ARCTIC MINE DEVELOPMENT PROJECT

USACE Permit Application Supplement

POA-2019-00081, Upper Kobuk River

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ACRONYMS AND ABBREVIATIONS

AMC	Ambler Metals LLC
CWA	Clean Water Act
EED	Environmental Evaluation Document
MP	milepost
TCC	Temporary Construction Camp
TMF	Tailings Management Facility
WOTUS	Waters of the United States
WRF	Waste Rock Facility

1.0 BLOCK 15. LOCATION OF THE PROJECT:

Table 1.1 Latitude and Longitude of Major Project Components

Project Component	Longitude W./Latitude N.
Mine Pit	-156.384/67.174
Tailings Management Facility (TMF)	-156.383/67.196
Waste Rock Facility (WRF)	-156.396/67.189
Overburden Stockpiles	-156.409/67.182
Waste Rock Collection Pond	-156.403/67.178

2.0 BLOCK 16. OTHER LOCATION DESCRIPTIONS:

Table 2.1 USGS Townships, Ranges, and Sections of Project

Township	Range	Section(s)*
18 North	9 East	6, 7, 17, 18, 20, 21
19 North	9 East	4, 5, 8, 9, 16, 17, 20, 29, 30, 31
19 North	10 East	5, 6
20 North	9 East	28, 33
20 North	10 East	1, 10, 11, 12, 15, 16, 17, 20, 29, 30, 31, 32
20 North	11 East	1, 2, 3, 4, 5, 6
21 North	10 East	35, 36
21 North	11 East	22, 23, 26, 27, 34, 35

* Kateel River Meridian

3.0 BLOCK 22. SURFACE AREA IN ACRES OF WETLANDS AND OTHER WATERS FILLED

The anticipated permanent direct impacts on wetlands and other waters (i.e., ponds and streams) that may be considered waters of the U.S. (WOTUS) from the discharge of dredged and/or fill material, are listed in Table 3.1 by Project component and Table 3.2 by watershed. For more detailed information, please see Tables 3.12, 3.13, and 3.14 in the Environmental Evaluation Document (EED).

Table 3.1 Direct Impacts to Wetlands and Other Waters by Project Component (acres)

Project Component	Direct Impacts To Wetlands and Other Waters
Camps (construction and permanent)	0.28
Mining Facilities[1] (open pit, process plant pond, overburden stockpile, waste rock collection pond and dam, topsoil stockpile and sedimentation pond, waste rock facility, tailing management facility, access corridor & tailings pipeline, etc.)	57.93
Processing Facility (operations pad)	11.07
Support Facilities (material sites)	34.06
Transportation (access and mining operational roads)	17.36
Total[2]	**120.71**

[1] Includes interstitial areas surrounded by mining components that have high potential for direct impacts/losses from discharges of dredged and/or fill material.
[2] Of the 120.71 total acres, 7.12 acres would be impacted streams, and 3.02 acres would be impacted open water (ponds). Over 80% of the impacted streams are less than 1 foot in width.

Table 3.2 Direct Impacts by Watershed (HUC 10) (acres)

Watershed	Camp	Mining Facilities	Processing Facilities	Support Facilities	Transportation	Total
Kogoluktuk River (1905030212)	0.28	--	--	11.36	5.68	17.32
Wesley Creek-Kobuk River (1905030215)	--	--	--	--	2.08	2.08
Shungnak River (1905030301)	--	57.93	11.07	22.71	9.60	101.31
Grand Total	**0.28**	**57.93**	**11.07**	**34.06**	**17.36**	**120.71**

4.0 BLOCK 23. Description of Avoidance, Minimization, and Compensation (Mitigation Statements)

Regulations and guidelines associated with Section 404 of the Clean Water Act (CWA) require project proponents to take measures to avoid or reduce adverse impacts on jurisdictional wetlands and other aquatic resources. Avoidance and minimization measures have been incorporated into the design and construction of the Project to the maximum extent practicable, consistent with 33 CFR Part 332 and 40 CFR Part 230. The purpose of the Mitigation Statements are to: (1) describe the proposed avoidance and minimization of impacts on aquatic resources within the Project area; and (2) identify proposed compensatory mitigation for unavoidable losses of aquatic resources from the construction of the Project.

4.1 Avoidance and Minimization

The geographic range for reasonable and/or practicable locations for the Project are limited to Ambler Metals LLC's (AMC's) Arctic Deposit mining leaseholds and the boundaries of the mineral resources that AMC intends to safely and economically produce. Given the purpose, size, and necessary infrastructure required to accomplish the Project, complete avoidance of WOTUS, including jurisdictional wetlands, cannot be achieved while meeting the Project purpose. The Project has been designed to avoid and minimize impacts on WOTUS and other resources wherever practicable through avoidance and minimization measures such as route refinement, construction methods, and selective siting of Project components. The following avoidance and minimization measures have been incorporated into the design and construction of the Project.

4.1.1 Design WOTUS Avoidance Measures

- The operations pad was designed to be compact and sited in a section of the Subarctic Valley with a high percentage of upland areas to avoid or minimize impacts to wetlands.

- The operations camp was sited to almost completely avoid wetlands; all other alternatives resulted in greater wetland impacts.

- Material Site 4 was selected as the site for the Temporary Construction Camp (TCC) to avoid the need for a separate construction camp pad. Further, the TCC would be converted into a laydown yard once operations commence, avoiding the need to build an additional equipment and materials transfer site.

- The North Route milepost (MP) 0.0 to MP 5.5 alignment was sited to avoid an area of the Ambler Lowlands with significant wetlands.

- AMC would use the existing Dahl Creek Airstrip for the Project to avoid constructing a new airstrip, thereby avoiding additional discharges of dredged or fill material into wetlands or other waters. Several aircraft transportation alternatives (e.g., airstrips) were evaluated for the Project; two identified alternatives would have resulted in wetland impacts (approximately five acres and greater than 40 acres).

4.1.2 Design WOTUS Minimization Measures

- AMC sited the North Route and South Route access roads on existing winter trails to the extent practicable to reduce the overall Project impact to undisturbed terrain. Road shoulder widths were reduced from 20 feet to 12 feet to reduce the overall Project footprint and associated impacts to wetlands and other waters.

- The proposed open pit would be located near a mountain ridgetop, which would avoid impacts to wetlands along the valley floor. The open pit was designed based on access to mineral resources, maintaining pit wall stability, minimizing waste rock, and minimizing disturbance to wetlands and other waters.

See *Section 4.1-Project Design and Siting Minimization Measures and Table 4.1- Design Features and BMPs to Avoid and Minimize Impacts* of the EED for a more comprehensive description of proposed impact minimization measures to wetlands and other environmental resources.

4.1.3 Compensatory Mitigation

The 2008 Final Rule on Compensatory Mitigation for Losses of Aquatic Resources requires that the District Engineer determines compensatory mitigation to be required in a permit based on what is practicable and capable of compensating for the aquatic resources functions that will be lost as a result of the permitted activity. Additionally, 33 CFR 320.4(r)(2) states that all compensatory mitigation will be for significant resource losses which are specifically identifiable, reasonably likely to occur, and of importance to the human or aquatic environment. Also, all mitigation will be directly related to the impacts of the proposal, appropriate to the scope and degree of those impacts, and reasonably enforceable.

In Alaska, implementation of regulations governing compensatory mitigation is further guided by a document titled Compensatory Mitigation Considerations for the U.S. Army Corps of Engineers, Alaska District Regulatory (USACE 2025b), and the 2018 MOA Between the Department of the Army and the EPA Concerning Mitigation Sequence for Wetlands in Alaska under Section 404 of the CWA.

The EPA's Section 404(b)(1) Guidelines (40 CFR Part 230) and the USACE Mitigation Rule (33 CFR Part 332) establish a mitigation sequence of avoidance, minimization, compensatory mitigation and requires that compensatory mitigation be evaluated in a watershed context. The regulations explicitly recognize that compensatory mitigation must be practicable, available, and provide a meaningful aquatic resource function replacement. Where compensatory mitigation would not meaningfully offset impacts, or where practicable mitigation options do not exist, the regulations and local procedures allow for alternative approaches.

The Project has been designed to avoid impacts on wetlands and other waters wherever practicable, and to minimize impacts where impacts are not avoidable consistent with the mitigation sequencing requirements of 33 CFR Part 332 and 40 CFR Part 230. Due to the location and number of wetlands and other waters within the Project area, complete avoidance of WOTUS is not practical.

The Project would impact a total of 1,767 acres, of which 120.7 acres are wetlands or other waters, over three HUC10 watersheds that are all located in an exceptionally remote and largely undisturbed region of Northwest Alaska. Table 4.1 lists all impervious surfaces and other ground disturbances in the watersheds both before and after completion of Project construction activities.

Table 4.1 Project Watershed Impacts

Watershed Name (HUC 10 #)	Total Watershed Acres	Impervious* Surface and Other Disturbed (acres)	% Disturbed Pre Project	Project* Footprint (acres)	% Disturbed Post Project
Kogoluktuk River (1905030212)	283,658	0	0.00%	212.6	0.07%
Wesley Creek–Kobuk River (1905030215)	235,951	28.6	0.01%	35.2	0.03%
Shungnak River (1905030301)	148,439	19.6	0.01%	1,519.4	1.04%
Total Area	**668,048**	**48.1**	**0.01%**	**1,767.2**	**0.27%**

*Includes disturbances to both upland and wetland areas

At the watershed scale, these impact percentages are relatively de minimis and well below thresholds typically associated with measurable degradation of watershed hydrology, water quality, or aquatic habitat function. Most importantly, over 98.96–99.97% of each watershed would remain completely undisturbed; the affected watersheds would retain intact hydrologic connectivity, sediment regimes, and ecological processes; and there would be no cumulative watershed degradation to offset or remediate. From a watershed standpoint, there would be no measurable watershed-scale functional deficit requiring compensatory mitigation, as the overall aquatic systems would continue to function as largely intact, pristine systems.

The Project is in one of the most remote regions of Alaska, presenting fundamental constraints on compensatory mitigation practicability. There are no mitigation banks or approved in-lieu fee programs with service areas near the applicable watersheds. Compensatory mitigation presupposes the existence of previously degraded aquatic resources suitable for restoration or enhancement, or other opportunities to re-establish lost functions. In the Ambler Mining District, there is little to no historical disturbance to watersheds at a scale relevant to mitigation opportunities. Existing aquatic systems are already performing at a near-natural condition. There are no impaired streams or wetlands where restoration would result in measurable functional lift. As a result, if available, restoration or enhancement projects would be speculative, unlikely to produce measurable functional lift, or could introduce artificial disturbance into otherwise intact systems. Creation of new aquatic resources would risk ecological unsustainability and/or functional failure. Compensatory mitigation of this type would represent disturbance for the sake of mitigation, rather than a true offset of functional losses. The 2018 USACE/EPA Memorandum of Agreement regarding compensatory mitigation in Alaska recognizes that compensatory mitigation is not always appropriate or practicable in remote regions of Alaska.

The Project will be required by the State of Alaska to have a mine reclamation plan. The reclamation strategy would restore Project-affected aquatic features in place and maintain watershed integrity and hydrologic continuity to the extent practicable,

including re-establishment of stable drainage patterns, hydrologic connectivity, and native vegetation where feasible. The reclamation plan would avoid creating new disturbances elsewhere in the watershed and would be fully controlled by AMC. From a regulatory standpoint, reclamation aligns with the goal of no net loss of aquatic resource function, is proportionate to the limited and localized impacts, and is tailored to the specific location and impacts associated with the Project.

The extremely low proportional disturbance (≤1.04%) across three largely pristine watersheds, coupled with the absence of mitigation banks, in-lieu fee programs, and disturbed aquatic resources suitable for restoration, means compensatory mitigation would not provide ecological benefit. In consideration of the minimal magnitude of impacts, the intact watershed conditions, and the extensive avoidance and minimization measures incorporated into the Project design, the need for compensatory mitigation is not anticipated.

This conclusion is consistent with the 2018 MOA between USACE and EPA Section II. Policy, Part B, Guiding Principles, which recognizes that restoring, enhancing, or establishing wetlands for compensatory mitigation may not be practicable due to limited availability of sites and/or technical or logistical limitations. It is also consistent with Part III B of the MOA discussing Minimization: "With respect to the mitigation sequence, where neither avoidance nor compensatory mitigation is practicable, minimizing impacts will be the primary means of satisfying compliance with the Guidelines."

5.0 BLOCK 25. Addresses of Adjoining Property Owners

Table 5.1 provides the individuals, agencies, and organizations that own properties adjoining the proposed Project.

Table 5.1 Adjacent Property Owners

Property Owner	Mailing Address	City	State	Zip Code
NANA Regional Headquarters	P.O. Box 49	Kotzebue	AK	99752
Alaska Department of Transportation and Public Facilities, Northern Region	2301 Peger Road	Fairbanks	AK	99709
H/D of Mabel S. Brown – May Jane Bernhardt	C/O William Bernhardt 51008 Main Street	Kobuk	AK	99751
Bernice Custer	913 22nd Avenue	Fairbanks	AK	99709
Kennecott Utah Copper	4700 Daybreak Parkway	South Jordan	UT	84009
Alaska Department of Natural Resources, Northern Region	3700 Airport Way	Fairbanks	AK	99709

6.0 Additional Information to Support NEPA and Permit Decision Making

The Project has undertaken more than a decade of data collection and analysis to support the environmental review and permitting processes. This work is reflected in this EED. AMC is undertaking additional studies to further define the baseline environment and potential effects in areas expected to be the focus of the NEPA analysis and Federal and State permitting, including:

- Refining the Water Resources Management Plan to finalize the hydrologic, hydrogeologic, and geochemical baseline and predictions of potential effects on water resources.
- Preparing an air quality technical report that further describes emission sources, controls, and modeled compliance with air quality standards, this will also support issuance of the air quality permits.
- Completing remaining field work to support the cultural resources evaluation and conducting an evaluation of potential traditional cultural properties/landscapes.
- Finalizing an updated study of subsistence resources and effects, including coordination with NANA and regional stakeholders.
- Building upon the socioeconomics study previously completed, working with NANA to develop a social impact evaluation of potential effects on local stakeholders and communities.

All of this work will be completed and delivered to USACE in 2026.