



Indian and Northern
Affairs Canada

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Box 1500
Yellowknife NT X1A 2R3

Your file - Votre référence

Our file - Notre référence

December 15, 2010

Mr. Richard Edjericon
Chairperson
Mackenzie Valley Environmental Impact Review Board
5102-50th Avenue
Box 938
Yellowknife, NT X1A 2N7

Dear Mr. Edjericon:

Re: Geotechnical Drilling Investigation at Giant Mine

I am writing to inform the Mackenzie Valley Environmental Impact Review Board (Review Board) regarding upcoming work at Giant Mine. At this time Indian and Northern Affairs Canada (INAC) is proceeding with the design for the Giant Mine Remediation Project. In support of this work INAC is completing detailed site investigations, which will help provide input for the design details and cost estimates, and includes geotechnical drilling. We anticipate geotechnical drilling to begin in January of 2011.

Baker Creek – Relocation and Upgrades

The Giant Mine Remediation Plan includes provisions to realign reach 3 of Baker Creek to the northeast side of C1 Pit. The condition of the crown pillars in stopes 2-18, 2-19, 2-20 and B5-09 need to be investigated before the final alignment of Baker Creek can be confirmed. The proposed alignment will be close to the crown pillars of these stopes. Currently, the crown pillars for stopes 2-18 and 2-19 are considered low risk, but it is understood that realigning Baker Creek may change these ratings to moderate or high. To support the design of Baker Creek, INAC is planning geotechnical investigations in January 2011 to evaluate the rock stability and complete a Cavity Monitoring Survey.

The geotechnical investigations will include two to three boreholes at or behind the northeast pit slope of C1 Pit. The boreholes will evaluate stability, identify any permafrost in the upper soil portion of the slope and determine the rock structure in the lower pit slope. The impacts to air, water and renewable resources on the Giant Mine lease will be limited to non-existent in an already disturbed area.

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The geotechnical investigation will be completed using a small trailer mounted 2500 kg drill rig. Each borehole will be 30 to 40 metres deep depending on the depth of composite rock. The drill rig may or may not be successful in obtaining samples of the upper soil, depending on the soil characteristics. If samples of the upper soil portion of the rock cannot be obtained using the drill rig, one of the boreholes will be extended using an auger rig in March 2011 to the top of the rock to obtain samples of the soil, using solid or hollow stem augers. This additional drilling will be required to characterize the soil and to identify any potential permafrost within the soil which is required to complete the slope stability evaluation of the upper portion of the C1 pit slope.

Tailings Rehabilitation

The availability of coarse and fine grained borrow is limited in the Yellowknife region, with many of the local sources exhausted or inaccessible. To support the design of the frozen block in B1 Pit, INAC is planning geotechnical investigations in late February or early March 2011 to evaluate the suitability of tailings as a paste backfill for stopes under the B1 Pit area and potentially for part of the B1 Pit. Current investigations of the tailings facilities were conducted using track mounted excavators or backhoes in the accessible part of the tailing ponds. Thus, the condition of the tailings at depth and in areas of ponded water has not been determined.

Drilling will therefore provide information on the physical properties of the tailings at depth within the ponds and in areas of the ponded water. The geotechnical investigation will also provide the necessary information (depth of ponds, permafrost content and ice lensing) to complete the re-grading and cover designs for the ponds. This information is required to determine the suitability of the tailings as potential backfill in the existing tailings basin as part of the re-grading and to complete the settlement calculations for the tailings cap. Twelve boreholes using an auger drill are planned. The drilling will occur through the ice into the tailings. The impacts of the drilling within the Tailings Containment Area (TCA) are anticipated to be minimal and can be mitigated with standard drilling practices.

Borrow Source

While coarse and fine grained borrow is limited in the Yellowknife region, reasonable quantities are available on the mine site. However, total volumes for the tailings covers required for the tailings cap designs may be greater than available borrow on site. Quantities of borrow are also required for other remediation activities on site and insufficient quantities of these materials have been identified on site to date. INAC wants to investigate the existing sources of borrow on-site before determining whether new quarries on site are required for tailings covers. The geotechnical investigation will use a tracked auger rig. An average of 3 boreholes at each of the nine proposed locations is planned.

Drilling is also required to determine the source of rock borrow for structures (spillways, etc). The rock is to be tested to confirm it is suitable for use in reclamation activities on site and should not be disposed of as waste. INAC intends to investigate the planned spillways at the North Pond (Dam 2), the Northwest Tailings Containment Area (TCA) at Dam 21D and at the proposed landfill in the Northwest TCA.

If the rock within these areas is not suitable (i.e. > 340 mg/kg of arsenic) it will have to be excavated and disposed of during remediation and a new source of quarried material will need to be sourced. This will have significant implications for design and costing, so it is important that these investigations occur on the timelines we have set out.

Approximately 10 shallow boreholes (<10 m) are required. This work will be undertaken in January 2011 using the same drill rig as the Baker Creek relocation study. The impacts to the environment are anticipated to be minimal in an already disturbed area and can be mitigated using standard geotechnical drilling practices.

Open Pit Closure

The crown pillars under A2 pit (behind the pit crest and Reach 1 of Baker Creek), the north slope of C1 pit and the north slope of B3 pit are thought to be thin or collapsing. INAC has completed an extensive review of the mine plans and drawings; however, there is insufficient information to complete designs for closing these pits. Further information is required to complete the overall closure design. INAC intends to drill 4 boreholes in each of the pits to determine the long-term stability of the pit floors.

Overall Drilling

The drilling as planned will use less than 2 – 3 cubic metres of water daily and will be sourced from the existing mine water management systems. All drill waste will be tanked and stored for final disposal in the Northwest TCA which is considered an approved facility for disposal of the material. INAC will have appropriated spill contingency plans for the geotechnical drilling.

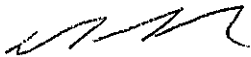
We also understand that the Government of the Northwest Territories (GNWT) and the Mackenzie Valley Land and Water Board (MVLWB) are working towards completing the outstanding joint determinations as required under section 98(2) of the *Mackenzie Valley Resource Management Act*, however until such joint determination is made in the case of the City of Yellowknife, there continues to be jurisdictional uncertainty over whether the MVLWB or the City, or both to whatever extent, have jurisdiction over land use activities. Until this is resolved, and this joint determination is made in the case of the City in particular, Giant continues to be impacted by this uncertainty and INAC will not be making application for any land use related permits.

Overall we wish to be clear that this drilling program and investigations are necessary at this point in time to ensure that the information to be collected will be in place so that design options for the overall Remediation Plan can be confirmed, and so that this information can inform the on-going EA. It will also assist in ensuring that the required funding for the ultimate implementation of the Remediation Plan will be in place.

INAC will ensure that the MVEIRB continues to be updated with information relevant to the EA.

Should you require any additional information or have any questions please do not hesitate to contact the Giant Mine Remediation Project Team at (867) 669-2845.

Sincerely,



Mark Palmer
Director
Giant Mine Remediation Project

cc. Mr. Willard Hagen, Chairperson, Mackenzie Valley Land and Water Board
Mr. Mike Aumond, Deputy Minister, Municipal and Community Affairs
Parties to Environmental Assessment, EA0809-001

Attachments (Site Map and underground against surface)



Box 1500
Yellowknife NT X1A 2R3

Your file - Votre référence

Our file - Notre référence

December 15, 2010

Mr. Mike Aumond
Deputy Minister
Municipal and Community Affairs
Government of the Northwest Territories
P.O. Box 1320
Yellowknife, NT X1A 2L9

Dear Mr. Aumond:

Re: Giant Mine Remediation Project Drilling

I am writing to follow up on my letter of August 11, 2010 and yours of August 30, 2010 regarding the Joint Determination(s) of the Mackenzie Valley Land and Water Board (MVLWB) and the Government of the Northwest Territories (GNWT) regarding section 98 of the *Mackenzie Valley Resource Management Act* (MVRMA).

We understand that the GNWT and the MVLWB Staff Working Groups are working towards completing the outstanding joint determinations as required under section 98(2) of the MVRMA. However, until such joint determination is made in the case of the City of Yellowknife, there continues to be jurisdictional uncertainty over whether the MVLWB or the City, or both to whatever extent, have jurisdiction over land use activities. Until this is resolved, and this joint determination is made in the case of the City in particular, Giant continues to be impacted by this uncertainty.

At this time Indian and Northern Affairs Canada (INAC) is proceeding with the design for the Giant Mine Remediation Project. In support of this work INAC is completing detailed site investigations, which will help provide input for the design details and cost estimates, and includes geotechnical drilling. Details of the planned geotechnical investigations are described below. We anticipate this work will begin in January of 2011. In light of the ongoing uncertainty in jurisdiction INAC will not be making application for any land use related permits to the MVLWB.

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Baker Creek – Relocation and Upgrades

The Giant Mine Remediation Plan includes provisions to realign reach 3 of Baker Creek to the northeast side of C1 Pit. The condition of the crown pillars in stopes 2-18, 2-19, 2-20 and B5-09 need to be investigated before the final alignment of Baker Creek can be confirmed. The proposed alignment will be close to the crown pillars of these stopes. Currently, the crown pillars for stopes 2-18 and 2-19 are considered low risk, but it is understood that realigning Baker Creek may change these ratings to moderate or high. To support the design of Baker Creek, INAC is planning geotechnical investigations in January 2011 to evaluate the rock stability and complete a Cavity Monitoring Survey.

The geotechnical investigations will include two to three boreholes at or behind the northeast pit slope of C1 Pit. The boreholes will evaluate stability, identify any permafrost in the upper soil portion of the slope and determine the rock structure in the lower pit slope. The impacts to air, water and renewable resources on the Giant Mine lease will be limited to non-existent in an already disturbed area.

The geotechnical investigation will be completed using a small trailer mounted 2500 kg drill rig. Each borehole will be 30 to 40 metres deep depending on the depth of composite rock. The drill rig may or may not be successful in obtaining samples of the upper soil, depending on the soil characteristics. If samples of the upper soil portion of the rock cannot be obtained using the drill rig, one of the boreholes will be extended using an auger rig in March 2011 to the top of the rock to obtain samples of the soil, using solid or hollow stem augers. This additional drilling will be required to characterize the soil and to identify any potential permafrost within the soil which is required to complete the slope stability evaluation of the upper portion of the C1 pit slope.

Tailings Rehabilitation

The availability of coarse and fine grained borrow is limited in the Yellowknife region, with many of the local sources exhausted or inaccessible. To support the design of the frozen block in B1 Pit, INAC is planning geotechnical investigations in late February or early March 2011 to evaluate the suitability of tailings as a paste backfill for stopes under the B1 Pit area and potentially for part of the B1 Pit. Current investigations of the tailings facilities were conducted using track mounted excavators or backhoes in the accessible part of the tailing ponds. Thus, the condition of the tailings at depth and in areas of ponded water has not been determined.

Drilling will therefore provide information on the physical properties of the tailings at depth within the ponds and in areas of the ponded water. The geotechnical investigation will also provide the necessary information (depth of ponds, permafrost content and ice lensing) to complete the re-grading and cover designs for the ponds. This information is required to determine the suitability of the tailings as potential backfill in the existing tailings basin as part of the re-grading and to complete the settlement calculations for the tailings cap. Twelve boreholes using an auger drill are planned. The drilling will occur through the ice into the tailings. The impacts of the drilling within the Tailings Containment Area (TCA) are anticipated to be minimal and can be mitigated with standard drilling practices.

Borrow Source

While coarse and fine grained borrow is limited in the Yellowknife region, reasonable quantities are available on the mine site. However, total volumes for the tailings covers required for the tailings cap designs may be greater than available borrow on site. Quantities of borrow are also required for other remediation activities on site and insufficient quantities of these materials have been identified on site to date. INAC wants to investigate the existing sources of borrow on-site before determining whether new quarries on site are required for tailings covers. The geotechnical investigation will use a tracked auger rig. An average of 3 boreholes at each of the nine proposed locations is planned.

Drilling is also required to determine the source of rock borrow for structures (spillways, etc). The rock is to be tested to confirm it is suitable for use in reclamation activities on site and should not be disposed of as waste. INAC intends to investigate the planned spillways at the North Pond (Dam 2), the Northwest Tailings Containment Area (TCA) at Dam 21D and at the proposed landfill in the Northwest TCA.

If the rock within these areas is not suitable (i.e. > 340 mg/kg of arsenic) it will have to be excavated and disposed of during remediation and a new source of quarried material will need to be sourced. This will have significant implications for design and costing, so it is important that these investigations occur on the timelines we have set out

Approximately 10 shallow boreholes (<10 m) are required. This work will be undertaken in January 2011 using the same drill rig as the Baker Creek relocation study. The impacts to the environment are anticipated to be minimal in an already disturbed area and can be mitigated using standard geotechnical drilling practices.

Open Pit Closure

The crown pillars under A2 pit (behind the pit crest and Reach 1 of Baker Creek), the north slope of C1 pit and the north slope of B3 pit are thought to be thin or collapsing. INAC has completed an extensive review of the mine plans and drawings; however, there is insufficient information to complete designs for closing these pits. Further information is required to complete the overall closure design. INAC intends to drill 4 boreholes in each of the pits to determine the long-term stability of the pit floors.

Overall Drilling

The drilling as planned will use less than 2 – 3 cubic metres of water daily and will be sourced from the existing mine water management systems. All drill waste will be tanked and stored for final disposal in the Northwest TCA which is considered an approved facility for disposal of the material. INAC will have appropriated spill contingency plans for the geotechnical drilling.

Overall we wish to be clear that this drilling program and investigations are necessary at this point in time to ensure that the information to be collected will be in place so that design options for the overall Remediation Plan can be confirmed, and so that this information can inform the on-going EA. It will also assist in ensuring that the required funding for the ultimate implementation of the Remediation Plan will be in place.

Finally, this drilling program and investigations are necessary and time sensitive to ensure that this information is in place so that design options can be confirmed and to ensure that the necessary funding is in place for the ultimate implementation of the Remediation Plan as proposed. Such information will likewise inform Environmental Assessment, EA08-001. As such, INAC will ensure that the Review Board is updated with information relevant to the environmental assessment.

Should you require any additional information or have any questions please contact either myself at 867-669-2501 or Mark Palmer at the Giant Mine Project Office at 867-669-2845.

Sincerely,

A handwritten signature in cursive script, appearing to read "Trish Merrithew-Mercredi".

Trish Merrithew-Mercredi
Regional Director General
Northwest Territories

cc. Mr. Richard Edjericon, Chairperson, Mackenzie Valley Environmental
Impact Review Board
Mr. Willard Hagen, Chairperson, Mackenzie Valley Land and Water Board
Parties to Environmental Assessment, EA0809-001

Attachments (Site Map and underground against surface)



Box 1500
Yellowknife NT X1A 2R3

Your file - Votre référence

Our file - Notre référence

December 15, 2010

Mr. Willard Hagen
Chairperson
Mackenzie Valley Land and Water Board
Box 2130
7th Floor - 4922 48th Street
Yellowknife, NT X1A 2P6

Dear Mr. Hagen:

Re: Giant Mine Remediation Project Drilling

I am writing to follow up on my letter of August 11, 2010 and yours of September 27, 2010 regarding the Joint Determination(s) of the Mackenzie Valley Land and Water Board (MVLWB) and the Government of the Northwest Territories (GNWT) regarding section 98 of the *Mackenzie Valley Resource Management Act* (MVRMA).

We understand that the MVLWB Staff Working Groups and the GNWT are working towards completing the outstanding joint determinations as required under section 98(2) of the MVRMA. However, until such joint determination is made in the case of the City of Yellowknife, there continues to be jurisdictional uncertainty over whether the MVLWB or the City, or both to whatever extent, have jurisdiction over land use activities. Until this is resolved, and this joint determination is made in the case of the City in particular, Giant continues to be impacted by this uncertainty.

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Overall we wish to be clear that this drilling program and investigations are necessary at this point in time to ensure that the information to be collected will be in place so that design options for the overall Remediation Plan can be confirmed, and so that this information can inform the on-going EA. It will also assist in ensuring that the required funding for the ultimate implementation of the Remediation Plan will be in place.

Finally, this drilling program and investigations are necessary and time sensitive to ensure that this information is in place so that design options can be confirmed and to ensure that the necessary funding is in place for the ultimate implementation of the Remediation Plan as proposed. Such information will likewise inform Environmental Assessment, EA08-001. As such, INAC will ensure that the Review Board is updated with information relevant to the environmental assessment.

Should you require any additional information or have any questions please contact either myself at 867-669-2501 or Mark Palmer at the Giant Mine Project Office at 867-669-2845.

Sincerely,



Trish Merrithew-Mercredi
Regional Director General
Northwest Territories

c.c.: Mr. Richard Edjericon, Chairperson, Mackenzie Valley Environmental
Impact Review Board
Mr. Mike Aumond, Deputy Minister, Municipal and Community Affairs
Parties to Environmental Assessment, EA0809-001

Attachments (Site Map and underground against surface)