Healthy People Healthy Communities

September 08, 2020

CERTIFIED LETTER
RETURN RECEIPT REQUESTED

Scott McDaniel
Haile Gold Mine, Inc.
6911 Snowy Owl Road
Kershaw, S.C. 29067

RE: Approval of Application for a Mine Operating Permit
Modification of Mine Operating Permit I-000601
Haile Gold Mine, Lancaster County

Dear Mr. McDaniel:

The S.C. Department of Health and Environmental Control (DHEC) has approved the application and reclamation plan for the modification of Haile Gold Mine as of September 08, 2020. DHEC has approved the reclamation bond submitted for the additional amount of $8,883,900.00.

With the receipt of the reclamation bond and the approval of the application and reclamation plan, this letter serves as official notification that the Mine Operating Permit for the Haile Gold Mine has been modified as of the date of this letter, based on information submitted in the application package dated June 30, 2020 and revised on July 24, 2020. This modification to the Mine Operating Permit allows the operator to do the following:

1. **Develop and mine Mill Zone – Phase II open pit.** This approval is to expand the current Mill Zone pit to the lateral extent shown in Figure 5 and to the design specifications described in Section 1 of the application package.
2. **Expand East PAG – Phase II.** This approval allows the expansion of the East PAG cell to the north, as described in Section 2 of the application package. This expansion is contingent on the approval of the wetland mitigation plan by the United States Army Corps of Engineers and DHEC's Water Quality Certification and Wetlands Section. The operator shall provide approval letters from both programs to the Mining and Reclamation Section before any disturbance in the delineated wetland area.
3. **Expand Hayworth Green Overburden Stockpile Area.** This approval allows the expansion of Hayworth Green OSA into Phase II, as described in the application package.
4. **Construct 29 Pond.** This approval allows the construction of the 29 Pond, as described in the application package.
5. **Initiate Construction of Tailings Storage Facility – Third Lift.** This approval allows the construction of the third lift of the TSF, as approved in previous modifications, earlier than originally proposed. To support this endeavor, this approval allows for the construction of the Apple, Hamilton, Cleveland, Triangle, and Lincoln borrow areas, as described in the application package. Best Management Practices to minimize or prevent the transport of sediment and deposition of material in the adjacent wetlands must be implemented before mining activities can commence. This approval also allows the timbering, clearing, and grubbing of the 44 acres of land currently in the mine permit boundary, designated as West PAG-Phase 1A, in anticipation of further modifications.

Should there be any questions or if we may be of further assistance, please do not hesitate to contact the project manager, Jeremy Eddy, at 803-898-7609 or by e-mail at *eddyje@dhec.sc.gov*. Jeremy Eddy is also the mine inspector for this mine.

Sincerely,

Juli E. Blalock, Director
Division of Mining and Solid Waste Management

cc Joe Koon – BLWM
Jeremy Eddy – BLWM
Brett Caswell – BOW
Jeffery Phillips – MSHA
Shawn Boone (shawn.a.boone@usace.army.mil) – USACE
Steve Willis (swillis@lancastercountysc.net) – Lancaster County

OCEANAGOLD
Haile Operation

June 30, 2020 Revised July 24, 2020

Mr. Jeremy Eddy
South Carolina Department of Health and Environmental Control
Mining and Reclamation Section - Division Mining and Solid Waste Management
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

Re: Haile Gold Mine Modification - Permit No. 1-000601 Modification 20-1

Dear Mr. Eddy,

Oceana Gold – Haile Operation (Haile) is submitting this document to request permission to modify Mine Permit 1-000601. There are five proposed changes to the 2014 Haile Gold Mine Environmental Impact Statement (EIS) Project Description that was incorporated into the approved Mine Permit I-000601.

The purpose of Haile Gold Mine has not changed. The purpose outline in the 2014 EIS was "To produce gold for sale from mineralized gold bearing zones on the Haile Gold Mine Property". This modification request is to adjust the Mine Plan in 2020 to ensure: 1) there are minimal bottlenecks required for mining through overburden areas (non-sulfide base zones and potentially acid generating (PAG) zones); 2) avoid safety and environmental issues associated with double handling PAG material; 3) reduce cost; and 4) avoid the risk of slowing down production created by severe weather events.

The list of five operational adjustments are as follows. There will be a full description of each change in the following sections. Haile is requesting:

Adjust Material Movements by:

1. Develop and mine Mill Zone-Phase 2 open pit.
2. Expand East PAG-Phase 2
3. Expand Hayworth Green Overburden Stockpile-Phase 2

Avoid Risk associated with severe weather events by:

4. Construct 29 Pond
5. Initiate construction of Tailing Storage Facility Third Lift
    a. Create new Borrow Areas
    b. Initiate construction of West PAG-Phase 1

Haile is requesting approval to modify Mine Permit I-000601 *(Modification 20-1)*. Please find enclosed with this application letter:

- DHEC MR-1300 Application Form
- Technical Summary of Each of the Five Changes

6911 Snowy Owl Road, P.O. Box 128, Kershaw, South Carolina 29067 USA
Telephone (803) 475-1220, Facsimile (803) 475-2317

- Appendix A - Overburden Classification and Material Definitions
- Appendix B - 2020 Neighborhood Map and Contact Details
- Appendix C - Joint Federal and State Application with Maps
    - Figure 1: Current Mine Facilities – June 2020
    - Figure 2: Proposed Mine Facilities
    - Table 1: Wetland and Stream Mitigation Credit Work Sheets
    - Map Set: Waters of the US Direct Impact Analysis Detailed Maps
- Appendix D - Archeological and Cultural Heritage Sites
- Appendix E – Comments from SC DNR and SHPO with Responses
- Appendix F – Blackwell Mitigation Plan *(East PAG – Phase 2 wetland disturbance)*

If you have any further questions, please call me at (803) 475-2943.

Sincerely,

Scott McDaniel
Environmental Manager

Cc: Shawn Boone – US Army Corp of Engineers
Kelly Laycock – US Environmental Protection Agency
Larry Long – US Environmental Protection Agency
Joe Koon – SC Department of Health & Environmental Control

1. Develop Mill Zone-Phase 2 Open Pit

Proposed Changes

Haile proposes to develop and mine Mill Zone-Phase 2 Open Pit (described as Small Pit in the 2014 EIS) earlier than scheduled in its current Mine Plan. This results in Haile Pit being mined later but does not impact the amount or makeup of overburden Haile will use as backfill. In addition, because Mill Zone 2 is larger than Small Pit, this modification results in additional acres of surface disturbance, though no impacts to WOUS or other protected resources. Mill Zone-Phase 1 Open Pit was initiated in 2015 with overburden removal. Under the 2014 Environmental Impact Statement, Mill Zone Pit was selected to be the first of eight pits mined. This selection was based on geology, with gold bearing zones closer the surface elevation and lithology, a very clear distinction between meta-volcanic and meta-sediment zones. This allowed for process development adjustments in the Process Plant. The Mine Plan was based on ore grade blocks at a $950 / oz cut-off grade.

Purpose

The purpose for this proposed change is to quickly expand Mill Zone Open Pit and harvest gold-bearing zones that are now economical at a cut-off grade of $1,150 / oz grade blocks. Gold pricing has not been below $1,150 for over ten years (see **Figure 1** – Gold Price) except for a minor dip in the 2015 Fourth Quarter. Currently, gold pricing is above $1,800 / troy ounce.

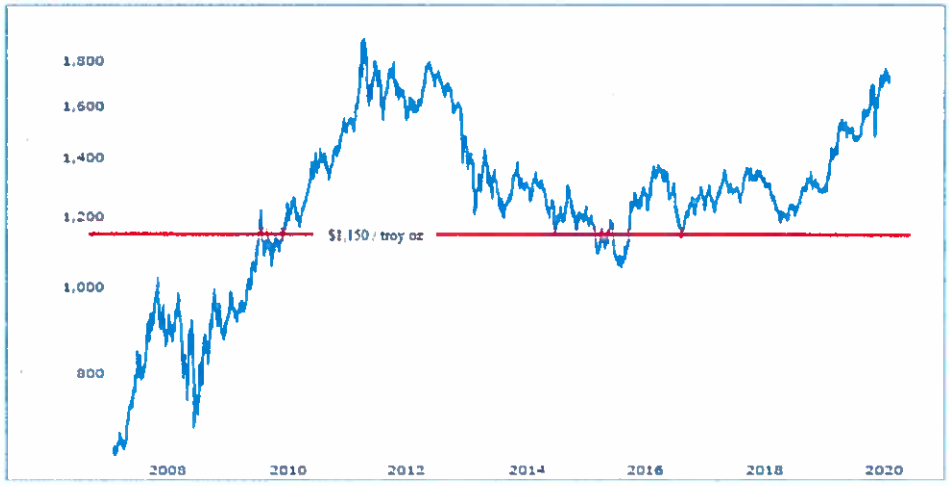


Figure 1: Gold Price (US$ / troy oz)
Source: www.macrotrends.net, 2020

Detailed Description

The Haile property is located 6 miles northeast of Kershaw in southern Lancaster County, South Carolina, USA, in the north-central part of the state, as shown in **Figure 2**. Haile is 50 miles northeast of Columbia, the state capital. The approximate geographic center of the property is at 34° 34' 46" N latitude and 80° 32' 37" W longitude. The mineralized zones at Haile lie within an area extending from UTM NAD83 zone 17N coordinates 540000E to 544000E and 3825500N to 3827500N. **Figure 33** shows a site map of Haile. **Figure 4** is an aerial view of Mill Zone Pit and **Figure 5** is a plan view of the surface disturbance associated with Mill Zone-Phase 2. Note the surface features in the background that are already disturbed, including Temporary Maintenance Facility and the perimeter Haul Road.

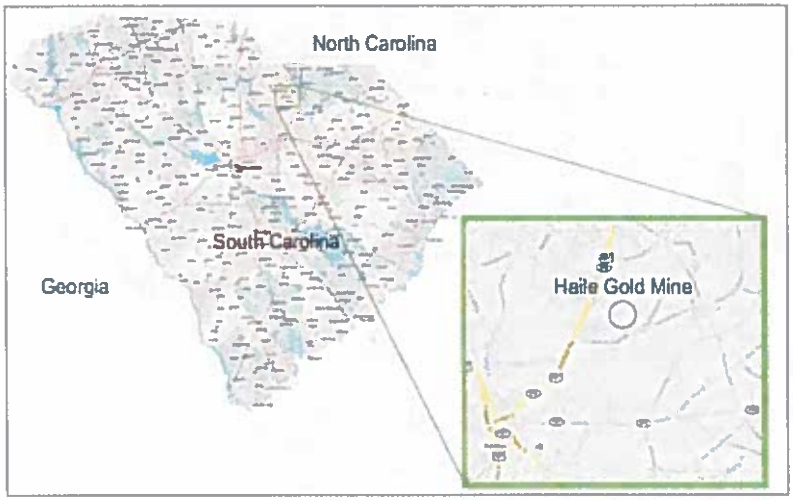


Figure 2: General Location Map of the Haile Gold Mine
Source: State-Maps.org and Google Maps, 2014

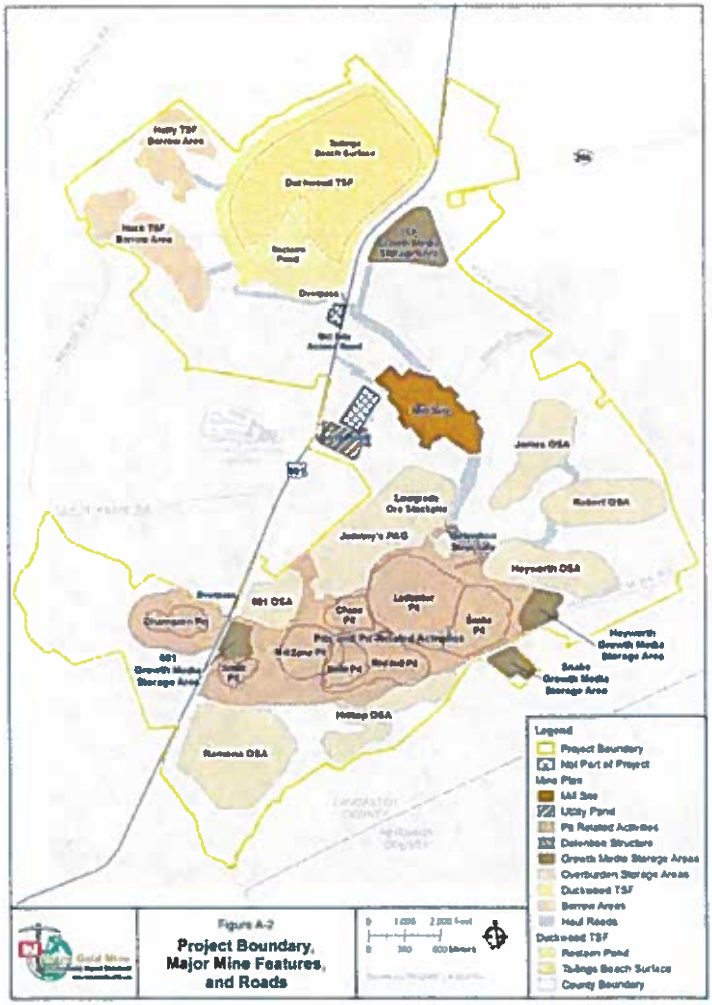


Figure 3: Site Map of Haile Gold Mine
Source: Army Corp of Engineers – EIS, 2014 Appendix A Project Description, Figure A-2, Page A-3

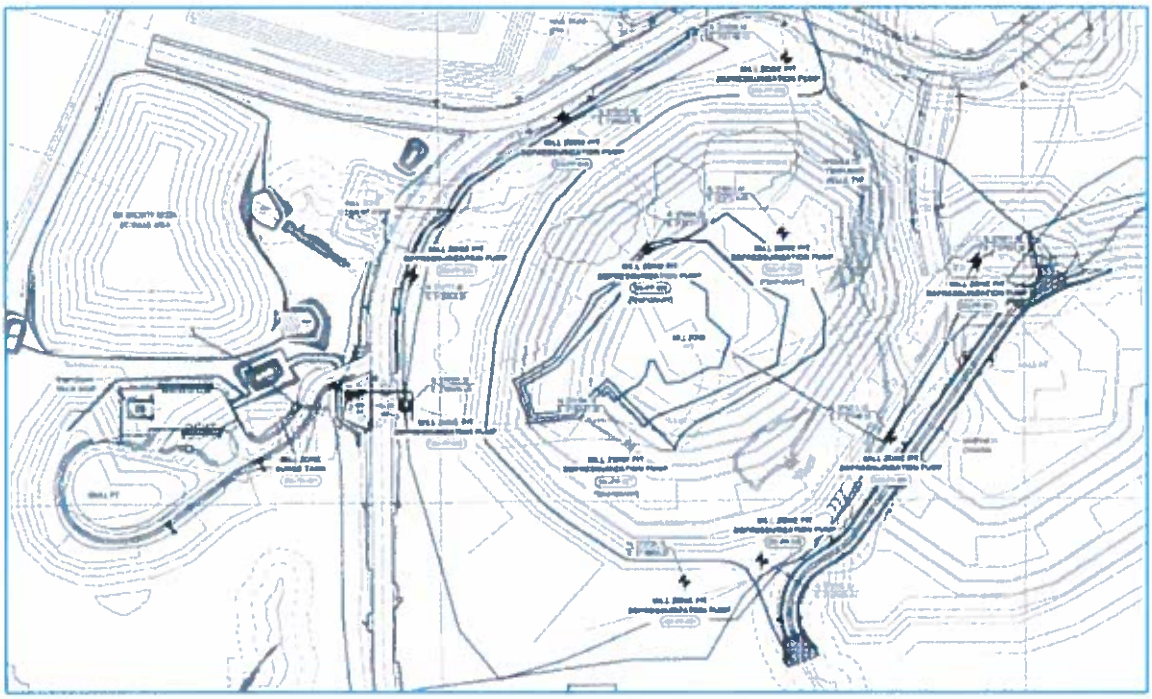


Figure 4: Site Map of Mill Zone and Small Open Pits
Source: Haile – Army Corp of Engineers Appendix A Project Description, 2014

Figure 5: Site Map of Mill Zone-Phase 2 Open Pit
Source: Haile – 2020

Mill Zone-Phase 1 Open Pit is 60 acres and has been mined to an elevation of 30 feet Above Mean Sea Level (AMSL). The plan for Mill Zone-Phase 2 is to drop cut through the west highwall and use the current haul road as part of the expansion. Through this advancement, Haile will convert the current topography that was part of the perimeter haul road and Temporary Maintenance Facility and minimize further surface disturbance. Export of material will be through existing Haul Roads, therefore there will not be a replacement of the perimeter haul road. There will be a light vehicle road for monitoring and maintenance activities.

Also, this expansion will encompass Small Pit, which was in the original Mine Plan in Year 10. Small Pit was to be a separate pit mined to an elevation of 110 feet AMSL. This pit was to be mined late in the mine plan due to lower grade and higher oxide content.

DESIGN CRITERIA	
AREA OF PROPOSED DISTURBANCE – MILL ZONE PHASE 2	2,744,280 ft2 / 63 acres
DEPTH	115 feet AMSL
VOLUME	23.3 M cubic yards / 51.3 M tons
GRADE	2.06 g/ton
HIGHWALL SLOPE	2.5H:1W fully instrumented for slip detection
MATERIAL MOVEMENT	Green Material => Ramonas OSA Yellow / Red PAG Material => Johnnys PAG Ore => Process Plant

Advantages

By moving the progression of Mill Zone-Phase 2 to 2020 Fourth Quarter, Haile will take full advantage of the existing open pit surface disturbances and minimize the total overburden material movement to obtain access to the gold bearing zones. This plan has the following advantages:

- Minimal surface disturbance
- No archaeological sites eligible for listing in the NRHP will be disturbed
- Avoids wetland areas
- Minimal strip ratio that produces lower overall material movement
- No impact to high functioning streams
- No impact to sensitive vegetation or protected areas
- No impact to groundwater conditions
- No change to existing equipment fleet required
- No change to Overburden Management Plans
- No change to employee staffing
- No change to mine maintenance or monitoring activities
- No change to water management
- Minimal impact to feed grade to the Process Plant
- Allows for initiation Mill Zone Reclamation activities (lime backfilling, capping and grading) earlier in overall mine life in 2022

Alternatives Analysis

1. Do Nothing

This alternative would disregard gold bearing zones that are now potentially economical and valuable. With the eastern edge already exposed, this drop cut has a lower development cost with a lower return on investment. It takes full advantage of surface areas that are already disturbed.

2. Develop this Pit Later

This alternative was considered. The original plan for 2020 was to develop Haile Pit recognizing that it was going to require time to complete this task. Haile Pit is a legacy pit with known remaining open pit and underground mining features that, according to the historical documentation, were backfilled. See **Figure 6** for the outline of Haile Open Pit that is superimposed over documented underground working (stopes, drifts, declines, and development tunnels. However, based on exploration and mine development drilling, it is now apparent that this backfilling may be only a partial backfill that creates potential safety challenges for inundation.

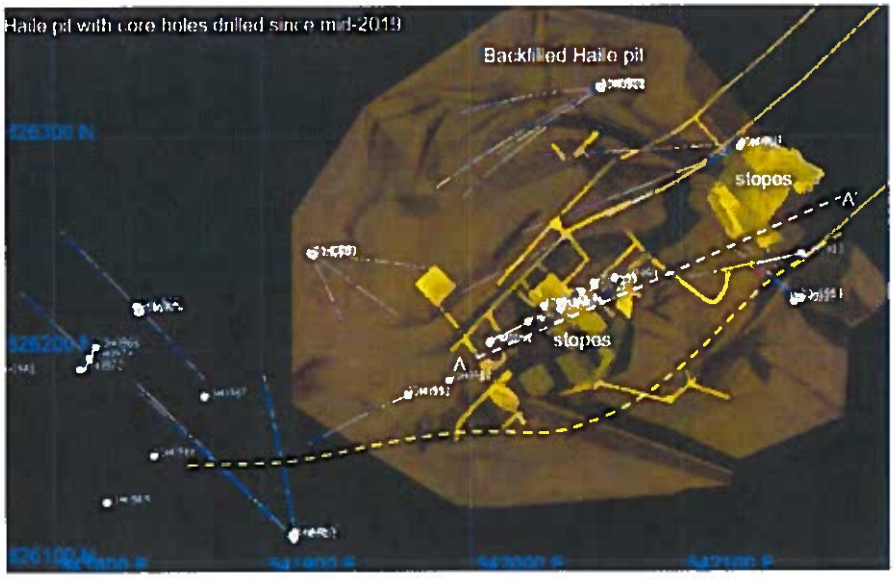


Figure 6: Site Map of Backfilled Haile Open Pit superimposed on documented underground workings
Source: Haile – 2020

Another alternative was to initiate the development of Ledbetter Pit. The mineralized zone for this pit is deeper than Mill Zone-Phase 2 and therefore the strip ratio is greater than 10:1. This means that there is significantly more overburden created. While there is still capacity at Ramonas OSA for Green Material (See Appendix B for Material Grade Classification), Haile has limited capacity for Yellow and Red volume due to the size of Johnnys PAG facility. Construction of East PAG will ease this limitation but completion of this construction will not be completed until 2021.

3. Develop this Pit in a Different Configuration

This alternative was also considered. The size of Mill Zone-Phase 2 could be reduced for this part of the mine development. The drop could be performed in stages, but this option created additional haul roads and further delayed the completion of the whole Mill Zone Open Pit Site. This would then lead to further delays in future reclamation plans that include backfilling lime amended Yellow material with Green material cover

layer. The commitment to finish mine activities at Mill Zone Pit and initiate the site reclamation process received a higher priority than holding Mill Zone Phase 1 open and mining Phase 2 in 2026.

4. **Develop this mine block as an Underground Mine**

This alternative was considered but was rejected due to safety concerns. Specifically, the development of a portal along the western wall of Mill Zone Pit would require significant geotechnical analysis. This is a body of work that has not been initiated and may take approximately 8 to 12 months to complete.

Risks

There are minimal risks associated with this change. Working along the existing pit highwall is always a safety risk. There will be safety berms and working face offsets to minimize this risk. Severe weather will delay the development of the pit. However, all contact water will be directed to the existing Mill Zone Pit and pumped to the Contact Water Treatment Facility and treated prior to discharge to Haile Gold Mine Creek.

Geotechnical Analysis

Pervasive structural features within crystalline rock can impact pit slope stability. Haile has made every effort to understand the potential of major geologic structures within the area to impact operations. Regional fault trends identified within the area (Maddry and Kiley 1995) are:

- Dike-parallel faults – vertical, trending north-south to north-northwest with short offset.
- Gethsemane, Ledbetter, and Chase Hill Faults – trending northeast and dipping steeply to the northwest or vertical. Fault zones for Gethsemane and Ledbetter Faults are reportedly 30 -50 m thick with uniform mixture of milled quartz and feldspar in sericite matrix. Additional northeast trending faults with minor displacement are reported to occur subparallel to the three major faults and may contain thin intervals of altered, mineralized rock.
- Ore -trend faults – oldest faults trending east to west to east-northeast, are near vertical and offset Mill Zone and Red Hill deposits.

Given this regional setting, Haile has conducted significant geotechnical drilling to support slope stability studies prior to opening and over the course of its operation. Furthermore, Haile monitors ongoing depressurization pumping closely and monitors groundwater elevations quarterly. Please note that no anisotropy indicative of the presence of a significant water-bearing fractures is evident in the shape of the potentiometric surface depicted in Figure 5.

The most recent slope stability analyses conducted for Mill Zone Phase 2 has incorporated site-specific data collected from:

- 557 exploration drill holes, both geologic logs and Rock Quality Designations (RQD);
- Data from eight geotechnical holes logged, sampled, and oriented by Golder;
- Seven reverse circulation drill holes installed by NewFields (2013) with acoustic televiewer surveys; and
- Three geotechnical holes logged, sampled and oriented by SRK (2016) include televiewer surveys.

During analyses of this body of data, careful attention was given to the distribution and orientation of discontinuities (i.e. fractures, faults, foliations, layering) and this information used to inform pit design (i.e. bench and inter-ramp scale slopes). Consequently, relatively shallow slopes (27° for the surficial coastal plain sand unit to 42° for the underlying weathered metasediments) have been recommended for development of the westernmost lobe of Mill Zone Phase 2. Please note that the US Highway 601 is afforded additional protection by the 650-foot setback between the highway corridor and Mill Zone Phase 2.

Reclamation Plan

Under the 2014 EIS Reclamation Plan, this extended pit would be backfilled and green capped like Mill Zone-Phase 1. Following the logic used to reclaim Small Pit, Haile is proposing to backfill the pit with Yellow Overburden and lime amend each layer with 2 pounds of lime per ton of overburden. This rate is based on current studies of the expected backfill material geochemistry conducted to date and may be adjusted during operations based on ongoing sampling and testing of overburden material during mining operations.

Lime amendment will assist in neutralizing acid rock drainage that forms within the pit backfill material until depressurization activities cease, and the water level in the pit backfill has risen so as to fully inundate the yellow overburden. The total volume of lime amendment is 102.6 M pounds of lime. Yellow overburden will be placed in the complex using lift heights no greater than 50 feet. The final lift of Yellow overburden will stop a minimum of 5 feet below the anticipated inundation level (based on historic levels and groundwater modeling). Above the final lift of yellow overburden and below the anticipated inundation level, a minimum of 5 feet of saprolite will be placed to reduce oxygen entry into the backfill.

Once water levels in the pit backfill have recovered to the inundation level, the yellow overburden will be permanently submerged, limiting the oxygen available and thereby reducing the potential to generate acid rock drainage. After placement of the upper saprolite lift, the complex will be backfilled above the inundation level with green overburden (or other inert material) up to an elevation that approximates original topography. Backfilling the Mill Zone Pit-Phase 1 and 2 will begin immediately after the Mill Zone-Phase 2 Pit ore is exhausted. Complete backfill of this pit cannot be completed until the western portion of the Haile Pit ore is mined. Approximately 63 acres of pit backfill area will require contouring and revegetation during reclamation activities.

Bond Calculation (adjusted to include lime amendment)

Action	Volume	Unit Cost	Total
Lime Amendment	51.3 M tons	$42.25 / ton*	$2,167,500
Grade and scarify	63 acres	$228.92 / acre	$14,500
Place Growth Media	50,820 cu. yds.	$2.09 / cu. yd	$106,250
Hydroseed & Revegetate	63 Acres	$1,500 / acre	$94,500
Total *(rounded up)*			$2,382,750

Total: $2,382,750

** Cost quote from Wake Stone, January 15, 2020 - $20.00 / ton with $22.25 / ton delivery = $42.25 / ton. (Hi-Cal Ag Lime Mined at Loris, SC 29569)*

2. Expand East PAG Phase 2

Proposed Changes
The proposed change is to continue construction of the East PAG.

Purpose
The purpose is to create additional storage capacity for potentially acid generating material. Currently, Johnnys PAG-Stage 1 facility is at 98% capacity. Johnnys PAG-Stage 2 will be not constructed until the portion of the West PAG on the former Gregory Property outside the 2014 Mine Plan boundary is approved for construction. East PAG Phase 1A&B is at 48% capacity and filling quickly, East PAG Phase 1C is currently slated for November 2020 completion, and, at the current mine rate, all those PAG facilities will be at 95% critical capacity by April 2021. Because constructing a lined PAG facility requires 4-6 months of lead time, Haile needs to begin construction of East PAG – Phase 2 by late 3rd Quarter 2020 to ensure it has sufficient PAG storage to avoid interrupting operations.

Detailed Description
East PAG-Phase 1 facility (**Figure 7**) is a double lined facility constructed on a low permeable clay protective zone. Both layers are 80-mil HDPE liner with a netted leak collection system in place to collect any water that may seep through stitching or welds. The compacted clay protective zone is in place as additional environmental protection of the high coastal plain sand and groundwater zones.

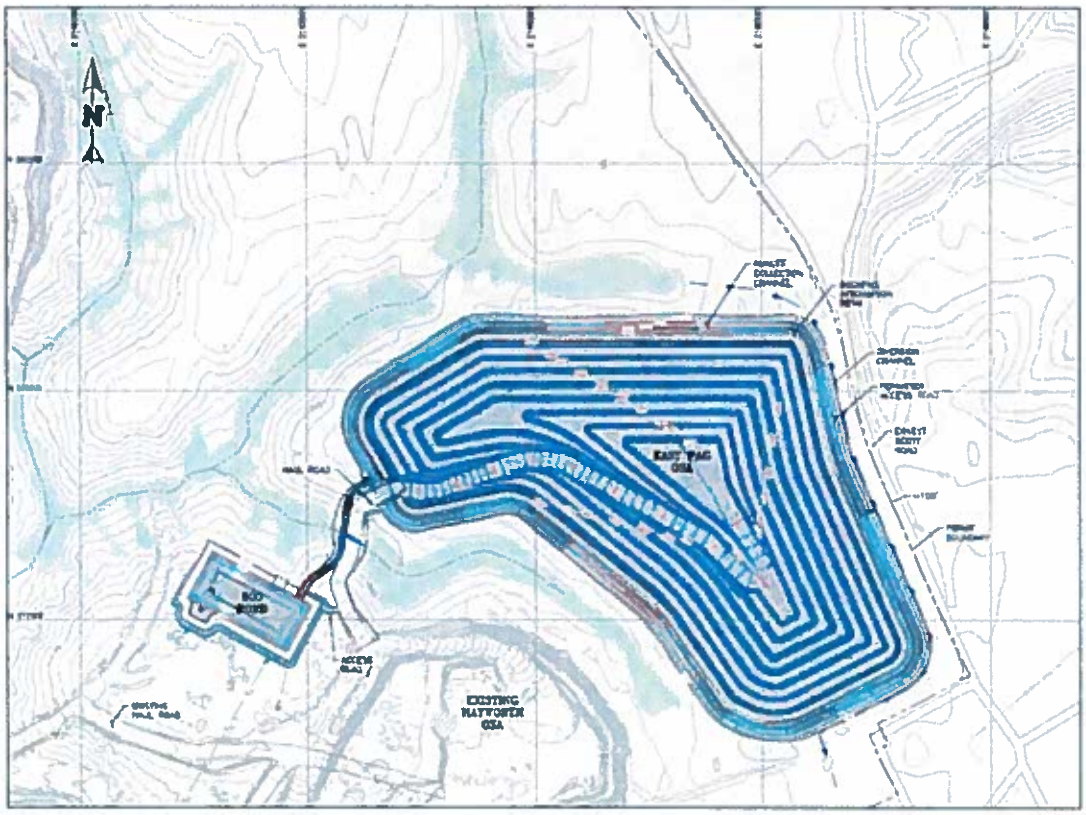


Figure 7: East PAG-Phase 1
Source: Haile – 2020

Construction of the completed East PAG is shown in Figure 8. The complete capacity is 54.3 M tons.

DESIGN CRITERIA	
AREA OF DISTURBANCE - EAST PAG-PH1	6,857,950 ft2 / 157.4 acres
AREA OF DISTURBANCE - EAST PAG-PH2	2,452,428 ft2 / 56.3 acres
HEIGHT	800 ft. AMSL (275 ft. above base elevation)
COMBINED CAPACITY – EAST PAG PH1 & 2	54.3 M tons
PAD LINER	80-mil HDPE Liner on 12" thickness – inorganic fine-grained silt and clay
CONSTRUCTION SLOPE	3W:1H

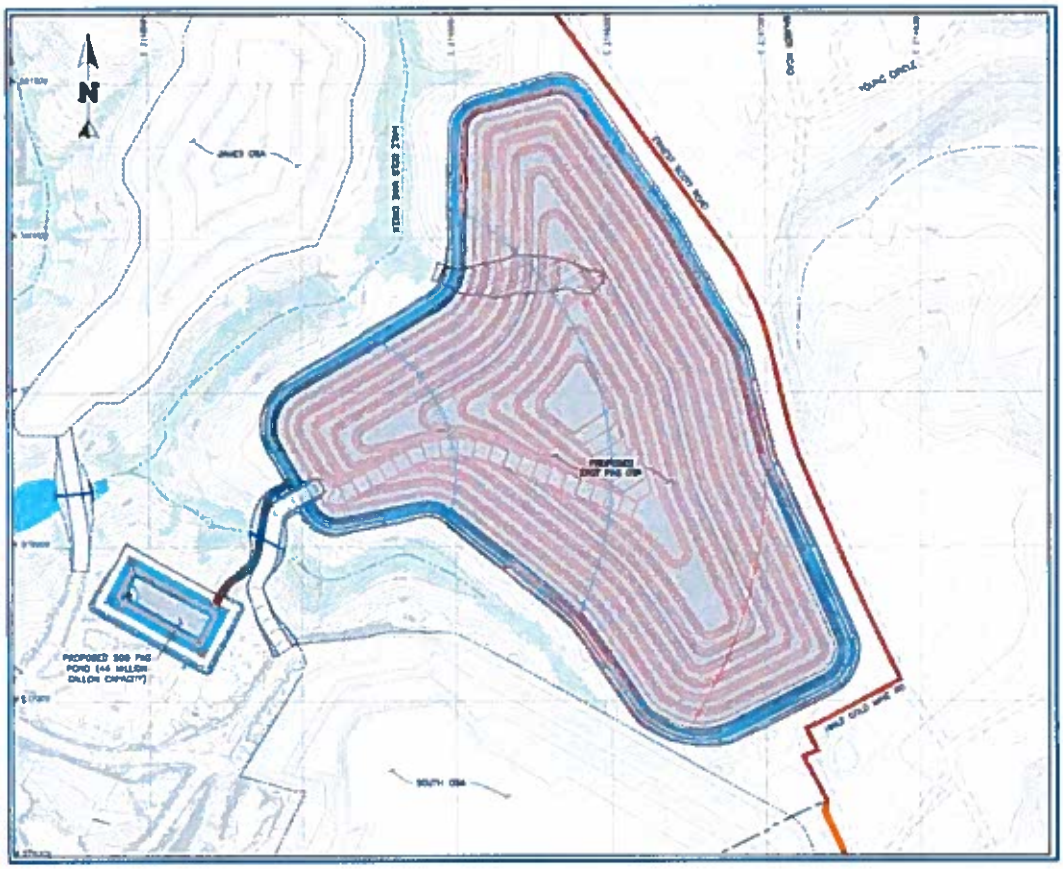


Figure 8: Complete East PAG
Source: Haile – 2020

Advantages

This change is required to meet an immediate need. By continuing the construction of East PAG to complete Phase 2, Haile will take full advantage of the contractor that is on-site for the construction of East PAG-Phase 1, 500 Pond-Cell B, and Tailing Storage Facility Second Lift. This plan has the following additional advantages, related to implementing Haile's 2014 Mine Plan:

- Minimal surface disturbance
- No archaeological sites eligible for listing in the NRHP will be disturbed.
- No impact to high functioning streams
- No impact to sensitive vegetation or protected areas
- No impact to groundwater conditions
- No change to existing equipment fleet required
- No change to Overburden Management Plans
- No change to employee staffing
- No change to mine maintenance or monitoring activities
- No change to water management

Disadvantages

This change does impact 4.75 acres of wetland area. An outline of the impacted wetland is shown in Figure 9. The wetland is in an extremely flat area of the mine bifurcates the PAG facility which limits technically feasible alternatives.

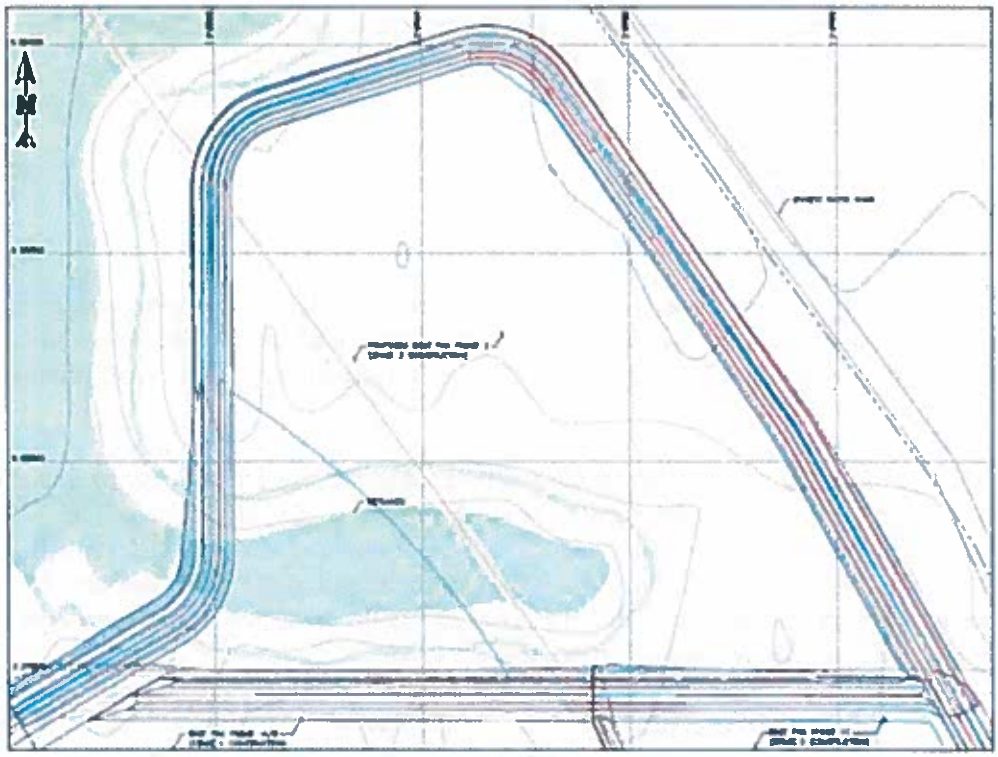


Figure 9: East PAG – Phase 2 and the wetland finger
Source: Haile – 2020

Alternatives Analysis

1. Do Nothing

Haile will run out of PAG capacity. This will result in the mine slowing down and may ultimately lead to shutting down operations. This will lead to a reduction in staffing and may result in dislocating families out of the community as they seek work elsewhere.

2. Develop this Facility Later

Haile will seek to create temporary holding cells within the future footprint of Ledbetter Pit. There is enough natural clay layer in place to hold PAG material. Haile will create sumps around the perimeter of the holding cells to collect contact water. Water would be pumped to 465 Pond and ultimately treated in the Contact Water Treatment Plant. This option creates a financial impact as the PAG material would be doubled handled – once in 2020 and then moved again later as part of the development of Ledbetter Pit. Double handling has a financial impact to the business, potential safety and environmental risks, and will hamper short term reclamation plans.

3. Develop this facility in a Different Configuration or Design at the same location

East-PAG Phase 2 is located on flat ground therefore there was no design capable of gravity flow of Contact Water to the 500 Pond if there is a diversion around the wetland area. As a result, other options included additional Contact Water Ponds that required additional pumps and pipelines. This area is constricted by Earnest Scott Road and additional wetlands to the west; archeological sites and a cemetery to the north; and Mine Boundary to the south. These options were not sustainable.

4. Develop this capacity at an Alternative Location

Other sites were considered but they had the same or more environmental impact to the wetlands. The selected alternative was the least environmentally invasive option.

Risks

There are minimal risks with this option.

Reclamation Plan

Final Grading

During placement of material on East PAG the overall slope will be constructed at 3H:1V with benches and angle of repose inter-bench slopes. During operations, mine equipment will push the angle of repose benches down to flatten the inter-bench slopes to 2.5H:1V or flatter. Benches will remain to provide runoff control and limit erosion on the slope face.

Once final reclamation has begun, any remaining regrading will be performed to achieve the configuration on the overburden slopes. Additionally, access ramps will be removed or reduced, the top surface will be regraded to promote drainage and minimize erosion, and any additional surface water controls features that are needed for post-closure will be shaped into the overburden surface. Specifically, the benches will be graded to slope back towards the 2.5:1 slope to collect the stormwater in the drainage terrace channel, which directs the flow towards the armored downslope channel off of the PAG.

Regrading will ensure that the saprolite cover placed over the top and sides of the facility remains intact. During final grading, large boulders that are uncovered during sloping will be buried or removed to ensure a smooth surface for liner placement.

Geomembrane Foundation Preparation

The top surface of the regraded PAG will be covered with a minimum five (5) feet of saprolite cover. This top cover along with the 5-foot wedge of saprolite cover on the perimeter slopes and benches will function as the foundation for the geomembrane liner. The geomembrane foundation will be prepared and smooth rolled to provide an even surface for the geomembrane placement. The saprolite cover will be inspected prior to placement of the liner to remove or bury sharp rock protrusion that may damage the liner.

Geomembrane Cover

The entire surface of East PAG will be covered with a double textured HDPE geomembrane to limit the infiltration of water and restrict oxygen movement. The geomembrane will be anchored as necessary to provide suitable stability on the OSA slopes and will be sealed to the geomembrane liner exposed at the base of the PAG.

Growth Media and Vegetation

The geomembrane will be covered with a minimum of two (2) feet of growth media to protect the geomembrane from damage, UV radiation, freezing, and to provide a soil layer for establishing vegetation. Material from growth media storage areas will be placed on the liner using low ground pressure equipment to avoid damage to the geomembrane. The final surface will be vegetated with an approved seed mix and established seeding methods.

Haile will minimize and control woody growth on East PAG via chemical application (i.e., spot spraying) and/or mechanical (i.e., bush hogging) every two to five years. Approximately 161,333 cubic yards (CY) of growth media will be required to cover East PAG and 50 acres will require revegetation.

Conversion of 500 Pond Cell A to Passive Treatment Cell

After the geomembrane cover is installed and infiltration into the PAG is cut off, seepage from East PAG will still flow into 500 Pond Cell A. The quantity of seepage is expected to decrease quickly once the HDPE cover is installed and additional precipitation is prevented from infiltrating the PAG material. Haile anticipates that the long-term treatment of this reduced flow will be performed using a passive treatment facility. Unless and until the flow is capable of being treated by passive technology, Haile will use the on-Site Contact Water Treatment Plant (CWTP).

Construction and operation of the proposed passive wastewater treatment facility is regulated by the DHEC. In accordance with SC Regulations 61-67 (Standards for Wastewater Facility Construction), a permit is required prior to commencement of construction of treatment facilities. This permit application must include the engineering design and demonstrate the capability of the system to meet the effluent limitations for the Land Application Permit.

Upon completion of construction, and after a final inspection by DHEC, a permit to operate must be issued prior to commencing the passive treatment operation. Haile expects that these passive treatment systems will treat the seepage using an anaerobic (no-oxygen) treatment cell filled with organic media containing beneficial bacteria followed by an aerobic (with oxygen) polishing treatment cell and discharge to Haile Gold Mine Creek. The 500 Pond Cell A is of sufficient size to contain a passive treatment system capable of addressing the effluent from East PAG. Passive systems use gravity to move the water. Due to the passive nature of the system, maintenance is expected to be minimal. The media in the cells may require replacement every 20 years or so, depending on the functionality of the cells.

Bond Calculation

Under the EIS Reclamation Plan, PAG facilities will be sloped and terraced to final grade, clay covered, HDPE covered, and growth media applied to the whole facility. The proposed bond will include the conversion of 500 Pond Cell A to a Passive Treatment Cell and the first fill of organic material.

Action	Volume	Unit Cost	Total
Foundation Layer – Smooth Roll	56.3 acres	$0.05 / sq. ft.	$122,600
HDPE Liner – 60 mil textured	56.3 acres	$0.78 / sq. ft.	$1,912,900
Place Growth Media	181,660 cu yd.	$2.21 / cu. yd.	$401,500
Hydroseed & Revegetate	56.3 acres	$1,500 / acre	$84,500
6 in sand filter under downchute	1,968 cu. yd.	$24.73 / cu. yd.	$48,700
12-in Riprap downchute, 18-in thick	5,903 cu. yd.	$10.46 / cu. yd.	$61,800
Passive Treatment Cell	1st Fill	$429,283 / fill	$429,300
Total *(rounded up)*			$3,936,300

Total: $3,936,300

Mitigation Plan

Haile proposes to mitigate for the proposed impacts through the perpetual protection of approximately 512 acres of land known as the Blackwell Tract (South Carolina Parcel #0117-00-01.00). The referenced mitigation site is located approximately 9 miles northeast of Kershaw, SC adjacent to Old Jefferson Highway. Positioned in the Flat Creek Basin, the tract is a part of larger conservation efforts in the area associated with the protection and enhancement of habitat for the Carolina Heelsplitter. In consideration of watershed and ecoregion needs, proposed mitigation site offers the following:

1) Stream, wetland and buffer preservation which improve and protect water quality within areas of concern (TMDL and 303d) and contribute to the sustainability of the watershed;
2) Stream and riparian preservation of upland buffers and riparian corridors for the benefit of the Carolina Heelsplitter mussel habitat;
3) Preservation of Sandhills stream and wetland headwaters for the benefit of the Sandhills chub and other species; and
4) Supplementation of important, existing conservation lands and regional conservation efforts.

The site contains approximately 29,525 linear feet of stream and 3.4 acres of wetlands as identified by field delineations. All aquatic resources are fully functioning. Site uplands are characterized as Sandhills and mixed pine hardwood communities. Importantly, Sandhills wetland/stream headwater systems are natural ecosystems that resource agencies have indicated are under significant threat (Rohde, 1991).

Preservation of the site will be accomplished through placement of a restrictive covenant on property and the fee simple transfer of, the land to the Katabaw Valley Land Trust. Katabaw Valley Land Trust will additionally serve as the Long-term Steward of the property.

The Mitigation Plan is attached in Appendix F.

3. Expand Hayworth Green Overburden Stockpile

Proposed Changes

The proposed change is to continue construction of Hayworth Green Overburden Stockpile to the southeast direction while staying within the Haile Gold Mine Permit boundary.

Purpose

The purpose is to create additional storage capacity for green (no sulfur) overburden material. Currently, the green overburden storage facilities are Hayworth, Ramonas, 601, and James OSAs (See **Figure 10**). Under the 2014 EIS, the next facility to be develop was Roberts OSA but this was converted to East PAG facility to accommodate the additional Yellow / Red storage demand. Table 1 is a summary of each OSA and its respective planned capacity and current stored volume. Hayworth Phase 1 is currently at its 90% critical capacity.

Figure 10: Green Overburden Storage Areas (OSA) - 2020
Source: Haile – 2020

Table 1 Green Overburden Storage Area Capacities

Facility	Planned Capacity (tons)	Current Volume Placed (tons)	Percent Full
Hayworth	31	28	90.3%
Ramonas	62	11	17.7%
James	14.3	9	63.0%

Detailed Description

Hayworth Phase 2 facility is a direct deposit facility constructed on native soils with timber removed. This extension is to the south east direction on land within the Haile Gold Mine district. See **Figure 11**. Surface water and stormwater control best practice devices are installed around the perimeter. These include silt fencing, check dams, and sediment control basins. The area is flat and the OSA will be built over the top of the abandoned Highway 188. Prior to Haile purchasing these parcels, the land was agricultural, timber was less than 15 years old and there were remnants of prior surface disturbance. Drainage is to the south toward the wetlands shown in the yellow outline. Haile has ownership of the immediate parcels surrounding the site, with the closest neighbor is Greg Lowery, at the chicken farm on the corner of Earnest Scott Road and Catawba Road.

Figure 11 Hayworth-Phase 2 Storage Area (OSA)
Source: Haile – 2020

DESIGN CRITERIA	
AREA OF DISTURBANCE - HAYWORTH-PH1	3,354,120 ft2 / 77 acres
AREA OF DISTURBANCE - HAYWORTH-PH2	1,611,720 ft2 / 37 acres
HEIGHT	750 AMSL (225 ft. above base elevation)
CAPACITY – HAYWORTH PH 2	16 M tons
COMBINED CAPACITY – HAYWORTH PH 1&2	61 M tons
RECLAMATION SLOPE	3W:1H

Advantages

Hayworth Phase 2 is an extension of the current facility. Haile will take full advantage of the contractor that is on-site for timber removal at other facilities under construction. This plan has the following additional advantages:

- Minimal overall surface disturbance
- Surface disturbance is on prior agricultural land and minimal timber growth
- No archaeological sites eligible for listing in the NRHP will be disturbed
- No impact to high functioning streams
- No impact to sensitive vegetation or protected areas
- No impact to groundwater conditions
- No change to existing equipment fleet required
- No change to Overburden Management Plans
- No change to employee staffing
- No change to mine maintenance or monitoring activities
- No change to water management

Alternatives Analysis

1. **Do Nothing**

Haile will run out of green overburden capacity. This will result in the mine slowing down and may ultimately lead to slowing down all operations. This will lead to a reduction in staffing and may result in dislocating families out of the community as they seek work elsewhere.

2. **Develop this Overburden Storage Area Later**

Ultimately, Haile plans to develop this area as green overburden storage in stages as the mine progresses. However, Haile cannot afford to wait to develop the portion located within its 2014 Mine Plan boundary due to its shortage of green overburden storage space required for its current mine plan.

Figure 12 South Storage Area (OSA) (Hayworth-Phase 2 is circled)
Source: Haile – 2020

3. Develop this OSA in a Different Configuration

Many other configurations were considered for this alternative but they were outside the current and future Haile Gold Mine Permit boundary; across active roads and thoroughfares – Payne and Earnest Scott roads; created stormwater drainage to high impact streams toward the mine pit which would be expensive to manage and posed an environmental risk; created a higher elevation facility that would increase the noise and visual impact; and created a safety concern by minimizing the active working platform on top of a tall narrow bench. All of these were avoided with the proposed preferred alternative.

4. Transport this material to an alternative Overburden Storage Area

This alternative was considered, and an internal traffic study was conducted. It concluded that the transport of Green overburden material from the active mine pits (Snake, Red Hill and Ledbetter Open Pits) would result in three to five additional haul trucks, increase fuel consumption, increase air emissions, increase dust emissions, increase carbon foot print and greenhouse gas emissions, and increase hazardous waste disposal.

Risks

There is minimal impact to the facility or to the immediately surrounding community. Haile Gold Mine owns the land immediately around the area and there is no impact to sensitive vegetation.

Bond Calculation

Under the EIS Reclamation Plan, Hayworth OSA would be sloped and terraced to final grade and hydroseeded / revegetated.

Action	Volume	Unit Cost	Total
Grade and terrace	37 acres	$228.92 / acre	$8,500
Hydroseed & Revegetate	37 acres	$1,500 / acre	$55,500
Total *(rounded up)*			$64,000

Total: $64,000

4. Construct 29 Pond

Proposed Change

Haile Gold Mine is seeking to construct a third holding facility for Contact Water prior to water treatment. Water, that has accumulated in the Mine Pits, is pumped to the Water Treatment Plant for treatment, neutralization and heavy metal removal. Discharge is through Outfall 003.

Purpose

The purpose of this holding pond network is to blend Contact water coming from each point source – JPAG, East PAG, Mill Zone Pit, Snake Pit, Red Hill Pit, Storm Pond (legacy water from under the 1970's Chase Leach Pad) and Process Plant Stockpile Pond. Each of these point sources has a unique chemistry and by actively blending them, the water treatment process avoids pH and chemistry variation. This set of holding ponds allows time for mixing, sedimentation, and photosynthesis. This additional capacity will avoid accumulation of mine water in the active mine sumps.

The purpose for building this pond now is to create additional capacity in the high probability of adverse weather events. **Figure 13** is a summary of the accumulation of precipitation that has occurred since 2018. In early 2018, precipitation was matching the 35-year normal trend, however, in September 2018 that trend changed significantly. In the subsequent 21 months, the accumulated precipitation is 33.1" above normal. And in that time, there have been six storms that are above the criteria for a 100-year in a 24-hour storm. The National Weather Service is predicting 19 named significant storm events will occur in 2020 for South Carolina.

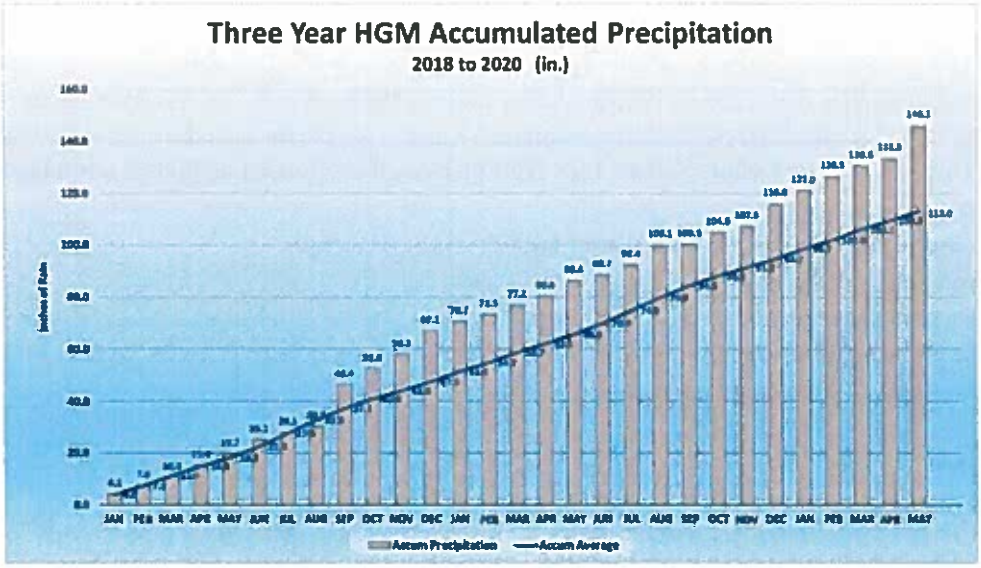


Figure 13 Accumulated Precipitation 2018 to 2020
Source: Haile – 2020

Detailed Description

29 Pond is a HDPE lined pond constructed on 10 acres and will hold 20.1M gallons. The pond will be constructed next to the existing 19 Pond along the entrance on Snowy Owl Road. See attached design in **Figure 14.**

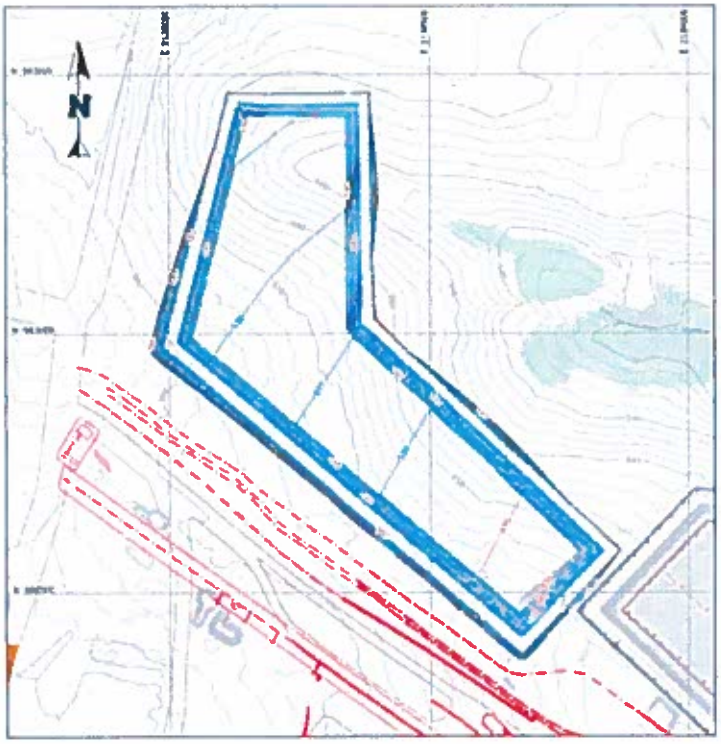


Figure 14 29 Pond
Source: NewFields – 2020

Advantages

This change is required to reduce risk and avoid accumulating water in the mine pits. By constructing 29 Pond, Haile will take full advantage of the HDPE Liner contractor that is on-site for the construction of East PAG, 500 Pond and Tailing Storage Facility Second Lift. This plan has the following additional advantages:

- Minimal surface disturbance
- No archaeological sites eligible for listing in the NRHP will be disturbed
- No impact to high functioning streams
- No impact to sensitive vegetation or protected areas
- No impact to groundwater conditions
- No change to existing equipment fleet required

Alternatives Analysis

1. **Do Nothing**

Doing nothing is to accept the environmental risk impacts from uncertain and significant weather events. High precipitation events halter and stop all mine activities. This may create potential impacts to close wetlands.

2. **Construct this Pond Later**

The plan was to build 29 Pond in 2022 for the additional Contact Water from West PAG as well as new mine pits at Haile Pit, Ledbetter Pit, and Mill Zone Phase 2. However, should a hurricane or significant rain event occur in 2021, Haile Gold Mine will miss the opportunity to recover quickly.

3. Develop this Pond in a Different Configuration

There were four alternatives considered for this Pond. The pond was originally designed for 10M gallons. The alternatives included different depths, widths, and pump bay configurations. The preferred alternative is shown above. The alternatives encroached on wetlands along the eastern edge of the pond, encroached on Snowy Owl Road entrance and would have altered traffic for mine deliveries and personnel accessibility, encroached on Highway 601 which is a major thoroughfare in Lancaster County, and / or provided insufficient pond capacity for larger storm events. The presented design is preferred.

Risks

There are minimal risks for constructing this pond sooner in the mine life. This action is a risk avoidance initiative.

Bond Calculation

Under the EIS Reclamation Plan, 19 Pond and now 29 Pond are part of the ultimate water treatment network and will be available for the entire mine life, and this pond will ultimately be used as part of the passive treatment system for mine closure. The Bond calculation is based on converting this pond to a passive treatment system that would occur during mine reclamation. The bond assumes one refill every fifteen years during Reclamation at $10,900 per refill.

Action	Event	Unit Cost	Total
Passive Treatment Refills	4 Refills	$10,900 / event	$43,600
Total *(rounded up)*			$44,000

Total: $44,000

5. Initiate Construction of TSF Third Lift

Proposed Changes

Construction of the Tailing Storage Facility 3rd Lift was reviewed and approved under the 2014 Environmental Impact Study (See **Figure 15** - Cross Section of the Tailings Storage Facility). This change is to move the construction of the next lift forward in the schedule to 2020 to avoid the risk of water accumulation in the Reclaim Pond.

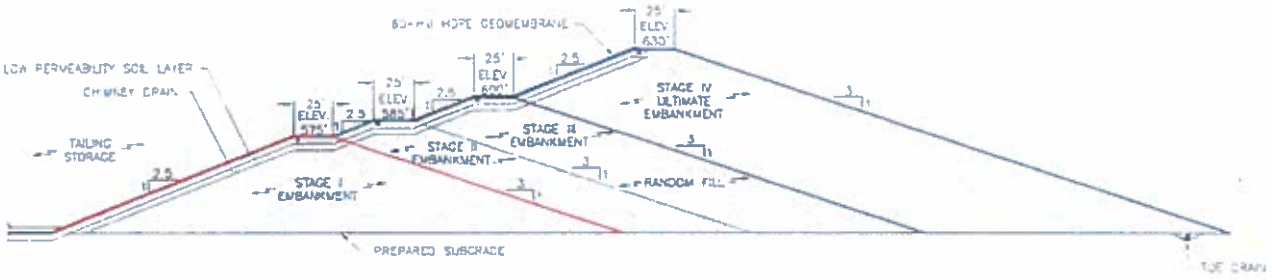


Figure 15 Cross Section of the Tailings Storage Facility Embankment Showing the Stage of Construction
Source: Haile – EIS Appendix A Project Description Figure A-29, Page A-52 *(figure generated in 2013)*

Purpose

The purpose for this change is to mitigate risk associated with a significant storm event.

Detailed Description

Haile is quickly coming to the end of the construction of the TSF 2nd Lift which brings the elevation to 585' Above Mean Sea Level. However, the Reclaim Pond, shown in **Figure 16**, is rising quickly.

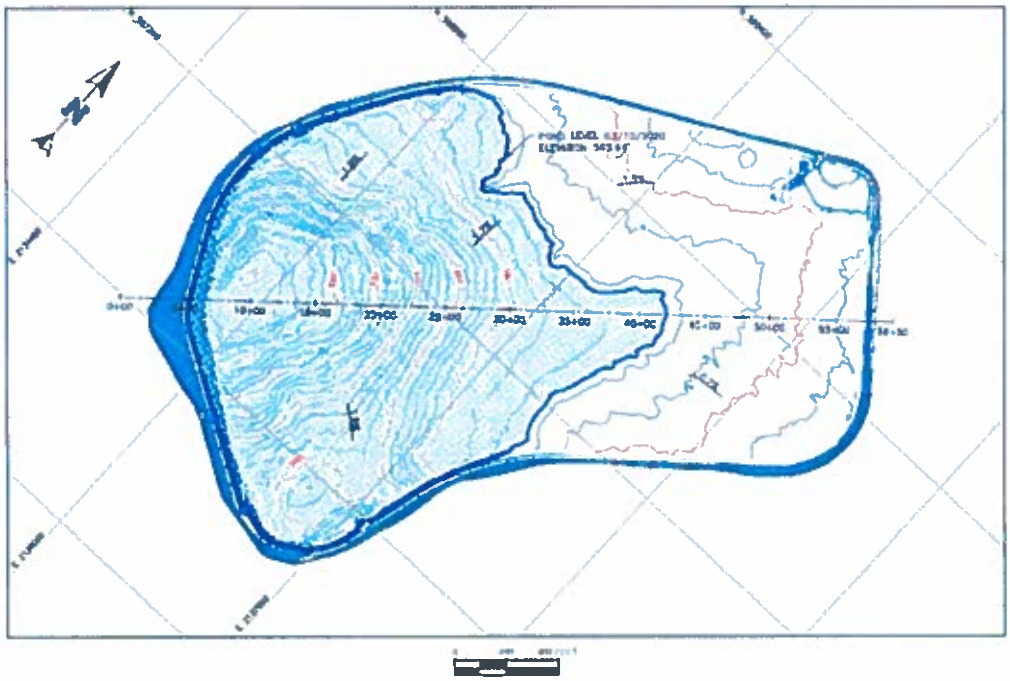


Figure 16 TSF Reclaim Pond
Source: Haile – 2020

The TSF is a Zero Discharge Facility, therefore the water in the Reclaim Pond must be contained, reused in the Process Plant or evaporated. The design of the TSF was based on the weather patterns and precipitation from the past 35 years. As shown above, Haile has experienced a significant increase in precipitation since September 2018. Haile is seeking to advance the construction of the TSF 3rd Lift to maintain a safe level with enough freeboard to avoid the potential of over-topping during significant rain event.

The construction design criteria are unchanged from the original design with HDPE liner covering a 2.5H:1L compacted soil dam with a 3H:1 exterior slope. The third lift will be 15-foot lift to an elevation of 600' AMSL and Haile will maintain a minimum 8-foot freeboard.

The construction materials will be harvested from new borrow areas, shown in **Figure 17**.

Figure 17 Proposed Borrow Areas for construction of TSF 3rd Lift
Source: Haile – 2020

The required materials for construction are shown in Table 2.

Table 2: TSF 3rd Lift Material Requirements

Material Type	Estimated Required Volume (cu. yd.)
Random Fill	2,222,100
Chimney Drain	496,700
Low Permeable Soil / Clay	109,770
Geomembrane	737,070
Total	3,656,640

Potential sources for this material are shown in Table 3. Material has already been harvested from the Holly, Hock and Peach Borrow areas for construction of TSF 2nd Lift. Additional surface disturbance from these areas is minimal.

Table 3: TSF 3rd Lift Material Sources

Borrow Areas	Estimated Available Volume (cu. yd.)	Additional Disturbed Surface Acres
Hock	700,000	18
Holly	1,080,000	51
Peach	100,000	2
Apple	1,015,000	39
Hamilton	165,000	14
Cleveland	231,000	14
Triangle	200,000	15
Lincoln	917,000	47
Total	4,408,000	200

Along with this request is the opportunity to harvest high quality chimney drain from the future West PAG-Phase 1 location. This property was acquired by Haile Gold Mine in 2016. Haile is asking to timber, clear and grub the 44 acres (**Figure 18**) surrounding the wetland that is in the current mine boundary. Haile also will timber the 60 acres on West PAG-Phase 1B. It is estimated that 400,000 cubic yards of high-quality chimney sand material may be available from the whole West PAG-Phase 1 location.

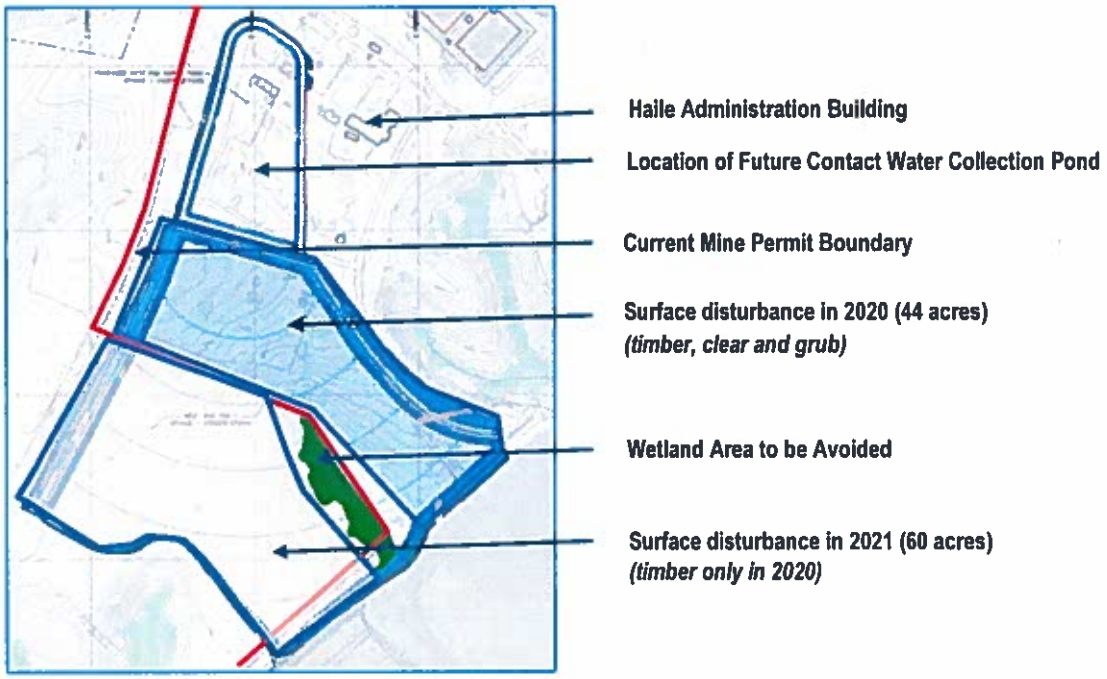


Figure 18 West PAG – Phase 1
Source: Haile – 2020

Advantages

The TSF 3rd Lift is an expansion of the current facility with construction around the perimeter of the facility. Haile will take full advantage of the multiple contractors that are on-site for continued construction of the TSF 2nd lift – design and construction oversight, earthworks, material placement and compaction, liner installation, and all the QA / QC activities associated with a tailing's storage facility. This plan has the following additional advantages:

- Surface disturbance in the new borrow areas is on prior agricultural land
- No archaeological sites eligible for listing in the NRHP will be disturbed
- No impact to high functioning streams
- No impact to sensitive vegetation or protected areas
- No change to existing equipment fleet required
- No change to employee staffing
- No change to water management

All borrow areas, including West PAG Phase 1 location, will be sloped and terraced toward the closest available stream or wetland. These areas are currently disturbed from prior agricultural activities and have been left to self-vegetate. Landscaping these areas early in the mine life will allow Haile to initiate the reclamation process early and properly with available growth media covering and proper vegetation. The revegetation plan will be reviewed and approved by South Carolina DHEC and overseen by an ISA licensed arborist.

Alternatives Analysis

1. **Do Nothing**

This alternative is not acceptable and exposes the TSF and surrounding surface water environment to undue risk from a significant storm event or hurricane. Overtopping the TSF with water from the Reclaim Pond may cause damage to the outer slopes, foundation, chimney drain and underdrain collection system. This option may unnecessarily expose the downstream environment along Camp Branch Creek.

2. **Construct TSF 3rd Lift Later**

This alternative is also not acceptable based on the unanticipated change in weather conditions and would expose the TSF and surrounding surface water environment to undue risk from a significant storm event or hurricane.

3. **Construct the TSF 3rd Lift with a Different Configuration**

Haile has reviewed various alternatives to TSF lifts that would use less borrow material, up to and including, variations in lift construction, changes in slope designs, and different material types. These alternatives generate safety risks and compromise the quality of a world class storage facility.

Risks

There are no evident risks for constructing the TSF 3rd Lift sooner in the mine life. The TSF 3rd Lift was in the original plan and Haile is not changing the associated design or quality standards. This action is a risk avoidance initiative.

Storm Water Controls for Borrow Areas

The borrow areas will be developed to provide sufficient material for construction and expansion of the TSF. Prior to disturbance in each specific area, the perimeter will be delineated, surveyed and silt fence installed. The new areas (Triangle, Hamilton, Lincoln, and Cleveland) are located on flat terrain with heavy layers of coastal plain sand. But where there is a natural drainage, these slopes will be identified, and rock check dams installed. On drainages that are greater than 2%, multiple check dams may be required. The rock drain system will have the capacity to drain runoff from the PMP within a relatively short time (i.e., 2 to 3 weeks) while allowing runoff from average annual peak precipitation to drain without creating significant ponding.

To contain any stormwater after the area is timbered and cleared, a berm will be installed around the perimeter in front of the silt fence. As material is being removed, temporary flat sediment basins will be installed to collect and settle any sediments. The elevation of these sediment basins will be above the elevation of the localized wetland, so any major storm events will still flow through sediment basin, berm, rock check dam and silt fence prior to the wetland. All embankments will concentrate precipitation near the center and then grade gently towards the south perimeter.

Once material from the borrow areas have been exhausted the areas will be reclaimed. Slopes on the edges of the borrow areas will be maintained at a 3H:1V or shallower. Since material is being removed to lower the elevation without creating pits, slope grading will be gradual toward the check dams and silt fence prior to the wetland. All sediment basins will be removed to prevent any pooling. The surface will be scarified to loosen compacted soils and then revegetated with an approved seed mix using approved seeding techniques. After vegetation is 80% established, the check dams will be evaluated and the silt fence, including the t-posts will be removed.

During the construction, material removal and closure process, weekly inspections by trained and South Carolina certified inspectors will be conducted and documented. Turbidity checks will be conducted monthly along upper Haile Gold Mine Creek. Any non-conformances will be documented, and corrective actions taken to restore the site.

Upon completion of mining modification, revegetation will include native warm season grasses and/or other native forbs and pollinators for stabilization. Native warm season grass species include a mix of: Switchgrass, Indiangrass, Big bluestem, and Little bluestem. Beneficial pollinator plant species include: Milkweed, Mockernut Hickory, Parsley Haw, Green Hawthorne, Witch-alder, Oak-leaf Hydrangea, American Holly, Magnolia and Piedmont Azalea.

Bond Calculation

Under the negotiated Reclamation Bond Table 601 V. 5 dated January 9, 2015, each lift on the TSF is $1,083,000. For the 244 acres of Borrow Area, including West PAG Phase 1A, the bond calculation is:

Action	Volume	Unit Cost	Total
Grade and Terrace Borrow Areas	244 acres	$228.92 / acre	$55,900
Hydroseed & Revegetate	244 acres	$1,500 / acre	$366,00
Total *(rounded up)*			$422,000

Total: $1,505,000

Overall Permit Modification Assessment

Mine Plan
Haile proposes to make five adjustments to the mine plan to adjust material movement and reduce the risk in 2020.

Wetland Impact
East PAG – Phase 2 has a direct impact to existing wetlands of 4.75 acres. Haile proposes to mitigate for the proposed impacts through the perpetual protection of approximately 512 acres of land known as the Blackwell Tract (South Carolina Parcel #0117-00-01.00). See Blackwell Mitigation Plan (Appendix D).

Surface Water Impact
Facilities are outside natural stream beds or surface water drainage patterns. There is no anticipated impact to surface water streams or flows.

Ground Water Impact
Water quality samples are tested quarterly and reported to SC DHEC, Army Corp of Engineers, and US EPA in the Surface water / Ground Water Quarterly Monitoring Report. There is no anticipated change to groundwater impacts.

Water Treatment Plant Capacity
There is no anticipated impact to the Water Treatment Plant.

Vegetation Visual Barrier
As part of the construction of this facility, Haile will plant a multilevel vegetative visual barrier along the outside Mine Permit Boundary in accordance with South Carolina Storm Water Pollution Prevention Plan (SWPPP) Best Practices. The surface disturbance of the new borrow areas will allow Haile Gold Mine to contour the surfaces to drain toward the existing wetland areas and Haile will revegetate these post-agricultural areas in conjunction with SC DHEC and overseen by an ISA licensed arborist.

Stormwater Permit
The proposed changes are covered under Haile Gold Mine Stormwater Permit – SCR004763, Issued November 12, 2010 and Renewed October 1, 2016. All activities will be covered under the standing approved permit.

Haile is committed to managing storm water. Specific SWPP plans have been developed for each structure or facility within the permit boundary. Each storm water management design addresses the following items:

- Full detailed description and purpose of the structure, stockpile, pond, or facility;
    - Size
    - Shape
    - Contour
    - Temporary or Permanent Life
    - Capacity
    - Content
- Description of potential pollutant sources and types of pollutants;
- Identification of activities and significant pollution sources;
- Storm water control practices;

- Spills and leaks of toxic or hazardous pollutants exposed to precipitation;
- Summary of sampling data;
- Risk identification and summary of "other" potentially pollutant sources;
- Existing NPDES permit coverage;
- Comprehensive description of storm water management controls;
- Good housekeeping practices;
- Preventative maintenance program;
- Spill prevention response;
- Inspection/maintenance schedule of storm water management structures;
- Record-keeping and internal reporting;
- Non-storm water discharges;
- Comprehensive site compliance evaluation; and
- Employee training.

Environmental Criteria Assessment

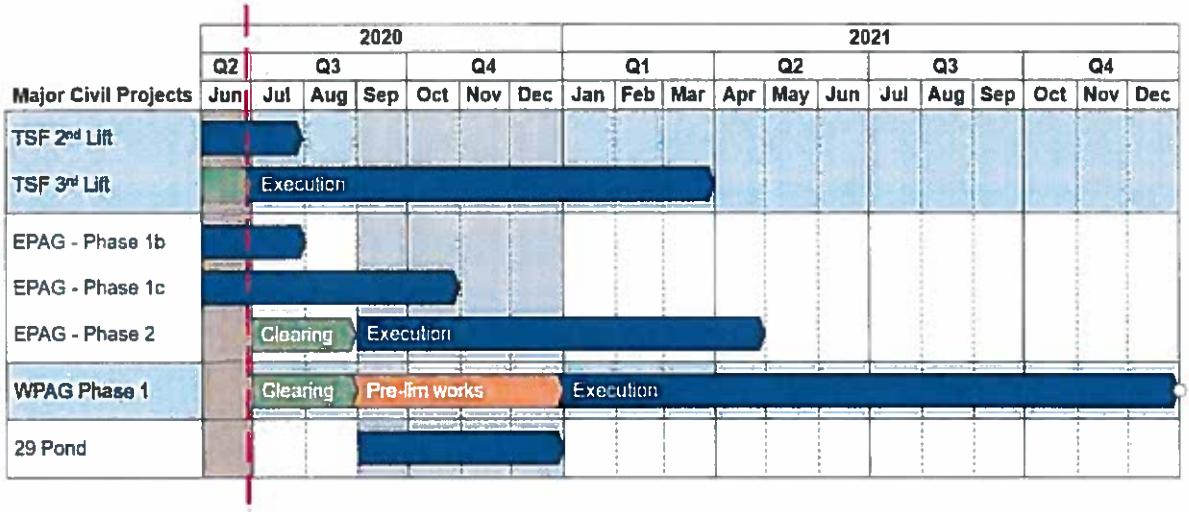
Haile has applied the following eighteen (18) criteria, shown in Table 4, to provide a more quantitative and robust alternatives comparison:

Table 4 Environmental Criteria Assessment

Criteria	Preference	Result
1. Impacts to wetlands.	Fewer impacts to wetlands was preferred.	The impact to wetlands was minimized to 4.75 acres.
2. Impacts to streams.	Fewer impacts to streams was preferred.	There are no stream impacts to this design.
3. Total disturbance.	Less total disturbance was preferred.	See Surface Disturbance Summary.
4. Land use.	Vacant land use was preferred.	There is no impact to land outside of the current mine permitted boundary for 2020.
5. Watershed impacts.	Avoiding impacts to multiple watersheds, other than the watershed of the mine, was preferred.	There is no impact to watersheds. All disturbed areas are outside of drainage.
6. Community impacts.	No community impacts were preferred.	There is no impact to the community.
7. Capital construction cost.	Lower capital construction cost was preferred.	Capital cost is minimal since all earthwork materials are available on site. HDPE liner is available locally from Agru, Georgetown, SC.
8. Operating cost per year.	Lower operating cost per year was preferred.	Once built, operating cost is power to pump water to already constructed and localized water treatment ponds.
9. Minimal material haulage cost.	Lower haul cost was preferred.	Facilities are located close to active mine pits.
10. Additional land acquisition acreage.	No additional land acquisition acreage required for construction and operation was preferred.	There is no land acquisition for this modification.

Criteria	Preference	Result
11. Mineralization potential beneath facility	No mineralization potential beneath the facilities was preferred.	There is no mineralization under any of the proposed facilities, stockpiles or ponds.
12. Closure	Typical closure issues for conventional stockpiles were preferred.	There is no new or unique technical challenges or risks to closure.
13. Embankment volumes	Less embankment volume was preferred.	Minimal fill is required.
14. Embankment maximum height	Lower embankment maximum height was preferred.	Height was adjusted to minimize surface and visual impacts along major thoroughfares and highways.
15. Contact water pond area.	A minimum contact water pond area was preferred, to provide an appropriate volume for a 100 year – 24 Hr storm event.	Surface areas are adjusted to assure adequate volume was available for a 100 year – 24 hr. storm event and still maintain a minimum allowable freeboard.
16. Geotechnical constraints.	No geotechnical constraints were preferred	There are no geotechnical constraints.
17. Public safety	No public safety issues were preferred.	There is no impact to community right-of-ways.
18. Operator Safety	No operator safety issues were preferred.	There are minimal operator safety issues.

Construction Schedule



Conclusion

Haile is requesting approval to modify Mine Permit I-000601. A 12% additional fee is proposed to cover indirect costs. These include, but not limited to: 1) Overhead – Job site costs, home office costs and general conditions, Project Managers, Superintendents and other Support Staff, Office Trailers, Equipment and Supplies, Insurance, Office Salaries and other Miscellaneous Costs; 2) Equipment – Owned equipment and small tools, Depreciation, Repairs and Maintenance, Taxes and Insurance, and 3) Labor Burden - FICA Taxes, Workers Compensation, Federal and State Unemployment, Vacation and other Fringe Benefits.

The total proposed bond is: $7,932,050 plus 12% Indirect Costs - $ 951,850 = $8,883,900