12**

Further discussion required - linked to Measure 11 and the engagement process. This measure will be incorporated into design criteria and is a key water license requirement. Water quality objectives will be reviewed during the proposed SRK engagement process and will be a key input into the evaluation of options.

## **Measure 13**

See discussion for Measure 12.

## **Measure 14**

The design of the water treatment plant to meet drinking water standards for arsenic will be incorporated into the work planning. Detailed consultation of the location of the outfall is required, particularly with the City of Yellowknife. Engagement on this measure will be incorporated into the SRK engagement process, however it is anticipated that additional detailed engagement on the outfall location will be required after that is complete.

Kevin said that the project in the past has indicated that it is conducting work on the characterization of Back Bay — how might the outfall affect water quality, sediment, currents etc. He asked if any of this work will be continuing. Katherine and Jane indicated that this work will continue and be addressed under Measures 16 and 17 as well.

Kevin stated that the City is talking about a trail along that shore and there could be some efficiency worked in; for example, access could facilitate trail development and avoid the cemetery.





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Wenyan said that it would be helpful to have a map; this would facilitate discussions with the City Public Works department.

Jane agreed and there will be options put forward on the location of the outfall. Detailed engagement on this is anticipated in 2016.

## **Measure 15**

This is a few years out yet, but the Project will incorporate it into future project planning.

## **Measure 16**

This is a few years out yet, but the Project will incorporate it into future project planning.

## **Measure 17**

This is a few years out yet, but the Project will incorporate it into future project planning.

## **Measure 18**

Kevin asked for FOS update; it has probably been a year since the last update.

Jane said that the design basis report for the freeze is currently being completed by SRK and will be reviewed by Independent Review Panel prior to the end of fiscal year. It will then be handed over to project design engineers (AECOM/Golder) for detailed design. It can be presented to WG after fiscal end.

Kevin asked if wetting is going to continue. Jane said that wetting is not being advanced. Kevin said that if wetting is not pursued then perhaps this Measure is not needed but also said that he would like to see the report. Kevin added that there will still have to be a plain language report.

Jane agreed that the SRK design basis report, a plain language report and engagement could potentially satisfy the measure.

Natalie said that once the report is complete that it can be shared then and added that it will be put as an agenda item for discussion.

## **Measure 19**

Kevin said that if the design basis report from SRK comes out and it states that it is not reversible then he will have an issue with that – he will be looking for reversibility.

## **Measure 20**

Jane said that there is an air quality monitoring program in place – it will be reviewed and adapted as needed.



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Amy asked about the timing of the Niven Lake station being operational. Natalie said that it is currently with the AANDC and City of Yellowknife lawyers. Further, because it will be for multiple years, it has to go to City Council for approval. It is progressing.

Amy asked if there would be a break in operations of the community station between the temporary and permanent site. Natalie confirmed that there would be a four- to eight-week break. Jane said that there are currently three stations running (Ndilo, Sir John Franklin and the Marina). She added that the marina was added to the program because of the boaters.

Kevin repeated his request for Dust Mitigation standard operating procedures (SOPs). Linda provided an update, stating that the SOP is drafted; however they not ready for distribution. There are procedures on-site however the contractor needs to improve its documentation. They are continuing to meet with the contractor DetonCho Nuna on this item.

Jane noted that the site actively works on dust mitigation but it is not physically possible to get it down to zero.

Kevin said that there is a long-standing issue with dust and community members and it needs to be addressed.

Jane agreed that there is a need for ongoing communication of risks and the air monitoring program. The project should continue to engage with GMAC on this issue.

## **Measure 21**

Jane said that there was baseline sampling completed for soil and vegetation for the Roaster project. Kevin said that he would like to see the report.

It was noted that baseline sampling will continue to fulfill this measure.

Wenyan said that testing of soil quality is important for land use, she requested to see the baseline report for the roaster. She asked if the sampling was random. Jane clarified that the baseline sampling is done in order to allow adequate management of the site but this sampling is not done with the objective of cleaning up to a particular land use. Jane repeated that the project is remediating to industrial guidelines. It was noted that the soil reports are factual – these are the numbers.

Kevin said that the Golder 2013 soil sampling report of undisturbed areas of the Giant site was not helpful because the ground was frozen at the time in some areas. Jane confirmed that additional soil sampling was done this year to address any gaps from the 2013 program.

It was noted that Karin Kronstal (City of YK) requested a map of soil sampling locations but it was not known if this was done (will check with Erika).

## **Measure 22**





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Jane indicated that the options for the tailings area will be part of the SRK engagement process. A report on the depth of the cover is required under this measure.

Wenyan said that she just received a spill report for Giant (she passed it around to the WG). Jane confirmed that the spill occurred during pumping of water from the North tailings pond to the water treatment plant. Katherine said that work was halted immediately. Jane said that there will be an investigation.

Kevin asked if the underground paste fill had started. Jane said the contractor was onsite in October to start tailings excavation. This spill occurred during the underground work as the contractor was attempting to excavate tailings in the North pond and needed to remove the water. Jane said she recognizes it is better to conduct pumping and other operations during warmer temperatures. Paste delivery into the underground will not start until the Spring.

Kevin asked if Parsons is still on site for the roaster work. Jane indicated yes, until November 22.

## **Measure 23**

This is a few years out yet, but the Project will incorporate it into future project planning.

## **Measure 24**

Wenyan asked if there is fencing around the tailings; Jane said there is not. Jane added that there was new fencing put up along the new highway. They will submit a development permit to cover site/activities.

## **Measure 25**

This is a few years out yet, but the Project will incorporate it into future project planning.

Kevin noted that this measure is really a design criterion for the tailings cap and should be used to reduce perpetual care requirements.

## **Measure 26**

This is a few years out yet, but the Project will incorporate it into future project planning.

## **Suggestion 1**

The Project Team is planning ongoing consultation with interested parties and stakeholders and will continue throughout each phase of the project.

Gordon Hamre asked where the proposed engagement strategy from SRK is. Katherine said that a 3-1/2 page document is being vetted and it is anticipated that the WG will have it next week. Jane will ask for written comments to be submitted.

## **Suggestion 2**





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Bill asked if there is intention to do something about a memorial. Katherine responded, yes, but it is typically not done prior to remediation. Jane said that it will likely come up in the engagement sessions. Wenyan said that it should be incorporated with land use planning engagement.

## **Suggestion 3**

Wenyan asked if the education resources would entail physical elements onsite. Katherine said, no, it would be resource materials for schools and/or adding to the curriculum. Jane added that the project does not have expertise in curriculum development, so would need GNWT - Education Culture and Employment (ECE). If ECE is interested, then the Project can supply all the necessary information.

## **Suggestion 4**

Kevin said that the DM of AANDC needs to send a message to the DM of Environment Canada - FCSAP to move this forward. This issue is obviously of some significance for AANDC with all of its contaminated sites that require any measure of monitoring and maintenance.

Kevin had to leave the WG meeting now. He said that he will be providing comments on the suggestions next week.

## **Suggestion 5**

Jane said that there is a measure 6 re: funding. She said that potentially an outcome from Measure 6 could satisfy this; maybe one of the options that is evaluated in Measure 6.

## **Suggestion 6**

Jane said that it unlikely that the project will meet the suggested timeline of 6 months. It was agreed this suggestion should be highlighted with the inspectors.

## **Suggestion 7**

Jane indicated that the scope of the Giant remediation project does not include cleaning up backyards and it is more appropriate for a GNWT-lead multi-disciplinary agency committee (similar to YSARC in the early 2000s) to address this suggestion. She added that the Project would be happy to contribute information but will not lead it.

Bill noted that the scope of the Giant HHRA will include sources and receptors outside the Giant lease area, but the clean-up of anything outside the lease area is not within scope of the Giant remediation project. The data may show off site areas are an issue and it is important to ensure this is adequately scoped in the HHRA – i.e. What would be need to evaluate the offsite sources.

## **Suggestion 8**

No comments.

## **Suggestion 9**





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No comments.

## **Suggestion 10**

Bill asked if there is any research being done on wetlands. Amy said that there are case studies and until now hasn't been at issue because Baker Creek wasn't going to be moved. Jane said that if there appears to be interest in wetland revealed during engagement, that we can look at them more closely - will flesh out when going through the engagement / options analysis.

## **Suggestion 11**

Jane indicated that the project has a good air quality program and this suggestion is addressed through the program. Bill asked if there was dispersion modelling done for project. Amy responded that she didn't think so. Jane indicated that the necessary information (for example prevailing winds) was incorporated in the development of the program and there are no plans for additional modelling.

## **Suggestion 12**

Jane said that the Land and Water Board (LWB) typical doesn't specify allowable wind directions and wind speeds. The LWB will have to decide if this is within their scope and it is not for the Project to decide.

## **Suggestion 13**

No comments.

## **Suggestion 14**

Amy noted that the project is not planning a cover for the foreshore tailings; however a monitoring plan for the foreshore tailings will be developed.

## **Suggestion 15**

The City of Yellowknife will be engaged on the design of the landfill.

## **Suggestion 16**

Jane said that traditional use will come up during the consultation process for many aspects of the Project.

## **6. OTHER BUSINESS**

### **FILMING OF WG MEETING**

Natalie mentioned, with the WG's permission, that there is going to be a film crew present for a small portion of the December meeting.

*"The Giant Mine Remediation Project Team is collecting video footage to document aspects of project. To date, this includes several hours of footage including historical images, aerial views,*





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*roaster deconstruction work, onsite safety practices, underground stabilization/drilling, waste storage, and care and maintenance work. With your permission, we would like our videographer to attend and film the first few minutes (up to approximately 15 minutes) of next month's meeting. The purpose of this visit would be to collect general footage of engagement opportunities. This footage could be used for both internal and external products in the future, including public presentations. We will ask for waivers to be signed before filming."*

Natalie said that she will be sending a waiver to the WG and requested that it be signed right away and sent back to her; signing of the waiver will indicate interest/consent.

## **PUBLIC FORUMS**

Katherine indicated that it has been a while since public meetings have been held in all three communities (Yellowknife, Ndilo and Dettah). Typically, project/site updates (previous year's activities) are updated with a focus on site stabilization activities (roaster and underground). The next public meeting is tentatively planned for January/February 2015 to wrap up the roaster project and the Project Team is looking for some feedback on whether the WG thinks it would be useful to have two meetings, one in Yellowknife, and one in either N'dilo or Dettah.

## **7. NEXT WORKING GROUP MEETING**

The next WG meeting will be held on Thursday December 11 and will be a full day with Mark Richardson on scoping the human health risk assessment work. A meeting with Giant Mine Advisory Committee (GMAC) regarding the human health risk assessment will also be scheduled for either December 10 or 12<sup>th</sup>.





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## ACTION ITEMS

1. Jane will confirm the following details for the MSA
  - a) snow is being removed from the bags
  - b) double-bagging is occurring and this is a change from 2013
  - c) criteria for further action to address leaks
  - d) procedure for checking the lower containers
  - e) condensation in the containers, is there any procedure to reduce (airing out/ventilating).
2. Jane to provide AANDC quarterly statistics report, including the number of Northern and the number of Aboriginal workers.
3. AANDC to provide additional info on org chart, such as the list of members of the committees associated with the organization chart/Project.
4. Jane and Erika will continue to look into developing high-level summary work plans and/or contract schedules to inform Bill's work plan and identifying priorities for WG members.
5. Daryl will provide a draft 3-4 page document on what a site remediation engagement process might look like for Giant Mine. This would include scope, possible issues, groups involved, resources needed.
6. Jane will review the minutes from the October 9<sup>th</sup> meeting and re-circulate.
7. Asish will share some literature (3-4 papers) regarding HIA case studies/best practice work.
8. Sue to provide additional info on the 23 studies referenced in her presentation, as well as the Sa Dena Hes work.
9. Jane to check with Erika regarding the map identifying 2014 soil sampling locations.



# Giant Mine Remediation Project

## APPENDIX A – PARSONS REPORT ON MATERIAL STORAGE AREA – ISO SHIPPING CONTAINER LEAK INVESTIGATION



Aboriginal Affairs and  
Northern Development Canada

Affaires autochtones et  
Développement du Nord Canada



# Giant Mine Remediation Project

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## APPENDIX B – DRAFT GIANT MINE ORGANIZATIONAL CHART (OCTOBER 31, 2014)



Aboriginal Affairs and  
Northern Development Canada

Affaires autochtones et  
Développement du Nord Canada



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## APPENDIX C – OVERVIEW OF HUMAN HEALTH RISK ASSESSMENT AND ITS APPLICATION AT GIANT MINE (STANTEC PRESENTATION DECK)



Aboriginal Affairs and  
Northern Development Canada

Affaires autochtones et  
Développement du Nord Canada



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## APPENDIX D – GIANT MINE HEALTH IMPACT RISK ASSESSMENT (DR. SUE MOODIE PRESENTATION DECK)



Aboriginal Affairs and  
Northern Development Canada

Affaires autochtones et  
Développement du Nord Canada