

### 3.7 CULTURAL RESOURCES

This section focuses on the review of cultural resources, cultural values, and historic properties under the National Environmental Policy Act (NEPA) in the Environmental Impact Statement (EIS) analysis area (described below). Historic properties are a subset of cultural resources that have been determined eligible for listing in the National Register of Historic Places (National Register). This section combines the discussion of cultural resources with the discussion of historic properties that was presented in the Draft EIS (DEIS) as Section 3.8, Historic Properties. This was done in response to comments on the DEIS that historic properties are a type of cultural resource and should not be discussed in a separate section. Similarly, the discussion of potential environmental consequences in Section 4.8, Historic Properties, has been moved to and combined with Section 4.7, Cultural Resources.

The EIS analysis area for cultural resources consists of the following:

- At the mine site, the EIS analysis area is the project footprint for direct effects, and the area within 3 miles of the outer extent of the footprint for indirect effects.
- For other features outside the mine site, excluding the natural gas pipeline in Cook Inlet and Iliamna Lake, the EIS analysis area is the construction footprint for direct effects, and the area within 1 mile of the footprint for indirect effects. These features include the transportation corridors, ferry terminals, port facilities, mooring spreads, navigation aids, onshore portions of the natural gas pipeline, and the natural gas compressor station.
- For the natural gas pipeline in Cook Inlet and Iliamna Lake, the EIS analysis area is the construction footprint of the natural gas pipeline for direct effects, and the width of the anchor spread (the area where anchoring of the pipe laying barges may occur) for indirect effects. The width of the anchor spread would be variable; the maximum anchor spread width would be 4,101 feet on each side of the pipeline. The maximum total width of the anchor spread would be 8,225 feet.

This geographic area allows for the consideration of potential direct and indirect impacts on cultural resources and was informed by viewshed, night sky, noise, and dust analyses. This analysis also incorporates a regional perspective to take into account broader cultural values and the context of landscape uses. Refer to Section 4.11, Aesthetics; and Appendix K.11 for information on visual distance zones, project viewshed figures, and night-sky effects. Section 3.19, Noise; and Section 3.26, Vegetation, describe noise and dust zones of impact.

Although NEPA does not specifically define the term “cultural resources,” the regulations require that agencies consider the effects of their actions on all aspects of the “human environment,” which NEPA interprets to include the natural and physical environment and the relationship of people with that environment (40 Code of Federal Regulations [CFR] Part 1508.14). Humans relate to their environment through culture, requiring the consideration of effects on cultural aspects of the environment in NEPA analyses. NEPA defines effects as changes “on the quality of the human environment,” which includes alterations to the “aesthetic, historic, cultural, economic, [and] social” aspects of the environment. The lead federal agency should consider “the degree to which the action may adversely affect districts, sites, highways and other structures, or objects listed in or eligible for listing in the National Register or may cause loss or destruction of significant scientific, cultural, or historical resources.” In addition, 33 CFR Part 320.4(e) requires an evaluation of effects to historical, cultural, scenic, and recreational values during US Army Corps of Engineers (USACE) permit reviews.

This analysis considers such cultural resources as archaeological, historical, or architectural resources, and locations of traditional cultural or religious importance to specific social and/or cultural groups. This may include, but is not limited to, Traditional Cultural Properties (TCPs); Traditional Cultural Landscapes (TCLs); locations with indigenous place names; locations

connected with an event(s) in oral histories; sacred and/or ceremonial sites; resource gathering and subsistence areas; or other sites of cultural importance that contribute to the continued identity, spirituality, and lifeways of communities in or near the project area. TCPs and TCLs may include any one or more of these cultural elements.

### 3.7.1 Cultural Context

The Yup'ik and Dena'ina village cultures of the Nushagak and Kvichak River watersheds practice a subsistence lifestyle that developed over several thousand years of living in the area and depends primarily on salmon. This lifestyle has built strong, connected networks of extended families and a culture based on sharing, traditional knowledge, and respect for the environment.

The people in this region not only rely on highly nutritional salmon for a large proportion of their food resources, but salmon is also integral to the language, spirituality, and social relationships of the culture. The Yup'ik and Dena'ina populations of the Nushagak and Kvichak watersheds have an interdependent relationship ecologically, nutritionally, socially, spiritually, and possibly evolutionarily, with the local wild salmon populations. The Yup'ik and Dena'ina consider the land and waters to be their sacred homeland. They have traditionally considered the salmon as kin in the sacred web of life (Boraas and Knott 2013). For inland Dena'ina families, the arrival of the salmon is a time not only for harvesting a large part of the year's foodstuffs, but for celebration, sharing, and reunion with family and friends. Village residents, as well as those who have moved away, reconvene in the summer and sometimes the fall, not only to harvest and preserve salmon in quantities sufficient to sustain each family, but also to fulfill personal emotional, cultural, and social quotas (Deur et al. 2018).

"...Salmon more or less defines this area. It defines who we are. When you look at our art, you will see salmon.... It is who we are. When you listen to the stories and take a steam, even in the middle of winter, people talk about salmon. It is in our stories; it is in our art. It is who we are; it defines us."

"Salmon and fresh water has been the lifeline of the people here for thousands of years. If you look at the water, that is why fish and game has survived so well here, because we have such clean water."

"...from our ancestors, that is how we get all of our information to have fish. The way we put it; the way we store it for us to eat. That is where we learned it. It is passed on from generation to generation to have fresh fish."

Source: Boraas and Knott 2013

Salmon and other subsistence resources are interconnected culturally to the larger environment, centered around the availability of clean water. The spirituality of water is embedded in the language and in customs. The Dena'ina have 36 terms for streams, among those the primary word for 'water' is a special word reflecting special importance or sacredness. The spiritual connotation is reflected today in the Orthodox Great Blessing of the Water ceremony that occurs in some parts of the project area.

The cultural context provides a basis for understanding the broad and complex range of pre-contact traditions, ethnographic regions, land uses, historic-era themes, and contemporary cultural practices and land uses in the analysis area. In general, context conveys a continuation of cultures that are deeply tied to their environment, lands and waters, and fish and wildlife.

Boraas and Knott (2013) offer a detailed pre-contact cultural chronology based on known archaeological site data in the region (Table 3.7-1), and a discussion of modern cultural practices. Deur et al. (2018) describe the inland Dena'ina land and history, a project done in conjunction with the National Park Service (NPS).

**Table 3.7-1: Chronology of Dena'ina/Yup'ik Prehistory Identifying Ethnographic and Archaeological Cultures in the Iliamna and Cook Inlet Region**

	Nushagak River	Kvichak River	Iliamna Lake	Mulchatna River	Lake Clark
<b>AD 1800</b>	Historic Yup'ik	Historic Yup'ik	Historic Yup'ik/Den.	Historic Yup'ik/Den.	Hist. Dena'ina
	Pre-Contact Yup'ik	Pre-Contact Yup'ik	Pre-Contact Yup'ik & Dena'ina	Sedentary Dena'ina	Sedentary Dena'ina
<b>1000 BP (~A.D. 1000)</b>	Norton Tradition (interior)	Norton Tradition (interior)	Norton Tradition (interior)		Norton Tradition (interior)
<b>2000 BP (~A.D. 0)</b>					
<b>3000 BP (~1000 B.C.)</b>		Arctic Small Tool Tradition	Arctic Small Tool Tradition		Arctic Small Tool Tradition
<b>4000 BP (~2000 B.C.)</b>			Ocean Bay Tradition (interior)		Northern Archaic Tradition
<b>5000 BP (~3000 B.C.)</b>					
<b>6000 BP (~4000 B.C.)</b>	Putu PaleoIndian/Paleoarctic	Paleoarctic Tradition	Paleoarctic Tradition		Paleoarctic Tradition
		↓ To 10,000 B.C.	↓ To 10,000 B.C.		↓ To 10,000 B.C.

Notes:  Salmon Cultures  Not Definitive or No Data  Select Radiocarbon Dates  Probable

Source: Boraas and Knott 2013

Archaeological artifacts analyzed from testing at known sites clearly demonstrate that the area has been continuously occupied as early as 10,000 years ago, with evidence of salmon fishing by Yup'ik or proto-Yup'ik people in the region for at least 4,000 years. A well-developed salmon-based culture emerged in the Norton tradition, dating from approximately 300 B.C. to A.D. 1000, as evidenced by the presence of sedentary villages and net-fishing artifacts. The contexts cover pre-contact archaeology traditions, ethnographic studies of the Dena'ina, Yup'ik, and Alutiiq peoples that occupy the region, and offer a chronology of the regional history from contact through the Russian, and then American, periods. Boraas and Knott (2013) also illustrate how traditions established in the prehistoric, proto-historic, and historic eras remain a central component of current lifeways and traditions of the subsistence-based cultural practices in the region.

Contemporary cultural practices manifest themselves in many ways. As noted in Deur et al. (2018), "Campsites, trails, burial sites, sacred sites, storied sites, named places, and many other kinds of culturally significant sites overlay the everyday subsistence geography. The distribution of culturally significant sites is especially dense along the riparian and lacustrine margins, as well as along major winter and summer trails, becoming more diffuse with distance from major pathways." The cultural practices incorporated into the cultural resources analysis include the following:

**Subsistence**—Subsistence harvest of resources, food processing, sharing harvested resources, and passing on cultural values and practices between generations is a foundation of cultural identity and values. Access to areas of traditional and contemporary subsistence harvest and maintaining sustainable subsistence resources is critical to maintaining culture. Salmon is one of the most important subsistence resources for communities in the region and depends on the waters and habitat that sustain them. Traditional and contemporary subsistence areas are reflected in the interview-identified cultural resources data collected by SRB&A in the category of harvest location/traditional use area. Information on contemporary subsistence use areas can be found in Section 3.9, Subsistence; and Appendix K3.9.

**Locations with Indigenous Place Names**—SRB&A 2019a states that indigenous place names "are the manifestation of a systematic approach to mapping a group's environment," "can provide information about natural and social environments as well as about human populations and their histories," "provide insights into a culture's worldview and its perceptions of features of the environments it inhabits," and "are a key component for identifying cultural resources in an area, as well as for establishing territorial range and means of travel through a traditional territory." Indigenous place names can help define the value or cultural significance of locations to local inhabitants and can help inform the identification of TCPs and TCLs. Locations with indigenous place names are shown in Appendix K3.9.

**Other Cultural Resource Types**—SRB&A documented several other cultural resource types through the interviews conducted in the seven project area villages during 2007, 2012, and 2013. These features include grave/burial sites; battlegrounds; past village locations; spiritually important places, places with legends or beings, and places to avoid (haunted or spooky); camps, cabins, and other historic structures; and travel routes, trails, portages, and traplines, among others.

**Cultural Camps**—In public meetings, comments submitted for scoping and on the DEIS, as well as Section 106 consultation, people referenced cultural camps that are used formally or informally to teach traditional practices to young people. Cultural camps have become an important venue for elders to pass knowledge, skills, and language to younger generations. Some of these camps include the Amakdedori area, Groundhog Mountain, Frying Pan Lake, Upper Talarik Creek, and the Kuktuli River watershed.

**Native Allotments**—The Alaska Native Allotment Act of 1906 allowed the Department of Interior to convey up to 160 acres of land to individual Alaska Natives who could prove as heads of households “substantially continuous use and occupancy of that land for a period of five years.” Many Native Allotments were selected for their subsistence, cultural, and spiritual value. As land tenure has been formalized, these allotments remain as important campsites—by no means the only places used by tribal members, but as important footholds in traditional territory (Deur et al. 2018). The Bureau of Indian Affairs (BIA) records contain some information related to cultural resources associated with allotments.

**ANCSA Section 14(h)(1) Sites**—Under Section 14(h)(1) of the Alaska Native Claims Settlement Act (ANCSA), Alaska Native regional corporations were allowed to submit applications to obtain title to lands across the state containing Native historical places and cemetery sites. The program is administered by the BIA; program staff must verify the physical evidence and location of each site and gather sufficient information to fully evaluate the site’s significance in Alaska Native history. State and federal land status records were searched for ANCSA 14(h)(1) sites that have been conveyed or are still in the process of adjudication. In addition, information was solicited from ANCSA regional corporations regarding candidate sites.

**ANCSA Section 17(b) Easements**—Under Section 17(b) of ANCSA, the US reserves access easements to public land and water on lands that have been or will be conveyed to Alaska Native Village and Regional corporations. The Bureau of Land Management has management authority for the US for these easements unless that authority has been otherwise delegated. ANCSA 17(b) easements have specific allowable uses and cannot be reserved or retained for cultural purposes, but can provide access to culturally important places on publicly owned land. Section 3.2, Land Ownership, Management and Use, describes the ANCSA 17(b) easements in the project footprint.

### 3.7.2 National Historic Preservation Act Section 106

In addition to NEPA, Section 106 of the National Historic Preservation Act (NHPA) is relevant to identifying cultural resources and evaluating project impacts on cultural resources that are eligible for or listed in the National Register. The USACE complies with Section 106 and its implementing regulations, “Protection of Historic Properties” (36 CFR Part 800) and applies the Procedures for the Protection of Historic Properties (33 CFR Part 325, Appendix C), which were developed for Section 106 compliance for the USACE regulatory program. The term historic properties is formally defined in the statute itself (54 United States Code [USC] 300308) and in the Section 106 implementing regulations under 36 CFR Part 800.16(l) as “a property which has historical importance to any person or group.” This term includes the types of districts, sites, buildings, structures, or objects eligible for inclusion, but not necessarily listed, on the National Register” (33 CFR Part 325 [1][b]). Appendix C also defines “Designated Historic Properties” as “historic properties listed in the National Register or which have been determined eligible for listing in the National Register. A historic property that, in both the opinion of the State Historic Preservation Officer (SHPO) and the USACE district engineer, appears to meet the criteria for inclusion in the National Register will be treated as a designated historic property” (33 CFR Part 325 [1][a]). If the USACE authorizes the proposed actions under their authority, the permit decision must comply with Section 106, the Section 106 implementing regulations (36 CFR Part 800), and 33 CFR Part 325 Appendix C.

Under 36 CFR Part 800 and 33 CFR Part 325 Appendix C, the USACE must carry out all steps of the Section 106 review process in consultation with the Alaska SHPO and Advisory Council on Historic Preservation (ACHP), in addition to consulting parties that include Indian tribes, representatives of local governments, the permit applicant, and/or other individuals and organizations with a demonstrated interest in the project. For purposes of Section 106, the term “Indian tribes,” includes native villages, regional corporations, and/or village corporations as

defined in the ANCSA (36 CFR Part 800.16[m]). The scope of the historic property identification effort, determinations of National Register eligibility, analysis of effects, and steps to resolve adverse effects to historic properties must be informed by this consultation effort. See below for a discussion and definitions of the Area of Potential Effects (APE) and permit area, which help define the geographic extent of the identification effort. The USACE continues to consult with the SHPO, ACHP, and consulting parties to clarify the APE and permit area definitions for this undertaking.

The USACE is using a phased identification and evaluation of historic properties under 36 CFR Part 800.4(b)(2) through the execution of a Programmatic Agreement (PA) pursuant to 36 CFR Part 800.14(b). If a permit is issued, the PA will establish the process and actions necessary to meet the reasonable and good faith effort standard for identification or evaluation of historic properties, assessment of effects, treatment of potential adverse effects, and guide development of a Cultural Resources Management Plan. Appendix L includes a draft PA with an appendix that lists invited and participating federal and state agencies and consulting parties. The USACE intends to complete the PA prior to the Record of Decision for review of the permit application.

Meetings with federal and state agencies and consulting parties were initiated by the USACE on August 17, 2018; to date, the USACE has hosted consulting party meetings on October 30, 2018, December 11, 2018, January 15, 2019, February 5, 2019, May 22, 2019, July 11, 2019, September 6, 2019, November 1, 2019, and January 28, 2020 to review the Section 106 process and gather input on potential historic properties. Further consulting party meetings are planned throughout the Section 106 process and development of the PA. Meetings with individual tribes and consulting parties about potential historic properties took place with multiple groups in Dillingham, Aleknagik, Newhalen, and Iliamna in March/April of 2019, and again in January/February of 2020. Consultation has also occurred through numerous letters regarding determinations of eligibility, the APE, and identification efforts.

Other federal laws and Executive Orders (EOs) also require the consideration of effects or impacts on cultural resources, in coordination with NEPA and the NHPA. The USACE has incorporated consideration of these laws and EOs in their permit decision-making process. In addition, USACE has reviewed how these laws would apply to cultural resources found in the EIS analysis area, as follows:

- Antiquities Act of 1906 (16 USC 431-433)
- Historic Sites Act of 1935 (16 USC 461-467)
- Archaeology and Historic Preservation Act of 1974 (16 USC 469-469c)
- Archaeological Resources Protection Act of 1979 (16 USC 470aa-47011)
- American Indian Religious Freedom Act of 1978 (42 USC 1996)
- Religious Freedom Restoration Act (42 USC 21b)
- Abandoned Shipwreck Act of 1987 (43 USC 2101-2106)
- Native American Graves Protection and Repatriation Act of 1995 (20 USC 3001 et seq.)
- EO 13006, EO 13007, and EO 13175

The Alaska Historic Preservation Act of 1971 addresses the consideration of cultural resources on State lands or lands potentially affected by construction and requires review by the State. Appendix E describes all the federal laws and EOs applicable to the project.

### 3.7.2.1 Area of Potential Effects and Permit Area

As discussed above, for the purposes of fulfilling the requirements under Section 106, the USACE defined an APE and a permit area for the undertaking. Appendix C of 33 CFR Part 325 uses the term “permit area” to refer to the geographic extent of the USACE’s responsibility for considering effects on historic properties. Permit area is defined as “those areas comprising the waters of the US that will be directly affected by the project work or structures and uplands directly affected as a result of authorizing the work or structures” (33 CFR Part 325 [1][g]). The permit area for the project is defined as the direct footprint of all areas where fill or excavation would occur, where facilities or structures would be installed, and the areas used for construction of the project.

The APE is defined in 36 CFR Part 800.16(d) as the “geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.” Modeled information on the potential extent of viewshed, noise, and dust effects was used to determine the size of the APE for portions of the undertaking that would not be submerged in navigable waters of the US. The portions of the APE that are outside of navigable waters of the US include the direct footprint of the project (i.e., the surface area that would be directly disturbed by construction activities); the area that is in the foreground and of strongest visual contrast; the distance where more than 10 weighed decibels above ambient noise would be expected; and areas that would be impacted by fugitive dust (see Appendix K4.11, Aesthetics, for viewshed figures, and Section 3.19, Noise, for information on ambient noise). For this project, the APE is the same as the EIS analysis area for both indirect and direct effects:

- At the mine site, the APE has been defined as the direct construction footprint and the area within 3 miles of the outer extent of the direct construction footprint of the mine site and its components.
- For all other linear and non-linear features outside the mine site, the APE is defined as the direct construction footprint and the area within 1 mile of the direct construction footprint of the linear features and non-linear features. The linear and non-linear features outside the mine site include the transportation corridor, the ferry terminals, the port facility, the two mooring spreads, navigation aids, the onshore portions of the natural gas pipeline, and the natural gas compressor station.
- For the natural gas pipeline in navigable waters of the US, which are Cook Inlet and Iliamna Lake, the APE is defined as the direct construction footprint of the natural gas pipeline, including the dredging, discharges of dredged material, and installation of structures, and the area where anchoring of the pipe laying barges may occur. The width of the anchor spread would be variable; the maximum anchor spread width would be 4,101 feet on each side of the pipeline. The maximum total width of the anchor spread would be 8,225 feet. The permit area and the APE for the natural gas pipeline in navigable waters of the US are the same area.

### 3.7.3 Cultural Resource Research and Field Studies

Prior to performing field surveys in the analysis area, SRB&A performed an archaeological file search, reviewed historical background information, and created a landform model to strategically inform archaeological field studies. The archaeological file search revealed that only two previous archaeological field surveys had been conducted in the Pebble Limited Partnership (PLP) mine claim lease area. SRB&A (2011a) detailed the results of the nearest cultural resources surveys in each direction from the claim boundary.

SRB&A's annual survey work for the project commenced in 2004 and involved yearly surveys until 2012. Initial fieldwork focused on the mine claim lease area and was limited to specific locations of expected ground disturbance in PLP's claim boundary. Additional survey work occurred in adjoining claim boundaries south of the mine site, and a brief survey in 2006 along a section of the Newhalen River for a bridge crossing. In 2005, SRB&A's first surveys in the area that became the Expanded Cook Inlet Baseline Study Area (ECIBSA) focused on the then-proposed port site locations in the Knoll Head area (SRB&A 2011a). SRB&A returned in 2007 to survey two proposed meteorological station locations near Iliamna Bay; and again in 2012, to survey areas near Y Valley and Sunday Creek.

Literature reviews provided in SRB&A 2011a and 2015a include references and a narrative of previous studies throughout the general region. SRB&A's annual reports primarily discuss archaeological compliance surveys completed during preliminary geotechnical and mineral exploration work, but also offer a summary of historic and ethnographic sources, including historic documents, ethnographic and linguistic studies, and interview-identified cultural resources. In addition, SRB&A 2011a contains information on the 2007 interview-identified cultural resources throughout the region, including both Bristol Bay and Cook Inlet drainages. SRB&A also completed reports providing the results of the 2013 interviews (PLP 2019a) that include tables and figures summarizing the results of these interview-identified cultural features. The geographic extent of the interview-identified cultural features covers each alternative and provides data on the types of cultural resources features identified in the EIS analysis area.

Ethnographic works about the Dena'ina, Yup'ik, and Alutiiq (see SRB&A 2011a for a list of select ethnographic and linguistic studies reviewed) contribute to understanding social structures, subsistence food storage practices, land use traditions, place names, and many other data with bearing on defining how humans have interacted with natural resources in the affected environment. For example, Boraas and Knott (2013) note that the Yup'ik and Dena'ina consider the land and waters to be their sacred homeland. Salmon, and the waters and habitat that support them, are crucial elements of this homeland, and therefore may be considered as part of the cultural resource landscape. Interrelated to salmon are the wild foods and harvest areas that support subsistence (e.g., upland subsistence areas, fishing and hunting camps) (Boraas and Knott 2013). Boraas and Knott (2013) also detail Yup'ik and Dena'ina spirituality and how this spirituality is found and reflected in the natural environment. Cultural relationships with wild animals and fish are of primary importance, while some discrete places have taken on special importance as sacred sites and landscapes, including known travel routes and traditional use areas. Boraas and Knott (2013) mention one travel route as being culturally and spiritually significant: the Dena'ina trail, which is partially in the EIS analysis area for Alternative 2—North Road and Ferry with Downstream Dams and Alternative 3—North Road Only, connecting Old Iliamna and Kamishak Bay on Cook Inlet (and locations along the route). The above reports, in conjunction with consultation, contribute more detail to the characterization of the affected environment beyond archaeological and historic-era sites. These reports indicate that the analysis area is in a region traditionally used for natural resource procurement, and that the analysis area contains landscape features, place names, material sources, and harvest areas that have a given cultural value.

Consistent with ACHP guidance (ACHP 2018), these field studies were lead, in part, by an SRB&A-created model that helped to establish areas of high or moderate to high potential for archaeological sites. The model used wetlands and slope data to determine areas where an archaeological site may or may not remain due to natural environmental changes and existing landform conditions. The model identified areas where additional archaeological surveys may be appropriate and informs the level of effort for cultural resource identification work. A deductive

survey model, informed by ongoing identification work, is being developed as part of the Section 106 process, which will help guide future field efforts as the project progresses.

The BIA manages restricted property (Native Allotments) throughout the state of Alaska. BIA records regarding Native Allotments potentially contain information related to cultural resources associated with the property. SRB&A conducted a review of the 123 BIA records of Native Allotments in and near the EIS analysis area from PLP (PLP 2019-RFI 114). Results of the Native Allotments that would be in the project footprint are described below (SRB&A 2019a). PLP retained ASRC Energy Services to complete a desktop study of the Alternative 1 transportation corridor (ASRC 2017). AECOM also conducted a similar study for this EIS. This desktop study was limited to a review of the Alaska Heritage Resources Survey (AHRS)<sup>1</sup> database and did not investigate other types of cultural resources beyond sites and historic-era buildings already identified in the AHRS. The results of the desktop AHRS studies are described below.

A desktop search was conducted of state and federal land status records for ANCSA 14(h)(1) sites for historical places and cemetery sites. No patented sites or sites currently under adjudication were found in the EIS analysis area. The nearest site found was approximately 30 miles away and outside of the EIS analysis area. Information was also collected from Bristol Bay Native Corporation regarding candidate sites. The nearest candidate site would be approximately 12 miles from the EIS analysis area; the rest would be more than 20 miles from the EIS analysis area. AECOM and SRB&A also reviewed two documents associated with collecting information on candidate sites for ANCSA 14(h)(1) applications; it was determined that resource information in the documents had been already been obtained through other sources (PLP 2019-RFI 156).

### 3.7.3.1 Cultural Resource Identification Efforts

Information in this section is primarily based on a review of data from the AHRS, BIA Native Allotment data, and the series of cultural resources survey reports prepared for the PLP between 2004 and 2013 by SRB&A, particularly the summary reports included in the Environmental (and Supplemental) Baseline Documents (EBDs) for cultural resources covering the Bristol Bay and Cook Inlet Regions (SRB&A 2011a, 2015a, b). Additional survey work has been performed during the 2018 and 2019 field seasons, and sources of cultural resource and ethnographic information were reviewed that include indigenous place name data, locations of interview-identified cultural resources, and mapping (HDR 2019e; SRB&A 2019b). Other reports relating to the region's cultural context have informed this document, including Boraas and Knott (2013), data sets from subsistence harvest areas (SRB&A 2011b), and reports prepared for NPS lands in the same cultural region (Deur et al. 2018).

- SRB&A's initial field work scope was focused on investigating lands within the "claim block boundary," although several surveys have been conducted outside the boundary. The claim block boundary was defined as mining claims owned or leased by PLP and Kaskanak, Inc., and represents an area larger than the current mine site footprint. The claim block analysis area covered lands from Iliamna Lake in the south, to the Nikabuna Lakes in the north, and west from the Newhalen River toward the Mulchatna River. Background and place names research covered the entirety of this area, whereas field work was targeted to areas where PLP had

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<sup>1</sup>The AHRS is a database of identified cultural resource features in Alaska and is maintained by the Office of Historic and Archaeology. Site significance is not a consideration when assigning AHRS numbers. It is intended to be an inclusive data set, and not all sites have been field-verified, nor are all sites in Alaska listed.

proposed ground-disturbing activities in support of geotechnical and mineral exploration activities.

- Field surveys have not covered the entire mine site or transportation corridors. To date, approximately 22 percent of the mine site footprint has been surveyed, and only portions of the Alternative 1a transportation corridor where other structures would be (ferry terminals, bridge crossings, and Amakdedori port) have been surveyed.
- In July 2018, HDR completed an archaeological survey of the Amakdedori port site on behalf of PLP. One new archaeological site was identified (ILI-00295) and was determined not eligible by the USACE on July 25, 2019, with the concurrence of the Alaska SHPO on July 26, 2019. HDR also updated the geographic location information of the Amakdedori Village site (AHRs No. ILI-00044). The village site is not in the port site footprint but is directly south of the port site along Amakdedori Creek (HDR 2019e) and would be in the EIS analysis area. Although human remains had been reported to occur in the Amakdedori area, no testing or investigation of human remains occurred.
- Through the summer of 2019, SRB&A completed archaeological surveys of the north, south, and Eagle Bay ferry terminals; the Gibraltar and Newhalen river crossings; and a number of potential drill locations at the mine site. SRB&A identified sites at the Gibraltar River crossing (ILI-00299 and ILI-00300), the Newhalen North River Crossing Variant (ILI-00302, ILI-00303, ILI-00304, ILI-00305 and ILI-00306), the Eagle Bay ferry terminal (ILI-00301), and at a temporary Newhalen River crossing (SRBA2-Site 3 and SRBA2-Site 4) (PLP 2019-RFI 117a). These are discussed further below.
- SRB&A collected and consolidated place name data and developed a place name database. The place name data covered only the mine claim lease area and the ECIBSA (which covers Alternative 2 and Alternative 3, but not areas south of Lake Iliamna). Public input and additional research may yield the identification of additional place names and contribute to better understanding the cultural significance of these places. A complete list of place names in the EIS analysis area can be found in Appendix K3.7.
- The ECIBSA spans a large section of western lower Cook Inlet and extends from the Kamishak Bay area in the south to the Chinitna Bay area in the north. In addition to place name research, this area was also subject to literature reviews in 2011 and 2012; limited field surveys occurred at Knoll Head near Iniskin Bay, Williamsport at the head of Iliamna Bay, Y Valley, and Sunday Creek (SRB&A 2014). None of the areas surveyed are in the EIS analysis area for any of the alternatives or variants.
- SRB&A completed interviews in Igiugig, Iliamna, Kokhanok, Newhalen, Nondalton, Pedro Bay, and Port Alsworth, noting the location of approximately 220 interview-identified cultural resources in the EIS analysis area based on informant knowledge; however, limited field work has been completed to determine if there are physical manifestations of these interview-identified sites (SRB&A 2011a; 2019b; PLP 2018-RFI 097b; PLP 2019-RFI 117a). This analysis also acknowledges that not all cultural resources will have physical evidence. SRB&A conducted interviews in 2007 and again in 2013. The interview-identified cultural resources include historic structures or built features, travel routes (including traplines, trails, and portages), definable areas (e.g., burial grounds, battle sites, legend landscapes, and other areas of religious or traditional significance), and

names or storied locations (place names). While verification of these cultural resources is ongoing, the geographical span of interview-identified cultural resources covers the entire project area, including all alternatives and variants. A complete list of interview-identified cultural resources in the EIS analysis area can be found in Appendix K3.7.

- Interviews identified routes and trails, but field verification was limited in these early investigations to determine whether the reported routes and trails intersected the areas of ground disturbance for the geotechnical and mineral exploration activities in the mine claim lease area.
- No archaeological/pedestrian surveys have been completed for the transportation corridor for Alternative 2 and Alternative 3, including the pipeline route and the Diamond Point port components.
- Background research of the AHRS sites in the project footprint suggests that one AHRS location has been evaluated for inclusion in the National Register. This is the Williamsport-Pile Bay Road (AHRS No. ILI-00132) in the Alternative 2 and Alternative 3 transportation corridor. Of the remaining known AHRS locations, one (ILI-00251) was determined by SHPO in 2019 to be not eligible for inclusion. The transportation and pipeline corridors for each alternative and Diamond Point have not been systematically researched or surveyed for historic properties. These studies would be conducted in accordance with the Section 106 process, and the results will be incorporated into the ongoing analysis if one of those alternatives were selected. Results reported in this EIS are based on currently available information and will be revised as appropriate to incorporate additional findings. The need for and scope of additional research and survey work for the identification and evaluation of historic properties will be defined in the PA.
- Meetings with consulting parties were initiated by the USACE via letters distributed to potentially involved entities on August 17, 2018. While under way, the EIS and Section 106 processes have produced some additional information regarding the identification and evaluation of cultural resources and historic properties in the analysis area. Guidance for ongoing identification and evaluation of historic properties will be incorporated into the PA if a permit is issued.

For the purposes of this EIS, the analysis for historic properties (including the tables and information presented in Appendix K3.7, Cultural Resources), is based on known cultural resources listed in the AHRS database that are identified as being in the EIS analysis area. This reliance on AHRS data for defining potential historic properties will be addressed through ongoing research and consultation as part of the Section 106 process. Methods and approaches to completing determinations of eligibility will be provided in the PA.

The mine site, transportation corridor, and ECIBSA areas do contain interview-identified routes and trails, subsistence use areas, place names, and other cultural resources features that may be determined to be historic properties in the Section 106 review. It is expected that additional information gleaned through the Section 106 consultation process will further refine the extent and nature of other historic properties, and the consideration of effects on historic properties.

Currently, there would be no known National Register eligible sites in the Alternative 1a or the Alternative 1 project footprints, and one known historic property in the footprint of Alternative 2 and Alternative 3. There are numerous cultural resource features spread across the landscape that represent a wide range of site types. Many of these may warrant additional analysis as potential historic properties. Further identification efforts under Section 106 may also involve the

analysis of cultural landscapes, traditional cultural properties, and/or archaeological or historic districts in the permit area.

The USACE has considered additional cultural resources information collected throughout the Section 106 process, with public comments concerning cultural resources collected during public scoping and the DEIS meetings, government-to-government consultation between the USACE and tribes, consulting party meetings, consultation performed during the development of the Section 106 PA, and additional field surveys supplied by PLP. During consultation under Section 106, three traditional cultural landscapes were identified by consulting parties as potential historic properties: the Nondalton Tribal Council has identified the Qiyhi Qelahi Cultural Landscape (Cultural Alaska 2019) and the Newhalen River Traditional Cultural Landscape, and the United Tribes of Bristol Bay has identified the Nushagak River Traditional Cultural Landscape (Boraas 2019).

Identification efforts will continue following the Final EIS (FEIS), if the project is authorized. If the project is permitted, the Section 106 process would be concluded by the finalization of a PA signed by the USACE, ACHP, and the Alaska SHPO. Among other provisions, it is anticipated that the PA will require that additional identification efforts be completed by PLP to meet the Reasonable and Good Faith Standard (36 CFR Part 800.4[b][1]) (ACHP 2018). The identification methods, areas to be subject to field investigations, and associated consultation procedures for evaluating resources, assessing effects and resolving adverse effects will be outlined in the PA. A draft of the PA is included in Appendix L of this EIS.

### **3.7.4 Alternative 1a**

#### **3.7.4.1 Mine Site**

##### **Known AHRS Locations**

After completing additional field investigations and following project alignment modifications, it was determined that there would be 12 AHRS sites in the EIS analysis area for the mine site, including two that would be in the footprint. These sites include small prehistoric sites composed of lithic debitage; sites evidenced by cobble and/or rock features (e.g., tent or fire rings or stacks); and camping sites that include food wrappers, rifle cartridges, water/oil containers, antler, and bone, suggesting continued use as hunting locales. AHRS site number ILI-00251 has been determined not eligible for inclusion in the National Register by the USACE on October 30, 2019. The Alaska SHPO concurred with this determination on November 19, 2019. A comprehensive list of the AHRS sites in the EIS analysis area for the mine site are listed in Appendix K3.7.

Three AHRS sites in the mine site EIS analysis area were revisited in 2019: ILI-00196, ILI-00218, and ILI-00254. No new cultural resources were identified during those surveys (PLP 2019-RFI 117a). Following the application of the landscape model, approximately 2,083 acres of the mine site footprint would not need to be surveyed for cultural resources due to the minimal potential for resources to be present. To date, SRB&A has surveyed approximately 1,797 acres of the remaining 6,047 acres in the mine site footprint (approximately 30 percent). Roughly 4,250 acres (approximately 70 percent) of the areas with high or medium potential for cultural resources in the mine footprint have not been surveyed for cultural resources. Field investigations performed to date suggest a low density of cultural resources in the mine site footprint (amounting to approximately one site per 1,041.5 acres).

## **Place Names**

SRB&A reviewed place name data sources and compiled a place name database and corresponding map of known place names for the Bristol Bay and Cook Inlet areas based on these sources and SRB&A interviews: Evanoff 2010; Krieg et al. 2005; Kari, Kari, and Balluta 1986; and Kari and Kari 1982. Table 22-3 and Figure 22-20 through Figure 22-22 of the SRB&A 2011a report show the location of documented place names in the Bristol Bay drainages, PLP's mine study area, and the Cook Inlet drainages, which are also all listed in Appendix 22A of that report. Table 22-8 in the supplemental EBD (SRB&A 2015a) conveys related information about Dena'ina and Yup'ik place names in the PLP mine study area, and Figure 22-7 in that report shows Alaska Native place names in the vicinity of the claim block lease boundaries.

The place name database reveals five place names in the EIS analysis area for the mine site; of the five, only the place name for Frying Pan Lake (*Vak'ent'esi Vena*) would be in the project footprint, although the others, including the place names for Groundhog Mountain (*Qiyhi Qelahi*), and the Upper Talarik Creek (*Tuni Vetnu Tl'ughu*) would be in the EIS analysis area. Descriptions of place names in the EIS analysis area are provided in Appendix K3.7. Further analysis of these place name areas and consultation is in progress through the Section 106 process to investigate the location and significance of these place names.

## **Interview-Identified Cultural Resources**

The cultural resource features identified by SRB&A based on informant interviews are presented in PLP 2018-RFI 097b; PLP 2019-RFI 113a; PLP 2020-RFI 113b, and SRB&A 2019a; they are summarized in Appendix K3.7.

Interview-identified cultural resource features indicate a variety of cultural resources across the mine site EIS analysis area (and other project components). These features include camps, harvest locations, spiritually important places, routes, trails, and traplines. Frying Pan Lake is mentioned in the Nondalton interviews as traditionally used for fishing and hunting, and people used to camp there, although use has decreased since mining exploration began. Subsistence maps demonstrate overlap with the mine site area and harvest areas for resources such as, but not limited to, berries, upland game birds, waterfowl, caribou, and moose, supporting communities such as Newhalen, Nondalton, Iliamna, and Kokhanok. Additional information on contemporary subsistence harvests is presented in Section 3.9, Subsistence, and in Appendix K3.9.

In the mine site analysis area, SRB&A interviews resulted in the identification of 19 cultural resource features. Two of these features are classified as trails/routes, along with two traplines, five harvest locations/traditional use areas, 10 camps, and one spiritually important place. One feature was classified as both a camp and a harvest location/traditional use area. Of these features, six would be the project footprint, and the remainder intersect the 3-mile buffer that constitutes the mine site EIS analysis area.

No TCLs have been determined eligible for the National Register in the mine site area. However, informants have submitted Groundhog Mountain (*Qiyhi Qelahi Cultural Landscape*), the Nushagak River Traditional Landscape, and the Newhalen River Traditional Cultural Landscape as potential TCLs for consideration under Section 106 of the NHPA, based on their significance in local identity and subsistence (PLP 2018-RFI 097b; Cultural Alaska 2019; Boraas 2019). Various cultural activities associated with Groundhog Mountain, identified as important to local identity and subsistence, are documented in the individual interviews conducted by SRB&A in Nondalton. It has been historically used by village residents as a spring camp and a place for teaching young people traditional practices. It contains many trails and was used to keep reindeer in the past (SRB&A 2018a). Groundhog Mountain was also identified as a potential TCL in SRB&A's 2013 interviews.

SRB&A has not found any physical evidence of interview-identified routes and trails, but has only investigated areas where trails intersected areas where ground-disturbing actions were proposed. Evanoff (2010) also documents access routes and seasonal travel locations for subsistence use that inform an examination of routes and trails and their cultural significance. PLP 2018-RFI 088 shows several travel routes through the mine site area (see Section 3.12, Transportation and Navigation, for more information on travel routes).

### **Historic Properties**

No historic properties have been identified to date in the EIS analysis area for the mine site. The USACE is currently in consultation to verify the boundaries, characteristics, integrity, significance, and eligibility of the Qiyhi Qelahi Cultural Landscape and Nushagak River Traditional Landscape for the National Register. Additional consultation and investigations performed before and during implementation of the PA may identify historic properties in the mine site EIS analysis area.

#### **3.7.4.2 Transportation Corridor**

The Alternative 1a transportation corridor includes the port access road from Amakdedori port to the south ferry terminal near Kokhanok, and ferries across Iliamna Lake to a ferry terminal at Eagle Bay, with the corridor continuing along the mine access road from the lake to the mine site. The mine study area of analysis in the EBDs encompasses a portion of the transportation corridor north of Iliamna Lake as it enters into the mine site, and the discussion of cultural resources above for the mine site is applicable to this terminal section of the transportation corridor. This area remains in the homeland of the Dena'ina and Yup'ik, and the discussion above in the mine site section regarding the status of knowledge about cultural resources is applicable here. Additional work may be necessary to identify other undiscovered cultural resources along the mine and port access roads, because the field efforts by SRB&A focused primarily on the mine site, ferry terminals, and river crossings. However, the background research, including ethnographic and traditional knowledge reports (Evanoff 2010; Boraas and Knott 2013), place name data, and interview-identified cultural features (SRB&A 2011a, 2015a, b) cover the region that the mine access road crosses.

### **Known AHRs Locations**

Seventeen AHRs sites are known in the EIS analysis area for the Alternative 1a transportation corridor: 11 along the mine access road, and six along the port access road. These include three prehistoric/historic village sites: Old Kakhonak Village (ILI-00008), Amakdedori Village (ILI-00044), and Gibraltar Lake Village (ILI-00056). AHRs sites in the EIS analysis area for the transportation corridor are described in Appendix K3.7. One of the listed AHRs sites (ILI-00299) would be in the footprint of the port access road. In addition, the Kokhanok spur road would lead to AHRs sites, such as ILI-00008, Old Kakhonak, and historic buildings in Kokhanok (ILI-00025 Saint Peter and Paul Chapel). These sites also include a cluster of sites in and around Kokhanok Village near the south ferry terminal, and along the southern shore of Iliamna Lake. The other sites are more isolated.

Archaeological surveys were conducted in 2019 at the south and Eagle Bay ferry terminals, as well as the Newhalen and Gibraltar river crossings. No new cultural resources were found at the south ferry terminal. Surveys of the Eagle Bay ferry terminal resulted in the identification of site ILI-00301. Surveys of the Newhalen River crossing resulted in the identification of sites ILI-00302, ILI-00303, ILI-00304, ILI-00305, and ILI-00306; all of these sites would be in the EIS analysis area, but not in the project footprint. Surveys of the Gibraltar River crossing resulted in the identification of sites ILI-00299 and ILI-0300 (PLP 2019-RFI 117a). Further work is required to identify potential cultural resources sites in the transportation corridor, including more detailed

literature review, field survey, and consultation, which may result in the identification of additional archaeology sites, historic buildings, and cultural resources. This work may be addressed in the Section 106 PA, the PLP Cultural Resources Management Plan, and conditions of approval of state and federal permits associated with the project.

### **Place Names**

The area south of Iliamna Lake, where the port access road would be, has not been subject to specific place names research or more detailed ethnographic or traditional ecological knowledge investigations by PLP. This area is mostly outside of the study areas used to guide previous PLP surveys. Public input and data from other sources, such as that completed by Kugo (2017) and other studies cited above in the mine site section, contribute to understanding the location of native place names in this project component. The scope of investigation for place names is limited to north of Iliamna Lake, where the mine access road would be. Additional place name studies may be conducted as part of the Section 106 process.

The place name database lists 10 locations along the mine access road; four of these would intersect the project footprint. One place name for Amakdedori (*Amaktatuli*) was submitted in comments on the Draft EIS (IVC 2019) and would be in the project footprint. One additional place name for Iliamna Lake (*Nila Vena/Nanvarpak*) would be in the footprint of the ferry route and natural gas pipeline. Interview-identified cultural features and comments submitted on the Draft EIS include two place names that would intersect the port access road. Place names are listed and described in Appendix K3.7.

### **Interview-Identified Cultural Resources**

This area remains in the homeland of the Dena'ina and Yup'ik, and the discussion above in the mine site section regarding the status of knowledge about cultural resources is applicable here. There are 101 interview-identified cultural resource features in the transportation corridor analysis area (PLP 2019-RFI 113a), which are listed in Appendix K3.7. For the mine access road (43 features), these include: 16 trail/routes, 5 grave/burials, 8 camps, 6 harvest location/traditional use areas, 3 cabins, 2 traplines, 2 places with legends or beings, 2 places to avoid/spooky places, 1 spiritually important place, 2 battlegrounds, 1 historic object, and 3 other historic structures. Many features have more than one classification, and 22 out of 43 would be in the project footprint.

Along the port access road, interview-identified cultural resource features include: 1 battleground, 28 grave/burials, 6 cabins, 8 camps, 1 place name (see above), 3 material source sites, 1 place with legends or beings, 10 trails/routes, 5 traplines, 11 villages, 1 spiritually important place, 6 archaeological sites, 2 places to avoid/spooky places, and 5 other historic structures. Many features have more than one classification. Of the 58 cultural features in the port access road EIS analysis area, 16 would be in the project footprint (PLP 2019-RFI 113a).

The south and Eagle Bay ferry terminals overlap with the transportation corridor. At the south ferry terminal, there would be one interview-identified cultural resource; a trail/route that would not be in the project footprint. The Eagle Bay ferry terminal would have 9 interview-identified cultural resources: 1 historic object, 1 harvest location/traditional use area, 1 cabin, 2 places to avoid/spooky places, 3 trail/routes, 1 grave/burial, 1 place with legends or beings, and 1 other historic structure. Some features have more than one classification, and 1 out of 9 would be in the project footprint (PLP 2019-RFI 113a).

Traditional land use is further evidenced by current subsistence use throughout the area. Community subsistence data show harvest areas for plants, moose, caribou, brown bear, and other resources supporting the nearby villages, such as Iliamna, Kokhanok, Igiugig, and Newhalen. This land use, coupled with the location of known AHRS sites in the vicinity, such as

the Gibraltar Lake Village and Amakdedori Village (see below), and the interview-identified data, demonstrate a high likelihood of cultural resources throughout the transportation corridor, including the possibility of places of traditional religious and cultural significance, cultural landscapes, and TCLs. No TCLs have been determined eligible for the National Register in the transportation corridor. However, informants noted that a fish camp west of Kokhanok is a potential TCP (SRBA 2019a). Informants have also identified the Newhalen River as TCL for use in fish harvest.

### **Historic Properties**

No historic properties have been identified in the EIS analysis area for the transportation corridor. Additional consultation and investigations performed before and during implementation of the PA may identify historic properties in the transportation corridor EIS analysis area.

#### **3.7.4.3 Amakdedori Port**

The Amakdedori port is not in the ECIBSA used by SRB&A to frame the background research and characterize cultural resources in broader areas of interest for the initial project. The result is that a limited amount of data are available for characterizing the affected environment at Amakdedori port.

### **Known AHRs Locations**

There are only three known AHRs sites reported in EIS analysis area for Amakdedori port (see Appendix K3.7). Reger (1980) reported Amakdedori Village (ILI-00044) as dating to the turn of the twentieth century and composed of several house and cache pits at the mouth of Amakdedori Creek. Another site (ILI-00291) is the reported location of the AGRAM shipwreck dating to 1923. In addition to these known sites, PLP retained HDR in the summer of 2018 to complete a cultural resource survey of the port location. The report describes an additional prehistoric site (ILI-00295), a lithic surface scatter near the northern end of the port facilities where the transportation corridor enters the port. The report also corrected GPS data for ILI-00044 to farther north, within 2,000 feet of the footprint of the port facility (but not inside of the project footprint). The survey did not observe indications of grave sites during the investigation, and the report recommends that PLP continue to consult with local communities to determine the location of graves to ensure adequate site avoidance or minimization measures are implemented prior to ground-disturbing activities (HDR 2019e). Due to its proximity to the construction footprint of Amakdedori port, ILI-00292 was evaluated and determined to be not eligible for the National Register by the USACE on July 5, 2019. The Alaska SHPO concurred with this decision on July 26, 2019.

### **Place Names**

There are no listed indigenous place names in the Amakdedori port site in the place name database, although one place name for Amakdedori (*Amaktatuli*) was submitted in comments on the Draft EIS (IVC 2019) and would be in the project footprint. Additional research and consultation performed before and during the implementation of the PA may include the identification of indigenous place names in this area and contribute to understanding the cultural significance of these locations.

### **Interview-Identified Cultural Resources**

Comments received during the EIS scoping period and DEIS public comment period, as well as Section 106 consultation, suggest that there are known grave locations at Amakdedori, although

specific locational information has not yet been obtained. Nine interview-identified sites were recorded that would be in the port EIS analysis area, including: 2 traplines, 4 cabins, 3 trail/routes, 2 archaeological sites, 2 villages, and 1 grave/burial (PLP 2019-RFI 113a). Some features have more than one classification, and one would be in the project footprint. Residents of the Lake and Peninsula Borough also refer to “old cabins, trails, and [the] village” as having personal meaning to many who reside in the borough. Amakdedori is also the location of current cultural learning camps and school field trips for students in Kokhanok. This feedback suggests that there are more cultural resources near Amakdedori port and indicates that further consultation and field studies could result in the identification of more cultural resources in this area. Interview-identified sites also mention a village with graves/burials and house pits at Amakdedori, and one trail from the head of Sid Larson Bay to the Cook Inlet coast that crosses near Amakdedori (PLP 2018-RFI 097b).

The presence of graves, trails, cabins, and known prehistoric and historic resources indicates the potential for a broad range of resources to be at Amakdedori port. Coastal modeling (SRB&A 2015b) demarks the coastline near Amakdedori as favorable beach lands for the harvest of coastal subsistence resources, which suggests a generally higher potential for identifying cultural resources in the area (SRB&A 2015b). Additional research could result in the identification of more cultural resources, including routes and trails, and other land use areas significant to the local villages and others.

### **Historic Properties**

No historic properties have been identified in the EIS analysis area for Amakdedori port. Additional consultation and investigations performed before and during the implementation of the PA may identify historic properties in the Amakdedori port EIS analysis area.

#### **3.7.4.4 Natural Gas Pipeline Corridor**

The affected environment description of Alternative 1a applies to much of the land-based portions of the natural gas pipeline corridor, the exception being the segment from the north shore of Iliamna Lake to the mine access road, and the segments submerged in Iliamna Lake and Cook Inlet. Limited work has been done regarding marine archaeology or historic maritime archaeology for the Iliamna Lake crossing; therefore, little information is currently available regarding the affected environment for this portion of the natural gas pipeline route. Additional research and interdisciplinary research would characterize the affected cultural environment as it relates to coastal (Iliamna Lake and Cook Inlet) resource gathering and any associated traditional use areas or other marine cultural resources.

All of the AHRS locations listed for the transportation corridor port and access roads are also in the natural gas pipeline corridor for Alternative 1a.

Aside from those identified under the transportation corridor, the AHRS lists one offshore location near the Amakdedori port: the site of the AGRAM Shipwreck dating to 1923 (ILI-00291). This shipwreck site is in the EIS analysis area but would not be in the footprint of the lightering facilities. More recently, an archaeological assessment was conducted for the pipeline route across Cook Inlet in 2019, using geophysical systems like side-scan sonar data. The pipeline route was modified to avoid findings (PLP 2019-RFI 025b). There are no known AHRS locations or other cultural resources in the anchor spread of pipeline construction. There were no cultural resources identified in the EIS analysis area offshore.

There are nine AHRS sites in the Alternative 1a natural gas pipeline analysis area from the shore of Iliamna Lake to the mine access road. None of the nine AHRS sites would be in the facility footprint.

The AHRS lists three locations on the Kenai Peninsula side of Cook Inlet in the analysis area of the compressor station. These include a prehistoric midden site (SEL-00164: Clabo Midden Site), a prehistoric lithic site (SEL-00363: Whiskey Gulch Site 1), and the Sterling Highway (SEL-00379). AHRS sites in the EIS analysis area for the natural gas pipeline are listed in Appendix K3.7. There would be a total of 21 AHRS locations in the Alternative 1a natural gas pipeline corridor.

The natural gas pipeline would have the same place names for the mine site, port and access roads, south and Eagle Bay ferry terminals, and Amakdedori port.

The natural gas pipeline would share 12 interview-identified cultural resources with the port access road, 19 with the mine access road, and include an additional 7 graves/burials, 3 trails/routes, 1 material source, 1 trapline, 1 place to avoid/spooky place, 4 camps, 2 battlegrounds, 4 harvest locations/traditional use areas, 2 places with legends/beings, 2 archaeological sites, 5 villages, 2 cabins, 2 spiritually important places, and 2 classified as other historic structures. Some features have more than one classification, and 3 would be in the project footprint.

The EIS for Lease Sale 244 lists 100 whole or partial lease sale blocks that are areas of potential pre-contact resources in the lease sale area (which includes much of the upper Cook Inlet more than 3 miles offshore) (BOEM 2016a). This shows that there is the potential for pre-contact resources in the pipeline corridor. Historic properties have not been identified in the EIS analysis area for the natural gas pipeline corridor. Additional consultation and investigations performed before and during implementation of the Programmatic Agreement may identify historic properties in the natural gas pipeline EIS analysis area, both off- and onshore.

### 3.7.5 Alternative 1

Alternative 1 shares the same 12 AHRS sites as the Alternative 1a mine site, 6 sites with port access road, and 3 sites with the Amakdedori port. For the mine access road, there would be 4 AHRS sites; none would be in the project footprint. All AHRS sites are listed in Appendix K3.7. Archaeological surveys were conducted in 2019 at the north ferry terminal; no new cultural resources were found.

As with Alternative 1a, there are no place names in the database south of Iliamna Lake, where the port access road would be, although one place name for Amakdedori (*Amaktatuli*) was submitted in comments on the Draft EIS (IVC 2019), and would be in the project footprint. There is one place name for Iliamna Lake (*Nila Vena/Nanvarpak*) that would be intersected by the ferry route and the natural gas pipeline. The mine access road would intersect seven place names in the EIS analysis area, two of which would intersect the project footprint.

Alternative 1 would share the same interview-identified cultural resources as the port access road, south ferry terminal, and Amakdedori port as Alternative 1a. There would be 37 interview-identified cultural resource features in the mine access road: 1 battleground, 3 grave/burials, 7 cabins, 3 camps, 1 place name (see above), 5 harvest location/traditional use areas, 1 material source site, 1 place with legends or beings, 11 trails/routes, 1 trapline, 1 village, 1 archaeological site, 1 place to avoid/spooky place, 1 portage, and 2 other historic structures. Some features have more than one classification. Of the 37 cultural features in the mine access road EIS analysis area, 14 would be in the project footprint.

At the north ferry terminal, there would be 13 interview-identified cultural resources: 5 trails/routes, 2 harvest locations/traditional use areas, 4 cabins, 3 graves/burials, and 1 camp. Some features have more than one classification, and one would be in the project footprint.

Aside from those identified in the transportation corridor, there are two interview-identified cultural resources in the natural gas pipeline alignment: both are trail/routes, and both would be in the project footprint.

No historic properties have been identified in the EIS analysis area for the mine site, transportation corridor, Amakdedori port, or natural gas pipeline corridor. In addition, no historic properties have been identified in the EIS analysis area for the Alternative 1 Summer-Only Ferry Operations Variant, the Kokhanok East Ferry Terminal Variant, or the Pile-Supported Dock Variant. The USACE is currently in consultation to verify the boundaries, characteristics, integrity, significance, and eligibility of the Qiyhi Qelahi Cultural Landscape and Nushagak River Traditional Landscape for the National Register. Additional consultation and investigations performed before and during implementation of the PA may identify historic properties in the EIS analysis area for Alternative 1.

### **3.7.5.1 Alternative 1—Kokhanok East Ferry Terminal Variant**

The affected environment description for Alternative 1a applies to the Kokhanok East Ferry Terminal Variant. In addition to the cultural resources listed above, the analysis area for this variant encompasses four additional AHRS listed resources in the village of Kokhanok: Saint Peter and Paul Chapel (ILI-00025), The Henry Olympic Allotment Cemetery (ILI-00126), the Kokhanok BIA School (ILI-00262), and a site with pottery and beads (ILI-00127). None of those sites would be in the project footprint.

The port access road for the Kokhanok East Ferry Terminal Variant includes 56 interview-identified cultural resources in the EIS analysis area: 6 camps, 18 grave/burials, 8 traplines, 10 trail/routes, 8 villages, 3 places with legends or beings, 2 places to avoid/spooky places, 7 cabins, 1 material source site, 2 archaeological sites, and 4 other historic resources (PLP 2019-RFI 113a). Some features have more than one classification, and 10 features would be in the project footprint. The ferry terminal would overlap with the port access road and include 16 interview-identified cultural resources: 3 trails/routes, 5 graves/burials, 6 camps, 3 traplines, 2 villages, 2 cabins, 1 harvest location/traditional use area, and 3 other historic structures. Some features have more than one classification, and one site would be in the project footprint.

The place name database does not cover this area, so there are no additional place names recorded for this variant.

### **3.7.5.2 Alternative 1—Summer-Only Ferry Operations Variant**

This variant does not represent any changes from the affected environment as described for Alternative 1.

### **3.7.5.3 Alternative 1—Pile-Supported Dock Variant**

This variant does not represent any changes from the affected environment as described for Alternative 1.

### **3.7.6 Alternative 2—North Road and Ferry with Downstream Dams**

Cultural resources at the mine site would be the same as those described for Alternative 1a. This section covers the transportation corridor, including the pipeline-only segments of the natural gas pipeline corridor where it is not co-located with the transportation corridor, and Diamond Point port.

### 3.7.6.1 Transportation Corridor and Natural Gas Pipeline

This alternative is in the northern portion of the ECIBSA; and as a result, represents an area that was subject to comparatively more background research for cultural resources by SRB&A than the Alternative 1a port access road.

The pipeline would cross Native Allotments AKA 063274A and AKA 4592A. No cultural resources were found on AKA 063274A, and AKA 4592A has had no pedestrian or aerial surveys. The transportation corridor would cross Native Allotments AKA 006025B and AKA 051014. AKA 006025B contains the AHRS location ILI-057 (Hanak Site), but this site would not be in the EIS analysis area; no surveys have been done on AKA 051014 (SRB&A 2019a).

Alternative 2 would cross an area that is also closer to Lake Clark National Park and Preserve than Alternative 1a and Alternative 1; there have been ethnographic/place name studies and cultural landscape analyses completed for the park that are generally applicable to Alternative 2 in terms of understanding broader regional land use patterns. Initial research indicates that the existing Williamsport-Pile Bay Road, the new portion of the port access road, and the mine access road have not all been surveyed for cultural resources. The area is in the original transportation corridor study area (SRB&A 2011a); therefore, background data have been gathered for place names and interview-identified cultural features, discussed below.

No side-scan sonar data have been collected for the pipeline route across Cook Inlet where the route would deviate from the Alternative 1a and Alternative 1 route. Therefore, it is unknown if additional cultural resources exist in those areas. The EIS for Lease Sale 244 lists 68 shipwrecks in the lease sale area (which includes much of the upper Cook Inlet more than 3 miles offshore) (BOEM 2016a). This shows that there is the potential for a shipwreck in the pipeline corridor; however, side-scan sonar data would be collected prior to pipeline construction, and the route modified as appropriate to avoid findings.

#### **Known AHRS Locations**

The AHRS lists 23 cultural resource sites in the EIS analysis area for the Alternative 2 transportation corridors; 11 in the mine access road and 12 in the port access road. These include isolated lithic scatters, prehistoric/historic village remains, historic buildings, and historic roads and bridges. Historic-era AHRS sites include the Pile Bay Townsite Historic District (ILI-000198) and associated cultural resources at Pile Bay, such as the O'Hara House (ILI-00197), The Vantrease Power Plant (ILI-00200), and the base of a radio antenna used by Carl Williams (ILI-00199). The Williamsport-Pile Bay Road itself is a historic linear feature (ILI-00132), and there is an Alaska Road Commission camp adjacent to the road (ILI-00244). Near the Cook Inlet shore near the current barge landing area is the Williamsport Historical Occupation/Land Use Area (ILI-00247). Of these 23 AHRS locations, one (ILI-00132) would be in the project footprint of the port access road. AHRS sites in the EIS analysis area are listed in Appendix K3.7. Five miles of the road from Diamond Point to Pile Bay would overlap with the existing Williamsport-Pile Bay Road, essentially resulting in new construction (including features such as material sites and staging areas).

Archaeological surveys were conducted in 2019 at the Eagle Bay ferry terminal and the Newhalen River crossing. Surveys of the Eagle Bay ferry terminal resulted in the identification of site ILI-00301. Surveys of the Newhalen River crossing resulted in the identification of sites ILI-00303, ILI-00304, ILI-00305, and ILI-00306; all would be in the EIS analysis area, but not the project footprint (PLP 2019-RFI 117a).

The pipeline corridor has a total of 24 AHRS known locations, many are also included in the transportation corridor. The Sterling Highway (SEL-0039) would cross the project footprint.

## **Place Names**

Consolidated place name data reveal 10 place names along the mine access road and the Eagle Bay ferry terminal in the EIS analysis area. Of those, four would intersect the project footprint. Along the port access road and the Pile Bay ferry terminal, there would be 31 place names in the EIS analysis area, with 12 of those intersecting the project footprint. An additional place name for Iliamna Lake would intersect the footprint of the ferry route. The natural gas pipeline would intersect an additional eight place names, three of which would intersect the project footprint. Interview-identified cultural features include three place names that would intersect the pipeline corridor. All place names are listed and described in Appendix K3.7.

## **Interview-Identified Cultural Resources**

The presence of archaeological sites, coupled with subsistence data and place names, suggest the potential for cultural resources throughout Alternative 2. Iliamna Lake and the coastal areas are used for marine resource harvests (e.g., freshwater seals, salmon), and the upland areas are used for hunting upland game birds, waterfowl, caribou, moose, and other small mammals, as well as harvesting berries, wood, and other plant resources (see Section 3.9, Subsistence). Boraas and Knott (2013) report on an important site, the Giant's Rock (Dzelggez) along the Williamsport-Pile Bay Road, which held spiritual significance and was later dynamited in 1955 as part of road construction (Boraas and Knott 2013). That report also indicates that the Williamsport-Pile Bay Road follows an old Dena'ina trail.

There are 54 interview-identified cultural resource features in the Alternative 2 transportation corridor EIS analysis area. For the mine access road, these include: 16 trail/routes, 5 grave/burials, 8 camps, 6 harvest location/traditional use areas, 3 cabins, 2 traplines, 2 places with legends or beings, 2 places to avoid/spooky places, 1 spiritually important place, 2 battlegrounds, 1 historic object, and 3 other historic structures. Many features have more than one classification, and 22 out of 43 would be in the project footprint. For the port access road, these include: 7 trail/routes, 2 grave/burials, 1 camp, and 1 village. Many features have more than one classification, and 4 out of 11 would be in the project footprint.

The Pile Bay and Eagle Bay ferry terminals overlap with the transportation corridor. The Pile Bay ferry terminal would have 3 interview-identified cultural resources: 2 trail/routes, and 1 grave/burial and village. None would be in the project footprint (PLP 2019-RFI 113a).

No TCLs have been determined eligible for the National Register in the Alternative 2 transportation corridor. However, informants noted that a fish camp on the eastern side of the Newhalen River near the mouth of Alexcy Creek is a potential TCP (PLP 2018-RFI 097b).

There would be 62 interview-identified cultural resources in the EIS analysis area for the natural gas pipeline. These include: 18 trails/routes, 3 traplines, 4 cabins, 9 villages, 1 historic object, 10 archaeological sites, 10 graves/burials, 8 harvest locations/traditional use areas, 2 battlegrounds, 1 place to avoid/spooky place, 1 place with legends or beings, 1 spiritually important place, 1 portage, 5 camps, 3 place names, and 3 other historic structures. Many features have more than one classification, and 21 would be in the project footprint (PLP 2019-RFI 113a).

## **Historic Properties**

The Alternative 2 transportation corridor includes construction of a road between Diamond Point and Pile Bay. This road intersects one historic property, the Williamsport-Pile Bay Road (ILI-00132). Per the description in the AHRs database, "This road follows a traditional portage that runs from Pile Bay on the NE end of Iliamna Lake SE across the Chigmit Mountains to

Williamsport at the head of Iliamna Bay, Kamishak Bay.” It is one lane, 15.5 miles, and is used seasonally, providing the shortest surface route to Cook Inlet for six communities around Iliamna Lake. No additional historic properties were identified in the EIS analysis area for Alternative 2.

### **3.7.6.2 Diamond Point Port**

The Diamond Point port site is in the ECIBSA used by SRB&A to frame the background research and characterize cultural resources in broader areas of interest in the lower Cook Inlet region (SRB&A 2015b). Much of the specific field work and research initially focused on the “original” Cook Inlet drainages study, which included the coast north of Ursus Cove to south of Tuxedni Bay, with an emphasis on the Knoll Head Offshore Area and Diamond Point Area. Field work was completed at Y Valley and along Sunday Creek in this region, and place name research also focused on this area, particularly along the existing overland route (Williamsport-Pile Bay Road) from the Diamond Point port site to Pile Bay.

SRB&A crews surveyed a proposed weather station and separate repeater tower near Diamond Point port but did not identify any new archaeological sites (SRB&A 2014). Specifically related to offshore cultural resources, SRB&A reviewed two online databases of shipwrecks, including the NOAA, Automated Wreck and Obstruction Information System database, and the Bureau of Ocean Energy Management, Alaskan Shipwreck Database.

There are no AHRS locations or historic properties listed in the EIS analysis area for the Diamond Point port, and one interview-identified feature (a harvest location/traditional use area) recorded that would not be in the port footprint. There would be seven place names that intersect the port, with three in the project footprint. The discussion above regarding place names for the transportation corridor applies here. Diamond Point was used as a place to camp and collect clams in the spring, and therefore the area has a high potential for additional cultural resources (SRB&A 2012b). There are also reports of a historic mineral claim in the area from the early 1900s (SRB&A 2012b). Diamond Point would be on Native Allotment AKAA 004225B; no pedestrian or aerial surveys were conducted (SRB&A 2019a).

PLP has gathered limited information regarding the potential for offshore marine archaeology near Diamond Point. In 2011, SRB&A reviewed two online databases of shipwrecks, including the NOAA Automated Wreck and Obstruction Information System database and the Bureau of Ocean Energy Management Alaskan Shipwreck Database (SRB&A 2015b). The database review identified three (and possibly a fourth) shipwrecks in the offshore vicinity of Knoll Head. These include the *Ferry Queen* (1953), the *Emma Marie* (1964), and the *Democrat* (date not listed, exact location not known). The possible fourth shipwreck is the location of the *S.S. Farallon* (1910). As part of the 2012 literature review, SRB&A further researched the history and possible locations of the *S.S. Farallon's* shipwreck and the survivor's on-shore campsite. The campsite location was identified in 2012 and is listed in the AHRS (ILI-00267). These sites demonstrate the potential for offshore cultural features in the area, but none of the listed AHRS locations are in the EIS analysis area.

### **3.7.6.3 Alternative 2—Summer-Only Ferry Operations Variant**

This variant does not represent any changes from the affected environment as described for Alternative 2.

### **3.7.6.4 Alternative 2—Pile-Supported Dock Variant**

This variant does not represent any changes from the affected environment as described for Alternative 2.

### **3.7.6.5 Alternative 2—North Newhalen River Crossing Variant**

The mine access road under the Newhalen River North Crossing Variant would have the same AHRS locations as in the mine access road of Alternative 2 analysis area, plus one site that would be in the footprint: ILI-00302, a multicomponent subsurface and surface site discovered during 2019 surveys. Historic properties, place names, and interview-identified cultural resources would be the same as those for Alternative 2.

### **3.7.7 Alternative 3—North Road Only**

Alternative 3 would share the same known AHRS locations, place names, and interview-identified cultural resources at the mine site as Alternative 2.

#### **3.7.7.1 Transportation Corridor and Natural Gas Pipeline**

The transportation corridor would cross Native Allotments AKA 063274A and AKAA 051014. No cultural resources were found on AKA 063274A; AKAA 051014 has had no pedestrian or aerial surveys.

There are 32 known AHRS locations in the Alternative 3 transportation corridor, and an additional four in the natural gas pipeline corridor. One site, ILI-00132, would be in the project footprint. AHRS sites are listed in Appendix K3.7.

There are 90 interview-identified cultural resources in the Alternative 3 transportation corridor. These include: 29 trail/routes, 12 grave/burials, 11 harvest location/traditional use areas, 11 archaeological sites, 14 camps, 9 villages, 6 cabins, 4 traplines, 3 battlegrounds, 3 place names, 1 portage, 2 historic objects, 2 places to avoid/spooky places, 1 place with legends or beings, 3 spiritually important place, and 4 other historic structures. Of those, 36 would be in the project footprint. (PLP 2020-RFI 113b).

There is one historic property in the Alternative 3 transportation corridor, the Williamsport-Pile Bay Road (ILI-00132). This historic property intersects the road between Diamond Point and Pile Bay. Per the description in the AHRS database, "This road follows a traditional portage that runs from Pile Bay on the NE end of Iliamna Lake SE across the Chigmit Mountains to Williamsport at the head of Iliamna Bay, Kamishak Bay." It is one lane, 15.5 miles, and is used seasonally to provide the shortest surface route for six communities around Iliamna Lake.

The natural gas pipeline would share interview-identified cultural resources with the transportation corridor and would also include one harvest location/traditional use area, which would be in the project footprint.

The transportation corridor would intersect 43 place names, of which 15 would intersect the footprint. The pipeline would intersect an additional 2 places names that would be in the project footprint.

#### **3.7.7.2 Alternative 3—Concentrate Pipeline Variant**

This variant does not represent any changes from the affected environment as described for Alternative 3.