

**AMBLER MINING DISTRICT ACCESS PROJECT
REQUEST FOR NPS PERMIT
PROPOSED CULTURAL RESOURCE RECONNAISSANCE SURVEY
GATES OF THE ARCTIC NATIONAL PARK & PRESERVE**

Project Proponents: DOWL HKM as Agent for:

Alaska Department of Transportation and Public Facilities (DOT&PF)
2301 Peger Road, Fairbanks, AK 99709 / 907-451-2288 and

Alaska Industrial Development and Export Authority (AIDEA)
813 West Northern Lights Boulevard, Anchorage, AK 99503 / 907-771-3000

Project Name: Ambler Mining District Access Project

Project Type: Reconnaissance Level Fieldwork for Roadway Design (Pre-NEPA Analysis)

Project Category: Cultural Resource Survey

Project Location: The project corridor begins at the Ambler River approximately 6 miles northwest of the Bornite Camp and routes southeast away from the Ambler River then east along the north side of the Cosmos Hills and through Gates of the Arctic National Park & Preserve (GANPP). From the east edge of the Park, the corridor continues east, remaining north of the Helpmejack Hills and the Alatna Hills, crossing the Koyukuk River downstream of the confluence with the John River, then following an existing winter trail to the east/southeast along the northern boundary of the Kanuti National Wildlife Refuge to the Dalton Highway near Milepost 136 (Figures 1 through 3). There are two potential routes through the Park under present consideration:

- North Option: Passes through GANPP along the north edge of Nutuvukti Lake and south of Walker Lake.
- South Option: Travels south along the Reed River Valley, crossing the GANPP south of Nutuvukti Lake and exiting the Park just north of Norutak Lake.

Project Description: With the Ambler Mining District Access project, the Alaska Department of Transportation and Public Facilities (DOT&PF) and Alaska Industrial Development and Export Authority (AIDEA) propose to identify, design, and construct a transportation corridor to the Ambler mineral belt. Numerous potential access corridors were initially evaluated based on a broad range of design, construction, and environmental criteria. The initial evaluation of these preliminary corridors led to the refinement and selection of a single study corridor with two alignment options being carried forward for pre-NEPA fieldwork. This corridor, referred to as Brooks East, passes through a challenging array of physical landscapes, geologic features, and varying climatic conditions within the subarctic environment. The corridor crosses numerous streams and rivers, including the Kobuk River, a federally-designated Wild and Scenic River. The corridor length is 203 miles for the north option through the GANPP and 218 miles for the south option.

Field surveys associated with data collection for fisheries, vegetation and wetlands, and river and corridor cross-sections in support of the Ambler Mining District Access project were conducted within GANPP in 2012. In order to more fully understand sensitive resources potentially affected by and affecting the project, DOT&PF proposes continued field investigation of wetland

communities and fisheries resources within the Park as well as the initiation of field-based studies of additional parameters within GANPP in 2013. These include:

- Aufeis and Breakup Surveys
- Collection of hydrologic and hydraulic data for the Kobuk and Reed Rivers
- Raptor Surveys
- Mammal Surveys
- Cultural Resource Reconnaissance Surveys
- Geotechnical Surveys

To facilitate review, each of the aforementioned categories is presented under individual cover.

Field activities will occur intermittently between approximately March 15 and November 15, 2013, and will primarily be supported by piston-powered light aircraft and turbine-powered helicopter. The applicant intends to minimize overlap of the field investigations and the presence of project related staff and air traffic at any one time. Approximate schedules are outlined in each Study Proposal, but are subject to change based on weather and seasonal conditions. A tentative schedule of the combined field activities is appended hereto.

Cultural Resource Reconnaissance Survey

Objectives: DOT&PF has contracted DOWL HKM and Northern Land Use Research Inc. (NLUR) to conduct cultural resource reconnaissance surveys for the Ambler Mining District Access Project. NLUR assumes that this project is a *Phase I Identification Level* survey as defined by the State of Alaska Office of History and Archaeology, Historic Preservation Series Number 11. Phase I surveys are intended to identify the presence or absence of cultural resource sites in the project area to make an informed assessment of areas that may need further archaeological investigations prior to project commencement. The assessment of potential impacts to cultural resources will focus on archaeological sites (historic and prehistoric), ethnographic resources (traditional cultural properties), and resources of the historic built environment (buildings, structures, linear features, etc.). A “Cultural or Field Resource” is defined as whenever any artifacts or features (including standing structures) are encountered, or when a previously recorded resource is anticipated.

Timing: One 10-day trip is proposed July 1-July 10, 2013 (Note: approximately 5 days are anticipated to involve ground based surveys within GANPP).

Access: Helicopter. The attached map illustrates approximate sampling locations along the within GANPP. Helicopter landings will be in close proximity to sampling locations. (Precise landing locations to be determined by the pilot based on terrain and safety considerations.)

Lodging: Dahl Creek Camp or Coldfoot

Personnel: 5 field personnel (3 NLUR Staff, 1 Subsistence Advisor, 1 helicopter pilot).

Procedures: Survey methodology includes a combination of two methods of field observation: **surface inspection** and **shovel testing**. The archaeological Level I or “Identification-Description” surveys are designed to locate sites and gather sufficient information to make preliminary recommendations for any future development activities. The data collection methods include the pre-field identification of historic and prehistoric resources from State and local

databases (particularly the Alaska Heritage Resource Survey (AHRS) database maintained by the Alaska Office of History and Archaeology and the NPS databases), and the completion of an on-the-ground survey of the project area. The overall process for cultural resource assessment will support the regulatory process for the consideration of impacts on historic properties as defined by Section 106 of the National Historic Preservation Act (NHPA).

A geodatabase and GIS platform will be developed by NLUR for collecting, analyzing, storing and reporting field data for environmental permitting. A custom ArcPad mobile GIS application will be used that allows field technicians to digitally capture, edit, process and file GPS data, detailed sketches, photographs, and more than a dozen data sheets with a standardized geodatabase structure that includes regional and supplemental information. NLUR typically employs Trimble® GeoXT™ units with an average real-time +/-0.75-meter accuracy.

All data recorded in the field will also be captured on standardized field log books containing attributes and measurement information for the study. The materials collected by the field team will be packaged together electronically for uploading to central computer and hard drives. The packaged electronic materials will include scanned paper forms, GPS unit files, photographs (.jpg files), a Daily Progress Report, and any checklists used to review the daily materials.

Separately, these packaged files will be reviewed by office-based staff that will check the package for completeness, perform geographic coordinate post-processing, perform geodatabase operations, and complete subject matter quality assurance/quality control. The geodatabase operations shall include transcribing the detailed attribute data from the paper sheets and combining that with the corrected (post-processed) geographic coordinate data. Ultimately all these daily, reviewed, geodatabase files will be added to the master geodatabase, the final and official geospatial data repository for the project.

Surface Inspection

Archaeological fieldwork involves a visual survey while walking in parallel transects with crewmembers spaced 10m to 15m apart. In areas where sufficient surface visibility is present, investigators walk transects spaced across the survey area at 5- to 10-meter intervals. Survey documentation includes standard archaeological field data observations, shovel tests, photographic coverage and GPS points at each feature. Surface inspection at a prehistoric site requires sufficient surface visibility to permit a reasonable likelihood of finding cultural materials and is used primarily as a method to evaluate where shovel testing should occur.

Standard fieldwork methods involve obtaining written field notes and observations of the survey area. The field crewmembers will collect information to describe the surface geology, soils, and vegetation emphasizing the extent of surface disturbance in quick comparison to the environmental information pre-loaded on their field forms and associated geodatabase. They will collect information to describe the man-modified landscape (for example, logging activities, bulldozing and leveling the ground). They will describe sites encountered, with basic site sketch maps (where required), an inventory and description of material remains, and photographs.

Shovel Tests

Shovel testing is done by means of observing a probable test area and producing a 50cm x 50cm hole and continuing the test until reaching sterile ground or one meter in depth. This is the standard safe depth as stated by OSHA. If unconsolidated sands and silts are deeper than 1m in then tests need to be enlarged to reach culturally sterile substrate. NLUR standards dictate that

each shovel test is excavated to a depth sufficient to surpass the potential for cultural materials. In residual soils, this may be as little as 10cm below the base of the A horizon; however, in aeolian, alluvial and colluvial situations, all tests will be excavated to a minimum depth of 100 centimeters, unless outwash gravels, streambed gravels, bedrock, frozen sediments, or the water table are encountered. The field crews will use handtools only during shovel testing which includes hand shovels, saws, root snips, and trowels. One-inch cores (Oakfield Probes) may be used to investigate stratigraphy below the base of shovel tests where pre-cultural strata could not be reached. The standard interval between shovel tests is 15 meters, although smaller intervals are acceptable if necessary to provide sufficient survey coverage to any given landform.

Shovel tests will be the primary investigation method for identifying cultural resources during the Phase I survey investigations. Sediments removed with a test are screened to ensure the capture of artifacts, should any be located. NLUR works closely with agency archaeologists to determine project-specific collection protocols for artifacts and expected level of analysis of collected artifacts. At this point in project planning, collection strategies will be defined according to specific landowner permits and in consultation with agency archaeologists.

Site area definition involves shovel tests excavated at half the standard interval (i.e., 7.5 m), for at least one full interval around the resource in all directions within the test area. However, once a site is identified (positive shovel test) work will cease and, as a result, site extent may not be fully established. Site extent is typically established during later stages of the Section 106 process, specifically during Phase II Evaluation surveys. NLUR is also flexible in working with agency archaeologists to determine the ideal site delineation testing intervals based on regional or site-specific knowledge.

All shovel tests are backfilled to the original ground surface, with the organic root mat replaced as much as possible to level to leave minimal trace of the archaeological investigation.

Results/Deliverable Products

The results and the products to be provided at the conclusion of the study are as follows:

- A master project geodatabase will be established compiling all field observations

Additional Permit Compliance

Prior to beginning 2013 field surveys, NLUR will independently obtain an Archeological Resources Protection Act (ARPA) permit from the NPS.

Ambler Access 2013 Fieldwork

Draft Schedule

March 20-28: Overwintering Moose, Large Mammal and Furbearer Track Surveys

- 8 days; 5 staff; 1 Subsistence Advisor; 1 pilot
- Use fixed-wing aircraft to identify important moose overwintering habitats (3-4 days)
- Helicopter to conduct furbearer track surveys (2-3 days)
- Record opportunistic sighting of wolf, caribou, Dall sheep, etc.
-

Early April: Snow Survey

- 7 days helicopter access; 2 staff; 1 pilot

Mid-April: Snow and Aufeis Survey

- 1-day flyover survey (fixed-wing); 3 staff; 1 pilot
- 3-day helicopter survey; 3 staff; 1 pilot

Early May: Kobuk River Stream Gage Installation

- 3-day helicopter access to install gage; 4 UAF personnel; 1 pilot

Mid-May: Breakup Survey

- 5-day helicopter survey; 3 staff; 1 Subsistence Advisor; 1 pilot

May 15-19: Brown Bear and Black Bear Den Survey

- 5 nights; 2 staff; 1 Subsistence Advisor; 1 pilot
- Use fixed-wing aircraft to identify brown bear and black bear den sites (2-4 days)

May 15-May 30: Spring Breakup Survey River Gaging

- 10-14 day daily helicopter access; 2 staff; 1 pilot

1st week of June: Fish Surveys

- 7 days; 4 staff; 1 Subsistence Advisor; 1 pilot

Late June/July: Additional H&H in GANPP on Kobuk and Reed Rivers

- 3-day helicopter survey; 3 staff; 1 Subsistence Advisor; 1 pilot

June 10-20: Bird surveys (Raptor Nest Aerial Surveys) – R44

- 7 days; 2 staff; 1 pilot

Mid- to Late-June: JD Level Wetlands Delineation

- 14 days; 6 staff, 1 Subsistence Advisor, 1 pilot

July 1-3: Summer River Gaging

- 2 day helicopter access; 2 staff; 1 pilot

July 1-10: Archaeological Reconnaissance Trip

- 10 days; 3 staff; 1 Subsistence Advisor; 1 pilot

Ambler Access 2013 Fieldwork

Draft Schedule

2nd week of July: Dall Sheep Lambing Surveys

- 5 days; 2 staff; 1 Subsistence Advisor; 1 pilot

July 15-25: Bird surveys (Raptor Nest Aerial Surveys) – R44

- 5 days; 2 staff; 2 pilot/mechanic

Mid- to Late-July: JD Level Wetlands Delineation

- 14 days; 6 staff, 1 Subsistence Advisor, 1 pilot

Early August to calibrate stream gages (discharge measurements)

- 2 days; 4 staff; 1 Subsistence Advisor; 1 pilot

3rd week of August: Fish Surveys

- 7 days; 4 staff; 1 Subsistence Advisor, 2 pilot/mechanic

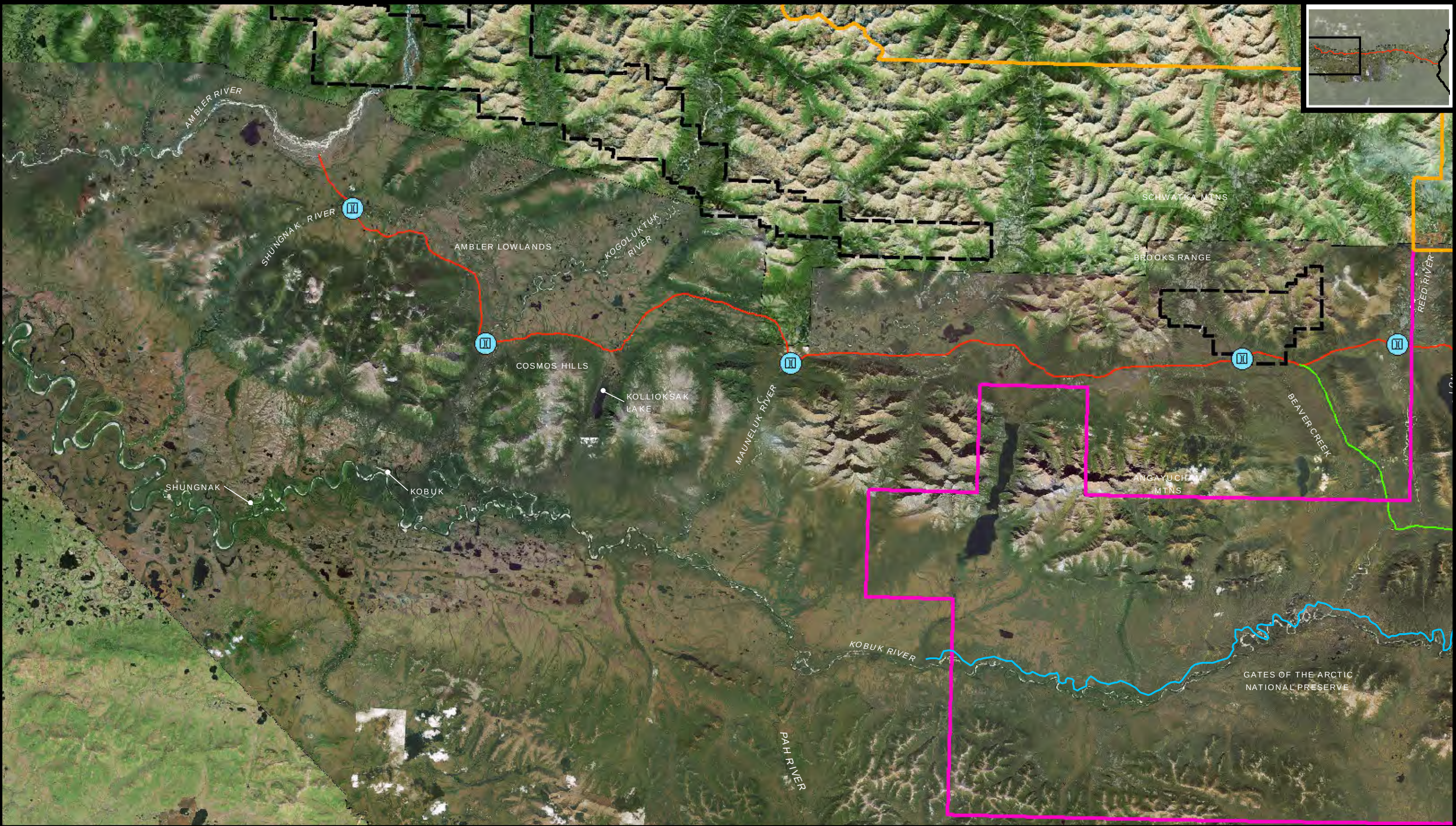
September 1 – 3: Summer River Gaging

- 2 day helicopter access; 2 staff; 1 pilot

Early November: Fall Moose, Large Mammal and Furbearer Track Surveys 5-8 days

- 8 days; 5 staff; 1 Subsistence Advisor; 1 pilot
- Use fixed-wing aircraft to identify moose important overwintering habitats (3-4 days)
- Helicopter to conduct furbearer track surveys (2-3 days)
- Record opportunistic sighting of wolf, caribou, Dall sheep, etc.

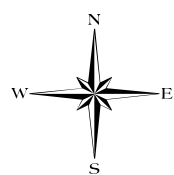
Timing of all surveys will be coordinated with ADF&G and NPS, and will depend on local conditions. Annual variability in conditions could alter survey schedule by 1-2 weeks.



- Brooks East Corridor
203 Miles
- Southern Brooks East Corridor Option
218 Miles
- Outside of Project Study Area
- Ambler Mineral Belt

- Existing Roads
- Large Bridges
- Wild and Scenic River

- Gates of the Arctic National Park
(National Wilderness Preservation System)
- Gates of the Arctic National Preserve
(National Park Service)



0 2 4 8
Miles

Source:
Gates of the Arctic: DNR
Wild and Scenic River: DNR
Aerial Imagery: i-Cubed 2012
Background Image: alaskamapped.org
Coordinate System: NAD 1983 Alaska Albers

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PROPOSED BROOKS EAST CORRIDOR

DATE: January 22, 2013

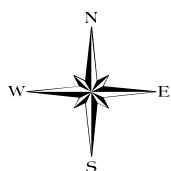
Figure 1



- Brooks East Corridor
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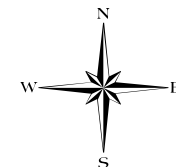
PROPOSED BROOKS EAST CORRIDOR

DATE: January 22, 2013

Figure 2



- Brooks East Corridor
203 Miles
- Southern Brooks East Corridor Option
218 Miles
- Outside of Project Study Area
- Ambler Mineral Belt
- Existing Roads
- Large Bridges
- Wild and Scenic River
- Gates of the Arctic National Park
(National Wilderness Preservation System)
- Gates of the Arctic National Preserve
(National Park Service)



0 2 4 8
Miles

Source:
Gates of the Arctic: DNR
Wild and Scenic River: DNR
Aerial Imagery: i-Cubed 2012
Background Image: alaskamapped.org
Coordinate System: NAD 1983 Alaska Albers

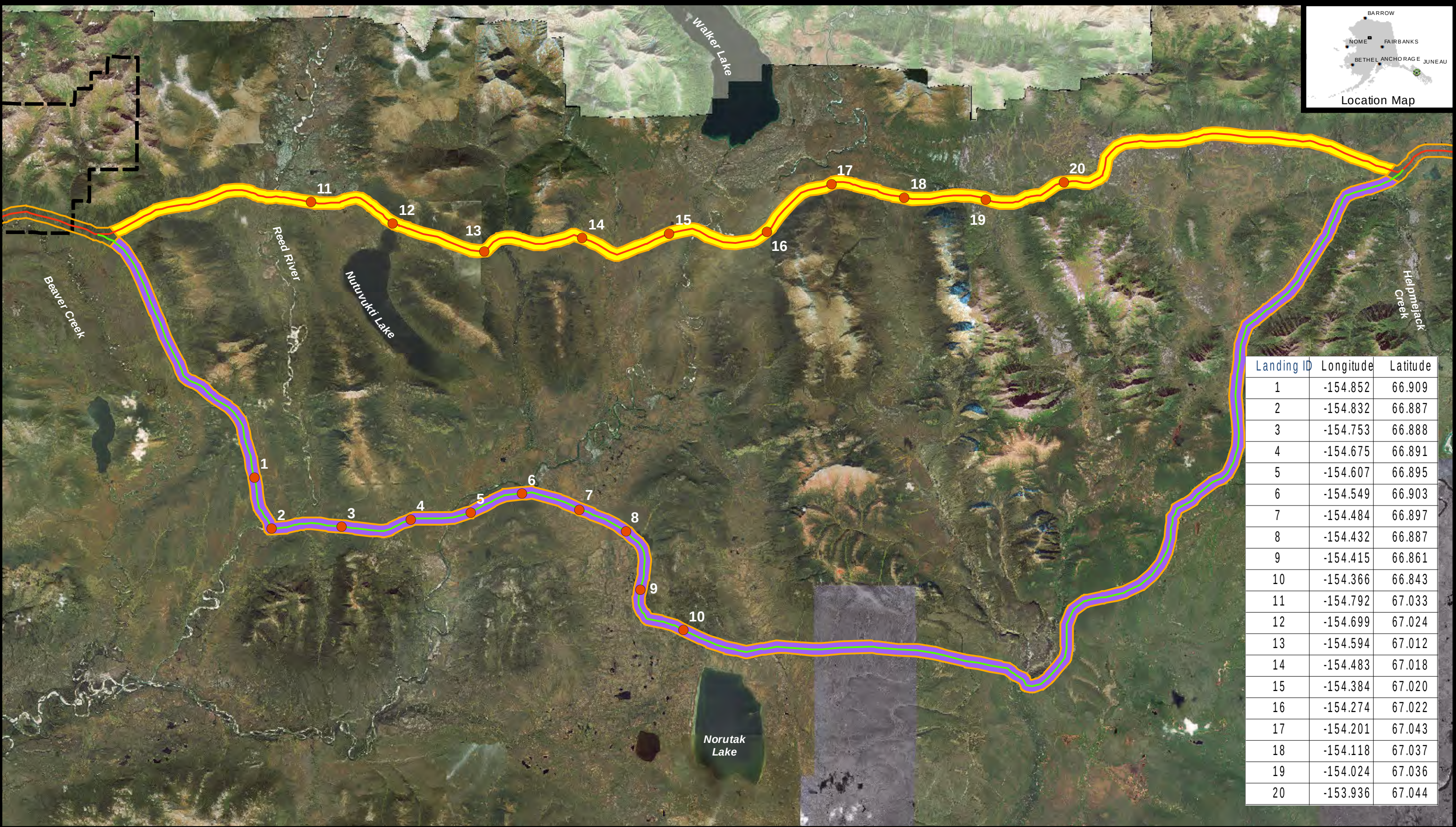
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PROPOSED BROOKS EAST CORRIDOR

DATE: January 22, 2013

Figure 3

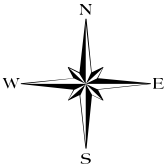


Landing ID	Longitude	Latitude
1	-154.852	66.909
2	-154.832	66.887
3	-154.753	66.888
4	-154.675	66.891
5	-154.607	66.895
6	-154.549	66.903
7	-154.484	66.897
8	-154.432	66.887
9	-154.415	66.861
10	-154.366	66.843
11	-154.792	67.033
12	-154.699	67.024
13	-154.594	67.012
14	-154.483	67.018
15	-154.384	67.020
16	-154.274	67.022
17	-154.201	67.043
18	-154.118	67.037
19	-154.024	67.036
20	-153.936	67.044

- Brooks East Corridor

Ambler Mineral Belt

Park Boundary
- Study Area (2000-ft wide corridor)
- North Option
- South Option

 Approximate landing location/sample site* *Helicopter landing locations subject to change depending on site specific conditions

Coordinate System: NAD 1983 Alaska Albers

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2013 Brooks East Corridor GANPP
NLUR Archeological Reconnaissance

DATE: January 22, 2013