

Executive Summary

Haile Gold Mine, Inc. (Haile or the Applicant), a subsidiary of OceanaGold Corporation, proposes to expand mining operations at the existing Haile Gold Mine located in Lancaster County, South Carolina. Haile initiated its mining activities in 2015 and processing operations in 2017, pursuant to permits issued as a result of the analysis conducted for the *2014 Final Environmental Impact Statement for the Haile Gold Mine Project* (2014 FEIS) (U.S. Army Corps of Engineers 2014). This Supplemental Environmental Impact Statement (SEIS) updates the 2014 FEIS by describing and analyzing impacts from the expanded mine facilities under the Applicant's Proposed Project and the alternatives considered by the U.S. Army Corps of Engineers (USACE).

The Haile 2018 Mine Expansion Plan (Proposed Project) would increase the mine plan area by approximately 832 acres to expand surface mining pits and associated facilities, initiate underground mining at the Horseshoe deposit, optimize mill operations and increase ore processing rates, and improve water treatment and storage capabilities. Haile has applied to USACE for a modification of its existing Department of the Army (DA) permit to affect waters of the United States.¹ As the lead federal agency, USACE must comply with the National Environmental Policy Act (NEPA) of 1969,² and undertake supplemental analysis to evaluate the Proposed Project and determine whether the Proposed Project activities should be authorized and permitted. Similarly, in June 2019, Haile applied to the South Carolina Department of Health and Environmental Control (SCDHEC) for a modification of its existing mine permit (DHEC Permit No. I-000601); SCDHEC is currently reviewing the permitting decision and is awaiting the conclusion of the NEPA process and results of the SEIS before making a final decision.

Further, in June 2020, Haile applied to SCDHEC Mining and Reclamation for a modification of its existing mine permit (DHEC Permit No. I-000601). SCDHEC approved the permit modification in September 2020, permitting five operational adjustments to the mine and reclamation plan as it was proposed in the 2014 FEIS. This modification allowed the operator to continue operations and maintain public health and safety and environmental standards while the NEPA process continued.

¹ HGM has applied for a DA permit for the discharge of dredged or fill materials from the Proposed Project into waters of the United States per Section 404 of the Clean Water Act. The regulatory definition of waters of the United States can be found at 33 CFR Part 328; see also <https://www.epa.gov/cwa-404/policy-and-guidance-documents-under-cwa-section-404>.

² On September 14, 2020, the Council on Environmental Quality's "Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act", published at 85 Federal Register 43304 (July 16, 2020), went into effect (the revised NEPA regulations). However, the preamble to the revised NEPA regulations states as follows:

For NEPA reviews in process that agencies began before the final rule's effective date, agencies may choose whether to apply the revised regulations or proceed under the 1978 regulations and their existing agency NEPA procedures. Agencies should clearly indicate to interested and affected parties which procedures it is applying for each proposed action.

85 Fed. Reg. 43304, at 43340 (July 16, 2020). Because preparation of this SEIS had begun prior to September 14, 2020 (i.e., the effective date of the revised NEPA regulations), this SEIS has been prepared under the 1978 NEPA regulations and the USACE's existing NEPA procedures (33 CFR Part 325, Appendix B).

In addition, USACE approved a minor modification to the 2014-approved DA permit for Haile's proposed modification that would affect 4.75 acres of wetlands in September 2020.

Project Purpose and Need

The Applicant's purpose and need for the Proposed Project is to expand gold-producing operations from mineralized gold-bearing zones on the Haile property. USACE's overall project purpose for the Proposed Project is to expand Haile's gold-mining operations using gold-bearing mineral reserves in the Carolina Slate Belt region.

USACE's determination that the Proposed Project is not water dependent under the Clean Water Act 404(b)(1) guidelines (40 Code of Federal Regulations [CFR] Part 230) is consistent with the 2014 FEIS in which USACE found that the project is not water dependent (2014 FEIS).

Public, Agency, and Tribal Participation

USACE is the lead federal agency for the preparation of this SEIS. Two agencies, the U.S. Environmental Protection Agency and SCDHEC, formally elected to be cooperating agencies under NEPA and are assisting USACE in identifying issues of concern and providing meaningful and timely input throughout the NEPA process. USACE has also provided meaningful opportunities for public, agency, and tribal participation, including hosting a public scoping meeting, distributing project information through an area-wide mailing list and public website,³ and providing opportunities to comment on the Draft SEIS. USACE continued to offer opportunities for agency and public participation during preparation of the Draft SEIS.

Alternatives

The SEIS analyzes the No Action Alternative, which includes the permitted activities first analyzed in the 2014 FEIS and the subsequent operational adjustments approved in the 2020 mine permit and a September 2020 DA permit modification. The No Action Alternative represents the continuation of mining operations at Haile Gold Mine under the terms of current permits and approvals. Under this alternative, no new permits or further permit modifications would be approved. In the SEIS, USACE also analyzes the Proposed Action or Proposed Project, as described above, and various alternatives for five different project components. In total, the Applicant and USACE analyzed 15 alternatives from five project facilities/components that had three different configurations each, which resulted in 75 possible combinations. Chapter 2, *Proposed Action and Alternatives*, provides detailed information on the alternatives evaluated by USACE during SEIS development.

³ <http://www.hailegoldmineseis.com>

Affected Environment

The SEIS describes the existing environment that would be affected by the No Action Alternative or Proposed Project as a basis for the impact assessment. Each resource section includes a discussion of the study area, applicable regulations, and overall existing condition of the resource, including the natural and physical environment. Since publication of the 2014 FEIS, the Haile Gold Mine has obtained required permits, expanded its footprint, and started mining operations. Haile has also performed supplemental surveys and generated additional baseline data on the environment and conducted updated air dispersion and hydrologic modeling for the SEIS. Chapter 3, *Affected Environment*, has been updated to use recent data and provide detailed information on the affected environment by resource.

Environmental Consequences and Mitigation

USACE analyzed direct and indirect impacts on the following environmental resources: geology and mineral resources; water resources; soils; floodplains; wetlands and other waters of the United States; aquatic resources; terrestrial resources; federally listed species; socioeconomics and environmental justice; land use; transportation; cultural resources; visual resources and aesthetics; recreation; air quality and climate change; noise and vibration; public health and safety; and hazardous materials and waste. Adverse and beneficial impacts of the Proposed Project were evaluated, considering the likely magnitude, duration, potential to occur, and geographic extent of each impact.

Overall, environmental consequences of the No Action Alternative and the Proposed Project would be similar to those identified in the 2014 FEIS. Key anticipated impacts of the Proposed Project include direct impacts on 11 acres of floodplains and 86.22 acres of wetlands from dredge and fill activities; adverse impacts on streamflow and aquatic habitat in the Haile Gold Mine Creek; loss of *nestronia*, a state listed sensitive plant species; adverse visual impacts for individuals traveling on State Route 265 (SR 265) approaching the intersection with U.S. Highway 601 (US 601); and beneficial economic impacts due to increases in production, income, jobs, and tax revenues in the region. The SEIS considers numerous avoidance and minimization measures to reduce impacts on environmental resources from the Proposed Project. Chapter 6, *Mitigation and Monitoring*, as well as Appendix I, *Monitoring and Management Plan*, and Appendix J, *Mitigation Plan*, provide details on these measures.

Key Differences from the 2014 Final Environmental Impact Statement for the Haile Gold Mine Project

This SEIS updates the analysis and results from the 2014 FEIS. The most notable changes compared to the 2014 FEIS include:

- Haile's mine plan is now based on \$1,150 per troy ounce and a mineralization cutoff grade above 0.013 recoverable troy ounce per ton. This results in additional reserves being included in the mine plan.

- Total mine area is proposed to increase from 4,552 acres to 5,384 acres. Disturbed acres that would ultimately be reclaimed are proposed to increase to approximately 4,800 acres.
- Existing conditions have been updated for multiple resources as a result of supplemental data collection since publication of the 2014 FEIS.
- In addition to the mitigation measures identified in the 2014 FEIS, Haile is proposing new mitigation measures, mitigation plans, and/or management plans for certain resources.
- The study areas for some resources have been modified from the 2014 FEIS as a result of the Proposed Project and the updated groundwater model.
- Since publication of the 2014 FEIS, some existing regulations have been updated that have affected resource analyses (e.g., air quality and climate change and noise and vibration). The most current regulations are incorporated into the SEIS analyses.
- The conceptual hydrologic model (CHM) and numerical groundwater model have been refined based on supplemental hydrologic data collected by Haile since publication of the 2014 FEIS. Significant changes include following (see also Sections 3.2 and 4.2, *Water Resources*).
 - Elimination of the saprock unit as a widely occurring zone of relatively high hydraulic conductivity and groundwater inflow to the mine pits.
 - Reduction of the estimated values of hydraulic conductivity for weathered and unweathered bedrock.
 - Revised estimates of the rates of groundwater recharge by infiltration of precipitation for Coastal Plain sands and saprolite.
 - Reduction of the estimated vertical hydraulic conductivity and rate of vertical leakage for the saprolite hydrostratigraphic unit.
- The Proposed Project would directly affect 86.22 acres of wetlands and open water from expanding the existing mining operations at Haile Gold Mine. The Proposed Project would also directly affect 13,124.08 linear feet of streams (Sections 3.5 and 4.5, *Wetlands and Other Waters of the United States*).
- Haile has submitted a conceptual supplemental mitigation plan as compensatory mitigation to address project impacts on wetlands and other waters of the United States. The conceptual supplemental mitigation plan is a permittee-responsible mitigation plan that identifies three separate sites along Flat Creek in the Lynches River watershed for preservation and enhancement/restoration of outstanding aquatic resources (Sections 3.5 and 4.5, *Wetlands and Other Waters of the United States*, and Section 6.3.3, *Compensatory Mitigation*).
- The Proposed Project could result in gold and silver production of \$256.1 million annually. The Proposed Project may also increase the beneficial impacts on income, jobs, regional production, and tax revenues compared to the 2014 FEIS by expanding operations and extending the mine life (Sections 3.9 and 4.9, *Socioeconomics and Environmental Justice*).
- The air quality dispersion modeling was updated since publication of the 2014 FEIS. The modeling for the SEIS accounts for tailpipe and fugitive emissions from haul trucks and other nonroad mobile equipment, and fugitive emissions from surface blasting, which were not included in the 2014 FEIS modeling (Sections 3.11 and 4.11, *Air Quality and Climate Change*).

- Since publication of the 2014 FEIS, 26 additional past, present, and reasonably foreseeable future actions have been identified and included in the cumulative impacts analysis.
- According to the most recent Reclamation Plan provided on April 30, 2020, Haile has proposed a total reclamation cost of \$83,452,000. These numbers are estimated by Haile and are further broken down in Appendix H, *Reclamation Plan*.

References

U.S Army Corps of Engineers. 2014. *Final Environmental Impact Statement for the Haile Gold Mine Project*. U.S. Army Corps of Engineers, Charleston District. SAC 1992-24122-4IA. July 2014.