STATE OF ALASKA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER

PRELIMINARY DECISION

ADL 232362 Material Site
ADL 232336 Donlin Gold LLC Material Sale
Material Site Designation and Application for Negotiated Material Sale
AS 38.05.550-555

This Preliminary Decision (PD) is the initial determination on a proposed disposal of materials and is subject to comments received during the public notice period. The public is invited to comment on this PD. The deadline for commenting is **5:00 PM** on **March 29, 2019**. Please see the Comments section of this decision for details on how and where to send comments for consideration. Only the applicant and those who comment have the right to appeal the Final Finding and Decision (FFD).

Proposed Action:

The Department of Natural Resources (DNR), Division of Mining, Land and Water (DMLW), Southcentral Regional Land Office (SCRO) has received an application from Donlin Gold LLC (Donlin) for a material sale contract, serialized as ADL 232336, to extract 65,400 cubic yards (cy) of rock within a 5.1-acre area, identified by Donlin as "Material Site 9 (MS-9)." The material will be used for construction of the roads, airstrip, port and associated facilities in support of the proposed Donlin Gold project. (Figure 1.) The proposed material sale is located on state land within Sections 21 and 22, Township 21 North, Range 50 West, Seward Meridian.

Donlin's material sale application required DMLW to initiate the process of designating the source or location of the material as a material site, serialized as ADL 232362, as required by Alaska Statute (AS) 38.05.550(b). DMLW is considering designating a larger material site (30 acres) than the requested material sale contract because of the potential need by Donlin for more rock, dependent on the availability of material during construction of the proposed mine and associated support facilities. This designation will allow for issuance of the material sale contract, ADL 232336, to Donlin for up to 5 years and the sale of 65,400 cy of material at the representative regional sales price (RRSP), currently $3.00/cy for rock, and the subsequent issuance of material sale contracts under AS 38.05.550-565 for the site. The proposed material site is located on state land within Sections 21 and 22, Township 21 North, Range 50 West, Seward Meridian.

Background:

Donlin Gold LLC is a limited liability company that is owned equally by Barrick Gold U.S., Inc. and NovaGold Resources, Alaska, Inc. Donlin is proposing to develop an open pit, hard rock gold mine, referred to as the Donlin Gold Project (project), that would be located 10 miles north of the community of Crooked Creek and approximately 145 miles northeast of Bethel, Alaska. The open pit portion of the mine will be located on private land owned by The Kuskokwim Corporation and the subsurface estate containing the ore deposits to be mined is owned by the Calista Corporation. The mine is expected to take three to four years to construct, and Donlin plans to produce over 33 million ounces of gold during the life of the mine, estimated at approximately 27.5 years. Donlin foresees employing up to 3,000 people during mine construction and up to 1,400 people annually during mine operations.

Materials and supplies will be transported to the mine site via barges on the Kuskokwim River from a proposed port facility (Jungjuk Port; ADL 232200). The port will be connected to the mine site by a proposed road (Donlin-Jungjuk Road and Airstrip Spur Road; ADL 232346). The proposed airstrip (ADL 232199) will also be connected to the proposed road and will provide an additional way to access the mine and related infrastructure. To date, DMLW has received multiple applications from Donlin to obtain authorizations for the use of state land and water and for mining operations. DMLW's SCRO will be responsible for adjudicating separate authorizations to construct improvements or extract material on state land associated with the proposed mine, and consisting of:

- ADL 232199 – Lease for an airstrip and associated infrastructure;
- ADL 232200 – Lease for a port facility;
- ADL 232334/ADL 232360 – Material Sale Contract/Material Site;
- ADL 232335/ADL 232361 – Material Sale Contract/Material Site;
- ADL 232336/ADL 232362 – Material Sale Contract/Material Site;
- ADL 232337/ADL 232363 – Material Sale Contract/Material Site;
- ADL 232338/ADL 232364 – Material Sale Contract/Material Site;
- ADL 232339/ADL 232365 – Material Sale Contract/Material Site;
- ADL 232340/ADL 232366 – Material Sale Contract/Material Site;
- ADL 232346 – Easement for access roads;
- ADL 232368 – Easement for a fiber optic cable;
- LAS 31107 – Land Use Permit for a temporary access road;
- LAS 31108 – Land Use Permit for a temporary access road.

Additional applications may be received from Donlin for other projects related to the proposed Donlin Gold Project.

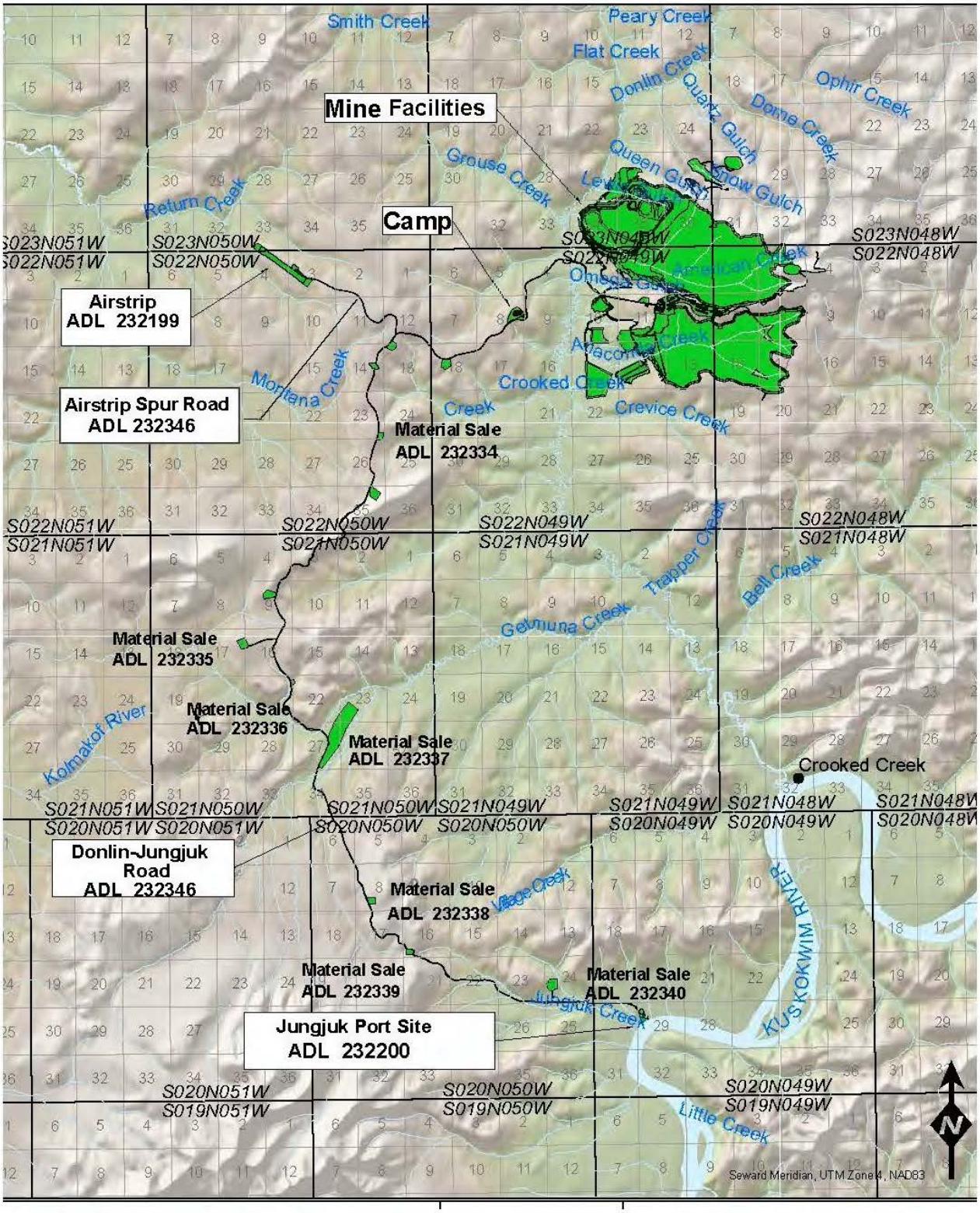


Figure 1. A representation of the proposed material sale sites within the Donlin Gold Project area.

Scope of Review:
The scope of this PD is limited to a determination of whether it is the State's best interest to designate the material site and to issue a material sale contract to Donlin for the site.

Authority:
The designation of material site ADL 232362 is being adjudicated pursuant to AS 38.05.550 Disposal of Materials; AS 38.05.035(e) Powers and Duties of the Director; and AS 38.05.945 Notice. Material sale contract ADL 232336 is being adjudicated pursuant to AS 38.05.555 Negotiated Sales of Materials; AS 27.19 Reclamation; 11 Alaska Administrative Code (AAC) 97 Mining Reclamation; and 11 AAC 71 Timber and Material Sales.

The Director of DMLW is authorized by AS 38.05.550 to designate material sites and the sale of materials for the State of Alaska. Under AS 38.05.035(b)(1) and Department Order 003, the Director has subsequently delegated authority to the Regional Managers of DMLW to designate material sites and execute material sale contracts.

Administrative Record:
The case files for material site ADL 232362 and material sale ADL 232336 constitute the administrative record for this Donlin material sale application.

Legal Description, Location, and Geographical Features:
The state land where this proposed material site and material sale contract are located is described as follows:

- **Legal description:** Sections 21 and 22 of Township 21 North, Range 50 West, Seward Meridian
- **Geographical Location:** Mile 14.6 of the proposed Donlin-Jungjuk Road
- **Approximate Lat/Long:** 61.8956N, 158.4398W
- **Area Geographical Features:** Kuskokwim mountains, tundra and shrubs
- **Existing surveys:** None
- **Municipality/Borough:** Unorganized Borough
- **Native Corporations/Federally Recognized Tribes:** Calista Corporation, The Kuskokwim Corporation, and the Village of Crooked Creek
- **Size**: Material Site – 30 acres, more or less; Material Sale - 5.1 acres, more or less

Title:
The State of Alaska holds fee title to the subject land under GS 6423, Tentative Approval No. 2008-0061, dated January 7, 2008, with the usual reservations for ditches or canals. A DNR Title Report (RPT-10874) issued on June 29, 2018 from DMLW's Realty Services Section attests that the State of Alaska holds title to the subject land.

Third Party Interests:
There are no known third party interests within the boundary of the proposed material site.

Classification and Planning:

A proposed Amendment to DNR's Kuskokwim Area Plan (KUAP) and a Land Classification Order (No. SC-88-001A21) have been drafted by DMLW's Resource Assessment and Development Section to address management of state land and unclassified land within the proposed Donlin project area and includes land where Material Site 9 is located, the KUAP's Subunit 10b. The proposed Area Plan Amendment and Land Classification Order is being issued for public comment concurrently with this PD. Information on how to comment on the proposed Area Plan Amendment and Land Classification Order can be found on the Alaska Online Public Notice System.

Traditional Use Findings:

Per AS 38.05.830, prior to a sale, lease or other disposal of state land that is located within an unorganized borough, the effects of the proposed disposal on "the density of the population in the vicinity of the land, and potential for conflicts with the traditional uses of the land" shall be considered. Traditional activities within the general area of the proposed Donlin mine project include subsistence activities, hunting and fishing, trapping, and mining. Possible impacts to traditional use activities from the proposed material site and sale may include impacts to fish and wildlife populations and/or habitat, increased competition for subsistence resources, and restrictions on access to resources.

Donlin has developed the following mitigation measures to address effects on traditional use activities: best management practices; compliance with regulations and standard permit requirements; design and construction of infrastructure; federal agency considered mitigation methods; compensation for impacts such as providing substitute resources; monitoring and adaptive management; following guidance of the final Donlin Gold Project Environmental Impact Statement dated April 2018; and coordination with the public, and state and federal agencies. Further, Donlin will be subject to DMLW's standard and site-specific material sale contract and stipulations, and other stipulations that may be generated as a result of the public notice process.

Access:

Current access to the proposed material site is via the Kuskokwim River, all-terrain vehicles and aircraft. Donlin proposes to construct the Donlin-Jungjuk Road that will connect the proposed Jungjuk Port on the Kuskokwim River to the mine site, and the road will include a branch (the Airstrip Spur Road) to provide access to the private airstrip. The proposed material site will be located at mile 14.6 of the Donlin-Jungjuk Road, and it is anticipated that all future access to and from the material site will be via the Donlin-Jungjuk Road.

Scoping Notice:

A Scoping Notice was conducted on August 31, 2016. The comment period closed October 17, 2016. The purpose of the Scoping Notice was to inform interested parties, and receive public input,

on the Donlin applications received by DMLW. The information gained as a result of the Scoping Notice has been considered in preparing this PD. The 11 comments submitted serve to inform the decision-making process on the Donlin applications under consideration, however, they are not addressed or being responded to in this PD nor the FFD for this material sale and site.

Agency Review:

Two Agency Reviews were conducted for the proposed Donlin authorizations. The first Agency Review was conducted on June 28, 2016, and the deadline to submit comments was August 12, 2016. The second Agency Review was conducted on February 27, 2018, and the deadline to submit comments was April 2, 2018.

The following agencies were included in the reviews:

- DNR DMLW - Mining
- DNR DMLW - Water
- DNR DMLW - Survey
- DNR DMLW - Resource Assessment and Development
- DNR DMLW - Land Sales
- DNR Division of Parks and Outdoor Recreation (DPOR)
- DNR DPOR Office of History and Archaeology, State Historic Preservation Office
- DNR Division of Oil and Gas (DOG)
- DNR Division of Agriculture
- DNR Parks and Outdoor Recreation
- DNR Office of Project Management and Permitting
- Alaska Department of Fish and Game (ADF&G) – Division of Habitat
- ADF&G – Division of Wildlife Conservation
- Alaska Department of Environmental Conservation (ADEC)
- Alaska Department of Transportation and Public Facilities
- Alaska Department of Commerce, Community and Economic Development
- U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service
- U.S. Department of Homeland Security, Coast Guard
- U.S. Department of the Interior, Bureau of Land Management
- U.S. Department of Transportation, Pipeline & Hazardous Materials Safety Administration
- U.S. Department of Defense, Army Corps of Engineers
- U.S. Department of the Interior, Fish & Wildlife Service (USFWS)
- U.S. Environmental Protection Agency

During the 2016 Agency Notice, the only comment DMLW received was from the USFWS. During the 2018 Agency Notice, a comment from ADEC was received concerning the location of

a known contaminated site near the easement alignment proposed in ADL 232368; this comment was outside the scope of this PD.

USFWS Comment:

"The U.S. Fish and Wildlife Service (Service) provides the following permit specific recommendations, in response to the Donlin Gold Mine lease permits applications to the State of Alaska. The following permit-specific recommendations provide consistency in our recommendations on this project to the state and the U.S. Army Corps of Engineers. We look forward to continuing to provide engagement with the state to support early project planning to avoid and reduce project related impacts on fish and wildlife.

Disturbance Areas

- To expedite succession of functional habitat, we suggest salvaging and re-spreading topsoil over disturbed areas of surrounding facilities and along barrow ditches of access roads. The first 10-12 inches of soil contains site specific native seed and organic matter that will ultimately conserve resources and promote infill with native vegetation. We suggest salvaging the organic topsoil (by soil type) and spreading the topsoil (by soil type) back over the disturbed areas after construction. Topsoil should be signed as topsoil and stored in a manner that will keep it viable until it is spread back over the disturbed site.
- If placement of materials such as riprap is implemented to stabilize stream banks above or below stream crossings, use topsoil to fill the voids between the stones and seed the surface with native grasses and/or forbs to provide some habitat value and help stabilize the rock.
- Incorporate erosion control measures to reduce erosion on cut and fill slopes and to prevent sediment from entering wetlands/waterways.
- Provide a noxious weed prevention plan to avoid the establishment and spread of undesirable non-native vegetation in disturbed areas.

Avian Habitat Protection

- To protect migratory birds, avoid clearing previously undisturbed ground cover or vegetation during the nesting season. See the attached document, "Land Clearing Timing Guidance for Alaska", for the appropriate dates.
- Recommend a disturbance buffer of 660 feet for eagle nests, and to avoid blasting and other activities that produce extremely loud noises with 0.5 mile of bald eagle nests (or within 1 mile in open areas), unless greater tolerance to the activity (or similar activity) has been demonstrated by the eagles in the nesting area."

SCRO Response:

Donlin has been made aware of this comment through this PD. Further, Donlin is advised to follow all local, state, and federal laws, and the conditions of necessary related authorizations for the protection of fish and wildlife habitat within the proposed project area.

Material Site Discussion:

According to its September 2015 "Material Sites Plan of Development (MSPD)," Donlin anticipates utilizing 13 material sites for construction of the Donlin-Jungjuk Road, the Airstrip Spur Road, the airstrip and Jungjuk Port. Donlin anticipates the material sites will be opened and used early in the life of the Donlin gold mine project.

The material sites will be located at regular intervals along the proposed Donlin-Jungjuk Road (Figure 1.). Seven of the 13 material sites are located on state land. For the six other material sites, Donlin has agreements to access and use the materials from the Kuskokwim Corporation, which owns the surface estate, and the Calista Corporation, which owns the subsurface estate.

The MSPD anticipates that Donlin's material sale sites on state land will total approximately 373.5 acres, and with an anticipated removal of 3,308,400 cy of material from these seven sites. Each of the seven material sites on state land and their associated sales have been assigned individual ADL numbers and will have separate decision documents.

AS 38.05.550-565 requires a material site be designated prior to sale or removal of materials on state land and execution of material sale contracts. Donlin submitted seven material sale contract applications in October 2015 which initiated the process for DMLW to designate the source of the material as a material site.

For Donlin's ADL 232336 material sale contract at Material Site 9 (ADL 232362), DMLW proposes to designate the ADL 232362 material site as a 30-acre site. (Figure 2. and Attachment A.) This would provide for issuance of the ADL 232336 material sale contract to Donlin and allow for more extraction area if needed by Donlin, and also allow the site to be available to the public or private sector to submit applications to extract material from the site. The proposed ADL 232362 material site would be accessed from the Donlin-Jungjuk Road. Donlin's request that the Donlin-Jungjuk Road be private and exclusive to Donlin is under consideration by DMLW.

Material Sale Discussion:

The proposed Donlin material sale contract ADL 232336 for Material Site 9, to be located at milepost 14.6 of the Donlin-Jungjuk Road, anticipates excavating 65,400 cy of rock (weathered bedrock and surface material) within 5.1-acres, more or less. In accordance with AS 38.05.555(b),the material will be sold to Donlin at the current representative regional sales price (RRSP), which currently is $3.00 per cy for rock in the Kuskokwim region. If the RRSP changes, the new RRSP will apply to the material sale contract as of the effective date of the price change.

Donlin is expected to inspect the material site and familiarize itself with the condition, quantity and quality of the material. The State makes no representation and no warranties, expressed or implied, concerning the material to be extracted under the ADL 232336 contract.

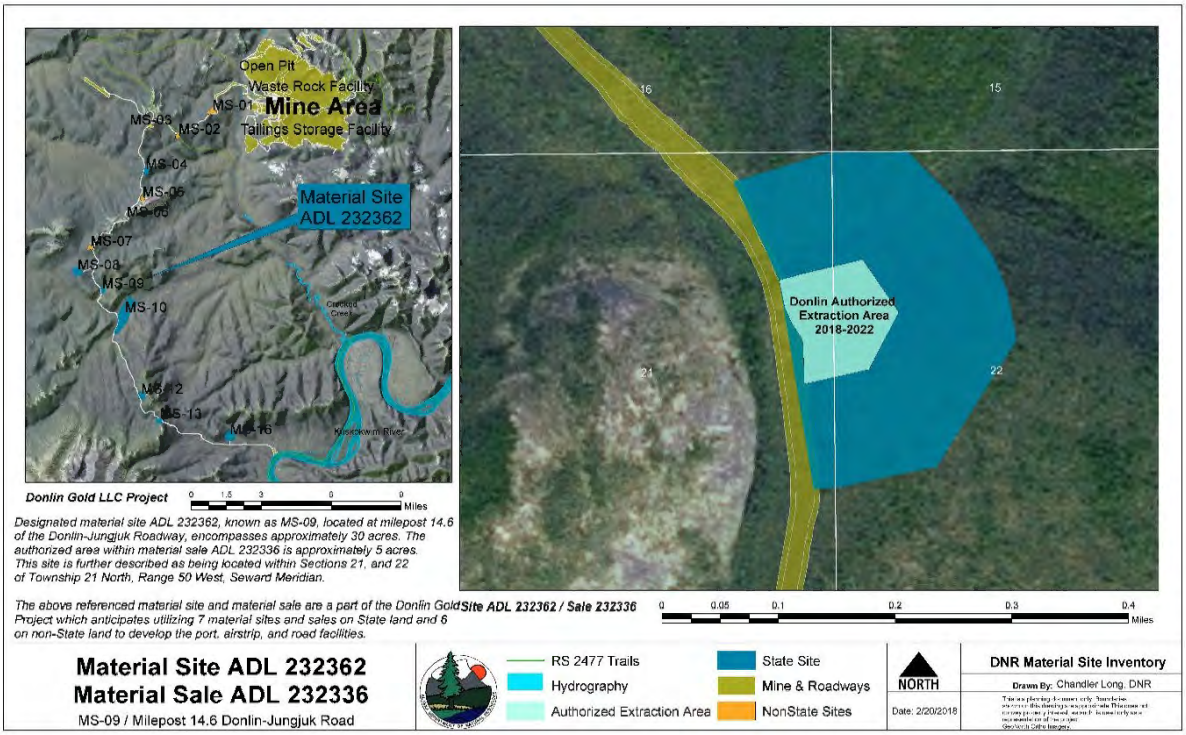


Figure 2. A representation of the Material Site 9 and material sale locations.

Donlin's MSPD describes the equipment that may be required for material site operations, which could vary based on future detailed engineering designs. Donlin anticipates the temporary storage of fuel on site for material site equipment. However, the extent of laydown and staging, storage, man-camps, batch plants, or equipment maintenance operations is unknown.

Activities determined to be outside the scope of this decision, including for example stockpiling material, fuel or explosive storage, vehicle or equipment storage, or work/construction camps, may require a separate authorization (such as a land use permit or prior written letter of approval) from DMLW.

Donlin describes its mining method at this material site as "primarily drill and blast with limited ripping near surface." Material excavation would begin at the top of the exposed ridge at approximately 722 feet, proceed in a top-down fashion to approximately 650 feet, and intermediate dig faces with 10-foot catch benches would be constructed every 20 feet, during development of the quarry wall, and with a typical overall slope angle in competent bedrock at a ratio of 1:1. Donlin describes the rock as "suitable for crushing and road wear course."

Donlin must notify DMLW when a contractor or subcontractor has been selected to perform work in the material site on behalf of Donlin. The contractor must submit a site specific operating plan and site diagram, including specifications for blasting or other material extraction methods, that

must be approved by DMLW before work commences. The contractor must comply with all requirements of the proposed material sale contract issued to Donlin.

Compliance with the terms of the contract will be assessed annually. On or before December 31 of each year the contract is in effect, Donlin will be required to submit an Annual Accounting Voucher that details the amount of material removed during the calendar year (from January 1 through December 31) and remit payment for the value of the material extracted. Upon expiration or termination of the material sale contract, a completion report detailing events over the course of the contract term will be required.

Development Plan:

Donlin's September 2015 MSPD with excerpts pertinent to MS-9 is attached to this decision and is under consideration by DMLW. Should the proposed material sale contract be granted, it is anticipated the MSPD may need to be updated throughout the life of the contract as activities are added or subtracted. Donlin or its contractor must submit and receive approval for a site plan prior to commencing operations. All updates must be approved, in writing, by DMLW before any construction, deconstruction, or change in activity will be permitted. DMLW reserves the right to require additional agency review and/or public notice for changes which are deemed by DMLW to be beyond the scope of this decision.

Hazardous Materials and Potential Contaminants:

Donlin submitted an environmental risk questionnaire with the material sale application, which states there are no known environmental contaminants within the proposed material sale area. Donlin or its contractor may request storing independent fuel containers on site during operations. According to Donlin's MSPD, there will be temporary fuel storage at the site for material extraction equipment, spill response equipment would be available, and personnel would be trained in spill response strategies. Independent fuel storage may require an additional authorization such as a permit or written approval from DMLW prior to commencing this use.

Adherence to standard material sale contract operating requirements will minimize the risk of leaks or spills. Donlin is expected to follow ADEC's Best Management Practices for Gravel/Rock Aggregate Extraction Projects, and must adhere to all ADEC environmental regulations, including but not limited to: checking for leaks, the use of duckponds during refueling, and secondary containment of the tanks.

The use and storage of all hazardous substances must be done in accordance with existing federal, state, and local laws. Debris (such as soil) contaminated with used motor oil, solvents, or other chemicals may be classified as a hazardous substance and must be removed from the material site and disposed of in accordance with state and federal law.

Donlin is expected to inspect the material site and familiarize itself with the condition and quality of the land. DMLW makes no representations and no warranties, express or implied, concerning the existence or absence of any hazardous substances, hazardous wastes, contaminants, or pollutants on the land here proposed for material site designation and material extraction. The State of Alaska does not assume liability for the removal of hazardous substances, hazardous wastes, contaminants, or pollutants, nor for the remediation of the site should such substances ever be identified.

Performance and Reclamation Guaranty (Bonding):

In accordance with AS 38.05.035, AS 38.05.860, AS 27.19.040, 11 AAC 96.060, 11 AAC 71.095 and 11 AAC 97.400, Donlin will be required to submit a performance guaranty and reclamation bond for the material sale to incentivize performance of the conditions of the material sale contract and to provide a mechanism for DNR to ensure the purchaser shares the financial burden in the event of noncompliance for site cleanup, restoration, and any associated costs after termination or expiration of the material sale contract. It is anticipated that these bond amounts will be included as a letter of credit or other instrument approved by the Department and covered under one bond submitted to the State for the Donlin applications. The following bonds will be required.

- **$10,000.00 Performance Bond:** Performance guaranties provide a means to pay for corrective action if the buyer fails to comply with contract requirements. In accordance with 11 AAC 71.095(b)(3) and (d), Donlin will be required to submit a performance guaranty at 5% of the total value of the sale, rounded to the nearest $1,000. The total value of the material sale is projected to be $196,200.00, based on 65,400 cy at the current RRSP of $3.00 per cy. If the RRSP changes or the amount of material to be extracted changes, the amount of the performance bond will be adjusted accordingly.

- **$4,500.00 Reclamation Bond:** Reclamation bonds are necessary to ensure the performance of the requirements of the approved reclamation plan and provide a means to pay for corrective action if the buyer fails to comply with reclamation requirements. In accordance with 11 AAC 97.415 and .420, Donlin will be required to submit a reclamation bond at $750 for each acre of mined area, with the acreage rounded up to the next whole number. The material mining operation at this site is anticipated to disturb 5.1 acres, which results in a $4,500.00 reclamation bond. The reclamation bond will remain in place until reclamation of the material sale area is completed to the satisfaction of DMLW.

Insurance:

In accordance with 11 AAC 96.065, Donlin will be required to submit proof of liability insurance to DMLW, with the State of Alaska listed as a "NAMED" insured party. Donlin will be responsible for maintaining such insurance throughout the term of the material sale contract.

Survey:
Donlin will be required to complete an "initial material site pre-condition field survey" prior to beginning extraction, and an annual "post condition survey" each subsequent year for a site used in the prior year. Donlin or its surveyor shall request survey instructions from DMLW's Survey Section and arrange for an in-person or telephone conference to discuss survey requirements. The surveys will be reviewed and must be approved by DMLW. A survey instruction fee per 11 AAC 05.240 may be applicable.

Generally, the initial pre-condition field survey will include ties to monuments which orient the material site in the correct position within the section, township and range and installation of secondary monuments which control the local material site limits horizontally and vertically. Adequate reproducible point data will be surveyed to create 2-foot contours over the entire site; and feature data of the area to include the interface between the original undisturbed ground and disturbed ground.

The post condition survey will include but may not be limited to the gathering of sufficient data from the site for cut and fill volume computation as per the instructions. Volume of cut of each site will be produced using the Composite method of volume computation.

Compensation and Deposit:
In accordance with AS 38.05.555(b), the negotiated sale of materials on state land may be sold at the RRSP that is periodically determined by the commissioner for each type of material and for defined geographic regions "unless the applicant, at its own cost, elects to provide an appraisal, acceptable to the department, determining the fair market value of the materials to be sold." Under 11 AAC 71.090(c) Pricing for sale of materials, the current RRSP for rock within the Kuskokwim region is $3.00 per cy. Donlin must submit payment and an accounting for material removed at the end of each calendar year.

If the RRSP changes after this PD or after the FFD, then the new price will apply to the material sale contract. If the RRSP changes during the term of the material sale contract, the new price will apply to the material remaining to be extracted under the contract as of the effective date of the price change.

In accordance with 11 AAC 71.045(d), for a negotiated material sale contract, the applicant must provide a deposit of at least 10% of the negotiated price. This regulation provides that "if the purchaser removes and pays for at least 75 percent of the material volume covered by the contract, the deposit may be applied, in whole or in part, to the final payment that becomes due under the contract."

- **$19,620.00 Initial Deposit:** Initial deposits provide a means to rectify accounts if the buyer fails to extract at least 75% of the authorized volume. Donlin will be required to submit an initial deposit of $19,620.00, which is 10% of the $196,200.00 total projected value of the sale, at the current RRSP of $3.00 per cy yard for 65,400 cy of material. If the RRSP changes or the amount of material to be extracted changes, the amount of the initial deposit will be adjusted accordingly.

Reclamation:

In accordance with AS 27.19.020 Reclamation standard, "a mining operation shall be conducted in a manner that prevents unnecessary and undue degradation of land and water resources, and the mining operation shall be reclaimed as contemporaneously as practicable to leave the site in a stable condition." In order to authorize a material sale contract, DMLW must have an approved reclamation plan or letter of intent. If executed, the material sale contract may include an approved reclamation plan.

Donlin's August 2018 Reclamation Plan for this material site is attached to this PD. Donlin's plan includes measures for concurrent reclamation and final reclamation, prevent unnecessary degradation of land and water during material extraction, weed and invasive species control practices, and separately stockpile topsoil and stripped overburden. Donlin's plan acknowledges its reclamation responsibility for the disturbance resulting from its material extraction activities.

Once Donlin has sourced a contractor, a final reclamation plan will be provided to DMLW for review and approval.

Public Notice of the Preliminary Decision:

Pursuant to AS 38.05.945, this PD will be advertised for a 60-day public comment period. Notice will be posted on the Alaska Online Public Notice System at http://aws.state.ak.us/OnlinePublicNotices/Default.aspx and the post offices located in Crooked Creek, Red Devil, Sleetmute, Holy Cross, Aniak, and Bethel. Courtesy notices will also be mailed or emailed to neighboring property owners, DNR permit or lease holders, and other interested parties on January 28, 2019 for a 60-day public comment period.

Comment(s):

This PD is subject to both public and agency comments, and all comments received by the comment deadline will be considered in the FFD. Only those who comment and the applicant have the right to appeal the FFD.

Written comments on this PD must be received in this office no later than 5:00 PM on March 29, 2019 to be considered.

To submit comments, please choose one of the following methods:

Postal: Department of Natural Resources
Division of Mining, Land and Water
Southcentral Regional Land Office
ATTN: Donlin Team
550 West 7th Avenue, Suite 900C
Anchorage, AK 99501-3577

Email: dnr.scro.donlin@alaska.gov

Website: http://dnr.alaska.gov/mlw/notice/donlin/

Fax: (907) 269-8913

Questions regarding the proposed material site or material sale can be directed to Linda Mueller at (907) 269-8111.

If public comments result in significant changes to the Preliminary Decision, additional public notice will be given. To be eligible to appeal the Final Finding and Decision, a person must provide written comments during the Preliminary Decision comment period per AS 38.05.035(i)-(m).

Signature page follows

Recommendation:

DMLW has completed a review of the information provided by the applicant, examined the relevant land management documents, and has found the proposed material site designation and material sale are consistent with all applicable statutes and regulations. This decision also considers the submitted agency comments. DMLW considered three criteria to determine if the proposed material site designation and material sale provide the best interest to the State and the development of its natural resources. The criteria include direct economic benefit to the State, indirect economic benefit to the State, and encouragement of the development of the State's resources. Collection of the one-time filing fee and compensation of $196,200.00 for the projected total material sale represent the direct economic benefit realized by the State. Additional direct economic benefits realized by the State may be collection of fees and compensation from potential future material sale contracts at this site. The proposed material site designation and material sale

to Donlin represent an indirect economic benefit to the State, such as jobs and increased economic activity regionally and statewide. This proposed authorization is in the State's best interest as it furthers development of the State's natural resources. As there are no competing projects that are incompatible with designating this material site or the proposed material sale contract, and in consideration of the benefits to the State described above, it is recommended that DMLW designate the ADL 232362 material site and authorize the ADL 232336 material sale contract.

Linda Mueller, Natural Resource Specialist III — January 24, 2019 Date

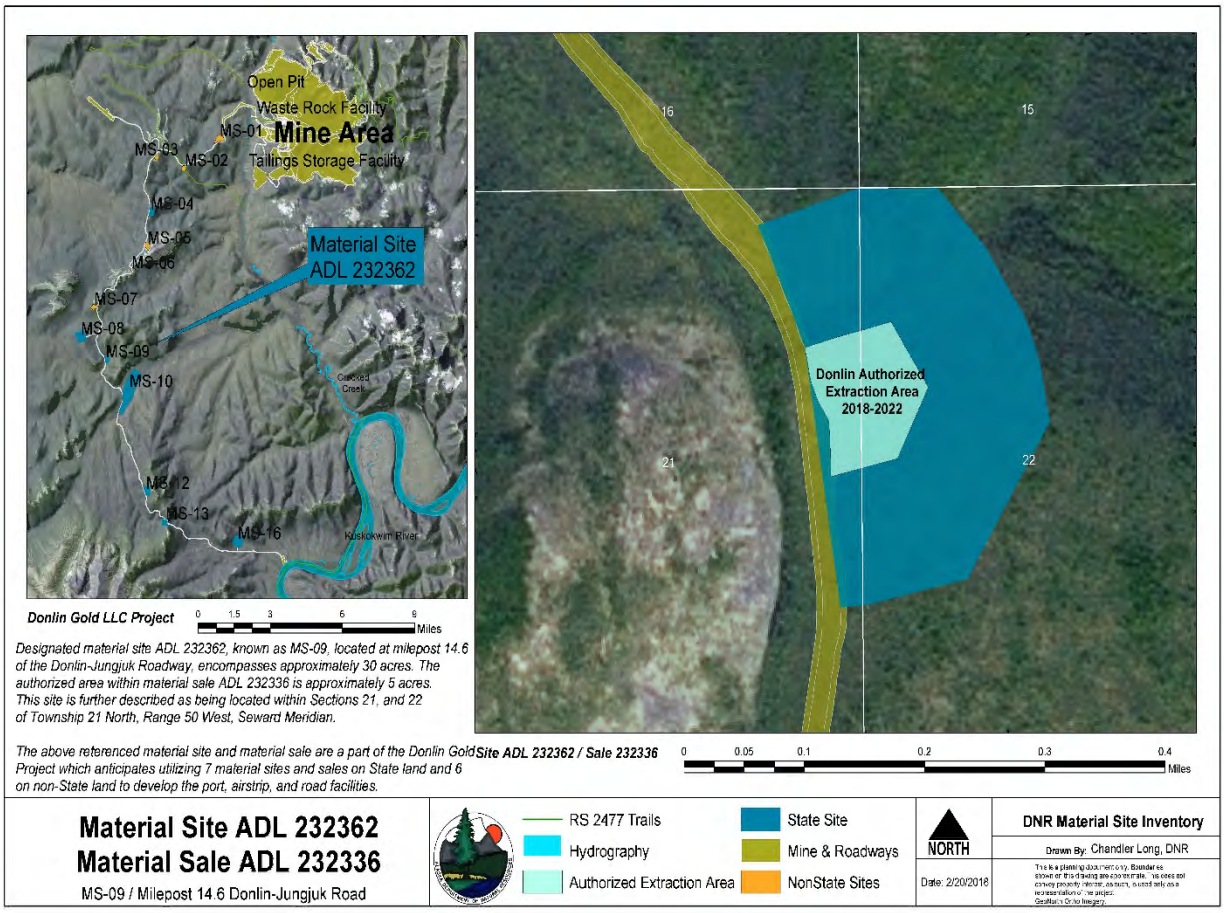
Preliminary Decision:

It is the determination of the Division of Mining, Land and Water that it may be in the State's best interest to designate material site ADL 232362, and to issue material sale contract ADL 232336 to Donlin for a term of up to 5 years, for 65,400 cy of material at the current RRSP, and subject to the conditions described in this document, operating requirements, and standard material sale contract terms. Donlin will be required to submit a $10,000.00 performance bond, a $4,500.00 reclamation bond, an initial deposit of $19,620.00, and complete the required survey(s). Additionally, Donlin will be required to submit proof of insurance to DMLW, with the State of Alaska listed as a "NAMED" insured party. This PD is based on information as of the date of this PD. DMLW reserves the right to modify the terms and conditions of the proposed material sale contract as set forth in this PD in accordance with changes, if any, including but not limited to Donlin's proposed material extraction or the RRSP, that occur subsequent to this PD and prior to execution of the material sale contract. This application shall now proceed to public notice.

for Clark Cox, Regional Manager — 1/25/19 Date
Southcentral Regional Land Office, Division of Mining, Land and Water

Attachments: Attachment A – Material Site and Material Sale Areas
Attachment B – Material Sites Plan of Development
Attachment C – Reclamation Plan Material Site 9

Attachment A
Material Site and Material Sale Areas



Attachment B
Material Sites Plan of Development

Material Sites Plan of Development

Donlin Gold Project

September 2015

DONLIN GOLD

4720 Business Park Blvd. Suite G-25
Anchorage, Alaska 99503

Prepared By:

SRK Consulting (U.S.), Inc.
4700 Business Park Blvd. Suite E-12
Anchorage, Alaska 99503

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Material Sites Plan of Development

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Acronyms

ABA	acid based accounting
ADNR	Alaska Department of Natural Resources
ADEC	Alaska Department of Environmental Conservation
ANCSA	Alaska Native Claims Settlement Act
MS	Material Site
MSHA	Mine Safety Health Administration
EPA	U.S. Environmental Protection Agency

Units of Measure

ft.	foot/feet
ha	hectare
km	kilometer
m	meter
m^3	meter squared
yd^3	cubic yards

Attachment B
Material Sites Plan of Development

1.0 INTRODUCTION

The proposed Donlin Gold project is approximately 277 miles (446 km) west of Anchorage, 145 miles (233 km) northeast of Bethel, and 10 miles (16 km) north of the village of Crooked Creek (Figure 1-1). Bethel, 73 river miles (117 km) upstream from the mouth of the Kuskokwim River on the Bering Sea, is the regional center for the Yukon–Kuskokwim region of Alaska. Bethel is 177 river miles (285 km) southwest of the proposed Jungjuk (Angyaruaq) Port site. The city of Aniak, also on the Kuskokwim River, approximately 57 river miles (92 km) southwest of the proposed Jungjuk Port site, is the regional center for the middle Kuskokwim Valley.

Currently there is no road or rail access to the site, and all personnel and supplies are transported by air to an existing airstrip. The project is completely isolated from existing power distribution networks and other public utility infrastructure.

Included in separate development plans and permit applications, Donlin Gold has proposed development of a port (Jungjuk Port), an airstrip (Permanent Airstrip), and roads (Donlin-Jungjuk Road and the Airstrip Spur Road). The Jungjuk Port would be located on the north bank of the Kuskokwim River immediately upstream of the mouth of Jungjuk Creek and approximately 8 miles (12.9 km) downstream of the nearest village, Crooked Creek. The new Permanent Airstrip would be located approximately 8 miles (12.9 km) by road west of the proposed Donlin Gold mine site. The proposed mine is located inland from the proposed Jungjuk Port and would be connected by the proposed approximately 27 mile (48 km) long Donlin-Jungjuk Road (*Donlin Gold Project, Donlin-Jungjuk Road and Airstrip Spur Road Plan of Development*, SRK September 2015). The Airstrip Spur Road from the Donlin-Jungjuk Road would provide access to the proposed Permanent Airstrip.

To construct the proposed roads Donlin Gold would utilize an anticipated 13 proposed material sites that have been identified and evaluated (RECON and AMEC). The proposed material site locations are shown in Figure 3-1. This Material Sites Plan of Development provides information and details regarding the location and description of these material sites subject to final engineering design requirements. In addition to construction, material would also be used for annual maintenance of the Donlin-Jungjuk Road, the Airstrip Spur Road, the Permanent Airstrip, and the Jungjuk Port and would be reported annually by material site and amount.

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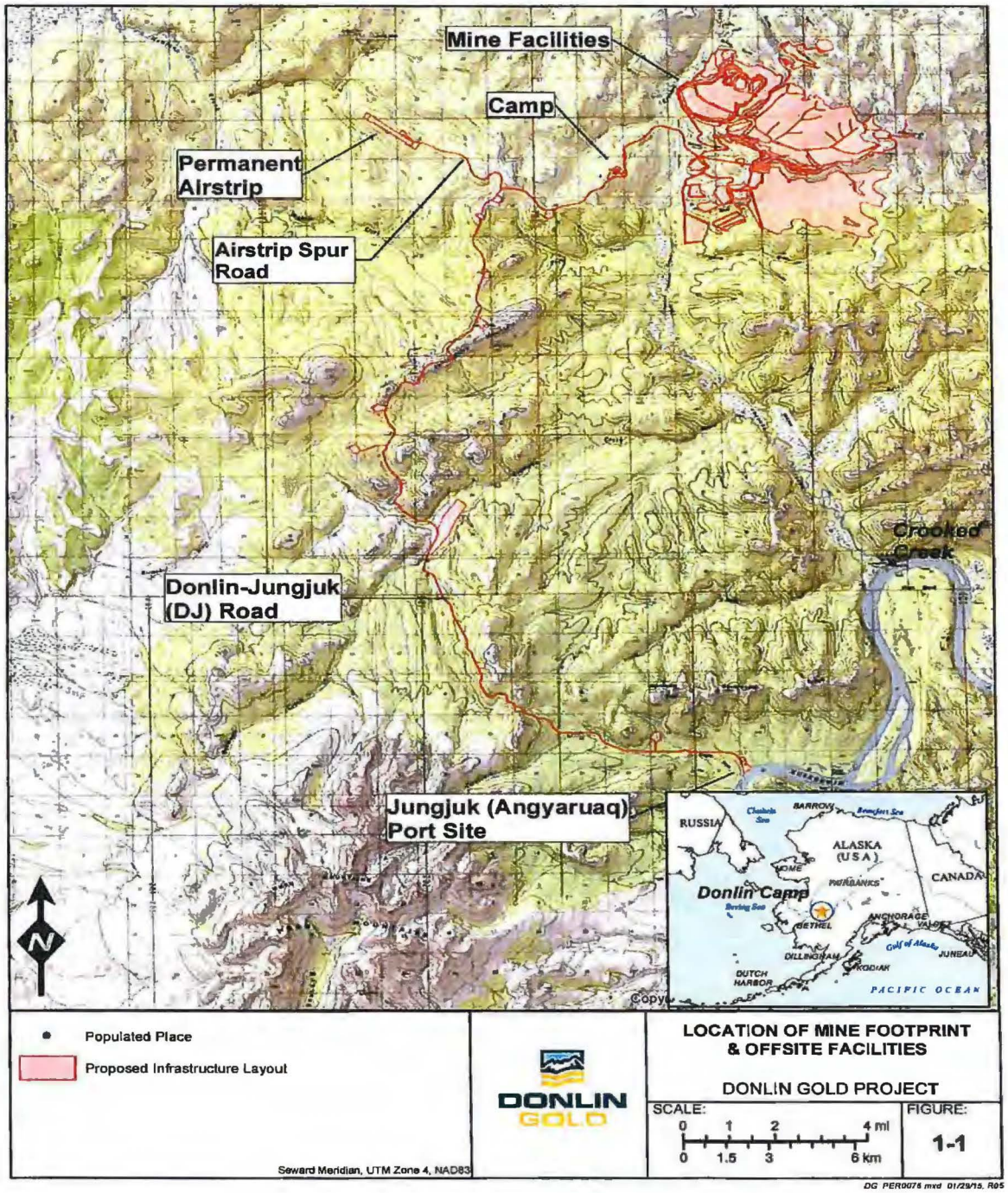
Material Sites Plan of Development



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2.0 PROJECT DESCRIPTION

For construction of the Jungjuk Port, the Permanent Airstrip, Donlin-Jungjuk Road and Airstrip Spur Road Donlin Gold would utilize approximately 13 material sites some of which would be used for long-term maintenance purposes. Specific sites would also be used for staging areas, temporary construction camps, or for other uses associated with construction.

The material sites have been identified along the Donlin-Jungjuk port-to-mine access route. Identified material sites are listed and described in the following sections of this Plan of Development. In general, material sites have been located at regular intervals along the proposed alignment, precluding the need for extended haulage of construction rock.

An estimated 5,531,595 yd^3 (4,230,000 m^3) of material would be available in the proposed material sites for construction, of which approximately 3,308,400 yd^3 (2,530,000 m^3) would be from state owned land using an anticipated 7 proposed material sites. The proposed material sites on state land would total approximately 373.5 acres (151.1 ha). Approximately 2,223,195 yd^3 (1,700,000 m^3) would be available from the proposed 6 material sites on ANSCA corporation lands and would total approximately 138.6 acres (56.1 ha).

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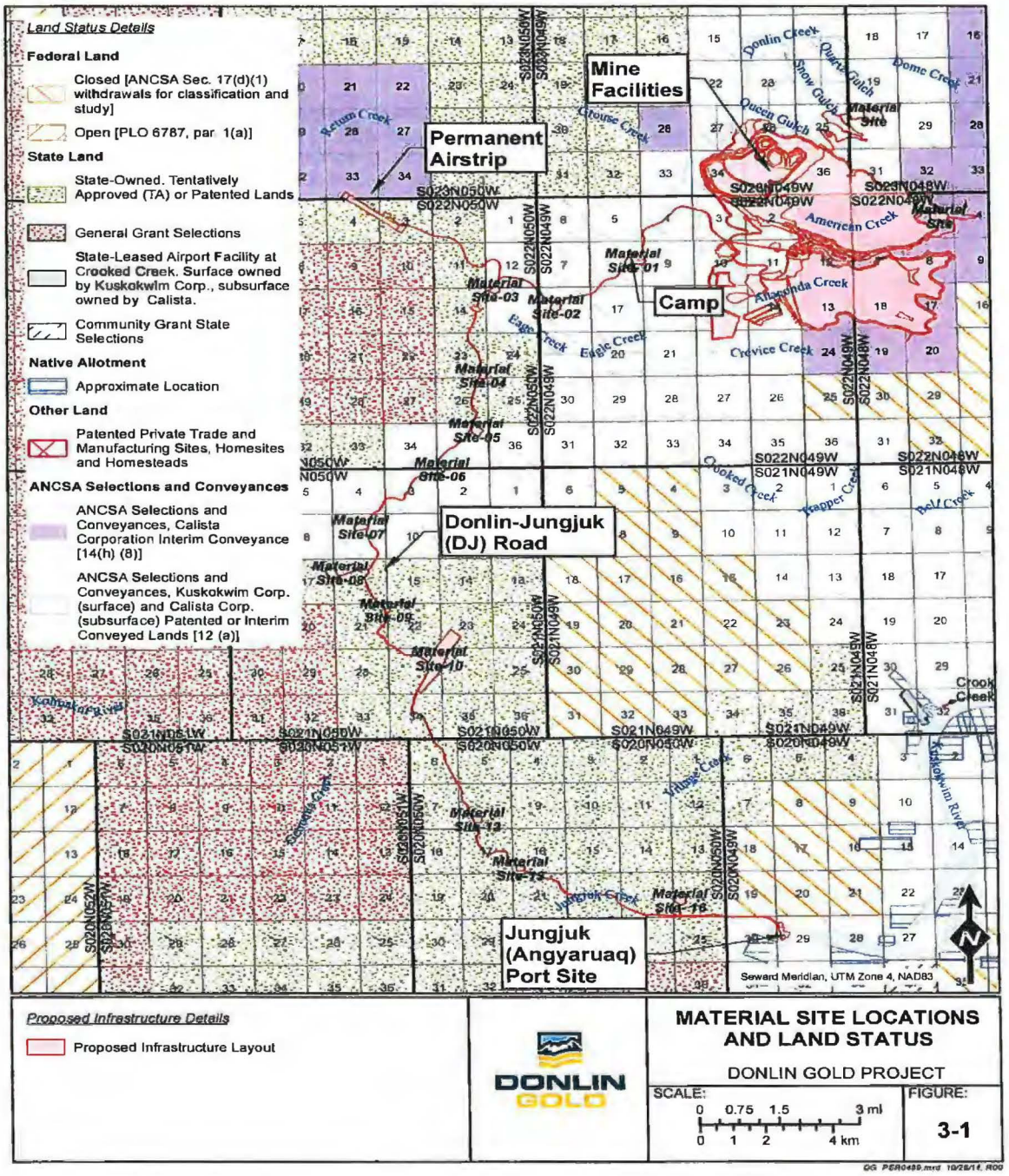

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Material Sites Plan of Development

3.0 MATERIAL SITE DESCRIPTIONS

The size and location of each material site (MS) is determined by type and quantity of material available, proximity to construction area, avoidance of wetlands, project material needs for construction, and ability to reclaim. All material sites would undergo Acid-Based Accounting (ABA) testing to evaluate metal leaching potential.

Material site preparation, operation, clean-up, reclamation and closure plans are designed to:

- meet all regulations and material sale requirements
- support construction as well as long-term maintenance requirements
- be located close to roads to be constructed to minimize costs
- minimize as practicable, areas of disturbance at the site.

The 7 proposed material sites located on state owned lands, highlighted below, are under the management authority of Alaska Department of Natural Resources (ADNR). On the remaining 6 material sites the Kuskokwim Corporation owns the surface and Calista Corporation owns the subsurface and Donlin Gold is authorized by agreements access to and utilization of the materials. Figure 3-1 shows location of material sites by MS designation as well as land status.

3.1 MS-1

3.1.1 Description of Site

Location:	Road Station 3+700 (Mile 2.3) UTM: 6875827 N, 536959 E Sections 08 and 09, T22N, R49W, SM Site of permanent mine camp
Area:	49.1 acres (19.9 ha)
Material Type:	Fairly competent with broken rock near surface. Highly fractured and weathered to 16 ft. (5 m) below surface. Blasting required. No groundwater or surface water. Rock suitable for crushing and road wear course.
Terrain:	Broad ridgetop knob. Mostly open tundra with scattered brush and scrub trees.
Overburden:	1.6–6.6 ft. (0.5–2.0 m) consisting of thin organic mat over loess and decomposed rock
Land Status:	Kuskokwim Corporation (surface) and Calista Corporation (subsurface)

3.1.2 Mining Plan

Estimated Volume:	1,308,00 yd^3 (1,000,000 m^3)
Mining Method:	Drill & blast
Mine Plan:	Access to quarry would be directly from Donlin-Jungjuk Road at the north end of the material site. Mining would commence at the top of the existing knob at elev. 932 ft. (284 m) and proceed in a top-down fashion to approximately 886 ft. (270 m) elevation. Quarry would be developed to fit proposed mine camp site plan.

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Material Sites Plan of Development

3.9 MS-9

3.9.1 Description of Site

Location:	Road Station 23+500 (Mile 14.6) UTM: 6863216 N, 529452 E Sections 21 and 22, T21N, R50W, SM
Disturbed Area:	5.1 acres (2.1 ha)
Material Type:	Weathered rhyolite bedrock including surface material consisting of rubble crop and scree made up of broken and moderately weathered rhyolite. Competent rock at 10–20 ft. (3–6 m) depth. Blasting required. 0–3 ft. (0–1m) overburden. Rock suitable for crushing and road wear course. No groundwater or surface water.
Terrain:	Moderate northwest-facing slope at toe of ridge. Mostly open with some rubble crop. Scattered shrubs and tundra. Located in the Getmuna Creek watershed.
Overburden:	Dry, 0–3 ft. (0–1 m) consisting primarily of regolith with some silt and limited organic material.
Land Status:	State owned land

3.9.2 Mining

Estimated Volume:	65,400 yd^3 (50,000 m^3)
Mining Method:	Primarily drill & blast with limited ripping near surface.
Mine Plan:	Access to quarry would be directly from the Donlin-Jungjuk Road. Mining would commence at the top of the exposed ridge at approx. elevation 722 ft. (220 m) and proceed in a top-down fashion to approximate to 650 ft. (198 m) elevation. Intermediate dig faces would be constructed with 10 ft. (3 m) catch benches every 20 vertical ft. (6 m) during development of the quarry wall. Typical overall slope angle in competent bedrock would be 1:1.

3.9.3 Reclamation

Stripping:	Stripped overburden material would be stockpiled at the toe of the slope. Total overburden quantity is expected to be minimal.
Final Configuration:	Final configuration of the site would be generally sloping west with minimum grades of 1%. All soil slopes would be reduced to a maximum of 2:1, tracked, and seeded to minimize runoff. Overburden stockpiles would be spread over the quarry floor, tracked, and seeded. Rock slopes to remain benched as developed during the mining process. Ultimate drainage would be to road ditch and naturally-vegetated slopes.

3.9.4 Plan View and Cross Section Profile

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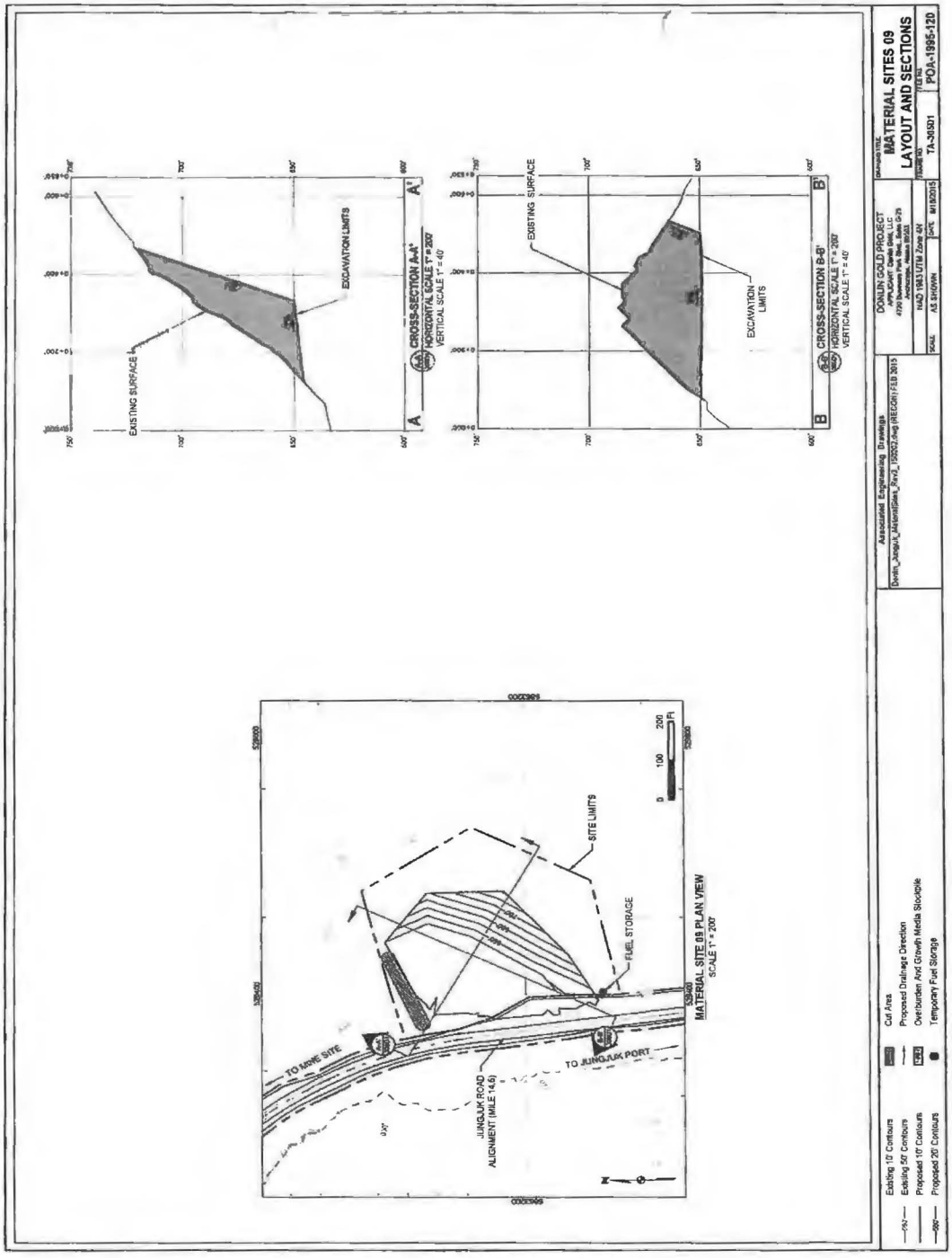

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Material Sites Plan of Development

3.17 Land Status

The overall land status for the proposed Donlin Gold materials sites is shown in Figure 3-1. The approximate 13 proposed material sites are located on both state and Alaska Native Claims Settlement Act (ANCSA) lands with 7 of the proposed sites located on state owned land.

Use of material sites and materials on ANCSA lands is authorized under agreements between Donlin Gold and the Kuskokwim Corporation and Calista Corporation. Reclamation requirements fall under the ADNR with any additional requirements that may be imposed by the land owner.

As shown in Sections 3-1 through 3-16 the following material sites are located on State owned land: MS- 4; MS- 8; MS- 9; MS- 10; MS- 12; MS- 13; and, MS- 16.

3.18 Access

As shown in the plan view and cross section profile drawings in Sections 3.1 through 3.16, when necessary Donlin Gold would construct temporary access roads to material sites from the proposed Donlin-Jungjuk Road right-of-way, however the majority of sites are located in close proximity to the proposed Donlin-Jungjuk Road and require little or no temporary access road. Generally, temporary access roads for material sites would be designed to address site specific conditions and would be constructed with a surface width of approximately 28 to 30 ft. (8.5 to 9.1 m) to accommodate operating equipment and haul trucks coming and going. When temporary access is no longer needed to a material site, the access would be reclaimed. The following material sites on State land are anticipated to require access as identified below:

MS- 4: Access to quarry would be directly from the proposed Donlin-Jungjuk Road

MS- 8: Access to quarry would be from a temporary access road approximately 0.63 miles (1.01 km) from the proposed Donlin-Jungjuk Road

MS- 9: Access to quarry would be directly from the proposed Donlin-Jungjuk Road

MS- 10: Access to quarry would be directly from the proposed Donlin-Jungjuk Road

MS- 12: Access to quarry would be directly from the proposed Donlin-Jungjuk Road

MS- 13: The quarry would be developed adjacent to and as an expansion of a large cut for the Donlin-Jungjuk Road

MS- 16: Access to quarry would be from a temporary access road approximately 0.28 miles (45 km) from the proposed Donlin-Jungjuk Road

3.19 Overburden/Spoil

Stripped overburden material at each material site as applicable would be stockpiled for later use in reclamation. Overburden storage is depicted on plan view and cross section profile drawings for each applicable material site.

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Material Sites Plan of Development

3.20 Equipment

The following is a typical list of mobile or other equipment required for material site operations. The actual equipment type and quantity could vary during detail engineering design:

Equipment

- Dozers (Type CAT D6, D8 or D10)
- Hydraulic Excavators (Type CAT 320, 330, 345, 385)
- Loaders (Type CAT 950, 963, 992, 980, 963, 988H, IT28)
- Generators & Lighting Equipment (Type 6 kW to 1,500 kW)
- Fueling vehicles/equipment/fuel storage
- Rock processing/crushing plant
- Concrete batch plant.

3.21 Fuel and Storage

Spill response equipment would be available and personnel would be trained in spill-response strategies. All 7 of the material sites located on State owned land would have temporary fuel storage on site for material site equipment operation as shown on the plan view and cross section profile drawing for each site as shown in Sections 3.1 through 3.16 above.

3.22 Other Site Uses

Proposed MS-1 located on Native Corporation owned lands would be developed to fit the proposed mine camp site plan and would be reclaimed during project closure.

Proposed MS-10 located on State land would be developed as a project staging/laydown and gravel processing area, possibly including a concrete batch plant.

Proposed MS-13 located on State land would be utilized for staging/laydown area with rock processing/crushing plant.

Proposed material sites that are anticipated to be use for long term maintenance purposes include: MS-10 the Getmuna Flats material site, has been identified as the source for the concrete aggregate that is required for mine development and operations. In addition, the MS-10 site is the only identified source of alluvial gravel over the entire length of the Donlin-Jungjuk Road. For use as concrete aggregate, the gravel would require crushing, washing and grading. The native gravel is typically suitable as structural fill. Crushing and screening would be required to generate graded aggregate for road surfacing material or other engineered fill applications. If it is found that greater aggregate quality for specific applications is required, the material from MS-10 may be blended with basalt rock that occurs at MS-12 or MS-13 to improve durability and/or strength of the product being produced. MS-10 may also be used as a material source for construction of the Permanent Airstrip.

MS-12 and MS-13 may provide rock suitable for rip-rap and surfacing material for the Jungjuk Port and stream crossings or slope stabilization.

MS-16 may be used as a material source for suitable construction fill for the Jungjuk Port.

Additional or other uses at material sites would be determined during final engineering design. It is anticipated that all material sites could serve as temporary laydown and staging

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Material Sites Plan of Development

areas during construction. Some material sites would also be used for location of temporary construction camps.

3.23 Blasting

Drilling and blasting is, but not limited to, the following material sites on State land:

MS-4: Possible selective drill and blast

MS-8: Drill and blast

MS-9: Primary drill and blast

MS- 10: Blasting may not be required

MS-12: Primary drill and blast

MS-13: Drill and blast

MS-16: Selective drill and blast possible

Specifications for material site blasting would be included in the construction documents and require that the contractor prepare detailed blasting procedures for approval by Donlin Gold before conducting any blasting.

The transportation of explosives and associated materials and all blasting would conform to the rules and regulations of MSHA and of all other applicable federal and state regulatory requirements. There is not likely to be much blasting done in proximity to structures because of the remote location of the proposed project.

3.24 Schedule

It is anticipated that these material sites would be opened for use early in the project life as they are required to support the construction of project infrastructure and other early works. Material sites that are not required for long term site maintenance would be closed after construction of the mine is completed.

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Material Sites Plan of Development

4.0 GOVERNMENT AGENCY INVOLVEMENT

- Alaska Department of Natural Resources (ADNR) (responsible for authorizing material sites on state land as well as approving reclamation of material sites on both state and native corporation lands)
- Alaska Department of Environmental Conservation (ADEC)
- U.S. Environmental Protection Agency (EPA)

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Material Sites Plan of Development

5.0 AS-BUILT SURVEY

Following completion of construction projects that require the use of the proposed material sites, an as-built survey of each material site would be completed. Those material sites that are designated for long term use for the Donlin Gold Project would also be surveyed but would continue to be used.

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Material Sites Plan of Development

6.0 CLEAN-UP, RECLAMATION AND CLOSURE

All material sites would be cleaned of debris, any equipment or temporary facilities removed from sites, and reclamation undertaken as soon as practicable. Material site boundaries would be shaped in a manner as to blend to the extent practicable with surrounding natural land patterns. Regardless of the layout of material sites, primary emphasis would be placed on prevention of soil erosion and damage to adjacent vegetation. All material sites would be reclaimed consistent with the ADNR approved reclamation plans for each site and the Donlin Gold Project, *Plan of Operations, Reclamation and Closure Plan*, SRK 2012. Financial assurance for reclamation and closure of material would be covered under the Reclamation and Closure plan.

Any material site or portion of a material site that remains open for maintenance purposes would be closed and reclaimed when no longer needed or when the project is terminated. Temporary reclamation actions may be required to prevent soil erosion or damage to adjacent lands and would be completed as applicable. Portions of a long term material site that are retained for maintenance purposes would be reclaimed if no longer in use.

6.1 Reclamation Treatments, Performance Standards, and Monitoring

All material sites would be left in a stable condition meeting all applicable ADNR regulatory requirements. Refer to Sections 3.1 through 3.16 above for specific individual material site reclamation actions, and the Donlin Gold Project, *Plan of Operations, Reclamation and Closure Plan*- Section 4, SRK 2012 for general reclamation actions and applicable performance standards, monitoring and reporting requirements.

6.2 Remedial Action/ Adaptive Management

If monitoring/inspection indicate that performance standards may not be realized by the 5th year, additional seeding, fertilizing, or an adaptive management alternative may be used following consultation with ADNR.

6.3 Closure

All material sites would meet or exceed the reclamation requirements of AS 27.19.20 which requires each site would be left in a stable condition.

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Material Sites Plan of Development

7.0 REFERENCES

Much of the information used in the preparation of this Plan of Development was derived from Donlin Gold documents from the following sources:

AMEC Americas Limited. Donlin Creek, LLC, Donlin Creek Gold Project, *Feasibility Study Update 2*, November 2011

RECON. Technical Memorandum, Donlin Gold Project, Mine Offsite Geotechnical Investigations 2013, *Summary of Results for Supplementary geotechnical investigations June 2013: Airfield Site, Permanent Camp Site, Getmuna Flats Material Site MS-10, and Jungjuk Port Site*. December 2013

RECON. Donlin Gold Project, *Offsite Infrastructure Supplementary Geotech Technical Memorandum.* December 2013

RECON. Donlin Gold, LLC, *Jungjuk Road Material Sites (Draft)*. January 2012

SRK Consulting. Donlin Gold Project, *Donlin-Jungjuk Road and Airstrip Spur Road Plan of Development*, September 2015

SRK Consulting. Donlin Gold Project, *Mine Reclamation and Closure Plan*. July 2012

SRK Consulting. Donlin Gold Project, Plan of Operations, *Project Description*. July 2012

Attachment C
Reclamation Plan Material Site 9

RECLAMATION PLAN
MATERIAL SITE 9
ADL 232336

Donlin Gold Project

AUGUST 2018

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Anchorage, Alaska 99503

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ACRONYMS

ABA	acid-base accounting
ANCSA	Alaska Native Claims Settlement Act
MS	Material Site
MSHA	Mine Safety Health Administration
USEPA	U.S. Environmental Protection Agency

UNITS OF MEASURE

ft	foot/feet
ha	hectare
km	kilometer
m	meter
m^3	cubic meter
yd^3	cubic yards

Attachment C
Reclamation Plan Material Site 9

1.0 INTRODUCTION

Donlin Gold LLC (Donlin Gold) is proposing the development of an open pit, hardrock gold mine located approximately 277 miles (446 km) west of Anchorage, 145 miles (233 km) northeast of Bethel, about 10 miles (16 km) north of the village of Crook Creek along the north bank of the Kuskokwim River as shown in Figure 1-1. The proposed Donlin Gold project would require three to four years to construct and have an active mine life of approximately 27.5 years. The mine is proposed to be a year-around, conventional "truck and shovel" operation using bulk and selective mining methods.

Currently there is no road or rail access to the site, and all personnel and supplies are transported by air to an existing airstrip. The project is completely isolated from existing power distribution networks and other public utility infrastructure.

Donlin Gold proposes to develop the Jungjuk Port on the north bank of the Kuskokwim River immediately upstream of the mouth of Jungjuk Creek and approximately 9 miles (14.5 km) downstream of the nearest village, Crooked Creek. A permanent airstrip is proposed to replace the existing airstrip which would become part of the mine development. The Permanent Airstrip would be located approximately 9 miles (14.5 km) by road west of the proposed Donlin Gold mine site. The proposed mine is located inland from the proposed Jungjuk Port and would be connected by the proposed approximately 30 mile (48 km) long Donlin-Jungjuk Road. A spur road (Airstrip Spur Road) from the Donlin-Jungjuk Road would provide access to the proposed Permanent Airstrip. At present there is no road connection amongst the proposed Jungjuk Port site, the proposed new Permanent Airstrip site and the proposed Donlin Gold mine site.

To construct the proposed roads Donlin Gold would utilize an anticipated 13 proposed material sites that have been identified and evaluated (RECON 2012). The proposed material site locations are shown in Figure 2-1. Material Site 9 Plan of Development provides information and details regarding the location and description of the material site subject to final engineering design requirements. In addition to construction, material would also be used for annual maintenance of the Donlin-Jungjuk Road, the Airstrip Spur Road, the Permanent Airstrip, and the Jungjuk Port and would be reported annually to the Department of Natural Resources by specific material site with the amount taken.

This Reclamation Plan provides information for Material Site 9 (MS-9) and how the site would be reclaimed. MS-9 is located on state owned land.

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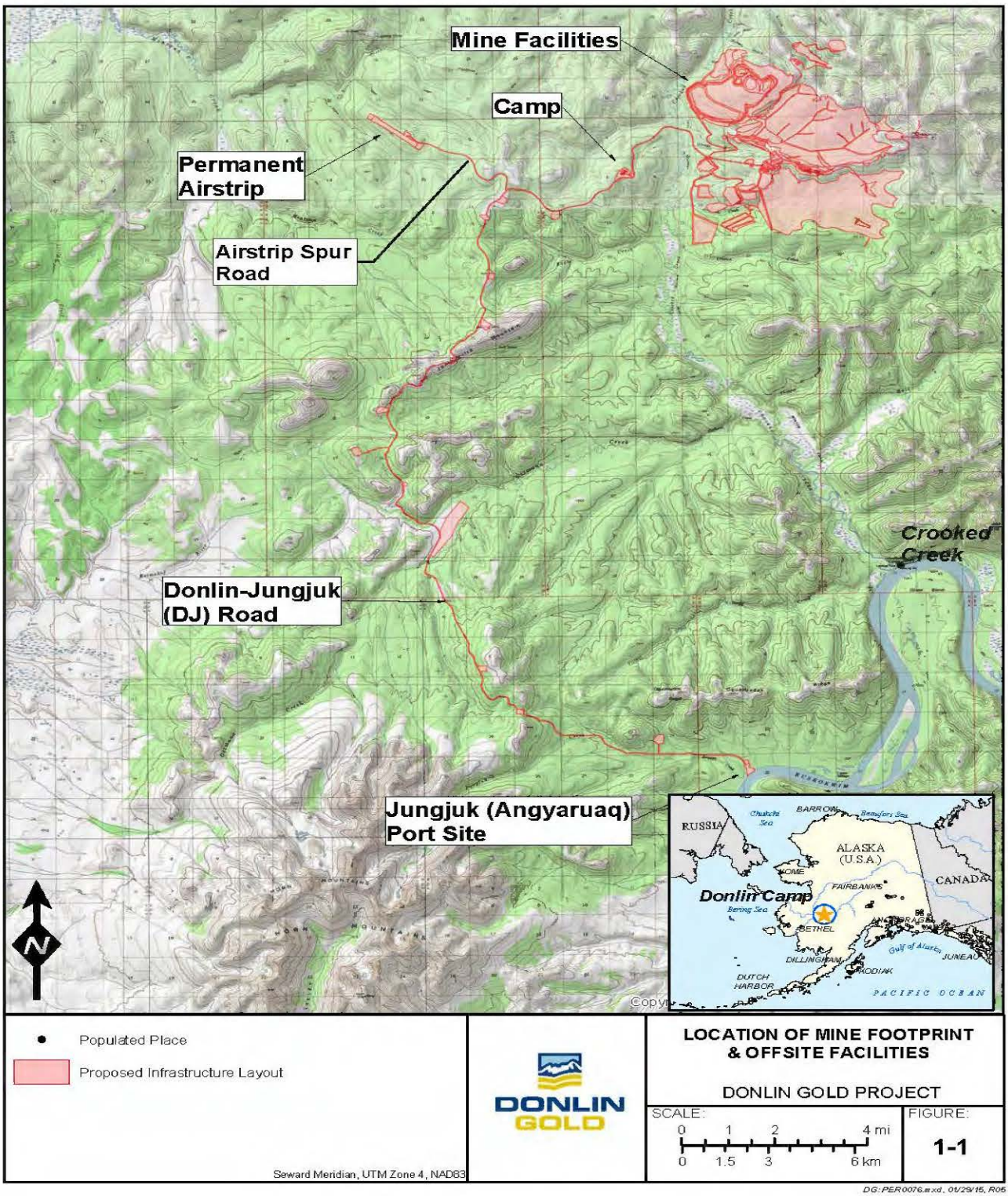
Reclamation Plan Material Site 9



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Reclamation Plan Material Site 9

2.0 MATERIAL SITE DESCRIPTION

The size and location of each material site is determined by type and quantity of material available, proximity to construction area, avoidance of wetlands, project material needs for construction, and ability to reclaim. All material sites would undergo acid-base accounting (ABA) testing to evaluate metal leaching potential.

Material site preparation, operation, clean-up, reclamation and closure plans are designed to:

- meet all regulations and material sale requirements
- support construction as well as long-term maintenance requirements
- be located close to roads to be constructed to minimize costs
- minimize as practicable, areas of disturbance at the site.

The 7 proposed material sites located on state owned lands are under the management authority of Alaska Department of Natural Resources (ADNR). On the remaining 6 material sites the Kuskokwim Corporation owns the surface and Calista Corporation owns the subsurface and Donlin Gold is authorized by agreements access to and utilization of the materials. Figure 2-1 Material Site Location and Land Status shows location of material sites by MS designation as well as land status.

2.1 MS-9

2.1.1 Description of Site

Location:	Road Station 23+500 (Mile 14.6) UTM: 6863216 N, 529452 E Sections 21 and 22, T21N, R50W, SM
Disturbed Area:	5.1 acres (2.1 ha)
Material Type:	Weathered rhyollite bedrock including surface material consisting of rubble crop and scree made up of broken and moderately weathered rhyolite. Competent rock at 10–20 ft. (3–6 m) depth. Blasting required. 0–3 ft. (0–1m) overburden. Rock suitable for crushing and road wear course. No groundwater or surface water.
Terrain:	Moderate northwest-facing slope at toe of ridge. Mostly open with some rubble crop. Scattered shrubs and tundra. Located in the Getmuna Creek watershed.
Overburden:	Dry, 0–3 ft. (0–1 m) consisting primarily of regolith with some silt and limited organic material.
Land Status:	State owned land

2.1.2 Mining

Estimated Volume:	65,400 yd^3 (50,000 m^3)
Mining Method:	Primarily drill & blast with limited ripping near surface.
Mine Plan:	Access to quarry would be directly from the Donlin-Jungjuk Road. Mining would commence at the top of the exposed ridge at approx. elevation 722 ft. (220 m) and proceed in a top-down fashion to approximate to 650 ft. (198 m) elevation. Intermediate dig faces would be constructed with 10 ft. (3 m) catch benches every 20-

Attachment C
Reclamation Plan Material Site 9

vertical ft. (6 m) during development of the quarry wall. Typical overall slope angle in competent bedrock would be 1:1.

Stripping: Any topsoil and overburden would be separated and stored in a manner to preserve seed viability and protection from erosion. Stripped overburden material would be stockpiled at the toe of the slope. Total overburden quantity is expected to be minimal.

2.1.3 Mining

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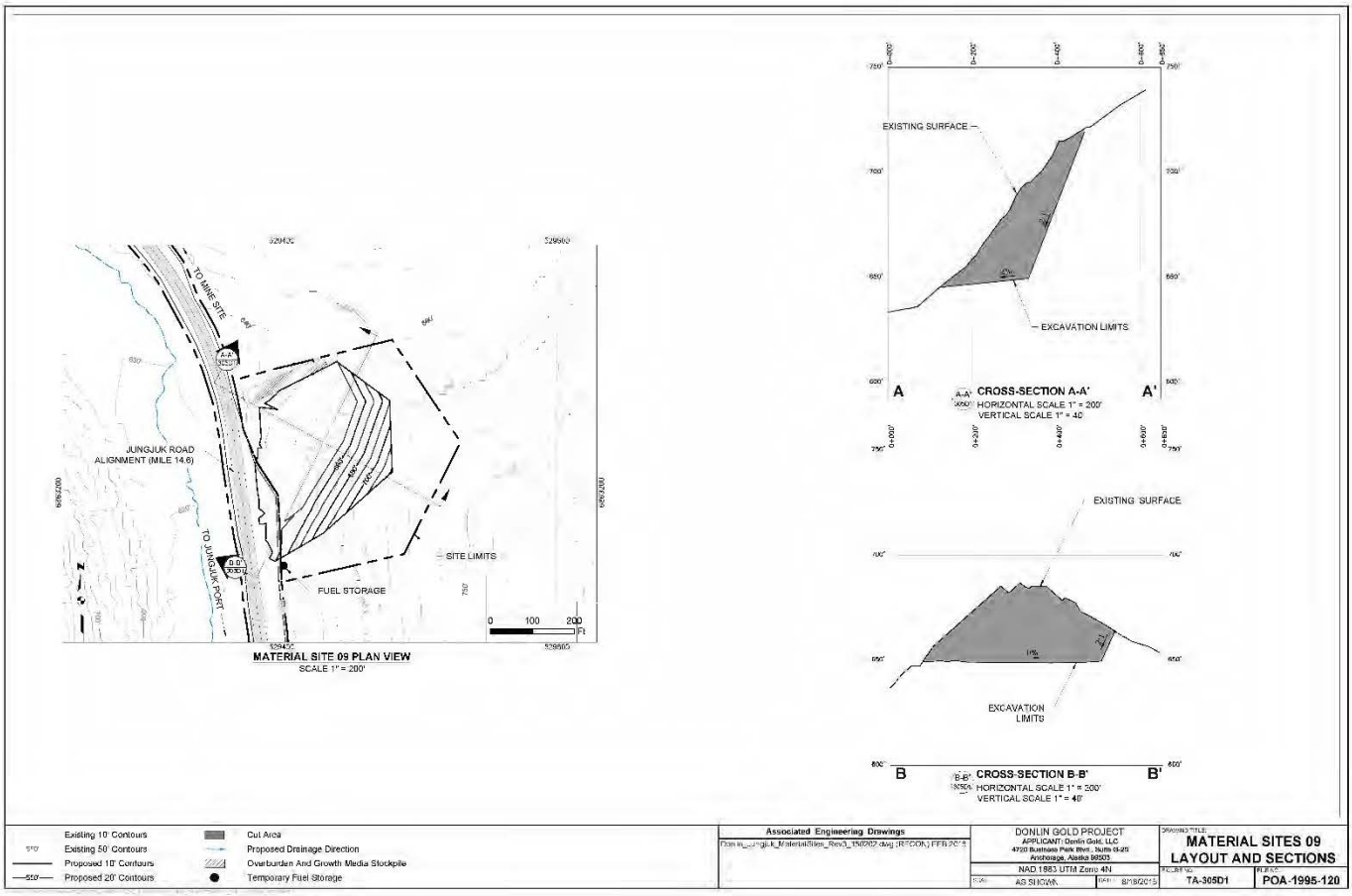
Reclamation Plan Material Site 9



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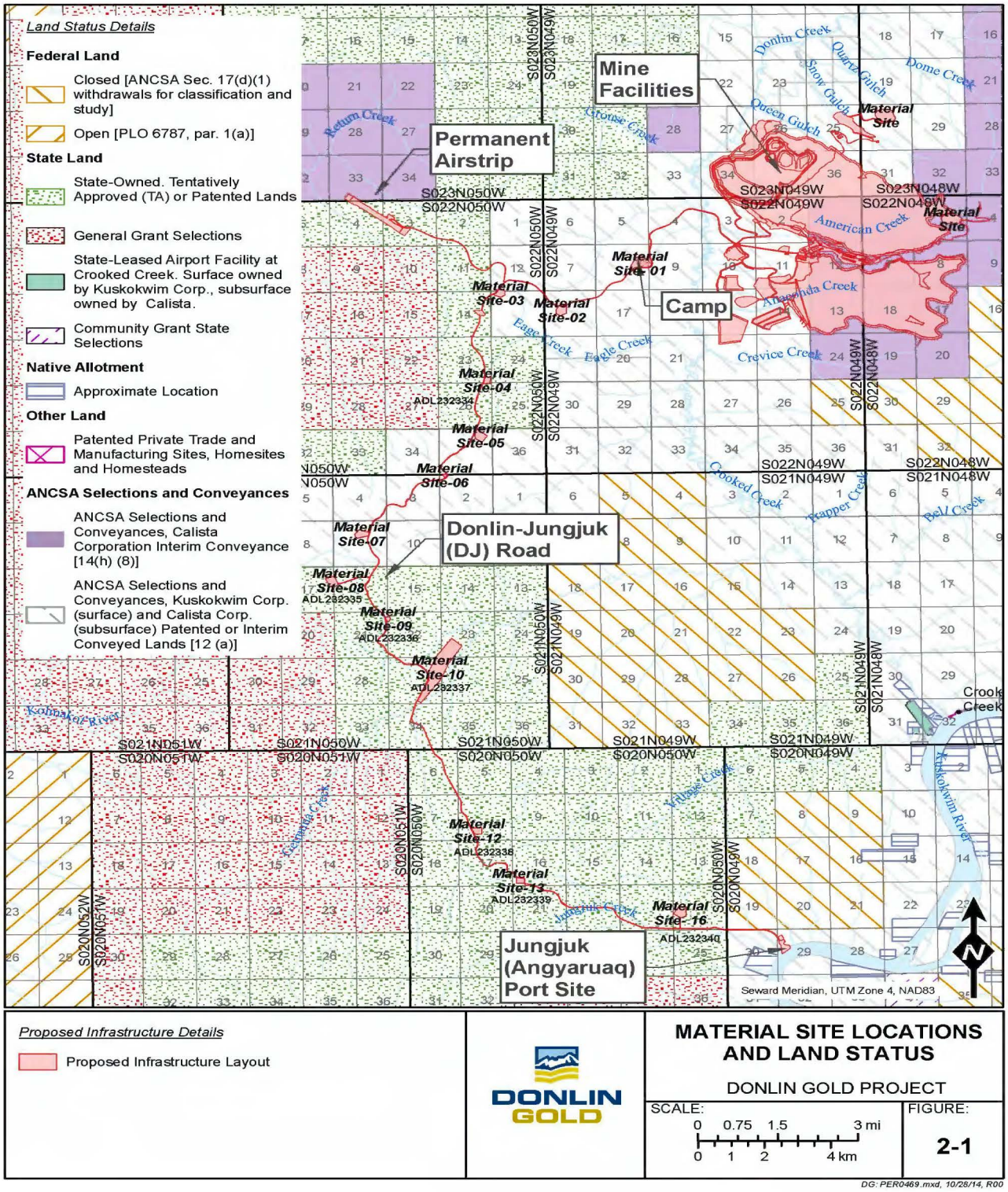

Attachment C
Reclamation Plan Material Site 9

3.0 CLEAN-UP, RECLAMATION AND CLOSURE

This material site would be cleaned of debris, any equipment and any temporary facilities removed from site, and reclamation undertaken as soon as practicable. There would be no on-site disposal of equipment. All waste, equipment, and facilities would be removed from the site for appropriate handling and disposal. Any temporary storage of waste, equipment, and materials or facilities would be done only as specifically authorized.

Site boundaries would be shaped to blend to the extent practicable with surrounding natural land patterns. Regardless of the layout of this material site, primary emphasis would be placed on prevention of soil erosion and damage to adjacent vegetation. Reclamation would be performed in areas no longer used for material mining operations. Reclamation would be completed consistent with the ADNR approved reclamation plan for MS-9.

If Donlin Gold determines it is necessary for this material site or portion of this material site to remain open for maintenance purposes or other long-term material use, the site or that portion of the site would be closed and reclaimed consistent with this plan when no longer needed. Temporary reclamation actions may be required and implemented to address erosion control, sediment control, and storm water management and to prevent damage to adjacent lands and would be completed as necessary.

Final configuration of the material site 9 would be generally sloping west with minimum grades of 1%. All soil slopes would be reduced 2H:1V, tracked, and seeded to minimize runoff. Overburden stockpiles would be spread over the quarry floor, tracked, and seeded. Rock slopes to remain benched as developed during the mining process. Ultimate drainage would be to road ditch and naturally-vegetated slopes.

3.1 Reclamation Treatments, Performance Standards, and Monitoring

This material site would be left in a stable condition meeting all applicable ADNR regulatory requirements.

3.2 General Reclamation Procedures

Measures to prevent unnecessary and undue degradation of land and water resources that may result from material mining operations would be undertaken. Such techniques would be incorporated in concurrent reclamation as well as for final reclamation and closure of this material site.

In preparation for concurrent and final reclamation, any on site timber would be salvaged and unmerchantable organic materials would be stripped and stockpiled in the area to be disturbed by material mining operations and use. Donlin Gold recognizes that a Timber Sale from the State of Alaska may be required for the clearing of salvageable timber on state land as applicable to each material site. Prior to initial growth media stripping for site development, if timber is on site, timber that is greater than 6 inches (>15 cm) in diameter at breast height would be cut and decked and otherwise available for use by Donlin Gold. All other plant material would be hydro-axed and incorporated as a soil amendment in the growth media. In some cases, this hydro-axed material may be stockpiled for later use as mulch.

Attachment C
Reclamation Plan Material Site 9

Material site growth media (topsoil and other overburden) would be removed separately before material extraction and retained for site reclamation.

- Topsoil and other soil layers would be stored separately in a manner to preserve seed viability and prevent erosion when excavated.
- Top soil would not be removed when excessively wet or dry.
- Top soil would be stored in a location that would not be subjected to heavy equipment traffic.
- Storage stockpiles would not exceed 25 ft in height.
- Stockpiles would not be placed in natural drainage ways.
- Chipped brush, tree limbs or plant material may be added to the stockpile to increase aeration.
- Soil stockpiles that remain for long-term use may be vegetated if necessary to prevent erosion.
- Overburden stockpiles would be properly constructed for good slope stability and vegetated to prevent erosion.

3.3 Site-Specific Reclamation

Final configuration of the site would be generally sloping west with minimum grades of 1%. All soil slopes would be reduced to a maximum of 2:1, tracked, and seeded to minimize runoff. Overburden stockpiles would be spread over the quarry floor, tracked, and seeded. Rock slopes to remain benched as developed during the mining process. Ultimate drainage would be to road ditch and naturally-vegetated slopes.

3.4 Seedbed Preparation

Material extraction operations may result in compacted surfaces unsuitable for revegetation. Growth media and the underlying subsurface must be prepared in such a manner as to retain moisture and allow adequate root development and penetration in those areas where infiltration and surface water retention are desired.

All soil slopes would be reduced to 2H:1V, tracked, and seeded to minimize runoff. Overburden would be spread over pit floor to an approximate depth of 6 inches (15 cm), tracked, and seeded. The total overburden quantity at material site 9 is expected to be minimal.

Table 3-1: Proposed Reclamation Seed Mix- (Hydric) Wetland

Common Name	Scientific Name	Percentage of Mix
'Egan' American sloughgrass	*Beckmannia syzigachne*	45%
'Norcoast' Bering Hairgrass	*Deschampsia beringénsis*	40%
'Arctared' Red Fescue	*Festuca rubra*	10%
'Alyeska' Polargrass	*Arctagrostis latifolia*	5%

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Table 3-2: Proposed Reclamation Seed Mix- (Mesic) Upland

Common Name	Scientific Name	Percentage of Mix
'Arctared' Red Fescue	*Festuca rubra*	40%
'Norcoast' Bering Hairgrass	*Deschampsia beringénsis*	40%
'Wainwright' slender wheatgrass	*Elymus trachycaulus*	10%
'Gruening' Alpine Bluegrass	*Poa alpina*	10%
'Nortran' Tufted Hairgrass	*Deschampsia caespitosa*	**0% unless substituted for Norcoast**

As with any seed mix, a degree of flexibility is necessary depending on seed availability and site-specific conditions. Native species would be the preferred mix, unless information developed by the ADNR Plant Materials Center and any Donlin Gold mine site or onsite test plots indicates other, more desirable species meet the post reclamation land use criteria. Seeding would be done via drill seeding, broadcast seeding via ground or aerial application, and hydro-seeding as determined appropriate for the site.

Seed mix and seeding would conform to Donlin Gold Project, Plan of Operations, Reclamation and Closure Plan, December 2017, Section 4.7.5 and would be certified weed free.

In addition to seeding, upon completion of seedbed preparation during concurrent or final reclamation, select areas may be left unseeded to evaluate the potential for natural recolonization of the site. If these areas do not meet the revegetation criteria, they would be seeded using the methods described above.

3.5 Mulch

Mulches may be necessary to protect the seed and help retain soil moisture during the critical germination process. Numerous types of materials have been used successfully as mulch in revegetation efforts. However, experience has proven that straw or grass hay at a rate of 12 st (11 t) per acre is most cost effective. Slopes too steep for equipment generally require an application of hydro-mulch via a hydro-seeder at an approximate rate of 1 st (0.9 t) per acre. Commercial hydro-mulch generally consists of wood fiber byproducts or other forms of cellulose. If mulch application is determined necessary, it would be applied following seeding and soil amendment application with a standard certified noxious weed free straw (or hay) blower mounted behind a truck or tractor. If necessary and site conditions allow, the mulch would then be crimped into the seedbed using a cultipacker or shallow set disk harrow to prevent wind blow and increase microhabitat for seed germination. On those areas where a hydro-seeder may be used, hydro-mulch, if needed, would be incorporated into the seed and amendment mix for one-time application. The hydro-mulch would contain a tackifier, if necessary, to help hold the mulch mix in place.

3.6 Control of Invasive Species

During vegetation establishment, weed control practices would be implemented to limit the growth and spread of noxious weeds and benefit the revegetation process. The control program would include the use of certified weed-free mulch in the reclamation program, and all seeds would be tested and certified "weed-free" before planting. The primary method of control would be to seed disturbed areas as soon as practicable after the seedbed has been prepared.

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3.7 Revegetation Timing

Generally, seeding would be implemented after spring break-up until mid-July to allow the seed to take advantage of the summer moisture period, seeding as soon as possible following seedbed preparation.

3.8 Revegetation Cover Criterion

A vegetative cover criterion of at least 70% would be achieved prior to requesting bond release. Experience in Alaska has shown this goal would likely be reached within the first 5 years. Concurrent reclamation areas also would be required to meet the criteria prior to Donlin Gold requesting bond release.

The reclamation goal of at least 30% vegetative cover over a three-year period is an interim action level criterion, which would indicate whether additional reclamation action would need to be taken to establish a viable vegetative cover and a continuing natural succession of plant species. Further action could include reseeding the area, additional application of soil amendments, and/or incorporation of additional growth media. Donlin Gold would be responsible for determining the cause and resolution of substandard revegetation cover.

3.9 Remedial Action/ Adaptive Management

If monitoring/inspection indicates that performance standards may not be realized by the 5th year, additional seeding, fertilizing, or an adaptive management alternative may be used following consultation with ADNR.

3.10 Closure

This material site would meet or exceed the reclamation requirements of AS 27.19.20 which requires this site would be left in a stable condition.

3.11 Estimate of Reclamation Costs/Bond

The material mining operation at this site is anticipated to disturb 5.1 acres (2.1 ha) with the acreage requiring bonding rounded up to the next whole number. 5 acres at $750/acre requires a $3,750 reclamation bond.

3.6 Statement of Responsibility

Donlin Gold recognizes its responsibility in the use of private and public (state) lands and accepts that responsibility in agreeing to reclaim this site. This acknowledgement includes but is not necessarily limited to conformance with applicable statutes and regulations implemented by ADNR. Donlin Gold would meet the requirements of its reclamation plan and return the site to a safe and stable condition consistent with the proposed post-mining land use of wildlife habitat. Donlin Gold would meet required local, state, and federal regulations regarding reclamation of the surface area affected by the material extraction operations and use of this site. Reclamation activities for the disturbance resulting from Donlin Gold's use of this material site are Donlin Gold's responsibility.

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4.0 REFERENCES

Alaska DEC User's Manual, Best Management Practices for Gravel/Rock Aggregate Extraction Projects: Protecting Surface Water and Groundwater Quality in Alaska, September 2012

Much of the information used in the preparation of this Plan of Development was derived from Donlin Gold documents from the following sources:

SRK Consulting, Donlin Gold Project, *Mine Reclamation and Closure Plan*, December 2017

SRK Consulting, Donlin Gold Project, *Material Site 9 Plan of Development*, *Project Description*, August 2018