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Environment and Climate Change Canada's Presentation to the Mackenzie Valley Environment Impact Review Board Regarding Canadian Zinc's Prairie Creek All Season Road Project - Water

**MVEIRB Public Hearing
Fort Simpson, NT
Bradley Summerfield, EPOD
Emily Nichol, EPOD
April 27, 2017**

Overview

- Mandate and Relevant Legislation
- ECCC Recommendations
 - Borrow Sources Potential for Acid Rock Drainage and Metal Leaching
 - Sediment and Erosion Control
 - Water Quality Monitoring
 - Contaminant Loading Management Plan

ECCE's Mandate

- Preserve and enhance the quality of the natural environment
- Conserve Canada's renewable resources
- Conserve and protect Canada's water resources
- Forecast daily weather conditions and warnings
- Enforce rules relating to boundary waters
- Coordinate environmental policies and programs



Borrow Sources Potential for Acid Rock Drainage and Metal Leaching

- The Proponent is in agreement that all representative units should be sampled at all potential borrow source locations, testing should be completed using acid-base accounting and metal leaching test methods to characterize representative units and that testing should be overseen by a qualified professional geochemist.
- ECCC notes that marginal borrow material sources should be avoided as once exposed it becomes difficult to mitigate or ensure that source rock with acid rock drainage and/or metal leaching potential will not create adverse water quality issues.



Sediment and Erosion Control Plan

- The Proponent is in agreement that the Sediment and Erosion Control Plan should be reviewed and finalized prior to construction, erosion and sediment control measures should be put in place when constructing around fish-bearing waters, and appropriate setback distances from fish-bearing waters should be determined and implemented based on site conditions for the storage of potential TSS generating materials.
- ECCC notes that monitoring should be completed during construction periods, prior to spring freshet, and when rainfall events are forecast.
- This monitoring is in addition to visual monitoring of sediment and erosion control measures to ensure measures are effective.



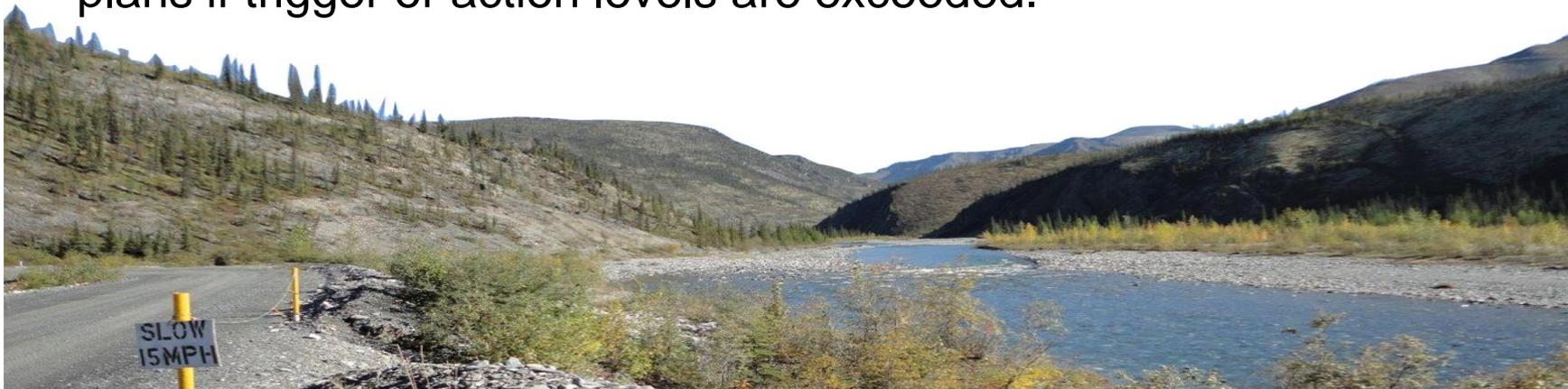
Water Quality Monitoring

- The Proponent has committed to monitoring accessible and representative streams to construct a linear regression that may be applicable to other streams.
- ECCCC notes that baseline analysis of turbidity and TSS should be completed prior to and also during construction so that the site specific relationship between turbidity and TSS can be validated.
- The Proponent has also committed to establishing mitigation measures and trigger levels which will be based on percentage differences of turbidity.



Contaminant Loading Management Plan

- The Proponent has committed to implementing mitigation measures to prevent dust from leaving the site and has agreed to include the monitoring proposed by ECCC in the Contaminant Loading Management Plan.
- ECCC notes the importance of monitoring for contaminants along the full length of the road, including adequate baseline information, trigger and action levels and adaptive management and contingency plans if trigger or action levels are exceeded.



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Thank-you

Any Questions or Comments?



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