

# Assessment of Alternatives for Storage of Mine Waste for the Côté Gold Project

## Overview

IAMGOLD prepared an Amended Environmental Impact Statement / Final Environmental Assessment Report and completed federal and provincial environmental assessment processes. Through these processes and ongoing Project design, it was identified that two Project components; a tailings management facility with a reclaim pond, and a mine rock area, will overprint waters frequented by fish and therefore will require listing on Schedule 2 of the Metal and Diamond Mining Effluent Regulations (MDMER) in order for the Project to proceed.

Environment and Climate Change Canada oversees the process that must be undertaken when a proponent is considering using a natural water body as a tailings impoundment area. The Guidelines for the Assessment of Alternatives for Mine Waste Disposal (Guidelines), are available at:

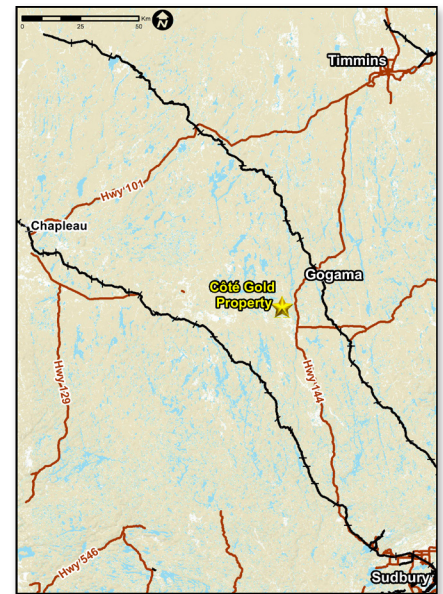
<https://www.canada.ca/en/environment-climate-change/services/managing-pollution/publications/guidelines-alternatives-mine-waste-disposal.html>

As part of the Schedule 2 listing process, IAMGOLD is required to prepare an assessment of alternatives for mine waste disposal, a fish habitat compensation plan and to participate in consultation of possible amendments to the MDMER. This document summarizes the Assessment of Alternatives for Storage of Mine Waste.

The Assessment of Alternatives for Storage of Mine Waste objectively and rigorously assesses all feasible options for both tailings and mine (waste) rock management for the Project. The assessment is designed to find the most appropriate option for tailings and mine rock disposal from environmental, technical and socio-economic perspectives.

The assessment of alternatives follows a set process laid out in the guidelines set out by Environment and Climate Change Canada. For both tailings and mine rock, IAMGOLD undertook a seven step process:

- Step 1. Identify potential alternatives. This involved determining which alternatives (locations and methods of storage) could be used for the storage of tailings and mine rock.
- Step 2. Pre-screening assessment. This step screened out any alternatives which have a fatal flaw, ensuring at least one option does not overprint natural waters frequented by fish.
- Step 3. Alternative characterization. This step involves describing the alternatives from environmental, technical, socio-economic and project economics perspectives.
- Step 4. Multiple-accounts ledger. Step 4 is the beginning of a multiple accounts analysis, a decision making tool used by Environment and Climate Change Canada. The step included setting up evaluation criteria and measurement criteria (sub-accounts and indicators respectively).
- Step 5. Value-based decision process. During this step each sub-account and indicator was weighted in importance, and assigned a value (scoring, weighting and quantitative analysis).



The Côté Gold Project (the Project) is a proposed open pit gold mine that is located approximately 20 km southwest of Gogama and 130 km southwest of Timmins. The Project is a joint venture between IAMGOLD and Sumitomo Metal Mining Co.



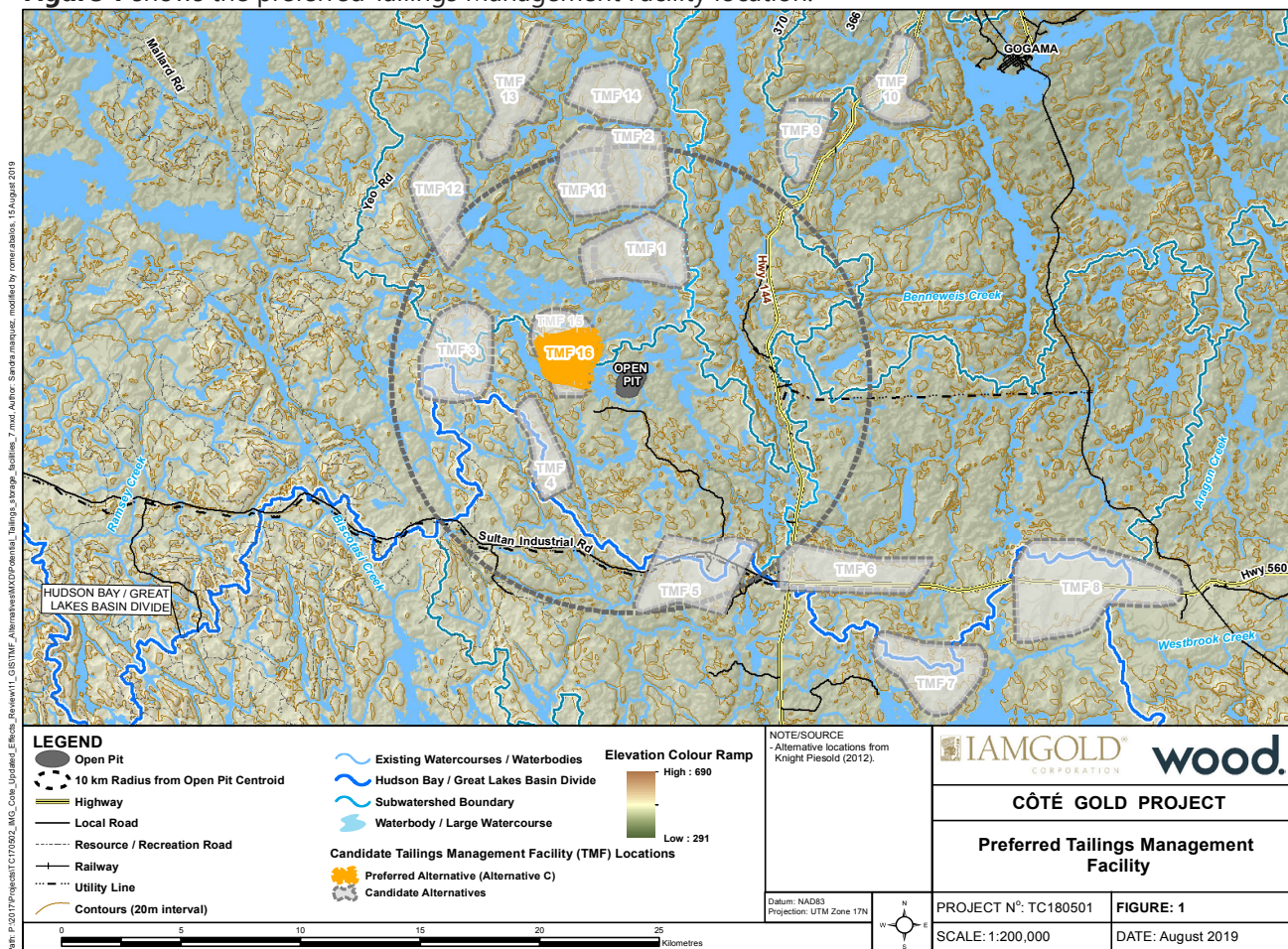
- Step 6. Sensitivity analysis. A sensitivity analysis was conducted, recognizing not all stakeholders will not place the same importance on each impact.
- Step 7. Document results. To improve readability of this report, the assessments for tailings and mine rock were structured into six sections that reflect the above steps.

## Summary of Tailings Assessment

Eighteen possible candidate alternatives were considered for potential deposition of tailings. The candidates included different locations for tailings management, as well different methods of tailings deposition such as dewatering or partially dewatering the tailings to change the type of impoundment structure.

The pre-screening assessment found four tailings management facility candidates were considered suitable for further consideration in the multiple accounts analysis. The four alternatives were brought forward to the multiple accounts analysis using each of the tailings storage methods and various locations near the Project site. The analysis found that the preferred alternative (from environmental, technical, socio-economics and Project economic perspectives) is to use thickened tailings, deposited northwest of the open pit (Figure 1).

**Figure 1** shows the preferred Tailings Management Facility location.



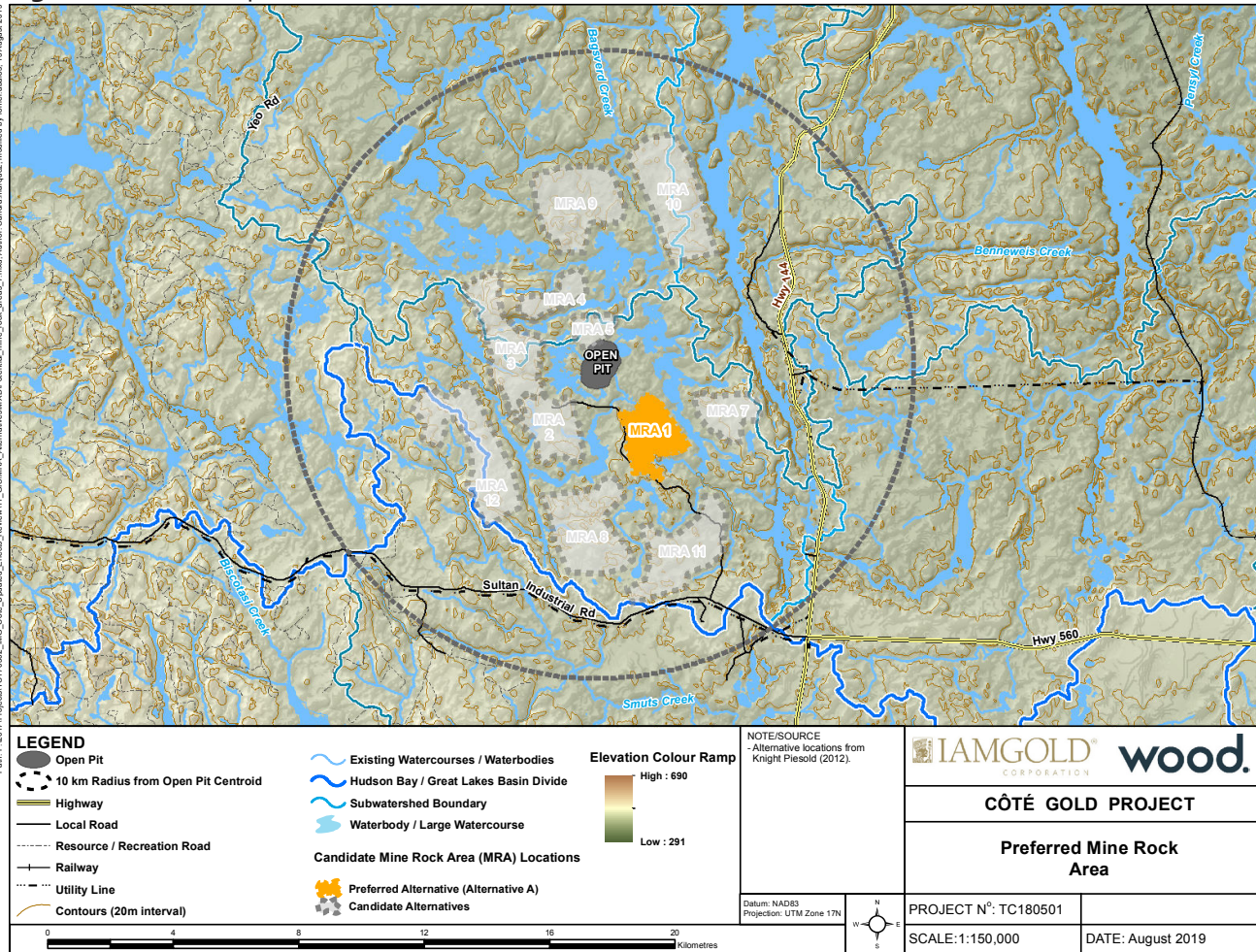
The sensitivity analysis found that the results do not materially change based on different weighting approaches. The preferred alternative will overprint a pond created by beaver activity, several smaller ponds, and a headwater tributary to Bagsverd Lake, which will require listing to Schedule 2 of the MDMER.



## Summary of Mine Rock Assessment

Three storage methods and twelve mine rock storage locations were considered in the mine rock pre-screening analysis. Of these methods, one (surface stockpile) was carried forward to the multiple accounts analysis with five mine rock storage locations considered acceptable for further consideration in the multiple accounts analysis. Four alternatives were brought forward to the multiple accounts analysis using various combinations of the five potential mine rock storage locations. The analysis found the preferred alternative (from environmental, technical and Project economic perspectives) to be a single stockpile to the southeast of the Open Pit (Figure 2).

**Figure 2** shows the preferred location for the Mine Rock Area.



The sensitivity analysis found that the results of the analysis do not materially change based on different weighting approaches. This alternative will overprint a small pond and a minor headwater tributary, which will require listing to Schedule 2 of the MDMER.