

Chapter 1

Introduction and Purpose and Need

1.1 Introduction

Haile Gold Mine, Inc. (Haile or the Applicant), a subsidiary of OceanaGold Corporation, proposes to expand mining operations at their existing Haile Gold Mine located in Lancaster County in north-central South Carolina. The Haile 2018 Mine Expansion Plan (Proposed Project) would include expansion of surface mining and associated mine pits and overburden storage facilities, initiation of underground mining at the Horseshoe deposit, and increased ore processing through optimization of the mill and related infrastructure including expansion of the water management system and existing tailings storage facility. The mine plan area would increase by approximately 832 acres to accommodate mine expansion under the Proposed Project, increasing the total area within the project boundary from 4,552 acres to 5,384 acres.

Haile has applied to the U.S. Army Corps of Engineers (USACE) for a modification to their existing Department of the Army (DA) permit for the Haile Gold Mine to allow discharge of dredged or fill materials from the Proposed Project into Waters of the United States (Waters of the U.S.) per Section 404 of the Clean Water Act (CWA).

The Proposed Project involves a federal action because the proposed mine expansion would result in filling wetlands and other Waters of the U.S. and requires authorization through a DA permit under Section 404 of the CWA (33 U.S. Code [USC] 1344). Under Section 404, USACE was delegated authority to issue permits for discharges of dredged or fill material into Waters of the U.S. The USACE serves as the lead agency for jurisdictional determinations¹ and permit actions, and has set forth implementing regulations in Title 33 Code of Federal Regulations (CFR) Parts 320–332.

USACE has determined that the proposed expansion of the Haile Gold Mine could significantly affect the quality of the human and natural environment, and that the DA permit modification decision would be a major federal action requiring preparation of a Supplemental Environmental Impact Statement (SEIS).

¹ *Jurisdictional determination* means a written USACE determination that a wetland and/or waterbody is subject to regulatory jurisdiction under Section 404 of the CWA (33 USC 1344) or a written determination that a waterbody is subject to regulatory jurisdiction under Section 9 or 10 of the Rivers and Harbors Act of 1899 (33 USC 401 et seq.). An approved jurisdictional determination precisely identifies the limits of those waters on the project site determined to be “jurisdictional.”

This SEIS has been prepared pursuant to the following.

- Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 (42 USC 4321 et seq.).²
- The Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 CFR 1500–1508).
- Section 404 of the CWA on permitting disposal sites for dredged or fill material (33 USC 1344), as amended.
- USACE regulations found at 33 CFR 320–332.

This SEIS updates the *2014 Final Environmental Impact Statement for the Haile Gold Mine Project* (2014 FEIS) (U.S. Army Corps of Engineers 2014) by describing and analyzing impacts from the expanded mine facilities under the Proposed Project and alternatives considered by USACE.

The Haile Gold Mine is located 3 miles northeast of the town of Kershaw in southern Lancaster County, South Carolina (Figure 1-1), which is part of the Carolina Slate Belt. More information on the Carolina Slate Belt, a history of mining at the Proposed Project site, and recent activities are detailed in the 2014 FEIS.

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).

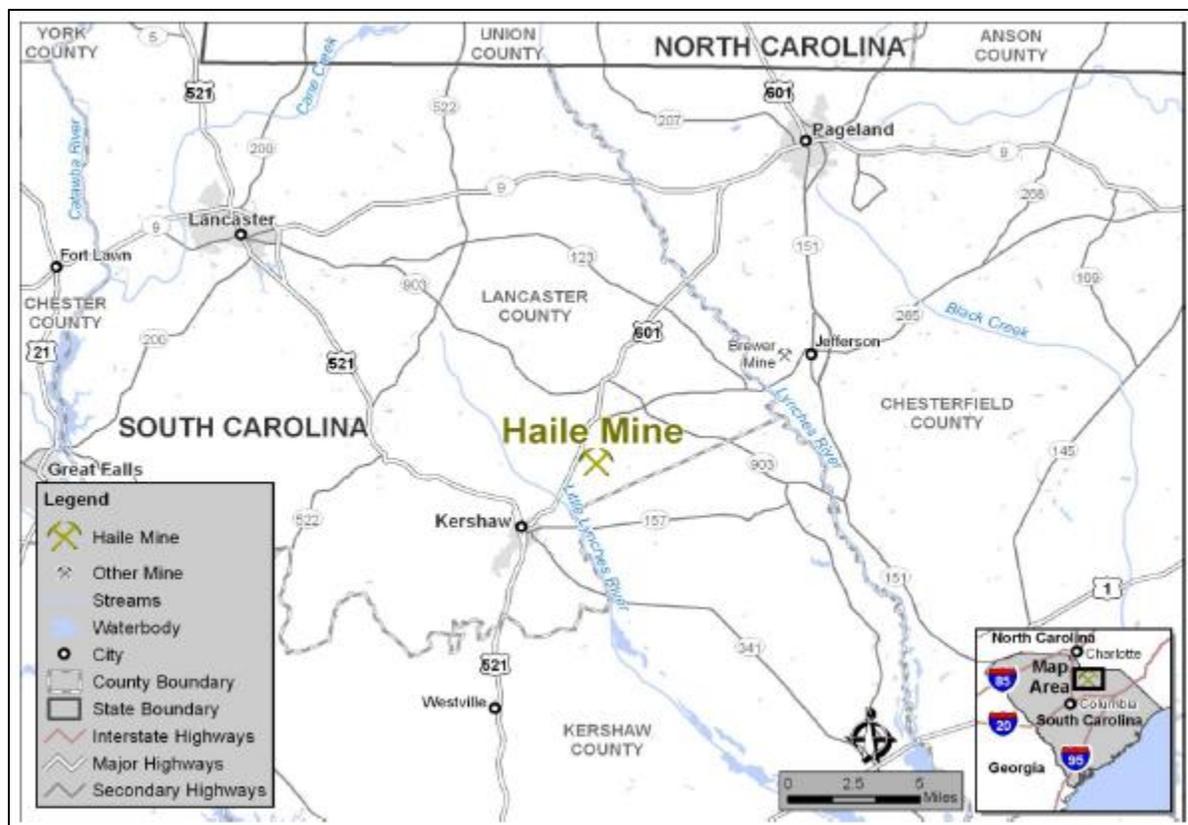


Figure 1-1. Location of the Proposed Haile Gold Mine Expansion

Haile initiated its mining activities in 2015 pursuant to permits issued in 2014 as a result of analysis completed for the 2014 FEIS. Haile started its processing operations in 2017 and are presently still working under those permits. In June 2020, Haile Gold Mine, Inc. submitted an application to the South Carolina Department of Health and Environmental Control (SCDHEC), Bureau of Land and Waste Management, Division of Mining and Solid Waste Permitting, requesting modification to its existing mine permit (DHEC Permit No. I-000601). The application requested approval on five operational adjustments to the mine and reclamation plan as it was proposed in the 2014 FEIS. SCDHEC approved the modification to the permit in September 2020. 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.

1.2 Overview of the Proposed Haile Gold Mine Expansion

This section presents a brief summary of the proposed Haile Gold Mine expansion. Full details of the Proposed Project are provided in Appendix A, *Detailed Project Description for the Proposed Haile Gold Mine Expansion*; a more complete summary of the Proposed Project is found in Chapter 2, *Proposed Action and Alternatives*. The Glossary contains definitions of the scientific and mining terms used in this SEIS.

The Proposed Project would increase existing gold mining operations by doing the following.

- Expanding existing pits, overburden storage areas, and the tailings storage facility.
- Initiating underground mining of the Horseshoe deposit.
- Optimizing the mill operations and increasing the rate of ore processing.
- Expanding the water treatment facility.
- Increasing water storage capacity.

The mine project boundary would be expanded by approximately 832 acres from 4,552 to encompass a total of 5,384 acres, of which approximately 4,080 acres would be disturbed. Proposed mining activities in the expanded Proposed Project would focus on areas affected by past mining activities and additional land purchased by Haile to support proposed mining expansion activities.

Surface water and ground water would be managed to meet permitting requirements, disturbed sites would be reclaimed as soon as practical, and site conditions would be monitored from project initiation to post-closure.

1.3 Project Purpose and Need

The purpose and need for the Proposed Project is the same as described in Section 1.5, *Project Purpose and Need*, in the 2014 FEIS except where clarified or noted in this section.

The applicant's stated need for the proposed expansion project is the same as Section 1.5.1, *Applicant's Stated Need*, in the 2014 FEIS which states, "To produce gold for sale from the mineralized gold-bearing zones on the Haile property" (Haile 2012).

This SEIS stated need has the following clarification, to expand gold producing operations from mineralized gold-bearing zones on the Haile property.

USACE's basic project purpose and determination of water dependency for the Proposed Project is the same as described in Section 1.5.2, *USACE's Basic Project Purpose and Determination of Water Dependency*, in the 2014 FEIS. In that document USACE determined the basic purpose is "to extract and process gold" and that "this process itself does not require access to or proximity to, or siting within, a special aquatic site to fulfill its basic purpose. Therefore, USACE found that the project is not water dependent (2014 FEIS).

USACE's overall project purpose and alternatives analysis is applicable to that as described in Section 1.5.3, *USACE's Overall Project Purpose and Alternatives Analysis*, in the 2014 FEIS. In the 2014 FEIS USACE determined that the overall purpose of the Proposed Project is "To open and operate a gold mining operation using gold-bearing mineral reserves in the Carolina Slate Belt region." The primary difference would be the expansion of the existing mine rather than opening of a new mine. Therefore, USACE's overall project purpose for the Proposed Project is to expand Haile's gold mining operation using gold-bearing mineral reserves in the Carolina Slate Belt region.

Section 1.5.4, *Basis for Applicant's Stated Need and Mine Plan*, of the 2014 FEIS is generally applicable for the Proposed Project except in Subsection 1.5.4.2, *Basis for Haile's Mine Plan—The Feasibility Study and the \$950 Reserve*, as described below.

Haile's predecessor, Romarco Minerals, Inc. (Romarco) used \$950 per troy ounce as the cutoff price to determine economic feasibility for the mine in the 2014 FEIS. This established the blocks of ore material that would be economical to mine, which provided the basis for the original mine plan that was permitted in 2014. The price of gold has consistently been above the \$1,150-per-troy-ounce benchmark over the past 10 years; therefore, Haile based the new mine plan 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 for the Proposed Project.

The mine plan for the Proposed Project is based on the feasibility study titled *National Instrument 43-101 Technical Report, Haile Gold Mine, Lancaster County, South Carolina* (SRK 2017) and the \$1,150 Reserve. The mine plan represents a financially optimized plan describing how Haile proposes to expand the mine; process and produce the gold; and reclaim, close, and monitor the mine site after closure.

Section 1.5.5, *USACE Evaluation of Applicant's Need Statement*, from the 2014 FEIS for the Proposed Project is applicable to the Proposed Project.

USACE evaluated the Applicant's stated need for the Proposed Project and has evaluated other independent market information on the need and demand for gold, as described in the 2014 FEIS. USACE found that there is demonstrable demand for gold and the Applicant's stated need of providing increased domestic gold production to meet world demand is valid.

1.4 Public, Agency, and Tribal Involvement and Participation

NEPA requires meaningful opportunities for public, agency, and tribal participation. The participation program implemented by USACE for the Haile Gold Mine Project SEIS has included an area wide mailing to the public, agencies and tribes for a public scoping meeting with ongoing opportunities for input to the process for determining the scope of the SEIS; broadly distributed and provided access to the information regarding the Draft SEIS, including the use of a public website³; and provided opportunity to comment on the Draft SEIS. During the development of this SEIS, the public website was also used to inform agencies, tribes, and the general public.

Chapter 8, *Consultation and Coordination*, describes the public involvement and stakeholder outreach process for conducting the public scoping, Appendix D, *Scoping Report*, provides the Scoping Report, and Appendix E, *Agency Correspondence*, contains the formal agency correspondence leading up to the publication of the Draft SEIS.

USACE continued to offer opportunities for agency and public participation during preparation of the Draft SEIS.

³ <http://www.hailegoldmineseis.com>

1.5 Agency Roles and Responsibilities

Cooperating agencies and their roles and responsibilities for the Proposed Project would be the same as described in Section 1.8, *Agency Roles and Responsibilities*, of the 2014 FEIS. USACE is the lead federal agency for preparation of this SEIS. Two agencies, the U.S. Environmental Protection Agency (USEPA) and SCDHEC, formally elected to be cooperating agencies under NEPA. Responsibilities of cooperating agencies include assisting USACE in identifying issues of concern and providing meaningful and timely comment and input throughout the NEPA process. USEPA and SCDHEC were actively involved with the NEPA process for the Proposed Project by providing interdisciplinary expertise to assist with analysis and review.

As the lead federal agency, USACE must determine whether the Proposed Project activities should be authorized and permitted. In order to do so, USACE must undertake supplemental analysis to evaluate the Haile 2018 Mine Expansion Plan. This SEIS expands upon the Draft EIS, Final EIS, Record of Decision, and Permitting Decision from the 2014 FEIS. The original DA permit was issued on October 28, 2014, after it was determined that the project was in compliance with 404(b)(1) Guidelines and a public interest review was conducted. The permit allowed the preferred alternative, which was the least environmentally damaging practicable alternative as determined in the NEPA process. The Proposed Project requires an SEIS to be prepared and the DA permit to be modified based upon the proposed expansion activities.

USEPA provides collaborative regulatory reviews that include, but are not limited to, Section 309 of the Clean Air Act; CWA Section 404(b)(1) Guidelines; and Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. USEPA's responsibilities are further described in the 2014 FEIS.

Since USEPA has delegated many federal environmental programs to the State of South Carolina, SCDHEC is a key partner that is engaged in the NEPA process to ensure necessary analysis takes place to support the permitting and approval process. SCDHEC is evaluating modifications to several permit applications and will continue to play an important role in reviewing amendments due to the Proposed Project (Section 1.6, *Permits, Licenses, and Other Approvals*).

1.6 Permits, Licenses, and Other Approvals

As an existing mine property, the Haile Gold Mine currently operates under a number of federal- and state-issued permits. Many of these permits are related to management of surface water and surface water discharges under the National Pollutant Discharge Elimination System program (NPDES). In addition to receiving a modified DA permit from USACE, many of the existing permits would require modification and/or reissuance to authorize the Proposed Project. Issuance of new permits and modification of existing permits would require various federal, state, and local agency reviews to be conducted; actions to be completed; and procedures to be followed before construction or operations could be initiated.

Existing permits that may require modification or renewal are listed in Table 1-1. This list may not be comprehensive, and other permitting and approval needs may arise throughout the duration of the Proposed Project. The Applicant, SCDHEC, and USACE (as necessary) would coordinate with federal, state, and local agencies throughout the life of the Proposed Project to ensure that permitting needs are addressed. Appendix F, *Laws, Policies, and Plans Applicable to the Haile Gold*

Mine Expansion Project, provides more detailed information regarding the permits and regulatory approvals needed for the Proposed Project.

Table 1-1. Existing Permits, Licenses, and Approvals Held by Haile Gold Mine, Inc. for Past and Present Mining and Reclamation

Agency	Permit Number	Description
Federal		
U.S. Army Corps of Engineers	Permit 2004-1G-157	Permit to fill a portion of the old North Fork Creek.
Mine Safety and Health Administration	Mine Safety and Health Administration ID: 38-00600	Operate mine within Mine Safety and Health Administration standards.
Federal Communications Commission	Call Sign: WQJB814	One base station frequency, six local frequencies.
State		
SCDHEC, Division of Mining and Solid Waste Management	Mine Operating Permit No. 601	Mine Operating permit—Regulation of closure and reclamation.
SCDHEC, Division of Mining and Solid Waste Management	Mining/Operating Permit No. 214	Mine Operating permit—Regulation of closure and reclamation of Hilltop Pits (permit cancelled April 12, 2011; Haile Gold Mine, Inc. performed reclamation of Hilltop II Pit, and total acreage has been incorporated into proposed modification of Permit No. 601).
SCDHEC, Division of Mining and Solid Waste Management	Mining/Operating Permit No. 440	Mine Operating permit—Regulation of closure and reclamation of Parker Pit (permit cancelled on April 12, 2011; Haile Gold Mine, Inc. stabilized Parker Pit and the total acreage has been incorporated into proposed modification of Permit No. 601).
SCDHEC, Bureau of Drinking Water Protection	Public Water Permit No. 2930013	Former onsite water supply; closed on June 23, 2011.
SCDHEC, Bureau of Solid and Hazardous Waste Management	Permit No. SCD987596806	Conditionally exempt small quantity generator.
SCDHEC, Industrial Wastewater Permitting Section	ND Discharge Permit No. ND0085561	Permit to discharge sulfate-reducing bioreactor water to two percolation basins.
SCDHEC, Industrial Wastewater Permitting Section	Operating Permit #18, 731-IW	Addition of pH adjustments to 002 outfall discharge for various units. Modified as needed during mine operations and closure.
SCDHEC, Industrial Wastewater Permitting Section	Operating Permit #18, 873-IW	Permit to construct and operate semi-passive sulfate-reducing bioreactor (best management practice cells).

Agency	Permit Number	Description
SCDHEC, Industrial Wastewater Permitting Section	General Stormwater Permit for Non-Metal Mining Facilities, Permit No. SCG730398	Stormwater permit for Hilltop II Pit (permit cancelled on June 7, 2011; stormwater now managed pursuant to SCR 004763).
SCDHEC, Industrial Wastewater Permitting Section	General Stormwater Permit for Non-Metal Mining Facilities, Permit No. SCG730217	Stormwater permit for Parker Pit (cancelled on June 7, 2011; stormwater now managed pursuant to SCR004763).
SCDHEC, Bureau of Water, Industrial, Agricultural, and Storm Water Permitting Division	Dams & Reservoirs Safety Permit 29-0007 (Issued October 7, 2013)	Dam Safety Permit—Significant Hazard (Construction). Stability during earthquake- induced ground motion was evaluated by SCDHEC prior to issuance of the TSF construction permit. Seismic stability was evaluated pursuant to the International Commission on Large Dams seismic design and performance standards. ^a
SCDHEC, NPDES Program, Water Facilities Permitting Division	General Permit for Stormwater Discharges for Small and Large Construction (Activities Permit) SCR100000	Discharge of stormwater in connection with construction of structures not covered under the Industrial General Permit—required submittal of Storm Water Pollution Prevention Plan and public notice prior to construction.
SCDHEC, NPDES Program, Water Facilities Permitting Division	Stormwater discharges associated with industrial activity SCR000000, Permit No. SCR004763	Discharge of stormwater in connection with industrial activities, Industrial General Permit.
SCDHEC, NPDES Program, Industrial Wastewater Permitting Section	NPDES permit for discharge to surface waters, Permit No. SC0040479	Discharge of industrial wastewater, Sector G—Metal Mining, for three outfalls to receiving waters Haile Gold Mine Branch (Creek).
SCDHEC, Office of Environmental Quality, Bureau of Air Quality	Bureau of Air Quality, State Construction Permit No. 1460-0070-CA	Authorized construction of the facility and equipment specified in Haile Gold Mine, Inc.'s application for a Department of Army permit; a permit to operate also was acquired.

^a International Commission on Large Dams 2020

NPDES = National Pollutant Discharge Elimination System; SCDHEC = South Carolina Department of Health and Environmental Control

In addition to a modification to a DA permit application, Haile plans to apply for state-administered permits for the Proposed Project, as identified in Table 1-2.

Table 1-2. State Permits, Licenses, and Approvals Required for the Proposed Haile Gold Mine Expansion Project

Agency	Permit Number	Description
SCDHEC, Division of Mining and Solid Waste Management	Mine Operating Permit No. 601 Modification 20-1	Modification to operation, closure, and reclamation practices.
SCDHEC, Bureau of Water, Industrial, Agricultural, and Storm Water Permitting Division	Dams & Reservoirs Safety Permit 29-0007	Modification to Dam Safety Permit—Significant Hazard (Construction).
SCDHEC, Bureau of Water, Water Quality Division	Section 401 Water Quality Certification	State Certification of the Federal Permit for discharges to state waters.
SCDHEC, NPDES Program, Water Facilities Permitting Division	General Permit for Stormwater Discharges for Small and Large Construction (Activities Permit) SCR100000	Modification to discharge of stormwater in connection with construction of structures not covered under the Industrial General Permit—requires submittal of Storm Water Pollution Prevention Plan and public notice prior to construction.
SCDHEC, NPDES Program, Water Facilities Permitting Division	Stormwater discharges associated with industrial activity SCR000000, Permit No. SCR004763	Modification to discharge of stormwater in connection with industrial activities, Industrial General Permit.
SCDHEC, NPDES Program, Industrial Wastewater Permitting Section	NPDES permit for discharge to surface waters, Permit No. SC0040479	Modification to discharge of industrial wastewater, Sector G—Metal Mining, for three outfalls to receiving waters Haile Gold Mine Branch (Creek).
SCDHEC, Office of Environmental Quality, Bureau of Air Quality	Bureau of Air Quality, State Construction Permit No. 1460-0070-CA	Authorizes construction of the proposed facility and equipment specified in Haile Gold Mine, Inc.'s application for a Department of Army permit; a permit to operate also is required.

SCDHEC = South Carolina Department of Health and Environmental Control; NPDES = National Pollutant Discharge Elimination System

1.7 References

- International Commission on Large Dams. 2020. Available: <https://www.icol-d-cigb.org/>. Accessed: November 28, 2018.
- SRK. 2017. National Instrument 43-101 Technical Report, Haile Gold Mine, Lancaster County, South Carolina. Effective Date: January 1, 2017, Report Date: August 9, 2017. Completed by SRK for OceanaGold Corporation.
- 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.