# Comments for Ontario’s’ Recovery of Minerals Proposed Amendments

## Environmental Registry of Ontario #s: 019-4452 and 019-4453

## On Bill 13 and the accompanying policy guidance paper:

* CanmetMINING (Natural Resources Canada) is supportive of the efforts to propose changes to the Mining Act that will allow for the potential valorization of mine wastes. The consideration of mine wastes as a source for critical minerals while simultaneously mandating that land be improved after reprocessing is paramount to minimizing waste generation, safeguarding communities and the long term environmental responsibility of critical mineral value chains in Canada. It is recognized that this must be approached in a well thought-out manner that minimizes potential for negative impacts resulting from these activities, as have sometimes occurred in the past. The following items represent a collection of comments collated through relatively informal review and discussion amongst technical and policy divisions within Natural Resources Canada.
* Schedule 12 of Bill 13 specifies that mine waste products could be deemed as “advanced exploration”. This change in material classification may result in companies seeking to reprocess waste now qualifying to raise funds using Flow through Shares. Input should be sought from applicable tax experts from Ontario, NRCan, and the CRA. If tailings reprocessing is deemed as manufacturing and processing (M&P) then this would not be the case – but then there should be no mining royalty and tax applied either.
* Many ‘mine waste products’ could apply as a secondary source of minerals, like tailings, slag, waste rock, dross, waste water, process effluent, etc. Bill 13 uses the language “tailings or other waste materials resulting from mining”, however the material is later described as “tailings or waste rock” in the policy guidance. Will there be a specific list of applicable materials, or will this be at the discretion of the Minister of ENDM or the delegated authority?
* In the proposed application-based permitting regime, how will the transfer of liability work when the new proponent to do the reprocessing is not the owner of the entire mine site? There may be examples where smaller companies seek the ‘mineral rights’ to tailings, and permission to enter and affect the tailings areas from the original proponent. In these cases, how will the liability be split or shared?
* Does this represent an additional cost to mining companies, specifically related to providing mineral rights on their own tailings? How would such a change impact closure bond requirements?
* The proposed amendment requires that the proponent submit as part of the recovery and remediation plan “how the minerals or mineral bearing substances would be recovered. This may include a description of the processes and technologies that would be used to recover the minerals”. Many of the firms looking to perform these reprocessing operations will be operating with novel technologies. How will intellectual property be handled in these cases, and what level of technical detail is required to be submitted as part of the application? Will these processes be assessed technically, and if so, will this be done by the Province or by an authorized 3rd party with expertise in the specific mineral processing or metallurgy discipline?

## Discussion questions proposed in the policy guidance:

**Stakeholders have expressed that closure plan requirements discourage mineral reprocessing and recovery projects. The Ministry has proposed amendments to the Mining Act to facilitate recovery from tailings and other wastes, by requiring a tailored remediation plan that is activity-specific as opposed to a closure plan covering all hazards on a mine site. Please comment on this change.**

This is a positive change for prospective tailings re-processors, however it needs to address the above issue of liability splitting. Not all of the proponents will be operating on sites that they are the sole proprietor of, and will require clarity on exactly what they are responsible for. This is a critical activity that must also define anticipated/potential impacts on downstream activities. For example, will disturbance of the tailings result in significantly increased loadings to the effluent treatment plant for some duration.

Similar to closure bonds, will some sort of financial guarantee be required before start-up to ensure that finances are in place to remediate a site at no expense to the Crown, should things go wrong?

**Are there other challenges to pursuing recovery projects in Ontario? Please describe**

These amendments seek to classify mining wastes in the category of “advanced exploration”. The goal of advanced exploration is to declare a resource and subsequently a reserve. For proponents that are publicly traded companies, in order to declare a resource or reserve on a mine waste, there could be implications under the National Instrument 43-101 on the requirements of this declaration. However, with no precedent for declaring a reserve on a waste product, there could be complications in this area.

The potential for overlapping minerals rights (if the intended ‘permit-based’ system conveys mineral rights) could be a challenge. This becomes increasingly more challenging where the original mineral right holder is also the freehold owner or perhaps the freehold owner is a 3rd party. Would Ontario consider Right of Entry or other mechanisms, if required, for the purpose of re-processing waste/tails?

* Additional complications could arise with the party seeking the permit to re-process waste, if they are planning to utilize existing site infrastructure in the re-processing operations.

**Should the Ministry require supporting baseline studies and investigations be provided with an application for a recovery permit? Please describe.**

The burden of baseline studies was identified as a hurdle to reprocessing mine wastes in the first place, so mandating that baselines be performed would be counterproductive to the goal of this initiative. In the cases of active mine sites, there will be baseline environmental data from the original permitting process that can be used. This will not be the case for older orphaned mine sites.

For reprocessing, would baseline be the existing conditions or the pre-mining conditions? Perhaps for orphaned sites, Ontario might assemble environmental background/baseline data “packages” that could be available to proponents for each site. This would be critical for proponents.

One pathway to ensuring there is not a negative impact from the reprocessing operations is to require continuous monitoring of key environmental indicators for a specified period of time. These indicators could be site specific, and included in the application for permit and approved prior to commencing reprocessing activities. Given the range of technologies available to proponents, this monitoring can be done remotely, and in real-time.

When receiving permit applications for the re-processing of waste/tailings, Ontario might consider the development of an internal hierarchy or matrix to grade incoming applications based on site characteristics and specifics. Such things could include mine status (OAM, C&M, Partial remediated, Active, etc.), mineral content and value, site control, quality of reclamation and long-term water treatment, quality of the company seeking the permit, etc. This would provide a rigid and defensible methodology for issuing permits to projects with a high degree of success.

**What requirements for the contents of a remediation plan should the Ministry consider? Should specific remediation standards be prescribed in regulation, and, if so, what should those standards be? (i.e. requirements for resloping and/or revegetation). Please explain.**

Remediation of mining areas are very site specific, so the requirements to remediate should require good outcomes, rather than specific strategies for remediating land. This ties in to the aforementioned real time monitoring of receiving environments and downstream areas of sites. The remediation plan should include an assessment of existing site conditions in terms of reclamation. This would help to take advantage of the digital transformation in mining. In an ideal world, we would be able to detect a change in receiving environment automatically, detect changing patterns using AI, and harness these technologies to green the mining industry. The regulations need not require the use of these technologies, but they should at least allow for their use in lieu of traditional methodologies.

**What are other opportunities to rethink mining wastes?**

One of the biggest issues in this subsector is repurposing the remaining residues after reprocessing. With input grades as low as they are from tailings, each tonne of material reprocessed is going to leave approximately one tonne of secondary tailings that needs to be considered. The technologies for reprocessing need to consider what that end product could be used for. If we just re-engineer tailings facilities for long-term storage, we are simply kicking the can down the road. If we consider alternative uses for these materials, we move closer and closer to a circular economy.

Ontario will need to consider how permits will be rolled out. For example, projects that apply a holistic reprocessing and remediation plan should be prefer to those only looking at simple metal recovery. This could be encourage through permitting and other incentives.

An emerging area of interest is utilization of tailings for carbon sequestration through carbon mineralization. Tailings from nickel operations have been identified as a particular area of interest, and are found in abundance in Ontario. Additionally, Canada is a world leader in these technologies with research capacity across Canadian Governments and academic institutions. When designing the changes to the Mining Act, provisions should be made that do not inhibit this as a repurposing option.

Re-processing of waste/tails serves to reduce the Crown liability, particularly for orphaned and abandoned mine sites. Would Ontario consider amendments to the royalty (or mineral tax) to provide incentives (i.e. lower rate or delayed tax) for waste/tails mineral recovery?

Does Ontario intend to ensure protection from speculative parties that may be seeking to flip properties? Noting that they are seeking to provide Director-level power under the Act to impose Terms and Conditions, this could provide a mechanism for this assurance.