



# Marcel Colomb First Nation

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October 24, 2025

### **The Honourable Julie Dabrusin**

Minister of the Environment and Climate Change  
House of Commons  
Ottawa, Ontario K1A 0A6

Dear Minister:

**RE: Marcel Colomb First Nation: Comments on the MacLellan Mine Plan Amendment Notice of Alteration/Notice of Change**

We have completed our review of the Notice of Alteration/Change for the MacLellan Mine Plan Amendment under the Lynn Lake Gold Project. Overall, the plan is well-organized and reflects a thoughtful, comprehensive approach. We recognize and appreciate Alamos' significant investment of time and technical expertise in assessing the potential environmental impacts of the proposed modifications.

While the submission is thorough, we have identified several concerns that require further clarification. Requests for additional information are included to address these concerns.

### **Information Request #1: Volume of mined rock will almost double**

The Notice outlines proposed changes to the MacLellan mine plan as originally presented in the Environmental Impact Statement (EIS) and provides Alamos' perspective on how these modifications may affect the surrounding environment in comparison to the impacts described in the EIS.

The proposed changes are:

- Overall mined tonnage has increased by approximately 86%, leading to a reconfiguration of the mine site layout.
- Open pit volume increased from 52 Mm<sup>3</sup> to 95.8 Mm<sup>3</sup>.
- The mine life has been adjusted to 17 years, including 11 years of mining and an additional 6 years of additional processing of ore.
- Filling of the open pit after mine operations will take 40 years, under average climate conditions.
- Footprints of several project components have been significantly changed, including the tailings management facility, mine rock storage area, overburden stockpile, and ore storage area and tailings pond.

However, when we look at the Project Development Areas in Map No. 2 and 3 in the Notice, the overall area of the PDA has not changed significantly. Therefore, these changes must be reflected in the vertical make-up of the PDA.

We request Alamos provide typical cross-sections of the Mine Rock Storage Area and Tailings Management Facility, Non-Acid Generating Stockpile, Open Pit and Satellite Pit, and other facilities at

different stages of mine development under the new plan and compare these cross-sections to those in the EIS.

**Information Request #2: Engagement with Marcel Colomb First Nation**

Alamos's view on engagement is: No formal public engagement is planned beyond the placement of the NOA/NOC on the respective MECC and IAAC public registries for public review and comment as required.

Our view is that the Notice requires deeper engagement with Marcel Colomb as the amount of mined rock is almost doubling in size.. The engagement must also provide an additional level of funding for this engagement to allow for full community engagement.

**We request that Alamos meet with Marcel Colomb First Nation to discuss:**

- a. the potential framework for engagement regarding the Notice; and
- b. the implications of the proposed mine plan on the findings of the Environmental Impact Statement (EIS) and the conditions outlined in the approved licence.

**Information Request #3: Comment on Surface Water Concentration Data**

We note that expected releases from the mine are currently presented in terms of concentrations for parameters of potential concern. While this approach may satisfy regulatory requirements for compliance and comparison to established thresholds, it does not provide sufficient information to evaluate the scale and significance of potential environmental impacts.

To facilitate a more robust and transparent assessment, we request that all releases from the mine to the environment be reported on a mass basis in the Notice. Specifically, we require quantification of the total mass of each parameter of potential concern released to the environment across all project phases: construction, operation, and closure and post-closure.

**We request the inclusion of tabulated data that clearly presents:**

- c. the annual mass of each potential parameter of concern transported to receiving water bodies under baseline (pre-mining) conditions;
- d. the incremental mass of each POPC released into the environment as a result of mining activities, as outlined in the EIS and Notice. Alamos is requested to present this data in both tabular and graphical formats to facilitate clear and accessible interpretation.

This mass-based reporting is essential for understanding cumulative loading, evaluating long-term environmental risks, and determining the potential for adverse effects on aquatic ecosystems, traditional land use, and community health. Without this level of detail, it is not possible to adequately assess the magnitude of change or the effectiveness of proposed mitigation measures.

#### **Information Request #4: Comments on Runoff Coefficients used in Water Balance, Water Quality and Groundwater Models**

Our review of the water balance and water quality models presented in the Notice has identified a few concerns regarding the accuracy and applicability of the models' predictions.

Monthly runoff coefficients used to convert precipitation to runoff are presented in Table 2.2 of Appendix F. These coefficients represent the fraction of rainfall that becomes surface runoff, the remainder of the fraction being lost to infiltration. These coefficients are sensitive to, particle size of the receiving materials, slope, surface covers and compaction of the area. For conservative design, the upper bound of these ranges is often used, and that seems to be case here. However, the ramifications of more precipitation entering the ground and adding to seepage is not explored.

##### **We request that Alamos:**

- a. Provide the expected range in variation for runoff coefficients for the tailings facility, mine rock storage, and other areas. For example; runoff coefficients for tailings can vary from 0.4 to 0.9.
- b. Explain how over- or underestimation of these coefficients could affect the water balance and water quality models and groundwater model predictions, particularly in terms of mass loadings.
- c. Determine how lower bounds for the runoff coefficients affect PAG and mobility of metal ions in the models?

#### **Information Request #5: Regression Methods for Long-Term Runoff Estimation**

Appendix F describes two regression methods used to estimate long-term runoff for the Keewatin River:

- Chronological Regression, which yielded a Nash-Sutcliffe Efficiency (NSE) of 0.64;
- Ranked Pairing, which yielded a stronger NSE of 0.87 and was selected for generating the synthetic 46-year time series.

While the Ranked Pairing method shows a better statistical fit, --- albeit because the data was ranked from highest to lowest --- the Chronological Regression method exhibits greater variability (Fig. 2.7, Appendix F, Notice) by estimating higher peak flows and lower low flows. From an environmental protection standpoint, this variability may be more indicative of the natural variability found in river flows and therefore offer a more conservative basis for assessing potential impacts.

##### **We request that Alamos:**

- a. derive long-term runoff estimates using the Chronological Regression method, consistent with the approach used in Table 2.5 for Ranked Pairing.
- b. provide a comparative analysis of the differences in flow estimates between the two methods for the 46-year time series and discuss the implications for the water balance model results.

#### **Information Request #6: Seepage**

Estimating seepage from mine rock storage piles remains subject to a range of uncertainties driven by hydrological, geochemical, structural, and modelling limitations. Seasonal variability in precipitation, snowmelt, and evaporation introduces fluctuating infiltration rates, while preferential flow paths within piles can cause uneven water movement and unpredictable seepage volumes. The construction technique

and internal heterogeneity of waste rock materials—such as differences in grain size, porosity, and permeability—further complicate flow dynamics and oxygen diffusion within the storage areas. Geochemically, variations in oxidation rates and the formation of secondary minerals can alter seepage composition over time. In addition, lab-scale assessments often fail to accurately represent field-scale conditions due to differences in particle size and water-to-rock contact area. Predictive models used to estimate seepage typically rely on empirical assumptions with limited site-specific calibration. As such, seepage estimates should be approached with caution, given that underlying uncertainties may considerably influence the reliability of long-term impact assessments. Incorporating a range of estimated and assumed conditions into the modelling process is recommended to better capture the potential consequences of underestimating seepage.

Moreover, key assumption in the PROJ-WQM is that seepage will maintain a neutral pH throughout. The model presumes that, at closure, the tailings material will not generate acid rock drainage (ARD) due to the implementation of specific mitigation and management strategies.

We request that Alamos provide a more detailed analysis of the expected effects of the proposed tailings management and mine rock storage areas on seepage rates and water quality during both the operational and closure phases of the project. We request that Alamos:

- a. Quantify the projected mass loadings of parameters of potential concern from seepage to the Collection Pond and Open Pit, detailing how these loadings are expected to evolve over time throughout operations and closure.
- b. Describe anticipated changes in water quality within both the Collection Pond and Open Pit during active operations and prior to pit filling. This should include the influence of:
  - i. Seepage from surrounding facilities; and
  - ii. Runoff from exposed pit walls and operational surfaces.
- c. Assess the sensitivity of seepage rates and associated contaminant concentrations under scenarios where conditions deviate from model predictions, specifically:
  - i. Using the lower end of runoff coefficients previously requested in IR #4; and
  - ii. Assuming a reduction in seepage pH levels from neutral to more acidic conditions, including pH levels of 6, 5, 4, and 3, for both the Tailings Management Facility (TMF) and Mine Rock Storage Area (MRSA).
- d. Quantitatively combine seepage rates with metal concentrations under each pH scenario to derive resulting mass loadings. These should be compared to:
  - i. Applicable regulatory guidelines; and
  - ii. Baseline water quality conditions outlined in the Notice.
- e. Provide a detailed description of all mitigation and management strategies in place to prevent Acid Rock Drainage (ARD) generation at the TMF and MRSA, including engineering controls, monitoring programs, and contingency measures.

**We request that these requests be addressed in detail to ensure that the water balance, water quality and groundwater models provide a robust and transparent basis for evaluating hydrological impacts throughout the life of the MacLellan project.**

#### **Information Request #7: Noise and Vibration Impacts in the Aquatic Environment**

There remains considerable uncertainty regarding the effects of noise and vibration—particularly from rock blasting—on aquatic ecosystems. Scientific literature indicates that blasting vibrations can adversely

affect fish by damaging swim bladders, rupturing internal organs, and harming or killing eggs and larvae. These impacts may be especially pronounced during sensitive life stages and in spawning habitats.

**We request that Alamos provide a detailed assessment of the expected effects of construction and operational activities—especially blasting—on fish populations and aquatic habitats within the Keewatin River, its tributaries, and nearby lakes.** This assessment should include:

- Identification of species and life stages most at risk;
- Predicted vibration levels and their spatial extent;
- Evaluation of potential impacts on spawning grounds and juvenile development; and
- Proposed mitigation measures and monitoring strategies to minimize harm.

A thorough understanding of these impacts is essential to ensure the protection of aquatic life and the integrity of traditional fishing areas.

We appreciate the opportunity to present our information requests to bring our concerns with the mine expansion to your attention. We look forward to prompt response regarding the information requests from your office, please respond via email at [dhart-francois@mcfn.ca](mailto:dhart-francois@mcfn.ca).

Sincerely,

<Original signed by>

**OKIMAW DEHLIA HART-FRANCOIS  
MARCEL COLOMB FIRST NATION**

Cc: Council, Marcel Colomb First Nation  
Honourable Mike Moyes, Minister of Environment and Climate Change  
Ian Ketcheson, Vice-President, Indigenous Relations, Impact Assessment Agency of Canada,  
Government of Canada  
Ashifa Jiwa, Senior Consultation Advisor, Prairie and Northern Region, Impact Assessment  
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Agnes Wittmann, Director, Environment Approvals Branch, Government of Manitoba  
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