

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

PRELIMINARY DECISION

ADL 232368
Donlin Gold LLC - Application for Easement
Fiber Optic Easement
AS 38.05.850

This Preliminary Decision (PD) is the initial determination on a proposed reservation of a private, non-exclusive easement across state land 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 Friday, March 29, 2019**. Please see the Comments section of this decision for details on how and where to send comments for consideration.

Proposed Action:

The Department of Natural Resources (DNR), Division of Mining, Land and Water (DMLW), Southcentral Regional Land Office (SCRO) has received a request from Donlin Gold, LLC (Donlin) for reservation of an approximately 753-acre private, non-exclusive easement to authorize the installation of a fiber optic cable communications and monitoring system that will serve the applicant's proposed gold mine (Figure 1) at a remote site that is isolated from existing networks and utility infrastructure. The easement (ADL 232368) will be wholly co-located within a proposed natural gas pipeline right-of-way lease area which will be issued and administered by the DNR Division of Oil and Gas (DOG) State Pipeline Coordinator's Section (SPCS) under file number ADL 231908. Donlin intends to install the fiber optic cable and associated components simultaneously with the natural gas pipeline to maximize use of equipment and facilities. SCRO and SPCS are coordinating on issuance of the proposed authorizations but the SPCS-managed pipeline and right-of-way lease are outside the scope of this decision and not subject to comment under ADL 232368.

The fiber optic cable communications and monitoring system is currently proposed to run an overall length of 315 miles from a point north of the Beluga Power Plant near Tyonek to the proposed mine site located approximately 10 miles north of the community of Crooked Creek. Approximately 207 miles of the route will cross state owned lands. The cable is primarily proposed for burial underground so that it does not interfere with other facilities and to help ensure uninterrupted communications services. Where conditions dictate above-ground placement, construction measures and equipment will be employed to provide protection from the weather and other potentially detrimental impacts. Donlin is evaluating options for selection of a communications system service provider which may affect the actual point of beginning for the cable alignment and will be determined during final engineering design. System capacity may be sufficient to allow for additional use by third-parties but assessment of such potential will be based on Donlin's own requirements and subject to DMLW approval.

ADL 232368 will authorize an easement for the construction, use, operation and maintenance of fiber optic cable and related components of a communications and monitoring system to serve the proposed Donlin mine site. Prior to issuance of the easement authorization, DMLW will issue an Entry Authorization (EA) for the construction, use, operation, maintenance and survey of the fiber optic cable communications system until a DNR approved as-built survey and any other conditions of the EA have been met. Donlin's plan of operations for ADL 232368 proposes an indeterminate easement term dependent on the degree to which other parties may be using the installed infrastructure at the time of mine closure. However, given Donlin's own projection of an approximately 27.5-year operating life for the mine, DMLW proposes to issue a 30-year private, non-exclusive easement to Donlin under AS 38.05.850. Donlin or its successors in interest will be required to apply for a new easement authorization for continued use a minimum of one year prior to expiration of the proposed 30-year term.

Background:

Donlin is a limited liability company that is equally owned 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), 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 (ADL 232200). The port will be connected to the mine site by a proposed road (ADL 232346). The 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 construct improvements or extract materials on state land associated with the proposed mine, and SCRO will be responsible for adjudicating separate authorizations, 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.

Scope of Review:

The scope of this PD is limited to activities for the fiber optic cable system easement, and to determine if it is in the State’s best interest to issue ADL 232368.

Authority:

This easement application is being adjudicated pursuant to AS 38.05.850 Permits (and rights-of-way or easements) and AS 38.05.035 Powers and Duties of the Director.

The authority to execute the PD, FFD, the EA and the easement has been delegated to the Regional Managers of DMLW.

Administrative Record:

Case file ADL 232368 constitutes the administrative record for the Donlin fiber optic cable easement application.

Legal Description, Location and Geographical Features:

The state land where the proposed easement is located is described as follows:

- **Legal Description:**
 Sections 7, 17, 18, 20, 28 and 29, Township 14 North, Range 9 West, Seward Meridian;
 Sections 1 and 12, Township 14 North, Range 10 West, Seward Meridian;
 Sections 4, 5, 8, 17, 20, 29, 30 and 31, Township 15 North, Range 9 West, Seward Meridian;
 Section 36, Township 15 North, Range 10 West, Seward Meridian;
 Sections 3, 10, 15, 21, 22, 28, and 33, Township 16 North, Range 9 West, Seward Meridian;
 Sections 4, 9, 10, 15, 22, 23, 26 and 35, Township 17 North, Range 9 West, Seward Meridian;
 Sections 7, 18, 19, 20, 29, 32 and 33, Township 18 North, Range 9 West, Seward Meridian;
 Sections 1 and 12, Township 18 North, Range 10 West, Seward Meridian;
 Sections 6, 7, 8, 16, 17, 21, 22, 26, 27, 35 and 36, Township 19 North, Range 10 West, Seward Meridian;
 Section 1, Township 19 North, Range 11 West, Seward Meridian;
 Sections 5, 8, 9, 16, 21, 22, 26, 27, 35 and 36, Township 20 North, Range 11 West, Seward Meridian;
 Sections 29, 30 and 32, Township 21 North, Range 11 West, Seward Meridian;
 Sections 7, 18, 19, 20, 21, 22, 25, 26 and 27, Township 21 North, Range 12 West, Seward Meridian;
 Sections 2, 3, 4, 11, 12 and 13, Township 21 North, Range 13 West, Seward Meridian;
 Sections 30, 31, 32 and 33, Township 22 North, Range 13 West, Seward Meridian;

Sections 19, 20, 21, 22, 23, 25 and 26, Township 22 North, Range 14 West, Seward Meridian;
Sections 19, 20, 21, 22, 23, 24, 28, 29 and 30, Township 22 North, Range 15 West, Seward Meridian;
Sections 19, 20, 25, 26, 27, 28 and 29, Township 22 North, Range 16 West, Seward Meridian;
Sections 5, 6, 8, 9, 10, 13, 14, 15 and 24, Township 22 North, Range 17 West, Seward Meridian;
Sections 1, 2 and 3, Township 22 North, Range 18 West, Seward Meridian;
Sections 19, 20, 29, 32, 33 and 34, Township 23 North, Range 18 West, Seward Meridian;
Sections 2, 11, 12, 13 and 24, Township 23 North, Range 19 West, Seward Meridian;
Section 6, Township 23 North, Range 37 West, Seward Meridian;
Sections 1, 2, 3, 7, 8, 9, 10, 16, 17 and 18, Township 23 North, Range 38 West, Seward Meridian;
Sections 13, 14, 15, 16, 17 and 18, Township 23 North, Range 39 West, Seward Meridian;
Section 15, Township 23 North, Range 40 West, Seward Meridian;
Sections 7, 8, 16, 17, 18, 21, 22, 27, 34 and 35, Township 24 North, Range 19 West, Seward Meridian;
Sections 2, 3, 11 and 12, Township 24 North, Range 20 West, Seward Meridian;
Sections 4, 5, 7 and 8, Township 24 North, Range 32 West, Seward Meridian;
Sections 11, 12, 14, 15, 16, 19, 20, 21 and 30, Township 24 North, Range 33 West, Seward Meridian;
Sections 24, 25, 26, 27, 28, 29 and 30, Township 24 North, Range 34 West, Seward Meridian;
Sections 27, 28 and 29, Township 24 North, Range 35 West, Seward Meridian;
Sections 31, 32 and 33, Township 24 North, Range 37 West, Seward Meridian;
Sections 7, 17, 18, 20, 22, 23, 26, 27, 28, 29, 35 and 36, Township 25 North, Range 20 West, Seward Meridian;
Sections 1, 2 and 12, Township 25 North, Range 21 West, Seward Meridian;
Sections 4, 5, 6 and 7, Township 25 North, Range 29 West, Seward Meridian;
Sections 4, 5, 9, 10, 14, 15, 23, 26 and 35, Township 26 North, Range 21 West, Seward Meridian;
Sections 1, 2, 3, 9, 10, 16, 17, 19 and 20, Township 26 North, Range 28 West, Seward Meridian;
Sections 19, 30, 31 and 32, Township 27 North, Range 21 West, Seward Meridian;
Sections 2, 3, 4, 11, 13, 14, 24 and 25, Township 27 North, Range 22 West, Seward Meridian;
Sections 3, 4, 5, 6 and 7, Township 27 North, Range 25 West, Seward Meridian;
Sections 11, 12, 14, 15, 16, 17, 19 and 20, Township 27 North, Range 26 West, Seward Meridian;
Section 18, 19, 30, 31, and 32, Township 28 North, Range 22 West, Seward Meridian;
Sections 12, 13, 14, 15, 16, 17, 19, 20 and 21, Township 28 North, Range 23 West, Seward Meridian; and
Sections 34, 35 and 36, Township 28 North, Range 25 West, Seward Meridian.

- **Geographical Location:** The fiber optic easement is currently proposed to begin north of the Beluga Power Plant near Tyonek and run across the Alaska Range through Rainy Pass to the proposed Donlin mine site. The fiber optic easement will be co-located within the footprint of the proposed natural gas pipeline right-of-way lease ADL 231908 which will be administered by SPCS.
- **Area Geographic Features:** Susitna Flats, Susitna Foothills, Alaska Range, Kuskokwim Mountains
- **Existing Surveys:** None
- **Municipality/Borough:** Matanuska Susitna Borough, Unorganized Borough
- **Native Corporations and Federally Recognized Tribes:** Calista Corporation, Cook Inlet Region, Inc., Doyon, Limited, The Kuskokwim Corporation, Village of Crooked Creek
- **Size:** 753 acres, more or less

Title:

DNR completed title reports on the proposed fiber optic cable easement route. Fee title via patent or management rights via Tentative Approval to the proposed easement area is held by the State of Alaska as follows:

- Patent No. 50-66-0120 dated September 27, 1965
- Patent No. 50-66-0121 dated September 27, 1965
- Patent No. 50-66-0128 dated September 27, 1965
- Patent No. 50-66-0129 dated September 27, 1965
- Patent No. 50-66-0131 dated September 27, 1965
- Patent No. 50-66-0132 dated September 27, 1965
- Patent No. 50-66-0141 dated September 28, 1965
- Patent No. 50-66-0184 dated October 19, 1965
- Patent No. 50-66-0185 dated October 19, 1965
- Patent No. 50-66-0212 dated November 10, 1965
- Patent No. 50-66-0293 dated January 19, 1966
- Patent No. 50-66-0310 dated February 4, 1966
- Patent No. 50-66-0311 dated February 4, 1966
- Patent No. 50-66-0319 dated February 7, 1966
- Patent No. 50-66-0356 dated February 17, 1966
- Patent No. 50-66-0373 dated February 18, 1966
- Patent No. 50-76-0154 dated March 19, 1976
- Patent No. 50-97-0220 dated May 1, 1997
- Patent No. 50-97-0164 dated February 25, 1997
- Patent No. 50-97-0229 dated May 1, 1997
- Tentative Approval dated January 23, 1976

- Tentative Approval dated April 23, 1982
- Tentative Approval dated June 29, 1982
- Tentative Approval dated July 2, 1982
- Tentative Approval dated August 30, 1982
- Two Tentative Approvals, each dated December 20, 2006
- Corrected Tentative Approval dated February 26, 2010

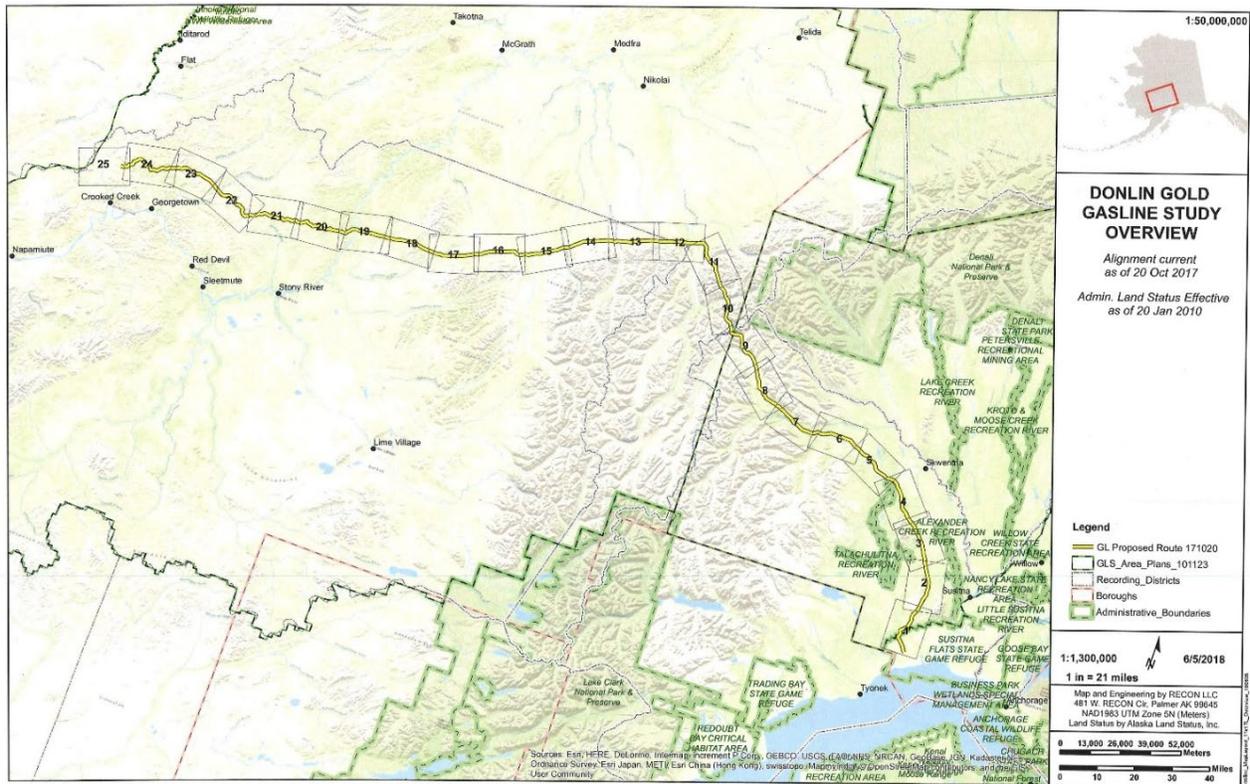


Figure 1: Location of proposed Donlin Gold co-located Pipeline Right-of-Way Lease and Fiber Optic Easement.

Third Party Interests:

The proposed easement will potentially affect the following previously approved DNR land use authorizations and actions:

- ADL 33939, surface easement to Hilcorp Alaska, LLC, within the Susitna Flats State Game Refuge
- ADL 57588, pending surface easement to Alaska Department of Transportation & Public Facilities (ADOT&PF), within the Susitna Flats State Game Refuge
- ADL 63047, oil and gas lease to Hilcorp Alaska, LLC, within the Susitna Flats State Game Refuge
- ADL 63048, oil and gas lease to Hilcorp Alaska, LLC, within the Susitna Flats State Game Refuge

- ADL 201672, surface easement to Chugach Electric Assn. Inc., within the Susitna Flats State Game Refuge
- ADL 213844, conveyance of Lot 2, Block 7 ASLS No. 80-177/ corrected plat 82-41 to Noricum Corporation
- ADL 213892, conveyance of Lot 1, Block 14 ASLS No. 80-177/ corrected plat 82-41 to Joshua M. Jelliff
- ADL 216878, pending surface easement to Alaska Pipeline Co., within the Susitna Flats State Game Refuge
- ADL 222930, surface easements to ADOT&PF and DNR, affecting segments of the Iditarod Trail
- ADL 229279, pending surface easement to Hilcorp Alaska, LLC, within the Susitna Flats State Game Refuge
- ADL 230363, pending surface easement to DNR, affecting segments of the Iditarod Trail
- ADL 390776, oil and gas storage lease to Hilcorp Alaska, LLC, within the Susitna Flats State Game Refuge
- ADL 390780, oil and gas lease to Hilcorp Alaska, LLC, within the Susitna Flats State Game Refuge
- ADL 541872, mining claim to Charles W. Poulson, within the Susitna Flats State Game Refuge
- LAS 28114, miscellaneous land use permit to Cook Inlet Region, Inc., within the Susitna Flats State Game Refuge
- LAS 32427, pending instream flow reservation to Alaska Department of Fish & Game (ADF&G), within the Kuskokwim River

Prior to commencement of construction activities, Donlin will, at the discretion of SCRO, be required to obtain and provide necessary agreements or letters of non-objection from currently authorized parties. SCRO may require additional documentation, special stipulations or other measures to demonstrate that potential conflicts with other authorized land-users have been addressed.

Classification and Planning:

State lands crossed by the proposed easement are subject to the following designations, area plans and classifications.

Southeast Susitna Area Plan for State Lands (SSAP) and Land Classification Order SC-08-001, adopted on April 28, 2008:

- Susitna Flats State Game Refuge Legislatively Designated Area (L-01), classified as Wildlife Habitat Land (11 AAC 55.230).

The Susitna Flats State Game Refuge (SFSGR) is within the boundary of the SSAP and was established under ADF&G statute AS 16.20.036 to protect fish and wildlife populations, public uses of fish and wildlife and their habitat, and general public recreation in a high-quality environment. The legislatively designated refuge is co-managed by DNR

and ADF&G. Donlin is required to obtain an ADF&G Special Area Permit for activities within the SFSGR to ensure compatibility with the stated land management objectives. SCRO has determined that the proposed usage is compatible with the land use determination and classification described in SSAP and the legislative management intent found at AS 16.20.036.

Susitna Matanuska Area Plan for State Lands (SMAP) and Land Classification Order SC-09-002, adopted on August 11, 2011:

- Mt. Susitna Region Unit M-01, classified as Wildlife Habitat Land (11 AAC 55.230) and Water Resources Land (11 AAC 55.222).
- Mt. Susitna Region Unit M-03, classified as Settlement Land (11 AAC 55.202).
- Mt. Susitna Region Unit M-04, classified as Settlement Land (11 AAC 55.202).
- Mt. Susitna Region Unit M-07, classified as Forest Land (11 AAC 55.070).
- Mt. Susitna Region Unit M-23, classified as Agricultural Land (11 AAC 55.050).
- Mt. Susitna Region Unit M-26, classified as Agricultural Land (11 AAC 55.050).
- Alaska Range Region Unit R-01, classified as Resource Management Land (11 AAC 55.200).
- Alaska Range Region Unit R-02, classified as Wildlife Habitat Land (11 AAC 55.230) and Public Recreation Land (11 AAC 55.160).
- Alaska Range Region Unit R-03, classified as Forest Land (11 AAC 55.070).
- Alaska Range Region Unit R-05, classified as Settlement Land (11 AAC 55.202).
- Alaska Range Region Unit R-07, classified as Mineral Land (11 AAC 55.130).
- Susitna Lowlands Region U-07, classified as Forest Land (11 AAC 55.070).
- Susitna Lowlands Region U-11, classified as Settlement Land (11 AAC 55.202).
- Susitna Lowlands Region Unit U-26, classified as Forest Land (11 AAC 55.070).
- SMAP Determination SC-09-002-D15 issued August 2, 2018, concerning the incorporation of inadvertently omitted lands to Mt. Susitna Region Unit M-01.

Approval of communications utility infrastructure is not identified as a prohibited land use in the management summaries for specified regions or in the individual management intent statements for listed units of SMAP. SCRO has determined that the proposed usage is compatible with the management guidelines, primary land use designations and classifications described in SMAP.

Kuskokwim Area Plan for State Lands (KAP) and Land Classification Order SC-88-001, adopted on March 22, 1988:

- Kuskokwim River Management Unit, Subunit 5a, classified as Forest Land (11 AAC 55.070), Public Recreation Land (11 AAC 55.160) and Wildlife Habitat Land (11 AAC 55.230).
- Kuskokwim River Management Unit, Subunit 5i, classified as Resource Management Land (11 AAC 55.200).
- Kuskokwim River Management Unit, Subunit 5j, classified as Wildlife Habitat Land (11 AAC 55.230).

- Swift River Management Unit, Subunit 11a, classified as Wildlife Habitat Land (11 AAC 55.230).
- Swift River Management Unit, Subunit 11b, classified as Resource Management Land (11 AAC 55.200).
- North Alaska Range Management Unit, Subunit 13a, classified as Public Recreation Land (11 AAC 55.160) and Wildlife Habitat Land (11 AAC 55.230).
- North Alaska Range Management Unit, Subunit 13e, classified as Forest Land (11 AAC 55.070), Public Recreation Land (11 AAC 55.160) and Wildlife Habitat Land (11 AAC 55.230).

Approval of communications utility infrastructure is not identified as a prohibited land use in the management summaries for the specified units or in the individual management intent statements for listed subunits. SCRO has determined that the proposed usage is compatible with the management guidelines, land use designations and classifications described in KAP.

Pending Kuskokwim Area Plan Determination SC-88-001AA21:

The route of ADL 232368 will include certain unclassified state lands in the vicinity of the proposed Donlin Gold Mine site. A proposed amendment to DNR’s Kuskokwim Area Plan 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 unclassified area. The proposed Area Plan Amendment and Land Classification Order are being issued for public comment concurrently with this decision. 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.

Access:

Current access to the proposed easement is variable along the 207-mile project corridor on remote state lands but primarily via all-terrain vehicles and aircraft to remote landing sites. Future access may include various improvements.

Scoping Notice:

A Scoping Notice was conducted 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 in the FFD.

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 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.

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 required 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.

ADEC Comment:

On March 23, 2018, SCRO received a comment from ADEC concerning the location of a known contaminated site near the easement alignment proposed in ADL 232368. The contaminated site, FAA Puntilla Lake Station (2248.38.001), is located approximately 0.4 miles to the west of Township 23 North, Range 19 West, Section 11, Seward Meridian. This site is the location of a historic petroleum spill; contaminants of concern here include benzene, diesel range organics, and lead. Additional information concerning this site can be found at [ADEC’s] link <http://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/1811>.

Additionally, ADEC noted that additional sources of currently undocumented contamination may be present in the project area. Donlin Gold should be advised that if the project encounters contamination, coordination with the ADEC Contaminated Sites Program is required.

SCRO Response:

SCRO acknowledged receipt of the comment from ADEC.

Easement Discussion:

DMLW is considering issuance of a 30-year private, non-exclusive easement to Donlin under AS 38.05.850 for use of approximately 753 acres of state land for the construction, use, operation, and maintenance of a fiber optic cable and associated components of a communications and monitoring system in support of their proposed gold mine and affiliated natural gas pipeline. Authorized infrastructure will include fiber optic cable, conduit, repeater station, pull boxes, casing pipe, ground rods, cable markers, a cathodic protection system and other necessary items. Most fiber

optic installation and maintenance activities will be supported by aircraft or all-terrain vehicles except where road access is available. The subject easement will be located within the same footprint for the proposed natural gas pipeline right-of-way lease under review by SPCS.

A public utility easement is not appropriate for Donlin's current proposal because the resulting communications system is currently intended only for their private use, nor is Donlin a utility. However, the standard requirements of SCRO-authorized easements on state land require that the Grantee (Donlin) will use the authorized area in a way that does not interfere with the peaceful use and enjoyment of any previously issued easement or right of way, and that the Grantor (SCRO) reserves the right to set or modify stipulations governing the use of any conflicting or overlapping authorized areas. Donlin will be required to coordinate its activities to accommodate continued use of other authorizations.

Development Plan:

The development plan (DP) attached to this preliminary decision (Attachment A) and dated October 2018 is under consideration by DMLW. Should the proposed easement be granted, it is anticipated that the DP will need to be updated throughout the life of the easement as activities and/or infrastructure are added or subtracted. All updates must be approved in writing by DMLW before any construction, deconstruction, replacement of infrastructure or change in activity will be permitted. DMLW reserves the right to require additional agency review and/or public notice for changes that are deemed by DMLW to be beyond the scope of this decision.

Hazardous Materials and Potential Contaminants:

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

Donlin is expected to follow ADEC's Best Management Practices 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 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.

Easement Performance Guaranty (bonding):

In accordance with AS 38.05.035, AS 38.05.850 and 11 AAC 96.060(a) Performance Guaranty, Donlin will be required to submit two performance guaranties for the authorized easement.

- **\$1,050,000.00 EA Cash Bond:** This bond will serve as a default to be forfeited, all or in part, if the applicant fails to submit the survey or other documentation necessary for the issuance of the easement by the required dates.

- **\$760,000.00 Performance Bond:** It is anticipated that this bond amount 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. This bond will remain in place for the life of the proposed easement. The bond amount is based upon the level of development, amounts of hazardous material and/or substances on site, and the perceived liability to the State. This bond will be used to ensure the applicant's compliance with the terms and conditions of the easement issued for their project. This bond amount will be subject to periodic adjustments and may be adjusted upon approval of any amendments, assignment, changes in the Development Plan, changes in the activities conducted, or changes in the performance of operations conducted on the authorized premises, and as a result of any violations to one or more of the authorizations associated with this project. DMLW is reserving the right to require a reclamation bond due to noncompliance issues during the term of the easement or near the end of the life of the project.

Insurance:

In accordance with 11 AAC 96.065 Insurance, 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 EA and the easement.

Survey:

A DMLW-approved as-built survey is required for ADL 232368 to determine the proper location and acreage of installed improvements and the associated easement on state owned, DMLW managed lands. The applicant must acquire survey instructions and coordinate with the DMLW Survey Section for the as-built process. A survey instruction fee per 11 AAC 05.240 may be applicable. A draft must be submitted to the Survey Section prior to expiration of the EA and a final as-built survey must be approved by DMLW before issuance of the final easement document.

Compensation:

In accordance with 11 AAC 05.070(d)(2)(A)(i) and DMLW Director's Fee Order Number 3, the current annual fee for a private, non-exclusive use easement is \$480.00 for up to two acres plus \$240.00 for each additional acre of state land. Therefore, the estimated annual fee for the approximately 753-acre easement proposed for authorization under ADL 232368 is \$180,720.00 per year. The actual acreage occupied by this easement will be reported in the required DMLW-approved as-built survey and any necessary adjustment to computation of the fee amount will be made by SCRO subsequent to its receipt. If the annual fee rate changes before the survey is approved, the new fee will apply as of the effective date of the price change.

Collection of compensation for extraction and removal of materials from the co-located areas of ADL 232368 and ADL 231908 will be managed by SPCS.

Entry Authorization:

An entry authorization (EA) is an interim authorization that is issued when a survey is necessary prior to issuance of the easement. DMLW is proposing to authorize Donlin's entry onto state land through the issuance of an EA while Donlin is completing the construction necessary to complete the survey of the easement. The proposed EA would be issued for a five-year term that would begin after

the effective date of the FFD. The effective date of the EA is the beginning date of the easement term.

DMLW may choose to extend the EA beyond the initial five-year term if Donlin demonstrates it is working toward meeting the EA's requirements. To request an extension, Donlin must submit a written request prior to the expiration date of the EA, that includes information to document Donlin's progress toward obtaining the survey and certify there have been no changes to the prior approved development plan. The extension of the EA may be subject to applicable fees. DMLW reserves the right to amend the terms of the EA prior to extension.

In accordance with 11 AAC 05.070(d)(2)(A)(ii), 11 AAC05.070(d)(2)(I) and DMLW Director's Fee Order Number 3, DMLW is setting the annual fee for the proposed EA at \$360.00 per acre, resulting in an annual fee of \$271,080.00. This fee is based on the information provided by the applicant and is subject to revision based on the amount of actual acreage reported on the DMLW approved post-construction as-built survey.

Co-location:

Donlin has proposed co-location of the fiber optic cable described in ADL 232368 within the footprint of pipeline right-of-way lease ADL 231908 and SCRO's issuance of a private, non-exclusive easement will allow for that condition. Additional infrastructure controlled by third-party interests may be placed within the approved easement area so long as the usage does not conflict with the existing authorizations and both Donlin and the appropriate DNR offices have previously approved the agreement. Any required compensation to the state will be determined by DMLW according to the appropriate State of Alaska regulations and/or schedules.

Assignment of Easement:

The proposed easement, if issued, may be transferred or assigned only with written approval from DMLW. An easement will not be assigned if the assignee does not meet or comply with statutory, regulatory or other requirements identified by DMLW, or if the assignee is considered not to be in "good standing" with this or any other agency authorization. DMLW reserves the right to amend the terms of the easement prior to assignment.

Reclamation:

In the DP for ADL 232368, Donlin proposes that a "Stabilization, Rehabilitation, and Reclamation Plan" for the SPCS-managed natural gas pipeline right-of-way lease ADL 231908 would be developed in accordance with all pertinent regulations and best management practices and would also include those actions applicable to the co-located fiber optic cable easement on state lands.

Public Notice of the Preliminary Decision:

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 in Crooked Creek, Red Devil, Sleetmute, Holy Cross, Aniak and Bethel. Courtesy notices will also be mailed or e-mailed to neighboring property owners, DNR permit, lease or easement 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. All comments received by the comment deadline will be considered in 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 about the proposed fiber optic cable easement portion of this project can be directed to Cynthia Zuelow-Osborne at (907) 269-8575.

If public comments result in significant changes to the PD, additional public notice will be given.

Recommendation:

DMLW has completed a review of the information provided by the applicant, examined the relevant land management documents, and has found that the proposed easement is consistent with all applicable statutes and regulations. This decision also considers the submitted agency comments. DMLW considered three criteria to determine if the proposed easement provides 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 any annual rent and/or fees represent the direct economic benefit to the State. Indirect economic benefits provided by the proposed authorization include creation of jobs and increased activity in the local communities. Moreover, this authorization is in the State's best interest as it furthers development of natural resources and supports increased economic activity regionally and statewide. It is recommended that DMLW issue a 30-year easement to Donlin for the construction, use, operation, and maintenance of a fiber optic cable communications and monitoring system in support of the proposed Donlin Gold Project.


Cynthia Zuelow-Osborne, Natural Resource Specialist III
Date 01-24-19

Preliminary Decision:

It is the determination of DMLW that it may be in the State's best interest to issue an easement under AS 38.05.850 for 30 years to Donlin, as described above. DMLW will issue an EA prior to easement issuance to allow for a survey to be completed. The final-easement annual fee will be calculated using DMLW's approved survey. The EA annual fee will be \$271,080.00. Donlin will be required to submit a \$1,050,000.00 EA cash bond, and a performance bond of \$760,000.00. Additionally, Donlin will be required to submit proof of insurance to DMLW, with the State of Alaska listed as a "NAMED" insured party. This application shall now proceed to public notice.



1/24/19

for

Clark Cox, Regional Manager
Southcentral Regional Land Office, Division of Mining, Land and Water

Date

Attachments

- Attachment A – Development Plan
- Attachment B – Location Map



**Attachment A
Development Plan**

PLAN OF DEVELOPMENT
FIBER OPTIC CABLE
ADL 232368
Donlin Gold Project

October 2018



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

Prepared By:

SRK Consulting (U.S.), Inc.
11901 Business Blvd., Suite 110
Eagle River, Alaska 99577

Attachment A Development Plan

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Attachment A Development Plan

PoD – Fiber Optic Cable
Donlin Gold Project

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ACRONYMS

ADNR	Alaska Department of Natural Resources
ADOT	Alaska Department of Transportation
ATV	all-terrain vehicle
BPL	Beluga natural gas pipeline
CCTV	closed-circuit television
CIRI	Cook Inlet Regional Corporation
CP	cathodic protection
DOI	Department of Interior, Bureau of Reclamation
ENSTAR	ENSTAR Natural Gas Company
FOC	fiber optic cable
GCI	General Communications, Inc.
GIS	geographical information system
GPS	global positioning system
HDD	horizontal directional drill
HDPE	high density polyethylene
I/O	input/output
IP	Internet Protocol
LAN	local area network
MLV	mainline block valve
MP	milepost
PCC	pipeline control center
PDC	power distribution center
PLC	programmable logic controller
PoD	Plan of Development
ROW	right-of-way
SCADA	supervisory control and data acquisition
SFSGR	Susitna Flats State Game Refuge
TCP/IP	Transmission Control Protocol
USACE	US Army Corps of Engineers

UNITS OF MEASURE

ft	foot/feet
ha	hectare
km	kilometers
kW	kilowatt
m	meter
mm	millimeters

APPENDIX

Appendix A: Land Status

Appendix B: Donlin Gold Project Gas Line Study- Fiber Optic Cable and Natural Gas Pipeline Proposed Route

Attachment A

Development Plan

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. 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.

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 construct a 315-mile-long (507 km) pipeline to deliver natural gas to the Donlin Gold mine project (SRK Consulting, Donlin Gold Project, Natural Gas Pipeline Plan of Development [PoD], Revision 1, December 2013 and Supplemental Information submitted December, 2017) including final alignment and installation of a fiber optic cable (FOC) within the pipeline right-of-way (ROW) as a communications system for pipeline operation and general mine communications. On State of Alaska owned land, which includes approximately 207 miles (333 km) of the route, this proposed FOC project would require separate authorization from the Alaska Department of Natural Resources (ADNR) Division of Mining, Land and Water.

The pipeline would receive natural gas from the existing ENSTAR Natural Gas Company (ENSTAR) 20-inch (508 mm) diameter pipeline (Beluga natural gas pipeline [BPL]) near Beluga, Alaska, and transport the product to the proposed Donlin Gold mine. The gas would be used to generate electricity to power industrial equipment at the mine. The proposed FOC would follow the natural gas pipeline route from its beginning at the BLP, designated as MP 0 (MP) within the Susitna Flats State Game Refuge (SFSGR), to the proposed Donlin Gold mine site. The proposed FOC would be primarily installed underground from the metering station located at MP 0 to the pipeline compressor station at approximately MP 0.4 and then on to the proposed Donlin Gold mine site at approximately MP 315. Donlin Gold is evaluating options for a selected service provider and where the FOC would originate, with the decision to be made during final engineering design.

This PoD for the proposed Donlin Gold's FOC provides information and details regarding the location and description of the proposed FOC installation subject to final engineering design requirements. A map of the proposed FOC and pipeline project route is presented in Figure 1-1 as the GL (gas line) proposed route. Appendix B provides additional detailed information. Route maps also can be found in the Natural Gas Pipeline PoD referenced above.

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2.0 PROJECT DESCRIPTION

The installation of a fiber optic cable (including a repeater station) within the NGP right-of-way would require a separate authorization on land owned by the State of Alaska. Donlin Gold has applied to the ADNR for an easement in which to install the FOC on state land. This proposed 30 ft (9 m) wide easement would be located within the proposed natural gas pipeline ROW Lease for which Donlin Gold also has applied. Donlin Gold's intent is to complete the FOC installation at the same time the natural gas pipeline is under construction to minimize additional surface disturbance and to optimize use of temporary construction facilities and equipment as well as to implement stabilization, rehabilitation and reclamation activities for both as soon as possible.

The natural gas pipeline PoD and supplemental information provide detailed information to support this FOC PoD, and other appropriate and/or necessary federal, state, or local regulatory processes. The natural gas pipeline provides a detailed description of the route including terrain, fault crossings, construction camps, airstrips, storage locations and access routes as well as a construction schedule. Refer Natural Gas Pipeline PoD, Section 3.10, pgs 3-13 through 3-22 and the supplemental information as well as Appendix B of this PoD.

The proposed FOC would be installed within a proposed 30 ft (9 m) wide easement located within the proposed final 50 ft (15 m) wide NGP right of way. The proposed FOC communications system would be an operational component of pipeline operations and maintenance. The system would connect the Pipeline Control Center (PCC), and the backup Supervisory Control and Data Acquisition (SCADA) Control Center to all other control/monitoring facilities along the pipeline and provide reliable links to carry the operational data, voice services, and closed-circuit television (CCTV) signals associated with the operation of the proposed Donlin Gold natural gas pipeline.

The proposed FOC system would be installed primarily belowground, except in specific areas where above ground installation is deemed necessary (e.g., Denali Fault crossing). Below ground installation within the natural gas pipeline ROW ensures the construction, operation, and maintenance of the FOC would not interfere with the established standards of the proposed Donlin Gold pipeline and facilities while also maximizing the integrity of the FOC system to ensure uninterrupted communications service. Where the FOC system must be installed above ground, specific construction methods and equipment would be used to provide protection from exposure to arctic elements and from other detrimental impacts.

The pipeline communications network would be a high-performance Internet Protocol (IP) network with service provided by an existing telecommunication / internet provider near the BPL tie-in (to be determined during final engineering design). Diversity of the system to ensure uninterrupted service in the case of a damage to the system at a specific point would be determined during final engineering design. The fiber system could be enhanced to provide redundancy either by installation of parallel cables or by use of a wireless data transmission system. Transmission Control Protocol (TCP/IP) would be used over the main network. Each facility on the system would have IP address for the data equipment. Using Ethernet switches and routers, a local area network (LAN) would be generated at all the facilities. Voice-over IP would be implemented for telephone communications. A network email system would also be installed for possible future implementation.

Attachment A Development Plan

PoD – Fiber Optic Cable
Donlin Gold Project

Project Description

There is the possibility that the FOC system installation as proposed may have sufficient capacity to allow for additional public or private use consideration for communities, or for other entities along or beyond the proposed route. However, such use would be determined based on availability of capacity and on Donlin Gold's own requirements, the community or other need, and technical and fiscal feasibility and may be considered and developed on a case by case basis.

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3.0 SPECIAL DESIGN CONSIDERATIONS

The FOC selected for the proposed Donlin Gold pipeline communications system network must possess the physical attributes to operate at full capacity with minimal impact to transmission rate or quality under temperature conditions that are occasionally expected to be -40°F or below and in some areas constantly below freezing. The fibers must be able to provide the necessary transmission rate of the systems being serviced by the cable. The size of the cable (i.e., number of fibers) would be determined based upon the required capacity of the features or systems being serviced by the proposed FOC and the number of facilities to be serviced along the route. The cable would be delivered on 20,000-foot (6096 m) reels, which is the typical industry standard for cable length before signal regeneration is typically required.

3.1 Fire and Wildfires

At the few areas where the proposed FOC system is installed above ground, the system would be designed to prevent the loss of telecommunication service caused by fire and wildfires.

3.2 Frost Action / Permafrost

The proposed FOC system would be designed to accommodate differential movement caused by frost heaving or thaw settlement.

The proposed FOC system would be designed to minimize water infiltration into any conduit or casing where freezing may occur by installing pull boxes on high points or ridges along the alignment and by installation of duct plugs in the ends of all innerducts and casing pipes.

3.3 Slope Stability

The proposed FOC system would be designed to prevent loss of telecommunication service caused by slope instability or other ground movement. Special consideration would be given to the stability of any cuts and fills.

3.4 Rock Fall/Avalanche

The proposed FOC system would be designed to prevent loss of telecommunication services through rock fall or avalanche. All proposed FOC components within the limits of the rock fall/avalanche potential limits would be demonstrated to withstand the increased overburden and/or direct forces caused by the rock fall/avalanche or a mitigative plan would be detailed to eliminate integrity problems during the event.

3.5 Corrosion

The proposed FOC system would be designed to prevent system deterioration due to water or other means. All critical components would address possible sources of corrosion (or other material degradation, e.g., UV) based on the material composition and experience with the hardware. Rates of degradation would be documented for each source of material/component degradation. Each component would be demonstrated to sustain system integrity at the maximum corrosion rate over the design life. Where it cannot be demonstrated degradation

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Development Plan

would not affect the integrity of the system, a mitigative plan would be detailed to maintain full system integrity.

3.6 Security

The proposed FOC system would be designed to minimize the possibility of loss of telecommunication service through acts of sabotage. A risk analysis of the proposed FOC system would be completed. The risk analysis would address natural hazards and sabotage, terrorism, vandalism, and accidents. Higher risk areas along the proposed FOC alignment would be identified. A plan would be detailed to maintain system integrity for any identified hazard for higher risk locations.

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4.0 LAND STATUS

Of the approximately 315 miles (507 km) proposed FOC route, the State of Alaska owns approximately 207 miles (333 km) of the land that the proposed FOC traverses, with the remaining approximately 108 miles (174 km) owned by Cook Inlet Regional Corporation (CIRI), Calista Corporation and the federal government managed by the Bureau of Land Management (BLM).

The proposed FOC easement on state land would be 30 ft (9 m) wide and approximately 207 miles (333 km) long for a total of approximately 753 acres (305 ha). See Appendix A for State of Alaska owned and selected land the proposed FOC crosses. The Donlin Gold Project Gas Line Study provided in Appendix B provides additional information including land status and depicts the route of both the FOC and NGP.

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5.0 MOBILE EQUIPMENT

Typical list of mobile equipment required for the FOC installation is listed below as well as some of the equipment associated with pipeline construction. The actual equipment type, and quantity could vary during detail engineering design or as deemed necessary by the FOC installation contractor.

- Trenchers
- Cable plows
- Backhoes
- Cable winches
- Directional boring/drilling equipment
- Cable pullers

Typical Construction and Maintenance Mobile Equipment

- Dozers (Type CAT D6, D8, D10)
- Excavators (Type CAT 320, 330, 345, 385)
- Trucks (Type CAT 740)
- Graders (Type CAT 14H)
- Compactors (Type CAT CS563, 815, 825, 563)
- Water Trucks (Type CAT 725)
- Loaders (Type CAT 950, 963, 992, 980, 963, 988H, IT28)
- Generators & Lighting Equipment (Type 6 kW to 1500 kW)
- Light trucks (Type Ford 150, 250, 350)
- Fueling vehicles

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6.0 CONSTRUCTION

6.1 Fiber Optic Cable Installation

The proposed FOC system would be installed belowground, except in specific areas where above ground installation is deemed necessary (e.g., Denali Fault crossing). Below ground installation within the ROW ensures the construction, operation, and maintenance of the FOC would not interfere with the established standards of the proposed Donlin Gold pipeline and facilities while also maximizing the integrity of the FOC system to ensure uninterrupted communications service. Where the FOC system must be installed above ground, specific construction methods and equipment would be used to provide protection from exposure to arctic elements and from other detrimental impacts.

6.2 Buried Installation

For most of its length, the FOC would be buried, installed in a protective plastic innerduct sized to allow the cable to be pulled within allowable pulling tolerances. The innerducts would be flexible enough to allow for bends to be formed in the field where possible for changes in both horizontal and vertical alignment. Where the innerduct cannot be bent to the desired curvature, preformed sweeps having a minimum radius of 4 feet (122 cm) would be used. Two or three innerducts are proposed for installation in a common trench, the location of the trench would be determined during final design of the proposed natural gas pipeline. One of the innerducts would be used to house the proposed fiber optic cable, with the other(s) remaining vacant for possible future cable replacement or emergency needs.

6.3 Above Ground Installation

The above ground FOC installation locations are very limited and the method would be determined during final engineering design. Whether the FOC would use the pipeline as its structural support or if the FOC would be lashed to a support cable that has adequate strength to support the FOC over the span between support structures, or another means, would be determined. Most fiber optic cables do not have sufficient strength to allow direct aerial installation, but there are methods to install them above ground as well as special cables that are designed for above ground installation.

6.3 Cable Splicing & Splice Manholes

Reels of cable would be spliced in the Ethernet (Moxa) switches being proposed for use in the FOC, which would be installed in pole-mounted panel enclosures at designated locations along the cable, where the locations of the panel enclosures are near the ends of the cable. Where no panel enclosure is proposed within proximity of the cable end, reels of cable would be spliced in buried Splice Manholes. The manhole would be of sufficient size to allow access to the cable within the manhole and to allow for racking of cable loops and splice enclosures within the manhole. The manhole would be of sufficient composition to provide a permanent enclosure unaffected by exposure to severe arctic elements. A grounding rod would be installed in undisturbed earth near every splice.

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6.4 Pull Boxes

Pull boxes would be installed a maximum distance of 3,000 ft (914 m) along the cable alignment to facilitate cable installation. Shorter distances between pull boxes would be required where significant deflections to the horizontal and vertical alignment of the innerducts are necessitated because of topography, geologic conditions, crossings of other buried utilities or other similar obstructions. Pull boxes would also be installed at significant points of intersection in the cable alignment and within the fenced area at mainline block valves (MLV) being serviced by the fiber optic system, launcher/receiver sites, and at the pipeline terminus. The pull boxes would be of sufficient size to permit access and hold coiled cable and installed flush to the existing ground surface. The bottom of the pull box would be open, set on a 6-inch (15 cm) thick layer of aggregate. Twenty feet of slack cable would be coiled and laid in each pull box.

Pull box locations would be adjusted to allow for installation at high points or ridges along the alignment, where possible, to minimize the opportunity for infiltration by ground water or surface water into the pull box.

6.5 Casing Pipe

A 6-inch diameter high density polyethylene (HDPE) pipe would be installed to serve as a casing for the innerducts at all horizontal bores (jack and bores), and horizontal directional drill (HDD) locations.

6.6 Duct Plugs

Duct plugs would be installed in the ends of all casing pipes and innerducts to eliminate or minimize debris or water from accumulating in or passing through the innerducts and conduits. Simplex duct plugs would be installed in the ends of all innerducts housing a fiber optic cable. Triplex duct plugs would be installed in the ends of all casing pipes around the innerduct.

6.7 Grounding Rods

Grounding rods would be installed at all cable splices manholes. A 5/8-inch diameter grounding rod, 8 ft (2.4 m) long, would be driven into undisturbed earth adjacent to the manhole. A number 6 AWG insulated solid copper ground wire would be attached to the rod. The other end of the ground wire would be attached to the splice casing.

6.8 Cable Markers

Marker stakes would be installed at both sides of road crossings, at both ends of horizontal bores and HDD, and at sufficient intervals along the route to ensure visibility in both directions from any marker. The markers would be flat and flexible, approximately 4 inches (10 cm) wide and 66 inches (168 cm) long. Marker Numbers, Splice or Pull Box designations, and Warning signs noting ownership and contact information would be affixed to the markers.

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6.9 Fiber Optic Signal Amplification

The distance between the compressor station and the proposed Donlin Gold Mine would require the use of boosting equipment for the fiber optic signal along the way. Current technology limits the distance between boosting points to approximately 75 miles (120 km).

Since automatic line break detection equipment may need to be installed at specific MLV locations, and the Cathodic Protection (CP) system may require rectifiers to be installed at specific locations; coupling the need for automatic line break valves and the CP needs, an industrial fiber booster could be cost effectively installed at these specific locations.

An industrial rated system is very robust and is a proven solution for high demand SCADA needs for real time operations.

The equipment at each location would be powered by a Thermal Electric Generator or Fuel Cell with a UPS system designed for three days of backup. The equipment at the automatic leak detection valves would include an RTU/PLC, pressure transmitters, and a solenoid to trip the valve along with the fiber amplifier/Ethernet switch. The communication and RTU/PLC equipment should be located in a small 6-ft by 6-ft by 8-ft (1.8 m by 1.8 m by 2.4 m) tall walk-in enclosure. The interior and exterior flood lighting should be fiber optic, reducing power requirements. While the walk-in enclosure is much easier to support, a smaller pole mounted weatherized panel 6-ft by 6-ft by 30-inch (1.8 m by 1.8 m by 76 cm) deep could be used to house this equipment.

6.10 Schedule

Donlin Gold estimates that construction of the proposed natural gas pipeline would take an estimated 2 to 3 years within a 3 to 4 year overall project schedule for construction as discussed in the proposed Natural Gas Pipeline PoD, Section 3.3, pg 3-5 and Section 8.2, pgs 8-11 through 8-14. Donlin Gold anticipates that the FOC would be installed at the same time as the natural gas pipeline to maximize use of equipment and facilities as well as to minimize redundancy in stabilization, rehabilitation and reclamation actions.

6.11 Construction Facilities Use

FOC installation activities are dependent on supplies, materials, equipment and personnel being transported to locations for construction and later for operation and maintenance purposes.

Donlin Gold intends that the proposed natural gas pipeline temporary camp facilities including accommodations, shops, storage yards, roads and airstrips would be available to accommodate needs for FOC installation.

During FOC operations and maintenances, depending on location and seasonal conditions most activities would be supported by aircraft or all-terrain vehicles (ATV) unless there is road access.

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PoD – Fiber Optic Cable
Donlin Gold Project

As-Built Survey

7.0 AS-BUILT SURVEY

An as-built survey showing the location of the proposed FOC, all associated system components including the repeater station within the easement and the easement boundaries would be completed following FOC installation.

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8.0 RECLAMATION AND TERMINATION

8.1 Reclamation

The Stabilization, Rehabilitation, and Reclamation Plan, when completed and approved for the NGP, would include mitigation measures for erosion and sediment control, as well as specifics of stabilization, rehabilitation, and reclamation actions during construction, operations and maintenance, and project termination. The plan would include those actions applicable to the fiber optic cable and easement reclamation stipulation requirements on State owned land. The plan would be developed in accordance with all pertinent regulations and would follow BMPs and would include but not limited to the following:

- Soil removal and replacement
- Cleanup and reclamation
- Stockpiling and use of salvageable growth medium
- Disposal of excess spoil and excavated material
- Erosion and sediment control
- Natural revegetation including site preparation, and seeding as an option when appropriate
- Invasive species prevention and management
- Limiting access to ROW to allow stabilization, rehabilitation, and reclamation actions to be successfully accomplished
- Inspection and maintenance/monitoring schedule and requirements
- Activities occurring during operations and maintenance
- Status of temporary use areas following construction
- Emergency reclamation situations
- Termination and final reclamation
- Estimated cost and unconditional guaranty for performance

8.2 Termination

At mine closure the decision would be made whether the FCO would remain in place available for future use. If during the life of the Donlin Gold project, Donlin Gold allows other use, the closure plan would need to address on-going FOC operational use. Otherwise if it is determined that the FOC is no longer needed post-mine closure, the FOC would be included in the detailed Pipeline Abandonment Plan. The Abandonment Plan and procedures would be based on applicable regulatory requirements at the time and would be designed to minimize impacts to public and private property in coordination with the appropriate agencies and land owners. Unless determined otherwise, all buried fiber optic cable would be abandoned in place. Fiber optic cable would be excavated to a minimum of 12 inches (30 cm) below grade, cut off, and appropriately located and preserved in a manner that would allow future use. Any above grade cable would be removed and salvaged or disposed of at an

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appropriate facility. The repeater station would be removed as well as any other above grade components.

A final determination where the proposed FOC would originate would be made during final engineering design and any FOC that is part of the Donlin Gold system and does not service any additional ongoing needs or services would be included in the reclamation and termination requirements.

8.3 Unconditional Guaranty for Duties and Obligations

For the proposed NGP Donlin Gold would provide ADNR an unconditional guaranty including a financial guaranty or surety, or bond as may be required for the performance of all Donlin Gold's duties and obligations in a form approved by ADNR including stabilization, rehabilitation and reclamation during construction, operation, maintenance and termination. Such duties and obligations would be consistent with the approved Stabilization, Rehabilitation and Reclamation Plan, NGP ROW lease and appropriate laws and regulations. Donlin Gold proposes that any unconditional guaranty including a financial guaranty or surety, or bond as may be required for the performance of all Donlin Gold's duties and obligations for work along the NGP route include the FOC.

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9.0 GOVERNMENT AGENCY INVOLVEMENT

- Alaska Department of Natural Resources (ADNR)
- Alaska Department of Fish and Game (ADF&G)
- Alaska Department of Environmental Conservation (ADEC)
- Alaska Department of Transportation (ADOT)
- U.S. Army Corps of Engineers (USACE)

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10.0 OPERATION AND MAINTENANCE

The proposed FOC easement traverses varied terrain and subsurface soil conditions, including areas of permafrost and intervals of ice-rich soils susceptible to thermal degradation and settlement as well as crossing two active faults. Given these conditions, maintenance and rehabilitation may be necessary throughout the FOC operating life. Appropriate best-management practices would be applied during installation, operations and maintenance of the FOC. Maintenance includes both preventative maintenance to ensure equipment and the system continues to function effectively, and corrective maintenance to fix or replace equipment that is not working or functioning correctly.

Inspection, surveillance and monitoring of the proposed FOC would be included in the natural gas pipeline inspection, surveillance and monitoring program designed to observe surface conditions on and adjacent to the natural gas pipeline ROW for indications of leaks, construction activity, and any other factors affecting safety and operation. This program would include such things as river and stream crossings, areas of known geohazards, above ground fault crossings, areas of known ice-rich permafrost, condition of surface reclamation and any additional specific surveillance and monitoring requirements for the proposed FOC developed during final engineering design.

For operation and maintenance as well as for safety purposes all or a portion of the 50 ft (15 m) wide NGP ROW on state land would be cleared of shrubs at approximately 10-year intervals or as required to preserve pipeline integrity and access. This would include clearing the FOC easement and any specific requirements applicable to the FOC determined during final engineering design.

Attachment A

Development Plan

11.0 REFERENCES

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

Michael Baker. Donlin Gold LLC, *Natural Gas Pipeline Project Design Basis Memorandum Revision 2*. April 2018

SRK Consulting. Donlin Gold LLC, *Plan of Development, Natural Gas Pipeline Revision 1*. December 2013

Attachment A Development Plan

Appendix A: State Lands

Attachment A

Development Plan

PoD –Fiber Optic Cable
Donlin Gold Project

Appendix A

Donlin Gold proposes to install a Fiber Optic Cable from Cook Inlet to the proposed Donlin Gold mine site located 10 miles north of Crooked Creek, Alaska near the Kuskokwim River. The route crosses State of Alaska owned and selected land. Listed below are the areas of the proposed easement land descriptions. The proposed 30 ft (9 m) FOC easement would be located within the proposed final 50 ft (15 m) of the proposed Donlin Gold Natural Gas Pipeline Right-of-Way lease. Seward Meridian, Alaska:

- T. 14N, R. 9W,
 - Sec. 28;
 - Sec. 29, NW1/4;
 - Sec. 20;
 - Sec. 17, SE1/4;
 - Sec. 18;
 - Sec. 7, SE1/4
- T. 14N, R.10W,
 - Sec. 12, N1/2;
 - Sec. 1, N1/2
- T. 15N, R. 10W,
 - Sec. 36, N1/2
- T. 15N, R. 9W,
 - Sec. 31, SW1/4;
 - Sec. 30;
 - Sec. 29;
 - Sec. 20;
 - Sec. 17, N1/2;
 - Sec. 8, N1/2;
 - Sec. 5, N1/2;
 - Sec. 4, SW1/4
- T. 16N, R. 9W,
 - Sec. 33;
 - Sec. 28, N1/2;
 - Sec. 21, N1/2;
 - Sec. 22, SW1/4;
 - Sec. 15, S1/2;
 - Sec. 10;
 - Sec. 3
- T. 17N, R. 9W,
 - Sec. 35, S1/2;
 - Sec. 26, S1/2;
 - Sec. 23, SE1/4;
 - Sec. 22, N1/2;
 - Sec. 15;
 - Sec. 10, SE1/4;
 - Sec. 9, N1/2
- T. 17N, R. 9W,
 - Sec. 4
- T. 18N, R.9W,
 - Sec. 33, SE1/4;
 - Sec. 32, N1/2;
 - Sec. 29;
 - Sec. 20, S1/2;

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PoD –Fiber Optic Cable
Donlin Gold Project

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- Sec. 19, NW1/4;
Sec. 18;
Sec. 7, S1/2
- T. 18N, R. 10W;
Sec. 12, NW1/4;
Sec. 1
- T. 19N, R. 10W,
Sec. 36, SE1/4;
Sec. 35;
Sec. 26, S1/2;
Sec. 27;
Sec. 22;
Sec. 21;
Sec. 16;
Sec. 17, NW1/4;
Sec. 8;
Sec. 7;
Sec. 6, SE1/4
- T. 19N, R. 11W,
Sec. 1
- T. 20N, R. 11W,
Sec. 36, SE1/4;
Sec. 35;
Sec. 26, SE1/4;
Sec. 27;
Sec. 22, S1/2;
Sec. 21, NW1/4;
Sec. 16;
Sec. 9;
Sec. 8, NW1/4;
Sec. 5
- T. 21N, R. 11W,
Sec. 32;
Sec. 30
- T. 21N, R. 12W,
Sec. 25, W1/2;
Sec. 26, W1/2;
Sec. 27, W1/2;
Sec. 22, E1/2;
Sec. 21;
Sec. 20, W1/2;
Sec. 19, NW1/4;
Sec. 18;
Sec. 7, SE1/4
- T. 21N, R. 13W,
Sec. 13, NW1/4;
Sec. 12;
Sec. 11, W1/2;
Sec. 2;
Sec. 3;
Sec. 4, W1/2

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PoD –Fiber Optic Cable
Donlin Gold Project

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T. 22N, R. 13W,
Sec. 33, SE1/4;
Sec. 32;
Sec. 31;
Sec. 30

T. 22N, R. 14W,
Sec. 25;
Sec. 26;
Sec. 23;
Sec. 22;
Sec. 21;
Sec. 20, N1/2;
Sec. 19, N1/2

T. 22N, R. 15W,
Sec. 24, N1/2;
Sec. 23, N1/2;
Sec. 22;
Sec. 21, S1/2;
Sec. 28, N1/2;
Sec. 29, N1/2;
Sec. 19, SE1/4;
Sec. 30

T. 22N, R. 16W,
Sec. 25;
Sec. 26, S1/2;
Sec. 27, S1/2;
Sec. 28;
Sec. 29;
Sec. 20, SW1/4;
Sec. 19, S1/2

T. 22N, R. 17W,
Sec. 24;
Sec. 13, SW1/4;
Sec. 14;
Sec. 15, N1/2;
Sec. 10, SW1/4;
Sec. 9;
Sec. 8, N1/2;
Sec. 5, SW1/4;
Sec. 6, S1/2

T. 22N, R. 18W,
Sec. 1;
Sec. 2, E1/2;
Sec. 3, NW1/4

T. 23N, R. 18W,
Sec. 34, E1/2;
Sec. 33;
Sec. 32, NW1/4;
Sec. 29;
Sec. 20, SE1/4;
Sec. 19

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T. 23N, R. 19W,
Sec. 24, NW1/4;
Sec. 13;
Sec. 12;
Sec. 11;
Sec. 2

T. 24N, R. 19W,
Sec. 35, S1/2;
Sec. 34, N1/2;
Sec. 27;
Sec. 22, SE1/4;
Sec. 21;
Sec. 16, SE1/4;
Sec. 17;
Sec. 18, NW1/4;
Sec. 8, SE1/4;
Sec. 7

T. 24N, R. 20W,
Sec. 12;
Sec. 11, NW1/4;
Sec. 2;
Sec. 3, NW1/4

T. 25N, R.20W,
Sec. 36, S1/2;
Sec. 35, NW1/4;
Sec. 26;
Sec. 23, SE1/4;
Sec. 22, E1/2;
Sec. 27, W1/2;
Sec. 28, W1/2;
Sec. 29;
Sec. 20;
Sec. 17, S1/2;
Sec. 18, N1/2;
Sec. 7

T. 25N, R. 21W,
Sec. 12;
Sec. 1, SE1/4;
Sec. 2, N1/2

T. 26N, R. 21W,
Sec. 35, N1/2;
Sec. 26, N1/2;
Sec. 23;
Sec. 14;
Sec. 15, NW1/4;
Sec. 10;
Sec. 9, NW1/4;
Sec. 4;
Sec. 5, NW1/4

T. 27N, R. 21W,
Sec. 32;

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PoD –Fiber Optic Cable
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- Sec. 31, NW1/4;
Sec. 30;
Sec. 19, SE1/4
- T. 27N, R. 22W,
Sec. 25, NW1/4;
Sec. 24;
Sec. 13, SE1/4;
Sec. 14
- T. 27N, R. 22W,
Sec. 11;
Sec. 2, SE1/4;
Sec. 3;
Sec. 4, E1/2
- T. 28N, R. 22W,
Sec. 32;
Sec. 31, NW1/4;
Sec. 30;
Sec. 19, S1/2;
Sec. 18, SE1/4
- T. 28N, R. 23W,
Sec. 13;
Sec. 14;
Sec. 15;
Sec. 16, S1/2;
Sec. 17, SE1/4;
Sec. 21, NW1/4;
Sec. 20;
Sec. 19
- T. 28N, R. 25W,
Sec. 36;
Sec. 35;
Sec. 34, S1/2
- T. 27N, R. 25W,
Sec. 3, NW1/4;
Sec. 4;
Sec. 5;
Sec. 6, SE1/4;
Sec. 7
- T. 27N, R. 26W,
Sec. 12;
Sec. 11, SE1/4;
Sec. 14, N1/2;
Sec. 15;
Sec. 16;
Sec. 17, S1/2;
Sec. 20, NW1/4;
Sec. 19
- T. 26N, R. 28W,
Sec. 1, NW1/4;
Sec. 2;

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PoD –Fiber Optic Cable
Donlin Gold Project

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- Sec. 3;
 - Sec. 10;
 - Sec. 9;
 - Sec. 16, NW1/4;
 - Sec. 17;
 - Sec. 20, NW1/4;
 - Sec. 19
- T. 25N, R. 29W,
- Sec. 4, NW1/4;
 - Sec. 5;
 - Sec. 6, SE1/4;
 - Sec. 7
- T. 24N, R32W,
- Sec. 4;
 - Sec. 5;
 - Sec. 8, NW1/4;
 - Sec. 7
- T. 24N, R. 33W,
- Sec. 12;
 - Sec. 11, SE1/4;
 - Sec. 14;
 - Sec. 15;
 - Sec. 16, SE1/4;
 - Sec. 21, N1/2;
 - Sec. 20;
 - Sec. 19, S1/2;
 - Sec. 30, NW1/4
- T. 24N, R. 34W,
- Sec. 24, SE1/4;
 - Sec. 25, N1/2;
 - Sec. 26;
 - Sec. 27;
 - Sec. 28, S1/2;
 - Sec. 29, S1/2;
 - Sec. 30, S1/2
- T. 24N, R. 35W,
- Sec. 27;
 - Sec. 28, N1/2;
 - Sec. 29, N1/2
- T. 24N, R. 37W,
- Sec. 33, S1/2;
 - Sec. 32, S1/2;
 - Sec. 31, S1/2
- T. 23N, R.37W,
- Sec. 6, NW1/4
- T. 23N, R. 38W,
- Sec. 1, N1/2;
 - Sec. 2, N1/2;
 - Sec. 3;
 - Sec. 10, NW1/4;

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PoD –Fiber Optic Cable
Donlin Gold Project

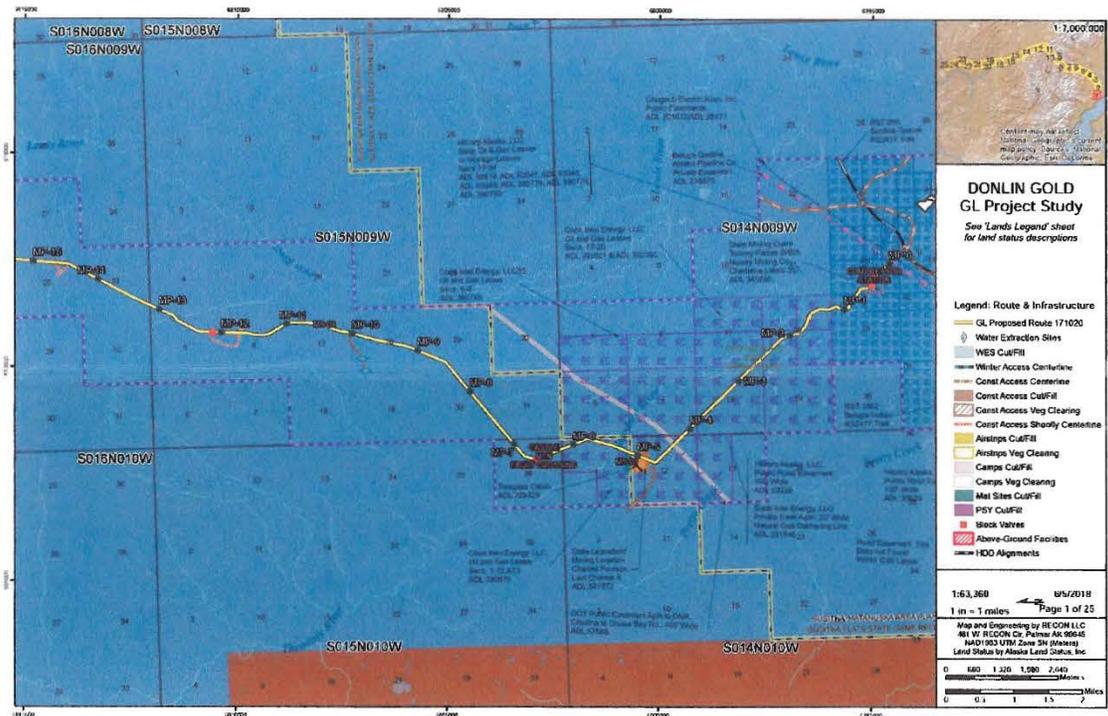
Appendix A

- Sec. 9;
- Sec. 16, NW1/4;
- Sec. 17, N1/2;
- Sec. 18, N1/2
- T. 23N, R. 39W,
 - Sec. 13, N1/2;
 - Sec. 14;
 - Sec. 15;
 - Sec. 16, S1/2;
 - Sec. 17;
 - Sec. 18, S1/2
- T. 23N, R. 40W,
 - Sec. 15, S1/2
- T. 23N, R. 41W, (State Selected BLM Land)
 - Sec. 31, NW1/4
- T. 23N, R. 42W, (State Selected BLM Land)
 - Sec. 36, NE1/4;
 - Sec. 25, S1/2;
 - Sec. 26, S1/2;
 - Sec. 35, NW1/4
- T. 23N, R. 47W, (State Selected BLM Land)
 - Sec. 24;
 - Sec. 23, S1/2;
 - Sec. 26;
 - Sec. 27;
 - Sec. 33, N1/2

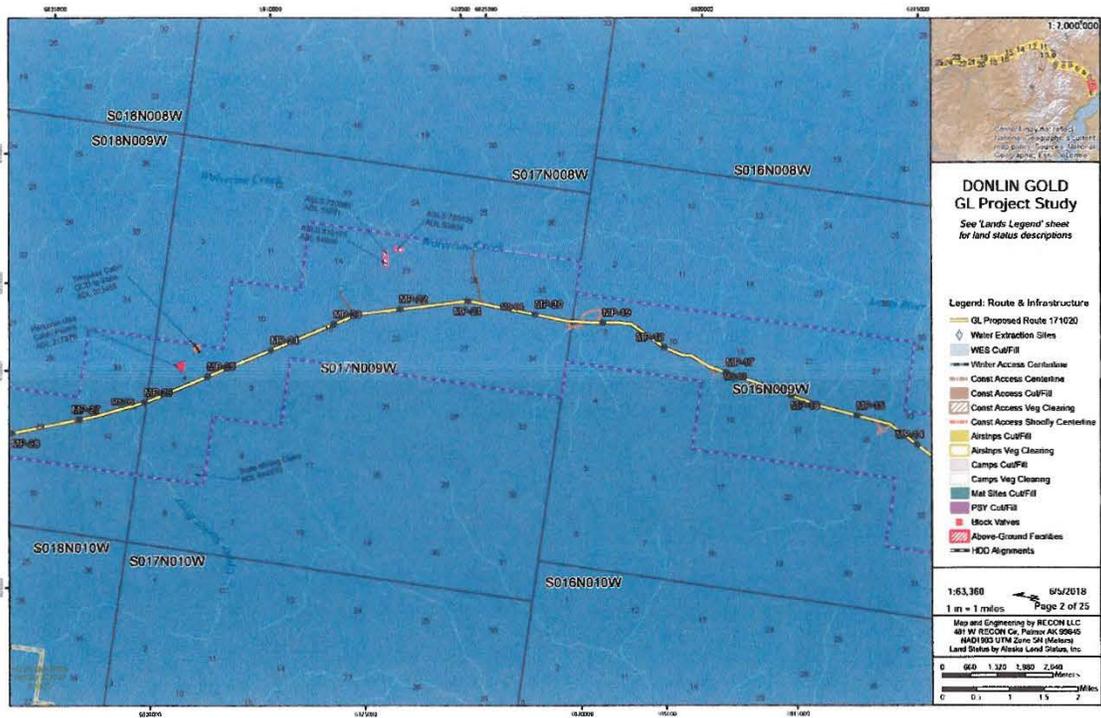
**Attachment B
Location Maps**

**Appendix B: Donlin Gold Project
Gas Line Study- Fiber Optic Cable
and Natural Gas Pipeline Proposed
Route**

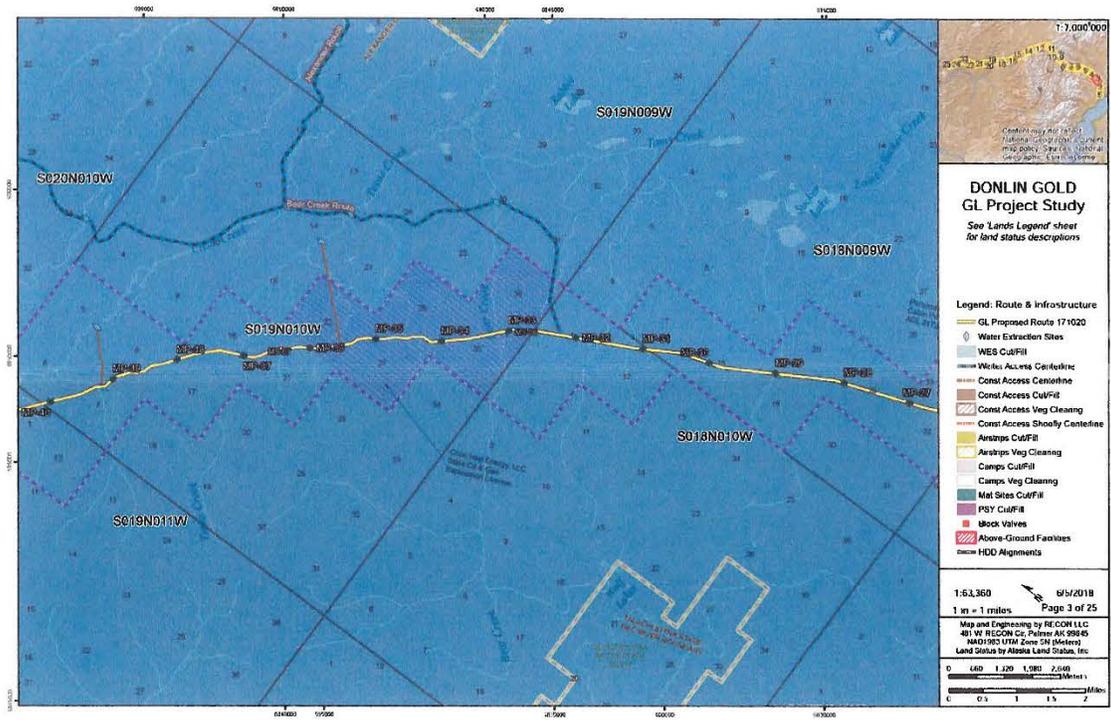
Attachment B Location Maps



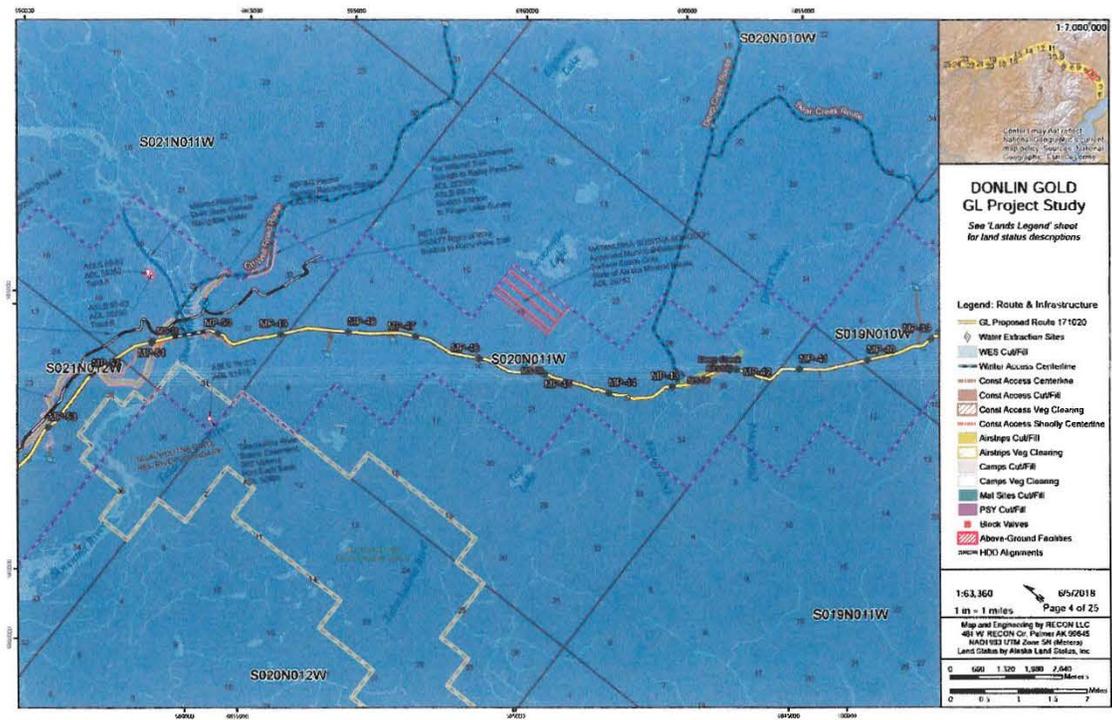
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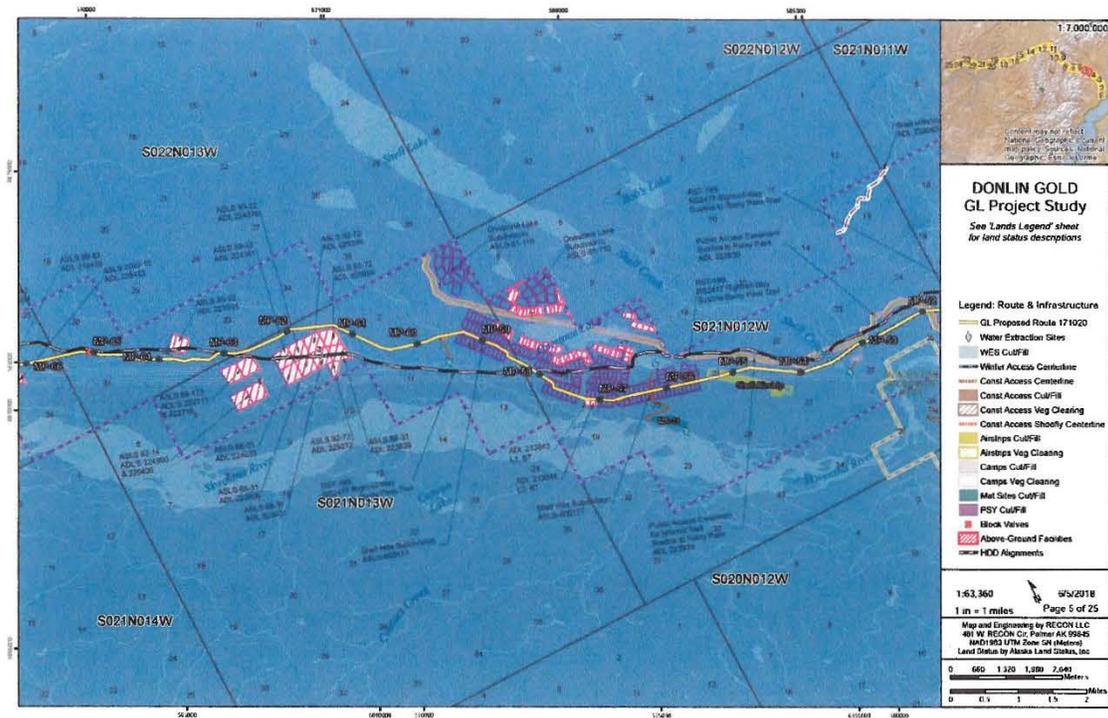
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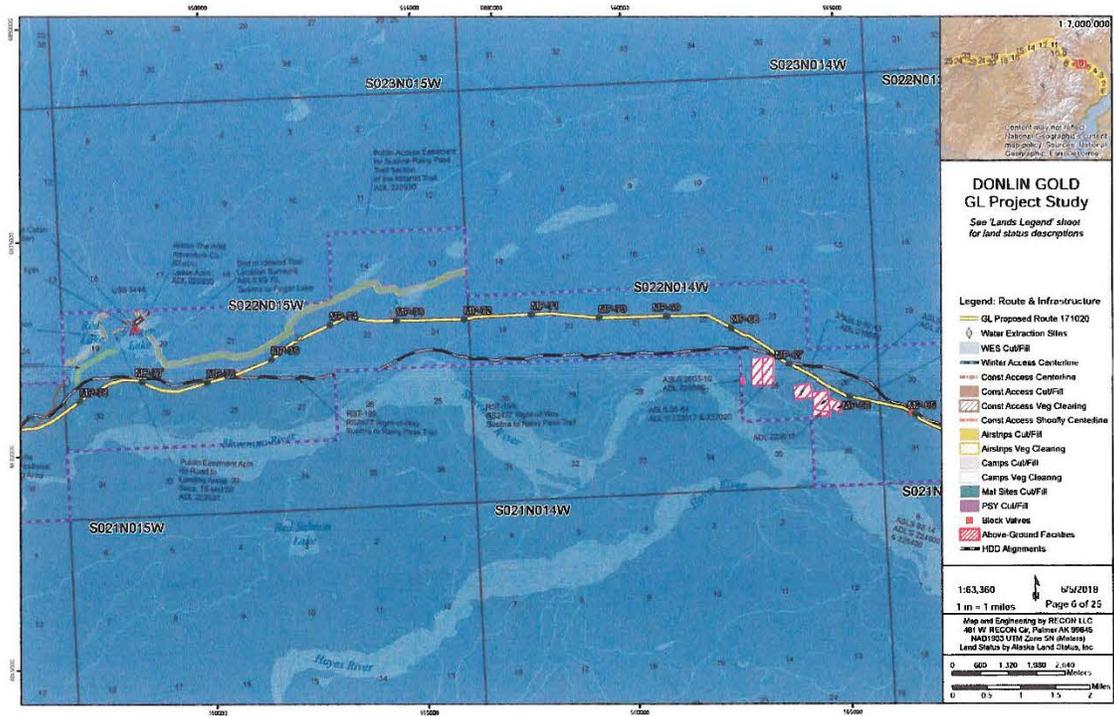
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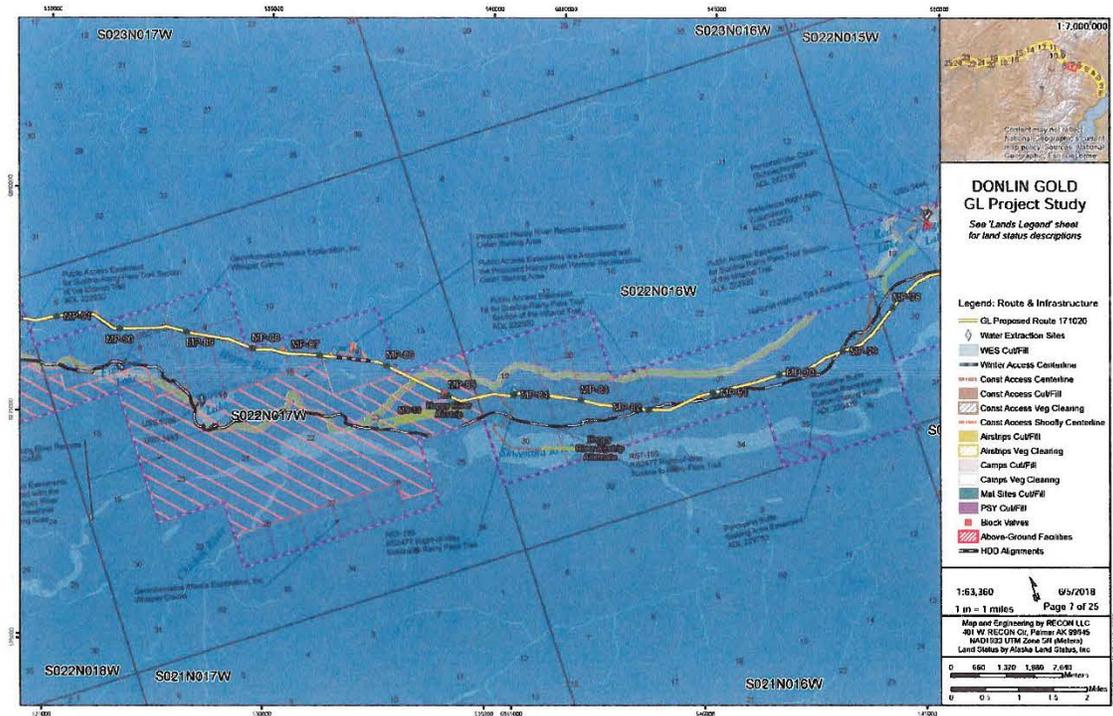
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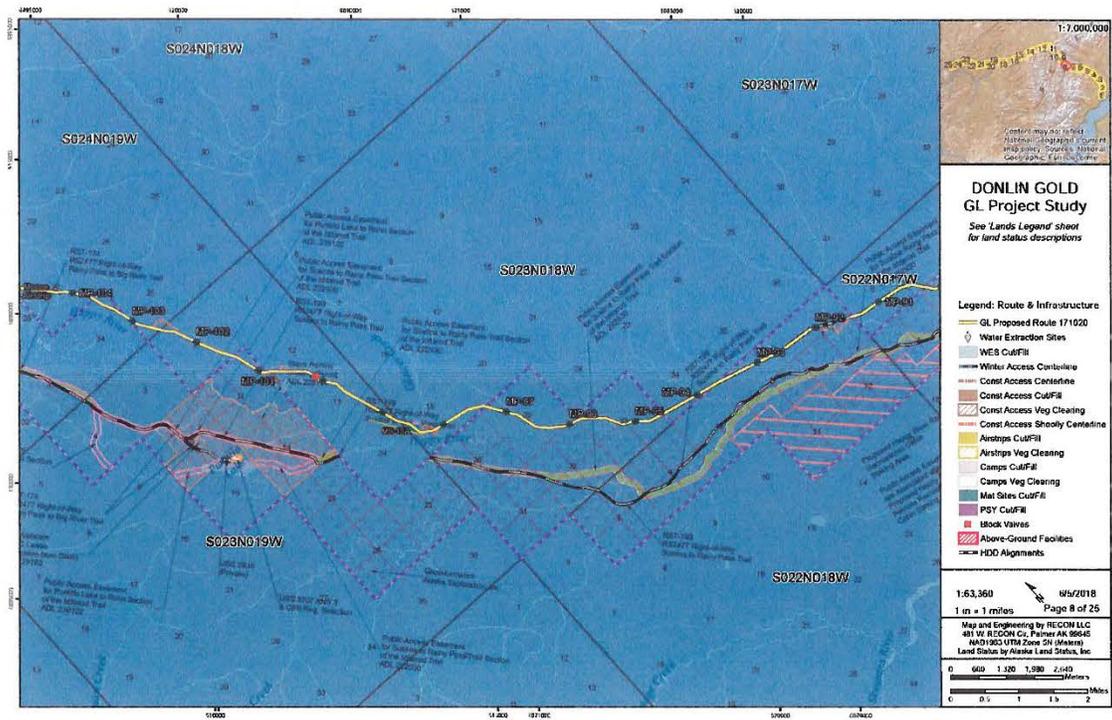
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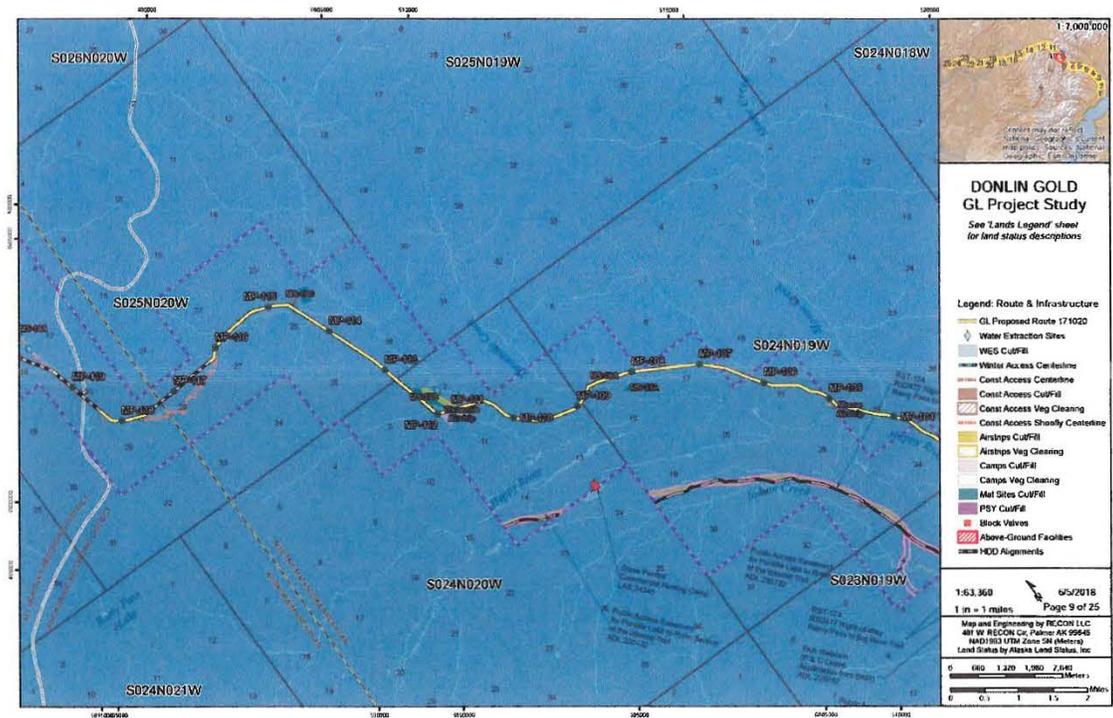
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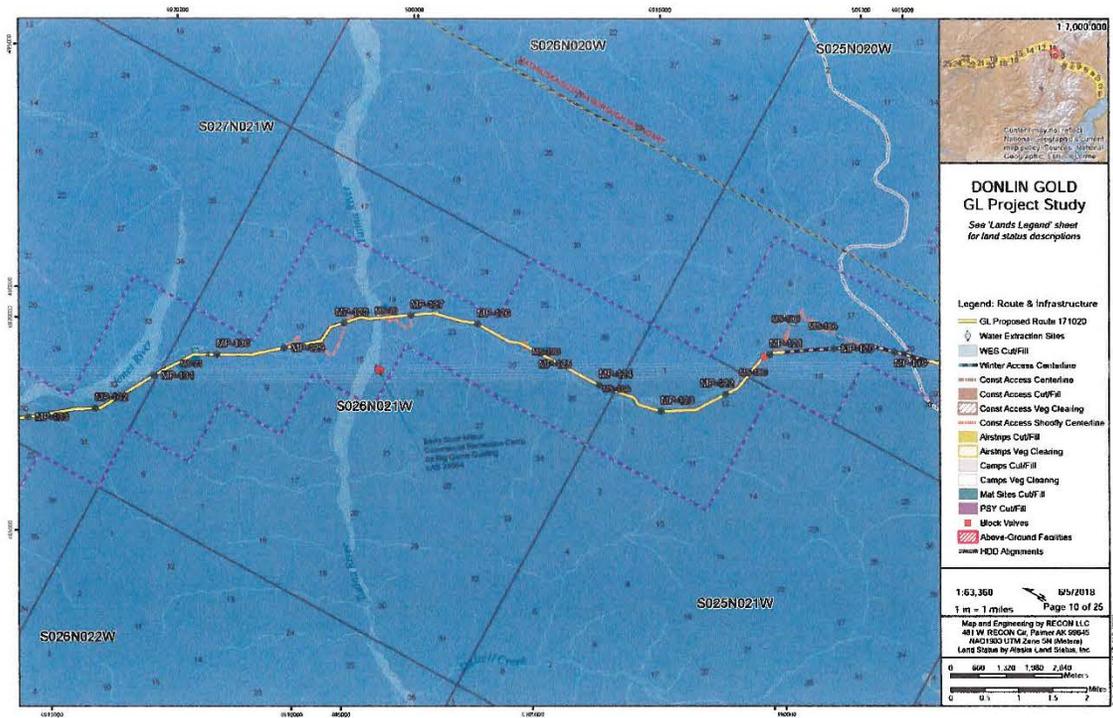
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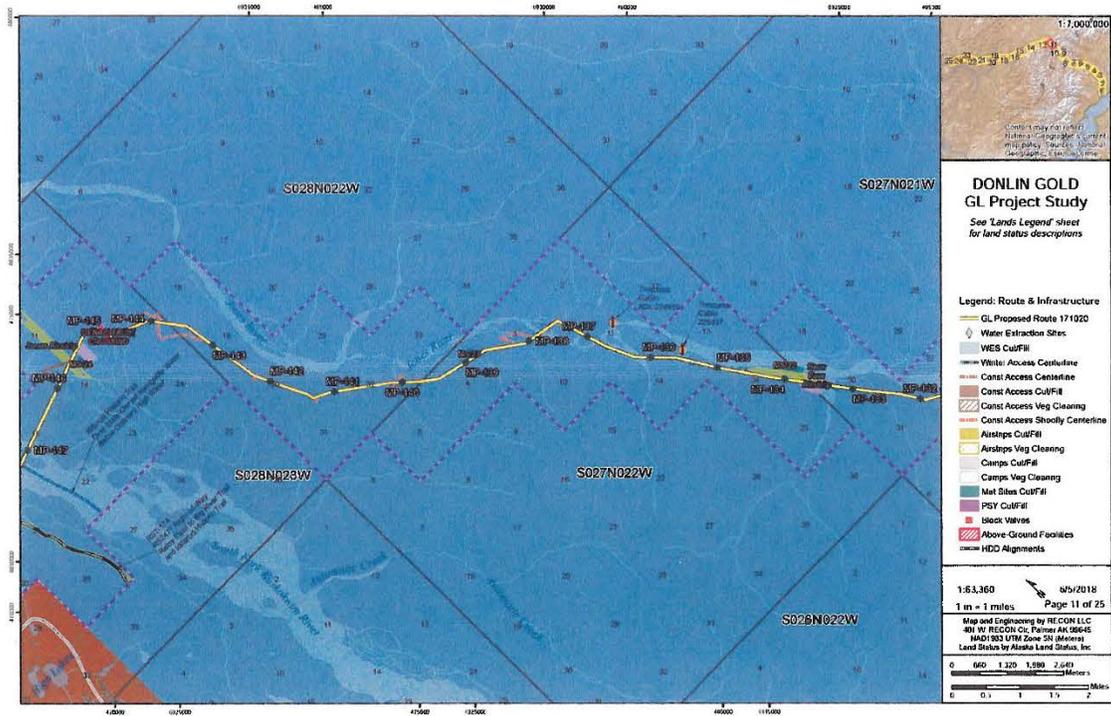
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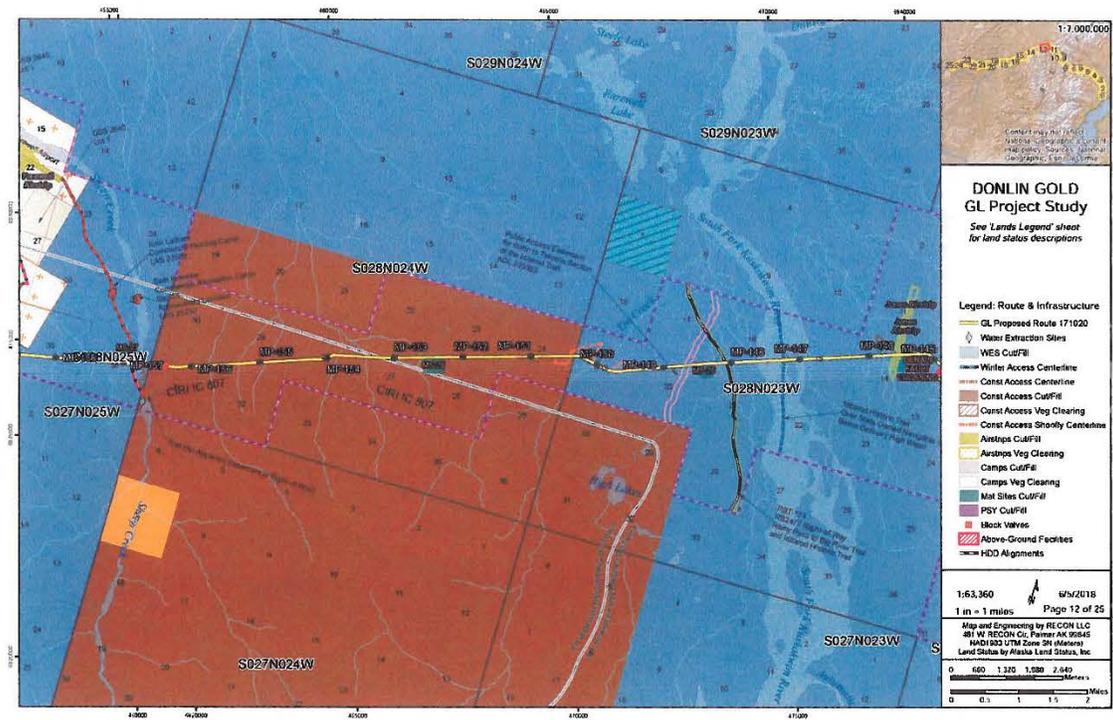
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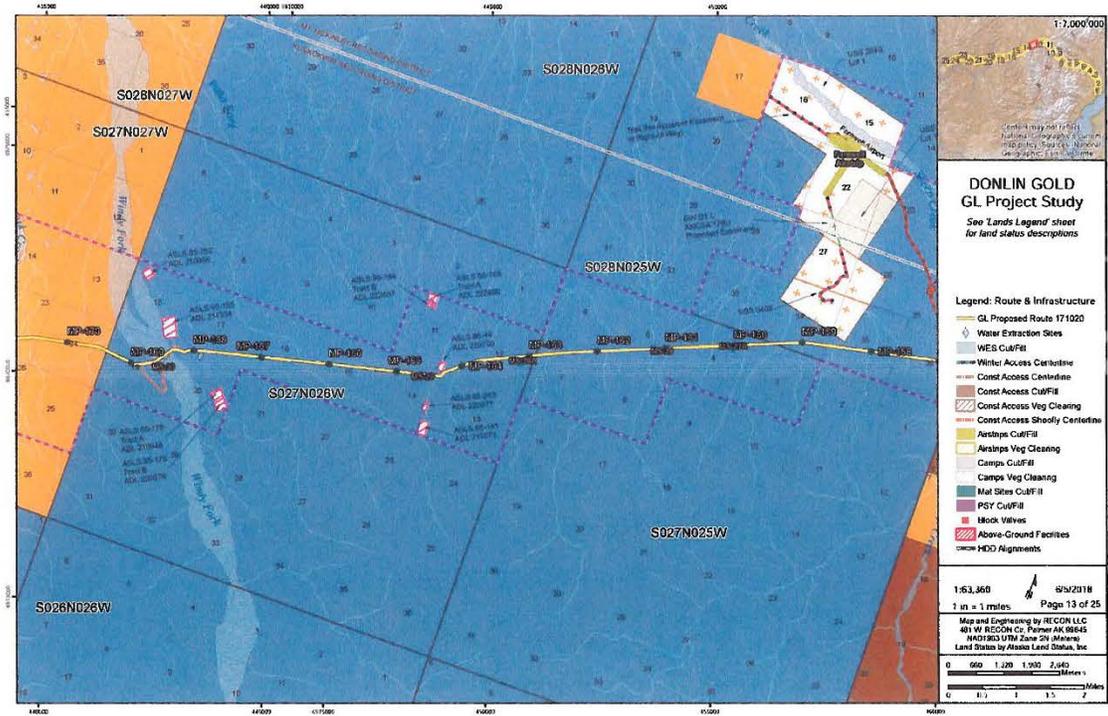
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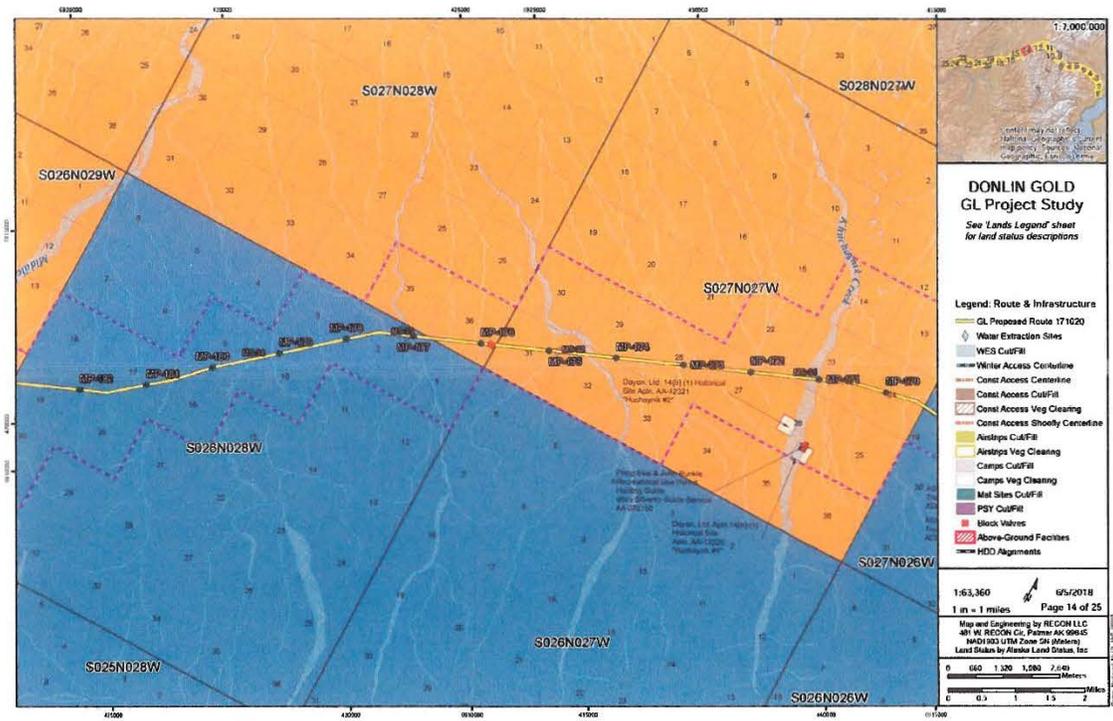
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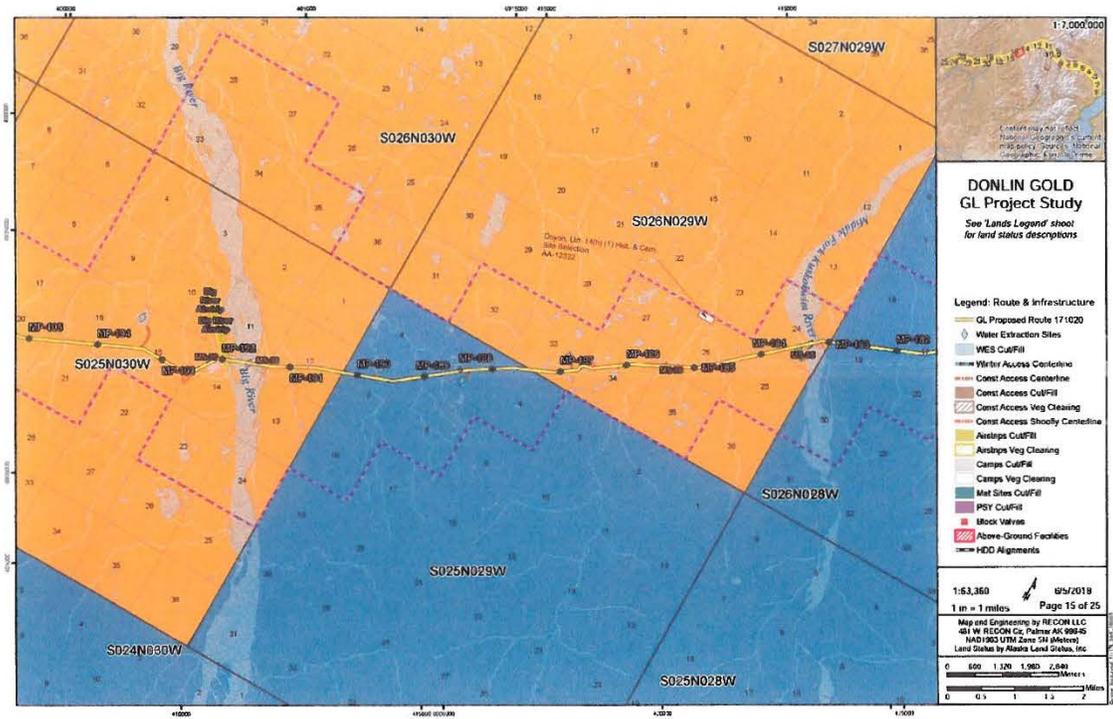
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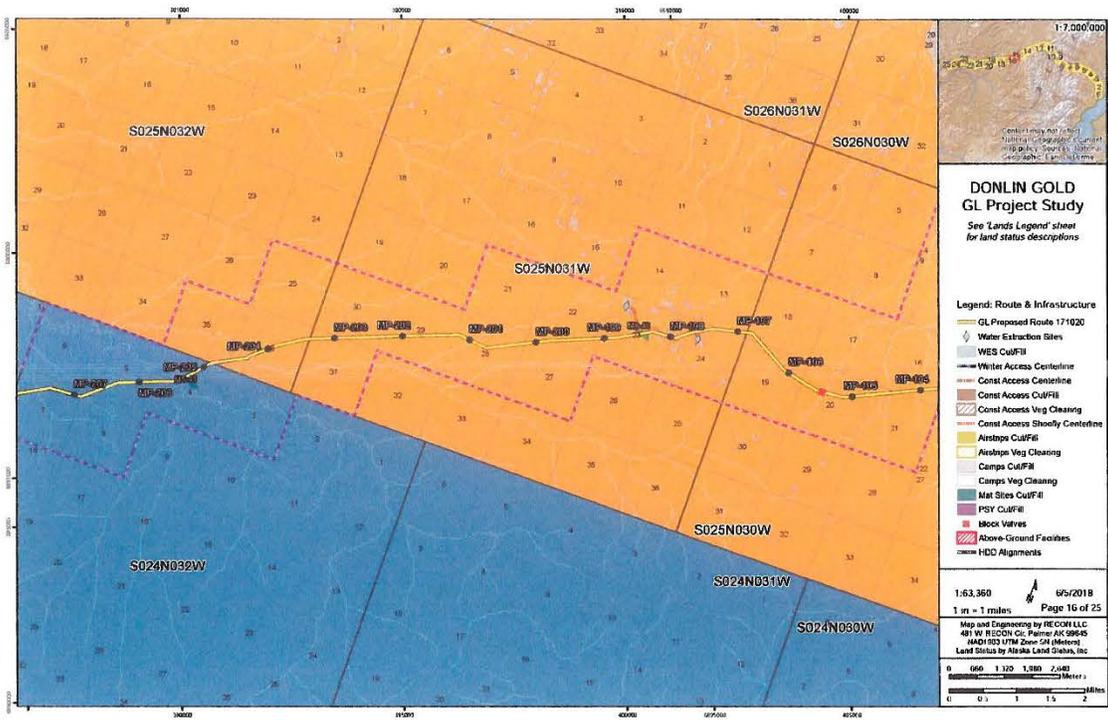
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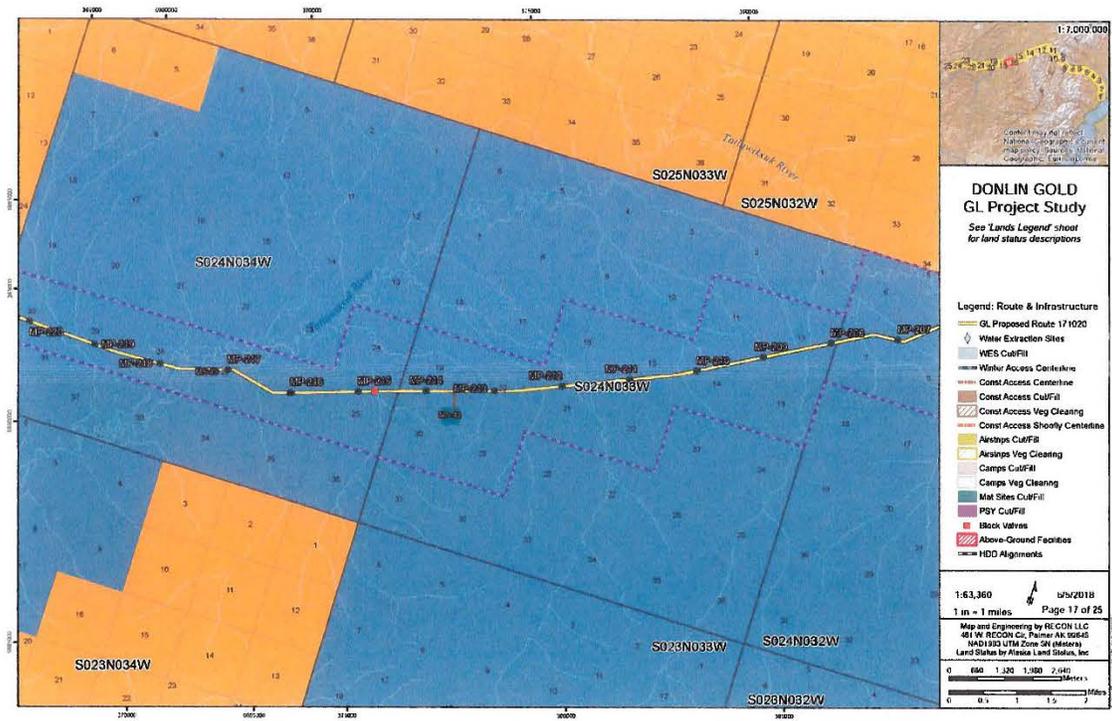
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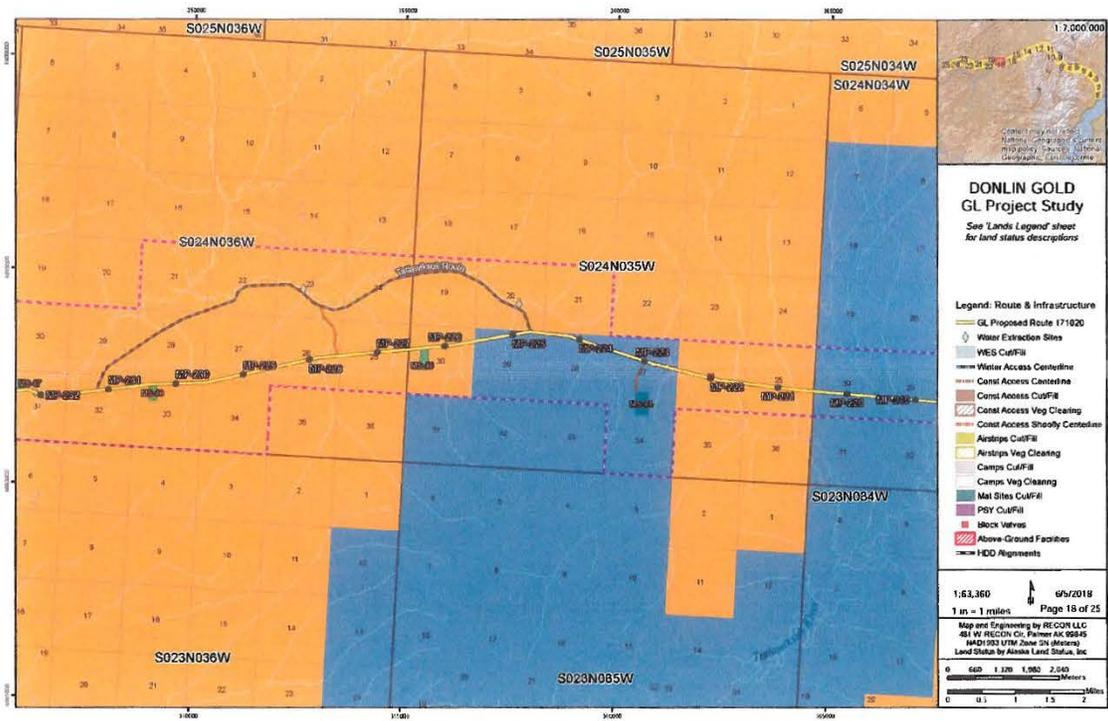
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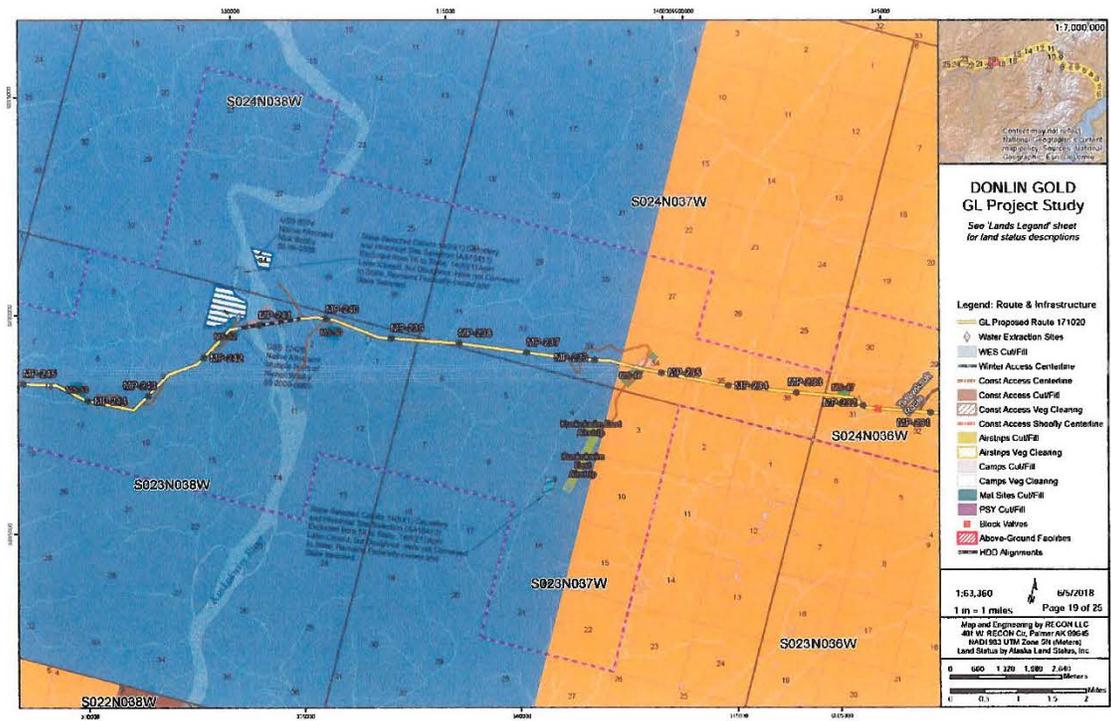
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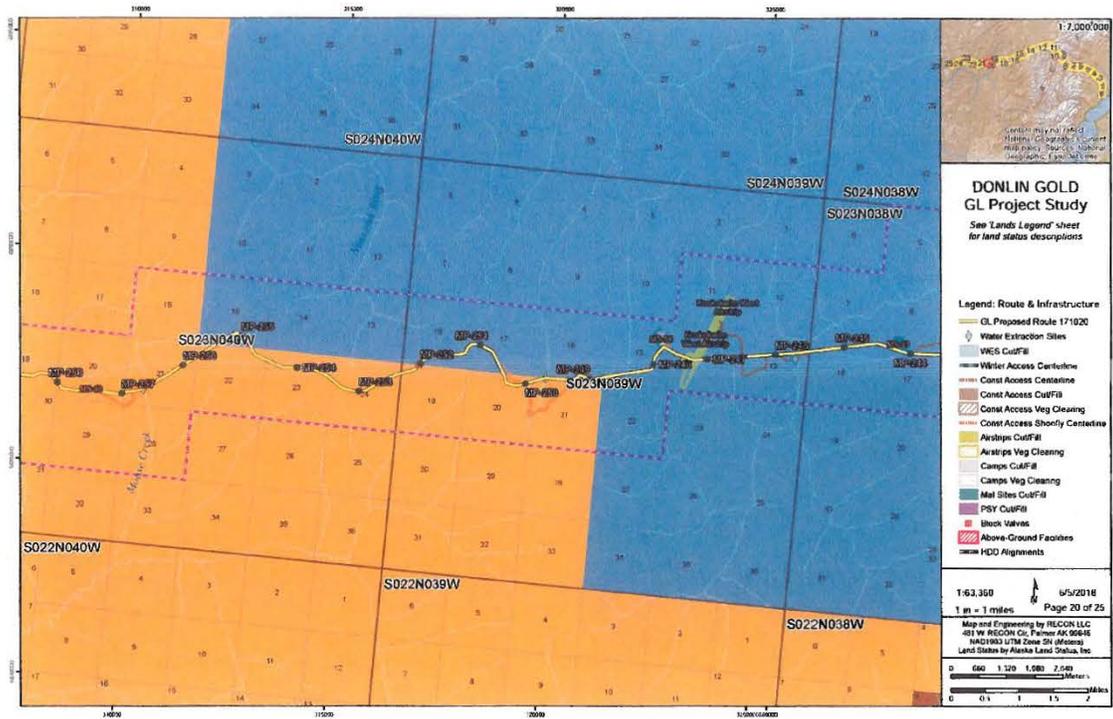
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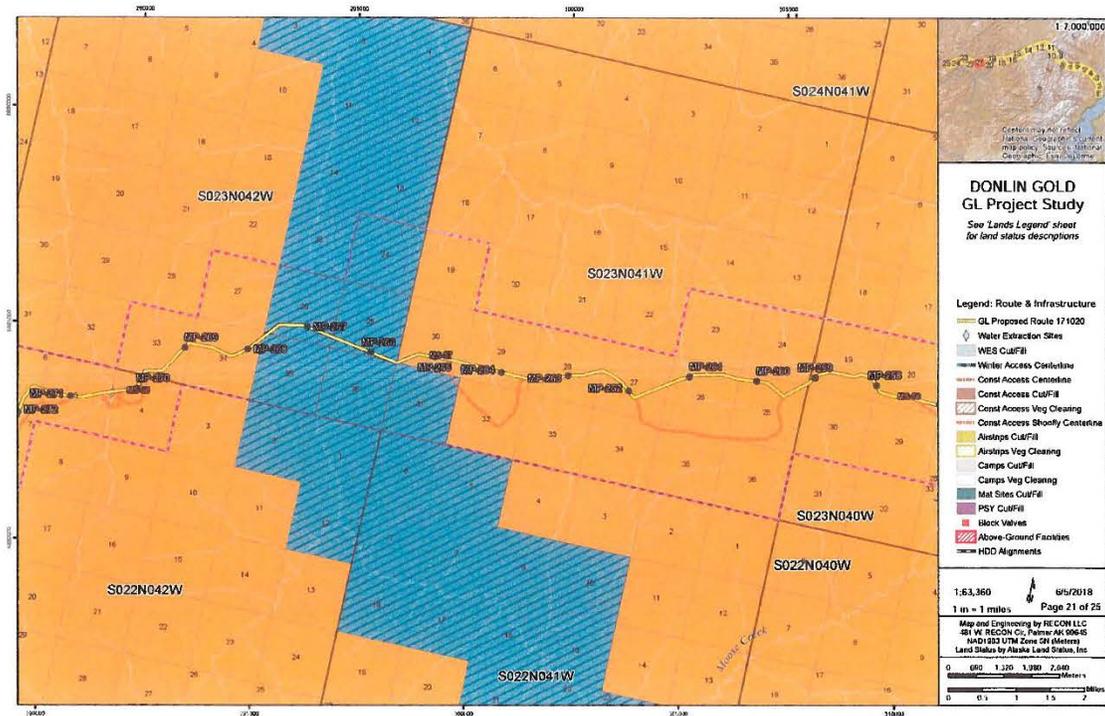
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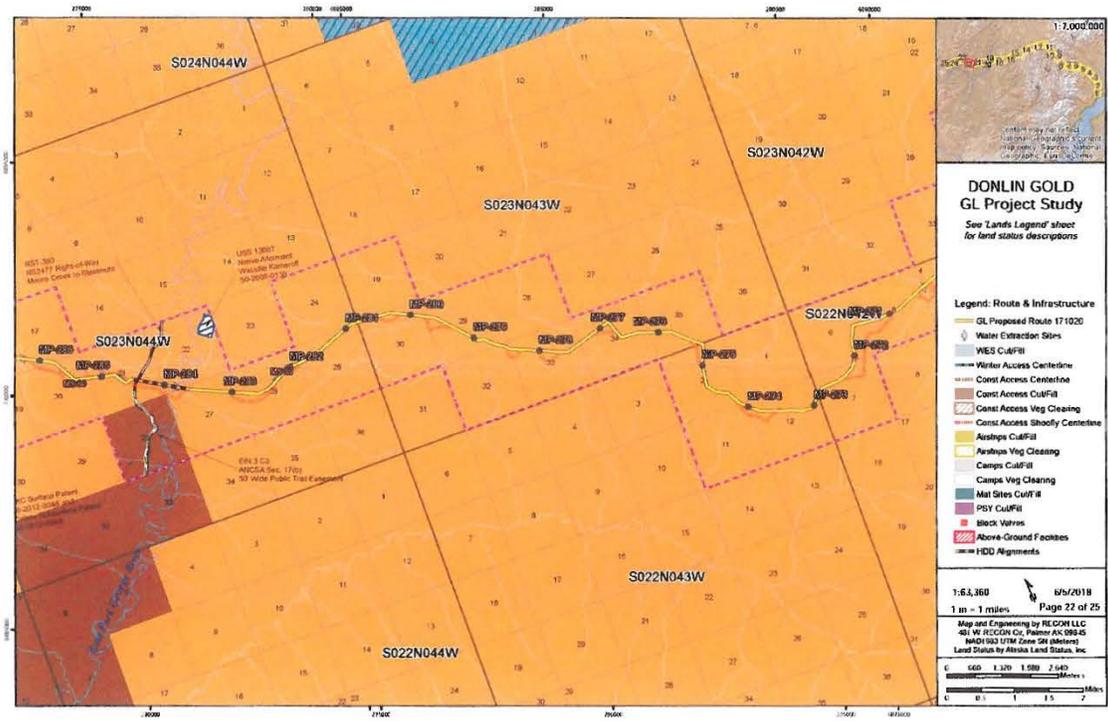
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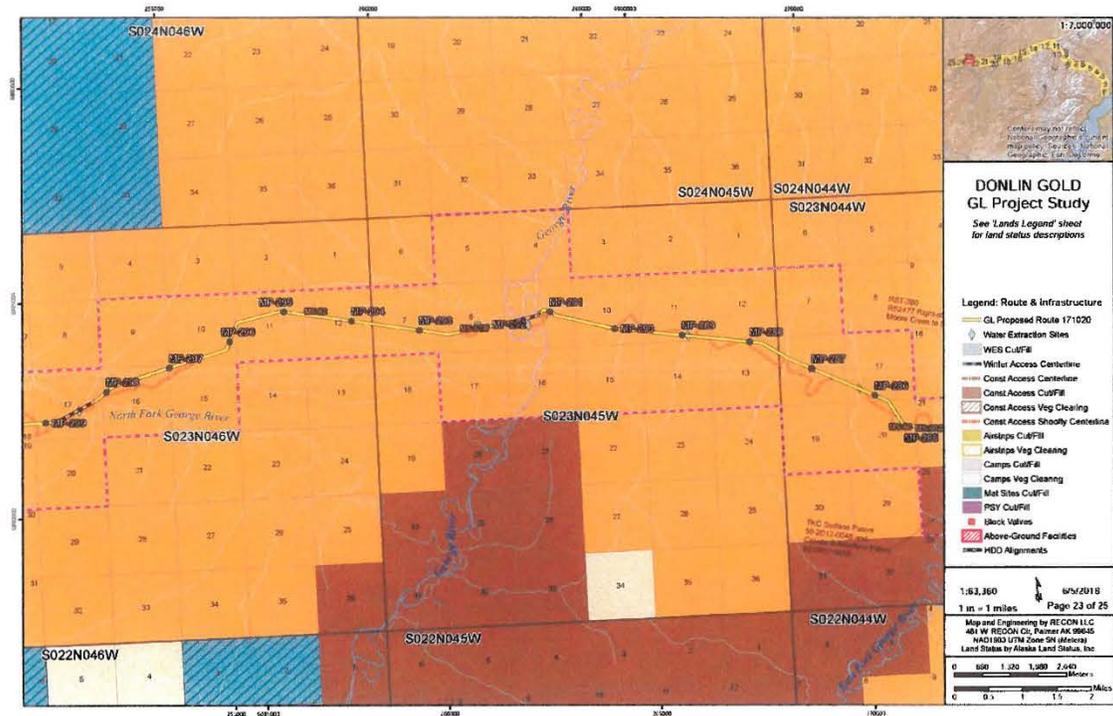
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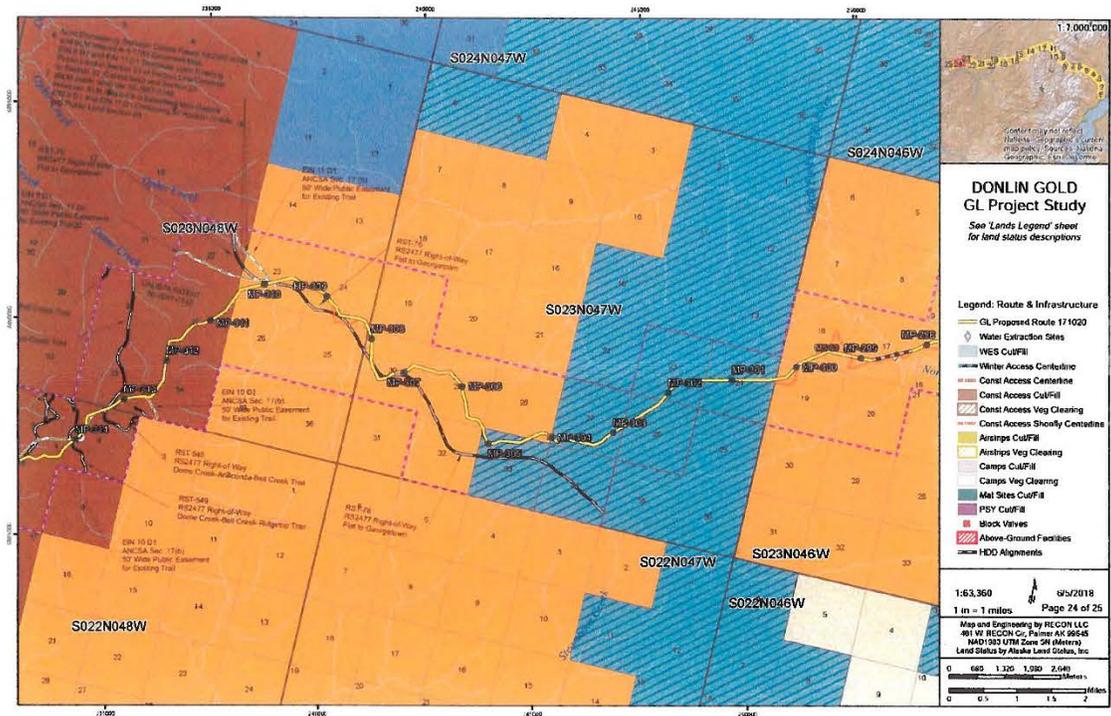
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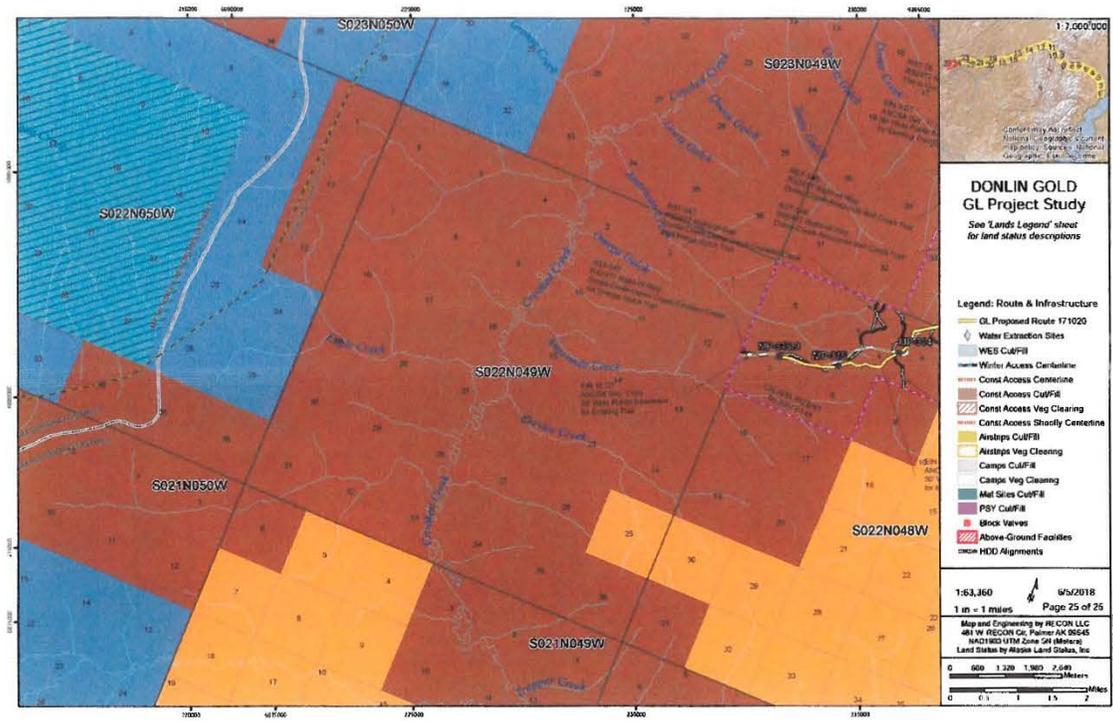
Attachment B Location Maps



Attachment B Location Maps



Attachment B Location Maps



Attachment B Location Maps

