



Preserving America's Heritage

December 21, 2018

Ms. Sheila Newman
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Ref: ACHP comments on draft sub-Chapters 3.7, 3.8, 4.7, 4.8 for Pebbles Mine Project DEIS
DA permit application POA-2017-271
Lake and Peninsula Borough, Kenai Peninsula Borough, Alaska
ACHPConnect 12453

Dear Ms. Newman:

The Advisory Council on Historic Preservation (ACHP) is providing comments on the draft versions of sub-Chapters 3.7, 3.8, 4.7, and 4.8 for the Environmental Impact Statement (EIS) being developed by the Corps of Engineers, Alaska District (Corps) for the Pebbles Mine Project in Alaska. The ACHP has made comments and edits in red-line strike-out in the text (enclosed). We also provide a summary of our comments in this letter.

General comments

Overall, the chapters on cultural resources and on historic properties demonstrate the incomplete nature of the effort to identify cultural resources and historic properties that may be affected by the referenced undertaking. The chapters remain vague in articulating the extent of the identification efforts that still need to be carried out in the context of the Permit Area to be specified by the Corps and the associated Area of Potential Effects (APE) that will be delineated in consultation with SHPO, tribes, and other consulting parties.

Section 106

In referencing the requirements of Section 106, the Corps should clearly describe the four-step Section 106 review process that is set forth in 36 C.F.R. part 800, the Section 106 implementing regulations. All the chapters reference Appendix C (of 36 Code of Federal Regulations 325) and the National Historic Preservation Act (NHPA) but fail to acknowledge the applicability of the Section 106 implementing regulations while selectively referencing individual sections of those regulations. The chapters focus on the Permit Area as defined in Appendix C, but fail to reference the APE as defined in 36 C.F.R. Section 800.16(d) that is the focus of federal agency consideration when carrying out the Section 106 review. Appendix C focuses on the Permit Area, but provides for expansion of the Permit

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Area to include the upland portions of an undertaking when appropriate. ACHP will work with the Corps, SHPO, and other consulting parties to develop an appropriate and reasonable APE for direct and indirect effects from the undertaking. The ACHP understands that federal agencies, at times, may assert they have a “Small Federal Handle,” which could circumscribe the extent to which they are responsible for making a reasonable and good faith effort in taking into account effects on historic properties from undertakings for which they have a federal action. However, in this case, we don’t believe such an assertion is appropriate because the Corps and other federal agencies have actions related to all the major components of the undertaking.

The chapters also attempt to redefine consultation which is a central component of the Section 106 review process. However, consultation cannot be redefined. Note that ACHP has never approved Appendix C as an alternative to 36C.F.R. part 800, as is required by both the Statute itself and the Section 106 implementing regulations. We can reference both 36 C.F.R. part 800 and Appendix C throughout the EIS and Section 106 documents but not in a way that suggests that Appendix C takes precedence over 36 C.F.R. 800 or vice versa. While the ACHP and the Corps disagree about Appendix C, we do not believe that the NEPA and Section 106 documents for the undertaking should reference this disagreement. It is also important to remember that the Corps is the lead federal agency for Section 106. The Programmatic Agreement (PA) to be developed will cover all federal agencies that have an action related to the project, who are not subject to Appendix C and instead utilize the standard four-step Section 106 review process.

Conclusion

As we noted in our letter of August 31, 2018, the federal agencies and their contractors developing the drafts of the EIS should refer to *NEPA and NHPA: A Handbook for Integrating NEPA and Section 106* issued by the ACHP and CEQ in March 2013 for guidance regarding how to better integrate the requirements of Section 106 and the NEPA review process. It is available at: <http://www.achp.gov/nepa106.html>.

The ACHP provides these comments to assist the Corps, other federal agencies, the Alaska SHPO, Indian tribes, and other consulting parties in the development of the EIS and compliance with Section 106 for the Pebbles Mine project. Should you have any questions or wish to discuss the comments we have provided, please contact John T. Eddins, PhD at 202-517-0211, or by e-mail at jeddins@achp.gov.

Sincerely,



Jaime Loichinger
Acting Assistant Director
Federal Permitting, Licensing, and Assistance Section
Office of Federal Agency Programs

Enclosure

3.7 CULTURAL RESOURCES

Section 3.7 provides definitions of cultural resources considered under the National Environmental Policy Act (NEPA) regulations (40 Code of Federal Regulations [CFR] 1500-1508), and describes the current status of information known about these resources to characterize the affected environment. Section 3.8 defines and discusses “historic properties” as defined by Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR 800).

NEPA does not specifically define the term “cultural resources.” The law requires 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* (emphasis added) (40 CFR 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. Analyses need to assess a project’s impacts on an area’s “historic and cultural resources” and on “districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP)” and on “significant scientific, cultural, or historical resources.” Importantly, though, cultural resources do not need to be eligible or listed on the NRHP for consideration under NEPA.

Cultural resources under NEPA can be generally defined as archaeological, historical, or architectural resources and locations of traditional cultural or religious importance to specific social and/or cultural groups. This may include, and is not limited to, Traditional Cultural Properties (TCPs); cultural landscapes (both historic and prehistoric); locations with indigenous place names; locations important in conveying oral histories; sacred and/or ceremonial sites; resource gathering and subsistence areas; or other sites of cultural importance that contribute to the continued identity, and spirituality, and lifeways of living communities in or near the project area.

3.7.1 Data Gap Summary

Information presented herein is currently based on a review of data on file at the Alaska Heritage Resources Survey (AHRS), and the series of cultural resources survey reports prepared for the Pebble Limited Partnership (PLP) between 2004 and 2013 by Stephen R. Braund and Associates (SRB&A). Other reports have informed this section, including Boraas and Knott (2013) and data sets from subsistence harvest areas (SRB&A 2011b). Data and analytical gaps will be addressed through the ongoing Section 106 process and will allow for additional characterization of the affected environment for cultural resources in the Final EIS. For example:

- SRB&A’s field work scope was limited to investigating areas where ground disturbance would occur during mineral exploration; there has not yet been a comprehensive analysis of cultural landscapes, TCPs, or other cultural resources in or near the proposed project components.
- SRB&A collected and consolidated place name data, and developed a place name database which will be integrated into this analysis. [Note to reader: Data is pending receipt of RFI 097]. The place name data cover the mine study area and the Extended Cook Inlet Basin Study Area (ECIBSA). Additional data will be collected through the NHPA Section 106 consultation process and additional steps in the

Comment [JTE-ACHP1]: ??highways are usually considered structures. Usually the term buildings is used here.

Comment [JTE-ACHP2]: Locations connected with events or activities referenced in oral histories?

Comment [JTE-ACHP3]: But not just by consultation

Comment [JTE-ACHP4]: ?Request for Information?

identification effort necessary to achieve the reasonable and good faith standard required by the Section 106 review process.

- SRB&A researched routes and trails, but was limited to investigating if any of the reported routes and trails intersected the project area as then defined. No comprehensive assessment of routes and trails has occurred for this undertaking, but may be informed by the NHPA Section 106 process.
- SRB&A completed interviews and noted the location of approximately 1,600 cultural resource sites based on informant knowledge but only limited field work has been completed to determine if there are **physical manifestations** of these interview-identified sites.
- Consultation with agencies and consulting parties, including Alaska Native villages and corporations, was initiated via letter on August 22, 2018. While an initial consultation meeting under Section 106 has occurred, efforts to invite and document direct input from Alaska Native groups and other consulting parties concerning cultural resource locations in or near the project area has not been completed. This will be incorporated into the Final Programmatic Agreement (PA).
- Assessment for off-shore cultural resources (and historic properties) has not yet been completed for project components and alternatives. This will occur during the 2019 field season and be incorporated into the Final EIS.
- The transportation corridor, pipeline, and Diamond Point components have not been surveyed or otherwise investigated for cultural resources. It is not uncommon for linear features to be investigated for cultural resources during final project design. The PA will address the process for avoidance, minimization, and mitigation of potential impacts.
- See Section 3.8, Historic Properties, for a discussion on the limitations and information gaps related to the status of archaeological site surveys, site evaluations under Section 106, predictive modeling outputs, and incorporation of results of recent (SRB&A 2018b) cultural resource reports completed by PLP.

Comment [JTE-ACHP5]: Places where cosmological events or activities occur may not necessarily have demonstrative "physical manifestations". It could be just a place.

Comment [JTE-ACHP6]: Spell out a little bit better what "this" means.

Comment [JTE-ACHP7]: Assessment of previously collected information or research to gather additional information about such properties, or both?

Comment [JTE-ACHP8]: This is passive voice. Who has not yet completed such work?

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It is expected that the USACE will be addressing data gaps throughout the Section 106 consultation process. The procedures detailing further work beyond the issuance of the Final EIS (e.g., the process for additional identification research and surveys, evaluation, and mitigation measures) will be established through the development of a PA.

3.7.2 Area of Analysis

The area of analysis for cultural resources under NEPA is the claim block of the project at the mine site and the viewshed of the project footprint when data are available. The permit area as defined by Appendix C (of 33 CFR 325) has not yet been formally delineated. It is expected that ongoing consultation with agencies and other consulting parties through the NHPA Section 106 process (see Section 3.8, Historic Properties) and NEPA-driven public involvement may likely result in gathering needed input regarding the identification of cultural resources in the area of analysis. The affected environment described below is broad in order to provide regional context. The area of analysis includes the primary project components and all the alternatives (mine site, transportation corridors, natural gas pipeline corridors, and port locations). The Final EIS will include a summation of the consultation and resultant delineation of the final area of analysis for cultural resources, as appropriate.

3.7.3 Cultural Context

The area of analysis for cultural context covers a broad and complex range of prehistoric traditions, ethnographic regions, land uses, and historic-era themes. The cultural context for prehistoric archaeological traditions, ethnographic, and historic themes is presented in the archaeology survey summary reports prepared by SRB&A (SRB&A 2011a; 2015a; 2015b), and the reader is referred to those reports. Boraas and Knott (2013) also offer a detailed prehistoric cultural chronology based on known archaeological site data. Archaeological artifacts 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 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 in these reports cover prehistoric 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. Tribal consultation under Section 106 of the NHPA has been initiated, and information obtained from this process, as well as data gleaned from other sources, will be incorporated into an updated context presented in the Final EIS.

3.7.3.1 Previous Cultural Resource Research

Prior to SRB&A's archaeological field surveys, only two archaeological field surveys occurred within the PLP claim boundary; and no archaeological or historic-era sites were identified. SRB&A's report details the results of the nearest cultural resources surveys in each direction from the claim boundary; and the Environmental Baseline Documents (EBDs) and annual reports each provide a bibliography of these earlier surveys that generally date between 1968 and 2011.

SRB&A's annual survey work commenced in 2004, and involved yearly surveys until 2012. Initial work focused on the mine analysis area, and was limited to locations within PLP's claim boundary, with a few exceptions, including several surveys in adjoining claim boundaries and a brief survey along a section of the Newhalen River. SRB&A's first surveys in the ECIBSA occurred in 2005, and focused on proposed port site locations. SRB&A returned in 2007 to survey a revised port site location, and has conducted surveys in the ECIBSA every year through 2013. However, aside from the small surveys near Amakdedori port (see below), the complete Amakdedori port site and the transportation corridor have not been surveyed. Details of previous research are provided in SRB&A 2011a and 2015a, and include references and a narrative of previous studies throughout the region. The SRB&A reports primarily discuss archaeological compliance surveys, but also offer a discussion of historic and ethnographic sources, including historic documents, ethnographic and linguistic studies, and oral interviews that help better characterize the affected environment. SRB&A reports also contain information on interview-identified cultural resources throughout the region, including both Bristol Bay and Cook Inlet drainages (SRB&A 2011a, 2015a, and 2018b). The reports include tables and figures summarizing the results of these interview-identified cultural features.

Ethnographic works about the Dena'ina, Yup'ik, and Alutiiq contribute models of normative behavior, subsistence food storage practices, land use traditions, place names, and many other points of data with bearing on defining cultural resources and the affected environment. Analyses of oral history interviews, when available, are informative, because they are told from the perspective of those who lived according to the practices being studied. These reports, in conjunction with consultation, contribute more detail to the characterization of the affected environment beyond archaeological and historic-era sites.

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Comment [JTE-ACHP9]: See comment below. Is this consistent?

In July 2018, HDR completed an archaeological survey of the Amakdedori port site on behalf of PLP. One new archaeological site was identified (temporary site number. HDR-AMK-01), and an NRHP-evaluation report is pending.

Comment [JTE-ACHP10]: A survey of the port site, or of part of the port site?

PLP retained ASRC Energy Services to complete a desktop study of the proposed transportation corridor (ASRC 2017). This desktop study was limited to a review of the AHRS database and did not investigate other types of cultural resources beyond sites and historic-era buildings already identified in the database. The results of the ASRC study are discussed below.

3.7.4 Action Alternative 1

3.7.4.1 Mine Site

The mine site has been the primary focus of the cultural resource investigations completed by SRB&A on behalf of PLP to date; and details regarding research, survey, and archaeological site recordation methodology are available in summary reports (e.g., SBR&A 2011a and 2015a). The geographic areas investigated for the reports include lands within the “claim block boundary,” which was defined as mining claims owned or leased by PLP and Kaskanak, Inc., and represents a larger area than the current mine site location. 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 towards the Mulchatna River. Background and place names research covered the entirety of this area, whereas field work was targeted to where PLP had proposed ground-disturbing areas.

Known AHRS Resources

Prior to SRB&A’s archaeological surveys for PLP, the AHRS database included three sites in the mine analysis area: ILI-00013, ILI-00031, and ILI-00106. The first two are prehistoric sites near the Newhalen River, and ILI-00106 is a number reserved for use by the National Park Service, and may not be associated with an actual site. The AHRS database is a data repository with information on reported cultural resources, and 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.

SRB&A archaeologists documented an additional 52 sites in the claim block area and added them to the AHRS database. In 2011, SRB&A revisited six AHRS sites (ILI-00201, ILI-00202, ILI-00205, ILI-00219, ILI-00220, and ILI-00252) that SRB&A originally identified in 2007, 2008, and 2010. Subsequently, SRB&A recommended ILI-00201, ILI-00202, ILI-00205, ILI-00219, and ILI-00220 should not retain their AHRS designation because four of the sites were based on naturally modified stones, and one site was modern in age. After site revisits in 2012, SRB&A recommended that an additional seven AHRS sites (ILI-00203, ILI-00204, ILI-00207, ILI-00208, ILI-00213, ILI-00229, and ILI-00233) that SRB&A identified in 2006, 2007, and 2009 should be removed from the AHRS because the sites are likely modern, or are based on naturally modified stones. In total, 12 AHRS sites were removed from the AHRS database.

In summary, there are currently 43 reported cultural resources sites with an AHRS designation in PLP’s larger mine study area, as reported in SBR&A 2011a, 2015a, and 2015b. None of the 43 AHRS sites in the claim block area have been evaluated for NHRP eligibility. As of 2012, SRB&A has surveyed 14,912 acres in the larger mine study area, and excavated 1,103 subsurface tests. Additional analysis of the geographic extent of these surveys and site tables is presented in Section 3.8, Historic Properties, and Appendix K3.8.

Place Names

SRB&A also 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. 2003, Kari, Kari, and Balluta 1986; Kari and Kari 1982). Table 22-3 and Figures 22-20 through 22-22 of the SRB&A 2011a report show the location of documented place names in the Bristol Bay drainages, 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 Native place names in the vicinity of the claim block boundaries. The figure does not depict place names directly in the general deposit location indicated on the map, but place names are noted near the deposit on the South Fork Koktuli River, Upper Talarik Creek, and points north, west, and south of the claim block area, particularly along the Newhalen River to the east and near Nikabuna Lakes to the north. Further analysis is in progress to investigate the location of these place names relative to the current project component footprints. It is expected that additional information on place names will be learned during consultation and further analysis may be incorporated into the Final EIS.

Cultural Resources

Boraas and Knott (2013) note that the "Yup'ik and Dena'ina consider the land and waters to be their scared homeland," and census data presented in their reports also note Alutiq populations in Igiugig and Kokhanok, the latter village being near the proposed south ferry terminal and terminus of the access road from Amakdedori port. Salmon, and the waters 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 (e.g., upland subsistence areas, fishing and hunting camps). Further research and analysis is ongoing regarding these types of cultural resources, ~~and identifying in order to identify~~ specific locations in or near the current project through further consultation ~~and ethnographic interviews~~. The 1,154 cultural resource features identified by SRB&A based on interviews are presented in Table 22-9 (SRB&A 2011a), displayed on Figures 22-23 through 22-25d, and listed in Appendix 22B of that report. Recent data provided by PLP in October 2018 (SRB&A 2018b) provide tables and maps for an additional 537 cultural features identified during the 2013 interviews.

~~Although~~ additional research will ~~occur be carried out to ???~~ during the NHPA Section 106 consultation process, the development of the PLP Cultural Resource Management Plan, and state and federal permit application review. Current data support the likelihood of a wide variety of cultural resources being present across the mine site (and other project components) that may be affected by the project, and must be taken into consideration during the NEPA analyses. A sample of cultural resource types identified by interviewees from Nondalton includes cabins, camps, graves, harvest locations, villages, spiritually important places, battlegrounds, material sources, routes, trails, and traplines. 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 subsistence harvests is presented in Section 3.9, Subsistence, and Appendix K3.9.

Boraas and Knott (2013) also detail Yup'ik and Dena'ina spirituality. Cultural relationships with the wild animals and fish are of primary importance, and some places have taken on special importance as sacred sites and landscapes, including known travel routes and traditional use areas. The Boraas and Knott report tells of one travel route, the Dena'ina trail connecting Old Iliamna and Kamishak Bay on Cook Inlet (and locations along the route), as being culturally and

Comment [JTE-ACHP11]: Under Section 106, the federal agency responsibility to make a reasonable and good faith effort to identify such properties that may be eligible is not limited to just consultation. There has to be a proactive, systematic effort to identify/inventory such properties. The federal agency consults about their significance, eligibility, the effects of the undertaking on such properties, and resolution of adverse effects. To the extent that the referenced previous oral interviews do not cover portions of the project APE appropriately, some level of additional ethnographic research will need to be carried out.

spiritually significant. No TCPs or cultural landscapes have been formally identified in the mine site area (or in other project components). However, there is clear potential throughout the project area for the presence of sacred sites, spiritual places, indigenous routes and trails, cultural landscapes, and TCPs. SRB&A also reports on oral interviews they conducted for cultural resources in Kokhanok, Newhalen, Nondalton, and Port Alsworth; and subsistence interviews in 19 Bristol Bay drainages study communities (SRB&A 2011a); and the results (e.g., notes, transcripts, and maps) of that work may contain information regarding the identification and location of additional cultural resources. It is expected that ongoing consultation will result in the identification of additional cultural resource locations.

Specific to routes and trails, Figures 22-17 and 22-20 (SRB&A 2014) show interview-identified routes and trails investigated in 2011 and 2012, respectively. The maps show five routes and trails in the claim block area for the 2011 investigations, and 19 routes and trails identified and investigated in 2012 that intersect the claim block area. GIS analysis and supplemental research identifying routes in the cultural resource analysis area is in progress to verify where identified trails intersect project component areas. SRB&A did not find any physical evidence of these trails, but 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 will inform a closer examination of routes and trails and their cultural significance.

3.7.4.2 Transportation Corridor

The transportation corridor includes the overland route from Amakdedori port to the south ferry terminal near Kokhanok; ferries across Iliamna Lake to a north ferry terminal; with an access road leading north of the lake to the mine site and spur road to Iliamna. Figure 22-1 (SRB&A 2015a) depicts the study area boundaries used by SRB&A for cultural resource investigations in support of the EBD. The mine study area boundary encompasses the portion of the transportation corridor north of Iliamna Lake, and the discussion of cultural resources above for the mine site is applicable to this section of the transportation corridor. Additional work may be necessary to identify other undiscovered cultural resources in the transportation corridor north of Iliamna Lake, because the field efforts by SRB&A focused primarily on the mine site. However, the background research, including the ethnographic and traditional knowledge reports (Evanoff 2010; Boraas and Knott 2013), place name data, and interview-identified cultural features (SRB&A 2011a, 2015a, and 2015b) cover the region through which the northern portion of the transportation corridor crosses. For example, Figures 22-24a, and 22-25d (SRB&A 2011a) show trails/routes, camps, traplines, cabins, reindeer stations, battle sites, burial areas, locations with indigenous place names, villages, caches, and other cultural features throughout the mine site area and this northern portion of the transportation corridor. Appendix 22B (SRB&A 2011a) lists and describes each of the features identified on these maps. Further GIS analysis is in progress to determine if there are specific AHRS sites and cultural resource locations in this portion of the transportation corridor.

Known AHRS Resources

A cultural resources desktop analysis completed by ASRC (2017) indicated that the transportation corridor from Amakdedori port to the mine site has not been subject to archaeology survey or broader cultural resources investigations. That report summarizes 13 known AHRS sites composed of archaeological sites, village sites, cemetery, and historic buildings. None of the listed AHRS sites are in the footprint of the transportation corridor, although the proposed spur road to Kokhanok leads to AHRS sites, such as ILI-00008, Old Kakhonak, and historic buildings in Kokhanok (ILI-00025 Saints Peter and Paul Chapel). Five of

these sites are discussed below under sites near Amakdedori port (ILI-00007, ILI-00044, ILI-00104, ILI-00136, and ILI-00291). The remaining eight sites are detailed in Section 3.8, Historic Properties, and Appendix K3.8. These sites include a cluster of sites in and around Kokhanok Village near the southern ferry terminal, and along the southern shore of Iliamna Lake. The other sites are more isolated. Further work is required to identify potential cultural resources sites within the transportation corridor, including predictive modeling, 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 transportation corridor has not been subject to specific place names research or more detailed ethnographic or traditional ecological knowledge investigations. This area largely falls outside the study areas used to guide previous PLP surveys. Data from other sources cited above in the mine site section would contribute to understanding the location of native place names in this component. The SRB&A place name map shown as Figure 22-20 (SRB&A 2011a) does not reveal many place names in this area in comparison to the research completed for the mine site, transportation corridor, and ECIBSA (note that the transportation study area used by SRB&A is east of the mine site, and not applicable to this corridor).

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. A data gap for other cultural resources in the transportation corridor remains, and additional research and analysis, would facilitate more detailed characterization of the affected environment of this project component. For example, cultural features, particularly from informants in Kokhanok, are shown throughout the transportation corridor (SRB&A 2018b). These features include villages, graves/burials, cabins, material sources, harvest location areas, camps, spiritually important places, battlegrounds, trails/routes, traplines, and materials sources across the landscape. GIS analysis will facilitate which of these features occur in the project footprint. Traditional land use is further evidenced in this area 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 located throughout the transportation corridor, including the possibility of places of traditional religious and cultural significance, cultural landscapes, and TCPs.

3.7.4.3 Amakdedori Port

Amakdedori port falls within 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. The result is that a more limited set of data

is available for characterizing the affected environment at Amakdedori, and many of the data gaps discussed earlier apply to this area as well.

Known AHRS Resources

SRB&A's review of the AHRS database identified 58 previously documented AHRS sites within the entirety of the ECIBSA, two of which (ILI-00185 and ILI-00186) were documented by SRB&A during the 2005 field season. The 58 AHRS sites identified prior to SRB&A's 2012 surveys in the ECIBSA, as well as the three sites identified by SRB&A in 2012, total 61 documented sites across the ECIBSA. SRB&A crews surveyed a proposed weather station and separate repeater tower location near Amakdedori 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 National Oceanographic and Atmospheric Administration, Automated Wreck and Obstruction Information System database, and the Bureau of Ocean Energy Management, Alaskan Shipwreck Database.

There are only two known sites reported in the vicinity of the Amakdedori port (see Section 3.8, Historic Properties, and Appendix K3.8). Archaeologist Douglas 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. The other site, (ILI-00291) is the reported location of the AGRAM shipwreck dating to 1923. In addition to these known sites, PLP retained HDR to complete a cultural resource survey of the proposed port location. The full report is still in progress, but the interim memorandum describes an additional prehistoric site (HDR-AMK-01), 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, moving the village further north and within the southern boundary of the port facility. Further work on site delineation would likely occur as part of the NRHP eligibility evaluation process, which is discussed further in Section 3.8, Historic Properties.

Place Names

As noted above, data pertaining to native place names along the transportation corridor and at Amakdedori port have not yet been ~~provided~~^{investigated/researched/recovered}, collected, or assessed. The place names research is incomplete, because it focused on the northern portion of the ECIBSA, and does not extend to the port facility or the beginning of the transportation corridor.

Comment [JTE-ACHP12]: The use of the word "provided" suggests the passive role improperly assumed by the federal agencies. The federal agencies have a responsibility to actively and systematically identify properties that are known to be or may be eligible for the NRHP and that may be affected by the undertaking. They can't just wait for the tribes to provide the information.

Cultural Resources

In addition to the known AHRS sites discussed above, feedback received during the EIS scoping period suggests that there are known grave locations at Amakdedori, although specific locational information has not yet been attained. 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." 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 (SRB&A 2018b). In progress GIS analysis of the interview-identified data could help better demonstrate the proximity of these cultural features to the port site.

The presence of graves, trails, cabins, and known prehistoric and historic resources indicates the potential for a broad range of resources to be located at Amakdedori port. The GIS analysis

demarks the coastline near Amakdedori as favorable beach lands for the harvest of coastal subsistence resources, which suggests a higher potential for identifying cultural in the general area (Figures 50-5 and 50-7; 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. Additional research may include identification and analyses of TCPs, cultural landscapes, and other types of cultural resources.

3.7.4.4 Natural Gas Pipeline Corridor

No work has been done regarding marine archaeology or historic maritime archaeology for the Iliamna Lake crossing or Cook Inlet crossing, so there is currently no information regarding the affected environment for this portion of the natural gas pipeline route. Similarly, 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 cultural resources. The natural gas pipeline corridor is adjacent to the transportation corridor from the Amakdedori port site to mine site, and is described above.

There are no sites currently listed in the AHRS in the area where the compressor station would be constructed on the Kenai Peninsula.

3.7.5 Action Alternatives 2 and 3

Cultural resources at the mine site would be the same as described for Alternative 1.

3.7.5.1 Transportation Corridor

These alternatives fall in the northern portion of the ECIBSA, and as a result, represent an area that was subject to comparatively more background research for cultural resources by SRB&A than the southern portion of the transportation corridor near Amakdedori port. SRB&A conducted limited field work in this area's transportation corridor study area, which involved examinations of land along the western side of the Newhalen River between Nondalton and Iliamna, as well as a drilling-core storage area in Iliamna, both visited in October 2006 (SRB&A 2011a). SRB&A also completed field work along Sunday Creek and in Y Valley, near Knoll Head (SRB&A 2015b); however, this field work is not near any portions of the currently proposed project footprint, and is not directly applicable to the present analysis.

Alternatives 2 and 3 would cross an area that is also closer to Lake Clark National Park and Preserve than Alternative 1; there have been ethnographic/place name studies and cultural landscape analyses completed for the park that are generally applicable to Alternatives 2 and 3. Analysis is ongoing, and the discussion below is preliminary. Initial research indicates that the existing Williamsport-Pile Bay Road and the new road and/or pipeline from Diamond Point to Pile Bay, and then from Eagle Bay to the mine site, have not been surveyed for archaeological sites, nor been subject to specific research for other cultural resources along the footprint of the currently proposed corridor. The area does fall within the original transportation study area (SRB&A 2011a), so there are data gathered for place names and interview-identified cultural features.

Known AHRS Resources

More detailed analysis of AHRS sites and document references are in progress. [Note to reader: Data is pending receipt of RFI 097.] A review of AHRS data indicates six AHRS sites in the project footprint between Diamond Point and Pile Bay along the Williamsport-Pile Bay Road. No further known AHRS sites are in the road corridor from the Eagle Bay ferry terminal to the mine site. AHRS sites include the Pile Bay Townsite Historic District (ILI-000198) and associated

historic-era resources at Pile Bay, such as the O'Hara House (ILI-00197), The Vantrease Power Plant (ILI-00200), and the base of a radio antennae used by Carl Williams (ILI-00199). The Williamsport-Pile Bay Road itself is a historic linear feature (ILI-132), and there is an Alaska Road Commission camp adjacent to the road (ILI-00244). Near the Cook Inlet shore is the Williamsport Historical Occupation/Land Use Area (ILI-00247).

Five miles of the proposed road from Diamond Point to Pile Bay would overlap with the existing Williamsport-Pile Bay Road, resulting in essentially new construction (including features such as material sites and staging areas). There is no ferry terminal at Eagle Bay, and the road from that location to the mine site would also be new construction. Further information collection is in progress through a GIS analysis and the NHPA Section 106 consultation process.

Place Names

Figure 50-11 in SRB&A (2015b) depicts over 60 place names around Iliamna Bay on Cook Inlet and along the current road to Williamsport-Pile Bay Road. A GIS analysis is in progress to compare place name data for the proposed project. There may be more place names present along the road from Eagle Bay to the mine site, particularly because this road crosses the Newhalen River and a number of other tributary creeks along the northern shore of Iliamna Lake. Many place names in Figure 50-11 (SRB&A 2015b) are located on the existing road or in the viewshed of the current road, and would be intersected by the project. If ongoing studies result in the identification of additional place name data, this information will be integrated into further analyses.

Cultural Resources

In addition to place names, the presence of archaeology sites coupled with subsistence data, suggest the potential for cultural resources throughout Alternatives 2 and 3. 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; and harvesting berries, wood, and other plant resources (see Section 3.9, Subsistence).

The discussion for the transportation corridor for Alternative 1 also applies here with respect to the review of coastal-oriented cultural resources along Cook Inlet and Iliamna Lake. The SRB&A GIS Coastal Subsistence Resource Analysis (Figure 50-5, SRB&A 2015b) defines favorable beach types for harvest in Iliamna Bay, and the model identifies Iliamna Bay as having concentrated resources (i.e., greater than or equal to 10 resources). The land use based on subsistence activities, coupled with known archaeological sites evidencing prehistoric, proto-historic, and historic occupations, collectively suggest that a number of other cultural resources exist throughout the Alternatives 2 and 3 areas. SRB&A reports on interview-identified sites in the original transportation corridor (Figure 22-25s, SRB&A 2011a) that included battle sites, reindeer stations, villages, other sites, caches, trails/routes, traplines, camps, burials, and locations with indigenous place names. More recent (SRB&A 2018b) interview-identified sites, particularly from informants in Pedro Bay, identify over 50 cultural resource features, including places of spiritual importance. Boraas and Knott (2013) tell of a significant site, the Giant's Rock (Dzelggez) along the Williamsport-Pile Bay Road, that held spiritual significance and was later dynamited in 1955 as part of road construction (Boraas and Knott 2013). The report also indicates the Williamsport-Pile Bay Road follows an old Dena'ina trail. Additional analysis is required to better characterize these resources, and to identify TCPs, cultural landscapes, and other cultural resource site types in the affected environment for each alternative. [Note to reader: Data is pending receipt of RFI 097.]

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3.8 HISTORIC PROPERTIES

The US Army Corps of Engineers (USACE) applies the Procedures for the Protection of Historic Properties (33 Code of Federal Regulations [CFR] 325, Appendix C) to guide its process of complying with Section 106 (54 US Code [USC] 306108) of the National Historic Preservation Act (NHPA) (54 USC 300101 et seq.) and its implementing regulations, "Protection of Historic Properties" (36 C.F.R. Part 800). Appendix C offers specific definitions/characterizations of the term historic properties, which is formally defined in the statute itself (54 U.S.C. 300308) and in the Section 106 implementing regulations at 36 C.F.R. § 800.16(l), such 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 325 (1)(b)). Appendix C also defines "Designated Historic Properties" as "historic propert[ies] listed in the National Register of Historic Places (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] and the [US Army Corps of Engineers] district engineer, appears to meet the criteria for inclusion in the National Register will be treated as a designated historic property" (33 CFR 325 (1)(a)). Federal agencies must consider impacts to all types of cultural resources, including those that do not meet the definition of historic properties as set forth in the NHPA, 36 C.F.R. 800, and Appendix C and its implementing regulations. Please refer to Section 3.7, Cultural Resources for National Environmental Policy Act (NEPA) based definitions and analyses. Permitting the construction, operations, and closure of the Pebble Project would require the USACE's compliance with Section 106, the Section 106 implementing regulations (36 C.F.R. 800), and Appendix C.

Under 36 CFR 800, there are different definitions in Appendix C for historic properties and the geographic area where identification, evaluation, and effects assessments are needed. Also Under 36 CFR 800, the federal agencies must carry out all the steps of the Section 106 review in consultation with the SHPO and other consulting parties, including Alaska Native tribes, which—for purposes of Section 106—includes Alaska Native Regional or Village Corporations. The scope of the identification effort, determinations of eligibility and effect, and steps to resolve adverse effects must be informed by the traditional knowledge of Tribes who ascribe value to such properties. ¹⁰

Appendix C does not involve the same consultation process as 36 CFR 800 outlines. 33 CFR 325(8) states that, "at any time, the district engineer may consult with the involved parties to discuss and consider possible alternatives or measures to avoid or minimize the adverse effects of the proposed activity." Consultation with involved parties was initiated by the USACE on August 17, 2018.

3.8.1 Data Gap Summary

Information in this section is currently based on data derived from the Alaska Heritage Resources Survey (AHRS) and the series of cultural resource reports prepared for the Pebble Limited Partnership (PLP) by Stephen R. Braund and Associates (SRB&A) between 2004 and 2013, 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 and 2015b). A detailed review of other resources referenced in the AHRS document repository is currently underway and results from that review will be incorporated into this analysis. **[Note to reader: Data is pending receipt of RFI 097.]** In addition to the information gaps and resultant status of research and analysis, there are particular data gaps pertinent to the identification and evaluation of historic properties. These include:

Comment [JTE-ACHP1]: The Area of Potential Effects (APE) is defined in 36 CFR 800. Appendix C focuses on Permit Area, but provides for expansion of the Permit Area to include the upland portions of an undertaking when appropriate. ACHP will work with the Corps, SHPO, and others to develop an appropriate and reasonable APE for direct and indirect effects from the undertaking. ACHP understands that federal agencies, at times, can argue they have a "Small Federal Handle" which may circumscribe the extent to which they are responsible for 'taking into account' effects to historic properties from undertakings for which they have a federal action. However, in this case, we don't believe such an argument can be made. Further, consultation cannot be redefined. Note that ACHP has never approved Appendix C as an alternative to 36CFR800, as is required by **both the Statute itself and the Section 106 implementing regulations.** We can reference both 36 CFR 800 and Appendix C throughout the EIS and Section 106 documents but not in a way that suggests that Appendix C takes precedence over 36 CFR 800. The NEPA and Section 106 documents for this undertaking should not be the place where this disagreement is carried out. ACHP looks forward to resolving these issues with the Corps in the proper venue.

Comment [JTE-ACHP2]: I suggest we can reference the definitions of permit area and APE here and indicate that the Corps consulting with SHPO and consulting parties to clarify permit area and APE for this undertaking.

Comment [JTE-ACHP3]: And, thus is deficient in terms of compliance with the requirements of Section 106 of NHPA.

- Preliminary review of the AHRS sites within the project footprint suggests that none of the sites have been evaluated for inclusion in the National Register. The sites are presumably important to any person or group, but it remains unclear if these sites meet the National Register Criteria.
- The proposed transportation and pipeline corridors for each alternative and Diamond Point have not been systematically surveyed for historic properties. These studies will be conducted in accordance with the NHPA Section 106 process, and the results incorporated into the ongoing analysis. Results reported herein are based on currently available information and will be revised as appropriate to incorporate additional findings. The need for and scope of additional survey will be defined in a Programmatic Agreement (PA).
- Analysis of survey coverage for areas that have been surveyed remains in progress at this time. For example, the mine site has been largely surveyed, but geographic information system (GIS) data are being calculated to determine acreage of surveyed versus unsurveyed lands in that project component.
- GIS modeling used to delineate areas of low potential (as developed and implemented by SRB&A) is in the process of being analyzed to determine how many acres of high-potential lands exist versus low-potential lands in the project components.
- Consultation with involved parties was initiated by the USACE via letters distributed to potentially involved entities on August 17, 2018. While underway, the Draft EIS and Section 106 processes have not yet produced additional information regarding the identification and evaluation of historic properties in the permit area and APE. Guidance for ongoing identification and evaluation of historic properties will be incorporated into the PA.
- The permit area and APE ~~has~~ have not yet been geographically defined. The analysis in this section focuses on the footprint of the proposed facilities for each alternative. The permit area and APE will be determined during the NHPA Section 106 consultation process.

It is expected that the USACE will be addressing these data gaps throughout its Section 106 consultation process. The procedures detailing further work beyond the issuance of the Final EIS (e.g., the process for additional identification research and surveys, evaluation, and mitigation measures) will be established through the development of a PA.

3.8.2 Permit Area

Appendix C defines the term “permit area” as the geographic extent of the USACE’s responsibility for considering effects on historic properties, which varies from the Area of Potential Effect as defined by 36 CFR 800.16(d). Permit area defines “those areas comprising the waters of the United States that will be directly affected by the proposed work or structures and uplands directly affected as a result of authorizing the work or structures” (33 CFR 325 (1)(g). Three tests must be satisfied for ~~inclusion in~~ expansion of the permit area beyond work or structures in WOUS and directly affected uplands:

1. Such activity would not occur but for the authorization of the work or structures in the waters of the US;
2. Such activity must be integrally related to the work or structures to be authorized in waters of the US. Or, conversely, the work or structures to be authorized must be essential to the completeness of the overall project or program; and

Comment [JTE-ACHP4]: Add discussion of APE as well, or limit this as suggested in next comment.

Comment [JTE-ACHP5]: Not necessarily. Permit area can be expanded to reflect an appropriate APE as defined under the Section 106 implementing regulations. I suggest we just reference that the Permit Area and resultant APE have yet to be fully determined at this time, but will be under the Section 106 consultation.

3. Such activity must be directly associated (first order impact) with the work or structures to be authorized.

Comment [JTE-ACHP6]: One of the main problems with these criteria is that there are interpreted inconsistently from case to case and from district to district, so as to have almost no meaning beyond being referenced to justify the Corps' minimization of its responsibilities in any particular case. I strongly suggest that we leave these out and just reference that Corps will clarify/finalize delineation of the permit area and associated APE during consultation for compliance with Section 106.

The permit area for the project has not yet been formally adopted and will be finalized during the NHPA Section 106 consultation process and development of the PA. The site tables and information presented in Appendix K3.8 are based primarily on AHRS sites identified within the project component footprints. This Draft EIS and initial reliance on AHRS data for defining potential historic properties will be addressed through ongoing consultation as part of the Section 106 process. Methods and approaches to completing determinations of eligibility will be provided in the PA.

GIS data are in the process of being analyzed for interview-identified routes and trails, areas with indigenous place names, and a multitude of other cultural resource features to allow for a comparison of those locations to the project footprint (as presented in SRB&A 2011a, 2015a, and 2015b). As noted in Section 3.7, Cultural Resources, the mine site, transportation corridor, and Expanded Cook Inlet Baseline Study Area areas do contain interview-identified routes and trails, subsistence use areas, place names, and other cultural resources features that may qualify as be determined to be historic properties under Appendix C in the Section 106 review. It is expected that the GIS data and 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.

As noted by SRB&A (2014) and until further National Register evaluations take place, it may be recommended that any cultural resources (including archaeological sites, trails and routes, traditional cultural properties, cultural landscapes, locations with indigenous place names, burial areas, resource-gathering areas, or other sites of religious or cultural significance) be considered as potentially eligible properties for the consideration of additional identification, evaluation, and effect assessments. Currently, there are no National Register eligible sites in the project footprint; however, research on AHRS resources in the study areas for the action alternatives is ongoing, and there may be eligible sites in those components. There are numerous cultural resource features spread across the landscape (See Section 3.7, Cultural Resources) 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.

3.8.3 Action Alternative 1 – Applicant's Proposed Alternative

3.8.3.1 Mine Site

As presented in Section 3.7, SRB&A (2015a) reports on the identification of 43 cultural resource sites in PLPs mine study area, which are now entered into the AHRS database. The mine study area is geographically larger than the mine operations footprint. Refer to SRB&A 2015a for detailed information on the 43 sites identified. Of these sites, two are currently in the mine operations footprint (ILI-00218 and ILI-00251). Sites are listed in Appendix K3.8.

3.8.3.2 Transportation Corridor

There are no reported AHRS resources in the transportation corridor. The data gap assessment report prepared by ASRC (2017) reports on AHRS sites near the corridor (see Section 3.7, Cultural Resources). As with the mine site, it is expected that this list will grow through ongoing consultation and incorporation of data from additional investigations regarding cultural resources and historic properties in the transportation corridor. Sites are listed in Appendix K3.8.

3.8.3.3 Amakdedori Port

Recent work completed by HDR (2018) archaeologists on behalf of PLP resulted in the identification of one new archaeology site in the Amakdedori port facility boundaries (HDR-AMK-01) (see Section 3.7, Cultural Resources). The GPS data for Amakdedori Village (ILI-00044) was also corrected, and that site is now within the southern boundary of the facility footprint. The desktop analysis completed by ASCR (2017) listed another five sites in the vicinity, but outside the port boundaries. One other site, ILI-00291, is the AGRAM shipwreck, and is within the boundaries of the offshore development. Sites are listed in Appendix K3.8.

As noted in Section 3.7, Cultural Resources, public feedback from involved parties indicates the presence of graves, cabins, trails, and the village, suggesting that additional investigations may lead to the identification of other cultural resources in the port area that may qualify as historic properties under Appendix C, and also will be assessed under NEPA.

3.8.3.4 Natural Gas Corridor

There are currently no AHRS sites identified in the natural gas pipeline corridor; and for Alternative 1, this gas pipeline is co-located with the transportation corridor, and the discussion above applies here. As noted in Section 3.7, Cultural Resources, no work has been completed to research and investigate the potential for marine archaeology or historic-era maritime archaeology sites along the corridor, with the exception of the previously identified AGRAM shipwreck (ILI-00291). This aspect of needed identification efforts will be addressed through the ongoing Section 106 process.

3.8.4 Action Alternatives 2 and 3 – North Road and Ferry or North Road Only

The discussion of the northern route applies to Alternatives 2 and 3 (see Section 3.7, Cultural Resources). A preliminary review of the AHRS data indicate that there are several AHRS sites in or near the proposed road corridor between Diamond Point and the mine site, including the Williamsport-Pile Bay Road itself, and the historic-era sites and buildings on each end of the existing road (listed in Appendix K3.8). There are no recorded AHRS resources in the overland portion of the pipeline route from Ursus Cove to Cottonwood Bay. No fieldwork specific to survey of this project's components has occurred in the transportation corridor, with the exception of limited investigations by SRB&A near Iliamna and along the Newhalen River, which involved examinations of land along the western side of the Newhalen River between Nondalton and Iliamna, as well as a drilling-core storage area in Iliamna, both visited in October 2006 (SRB&A 2011a).

As noted previously, the incorporation of additional data (e.g., interview-identified cultural resources in SRB&A 2015a), review of AHRS site references, further identification efforts through consultation, research, and fieldwork will add to the list of known cultural resources that may be potentially eligible for the National Register in Alternative 2 and Alternative 3.

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4.7 CULTURAL RESOURCES

This section discusses the environmental consequences that construction, operation, and closure of the project would have on cultural resources. Section 4.8, Historic Properties, focuses specifically on the consideration of effects on Historic Properties as defined by Appendix C (of 33 Code of Federal Regulations 325), ~~and~~ the National Historic Preservation Act (NHPA), ~~and~~ [36 C.F.R. Part 800](#). For the purposes of this section, the broad definition of cultural resource types is maintained as described in the affected environment (Section 3.7, Cultural Resources). Cultural resources may range from prehistoric archaeology sites, traditional cultural properties, place names, traditional resource collecting areas (subsistence), sacred or religious sites, and historic-era sites such as cabins or shipwrecks. Currently, the project footprints for the mine site, the transportation corridor, Amakdedori port, and the natural gas pipeline guide the analyses of environmental consequences on cultural resources. When cultural resources are identified within a part of the project footprint, direct, indirect, and cumulative effects that may result are considered. The potential for indirect effects is also considered, particularly visual impacts on cultural resources outside of the project footprint.

4.7.1 Analytical Limitations

Not all of the current locations of project components have been inventoried for cultural resources during the previous baseline studies completed by the Pebble Limited Partnership (PLP) between 2004 and 2013, and summarized in the Environmental Baseline Reports (SRB&A 2011a, 2015a and 2015b). Only the current configuration of the mine site has been subjected to more systematic cultural resource field investigations. The previous PLP investigations completed background literature and file reviews for a broader regional area, and conducted interviews to identify cultural resources, place names, and land use areas in and near the project as it was proposed at the time. These data are supplemented by other sources of ethnographic, traditional knowledge, and subsistence investigations that cover all or portions of the study area (see Section 3.7, Cultural Resources, for a preliminary list of these additional sources). The information contained in them is integrated into the Draft Environmental Impact Statement (EIS) analysis to the extent feasible. Further investigation is occurring through the National Historic Preservation Act (NHPA) Section 106 process (see Section 3.7, Cultural Resources), which may result in the identification and analysis of additional resources.

The current data and analytical gaps allow for a limited discussion of the environmental consequences, and the ability to compare the relative impacts of one alternative over another is currently constrained, because the number and types of resources that may be impacted are not fully known. Where site-specific surveys have not been completed, site-specific impacts are undeterminable at this time, as is the ability to quantify the number of resources affected or impacted by the proposed project and alternatives. Based on interview-identified cultural resource features and initial review of other ethnographic and place names data, it is assumed that a wide range of cultural resources exist across the landscape, and are within the project footprint. Additional gaps in data and analysis are reviewed in Section 3.7, Cultural Resources, and Section 3.8, Historic Properties. As is usual where systematic cultural resources field studies have not been completed at the time of submittal of permit applications, the qualitative and quantitative impacts discussion will be refined through consultation and additional studies. In addition, it is not atypical during the National Environmental Policy Act (NEPA) process that field surveys by the applicant focus solely on the proposed action and have not been conducted for alternatives. Specifically, the US Army Corps of Engineers (USACE) will be addressing these data gaps throughout its Section 106 process. The procedures detailing further work beyond the issuance of the Final EIS (e.g., the process for additional identification research and surveys,

evaluation, and mitigation measures) will be established through the development of a Programmatic Agreement (PA).

4.7.2 Impacts to Cultural Resources

All of the action alternatives have the potential for direct impacts to cultural resources from the construction, operation, reclamation, and closure of the project. Necessary ground-disturbing actions involved with constructing and operating the mine and its facilities (i.e., transportation corridor, natural gas pipeline, and port facilities) can destroy, remove, or otherwise damage cultural resources. These types of direct effects are irreversible and permanent. For example, an archaeological site or spiritual object cannot be reconstructed once gone, and the significance (both cultural and scientific) is lost.

Indirect impacts are those that occur later in time or that are further removed in distance from the initial and primary action. For example, the presence of new visual elements, noise, and pollution can impact aspects of a cultural resource from which they derive their significance. There is potential for permanent visual effects that alter the viewshed to or from a cultural resource, particularly where setting and feeling are important aspects of the site's importance. Access restrictions, noise, pollution, lack of privacy, and visual intrusions can all negatively impact cultural landscapes, traditional cultural properties, and sites of religious or ceremonial significance, including burial grounds. Increased access to archaeology sites resultant from constructing the mine access road could lead to inadvertent or purposeful negative effects on cultural resources, such as looting, vandalism, or trespass in culturally sensitive areas.

Subsistence, as a way of life, would apply to the context of cultural resources throughout the analysis area, so they are broad in geographic scope and applicable at a regional level. The construction of the project and related infrastructure could impact the availability and access to subsistence resources, which would alter the manner in which people interact with their natural surroundings, although the highest intensity of impacts would occur nearest to the project and would diminish in intensity with distance (see Section 4.9, Subsistence). These impacts would last through the project operations, and would cease when subsistence resources are re-established after closure. Although there is a time horizon for the mine and subsequent closure and reclamation actions that might restore the visual and natural environments, the damage to other types of cultural resources that may have occurred may not be able to be restored to their status prior to project implementation.

Avoidance, minimization, and mitigation for potential impacts to cultural resources are a focus of the PA that would result from the NHPA Section 106 consultation process. PLP would also develop a Cultural Resources Management Plan to address the process for managing effects to cultural resources, and ensure that agreed upon protocols and procedures are established and followed. In general, NEPA and NHPA mitigation measures involve strategies such as modifying the project to avoid impacts to sites potentially in the project footprint and addressing sites in the area of potential effects. It is expected that the NEPA public process and the NHPA Section 106 consultation process will result in gathering information and perspectives on potential mitigation measures. These will be incorporated into the Final EIS and the PA.

In an area where the manner of how people interact with the natural environment is at the core of cultural beliefs, impacts of the project would be heightened, typically adverse, and may be permanent. Impacts on lifeway patterns, cultural and spiritual interactions with the environment, physical or indirect changes to archaeology sites, and other cultural resource types represent disruptions to the relationship between the people, and natural and cultural resources, and could impact the current and long-term health and vitality of their cultures.

4.7.3 No Action Alternative

Under the No Action Alternative, the project would not be constructed; however, PLP would still be permitted to perform exploratory activities and research at the mine site and would be expected to do so. There would likely be no new impacts to known Alaska Heritage Resources Survey (AHRS) sites, and existing activities that impact place names or other types of cultural resources would continue at the current intensity.

4.7.4 Action Alternative 1 — Applicant's Proposed Action

4.7.4.1 Mine Site

As noted in Section 3.7, Cultural Resources, there are a number of cultural resources in or near the mine site area that may include AHRS-listed resources, routes/trails, resource gathering areas, place names, battle sites, reindeer stations, and camps. A complete survey of the project footprints, however, has not yet been conducted. Consequently, additional resources may be identified during additional surveys conducted in compliance with the Section 106 process.

Cultural resources in or near the mine site may be directly or indirectly impacted by construction and operation activities. Two known AHRS sites are in the mine site footprint. ILI-00251 is a small lithic scatter composed of two flakes, and falls within the proposed seepage collection system. This site would be destroyed by construction activities at that location. ILI-00218, a single microblade core, is within the footprint of the road along the eastern side of the water management pond, and would also be permanently destroyed as a result of construction activity.

Other cultural resources have been identified in the mine footprint, and Geographic Information System (GIS) analysis is ongoing to determine which of these resources intersect the footprint. There are no locations with native place names currently identified in the mine footprint, but interview-identified sites are present and consist primarily of trails/routes and traplines that cross through the area; and traditional use areas for fishing, trapping, caribou and moose hunting near Sharp Mountain, the headwaters of the Koktuli River, Frying Pan Lake, and Groundhog Mountain. Maps do not show any other types of interview-identified cultural resources (e.g. battlegrounds, camps and cabins, burial grounds, other culturally important areas). Stephen R Braund & Associates (SRB&A) did not find physical evidence of trails/routes during field inventory, and there may be no physical manifestation of this resource type in the mine area. Construction and placement of mine facilities would directly impact use of these trails/routes by interrupting and creating obstacles to the continuity of these linear features. To the extent these areas are used for hunting and trapping, mine construction and operation would disrupt the subsistence use patterns of the area, but physical disruption of cultural features on the ground (e.g., camps) is unlikely, because none are identified in the footprint. The impacts on traditional use areas would last for the duration of the mining operation, but would not be permanent.

Indirect impacts may include visual, atmospheric, and audible intrusions as a result of construction and operation activities, or disruptions to the subsistence lifestyle and increased presences of people in culturally sensitive areas. Analysis of sites that fall within the viewshed area is ongoing. Traditional use areas for fishing and hunting fall within the geographic extent of the mine site, and there are camps, cabins, and trails/routes surrounding the mine site. Archaeological and cultural sites identified in the claim block area, but outside of the mine footprint, include hunting camps composed of modern and historic rock features (e.g., tent rings), refuse (e.g., shell casings, plastic, food wrappers), and caribou antlers or bones. Other sites include isolated artifacts and lithic scatters. Indirect effects related to visual, audible, or atmospheric changes on archaeological sites are unlikely. Indirect effects on archaeological

sites may occur due to increased population and use of the area that may result in site looting or trampling of site features—both purposefully, or inadvertently. Noise, the introduction of new visual elements in the landscape, and dust from construction and operation of the mine may impact use of traditional harvest areas identified near the mine, and this impact would decrease with distance from the mine site, but would last through the life of the mine and into closure. The camps, cabins, and sites would not be subject to indirect impacts as much as the use of the area due to resource displacement.

[Note to reviewer: A GIS analysis is being conducted to determine the extent that the mine site would directly impact cultural resources. Data will be part of RFI 097.]

4.7.4.2 Transportation Corridor

The southern transportation corridor is the component with the least amount of information from previous surveys. The transportation corridor (including the overland pipeline route and ferry terminals) would potentially subject cultural resources to the direct and indirect effects as characterized above. Direct impacts from road, pipeline, and ferry terminal construction are one aspect of the potential consequences for cultural resources. For example, any archaeological sites and cultural resources identified within the road, ferry terminal, and pipeline footprints would be permanently destroyed by construction activity. No AHRs sites have been identified in the footprint to date.

Part of the southern transportation route includes a spur road to Kokhanok, a village site that contains historic-era buildings identified in the AHRs (e.g., ILI-00025 Saints Peter and Paul Chapel and ILI-00262 Kokhanok BIA School). Direct or indirect impacts on these buildings or Old Kokhanok (ILI-0008) are not likely from the construction of a new access road to the village. The other previously identified sites in the vicinity of Kokhanok, such as the sites along the coast that include stone tools (ILI-00128) and the Napaimute village site (ILI-00009), are outside the project corridor and would not be subject to direct effects.

Indirect effects are primarily associated with the visual changes of introducing a new road and the potential for increased people, noise, and dust that would result from constructing a new road in a currently roadless area. Archaeological sites in the vicinity of the road could be subject to increased visitation and damage from use, vandalism, and trampling. Noise and visual impacts are less likely on archaeological sites.

There are a number of interview-identified cultural features north of Iliamna Lake to the mine site and south of Iliamna Lake and Amakdedori port, particularly those identified by informants in Kokhanok. For the portion between the port and Kokhanok, including spur roads and variants, these include points and lines/trails (e.g., the trail connecting Kokhanok to Gibraltar Lake and the walking/dog team trail from Sid Larson Bay to the Cook Inlet Coast). There are no points directly in the footprint (SRBA 2018); however, points in the vicinity include sites such as burials near Kokhanok and Gibraltar Lake village. The significance of these sites would be determined through the Section 106 process. The sites are subject to indirect effects, because noise and visual intrusions may affect qualities of these sites that contribute to their cultural significance and use. Burial sites and other spiritual sites may be impacted by traffic noise and visual intrusions of a new road in the vicinity. The discussion of impacts from disruption of traditional use areas in the mine site also applies here, although no specific traditional use areas are currently delineated on maps showing the interview-identified cultural resources. Indirect effects would last through operation of the transportation corridor.

North of Lake Iliamna and including the spur road to Iliamna, the transportation corridor also intersects interview-identified cultural resource locations, and there are cultural resources surrounding the corridor. These include harvest locations, spiritually important places (burials),

camps, portages, cabins, and trails/routes. Traditional hunting grounds may be disrupted by traffic noise adjacent to the corridor, and this impact would diminish with distance from the road. Sites of spiritual significance may have the viewshed altered, and noise and dust may affect the setting and experience of these places. These impacts would last through construction and operation of the transportation corridor.

[Note to reviewer: A GIS analysis is being conducted to determine the extent that the transportation corridor would directly impact cultural resources. Data will be part of RFI 097.]

4.7.4.3 Amakdedori Port

The port facility area would also be subject to the direct and indirect effects, as characterized above. In addition to the three known sites (one village, one lithic scatter, one historic shipwreck), interview-identified data and public input suggest more cultural resources exist in this area; including, but not limited to, burials, cabins, and trails/routes. Additional consideration of the impacts on maritime archaeology would also need to be assessed for the port location in the PA.

Two archaeological sites are subject to direct impacts, because they all fall within the footprint, and would be permanently damaged or destroyed as a result of constructing the port facility. The revised location of Amakdedori Village (ILI-00044) places it in the southwestern portion of the main port facility near the water extraction site. The lithic scatter (HDR-AMK-01) is along the road north of the main port facility.

A limited number of additional cultural resources have been identified in the port facility. As noted in Section 3.7, Cultural Resources, locals report cabins, graves, and trails in this area; and one route, the trail to Sid Larsen Bay, is also identified in this location. The specific location and analysis of the extent of impacts on these sites is ongoing. These cultural resources are subject to indirect effects, including the introduction of new visual and audible elements in the vicinity that may disrupt setting and contemporary use of these cultural resources. These effects would last through the life of the project, based on the operation of the facility and use of the access road.

[Note to reviewer: A GIS analysis is being conducted to determine the extent that the port would directly impact cultural resources. Data will be part of RFI 097.]

4.7.4.4 Natural Gas Pipeline Corridor

The discussion about the environmental consequences of other project components also applies to the natural gas pipeline, particularly the direct and indirect impacts associated with the transportation corridor, because the pipeline is co-located with this corridor from Amakdedori port to the mine site. Regarding the Cook Inlet Crossing, no underwater archaeology or historic maritime investigations have occurred for the submerged portion of the pipeline. Any archaeological sites or shipwrecks in the alignment would be directly affected by construction. Cultural resources adjacent to the pipeline route under Cook Inlet may be subject to indirect effects from subsurface wave action and sediment disturbance.

4.7.5 Action Alternatives 2 and 3 – North Road and Ferry or North Road Only

Alternatives 2 and 3 would have the same potential for direct and indirect impacts on cultural resources at the mine site as discussed above for Alternative 1. The transportation corridor, Diamond Point port, and the natural gas pipeline would have the same types of potential effects as Alternative 1, but in different locations. They each involve construction of new roads, ferry terminals (Alternative 2 only), and overland pipeline routes between Diamond Point and the

mine site. A review of AHRS data indicates six AHRS sites in the project footprint between Diamond Point and Pile Bay along the Williamsport-Pile Bay Road that would be permanently impacted by construction. The Williamsport-Pile Bay Road itself is a historic linear feature that would be permanently impacted in terms of potential modification and setting. These components cross through areas where there are known locations with indigenous place names, and interview-identified cultural features are present across the landscape.

[Note to reviewer: A GIS analysis is being conducted to determine the extent that the alternatives would directly impact cultural resources. Data will be part of RFI 097.]

4.7.6 Summary of Key Issues

Table 4.7-1 provides a summary of key issues.

Table 4.7-1: Summary of Key Issues for Cultural Resources

Project component	Alt 1 (+variants)	Alt 2 (+variants)	Alt 3 (+variants)
Mine Site			
AHRS sites (identified to date)	2 known sites in the footprint would be permanently impacted.		
Place names	No locations with place names in the footprint, but interviews identified trails/routes and traplines through the area. Construction and placement of mine facilities would directly impact trails/routes by interrupting the continuity of these linear features.		
Cultural resources	Traditional use areas for fishing, trapping, and hunting near Sharp Mountain, the headwaters of the Koktuli River, Frying Pan Lake, and Groundhog Mountain. Use of those areas for traditional purposes would cease through the life of the mine and into post-closure, although the mine site is not identified as a high frequency overlapping area for subsistence users.		
Transportation Corridor			
AHRS sites (identified to date)	None identified to date in footprint.	6 known sites in the footprint would be permanently impacted. The Williamsport-Pile Bay Road itself is a historic linear feature that would be permanently impacted.	
Place names	None identified to date in the area.	Over 60 known place names in the area from Iliamna Bay to the mine site.	
Cultural resources	Interview-identified cultural features in the area include trails from Kokhanok to Gibraltar Lake and Sid Larson Bay, and burial sites.	The same types of potential effects as Alternative 1, but in a different location. Traditional use areas include Iliamna Lake, and upland areas along the mine access roads and/or pipeline ROW.	
Amakdedori Port and Diamond Point Port			
AHRS sites (identified to date)	1 known site in the footprint would be permanently impacted, and 1 in the vicinity would be indirectly impacted.	None identified to date in footprint.	
Place names	None identified to date in the area.	Place names identified around Iliamna Bay.	
Cultural resources	Interviews suggest cultural resources in this area, including—but not limited	The same types of potential effects as Alternative 1, but in a different location. Iliamna Bay is a traditional use area.	

Table 4.7-1: Summary of Key Issues for Cultural Resources

Project component	Alt 1 (+variants)	Alt 2 (+variants)	Alt 3 (+variants)
	to—burials, cabins, and trails/routes.		
Natural Gas Pipeline			
AHRS sites (identified to date)	Same as transportation corridor, except for the pipeline crossing Cook Inlet. No investigations have occurred for this portion of the pipeline. Any archaeological sites or shipwrecks in the alignment would be directly affected by construction.		
Place names			
Cultural resources			

4.7.7 Cumulative Effects

Past, present, and reasonably foreseeable future actions (RFFAs) have the potential to contribute cumulatively to effects on cultural resources, detailed in Section 4.1. These potential future actions are similar to the proposed actions in that each may result in direct and indirect effects on cultural resources, as discussed above. The following RFFAs identified in Section 4.1 apply to the consideration of cumulative effects on cultural resources.

- Pebble Project Expansion—develop 55 percent of delineated resources over a 78-year period
- Pebble South/PEB
- Big Chunk South
- Big Chunk North
- Fog Lake*
- Groundhog*
- Shotgun*
- Johnson Tract*
- Copper Joe*
- Donlin Gold
- Diamond Point Rock Quarry
- ASAP
- Alaska LNG
- Drift River Oil Pipeline
- Cook Inlet Lease Sales
- Hydrocarbon Exploration
- LPB Transportation Projects
- LPD Capital Improvement Projects
- USDA Rural Development Projects
- LBP Renewable Energy Projects
- Nushagak Intertie Project
- Subsistence Activity
- Tourism, Recreation, Hunting, Fishing
- Scientific Surveys and Research

**Indicates exploration activities only.*

Each of these RFFAs would contribute to the increased potential for impacts on a wide range of cultural resources, because each involves some aspect of ground-disturbing activity that can lead to the irreversible destruction of cultural resources or affect the cultural context at those locations. Many of the mining exploration activities would have minimal ground disturbance, but would include helicopter overflights that can disturb cultural activities and the context of a cultural resource site.

The Pebble Project expansion would affect an area encompassed by and impacts similar to both Alternatives 1 and 3 across a greater footprint and over an extended period (from 78 to 98 years, depending on duration of additional milling after mining has ceased). Once a cultural resource feature, archaeological site, or historic site is destroyed, its value is gone and cannot be restored. Actions that expand mineral development near the Pebble deposit and around

Iliamna Lake contribute to landscape-level effects, where there is continuous introduction of intrusive visual elements, increased noise and atmospheric pollution, and an increased volume of people. These lead to inadvertent and purposeful destruction of cultural resource features, invasion of privacy and solace at spiritual and ceremonial sites, adverse impacts on natural resources that are central to cultural belief systems, and subsequent degradation of these cultural belief systems that have far-reaching social and physical health impacts. Effects such as habitat fragmentation, noise, and increased access for recreational hunting and fishing also disrupt subsistence activity, and may result in impacts to resource gathering areas and other cultural features.

These types of effects are also applicable to an increase in resource development and marine traffic along the Cook Inlet coastline, which may impact marine mammals and the associated cultural resources, such as ceremonial and harvest sites and religious and spiritual practices centered on the health and relationship of people to the land they inhabit.

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4.8 HISTORIC PROPERTIES

Section 4.8 discusses the effects that construction, operation, and closure of the mine would have on historic properties. However, at this time, there are no historic properties identified in the analysis area (see below). Therefore, Section 4.7, Cultural Resources, offers a discussion of the effects on cultural resources that includes known AHRS sites, archaeological sites, place names, and interview-identified cultural resources. There are four sites discussed in Section 4.7, Cultural Resources, for which eligibility is not determined. This section considers the process for assessing effects on historic properties as defined by [Section 106 \(54 U.S.C. § 306108\) of the National Historic Preservation Act \(NHPA\) \(54 U.S.C. § 300101 et seq.\) and its implementing regulations, "Protection of Historic Properties" \(36 C.F.R. Part 800\), in the Statute at 54 U.S.C. 300308, and in 33 Code of Federal Regulations \(CFR\) 325 Appendix C and ~~National Historical Preservation Act \(NHPA\)~~ the Section 106 requirements for considering the project's potential to cause effects on historic properties in the \[Area of Potential Effects \\(APE\\) for the undertaking as defined in association with the\]\(#\) permit area. For the purposes of this section, the definition of historic properties is as described in Section 3.8, Historic Properties. At this time, the project footprint is guiding the analyses of environmental consequences on historic properties, and the direct and indirect effects that may result. Some nearby communities may have historic properties, but impacts would likely be indirect and associated with setting.](#)

Comment [JTE-ACHP1]: See comments in Section 3.8 regarding referencing 36CFR 800 and Appendix C. Reference both equally without suggesting either overrides the other. We'll work out details of permit area and APE for this case during the Section 106 consultation.

4.8.1 Analytical Limitations

Adjustments to the number of historic properties affected would be anticipated, because additional properties are identified during the course of additional research and studies conducted under consultation currently under way as part of the NHPA Section 106 compliance process and development of the Programmatic Agreement (PA). The permit area (defined under Appendix C) [and the APE](#) in which the US Army Corps of Engineers (USACE) will analyze direct and indirect effects has not yet been established for NHPA compliance purposes. Because identified cultural resources features are considered as potential historic properties, the [quantity-number](#) of historic properties may increase, and expand the content and scope of analysis. The consultation process is ongoing between the USACE, the Alaska State Historic Preservation Office (SHPO), and other consulting parties regarding the definition and delineation of the permit area [and APE](#) for the project. The USACE initiated Section 106 consultation with agencies and involved parties via letter on August 17, 2018, and held an introductory meeting on October 30, 2018.

Eligibility for inclusion in the National Register of Historic Places (NRHP) defines a historic property, and the process of evaluation can occur concurrent with the National Environmental Policy Act (NEPA) process. Not all of the project components were inventoried for historic properties during the baseline studies completed by PLP between 2004 and 2013 (SRB&A 2011, 2015a, and 2015b), and none of the sites identified in those studies were evaluated for eligibility for inclusion in the NRHP. The evaluation step has not yet been taken for any archaeological sites, historic buildings, or cultural resource features identified in the project components, which may lead to eligibility. The AHRS research for Alternatives 2 and 3 is ongoing, and Alaska Heritage Resources Survey (AHRS)-listed resources with National Register eligibility determinations may exist in the footprint of those alternatives.

[Note to reviewer: A GIS analysis is being conducted to determine the extent that the mine site would directly impact historic properties. Data will be received as part of RFI 097.]

Only the mine site has been subjected to systematic cultural resource field investigations. However, previous PLP investigations did complete background literature and file reviews for a

broader regional area, and conducted interviews to identify cultural resources, place names, and land use areas in and near the project footprint. These data are supplemented by other sources of ethnographic, traditional knowledge, and subsistence investigations that cover portions of the study area (see Section 3.7, Cultural Resources, for a preliminary list of these additional sources). It is likely that many of the identified cultural resource features (approximately 1,600) may also be considered as historic properties, and be evaluated for inclusion to the NRHP. Archaeological and historic districts, and specific types of significance ascribed to certain areas, such as traditional cultural landscapes or traditional cultural properties, have also not been considered for eligibility.

4.8.2 Effects on Historic Properties

Per Section 106 of the NHPA, an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion on the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association (36 CFR § 800.5-(a)(1)). All of the action alternatives have the potential to cause adverse effects resultant from the construction, operation, reclamation, and closure of the mine. The discussion of types of effects and environmental consequences provided in Section 4.7, Cultural Resources, applies to the types of effects that would be anticipated on historic properties, and is not repeated here. The number of known AHRs resources in each project component is also covered in Section 3.7, Historical Properties, and listed in Appendix K3.8.

Additional identification and evaluation of each project component would occur through the NHPA Section 106 process to quantify the number and types of historic properties present prior to assessing types of effects that may occur. This process can occur concurrent with the NEPA process and is currently underway. The USACE will address effects on historic properties ~~through application of Appendix C~~ through development of a Section 106 PA pursuant to 36 C.F.R. §800.6 and 36 C.F.R. § 800.14(b)(3), and tie the completion of this process to the action of issuing a final permit for mine operation.

The steps and processes that the USACE will employ to complete the identification, evaluation, and mitigation of effects on historic properties will be captured in the PA. Per 36 CFR 800.14(b), the agency official (USACE) may negotiate a PA to govern the implementation of a particular program or the resolution of adverse effects from certain complex undertakings. The following applicable criteria for the use of a PA are met by the PLP project (36 CFR 800 14 (b)(1)(i, ii, and v):

- When effects on historic properties are similar and repetitive or are multi-state or regional in scope
- When effects on historic properties cannot be fully determined prior to approval of the undertaking
- When other circumstances warrant a departure from the normal Section 106 process.

The USACE intends to confer with consulting parties through the NHPA Section 106 process to develop the PA. The PA will record the terms and conditions agreed on to resolve the potential adverse effects, and to include consideration of mitigation measures and the ongoing strategies to identify and evaluate historic properties pre- and post-permitting. The PA will be part of the Record of Decision, and permits will be conditioned with reference to completing the project in accordance with the PA. Compliance with the procedures established by the ~~approved-executed~~ PA would satisfy the USACE's federal agency NHPA Section 106 responsibilities for the project.

Comment [JTE-ACHP2]: Don't forget that Corps is the lead federal agency for Section 106. The PA to be developed will cover all federal agencies that have an action related to the project.

4.8.3 ~~Mitigation~~Resolution of Adverse Effects

Site-specific ~~mitigation~~ measures will be developed through the Section 106 and PA process to resolve (avoid, ~~or~~ minimize, ~~or~~ mitigate) adverse effects on historic properties, to the extent practicable. The following are typical ~~mitigation~~ measures used to resolve adverse effects:

- Avoidance, which could be accomplished by shifting the footprint away from the resource, limiting activities in the vicinity of the resource, monitoring construction activities near the resource to inform whether additional actions are warranted, or through any combination of these techniques.
- Minimization, which would reduce the effects on the resource through avoidance measures as described above, but would not completely eliminate the effects.
- Mitigation, which may involve data recovery, protections of similar resources in nearby areas, contributions to local heritage programs in affected communities, interpretive exhibits, education curricula, or a host of other measures that would be decided on through consultation with the agencies and involved parties.

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