DEPARTMENT OF THE ARMY
PACIFIC OCEAN DIVISION, U.S. ARMY CORPS OF ENGINEERS
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FORT SHAFTER, HAWAII 96858-5440

CEPOD-PD (200-1f) 27 June 2025

MEMORANDUM FOR Commander, Alaska District (CEPOA-PM-ESP/J. Barsis), P.O. Box 6896, JBER, Alaska, 99506-0898

SUBJECT: Defense Environmental Restoration Program – Formerly Used Defense Sites (DERP-FUDS) Record of Decision for Sanak Aircraft Warning Service (AWS) Station, FUDS Project No. F10AK0204-02, Sanak Island, Alaska

1. References:

a. ER 200-3-1 (Environmental Quality – Formerly Used Defense Sites (FUDS) Program Policy).

b. FUDS Handbook, Supplement to ER 200-3-1, 2 December 2022.

c. DoD Manual 4715.20 (Defense Environmental Restoration Program (DERP) Management).

d. HQ POA, CEPOA-ZA memorandum (Defense Environmental Restoration Program Record of Decision for Sanak AWS Station Formerly Used Defense Site, HTRW Project No. F10AK0204-02, Disposal Site, Sanak Island, Alaska), 15 June 2025.

2. Pursuant to the FUDS and DERP program policies in references 1.a through 1.c, and after review of reference 1.d, I approve the selection of Remedial Alternative No. 3, Removal and Off-site Disposal (PCB contaminated soil), as the remedy for the subject project. The estimated cost for the remedial action is $4,424,200.00.

3. The signed Record of Decision is enclosed.

4. Please upload a copy of this memorandum and enclosures to the appropriate FUDS property folders in the FUDS-DOC records management database and the FUDS Management Information System.

5. The POC for this matter is Mr. Reid Maekawa, POD FUDS Program Manager, at (808) 835-4631 or reid.h.maekawa@usace.army.mil.

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Encl
Record of Decision

JOSEPH C. GOETZ, II, P.E.
Brigadier General, USA
Commanding

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RECORD OF DECISION

SANAK ISLAND AIRCRAFT WARNING SERVICE STATION

DISPOSAL SITE
SANAK ISLAND, ALASKA

FUDS No. F10AK0204-02

Contract No. W911KB-20-D-0005
Task Order No. W911KB20F0124

FINAL

JUNE 2025

F10AK020402_05.09_0001_a
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TABLES

APPENDICES

ACRONYMS AND ABBREVIATIONS

°F	degree(s) Fahrenheit
%	percent
$	dollar
§	Section
µg/L	microgram(s) per liter
AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
APIA	Aleutian Pribilof Islands Association
ARAR	Applicable or Relevant and Appropriate Requirement
ATSDR	Agency for Toxic Substances and Disease Registry
AWS	Aircraft Warning Service
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
COC	chemical of concern
CON/HTRW	containerized/hazardous, toxic, or radioactive waste
COPC	chemical of potential concern
COPEC	contaminants of potential ecological concern
CSM	conceptual site model
CTC	Cost-to-Complete
cy	cubic yard(s)
DERP	Defense Environmental Restoration Program
DoD	U.S. Department of Defense
DRO	diesel-range organics
DS	disposal site
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
FS	feasibility study
FUDS	Formerly Used Defense Sites
GAC	granular activated carbon
GRO	gasoline-range organics
HHRA	human health risk assessment

HI	hazard index
ID	identification
JBER	Joint Base Elmendorf-Richardson
LIF	laser induced fluorescence
LUC	land use control
M	million(s)
MCL	maximum contaminant level
mg/kg	milligram(s) per kilogram
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NOAA	National Oceanic and Atmospheric Administration
NRHP	National Register of Historic Places
O&M	operations and maintenance
ODUSD	Office of the Deputy Under Secretary of Defense
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PHT	Pauloff Harbor Tribe
PPE	personal protective equipment
ppm	part(s) per million
RAO	remedial action objective
RI	remedial investigation
ROD	record of decision
RRO	residual-range organics
RSL	regional screening level
SARA	Superfund Amendments and Reauthorization Act
SI	site investigation
SVOC	semivolatile organic compound
TSCA	Toxic Substances Control Act
U.S.	United States
USACE	U.S. Army Corps of Engineers
U.S.C.	*United States Code*
USFWS	U.S. Fish and Wildlife Service
UU/UE	unlimited use and unrestricted exposure
UVOST	ultraviolet optical screening tool

VHF	very high frequency
VOC	volatile organic compound

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PART 1: DECLARATION

This Record of Decision (ROD) documents the United States (U.S.) Army Corps of Engineers (USACE) Selected Remedy to address polychlorinated biphenyl (PCB) contamination in soil at the Disposal Site (DS) at the Sanak Island Aircraft Warning Service (AWS) Station Formerly Used Defense Sites (FUDS) property on Sanak Island, Alaska. The Selected Remedy is removal and offsite disposal, which was evaluated as Alternative 3 in the *Feasibility Study, Sanak Island Army Aircraft Warning Station, Sanak Island, Alaska* (FS) (USACE 2022a) and identified as the preferred alternative in the *Proposed Plan, Sanak Island Army Aircraft Warning Service Station Disposal Site, Sanak Island, Alaska* (Proposed Plan) (USACE 2024).

1.1 PROJECT NAME AND LOCATION

The Sanak Island AWS Station FUDS property is located on Sanak Island, 54 miles south of Cold Bay, Alaska (Figure A-1a, Table 1-1). Environmental remediation is managed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Table 1-1
Project Details

FUDS Property:	Sanak Island AWS Station FUDS F10AK0204
FUDS Project No.:	F10AK020402 Project 02
Project Name:	Disposal Site
Site Location:	Sanak Island, Alaska (Figure A-1a)
Latitude and Longitude:	54°27’15” N and 162°43’30” W (horizontal datum WGS84)
ADEC Contaminated Site Name:	Sanak Island Disposal Site
ADEC Contaminated Sites File ID No.:	2547.38.004
ADEC Contaminated Sites Hazard ID No.:	26029

Note:
For definitions, refer to the Acronyms and Abbreviations section.

1.2 STATEMENT OF BASIS AND PURPOSE

This ROD presents the Selected Remedy for Project 02 at the Sanak Island AWS Station FUDS property. The Selected Remedy addresses PCB contamination in soil at the DS. This remedy was chosen in accordance with CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and, to the extent practicable, with the National Contingency Plan (NCP) (Title 40 of the *Code of Federal Regulations* [CFR], Section (§) 300 et seq. [40 CFR 300 et seq.]). This decision is based on the Administrative Record file for this site.

Detailed information supporting the selected remedial action is contained in the Administrative Record file for the site located at the U.S. Army Corps of Engineers Alaska District Office on Joint Base Elmendorf-Richardson (JBER) in Anchorage, Alaska and at the Information Repository at the Pauloff Harbor Tribal Office in Sand Point, Alaska. This ROD will become part of the file.

The State of Alaska, through the Alaska Department of Environmental Conservation (ADEC), concurs with the Selected Remedy.

1.3 ASSESSMENT OF PROJECT

The response action selected in this ROD is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment from soil. CERCLA hazardous substances include PCBs, which are present at the DS.

1.4 DESCRIPTION OF SELECTED REMEDY

The Selected Remedy in this ROD will address CERCLA PCB contamination in soil at 2 out of 12 total DS features that were evaluated where the potential for unacceptable risk from PCBs

(Aroclor 1254) was identified: DS01 and DS04. No other DS features require action. Remedy components include the following:

- Mobilize equipment and personnel
- Locate areas with PCBs above 1 part per million (ppm)
- Excavate PCB-contaminated soil with concentrations above 1 ppm
- Sampling (Waste Characterization and Confirmation)
- Backfill with clean soil and site restoration
- Demobilize
- Transport and dispose of PCB-contaminated soil in an offsite permitted landfill

The remedy will address concentrations of PCBs (Aroclor 1254) in soil above levels that result in potential unacceptable risk to future residents and construction workers. PCBs at DS01 and DS04 are not considered principal threat wastes because, although PCBs are toxic and concentrations are above Toxic Substance Control Act (TSCA) standards at some locations, PCBs are relatively immobile, primarily located in the subsurface, and attach strongly to soil particles. A principal threat waste refers to contamination that is highly toxic, highly mobile, and cannot be reliably contained.

The response action proposed for the DS is protective of public health or welfare and the environment based on current and foreseeable future residential land use. It will address PCB contamination in soil above the TSCA 40 CFR § 761.61 (a)(4)(i)(A) cleanup level of 1 ppm applicable to high occupancy areas.

1.5 STATUTORY DETERMINATIONS

The U.S. Department of Defense (DoD) is authorized to carry out a program of environmental restoration at former military sites (FUDS) pursuant to the Defense Environmental Restoration Act (Title 10 *United States Code* [U.S.C.] § 2700 et seq). FUDS cleanup projects are funded by appropriations to the Defense Environmental Restoration Program (DERP) FUDS funding account, Environmental Restoration (ER) -FUDS. FUDS properties are defined as real property that was owned by, leased to, or otherwise possessed by the U.S. and under the jurisdiction of the Secretary of Defense that were transferred from DoD control prior to 17 October 1986.

The Selected Remedy for the DS satisfies the statutory requirements of CERCLA §121 and, to the extent practicable, the NCP. The Selected Remedy—Removal and Offsite Disposal—is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate, is cost-effective, and utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable.

The remedy does not satisfy the statutory preference for treatment as a principal element. Although the remedy does not satisfy the statutory preference for treatment as a principal element, the USACE has determined it provides the best balance of tradeoffs among alternatives with respect to the balancing criteria set out in the NCP § 300.430(f)(1)(i)(B) and satisfies the modifying criteria. As such, it represents the maximum extent to which permanence and treatment can be practically utilized at the DS. This conclusion was based on short-term effectiveness, implementability, and cost. PCBs at DS01 and DS04 are not considered principal threat wastes.

Because this remedy will not result in hazardous substances, pollutants, or contaminants remaining onsite above levels that allow unlimited use and unrestricted exposure (UU/UE) and the remedial action objective (RAO) will be attained in less than 5 years, no five-year review will be required by statute or policy.

1.6 DATA CERTIFICATION CHECKLIST

The following information is included in the Decision Summary located in Part 2.0 of this ROD:

- The chemicals of concern (COCs) and their respective concentrations (Table 2-2; Section 2.5.6)

- Baseline human health and ecological risk evaluation represented by the COCs (Section 2.7)
- Cleanup levels established for the COCs and the basis for the selection (Table 2-3; Sections 2.8 and 2.9)
- How source COCs will be addressed (Section 2.13)
- Current and reasonably anticipated future land use assumptions and current and potential future beneficial uses of groundwater used in the baseline risk assessment and ROD (Section 2.6)
- Potential land and groundwater use that will be available at the site following completion of the Selected Remedy (Sections 2.6 and 2.13.4)
- Estimated capital, operations, and maintenance (O&M), total costs, and the number of years over which the remedy cost estimates are projected (Section 2.13.3; Table 2-6)
- Key factors that led to selecting the remedy, including a description of how the Selected Remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria, highlighting criteria key to the decision (Sections 2.11 and 2.13)

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1.7 AUTHORIZING SIGNATURE

This Record of Decision presents the selected response action at the Sanak Island Aircraft Warning Service Station Disposal Site, Sanak Island, Alaska. The DoD is the lead agency, administered through the Alaska District of the U.S. Army Corps of Engineers, under the DERP at the Sanak Island Aircraft Warning Service Station FUDS property, and the USACE has developed this Record of Decision for DoD consistent with the CERCLA, as amended, and the NCP. This ROD will be incorporated into the larger Administrative Record File for the Sanak Island Aircraft Warning Service Station FUDS Property, which is available for public view at (1) Alaska District office on Joint Base Elmendorf-Richardson, Alaska; and (2) Pauloff Harbor Tribal Office in Sand Point, Alaska. This document, presenting a Selected Remedy with a total Cost-to-Complete estimate recorded in the Formerly Used Defense Sites Management Information System of $4,424,200, is approved by the undersigned and pursuant to the delegated authority in the Assistant Secretary of the Army Installations, Energy and Environment memorandum dated 8 July 2022 subject: Assignment of Mission Execution Functions Associated with Department of Defense Lead Agent Responsibilities for the Formerly Used Defense Sites Program, and subsequent re-delegations.

APPROVED:

GOETZ.JOSEPH.CLETUS.II.1016397438 Digitally signed by GOETZ.JOSEPH.CLETUS.II.1016397438 Date: 2025.06.30 07:49:13 -10'00'

30-Jun-2025

JOSEPH C. GOETZ, II, P.E.
Brigadier General, USA
Commanding

Date

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PART 2: DECISION SUMMARY

The Decision Summary identifies the Selected Remedy, explains how the remedy fulfills statutory and regulatory requirements, and provides a substantive summary of the Administrative Record file that supports the remedy selection decision.

2.1 PROJECT NAME, LOCATION, AND DESCRIPTION

The Sanak Island AWS Station FUDS property is located on the north side of Sanak Island, the largest island in the Sanak Island group. From Cold Bay at the end of the Alaska Peninsula, the site is located approximately 54 miles to the south (Figure A-1a). This ROD focuses on 2 of the 12 features at the DS: DS01 and DS04 (Figure A-2).

Table 2-1
Project Information

FUDS Property:	Sanak Island AWS Station FUDS F10AK0204
FUDS Project Number:	F10AK020402 Project 02
Project Name:	Disposal Site
Site Location:	54 miles south of Cold Bay, Alaska Section 16; Township 66S, Range 90W Seward Principal Meridian Aleutians East Borough
Latitude and Longitude:	54°27’15” N and 162°43’30” W (horizontal datum WGS84)
ADEC Contaminated Site Name:	Sanak Island Disposal Site
ADEC Contaminated Sites File Number:	2547.38.004
ADEC Contaminated Sites Hazard ID No.:	26029
Point of Contact:	Beth Astley – Remedial Project Manager CEPOA-PM-ESP P.O. Box 6898 JBER, Alaska 99506-0898 907-753-5782 beth.n.astley@usace.army.mil

Note:
For definitions, refer to the Acronyms and Abbreviations section.

The lead agency is DoD through the Alaska District of USACE. Cleanup is being conducted under the authority of the Defense Environmental Restoration Act (10 U.S.C. § 2700 et seq.) and its implementing regulations and guidance relating to FUDS (DERP-FUDS) and funded through Defense Environmental Restoration Account (ER-FUDS). The lead regulatory support agency is the ADEC. The affected tribe is the Pauloff Harbor Tribe (PHT) of Sand Point, Alaska.

2.1.1 Site History

Sanak Island has been occupied by the Unangan (also known as the Aleut) for approximately 7,000 years at historical villages across the island. The abundance of sea otters in the region prompted the establishment of a Russian American Company outpost in 1808. By the late 1800s, Sanak Village at Sanak Harbor (also referred to as Company Harbor) and Pauloff Harbor Village (historically known as Pavlof Harbor) were the most prominent communities on the island. Residents of these villages included the Unangan and recent Euroamerican (primarily Scandinavian) immigrants. These villages supported a thriving cod fishery. A U.S. Post Office was established at Sanak Village in 1909. While much of the Sanak Island population dispersed in the 1930s and 1940s with the decline of the cod fishing industry, the Sanak Village and Pauloff Harbor communities persisted through World War II (Jones and Wood 1973). After the early 1950s there were no year-round residents at Sanak Village.

At the time of military occupancy, Sanak Island was in the public domain and under jurisdiction of the U.S. Department of the Interior. The Department of the Army constructed the Sanak Island AWS Station as part of the AWS network in the Aleutian Islands near the village of Pauloff Harbor in 1943 during World War II to provide advance warning to the military bases at Cold Bay. The island was used for military purposes until late 1945, with most activities occurring at the Sanak AWS Station. Support buildings and structures were also constructed during this time.

From 1939 to 1943 and again from 1951 to 1981, areas of Sanak Island were leased from the U.S. Department of the Interior for animal grazing. In 1981, Sanak Corporation received interim conveyance of the majority of Sanak Island surface estate, and Aleut Corporation the subsurface estate, pursuant to the Alaska Native Claims Settlement Act of 1971. The exceptions include 5.34 acres at Sanak Village patented to the Russian-Greek Mission Reserve (U.S. Survey 759 Tracts A and B).

A U.S. Post Office was established at Pauloff Harbor in 1949; however, families began to leave the island and the population slowly declined beginning in the 1960s. Fox farming and cattle industries were attempted on the Sanak Islands with mixed success until about 1980, after which the last permanent residents left the island around 1980 (Maschner et al. 2009).

Today, very few roads and limited infrastructure are present on the island. Remains of structures and features are dilapidated or non-existent. Many of the former structures are only identifiable by ground depressions and scattered building materials. The island is currently uninhabited. Sanak Corporation holds the surface rights for the conveyed portions of Sanak Island and provides overall land management. The Aleut Corporation holds the subsurface rights. Members of the Sanak Corporation and PHT visit the island periodically. Land use is further discussed in Section 2.6.

2.1.2 Project Description

The Sanak Island AWS Station FUDS property (Figure A-1a) has been subdivided into five focused study areas encompassing approximately 90 acres, including the DS, Sanak Harbor, Pauloff Harbor, AWS Station, and Connecting Road (Figures A-1b and A-1c). All FUDS-eligible features were assessed during the final remedial investigation (RI) (USACE 2016) and RI addendum (USACE 2019a). The DS area (Project 02) is the subject of this ROD; the remaining four areas will be addressed separately under a different project (Project 03). The DS is west of Pauloff Harbor and northeast of the Sanak Island AWS Station and occupies approximately 2.8 acres (Figure A-2). Various electronic debris (including a possible transformer) and drums were observed to be associated with surface or partially buried debris. DS01 and DS04 are described as follows:

- DS01 is approximately 1,700 square feet, an approximately 20-foot by 17-foot earthen pit surrounded by tundra vegetation in the southern portion of the DS that once contained electrical equipment, a partial drum, pieces of a potential transformer, and other miscellaneous debris.
- DS04 is approximately 100 square feet, an approximately 17-foot by 12-foot mounded pit with bare soil in the middle along the southern portion of six suspected waste burial sites that once contained rusted metal remnants and glass debris.

2.2 PROJECT HISTORY AND ENFORCEMENT ACTIVITIES

2.2.1 Project History

The former Sanak Island AWS Station was constructed in 1943 as part of a network of AWS stations in the Aleutian Islands during World War II and was operated through 1945. Army infrastructure consisted of detector and transmitter facilities, antennas, power generation and other utilities, and dining and housing facilities. The AWS Station was located at the base of Sanak Peak and was accessed along a primitive 4-wheel drive road approximately one mile long, known as "Connecting Road," that runs from the west shore of Pauloff Harbor to an area along the southeast slope of Sanak Peak. AWS Station support areas included a construction camp, gravel pit, and staging area at Pauloff Harbor as well as the connecting road and adjacent military dump site. Sources of contamination are suspected to include spills, leaks, or direct discharge from transformers, drums, electrical equipment, or other debris.

2.2.2 Project Investigation and Removal Action History

Various parties, including USACE, conducted early site reconnaissance, inventory, and work to identify and investigate potential contamination associated with the Sanak Island AWS Station FUDS property. The property was identified as FUDS-eligible in 2010, and USACE cleanup activities began afterward in 2012. Site activities conducted at the DS area from 2002 through 2014, along with follow-on reporting, are summarized as follows. Reference sample locations are shown on Figure A-3:

- **2002 and 2004 Site Reconnaissance** (PHT of Sanak and the Aleutian Pribilof Islands Association [APIA] 2005): A site visit was conducted in May 2002 and again in May 2004 by representatives from the PHT of Sanak and the APIA. The 2004 site visit included Pauloff Harbor Village, Lighthouse Point, a dump site (now known as the DS), and a suspected powerhouse site. Items of concern included batteries, drums, suspected lead-wrapped cable, and discarded electrical equipment. Six distinct disturbed areas were identified at the dump site that appeared to be part of a larger dump complex. A suspected transformer, electrical equipment, rusted drums, and miscellaneous debris were observed. It was unknown at the time whether the dump site was associated with military activities. Future sampling was recommended.
- **2006 Battery Cleanup and Soil Sampling** (Office of the Deputy Under Secretary of Defense [ODUSD] 2009, ODUSD 2011, PHT of Sanak/APIA 2007): In May 2006, representatives from the PHT and APIA conducted a battery cleanup at Sanak Island of the former Pauloff Harbor Village and Lighthouse Point areas and collected soil samples from locations suspected to be contaminated. During the 2006 field effort, six separate disturbed areas with debris were observed at the Suspected Military Dump Site (subsequently referred to as the Disposal Site by USACE), and a suspected transformer and oil, other electrical equipment, a knife, Army boots, and old rusted drums were reportedly found. One partially buried drum was found filled with used oil cans, and stained soil was observed directly below debris. There were areas of no vegetation within the ground depression. Three soil samples (SAN DUMP 6, SAN DUMP 7, and SAN DUMP 8) were collected from the dump site and analyzed for diesel-range organics (DRO), residual-range organics (RRO), polycyclic aromatic hydrocarbons (PAHs), PCBs, and lead. DRO and PCBs were detected above screening levels in two of the three samples (a primary and duplicate at DS01), and lead in one sample. RRO and PAHs were not detected above screening levels.
- **2007 Debris Removal** (ODUSD 2011, PHT/APIA 2007): The PHT and APIA conducted a drum and debris cleanup on Sanak Island. Hundreds of rusted 55-gallon drums were

reportedly moved to a community dump site near Pauloff Harbor for future removal by barge and disposal off island. Reports do not indicate that PHT removed any debris specifically from the DS.

- **2009 Site Assessment** (ODUSD 2009): In March 2009, a Step I site assessment report was completed for the Sanak Island AWS Station under the Native American Lands Environmental Mitigation Program. The report included previous work conducted at Sanak Island and interviews. Building demolition, debris removal, impacts from drums, dilapidated buildings, an Army Signal Corps radio, debris piles, potential ordnance impacts, and soil contamination were identified in the report. A SI with sampling was recommended. It concluded that additional analysis was needed to determine whether impacts were of military origin.
- **2009 Surface Water Sampling** (ODUSD 2011): In September 2009, representatives of the APIA and the PHT collected surface water samples from lakes, creeks, and bays at Sanak Island. One surface water sample was collected from Charlie Connors Lake and analyzed for DRO, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), PCBs, and metals. There were no detections.
- **2011 Step II Site Investigation (SI) and Step III Site Assessment** (ODUSD 2011): In May 2010, three soil samples (soil samples #10 through #12) were collected at the DS area and analyzed for gasoline-range organics (GRO), DRO, RRO, VOCs, SVOCs, PCBs, pesticides, and metals. Arsenic concentrations exceeded the screening level in all three samples. One soil sample also showed DRO and PCBs above screening levels. Two surface water samples (water samples #5 and #6) were collected at Charlie Conners Lake. Naphthalene was detected in sample #6 at 0.0421 microgram per liter (µg/L) (qualified J), below the screening level.
- **2012 SI** (USACE 2013): The SI included a surface and subsurface inventory of FUDS-eligible site features. The SI identified the five study areas with potential FUDS-eligible site features, including the DS area. A total of 12 features (DS01 through DS12) were identified within the DS as ground depressions or disturbed conditions and evaluated using geophysical methods to determine the presence of subsurface debris. It was concluded that

eight of the features warranted further investigation. Further evaluation was not warranted at the remaining four features (DS05, DS07, DS11, and DS12) because there was no evidence of contaminant sources.

Features DS01 and DS06 showed the most obvious visual signs of potential contamination. DS01 was an earthen pit with electrical equipment, a partial drum, pieces of a potential transformer, and other miscellaneous debris. Feature DS06 consisted of hummocky terrain and partially buried drums. Debris found at other locations included a single drum carcass, minor amounts of rusted metal remnants, and scattered broken glass bottles. Six surface soil samples (DS-SS01 through DS-SS06) were collected from the DS, four of which relate to DS01/DS04, and were analyzed for GRO, DRO, RRO, VOCs, PAHs, PCBs, and target metals.

Three of the surface soil samples (DS-SS01 through DS-SS03) were collected at DS01 from the earthen pit and contained screening level exceedances of PCBs (up to 1,200 milligrams per kilogram [mg/kg]), DRO (up to 630 mg/kg [qualified J]), and/or total chromium (up to 110 mg/kg [qualified J]). Chromium was not speciated for hexavalent chromium. One sample (DS-SS05) was collected at DS04 within the mounded pit. No analytes were detected at concentrations exceeding the screening levels. Three surface water samples were collected from Charlie Connors Lake (DS-WS01, DS-WS02, and DS-WS03). All results were nondetect. No sediment samples were collected due to rocky shore conditions.

- **2014 RI and Limited Containerized Hazardous, Toxic, or Radioactive Waste (CON/HTRW) Removal** (USACE 2016): An RI was conducted in May and June 2014 at the eight DS features identified as warranting further investigation during the 2012 SI. Six monitoring wells (DSMW-WG01 through DSMW-WG06) in and around the DS areas were sampled for GRO, DRO, RRO, VOCs, SVOCs, PAHs, PCBs, pesticides, and target metals. There were no confirmed detections above screening levels. A limited CON/HTRW removal action also took place in 2014. Each feature was assessed for the presence of CON/HTRW. CON/HTRW items (for example, electrical equipment and drum remnants) were identified and removed from DS01, DS02, and DS06.

Following CON/HTRW removal activities, field screening and confirmation sampling were performed to characterize and delineate contamination. Field screening probes were advanced at each of the eight DS features to evaluate petroleum hydrocarbon impacts; locations showing the highest potential for contamination were sampled for laboratory analysis. Analytical samples were analyzed for GRO, DRO, RRO, VOCs, SVOCs, PAHs, PCBs, and metals; select samples were also analyzed for pesticides. Activities specific to DS01 and DS04 are described as follows:

- **DS01:** During the limited CON/HTRW removal, a partial drum, and the scattered remains of one large capacitor were removed on 17 May 2014. Following the removal, approximately 73 tons of PCB-impacted soil were excavated; however, soil samples indicated that PCB concentrations remained above the screening level (1 ppm) along the southern and eastern sidewalls and floor of the excavation with a maximum detected concentration of 87 ppm. Field screening indicated lead contamination was present. As a result, a shallow excavation was conducted, and 1.5 tons of lead-contaminated soil were removed from DS01. Results from post-excavation soil samples were below the lead screening level (400 ppm). Six field screening probes (DS01-SB01 through DS01-SB06) were advanced via ultraviolet optical screening tool (UVOST)/laser induced fluorescence (LIF) to evaluate petroleum hydrocarbon impacts. The two locations that showed the highest potential for contamination were sampled for offsite laboratory analysis. Results were below screening levels.
- **DS04:** No CON/HTRW items were identified for removal at DS04. Soil screening at seven locations (DS04-SB01 through DS04-SB07) was performed via UVOST/LIF. The three locations that showed the highest potential for contamination or the highest LIF response were submitted for offsite laboratory analysis for GRO, DRO, RRO, VOCs, SVOCs, PAHs, PCBs, and metals. Results were below screening levels for petroleum hydrocarbons. PCBs were identified at one location DS04-SB06 (from 9 to 10 feet bgs) above the screening level (1 ppm) at 1.3 ppm. No impacted soil was removed from DS04.

- **2019 RI Addendum** (USACE 2019a): An RI addendum was developed to reassess the nature and extent of contamination using revised ADEC Method Two cleanup levels that were promulgated on 4 November 2016 and then updated again on 29 September 2018 as screening levels. No new data were collected. Heptachlor epoxide was added as a chemical of potential concern (COPC) in soil for DS01 based on a single exceedance. However, it was determined that interference from PCBs present in the sample elevated the result. Chromium was added as a COPC in groundwater based on a sample collected 200 feet north of DS01 and 200 feet northwest of DS04 in well DSMW-WG01. Naturally occurring chromium is prevalent throughout Alaska, and concentrations did not exceed the ADEC screening level (22,000 µg/L) or U.S. Environmental Protection Agency (EPA) tap water regional screening level (RSL) (2,200 µg/L) for the less toxic trivalent form of chromium, which is presumed to have been present. In addition, it did not exceed the Federal maximum contaminant level (MCL) of 100 µg/L for total chromium. There are no known or suspected sources of hexavalent chromium associated with former military activities at the Sanak AWS Station.
- **2019 Risk Assessment** (USACE 2019b): A human health risk assessment (HHRA) and ecological risk assessment were also completed in 2019. The HHRA established that PCBs (Aroclor 1254) are the only remaining contaminants associated with past military use at the Sanak AWS FUDS that show unacceptable risk.
- **2022 Feasibility Study** (USACE 2022a): Potential response technologies to address PCB contamination in soil at the DS were screened based on site-specific effectiveness, implementability, and cost. Technologies retained through screening were then developed into remedial alternatives, which were then evaluated against both the threshold and balancing criteria. Retained alternatives were as follows:
  - Alternative 1: No Action (as a baseline for comparison)
  - Alternative 2a: Ex Situ Treatment via Semi-Continuous Thermal Desorption
  - Alternative 2b: Ex Situ Treatment via In-Pile Thermal Desorption
  - Alternative 3: Removal and Offsite Disposal

- **2024 Proposed Plan** (USACE 2024): The Proposed Plan summarized the remedial alternatives retained for detailed analysis in the FS and facilitated public involvement in the remedy selection process. The Proposed Plan combined with a public meeting provided the basis for discussion and comment on the preferred remedy for the DS.

2.2.3 Enforcement Activities

The previous investigations and remedial actions have been performed under the DERP-FUDS program. There have been no enforcement activities or notices of violation pertaining to the Sanak Island AWS Station FUDS property.

2.3 COMMUNITY PARTICIPATION

40 CFR § 300.430(f)(3) of the NCP establishes public participation activities that the lead agency must conduct following preparation of the Proposed Plan and review by the regulatory agency.

In accordance with NCP requirements, the *Proposed Plan, Sanak Island Army Aircraft Warning Service Station Disposal Site* (USACE 2024) was made available to the public on 15 February 2024 in the Administrative Record at the USACE Alaska District office on JBER in Anchorage, Alaska and at the Pauloff Harbor Tribal Office in Sand Point, Alaska along with other project documents related to the remedial action decision. A notice regarding the availability of the Proposed Plan was published in *The Bristol Bay Times & The Dutch Harbor Fisherman* on 22 February 2024. The public comment period for the Proposed Plan began on 22 February 2024 and ended on 25 March 2024. Participants were encouraged to review the 2022 FS on which the Proposed Plan was based, the Proposed Plan, and other project documents relating to the remedy decision. An extension to the public comment period was not requested.

USACE held a public meeting in Sand Point on 28 February 2024 to discuss the Proposed Plan for the DS; the ADEC participated in this meeting. The public meeting was advertised on the local Sand Point radio station (KSDP 830 AM) twice and meeting announcements were sent to the City of Sand Point, PHT, Sanak Corporation, City of King Cove, King Cove Corporation, The Agdaagux Tribe of King Cove, the Unga Tribe of Sand Point, the Qagan Tayagungin Tribe of Sand Point, Shumagin Corporation, Aleut Corporation, Alaska Pribilof Islands Association, and the Aleutians East Borough. Announcements were also posted to the Aleutians East Borough website and Facebook page, to a community Facebook page, and at five locations in Sand Point.

USACE efforts to solicit community involvement in the decision process and responses to comments received during the public comment period are included in the Responsiveness Summary, which is PART 3 of this ROD. Community concerns are also summarized in PART 3 and in Section 2.11.9.

2.4 SCOPE AND ROLE OF RESPONSE ACTION

This section describes the scope and role of the current proposed remedial action relative to the overall cleanup plan and objective for this property. The overall strategy for the Sanak Island AWS Station FUDS property is to eliminate unacceptable risk from past releases of toxic and hazardous substances that occurred while the site was under DoD control, and to obtain site closure under the FUDS Program. Since being initiated in 2010, USACE has defined three (3) projects for this property:

- Project 01 – Containerized Hazardous, Toxic, and Radioactive Waste (CON/HTRW)
- Project 02 – Disposal Site
- Project 03 – AWS and VHF Stations

Project 01 achieved response complete under State of Alaska laws and regulations and was closed in 2021 following a limited removal action in 2014 during which any containers and contaminated soil (that is, lead and petroleum) were removed. Project 02 (Figure A-1c) is addressing the remedial action of PCBs at the DS under CERCLA, subject to this ROD. The remedy will address concentrations of PCBs (Aroclor 1254) in soil above levels that result in potential unacceptable risk to future residents and construction workers. Project 03 will address the AWS and VHF Stations (Figures A-1b and A-1c). Any additional FUDS-eligible contamination identified outside of these areas at the Sanak Island AWS Station property in the future would be managed under a new project subject to the appropriate authority.

2.5 PROJECT CHARACTERISTICS

The Sanak Island AWS Station FUDS property (Figure A-1a) encompasses 85 acres. The DS is west of Pauloff Harbor and northeast of the Sanak AWS Station located between the connecting road and Charlie Connors Lake (Figures A-1c and A-2). The DS occupies approximately 2.8 acres.

2.5.1 Climate

Sanak Island is part of the Aleutian Islands of Alaska. The climate is oceanic, which is generally characterized by moderate and fairly uniform temperatures and heavy rainfall. The nearest climatic data collection station is in Cold Bay, Alaska, located 54 miles north of Sanak Island. The mean annual temperature of Cold Bay is 39.3 degrees Fahrenheit (°F), ranging from 28.4°F (January) to 52.6°F (August). The average annual precipitation is 42.67 inches with an average seasonal snowfall of 67.3 inches. The amount of precipitation increases from the month of August to its peak in November. The heaviest snowfall is from December through March (NOAA 2024).

2.5.2 Geology

At Sanak Island, the materials overlying bedrock contain sandy silts or silty sands with varying amounts of organics, trace fines, gravels, cobbles, and boulders. Surficial soils have been characterized as loamy, very dark, acidic soils with high organic content. Several granitic rock outcrops at the lower flanks of Sanak Peak suggest the presence of shallow bedrock. Borings advanced during the 2016 RI generally encountered bedrock (refusal) at maximum depths of approximately 20 feet below ground surface (bgs).

2.5.3 Topography and Surface and Subsurface Hydrology

The topography of Sanak Island is dominated by Sanak Peak (Figure A-1a), with a summit at 1,740 feet above sea level, at the northwest end of the island. The island is characterized by rolling hills and depressions associated with lakes, muskegs, and stream channels.

Surface water hydrology on Sanak Island is characterized by lakes, streams, seeps, and wetland areas. The nearest body of water to the DS is Charlie Connors Lake, which is located approximately 250 feet to the north (Figure A-2). Much of the island consists of wetlands in which the maritime tundra is saturated with water at or near the surface (USACE 2016).

Groundwater appears primarily dominated by laminar flow along the bedrock-soil interface. It closely follows surface topography and discharges to streams or the coast. The overall direction of groundwater flow is consistent with ground surface topographic contours. Groundwater ranged from 10 to 19 feet bgs at the DS and was encountered at 13 and 19 feet bgs at DS01 and DS04, respectively (USACE 2016).

2.5.4 Threatened and Endangered Species

Threatened and endangered species in the vicinity of Sanak Island include the short-tailed albatross (*Phoebastria albatrus*), which the U.S. Fish and Wildlife Service (USFWS) lists as endangered, and the Steller's eider (*Polysticta stelleri*), of which the Alaska-breeding distinct population segment is listed as threatened; however, it is unknown whether these species occur near the DS. The northern sea otter (*Enhydra lutris kenyoni*) is also listed as threatened by the USFWS. Coastal areas near the FUDS property overlap with critical habitat for the Southwest Alaska distinct population segment of this species (USFWS 2024).

2.5.5 Cultural Resources

Sanak Island has been occupied by Unangan people for nearly 7,000 years (Reedy-Maschner 2013). The DS associated with the Sanak AWS Station is located near the former village at Pauloff Harbor, which was a viable community through World War II until the 1970s (Jones and Wood 1973). There is one known cultural resource in the DS area, the Sanak Army AWS Station Historical District (Alaska Heritage Resources Survey Number XFP-00191), which is a historic property that has been determined to be eligible for listing in the National Register of Historic Places (NRHP). It encompasses the military staging area at Pauloff Harbor, the Army Construction Camp, the DS, the AWS Station at Sanak Peak, and the road connecting those locations. Although most structures are no longer standing, the former building revetments, roads, and other landscape features, as well as scattered artifacts, continue to provide evidence of military actions on Sanak Island during World War II. This district was determined to be significant under Criterion D of the NRHP for its potential to provide important information about World War II activities on Sanak Island.

2.5.6 Nature and Extent of Contamination at DS01 and DS04

Known or Suspected Sources of Contamination

Sources of contamination are suspected to include spills, leaks, or direct discharge from transformers, drums, electrical equipment, or other debris observed within the two disposal areas.

Types of Contamination and the Affected Media

Impacted media include surface and subsurface soil. PCB Aroclor 1254 is the only contaminant retained as a COC in soil. No contamination was identified in groundwater or surface water. Sediment samples were not collected due to rocky shore conditions. Surface water and sediment are not considered potential exposure pathways.

DS01, Earthen Pit: PCBs (detected as Aroclor 1254) have historically been detected in soil within the earthen pit and in samples collected to the south. The highest concentrations (up to 32,600 mg/kg) were detected in 2006, and the 2014 excavation centered upon and removed the most heavily impacted soil. However, the 2014 removal action was incomplete since post-excavation composite confirmation samples revealed PCB contamination above the TSCA cleanup level (1 ppm) along the southern sidewall (87 mg/kg), eastern sidewall (1.7 mg/kg), and in portions of the prior excavation floor (1.3 to 7.3 mg/kg). Figure A-4 shows the excavation extent following 2014 activities. Figure A-6 shows the estimated extent of contamination remaining. The total estimated volume remaining in place is 605 cubic yards (cy). Conservative estimates for treatment and removal volume were used in the FS to account for uncertainty in the extent of contamination to the south and east of the former excavation sidewalls.

DS04, Mounded Pit: As shown on Figure A-5, PCBs (detected as Aroclor 1254) were detected above the TSCA cleanup level in one subsurface soil sample (1.3 mg/kg from sample location DS04-SB06) collected in 2014 from 9 to 10 feet bgs. This exceedance is located approximately 25 feet east of the DS04 mounded pit. At DS04, PCBs were not detected in surface soil (sample DS-SS05 collected in 2012). No removal actions have taken place at DS04. Although the extent of PCBs remaining in soil is likely confined to a small volume around sample DS04-SB06, conservative estimates for treatment and removal volume were used in the FS to account for the possibility of greater than anticipated contaminated soil volume. The estimated extent of contamination remaining is shown on Figure A-7. The estimated volume remaining in place is 45 cy.

Table 2-2 presents the exceedances remaining onsite. Figure A-4 shows the sample locations and exceedances remaining for DS01, and Figure A-5 shows the sample locations and exceedances for DS04.

Table 2-2
PCB Exceedances

Sample ID	Depth (feet bgs)	PCB (Aroclor 1254) Results Above Cleanup Level[a] (mg/kg)	Sample Type
DS01			
DS01-COMP-BS02	2	7.3	Composite excavation floor
DS01-COMP-BS03	3	4.8	Composite excavation floor
DS01-COMP-BS04	6	1.3	Composite excavation floor
DS01-COMP-SS01	3	1.7	Composite eastern sidewall
DS01-COMP-SS02	2	**87**	Composite southern sidewall
DS04			
DS04-SB06-0910-0607	9 to 10	**1.3**	Discrete sample from soil boring

Notes:
[a] The cleanup level of 1 ppm (= mg/kg) is from TSCA (40 CFR § 761.61 (a)(4)(i)(A)).
BOLD = maximum detected concentration remaining at the feature
For additional definitions, refer to the Acronyms and Abbreviations section.

Known or Potential Routes of Migration

PCBs are persistent organic compounds that attach strongly to soil particles and don't readily dissolve in water, such that they are not expected to migrate to groundwater or surface water based on current site conditions. Additionally, PCBs are not expected to present an outdoor air or vapor intrusion risk. While the presence of some organic solvents can increase PCB mobility, these contaminants are not present at DS01 or DS04. PCBs are persistent in the environment and will not attenuate naturally within a reasonable timeframe.

2.5.7 Conceptual Site Model

Conceptual site models (CSMs) were developed for the Sanak Island AWS Station FUDS property DS to depict the potential relationship or exposure pathway between chemical sources and receptors. An exposure pathway describes how a receptor can be exposed to contaminants in environmental media. These pathways are based upon current and reasonably anticipated future land uses. Human receptors considered for the DS include future adult/child residents, current/future site visitor/trespassers/recreational users (including people who visit the island for subsistence purposes), and future construction workers. Exposure pathways assessed included incidental ingestion, dermal contact, and inhalation of particles and/or volatiles in soil and outdoor ambient air, and the ingestion, dermal contact, and inhalation of groundwater. The vapor intrusion pathway for indoor air was considered. The pathway is currently incomplete but would be considered insignificant if future habitable buildings are developed in impacted areas of the DS since volatile contaminants are onsite but do not exceed vapor intrusion screening levels. Ecological receptors were also evaluated for potentially unacceptable exposure in the risk assessment. However, the maximum detected concentration was found in a small, disturbed portion of the DS (0.0074 acres; 323 square feet) that doesn't represent preferred or substantial habitat compared to average receptor home range sizes. Therefore, ecological receptors were not retained for further analysis. CSM scoping and graphic forms are presented in Appendix B.

2.6 CURRENT AND POTENTIAL FUTURE LAND AND RESOURCE USES

Sanak Corporation holds the surface rights for the conveyed portions of Sanak Island and provides overall land management. The Aleut Corporation holds the subsurface rights. The affected tribe is the PHT. The island is currently uninhabited. Use of the site includes periodic visits mainly by members of the Sanak Corporation and PHT for cultural, recreational, and subsistence activities. including gathering, fishing, hunting, recreation, and cattle grazing and occasional visits by scientists for research projects. The Sanak Corporation and PHT are interested in economic and/or residential development at Sanak Island after cleanup is complete (USACE 2011; USACE 2014). The PHT's plan includes cattle ranching, gardening, and farming as potential development opportunities on Sanak Island.

The nearest body of water is Charlie Connors Lake, which is located approximately 250 feet north of the DS area (Figure A-3). The nearest groundwater monitoring well to DS01 is DSMW-WG04, located approximately 20 feet south. The nearest monitoring well to DS04 is DSMW-WG06, located approximately 40 feet west. Both wells are shown on Figure A-3. No COCs were identified in surface water or groundwater, and contaminants are not expected to migrate to groundwater or surface water in the future.

2.7 SUMMARY OF SITE RISKS

The baseline risk assessment estimates what risks the site poses if no action were taken. It provides the basis for taking action and identifies the contaminants and exposure pathways that need to be addressed by the remedial action. This section of the ROD summarizes the results of the baseline risk assessment for this site.

A risk assessment was completed in 2019 to evaluate potential risks to human and ecological receptors based on reasonably anticipated exposure to contaminants originating from the DS (USACE 2019b).

2.7.1 Human Health Risks

Initial human health COPCs included arsenic, total chromium, lead, PCBs, DRO, and heptachlor epoxide in soil, and chromium (hexavalent) in groundwater. No surface water COPCs were identified. Because the maximum detected concentrations of lead, DRO, and heptachlor epoxide in soil were below the human health screening levels following the 2014 removal action, they were ultimately excluded as COPCs. As no VOCs were retained as COPCs, inhalation of volatiles is an insignificant pathway at the DS (USACE 2019a). Although the SVOC Aroclor 1254 was retained as a COPC, its concentration did not exceed site-specific, inhalation screening levels. As a result, the inhalation pathway is insignificant. Arsenic and chromium are known to occur naturally, have no known site-related source, and remaining concentrations were determined to be consistent with naturally occurring soil conditions identified in the 2014 RI (40 ppm for both arsenic and chromium). Chromium in groundwater was removed as a COPC because it was detected in only one of the six groundwater samples. While the reported detection exceeds the EPA tap water RSL and the ADEC cleanup level for hexavalent chromium, chromium occurs naturally in Alaska, and the concentration is attributed to the less toxic trivalent form since there is no known, suspected, or plausible source of hexavalent chromium at the DS. The ADEC cleanup level and EPA RSL for trivalent chromium were not exceeded. Additionally, the Federal MCL for total chromium was not exceeded.

Based on the HHRA results, only PCBs (Aroclor 1254) in soil were retained as a COC. The maximum PCB concentration remaining at the DS is 87 mg/kg. The cumulative incremental lifetime cancer risk was within the EPA's acceptable risk range for carcinogens (1×10^{-6} to 1×10^{-4}) for all potential receptors. Cumulative hazard indexes (HIs) were above the noncancer HI threshold of 1 for the following receptors at the DS, indicating that Aroclor 1254 poses a potentially unacceptable risk to human health:

- Child resident: HI = 23
- Adult resident: HI = 3
- Construction worker: HI = 5

Toxicity Assessment and Carcinogenic Risk

The EPA characterizes PCBs are category B2 carcinogens, indicating that they are probable human carcinogens based on results of animal studies with little to no human data. PCBs are also bioaccumulative, meaning organisms may absorb compounds at a higher rate than they are lost.

Health Effects

The EPA has classified PCBs as a probable human carcinogen. People directly exposed to elevated levels of PCBs may experience reproductive developmental effects, hormone disruption, impacts on the immune system, and teratogenic effects.

Additional health effects that have been associated with exposure to PCBs include acne-like skin conditions in adults and neurobehavioral and immunological changes in children. PCBs are known to cause cancer in animals. Studies in exposed workers have shown changes in blood and urine that may indicate liver damage (ATSDR 2014).

2.7.2 Ecological Risks

Contaminants of Potential Ecological Concern (COPEC) evaluated in surface soil for terrestrial receptors were barium, cadmium, lead, and PCBs. No COPECs were identified in surface water or sediment. While ecological risk calculations generated potentially unacceptable risk for Lapland longspurs (low-effect hazard quotient of 7), which were used as an indicator species, consideration of Lapland longspur home ranges (average brood range of 4.5 acres) compared to the combined estimated impacted area at DS01 and DS04 (0.042 acre) suggest any potential exposure to PCBs would be minimal. Given the small footprint of impacted areas and general absence of food resources at the DS, significant exposure is not expected. Therefore, risk calculations are likely overestimated risks due to inherently conservative assumptions. No contaminants of ecological concern were retained for ecological receptors.

2.7.3 Basis for Action

The response action selected in this ROD is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment. If achieved, the RAO (Section 2.9) developed for the DS will adequately and effectively mitigate human health risks.

2.8 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

CERCLA § 121(d) requires that onsite CERCLA remedial actions attain (or justify the waiver of) cleanup standards, standards of control, or other substantive requirements from Federal or State environmental or facility siting laws determined to be legally applicable or relevant and appropriate to circumstances. Only those State standards that are proposed and are more stringent than Federal standards may be applicable or relevant and appropriate. Applicable or Relevant and Appropriate Requirements (ARARs), in conjunction with risk-based levels developed from the risk assessment, are employed in establishing cleanup goals. ARARs may be action-, chemical-, or location-specific. **Applicable requirements** refer to the cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility citing laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. State standards that are identified by the State of Alaska in a timely manner and that are more stringent than Federal requirements may be applicable.

Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility citing laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site (relevant) that their use is well-suited (appropriate) to the particular site. Only those State standards that are identified in a timely manner and are more stringent than Federal requirements may be relevant and appropriate.

For the DS, only chemical- and action-specific ARARs were identified; these are explained in Table 2-3.

Table 2-3
ARARs

ARARs	Citation or Reference	Requirements	Applicability	Comments and Analysis/ Rationale for Decision
Chemical-Specific				
TSCA	40 CFR § 761.61 (a)(4)(i)(A)	The cleanup level of non-liquid PCB remediation in soil, sediments, dredged materials, muds, PCB sewage sludge, and industrial sludge in high occupancy areas is ≤ 1 ppm without further conditions.	Applicable	Establishes a cleanup level for high occupancy areas of 1 ppm.
Location-Specific				
No location-specific ARARs were identified for the DS area.				
Action-Specific				
Oil and Hazardous Substances Pollution Control Regulations Alaska	18 Alaska AAC 75.340 (j)(2) (ADEC 2023)	Soil cleanup levels based on human exposure from ingestion of or dermal contact with soil, or inhalation of particulates or a volatile hazardous substance, must be attained in the surface soil and the subsurface soil to a depth of 15 feet, unless an institutional control or site conditions prevent human exposure to the subsurface soil.	Applicable	Promulgated and substantive, specifies a control standard and is applicable to the remedial action onsite.

Note:
For definitions, refer to the Acronyms and Abbreviations section.

2.9 REMEDIAL ACTION OBJECTIVES

RAOs provide a general description of what a CERCLA response action will accomplish. These goals typically serve as the design basis for the remedial alternatives. The following RAO was developed for the DS based on regulatory guidance, the findings of previous investigations, and the results of the HHRA (USACE 2019b):

- Prevent residents and construction workers from having direct contact with and ingestion or inhalation of surface and subsurface soil containing PCBs (Aroclor 1254) above 1 ppm.

The cleanup level selected for the DS is a chemical-specific ARAR for PCBs, based on the TSCA criterion (1 ppm). Achievement of this RAO will be necessary to allow for UU/UE, including potential future residential development without implementing protective measures, restricting access, or maintaining site remedies. The Selected Remedy will achieve the RAO upon remedy completion, at which point excavation and disposal will have been conducted. Once the contaminated soil has been removed, unacceptable risk to human health and the environment will have been eliminated, and the DS will meet the criteria for UU/UE.

2.10 DESCRIPTION OF ALTERNATIVES

A set of remedial alternatives was developed and evaluated for the DS. Alternatives were retained for further analysis based on their overall protection of human health and the environment and compliance with ARARs (Section 2.11.2). The remedial alternatives were evaluated in the FS (USACE 2022a) and presented in the Proposed Plan (USACE 2024).

In accordance with CERCLA guidance, a range of alternatives was developed to include the No Action alternative, an alternative that focuses on reducing risk by preventing exposure, and (to the extent practicable) alternatives that focus on treatment of contaminated media. The number of feasible alternatives considered was generally limited due to the remote location of Sanak Island.

To develop a remedial strategy for PCB-contaminated soil at DS01 and DS04, a conceptual understanding of the volume and location of the contamination was needed. Figures A-4 and A-5 present the extent of contamination at the site. Approximately 605 cy (in situ) and 45 cy (in situ) of PCB-contaminated soil are present at DS01 and DS04, respectively (Figures A-6 and A-7).

2.10.1 Alternative 1: No Action

Under the No Action alternative, no activities would be undertaken to treat or remove the PCB contamination from soil at the DS or to prevent site user exposure to the contamination. PCBs are persistent in the environment and do not readily degrade. If left to naturally attenuate, PCB concentrations are not expected to decrease at a rate that would allow the RAO to be achieved in a reasonable timeframe. No land use controls (LUCs) would be placed, and no monitoring would be conducted. The potential for unacceptable human or environmental exposure to site contaminants would remain and no precautions would be taken to prevent contact with contaminated soil. Alternative 1 does not achieve the soil-related RAO because it does not ensure protection of human health and the environment. The No Action alternative is required to be evaluated under the NCP as a baseline condition.

No capital, annual O&M, or periodic costs are associated with No Action, and the duration to implement this alternative is 0 days. No five-year reviews would be implemented.

2.10.2 Alternative 2: Ex Situ Onsite Thermal Treatment

Under Alternative 2, the PCB-contaminated soil would be excavated and treated ex situ by thermal treatment. It is assumed 650 cy of PCB-contaminated soil would be treated by thermal treatment. Following soil excavation, confirmation samples would be collected from the base and sidewalls of the excavation to ensure that all contaminated soil had been removed for onsite treatment. During excavation and pending sample results excavation areas would remain open. Active stormwater management during excavation would be required because open excavations could present safety hazards to site workers and be prone to accumulating precipitation. Residual waste streams would need to be managed and disposed of in accordance with applicable regulations. Following treatment and confirmation that the RAO has been met, treated soils would be returned to the excavated areas. Special considerations may be needed to quickly reestablish surface vegetation as much of the organic matter needed to support surface growth will be destroyed during the treatment process. This alternative would not require disposal of any soil, nor would it be necessary to remove PCB-contaminated soil from the site. This alternative considers the application of two commercially available ex situ thermal treatment technologies: (1) Vapor Energy Generator, and (2) Static Pile Thermal Desorption. Specific attributes and features of each treatment approach are described in the sections that follow.

Alternative 2a: Thermal Desorption (Semi-Continuous Treatment)

Alternative 2a consists of onsite treatment of excavated soil using a semi-continuous thermal treatment technology. The treatment equipment is self-contained, mobile, and modular in nature to facilitate field deployment and operation. Soil to be treated by the process is fed by belt conveyor where it is heated in a sealed desorption chamber using superheated steam. Under elevated temperature, contaminants are desorbed, captured, and conveyed from the desorption chamber to the vapor energy generator where the gas stream is mixed with propane and combusted to produce superheated steam, which is returned to the desorption chamber for heating purposes. Soil is advanced through the heated desorption chamber using a screw auger allowing for control of residence time within the treatment equipment.

The semi-continuous thermal treatment technology employs a closed loop vapor circulation approach, which eliminates vapor emissions by combining chemical reduction, thermal oxidation, carbon dioxide reduction, acid gas and scrubbing operations (Endpoint 2018). This feature allows the semi-continuous thermal treatment technology to produce its own fuel by transforming the contaminants removed from the soil into a renewable fuel source. Treated soil exiting the desorption chamber is subsequently collected and conveyed by belt to a storage stockpile where it is allowed to cool prior to being used to backfill the excavation area.

This technology utilizes many types of specialized equipment. Capacity is defined by available equipment versus the volume of soil to be treated.

No LUCs or five-year reviews would be necessary, as all contamination above the cleanup level would be treated and the RAO would be attained at project completion. This alternative would have a capital cost of $2.07 million (M) with no annual O&M or periodic costs. The remedy duration is approximately 30 days with 2 weeks of equipment standby time.

Alternative 2b: Thermal Desorption (Static Pile Treatment)

Thermal desorption is a pile-based treatment approach that applies conventional in situ thermal remediation equipment to heat a soil stockpile created on the ground surface. Static pile relies on thermal conduction heating and concurrent vapor recovery. As the soil is heated, PCBs are vaporized and/or destroyed by evaporation, boiling of water and attendant steam distillation, volatilization of the contaminants, oxidation, and pyrolysis. Heat is generated by electrically powered elements, which are horizontally embedded in the soil stockpile. Placement of horizontal vapor extractors within the pile allow for recovery of contaminants liberated and vaporized by heating. Vapor extracted during heating operations is captured and treated using vapor-phase granular activated carbon (GAC). Liquid condensate produced during heating would be treated by GAC, collected, and disposed of in accordance with applicable requirements. Treatment piles are typically insulated and covered to prevent water entry. Heating progress is continuously monitored by thermocouples embedded in the soil pile to ensure target temperatures are achieved; similarly, the composition and chemical content in extracted vapor is also typically monitored to track treatment performance. Pile-based thermal treatment strategies are commercially available through multiple vendors.

LUCs or five-year reviews would not be necessary, as all contamination above the cleanup level would be treated and the RAO would be attained at project completion. The estimated cost for this alternative would be $3.23M with no annual O&M costs or periodic costs. A duration of approximately 90 days with 2 weeks of equipment standby time is estimated.

2.10.3 Alternative 3: Removal and Offsite Disposal

This alternative consists of excavating, staging, manifesting, and transporting soil contaminated with PCBs above the RAO for offsite disposal. It is assumed 650 cy of PCB-contaminated soil would be removed.

Soil would be excavated and staged onsite prior to offsite transport to the contiguous U.S. Staging piles would be segregated based on PCB concentrations. Soil with PCB concentrations greater than or equal to the TSCA regulatory threshold of 50 mg/kg would be shipped to a permitted Subtitle C landfill in the contiguous U.S. Soil with PCB concentrations less than 50 mg/kg but greater than the RAO of 1 mg/kg would be shipped to a permitted, approved Subtitle D landfill in the contiguous U.S.

Confirmation sampling would be required from excavation limits post-removal to ensure PCBs were no longer present above RAOs. Once confirmation is received that all contaminated soil has been removed, the excavation would be backfilled with clean fill. The duration for this alternative would be 10 days for excavation and removal. Two weeks of equipment standby time is incorporated in this alternative to accommodate potential delays from analytical sampling turnaround time or from weather delays. The cost for this alternative would be $1.73M with no annual O&M costs or periodic costs.

2.11 SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES

In accordance with the NCP, the alternatives were evaluated using the nine criteria described in CERCLA §121(a) and (b) and 40 CFR § 300.430 (e)(9)(i) as cited in NCP §300.430(f)(5)(i). These criteria are classified as threshold criteria, balancing criteria, and modifying criteria.

Threshold criteria are standards that an alternative must meet to be eligible for selection as a remedial action. There is little flexibility in meeting the threshold criteria—the alternative must meet them, or it is unacceptable. Two of the nine criteria are considered threshold criteria:

- Overall protection of human health and the environment
- Compliance with, or an applicable waiver, of ARARs

Balancing criteria weigh the tradeoffs between alternatives. These criteria represent the standards upon which the detailed evaluation and comparative analysis of alternatives are based. In general, a high rating on one balancing criterion can offset a low rating on another balancing criterion. Five of the nine criteria are considered balancing criteria:

- Long-term effectiveness and permanence
- Reduction of toxicity, mobility, and volume through treatment
- Short-term effectiveness
- Implementability
- Cost

Modifying criteria indicate whether technical and administrative issues have been met by the alternative and address the public concerns in the decision-making process. Two of the nine criteria are considered modifying criteria:

- Community acceptance
- State/support agency acceptance

This section summarizes how well each alternative satisfies each evaluation criterion and indicates how each alternative compares to the other alternatives under consideration. Table 2-4 summarizes how well each alternative satisfies the evaluation criteria and provides a basis for comparison to the other alternatives under consideration.

Table 2-4
Screening of Alternatives for Polychlorinated Biphenyl-Contaminated Soil at DS01 and DS04

Alternative	Threshold Criteria		Primary Balancing Criteria				
	Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence	Reduction of Toxicity, Mobility, or Volume through Treatment	Short-Term Effectiveness	Implementability	Cost (millions)
Alternative 1: No Action	Fail	Fail	None	None	None	Partial*	$0
Alternative 2a: Thermal Desorption – Semi-Continuous Treatment	Pass	Pass	Very High	High	Moderate	Low	$2.07M
Alternative 2b: Thermal Desorption – Static Pile Treatment	Pass	Pass	Very High	High	Low	Moderate	$3.23M
Alternative 3: Removal and Offsite Disposal	Pass	Pass	Very High	None	Low	Moderate	$1.73M

Notes:
$ = dollar
M = million
Ratings are based on level of desirability/conformance: "Very High" = most desirable/conforming and "None" or "Very Low" = least desirable/conforming.
This table presents Threshold and Balancing Criteria. Reference Sections 2.11.8 and 2.11.9 for Modifying Criteria.
*Partial implementability indicates that the remedy is technically but not administratively possible.
Costs provided are from the 2022 FS (USACE 2022a).
For definitions, refer to the Acronyms and Abbreviations section.

2.11.1 Overall Protection of Human Health and the Environment

Overall protection of human health and the environment addresses whether each alternative provides adequate protection and describes how risks posed through each exposure pathway are eliminated, reduced, or controlled through treatment, engineering controls, and/or LUCs.

Alternative 1 does not achieve the RAO and is not protective of human health and the environment. Alternatives 2a and 2b achieve the RAO and protect human health and the environment by providing onsite treatment of PCB-contaminated soil. Alternative 3 protects human health and the environment by removing PCB-contaminated soil and disposing of it to a controlled environment.

2.11.2 Compliance with Applicable or Relevant and Appropriate Requirements

Under CERCLA §121(d) and NCP §300.430(f)(1)(ii)(B), remedial actions at CERCLA sites are required to at least attain ARARs unless waived under CERCLA §121(d)(4). The ARARs for the DS are presented in Section 2.8. Compliance With ARARs addresses whether a remedy will meet all the ARARs of Federal and State environmental statutes or provides a basis for invoking a waiver.

Alternative 1 does not comply with ARARs. PCB contamination is not expected to naturally attenuate such that concentrations would remain above the TSCA cleanup level indefinitely. The RAO will not be met, or not within a reasonable timeframe. Alternatives 2a, 2b, and 3 can be implemented in accordance with ARARs. Confirmation sampling is a component of all three remedies to ensure the RAO is met at remedy completion.

2.11.3 Long-Term Effectiveness and Permanence

Long-term effectiveness and permanence refers to expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment after RAOs have been met. This criterion includes the consideration of residual risk that will remain onsite following remediation and the adequacy and reliability of controls.

Alternative 1 would not be effective, as contamination would remain onsite, and no measures to treat, remove, or prevent exposures would be undertaken. Alternatives 2a, 2b, and 3 are all effective methods of addressing PCB-contaminated soils permanently. No PCB contamination above the cleanup level would remain onsite at remedy completion.

2.11.4 Reduction of Toxicity, Mobility, or Volume Through Treatment

Reduction of toxicity, mobility, or volume through treatment refers to the anticipated performance of the treatment technologies that may be included as part of a remedy.

Alternative 1 (No Action) proposes no measures to treat or otherwise address PCB-contaminated soil, and therefore does not satisfy this criterion. Alternatives 2a and 2b include onsite treatment options to reduce the concentration to below the cleanup level, resulting in a reduction of toxicity, volume, and mobility. The volume of soil remaining above the cleanup level would effectively be reduced to none. Both options satisfy the CERCLA statutory preference for treatment. Alternative 3 does not satisfy this preference; it does not result in a reduction in toxicity, volume or mobility. Contaminated soils would be relocated to a controlled environment (for example, landfill).

2.11.5 Short-Term Effectiveness

Short-term effectiveness addresses the period needed to implement the remedy and any adverse impacts that may be posed to workers, the community, or the environment during construction, and operation of the remedy until cleanup levels are achieved.

Alternative 1 includes no short-term effectiveness or risks to the community or workers associated with a remedial action as no remedial activities would be performed. There are no environmental impacts associated with the implementation of Alternative 1. The RAO is not expected to be achieved under this alternative as the characteristics of the contamination and site conditions indicate that natural attenuation would not reduce the soil contamination.

Alternative 3 would take only 10 days to complete compared to 30 days for Alternative 2a treatment, and 90 days for Alternative 2b treatment. Treatment duration accounts for the overall difference between the two treatment alternatives. The duration for Alternative 3 is much shorter than the other alternatives; however, it has exposure risks associated with multiple phases of the project including excavation, waste characterization, staging, and transportation over water by barge and through populated areas by train to its final destination at an appropriately permitted facility. Exposure risks during storage and along the transportation route would need to be managed.

For Alternatives 2a, 2b, and 3, there is increased risk to exposure of PCB contamination during excavation and handling of soil. To reduce this risk, development of a health and safety plan and use of protective equipment is necessary for site workers and users. Additionally, open excavations can accumulate precipitation depending on climate conditions. However, if both the excavation limits and the excavated soils meet the cleanup goals, then the excavation can be backfilled in a short timeframe. For Alternatives 2a and 2b, post-treatment soil will be elevated in temperature and present a thermal hazard to site personnel; treated soil will be dry, friable, and easily displaced by wind or precipitation, presenting additional hazards and active management, covers, or means to minimize transport of dust.

2.11.6 Implementability

Implementability addresses the technical and administrative feasibility of a remedy from design through construction and operation. Factors such as availability of services and materials, administrative feasibility, and coordination with other governmental entities are also considered.

Alternative 1 is very easy to implement from a technical standpoint, but administrative approval is unlikely since the threshold criteria are not satisfied. Alternatives 2a and 2b provide low and moderate implementability in comparison, due to the complexities in successfully mobilizing, constructing, operating, and maintaining the technologies. Availability of equipment and vendors inclined to mobilize to Sanak Island are limited, and the likelihood that technical problems attributed to site conditions or treatment equipment downtime will lead to schedule delays is very plausible. Alternative 2a requires many types of equipment, which are subject to mechanical failures, to convey, treat, and discharge soil; maintaining uptime during remedial action could be strongly affected by equipment operability thus impacting the overall treatment schedule. Comparatively, the mechanical complexity for operation of Alternative 2b is significantly lower than Alternative 2a; the level of operations oversight and maintenance of equipment required for Alternative 2a is much greater than Alternative 2b.

Finally, commercial interest for continuous or semi-continuous soil treatment of site soil under Alternative 2a is expected to be low given the relatively small volume of soil to be treated and potential limitations in the availability of equipment scaled to match soil treatment requirements. Conversely, there are multiple commercial interests in the static pile treatment remediation services. In addition, Alternative 2b can be readily scaled to match the site-specific treatment requirements. Achieving similar treatment scale flexibility with continuous or semi-continuous treatment (Alternative 2a) is considerably more difficult as the volume capacity/throughput is defined by available equipment, not the total volume of soil that must be treated.

Alternative 3 has a low likelihood of technical problems, and necessary resources and specialists are available. The implementability is considered moderate due to a complex transportation chain for waste disposal.

2.11.7 Relative Cost

Costs for each alternative as presented in the FS are summarized in Table 2-5. There is no cost for Alternative 1. Alternatives 2a and 2b are both more expensive than Alternative 3. Alternative 2b is significantly more expensive than both 2a and 3.

Table 2-5
DS01 and DS04 Alternatives Cost Summary

Alternative	Capital	Operation and Maintenance	Total Present Worth Cost[a]
1: No Action	$0	$0	$0
2a: Thermal Desorption via Semi-Continuous Treatment	$2,068,500	$0	$2,068,500
2b: Thermal Desorption via Static Pile Treatment	$3,229,100	$0	$3,229,100
3: Removal and Offsite Disposal	$1,726,100	$0	$1,726,100

Notes:

[a] Costs estimated with +50% / -30% accuracy based on subcontractor quotes, construction drawings, and engineering estimates. A complete breakdown of costs is available as Appendix C to the FS (USACE 2022a).
For definitions, refer to the Acronyms and Abbreviations section.

2.11.8 State/Support Agency Acceptance

ADEC would not accept the No Action alternative because it is not protective of human health and the environment and it does not comply with the ARARs. The ADEC agrees with the USACE selected Alternative 3: Removal and Offsite Disposal as the preferred remedial alternative presented in the Sanak Island AWS Station Disposal Site Proposed Plan (USACE 2024).

2.11.9 Community Acceptance

There has been no opposition to USACE selection of Alternative 3: Removal and Offsite Disposal as the preferred remedial alternative presented in the Sanak Island AWS Station Disposal Site Proposed Plan (USACE 2024). During the planning process, the PHT has expressed a preference for Removal and Offsite Disposal over treatment options. The concern is that treated soil could be dry, not revegetate well, and be subject to dispersion by wind and rain. A summary of the public comment process is provided in PART 3.

2.12 PRINCIPAL THREAT ISSUES

The NCP establishes an expectation to use treatment to address principal threat wastes posed by a site whenever practicable (NCP §300.430(a)(1)(iii)(A)). The principal threat concept refers to source materials considered highly toxic or highly mobile that generally cannot be reliably controlled in place or those that present a significant risk to human health or the environment should exposure occur. A source material is material that contains hazardous substances, pollutants, or contaminants that acts as a reservoir for migration of contamination to groundwater, surface water, or air, or that acts as a source for direct exposure.

PCBs at DS01 and DS04 are not considered principal threat wastes because, although PCBs are toxic and concentrations are above TSCA standards at some locations, PCBs are primarily located in the subsurface, attach strongly to soil particles, and are relatively immobile in organic soils.

2.13 SELECTED REMEDY

The remedy selected in this ROD was evaluated against the other alternatives in the FS (USACE 2022a) and presented for public comment in the Proposed Plan (USACE 2024). The Selected Remedy for the DS is Alternative 3: Removal and Offsite Disposal.

2.13.1 Summary of the Rationale for the Selected Remedy

Alternative 3: Removal and Offsite Disposal was chosen based upon its overall ability to protect human health and the environment, compliance with ARARs, ability to achieve RAOs, and State and community acceptance. This remedy provides the best balance of tradeoffs with respect the balancing criteria and supports the potential future residential use of Sanak Island.

It is anticipated that successful implementation of Alternative 3 will achieve a protective and legally compliant remedy for the DS. As the lead execution agency, USACE is responsible for implementing, maintaining, and monitoring the response action identified herein for the duration of the remedy selected in this ROD. USACE will exercise this responsibility in accordance with CERCLA and the NCP.

2.13.2 Description of the Selected Remedy

The Selected Remedy is Alternative 3: Removal and Offsite Disposal. Under Alternative 3, PCB-contaminated soil with concentrations above 1 ppm (approximately 650 cy) will be excavated and disposed of at an offsite permitted landfill in accordance with Federal and State regulations. PCB-contaminated soil at concentrations greater than 50 mg/kg would be segregated, handled, and disposed of in accordance with TSCA (40 CFR § 761.61(a)(5)(i)(B)(2)(iii)). All necessary equipment and heavy machinery would need to be barged out to the site. Following soil excavation, confirmation sampling would be performed to ensure the RAO is met. No LUCs or five-year reviews would be necessary, as the RAO would be attained at project completion.

Offsite disposal is an effective remedial action for PCB-contaminated soil that is commonly used for remote Alaska sites, where few technically feasible treatment options exist. If implemented, this alternative would attain the RAO of preventing resident and construction worker direct contact with and ingestion or inhalation of surface and subsurface soil containing PCBs (Aroclor 1254) by removing PCB-contaminated soil above 1 ppm. Removal of soil with concentrations of PCBs above 1 ppm will not result in hazardous substances, pollutants, or contaminants remaining on site above levels that allow for UU/UE.

2.13.3 Summary of Estimated Remedial Costs

The estimated Cost-to-Complete (CTC) for the remedial action construction phase of the Selected Remedy is presented in Table 2-6. All costs presented are capital costs. There are no O&M costs associated with the Selected Remedy. It is anticipated that the RAO will be achieved within one field season of implementation. Costs are based on the best available information regarding the anticipated scope of the Selected Remedy. Changes in the cost elements are likely to occur as new information and data are collected during remedial design.

Table 2-6
Selected Remedy Costs

Selected Remedy	Description	2022 Feasibility Study Cost[a]	Cost-to-Complete (CTC)[b]	Notes
Alternative 3 Removal and Offsite Disposal	Remedial Action: Excavation *(planning [e.g., work plan development]; mobilization; soil removal; waste management and offsite disposal; well decommissioning; demobilization; contract management, coordination and closeout)*	$1,726,100	$2,117,061.65	The CTC cost is equivalent to the FS cost escalated to Fiscal Year (FY) 25 dollars, plus 10 % contingency.
	Pre-Remedial Action PCB Sampling	Not Applicable	$863,430.10	This cost was not included in the FS. The cost would be the same for each of the alternatives.
	Mobile Laboratory	Not Applicable	$286,089.71	This cost for was not included in the FS. The cost would be a proportional increase for each alternative based on field execution time. The selected alternative has the shortest field time.
	Archaeological Support	Not Applicable	$90,909.81	This cost was not included in the FS. The cost would be a proportional increase for each alternative based on field execution time. The selected alternative has the shortest field time.
	Groundwater Well Decommissioning	Not Applicable	$71,994.57	This cost for decommissioning onsite wells was not included in the FS. This cost would be the same for each of the alternatives.
	Supervision and Administration (S&A)	Not Applicable	$277,788.35	This cost was not included in the FS. Its inclusion does not affect the evaluation of alternatives. It is a percentage of the remedial action contract and, as such, would be a proportional increase in cost for any alternative evaluated.
	In-House Costs (i.e., Project Management; document review; site visits; and Stakeholder Coordination)	Not Applicable	$626,139.07	This cost was not included in the FS. It would be the same for any alternative evaluated.
	Site Closeout Documentation & Project Closure	Not Applicable	$90,797.26	This cost was not included in the FS. It would be the same for any alternative evaluated.
	Total Cost	**$1,726,100**	**$4,424,200[b]**	

Notes:

[a] These costs were taken from the FS and are expressed in 2022 dollars. Remedial action planning, excavation, reporting, management, and contract closeout costs were incorporated into one line item. A complete breakdown of costs is available as Appendix C to the FS (USACE 2022a).
[b] These costs were taken from the FY 2025 CTC. All costs are in FY25 dollars and include a 10% contingency. The total cost is rounded per CTC handbook guidance.
For definitions, refer to the Acronyms and Abbreviations section.

2.13.4 Expected Outcomes of Selected Remedies

The Selected Remedy is anticipated to achieve UU/UE once RAOs have been met. This is expected to occur within one field season of remedy implementation (1 year), at which point site conditions will support residential land use with no restrictions on groundwater use. The cleanup level selected for the DS is a chemical-specific ARAR for PCBs of 1 ppm (TSCA [40 CFR § 761.61]). Soil with PCBs above 1 ppm will be removed in accordance with the action-specific ARAR 18 AAC 75.340 (j)(2). Once contaminated soil has been removed to the cleanup level, unacceptable risk to human health and the environment will have been eliminated at the DS such that the land will be available to the community to fulfill development plans (for example, residential, gardening, cattle ranching, farming) without implementing protective measures, restricting access, or maintaining site remedies.

2.14 STATUTORY DETERMINATIONS

Under CERCLA § 121 as required by NCP § 300.430(f)(5)(ii), the lead agency must select a remedy that is protective of human health and the environment, complies with ARARs, is cost-effective, and uses permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In addition, five-year reviews are required if, after the remedy, hazardous substances will remain in place at concentrations greater than levels allowing for UU/UE. CERCLA includes (1) a statutory preference for remedies that employ a treatment that permanently and significantly reduces the volume, toxicity, or mobility of hazardous wastes as a principal element; and (2) a bias against offsite disposal of untreated wastes. Sections 2.14.1 through 2.14.6 discuss the Selected Remedy for the DS within the context of CERCLA statutory determinations.

2.14.1 Protection of Human Health and the Environment

Alternative 3: Removal and Offsite Disposal will protect human health and the environment by permanently eliminating exposure risks to PCB contamination above the cleanup level of 1 ppm at the DS. There are no short-term threats associated with the Selected Remedy that cannot be readily controlled. Short-term risks to site workers or visitors will be mitigated appropriately through site controls and personal protective equipment (PPE). In addition, no adverse cross-media impacts are expected from the Selected Remedy. The RAO will be achieved upon remedy completion, at which point both excavation and disposal will have been conducted. Once the contaminated soil has been remediated, both the risk to human health and the environment and migration potential will have been eliminated, and the DS will meet the criteria for UU/UE.

2.14.2 Compliance with Applicable or Relevant and Appropriate Requirements

Response actions must comply with both the Federal and State ARARs presented and described in Section 2.8. The Selected Remedy complies with the chemical-specific ARAR, the TSCA (40 CFR § 761.61) by removing PCBs in soil above the cleanup level. It will comply with the action-specific ARAR 18 AAC 75.340(f)(2) by removing PCBs in soil above the cleanup level to a depth of 15 feet bgs. No location-specific ARARs were identified.

2.14.3 Cost Effectiveness

The Selected Remedy, Alternative 3: Removal and Offsite Disposal, is cost-effective and represents a reasonable value for the money to be spent. In making this determination, the following definition from 40 CFR § 300.430(f)(1)(ii)(D) was used: "A remedy shall be cost-effective if its costs are proportional to its overall effectiveness." This determination was accomplished by evaluating the "overall effectiveness" of those alternatives that satisfy the threshold criteria. The estimated present worth cost of the Selected Remedy presented in the FS is $1,726,100. The CTC recorded in the Formerly Used Defense Sites Management Information System is $4,424,200. The overall effectiveness of the Selected Remedy was demonstrated in the comparative analysis of alternatives (Section 2.11) and is summarized in Table 2-7.

Table 2-7
Cost and Effectiveness Summary

Selected Remedy	CTC	Long-Term Effectiveness and Performance	Reduction of Toxicity, Mobility, or Volume Through Treatment	Short-Term Effectiveness
Alternative 3: Removal and Offsite Disposal	$4,424,200	Eliminates exposure to PCBs 1 mg/kg and above through removal and offsite disposal. Highly effective regarding the removal of PCB-contaminated soil.	PCBs are a stable compound that is not likely to reduce in concentration or volume naturally. Alternative 3 does not satisfy this criterion.	During site work, exposure risks would be minimized with proper training and the use of appropriate PPE. Short-term risks to site workers or visitors to the site would be mitigated using site controls such as fencing and signage, which will be used to restrict access.

Note:
For definitions, refer to the Acronyms and Abbreviations section.

2.14.4 Utilization of Permanent Solutions and Alternative Treatment Technologies to the Maximum Extent Practicable

The USACE has determined Alternative 3 (Removal and Offsite Disposal) provides the best balance of tradeoffs among alternatives with respect to the balancing criteria set out in the NCP § 300.430(f)(1)(i)(B) and, as such, it represents the maximum extent to which permanence and treatment can be practically utilized at the DS. This conclusion was based on short-term effectiveness, implementability, and cost. The NCP § 300.430(f)(1)(ii)(E) provides that the balancing shall emphasize the factors of "long-term effectiveness" and "reduction of toxicity, mobility or volume through treatment" and shall consider the preference for treatment and bias against offsite disposal. The modifying criteria should also be considered in making this determination.

Alternatives 2a, 2b, and 3 provide for long-term effectiveness by eliminating (through treatment) or removing contamination, respectively. The permanence of Alternatives 2a, 2b, and 3 is very high and all are considered similar. Removal and Offsite Disposal (Alternative 3) would most quickly achieve the RAO at the site through permanent removal (versus treatment [Alternatives 2a and 2b]) of contaminated material greater than the cleanup level. It maximizes the onsite benefits while balancing tradeoffs with risk and cost. Alternative 3 has the least uncertainty related to implementability and the lowest cost. The cost of Alternative 2a is only slightly higher than Alternative 3 (removal) and it additionally provides for a reduction in toxicity, mobility, or volume through treatment; however, the implementability is more complex and less reliable. Alternative 3 is expected to provide the following:

- Minimal uncertainty during construction and operation through use of a proven technology
- A lower likelihood that technical problems will result in schedule delays (and additional expense) due to the technical simplicity of the remedy
- Low risk of untreated and residual (incompletely treated) contaminated material remaining onsite that would require further remedial action
- No onsite monitoring requirements of potential migration or exposure pathways and/or risks (rapidly achieves UU/UE)
- Reduced ongoing coordination with regulatory agencies and other stakeholders
- Readily available resources and personnel
- No need for further technology development before full-scale implementation (including pilot or bench-scale testing) that could cost additional time and money

Alternative 3 does not meet the statutory preference for treatment and was ranked low in the FS for short-term effectiveness. While its duration onsite is shorter than Alternatives 2a and 2b at 10 days, and PPE and best practices will be used to protect site workers and community members during remedy implementation (similar to the two treatment alternatives), this remedy has additional exposure associated with transportation of contaminated soil over water by barge and through populated areas by train for disposal. However, removal and offsite disposal of contaminated soil has been routinely and successfully implemented for many remote Alaska projects such that best management practices are engrained within the industry.

Alternative 3 has a low likelihood of technical problems, and necessary resources and specialists are readily available. It is therefore favorably considered for implementability despite a complex transportation chain for waste disposal. Alternative 3 is the least costly ($1.73M) compared to Alternatives 2a ($2.07M) and 2b ($3.23M) based on the FS. The short timeframe onsite to achieve the RAO, the implementability, and cost were the most decisive balancing criteria in determining the Selected Remedy. Additionally, the ADEC and the PHT have agreed with the Selected Remedy. The PHT has voiced concerns that treated soil would be dry, subject to dispersion by wind and rain, and difficult to revegetate.

2.14.5 Preference for Treatment as a Principal Element

The NCP establishes the expectation that treatment will be used to address the principal threats posed by a site wherever practicable based on 40 CFR § 300.430(a)(1)(iii)(A), noting that principal threats for which treatment is most likely to be appropriate include liquids, areas contaminated with high concentrations of toxic compounds, and highly mobile materials. The principal threat concept refers to source materials considered highly toxic or highly mobile that generally cannot be reliably controlled in place or those that present a significant risk to human health or the environment should exposure occur. A source material is material that contains hazardous substances, pollutants, or contaminants that acts as a reservoir for migration of contamination to groundwater, surface water, or air, or that acts as a source for direct exposure. PCBs at DS01 and DS04 are not considered principal threat wastes. PCBs are toxic and concentrations in soil at DS01 are above TSCA standards at some locations; however, PCBs are primarily located in the subsurface, attach strongly to soil particles, and are relatively immobile in organic soils.

The Selected Remedy for the DS (Alternative 3) does not employ treatment as a principal element as no reduction of toxicity, mobility, or volume of waste through treatment would occur. This alternative instead eliminates the potential risks to human health and the environment by removing contaminated soil. The cost for Alternative 3 (although comparable to Alternative 2a) was the lowest of all the alternatives. Alternative 2b had the highest cost, and it is nearly double that of Alterative 3. Additionally, under the soil treatment alternatives (2a and 2b) post-treatment soils would be dry, friable, and easily displaced by wind or precipitation, presenting concerns regarding potential complications with revegetation and a need for active management to minimize the transport of dust. There is also uncertainty with the implementation of the treatment technologies, particularly at such a remote site, while the Selected Remedy has very low likelihood of technical problems and necessary resources are readily available. Alternative 2a, which is close in cost to Alternative 3, was determined to have low commercial interest and equipment availability (particularly for the relatively low volume of soil to be treated) and system complexity subject to mechanical failures and potential schedule delays. The short time frame onsite to achieve the RAO, implementability, and cost were the most decisive in determining the Selected Remedy. PCB-contaminated soil disposal under the Selected Remedy does have risks associated with a complex transportation chain; however, there are management practices that have routinely been implemented and managed successfully for many remote Alaska projects.

2.14.6 Five-Year Review Requirements

NCP §300.430(f)(4)(ii) requires a five-year review when a remedial action results in hazardous substances, pollutants, or contaminants remaining onsite above levels that allow for UU/UE. The review evaluates whether a remedy is, or will be, protective. This is a statutory requirement. Five-year reviews are also required by policy when a remedy takes more than 5 years to complete.

Alternative 3 will not result in hazardous substances, pollutants, or contaminants remaining onsite above levels that allow for UU/UE. Five-year reviews will not be required.

2.15 DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan for the Sanak Island AWS Station DS was released for public comment on 15 February 2024. The Proposed Plan Identified Alternative 3: Removal and Offsite Disposal as the preferred alternative to remediate PCB-contaminated soil at the DS. The public comment period for the Proposed Plan began on 22 February 2024 and ended on 25 March 2024. USACE reviewed all written all comments submitted, and the preferred alternative has not changed. No significant changes to the Selected Remedy have been made since the Proposed Plan.

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PART 3: RESPONSIVENESS SUMMARY

This Responsiveness Summary serves to present stakeholder concerns and preferences regarding the remedial alternatives presented in the Proposed Plan (USACE 2024) and explains how concerns were addressed and the preferences factored into the remedy selection process. The Proposed Plan, issued to the public on 15 February 2024, selected Alternative 3: Removal and Offsite Disposal as the preferred alternative to address PCB-contaminated soil at the Sanak Island AWS Station DS. The Selected Remedy was not changed based on stakeholder input. An action-specific ARAR was added, based on comments from the State regulatory agency. A summary of stakeholder engagement activities conducted as part of the CERCLA process, and comments received by USACE regarding the Proposed Plan are provided in the following section.

3.1 STAKEHOLDER ISSUES AND LEAD AGENCY RESPONSES

3.1.1 Regulatory Involvement

The State regulatory agency, ADEC, was invited to comment on the draft Proposed Plan prior to the public comment period. All regulator comments on the Proposed Plan were addressed and integrated into the final version that was provided to the public. 18 AAC 75.340(j)(2) was proposed and included as an action-specific ARAR (Reference Section 2.8). The following were also proposed to USACE as ARARs; however, they were not incorporated because they do not meet the definition of an ARAR:

- ADEC Method Two Cleanup Level(s) in 18 Alaska Administrative Code (AAC) 75.341(c) Table B1;
- ADEC LUC requirements listed in 18 AAC 75.375; and
- The Uniform Environmental Covenants Act

The ADEC Method Two Cleanup Level for PCBs of 1 mg/kg is not more stringent than the Federal requirement in Section 2.8 Table 2-3 of 1 ppm; therefore, it does not apply as an ARAR. 18 AAC 75.375 (ADEC 2023) and the Uniform Environmental Covenants Act (2019 Alaska

Statutes Title 46 Chapter 04 [§ 46.04.300]) are administrative and legal controls that create duties upon the landowner, which USACE is not. They are not a cleanup standard, standard of control, or requirement that specifically addresses a CERCLA hazardous substance, pollutant, or contaminant, remedial action, or remedial location. In addition, LUCs are not a component of any of the remedial alternatives.

The ADEC provided concurrence with the Selected Remedy via email correspondence on October 6, 2023: "DEC agrees with the USACE selected **Alternative 3: Removal and Offsite Disposal** as the preferred remedial alternative in the Sanak Island Army-Aircraft Warning Station Proposed Plan." The ADEC participated in the public meeting discussed in Section 3.1.2. No additional comments were provided.

3.1.2 Public Involvement

The NCP 300.430(f)(3) establishes public participation activities that the lead agency must conduct as part of the CERCLA process; these are discussed in detail in Section 2.3 along with actions conducted by USACE to satisfy public participation requirements. The Proposed Plan was released to the public on 15 February 2024. A public meeting was held on 28 February 2024 in Sand Point, Alaska, during which a USACE representative discussed the plan. The public was provided an opportunity to comment on the Proposed Plan through direct participation at the public meeting (in-person and virtually) and via mail, email or telephone communications. The public comment period on the Proposed Plan ended on 25 March 2024. Comments were received during the public meeting. In addition, during the public comment period and following the public meeting, USACE received one voice mail message. Transcripts of the public meeting and voice mail message are included in Appendix C. USACE has considered all comments received. The proposed alternative was not changed after the public review period. The following sections present public comments received from USACE on the Proposed Plan, along with USACE's responses to those comments.

Summary of Public Concerns

Community members, including PHT and Sanak Corporation, representatives indicated support of USACE's Proposed Plan. Public interest was largely related to implementation of the preferred alternative and the availability of funding to complete the cleanup, with no notable issues being raised and no comments specific to the preferred alternative presented in the Proposed Plan. Each topic raised has been combined into a comment, along with USACE's response.

Public Comments and USACE Responses

1. Comment: How deep will USACE excavate to remove the contamination? It is likely that the contamination carries downward.

   USACE Response: A limited removal action was performed in 2014 at feature DS01. Soil was removed to depths of 2 feet in some areas and 6 feet in others. USACE estimates excavation down to a final depth of 10 feet at feature DS01. At feature DS04, PCBs were detected above 1 ppm (at 1.3 ppm) at 9 to 10 feet; removal of soil to a final depth of 12 feet is estimated. Confirmation samples will be collected to determine when clean limits have been reached. This was a disposal site such that items were likely dumped in the area. PCBs tend to bind to soil without much movement/migration.

2. Comment: How long does it take to get sample results back from the lab?

   USACE Response: The timing of the sample results has not been determined for this project and would depend on multiple factors, including whether a mobile laboratory is used, availability of transportation of the samples to the lab, and how quickly the laboratory can process the samples. The implementation details such as desired laboratory reporting times will be documented in a work plan after the ROD is signed.

3. Comment: Will the mobile lab have PCB results within 48 hours?

USACE Response: A mobile lab can usually provide results in 24 to 48 hours based on previous USACE project sites that used mobile labs. The need for a mobile lab for the DS will be determined after the ROD is signed during the design of the remedy and will be documented in the remedial action work plan.

4. Comment: There was more contamination than anticipated during the prior removal action at DS01 in 2014. Contaminated soil was left in place and covered up. Is there a plan to ensure all the contamination is removed this time?

   USACE Response: USACE intends to remove all the contamination to meet the RAO within one field season. If the remedial action is not fully completed in one field season, USACE would return to complete the remedy.

5. Comment: It is understood that USACE will remove contamination identified within 15 feet of the ground surface because that is where the risk to individuals and contractors is. If there is contamination below 15 feet, will it be removed? There is some coastal erosion on the south side where there is a lot of sand. How does erosion factor in? Would USACE work with the Tribe to determine how much deeper to dig?

   USACE Response: The Selected Remedy facilitates the cleanup of PCB contamination in soil to residential standards to support future development. Removing contaminated soil to 15 feet is a State of Alaska regulatory requirement that lacks a Federal equivalent. USACE is authorized to clean up contamination that poses an unacceptable risk (as defined by EPA) to human health or the environment. Contamination at depths greater than 15 feet typically does not pose an unacceptable risk because there are no known or suspected chronic exposure pathways to contaminants at greater depths. The DS is inland and not located on a cliff or beach, such that erosion is unlikely to result in an exposure.

6. Comment: Composite samples require taking a little bit of soil from a couple of different spots on a wall. So, one spot may not have any PCBs, but another spot may have a

greater concentration of PCBs. How will composite type of sampling determine which spot has contamination? Is it standard practice to use composite sampling along the walls? Discrete sampling seems to be more preferrable if there is a mobile lab available onsite. The last time there was sampling, samples were being shipped out and a boat was going back and forth every day.

USACE Response: Discrete and composite sampling methods are both standard practices to characterize PCB contamination. Follow-on discrete sampling would be needed to determine what locations included in each composite sample contribute to concentrations above 1 ppm. The sampling methodology and need for a mobile lab for the DS will be determined after the ROD is signed during design of the remedy and will be documented in the remedial action work plan.

7. Comment: There was interest in how the gravel placed into the DS01 pit is tested to ensure it is not contaminated since there is contaminated soil remaining, and whether the gravel can be reused to include uncertainties associated with potential composite sampling, whether a Visqueen barrier was placed between the gravel and remaining contamination, and the depth of topsoil covering the gravel.

   USACE Response: The contractor implementing the remedial action will be responsible for segregating material and testing it to ensure it is clean prior to reuse within the excavation area as backfill, or otherwise. Composite samples are often used for this purpose. The sampling strategy will be documented in a remedial action work plan developed after the ROD is signed. If sampling indicates a volume of soil is contaminated, the entire volume would be managed as waste and not reused. Any material determined to be contaminated will be disposed of appropriately (that is, transported offsite to a permitted landfill).

8. Comment: During the previous site work, locals and Tribal members were hired to support the project. Is that something that can be discussed now, or should the PHT talk directly to the contractor?

USACE Response: USACE does not have control over whom a contractor hires.

9. Comment: Is this project completely funded through cleanup? In the long term, with possible government and political changes, there's a chance that funds might not be available.

   USACE Response: FUDS Program funding is dependent on an annual appropriation by Congress, and funds are allocated nationwide to projects based on priority. Funds for the remedial action are not requested until after the ROD is signed. Once the ROD is signed, there is a legal obligation to carry out remediation. Thus, this project will have relatively high priority.

10. Comment: A concern was expressed about how the cattle may be affected by the PCB contamination, from eating grass near the site.

    USACE Response: Once the remedy has been fully implemented, contamination will not remain above 1 ppm with in the top 15 feet of soil. This is far beyond the depth to which animals or plant roots could be exposed to harmful contaminant concentrations.

11. Comment: Sanak Island has undergone erosion and became rutted. Sanak Island needs many improvements, including road and dock improvements. Mooring boats in the harbor require a 500-pound anchor. Although the PHT primarily resides in Sand Point, their original village (Pauloff Harbor Village) is on Sanak Island. The Tribe still actively uses the island for subsistence and cultural identity and is interested in economic and residential development. It is becoming increasingly difficult to access the Pauloff Harbor Village due to the harbor silting up. What had been before an important harbor for commercial fishing and subsistence vessels to hide in during bad weather has become dangerous due to its decreasing depth.

    USACE Response: USACE is only able to consider these issues under the FUDS Program if they pertain to implementation of the cleanup. Projects involving harbor construction and maintenance fall under the authority of the USACE Civil Works Program. The USACE provided instructions to the PHT via email on March 7, 2024, on how to submit a letter of intent under the Tribal Partnership Program (TPP) – Section 203 of the Water Resources Development Act of 2000.

3.2 TECHNICAL AND LEGAL ISSUES

Comment 11 is considered a technical and legal issue because USACE does not have authority to consider or conduct harbor construction or maintenance activities under the FUDS Program if they do not pertain to implementation of the cleanup.

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APPENDIX A
Figures

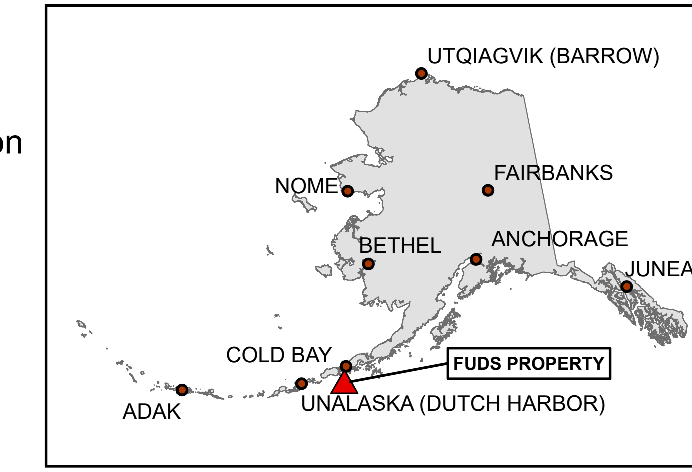
Legend

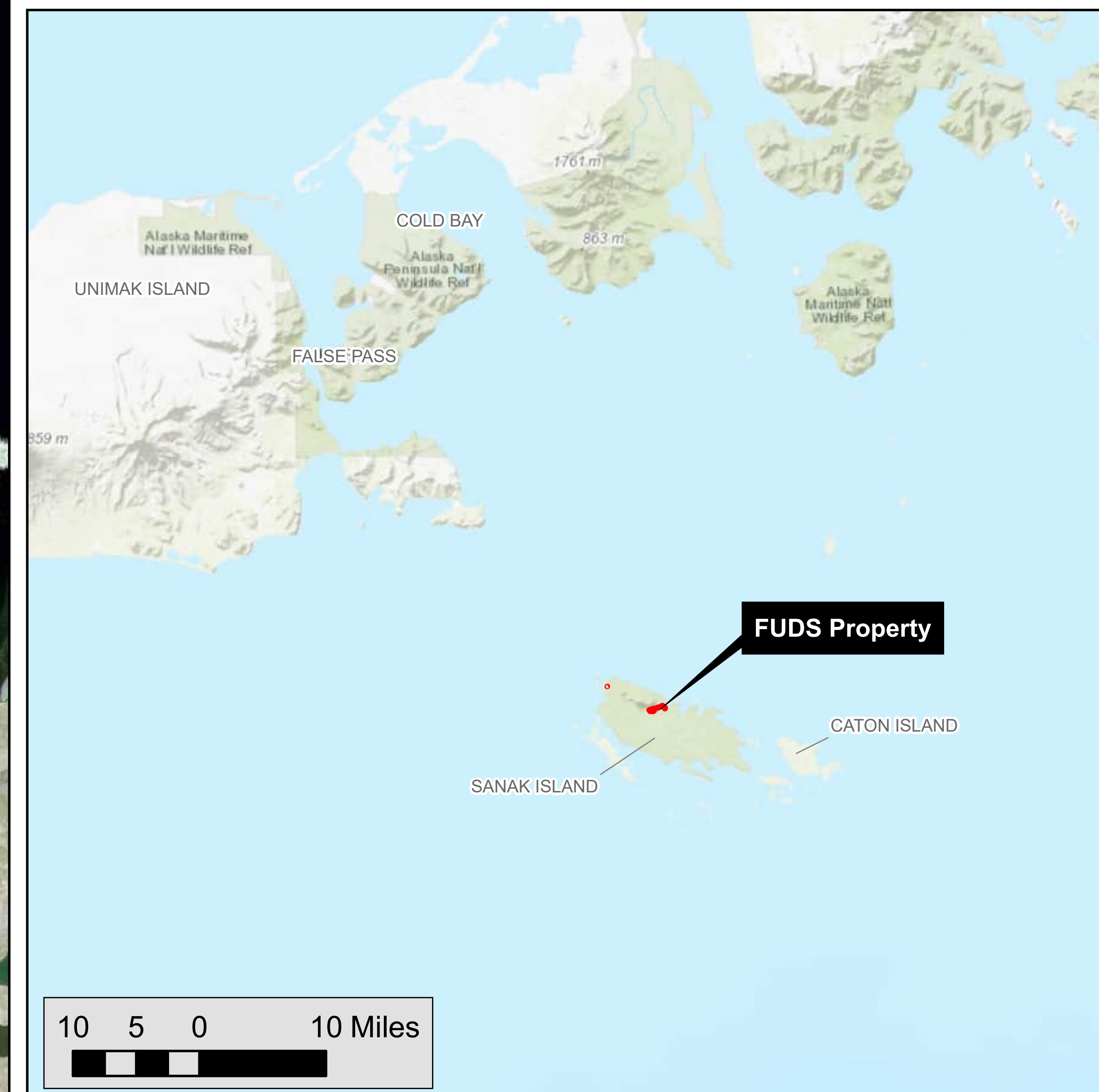
FUDS Property Polygon

CENTROID LOCATION
54.453° NORTH LATITUDE
-162.724° WEST LONGITUDE

AREAS
CALCULATED POLYGON LAND AREA:
85 ACRES
FUDS FDE AREA: N/A

NO AUDITED REAL ESTATE MAP





REFERENCES
1. 1913 March 3 Executive Order (EO) 1733, (Establishment of the Aleutian Island Reservation)
2. 1928 November 23 EO (Revoking of EO 1733 for Sanak Island marking no rights to aquisition by settlement)
3. 2013 Archaeological Investigation Sanak Island (F10AK020402_01.05_0500_p)
4. 2013 Final Site Investigation Sanak Island (F10AK020402_01.09_0500_a)
5. 2019 Remedial Investigation and Limited CON/HTRW Removal Report Addendum (F10AK020402_03.10_0501_a)

PROCESS
1. No Real Estate map or formal DOD RE withdrawal. Polygon based off RI investigations.
2. FUDS boundary represents estimated areas of military activity from 1943-1945.
   These are not areas of formal land acquisition or disposal.

Spatial Reference:
NAD 1983 StatePlane Alaska 7 FIPS 5007 Feet
Projection: Transverse Mercator
Datum: North American 1983

Imagery Reference: DigitalGlobe Maxar acquired June 17, 2023

Drawn By: LMC
Date: 12/13/2024
Reviewed By: BNA
Date: 12/13/2024

N

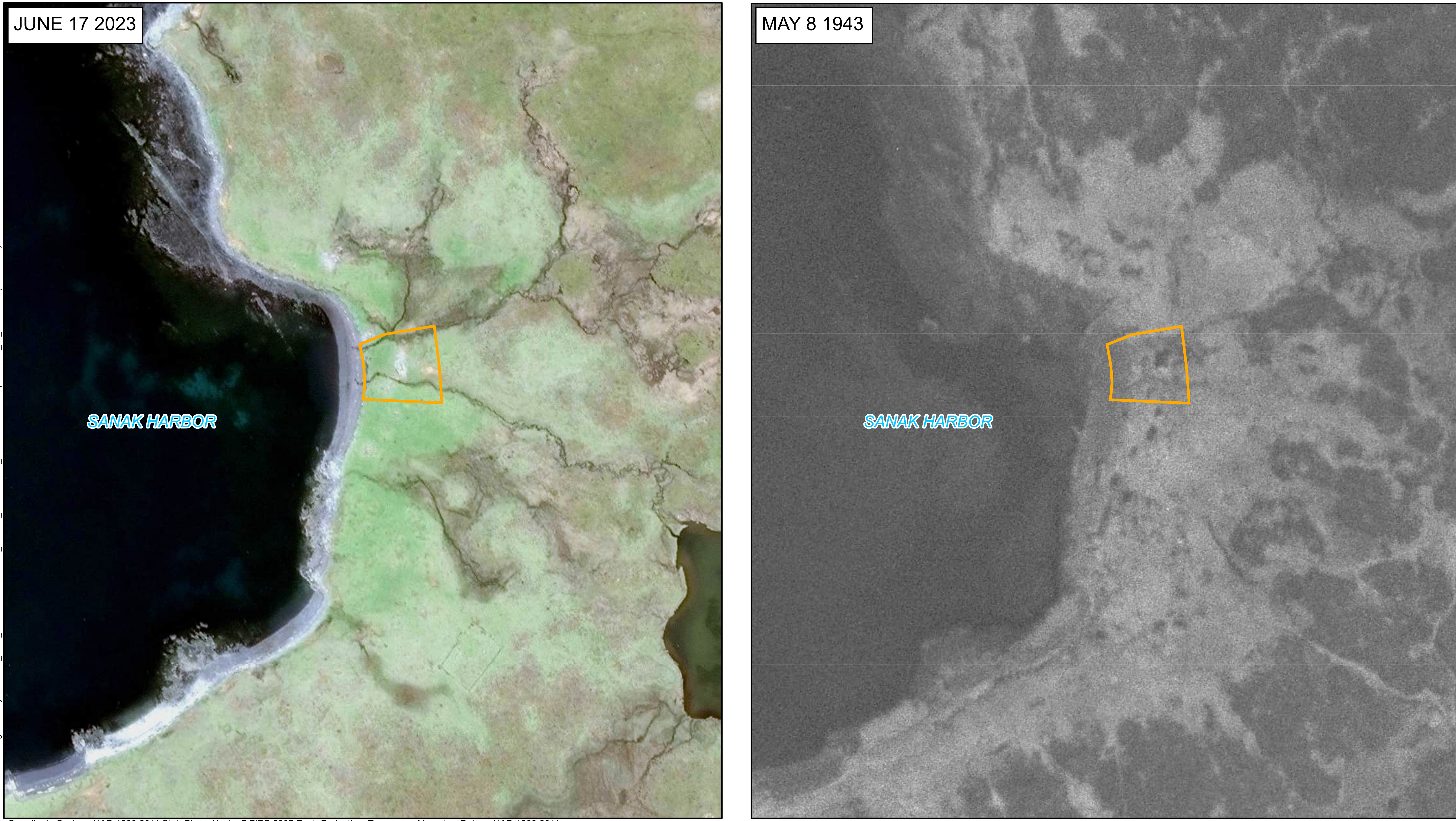
SANAK ISLAND AIRCRAFT WARNING SERVICE (AWS) STATION
F10AK0204

U.S. ARMY CORPS OF ENGINEERS
ALASKA DISTRICT

FUDS PROPERTY BOUNDARY
SANAK ISLAND, ALASKA

FIGURE A-1a

Path: O:\EN\Public\Engineer\Projects\FUDS_NEW_PROPERTIES\SANAK_ISLAND_F10AK0204\0_APRX\SanakAWS.aprx, 1_PropertyBoundary_SanakAWS (12/13/2024)



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Coordinate System: NAD 1983 2011 StatePlane Alaska 7 FIPS 5007 Feet- Projection: Transverse Mercator- Datum: NAD 1983 2011

IMAGERY REFERENCE

1. 1943 aerial imagery from 2013 AECOM Site Investigation (F10AK020402_01.09_0500_a)
2. 2023 Satellite Imagery from DigitalGlobe Maxar

NOTES

1. FUDS boundary represents estimated areas of military activity from 1943-1945. These are not areas of formal land acquisition or disposal.
2. Documents have been found that refers to the completion of VHF Stations on Sanak Island. The presence and locations of these stations has not been verified.
3. Location description of project area: SEC 11, T66S, R91W, SM

Legend

Project 03 - VHF Station Area

0 125 250 500 Feet

PM: BNA

Date: 12/13/2024

Drawn By: LMC

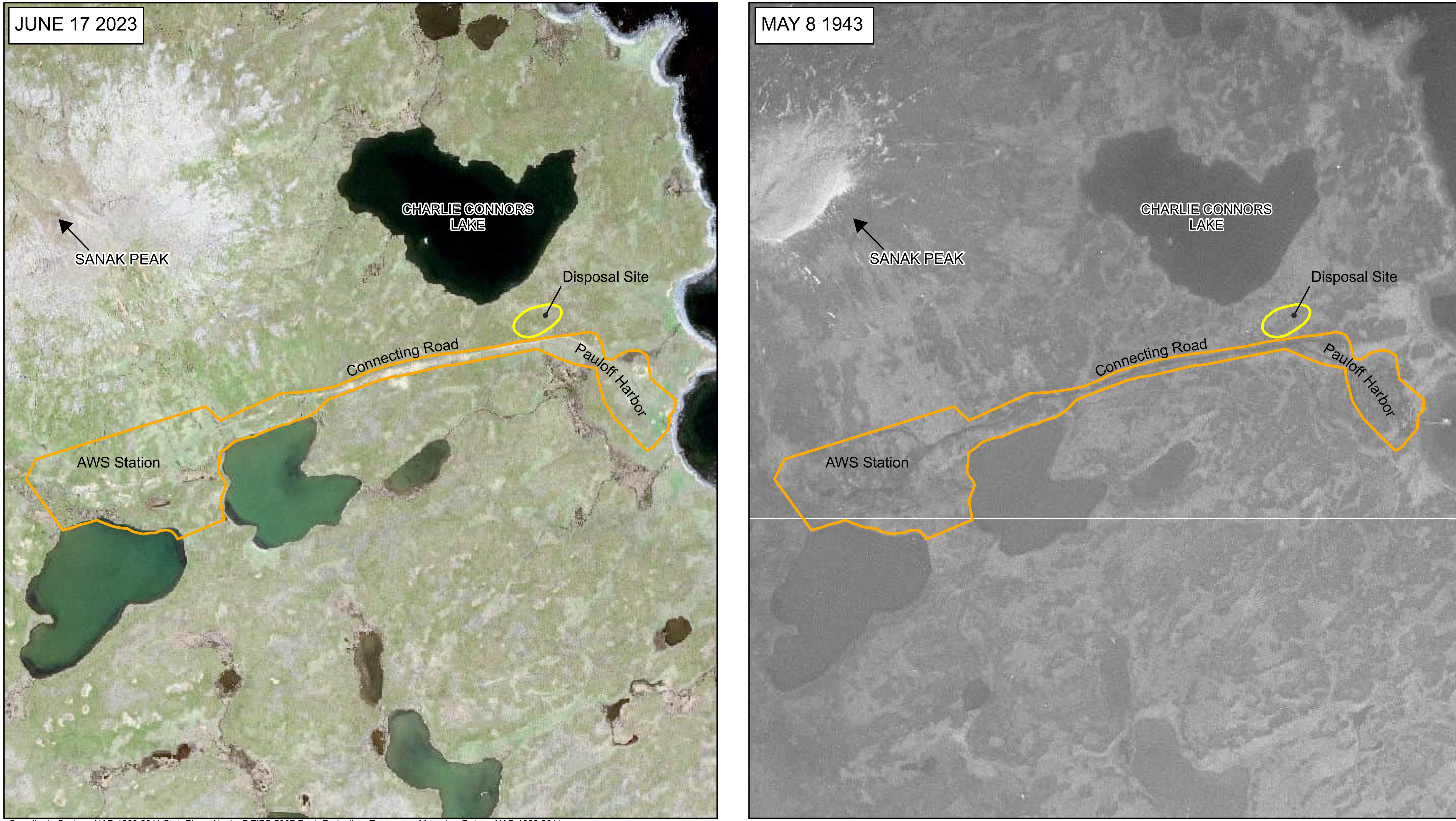
N

U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT

PROJECT 03
AWS and VHF Stations

SANAK ISLAND AWS STATION
F10AK0204
SANAK ISLAND, AK

FIGURE A-1b



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Coordinate System: NAD 1983 2011 StatePlane Alaska 7 FIPS 5007 Feet- Projection: Transverse Mercator- Datum: NAD 1983 2011

IMAGERY REFERENCE
1. 1943 aerial imagery from 2013 AECOM Site Investigation (F10AK020402_01.09_0500_a)
2. 2023 Satellite Imagery from DigitalGlobe Maxar

NOTES
1. FUDS boundary represents estimated areas of military activity from 1943-1945. These are not areas of formal land acquisition or disposal.
2. Location desciption of project areas: SEC 16, T66S, R90W, SM, SEC 20, T66S, R90W, SM, and SEC 21, T66S, R90W, SM

Legend
- Project 02 - Disposal Site
- Project 03 - AWS Station, Connecting Road, and Army Construction Camp at Pauloff Harbor

0 500 1,000 2,000 Feet

PM: BNA
Date: 12/13/2024
Drawn By: LMC

N

PROJECT 02 - Disposal Site
PROJECT 03 - AWS and VHF Stations

U.S. ARMY CORPS OF ENGINEERS ALASKA DISTRICT

SANAK ISLAND AWS STATION
F10AK0204
SANAK ISLAND, AK

FIGURE A-1c

LEGEND

Feature Location

Disposal Site

Background Imagery Source: Esri, Maxar. (2020)

WGS 1984 UTM Zone 3N

0 75 150 300 Feet

1 inch = 150 feet

N

FIGURE A-2

DS01 AND DS04 LOCATIONS

DS01 and DS04 Locations

SANAK AWS Station FUDS DS

Sanak Island, Alaska

\\DC1VS01\GISPROJ\U\USACE\AK_SANAKISLAND\D3436300\MAPFILES\ROD\FIGUREA-2_SITEFEATURES.MXD BEATYCJ 9/17/2024 12:55:13 PM

LEGEND

- ▲ Surface Water Sample Location
- ● Surface Soil Sample Location
- ■ Subsurface Soil Sample Location
- Monitoring Well
- Disposal Site
- Site Feature
- DS01 and DS04 Estimated Extent of Contamination
- DS01 2014 PCB and Lead Excavation Area

Notes:
1. For well details refer to the Remedial Investigation and Limited CON/HTRW Removal Report (USACE 2016).
2. Extent of contaminated soil based on the Remedial Investigation and Limited CON/HTRW Removal Report Addendum (USACE 2019a).
3. Aerial photography provided by Esri Online World Imagery, accessed September 2024.
4. Early historical sample locations SAN-DUMP 6/7/8 are included for completeness. However, these locations should be considered approximate based on poor survey precision and/or documentation.

WGS 1984 UTM Zone 3N

0 40 80 160 Feet

1 inch = 80 feet

N

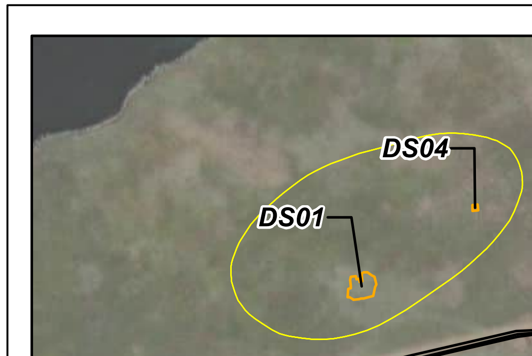
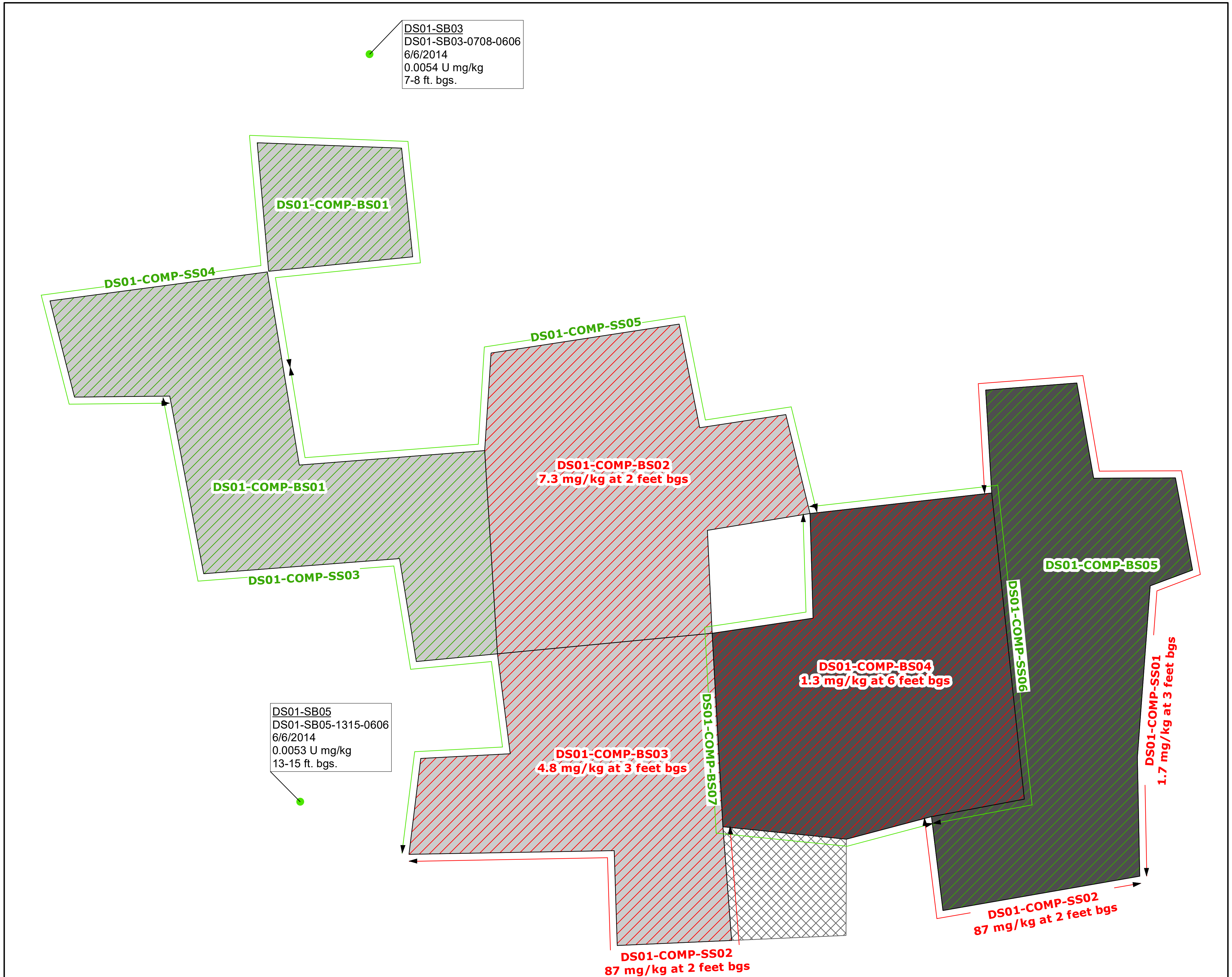


FIGURE A-3
SITE FEATURES AND HISTORICAL SAMPLE LOCATIONS

RECORD OF DECISION
Sanak AWS Station FUDS DS
Sanak Island, Alaska



LEGEND

- Historical Soil Sample with PCBs below cleanup level.

Historical Sidewall Composite Sample (PCB)

- < 1 ppm
- > 1 ppm

Excavation Composite Sample (PCB)

- < 1 ppm
- > 1 ppm

Excavation Depth

- 1 foot (lead)
- 2 feet (PCB)
- 6 feet (PCB)
- Disposal Site
- Estimated Extent of Contamination

Notes:
mg/kg = milligram(s) per kilogram
ppm = part(s) per million
1 mg/kg = 1 ppm
TSCA = Toxic Substances Control Act
Results compared to the TSCA cleanup level of 1 ppm.
Background Imagery Source: Esri, Maxar. (2020)

WGS 1984 UTM Zone 3N
0 2.5 5 10 Feet
1 inch = 5 feet
N

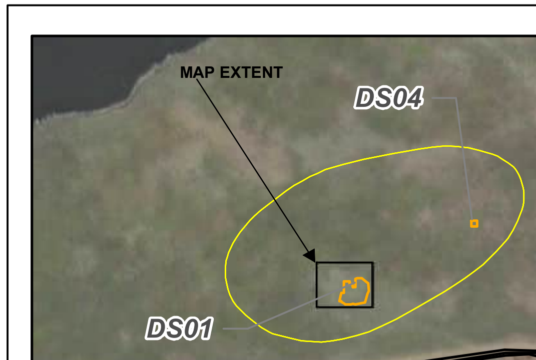


FIGURE A-4
2014 DS01 SAMPLE RESULTS AND EXCAVATION EXTENT
RECORD OF DECISION
Sanak AWS Station FUDS DS
Sanak Island, Alaska

LEGEND

- Historical Sample location with PCBs exceeding cleanup level.
- Historical Soil Sample with PCBs below cleanup level.
- Estimated Extent of Contamination
- Disposal Site

Notes:
ft = feet
mg/kg = milligram(s) per kilogram
ppm = part(s) per million
1 mg/kg = 1 ppm
TSCA = Toxic Substances Control Act
bgs = below ground surface
U = PCBs were not detected. The limit of detection for Aroclor 1254 is shown.
Results compared to the TSCA cleanup level of 1 ppm

Background Imagery Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

WGS 1984 UTM Zone 3N
0 10 20 40 Feet
1 inch = 20 feet
N

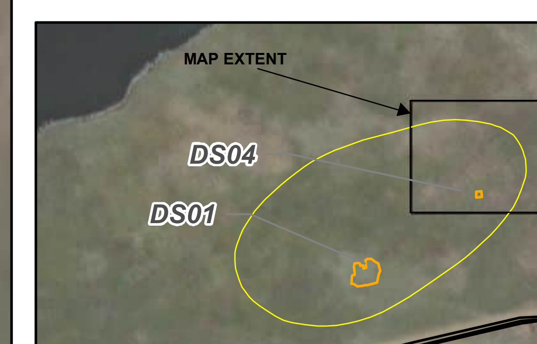
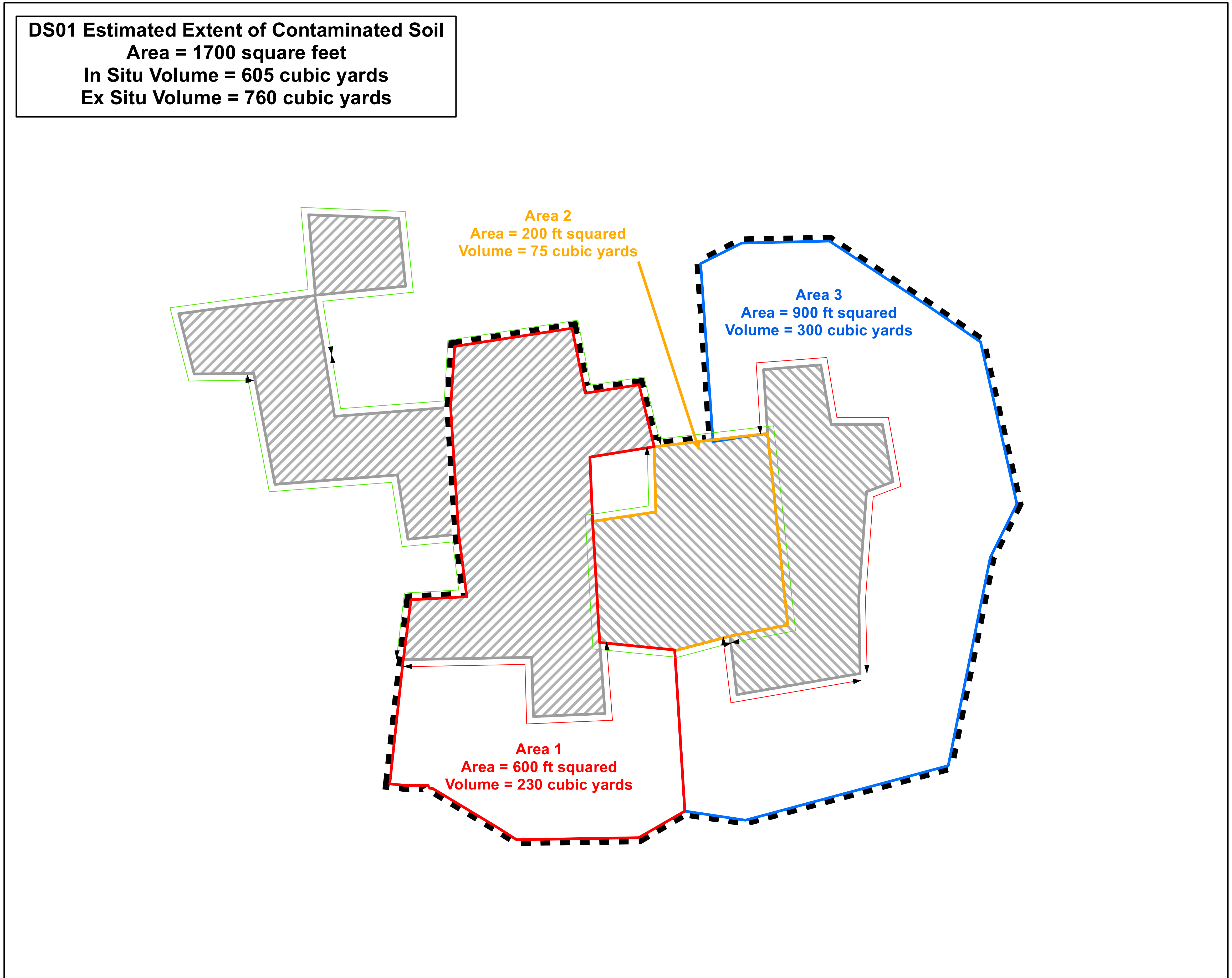


FIGURE A-5
HISTORICAL
SAMPLE RESULTS
RECORD OF DECISION
Sanak AWS Station FUDS DS
Sanak Island, Alaska

\\DC1VS01\GISPROJ\U\USACE\AK_SANAKISLAND\D3436300\MAPFILES\ROD\FIGUREA-5_DS04_HISTSOILPCB.MXD BEATYCJ 12/16/2024 1:13:55 PM



LEGEND

Area 1 Estimated Extent of Contamination to a depth of 10 ft and extended to the south by 10 ft under Selected Remedy. Composite confirmation floor samples collected in 2014 showed PCBs at 7.3 mg/kg and 4.8 mg/kg. A composite sidewall sample on the southern end showed PCBs at 87 mg/kg.

Area 2 Estimated Extent of Contamination to a depth of 10 ft under Selected Remedy. A composite confirmation floor sample in 2014 showed PCBs at 1.3 mg/kg.

Area 3 Estimated Extent of Contamination to a depth of 10 ft and out 10 ft on the northern, eastern and southern sides under Selected Remedy. Composite northern, eastern and southern confirmation sidewall samples in 2014 showed PCBs at 1.7 mg/kg and 87 mg/kg.

Estimated Extent of PCB-Contaminated Soil above 1 ppm.

Sidewall Composite Sample (PCB)

< 1 ppm

> 1 ppm

Excavation Depth

2 feet (PCB)

6 feet (PCB)

Disposal Site

Estimated Extent of Contamination

Notes:
1. Extent of contaminated soil was estimated based on data from the Remedial Investigation and Limited CON/HTRW Removal Report Addendum (USACE 2019a).
2. Ex situ volume assumes bulk expansion factor of 25%.
3. Previous excavation was performed in 2014 by USACE during the Remedial Investigation and Limited CON/HTRW Removal Action (USACE 2016).
4. Background Imagery Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

mg/kg = milligram(s) per kilogram
ppm = part(s) per million
1 mg/kg = 1ppm
bgs = below ground surface
ft = feet

WGS 1984 UTM Zone 3N

0 4 8 16 Feet

1 inch = 8 feet

N

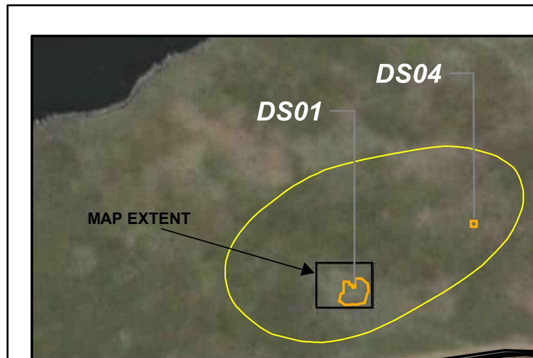
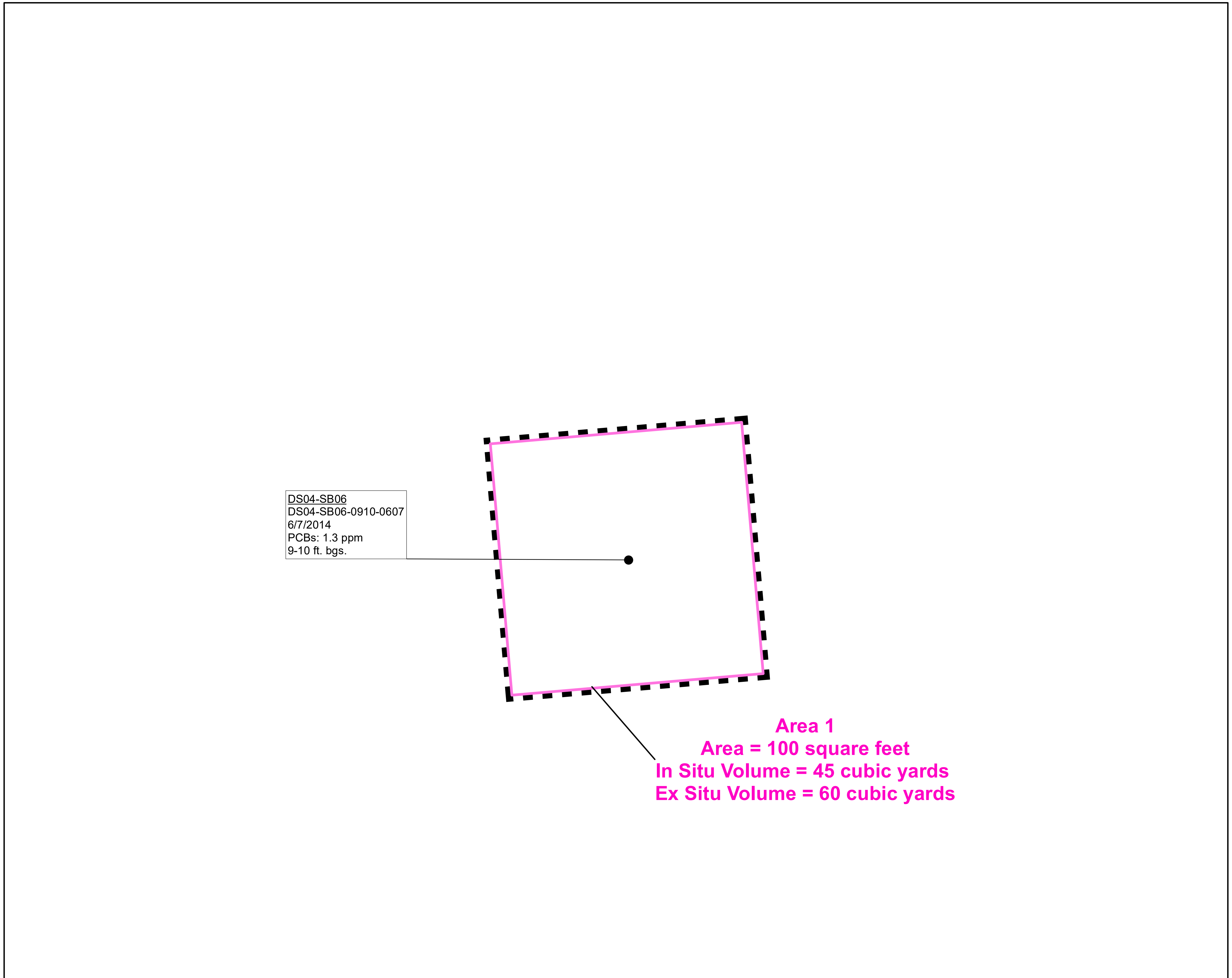


FIGURE A-6
DS01
ESTIMATED EXTENT OF PCB-CONTAMINATED SOIL
RECORD OF DECISION
Sanak AWS Station FUDS DS
Sanak Island, Alaska

\\DC1VS01\GISPROJ\U\USACE\AK_SANAKISLAND\D3436300\MAPFILES\ROD\FIGUREA-6_DS01_EXCAVATIONPLAN.MXD BEATYCJ 12/16/2024 2:13:33 PM



LEGEND

- PCB sample location with PCBs above 1 ppm
- Area 1 Estimated Excavation Extent to a depth of 12 ft under Selected Remedy.
- Estimated Extent of PCB-Contaminated Soil above 1 ppm.
- Disposal Site
- Estimated Extent of Contamination

Notes:
1. Extent of contaminated soil was estimated based on data from the Remedial Investigation and Limited CON/HTRW Removal Report Addendum (USACE 2019a).
2. Ex situ volume assumes bulk expansion factor of 25%.
3. Background Imagery Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

mg/kg = milligram(s) per kilogram
ppm = part(s) per million
1 mg/kg = 1ppm
bgs = below ground surface
ft = feet

WGS 1984 UTM Zone 3N
0 2 4 8 Feet
1 inch = 4 feet
N

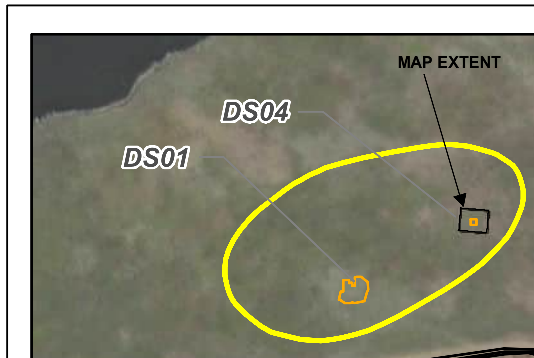


FIGURE A-7
DS04
ESTIMATED EXTENT OF PCB-CONTAMINATED SOIL
RECORD OF DECISION
SanakAWS Station FUDS DS
Sanak Island, Alaska

APPENDIX B
Conceptual Site Models

Print Form

Appendix A - Human Health Conceptual Site Model Scoping Form and Standardized Graphic

Site Name: Disposal Site DS01/DS04, Sanak AWS FUDS, Sanak Island, Alaska

File Number: ADEC File No. 2547.38.004/ Hazard ID: 26029

Completed by: Paragon-Jacobs JV

Introduction
The form should be used to reach agreement with the Alaska Department of Environmental Conservation (DEC) about which exposure pathways should be further investigated during site characterization. From this information, summary text about the CSM and a graphic depicting exposure pathways should be submitted with the site characterization work plan and updated as needed in later reports.

General Instructions: Follow the italicized instructions in each section below.

1. General Information:

Sources *(check potential sources at the site)*

- ☐ USTs
- ☐ ASTs
- ☐ Dispensers/fuel loading racks
- ☒ Drums
- ☐ Vehicles
- ☒ Landfills
- ☒ Transformers
- ☐ Other:

Release Mechanisms *(check potential release mechanisms at the site)*

- ☒ Spills
- ☒ Leaks
- ☒ Direct discharge
- ☐ Burning
- ☐ Other:

Impacted Media *(check potentially-impacted media at the site)*

- ☒ Surface soil (0-2 feet bgs*)
- ☒ Subsurface soil (>2 feet bgs)
- ☒ Air
- ☒ Sediment
- ☒ Groundwater
- ☒ Surface water
- ☒ Biota
- ☐ Other:

Receptors *(check receptors that could be affected by contamination at the site)*

- ☒ Residents (adult or child)
- ☐ Commercial or industrial worker
- ☒ Construction worker
- ☐ Subsistence harvester (i.e. gathers wild foods)
- ☐ Subsistence consumer (i.e. eats wild foods)
- ☒ Site visitor
- ☒ Trespasser
- ☒ Recreational user
- ☐ Farmer
- ☐ Other:

* bgs - below ground surface

2. Exposure Pathways: *(The answers to the following questions will identify complete exposure pathways at the site. Check each box where the answer to the question is "yes".)*

a) Direct Contact -

1. Incidental Soil Ingestion

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site-specific basis.) ☒

If the box is checked, label this pathway complete: Complete

Comments:

PCB Aroclor 1254 is present in soil

2. Dermal Absorption of Contaminants from Soil

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.) ☒

Can the soil contaminants permeate the skin (see Appendix B in the guidance document)? ☒

If both boxes are checked, label this pathway complete: Complete

Comments:

PCB Aroclor 1254 is present in soil

b) Ingestion -

1. Ingestion of Groundwater

Have contaminants been detected or are they expected to be detected in the groundwater, or are contaminants expected to migrate to groundwater in the future? ☐

Could the potentially affected groundwater be used as a current or future drinking water source? Please note, only leave the box unchecked if DEC has determined the ground-water is not a currently or reasonably expected future source of drinking water according to 18 AAC 75.350. ☒

If both boxes are checked, label this pathway complete: Incomplete

Comments:

Chromium was detected in groundwater at a concentration above the hexavalent chromium screening level but below the trivalent chromium screening level. There are no known or suspected sources of hexavalent chromium associated with former military activities at the Sanak AWS Station. Chromium is presumed naturally occurring and does not present unacceptable risk.

2. Ingestion of Surface Water

Have contaminants been detected or are they expected to be detected in surface water, or are contaminants expected to migrate to surface water in the future?	☐
Could potentially affected surface water bodies be used, currently or in the future, as a drinking water source? Consider both public water systems and private use (i.e., during residential, recreational or subsistence activities).	☒

If both boxes are checked, label this pathway complete: Incomplete

Comments:

Charlie Connors Lake is located adjacent to the disposal site, however, no contaminants are present in surface water.

3. Ingestion of Wild and Farmed Foods

Is the site in an area that is used or reasonably could be used for hunting, fishing, or harvesting of wild or farmed foods?	☒
Do the site contaminants have the potential to bioaccumulate (see Appendix C in the guidance document)?	☒
Are site contaminants located where they would have the potential to be taken up into biota? (i.e. soil within the root zone for plants or burrowing depth for animals, in groundwater that could be connected to surface water, etc.)	☒

If all of the boxes are checked, label this pathway complete: Complete

Comments:

PCBs are present in soil and have the potential to bioaccumulate. Estimated concentrations in berries, beef, and ptarmagin tissues were used to calculate risks due to ingestion of contaminated biota in the human health risk assessment. Ingestion of wild and farmed foods would only be significant for future

c) Inhalation-

1. Inhalation of Outdoor Air

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.)	☒
Are the contaminants in soil volatile (see Appendix D in the guidance document)?	☒

If both boxes are checked, label this pathway complete: Complete

Comments:

PCBs are present in soil and have the potential to be volatile.

2. Inhalation of Indoor Air

Are occupied buildings on the site or reasonably expected to be occupied or placed on the site in an area that could be affected by contaminant vapors? (within 30 horizontal or vertical feet of petroleum contaminated soil or groundwater; within 100 feet of non-petroleum contaminted soil or groundwater; or subject to "preferential pathways," which promote easy airflow like utility conduits or rock fractures) ☒

Are volatile compounds present in soil or groundwater (see Appendix D in the guidance document)? ☒

If both boxes are checked, label this pathway complete: Complete

Comments:

No buildings are currently present at the site. Buildings could be placed on site under a potential future residential scenario. However, no volatile contaminants were detected in groundwater about vapor intrusion screening levels so the pathway is considered insignificant.

3. **Additional Exposure Pathways:** *(Although there are no definitive questions provided in this section, these exposure pathways should also be considered at each site. Use the guidelines provided below to determine if further evaluation of each pathway is warranted.)*

Dermal Exposure to Contaminants in Groundwater and Surface Water

Dermal exposure to contaminants in groundwater and surface water may be a complete pathway if:

- o Climate permits recreational use of waters for swimming.
- o Climate permits exposure to groundwater during activities, such as construction.
- o Groundwater or surface water is used for household purposes, such as bathing or cleaning.

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are deemed protective of this pathway because dermal absorption is incorporated into the groundwater exposure equation for residential uses.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Charlie Connors Lake (the nearest sediment and surface water) is approximately 250 feet from DS01 and DS04. No contaminants are present in groundwater or surface water.

Inhalation of Volatile Compounds in Tap Water

Inhalation of volatile compounds in tap water may be a complete pathway if:

- o The contaminated water is used for indoor household purposes such as showering, laundering, and dish washing.
- o The contaminants of concern are volatile (common volatile contaminants are listed in Appendix D in the guidance document.)

DEC groundwater cleanup levels in 18 AAC 75, Table C are protective of this pathway because the inhalation of vapors during normal household activities is incorporated into the groundwater exposure equation.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Inhalation of Fugitive Dust

Inhalation of fugitive dust may be a complete pathway if:

- o Nonvolatile compounds are found in the top 2 centimeters of soil. The top 2 centimeters of soil are likely to be dispersed in the wind as dust particles.
- o Dust particles are less than 10 micrometers (Particulate Matter - PM_{10}). Particles of this size are called respirable particles and can reach the pulmonary parts of the lungs when inhaled.

DEC human health soil cleanup levels in Table B1 of 18 AAC 75 are protective of this pathway because the inhalation of particulates is incorporated into the soil exposure equation.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Direct Contact with Sediment

This pathway involves people's hands being exposed to sediment, such as during some recreational, subsistence, or industrial activity. People then incidentally ingest sediment from normal hand-to-mouth activities. In addition, dermal absorption of contaminants may be of concern if the the contaminants are able to permeate the skin (see Appendix B in the guidance document). This type of exposure should be investigated if:

- o Climate permits recreational activities around sediment.
- o The community has identified subsistence or recreational activities that would result in exposure to the sediment, such as clam digging.

Generally, DEC direct contact soil cleanup levels in 18 AAC 75, Table B1, are assumed to be protective of direct contact with sediment.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Charlie Connors Lake (the nearest sediment and surface water) is approximately 250 feet from DS01 and DS04.

4. Other Comments *(Provide other comments as necessary to support the information provided in this form.)*

Although no residents currently live on Sanak Island, Aleuts used to inhabit both Pauloff and Sanak Harbors. Residents used to utilize the island for subsistence purposes. People visit the island for subsistence purposes. Sanak Corporation and Pauloff Harbor Tribe are interested in the possibility of economic or residential development at Sanak Island (USACE 2011; USACE 2014).

HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: Disposal Site DS01/DS04, Sanak AWS FUDS, Sanak Island, Alaska
ADEC File No. 2547.38.004/Hazard ID: 26029

Completed By: Paragon-Jacobs JV
Date Completed: 27 August 2024

***Instructions**: Follow the numbered directions below. Do not consider contaminant concentrations or engineering/land use controls when describing pathways.*

(1) *Check the media that could be directly affected by the release.*

(2) *For each medium identified in (1), follow the top arrow and check possible transport mechanisms. Check additional media under (1) if the media acts as a secondary source.*

(3) *Check all exposure media identified in (2).*

(4) *Check all pathways that could be complete. The pathways identified in this column **must** agree with Sections 2 and 3 of the Human Health CSM Scoping Form.*

(5) *Identify the receptors potentially affected by each exposure pathway: Enter "C" for current receptors, "F" for future receptors, "C/F" for both current and future receptors, or "I" for insignificant exposure.*

Media / Transport Mechanisms

[x] **Surface Soil (0-2 ft bgs)**
- Direct release to surface soil — check soil
- [x] Migration to subsurface — check soil
- [ ] Migration to groundwater — check groundwater
- [x] Volatilization — check air
- [ ] Runoff or erosion — check surface water
- [x] Uptake by plants or animals — check biota
- [ ] Other (list):

[x] **Subsurface Soil (2-15 ft bgs)**
- Direct release to subsurface soil — check soil
- [ ] Migration to groundwater — check groundwater
- [x] Volatilization — check air
- [x] Uptake by plants or animals — check biota
- [ ] Other (list):

[ ] **Ground-water**
- Direct release to groundwater — check groundwater
- [ ] Volatilization — check air
- [ ] Flow to surface water body — check surface water
- [ ] Flow to sediment — check sediment
- [ ] Uptake by plants or animals — check biota
- [ ] Other (list):

[ ] **Surface Water**
- Direct release to surface water — check surface water
- [ ] Volatilization — check air
- [ ] Sedimentation — check sediment
- [ ] Uptake by plants or animals — check biota
- [ ] Other (list):

[ ] **Sediment**
- Direct release to sediment — check sediment
- [ ] Resuspension, runoff, or erosion — check surface water
- [ ] Uptake by plants or animals — check biota
- [ ] Other (list):

Exposure Media / Exposure Pathway/Route / Current & Future Receptors

Exposure Media	Exposure Pathway/Route	Residents (adults or children)	Commercial or industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or subsistence harvesters	Subsistence consumers	Other
[x] soil	[x] Incidental Soil Ingestion	F		C/F	F			
	[x] Dermal Absorption of Contaminants from Soil	F		C/F	F			
	[ ] Inhalation of Fugitive Dust							
[ ] groundwater	[ ] Ingestion of Groundwater							
	[ ] Dermal Absorption of Contaminants in Groundwater							
	[ ] Inhalation of Volatile Compounds in Tap Water							
[x] air	[x] Inhalation of Outdoor Air	F		C/F	F			
	[x] Inhalation of Indoor Air	I						
	[ ] Inhalation of Fugitive Dust							
[ ] surface water	[ ] Ingestion of Surface Water							
	[ ] Dermal Absorption of Contaminants in Surface Water							
	[ ] Inhalation of Volatile Compounds in Tap Water							
[ ] sediment	[ ] Direct Contact with Sediment							
[x] biota	[x] Ingestion of Wild or Farmed Foods	F						

APPENDIX C
Transcripts

Public Meeting: Proposed Plan Sanak Island Army-Aircraft Warning Station Disposal Site

Wed, Feb 28, 2024 6:30PM • 1:33:25

PARTICIPANTS
USACE Alaska District: Wendy Hansen, Beth Astley, Kelly Eldridge, Rick Bernhardt, COL Jeff Palazzini
Paragon-Jacobs JV: Elaina Torres, Jackie O'Connell, Kiri Brown
Alaska Department of Environmental Conservation (ADEC): William Schmaltz
Community Members: Hilary Smith, Arlene Gundersen, Alexia Holmberg, George Gundersen, Ben Mobeck

Audience 00:12
Conversations prior to meeting

Wendy Hansen 02:34
I think we're ready to get started here.

Ben Mobeck 04:43
Okay.

Wendy Hansen 04:44
We're here to talk about the proposed plan for the Disposal Site at the Sanak Army Aircraft Warning Service Station on Sanak Island. First of all, did everyone get a comment card? Okay. All right. Please feel free to try to comment down your question or whatever you want. I think we wanted to go around the room today first and just kind of introduce ourselves. So, I'm Wendy Hansen. I'm the technical lead for the Army Corps of Engineers for the Sanak project.

Kelly Eldridge 05:27
Wait, wait, wait.

Wendy Hansen 05:27
Thank you. I am talking softer.

Kelly Eldridge 05:30
No, no, no. She said we have to go around. So I'm going to be the microphone holder.

Wendy Hansen 05:33
Okay. So we'll just start with the colonel here.

COL Jeff Palazzini 05:38
Colonel Jeff Palazzini, District Commander.

Wendy Hansen 05:42
Here I'll hold it.

Ben Mobeck 05:43
Oh, you're going to hold it? Yeah, I'll hold it. Just talk into it. Oh! This is Ben Mobeck. Ben Mobeck, the oldest guy left in Sanak Island.

Kelly Eldridge 05:54
And you're with Pauloff Harbor Tribe?

Ben Mobeck 05:56
Yeah.

Kelly Eldridge 05:56
Okay.

Ben Mobeck 05:57
Pauloff Harbor. Pauloff Harbor Tribe, yeah.

George Gundersen 05:59
George Gundersen, the President of Pauloff Harbor and Sanak *inaudible*.

Arlene Gundersen 06:08
Arlene Gunderson, Tribal Administrator, Pauloff Harbor Tribe.

Hilary Smith 06:12
Hilary Smith, Pauloff Harbor Tribe.

Alexia Holmberg 06:17
I'm Alexia Homberg at Pauloff Harbor Tribe, the Environmental Coordinator.

Kelly Eldridge 06:23
I'm Kelly Eldridge, Army Corps of Engineers Archaeologist.

Wendy Hansen 06:28
Beth Astley, Corps of Engineers, Project Manager.

Kelly Eldridge 06:33
Elaina, do we want you too?

Beth Astley 06:34

Yes.

Elaina Torres 06:36
Elaina Torres, Paragon. Junior Geologist.

Wendy Hansen 06:45
If we could get introductions from online? Yeah.

Elaina Torres 06:49
So, we're just going to go through the online. Jackie, do you want to start?

Jackie O'Connell 06:55
Hi, I'm Jackie O'Connell with Paragon supporting the Army Corps.

Elaina Torres 07:02
Kiri, you can go next.

Kiri Brown 07:05
Kiri Brown, also with Paragon supporting the Army Corps.

Elaina Torres 07:11
William?

William Schmaltz 07:13
Good evening, William Schmaltz, Alaska DEC, Project Manager for the site.

Elaina Torres 07:19
And Rick?

Rick Bernhardt 07:21
Hi, Rick Bernhardt. I'm a Toxicologist with the Corps of Engineers, and I'm providing risk assessment support.

Elaina Torres 07:28
That's all.

Wendy Hansen 07:30
All right. Welcome, everyone. I'm going to start with a safety moment. I believe everyone here is probably familiar with this building. But we're going to do this anyway. So, I believe there is bathroom locations on both floors, the top and the bottom, at the far end of the building there. And if there is an emergency, then you can follow the exit signs out to the south parking lot. That would be our muster point. Oh!

Beth Astley 08:04

Is there a way to turn off some of the lights?

Kelly Eldridge 08:08
Oh, yeah. Yeah.

Wendy Hansen 08:10
Sorry. I guess we *inaudible* do that earlier, didn't we? Oh, that's much better, thank you.

Beth Astley
Is that okay for everybody?

Wendy Hansen
Next slide. This is the Agenda. We just did the Introductions, going to do a brief Purpose. Some--and then just kind of go over some Site History, the Site Background, Previous Investigations that we performed at the disposal site, Summary of the Site Risk. What's our Cleanup Goal? What Alternatives did we evaluate for cleanup of the site? Our Preferred Alternative for cleanup, and then just, basically, an invitation again to please provide input and Questions and Comments. Next slide, please. So, we're just going to--So, for presenting this proposed plan as the Army Corps of Engin--Army Corps of Engineers from reading the slide, Alaska district and we already introduced ourselves. The state regulator, William Schmaltz, is the project manager, as he mentioned, for the site. So the DEC provides input throughout our CERCLA process. We'll talk about CERCLA a little later here. Through reviews of our plans and our reports, and then Paragon-Jacobs Joint Venture is supporting us here. They currently have a contract to--for the Feasibility Study, this Proposed Plan, and the follow-on Record of Decision to document our plan forward. So, basically, we're here again, to present the Proposed Plan. We would like to solicit input from everyone, and we're here, partly because we're required to offer a public meeting at a location near to the site. And we're also here by choice, because we'd like to get your input. So, this CERCLA process basically, like I said before, we follow a CERCLA process. CERCLA is the Comprehensive Environmental Response Compensation and Liability Act. It's a law that provides federal authority to respond to releases of hazardous substances that might endanger public health and the environment. So USACE is the lead agency under CERCLA providing clean up, and we follow this process above. Basically, this is the process, all these arrows. So we start with an initial environmental site assessment to determine if there might be contamination at the site. So we do some research, see what activities were performed on the site in the past, see if there were contaminants that might have been released. If there's known spills, what products were used on the site? That kind of thing. And if we find a need to look further, then we'll collect some samples to determine presence/absence. And then if we've determined that there is contamination on the site, then we go into what we call a remedial investigation. And during the remedial investigation, we characterize the contamination that we found on site. We'll look for the higher concentrations. We'll determine the nature. w\What contaminants are present? At what extent, laterally and vertically? Where's the contamination? What's the contamination? What are the maximum concentrations or the concentrations that might cause harm to human health or the environment? And then once we have that information, we go on to what's called a risk assessment. And during the risk assessment, we assess long term risks based on the nature and extent of contamination that we identified during the remedial investigation. And then, through that risk assessment, we'll determine if there's unacceptable risk to human health or the environment. And if

there is, then we'll move on to a feasibility study. And during the feasibility study, we first take a broad range of potential options for cleaning up the contamination at the site. And then we quickly screen that down to a few alternatives for cleanup. In the case of the disposal site, we have three (alternatives), other than the no-action alternative. And then once we have those alternatives, those options for cleanup, we evaluate them against nine criteria. They're CERCLA--the CERCLA nine criteria. We'll get into those a little more later.

Audience 14:35
background conversation

Wendy Hansen 14:36
And then once we--

Audience 14:45
background conversation

Wendy Hansen 14:48
Yeah, there we go. Perfect. *Background Conversation*. So the feasibility study, and then, after we've finished the feasibility study, we move on to a proposed plan. In the proposed plan, we review what we've done in the feasibility study, we summarize all the work that we did in the feasibility study, and then we select a preferred alternative to put forward to the public. And so for the disposal site, at the Sanak AWS that's the stage that we're at. We're on the proposed plan stage, presenting our Proposed Plan. Asking for input. Once we receive that input, we'll respond to a--to any comments that we get, and we'll present that in a responsiveness summary within our Record of Decision. And the Record of Decision will document our path forward for the site. Give some specifics on what we're agreeing to do. And then once that's finalized and signed on, we'll implement our remedy. And that's the process. Next slide, please. This slide just summarizes what I said. The Proposed Plan document summarizes the environmental conditions at the site, the site risks, the proposed cleanup goals, previous investigations that were conducted and the remedial alternatives that we looked at, and the one that we are putting forward as preferred. And during that process, like I said, we're requesting public comment. Next slide, please. So the site background and characteristics, basically, Sanak Islands are located here, about 100 miles southwest of Sand Point. Next slide, please. And so this is Sanak Island. And here is--here are the sites that we investigated. So, this is Pauloff Harbor. There's a connecting road here; goes to Pauloff Harbor to what's called the Sanak AWS. And we investigated that and the Connecting Road and Pauloff Harbor. There's a dump site in here, which is the disposal site, which is the main subject of this presentation. And then we also investigated Pauloff Harbor over here. So the disposal site is located in here. Next slide, please. Oh! Kelly is going to kindly present.

Kelly Eldridge 18:19
So this is obviously more for the folks online who aren't familiar with Sanak Island like you are. For those of you online, we have members of the Pauloff Harbor Tribe in the audience with us, and they, of course, know this history far better than we do. So I'm going to run through it a little bit quickly. The island has been inhabited by Unangax people for more than 7000 years. The Russians started getting involved in the mid 1700s. 1823: everybody moved to Belkofski in part because the depression of the

sea otter population and impacts on hunting and trade. And then after the Treaty of Cession where the US bought Alaska from Russia in 1867. Soon after that, people started moving back to the island. And then you had the rise in the cod fishery and a lot of cod fish stations being built in basically every harbor on the island. Next, World War II history. And just a shout out, a lot of the information we know about World War II action has, of course, been given to us by the tribe, which we're really, really grateful for. So, as an agency, we need all the help we can get, and any historical information that folks can help us with we really do appreciate. We are always looking for declassified information and records as an already classifies. We just got a whole new batch for another one of our sites a couple of years ago, so I'm expecting that, in the near future, we might get more declassified documents for this particular area. Fingers crossed. They don't tell us when they're coming. But what we know so far is construction of the Sanak Island AWS Station was completed in June 1943. Most of the people in this room have been there. You guys know where it is. I've only seen it on a map. But it was up on the hillside above Charlie Connors Lake. Sometime in late 1945 after the war ended, the military abandoned the AWS Station. There had also been, during the construction, an army camp, of course, right outside of Pauloff Harbor Village, which is where the military came in and dropped off all their goods and things throughout the war effort as well. 1946: there was a very large tsunami. It's the Orphan Tsunami, the one that took out the Scotch Cap Lighthouse, and it impacted the south side of Sanak Island. And, from some of the oral histories I was reading, it sounds like most of the people in Sanak Village moved--temporarily relocated up to the AWS Station to the abandoned buildings there because of all the damage that had happened on the south side. And then, after the waves receded and everything, they moved back. 1953 is when, I read, that the last permanent family left Sanak Village on Company Harbor. And then, of course, Pauloff Harbor Village, on the north side, continued to be a successful, thriving community up until the 1980s. We were just talking with some of the elders in the audience, and there are, you know, —70 to 100 people there in the 1960s and 70s. So, pretty thriving community. 1949 the US Post Office was established in--in Pauloff Harbor Village, so that was when the community started spending more time in Pauloff Harbor Village, and then the Company Harbor area became less popular again. Current land ownership status, again, this is more for the people online than the people in this room. Sanak Corporation is surface landowner, and the Aleut Corporation is subsurface. And current and future uses, it's currently uninhabited, but there is really important subsistence cultural and recreational activities happening seasonally throughout the year. And that there is an important potential for economic and residential development. And that's it.

Beth Astley 22:54
Thank you, Kelly.

Wendy Hansen 22:56
Thank you, Kelly. Okay, so a summary of previous investigations at the site. These were not specifically USACE investigations. This work was done by the Pauloff Harbor Tribe and Alaska Pribilof Islands Association.

Audience 23:22
Background Noises

Wendy Hansen 23:23

So, 2002 and 2004 site reconnaissance. Six disturbed areas were identified at what we now call the Disposal Site. And future sampling was recommended. In 2006, battery cleanup and soil sampling were conducted, and soil samples were collected from the Disposal Site and indicated PCBs, diesel and lead were above screening levels at what we now call DS01. And then in 2009, there was water sampling conducted. One sample was collected from Charlie Connors Lake, which was 200 feet northwest of the disposal site and no contamination was identified in surface water. And then in--2009 is- what we call a step two and step three site investigation. Three soil samples were collected at the Disposal Site. Each of them exceeded screening levels for arsenic, which is typical for background. Arsenic is prevalent in Alaska. And one sample exceeded screening levels for PCP--polychlorobiphenyl and diesel. Two surface water samples were taken from the lake, and no contamination was identified. Next slide. And then USACE started site investigation in 2012. Twelve different features were identified within the disposal site. DS01 through DS12. They were evaluated for surface debris using geophysical methods. And after that, eight features warranted further investigation, including DS-01 which is subject to this Proposed Plan. DS01 was an earthen pit with electrical equipment; a partial drum piece was found and other debris. DS06 was investigated further, and it had partially buried drums. Other items found included drum carcasses, rusted metal remnants, and broken glass. Six surface samples were collected during the investigation. Three samples from DS01 exceeded screening levels for total chromium, PCBs, and DRO. Diesel. Diesel Range Organics. Three additional surface water samples were collected from Charlie Connors Lake, and no contamination was identified. And no contamination was identified at the remaining four features. So, let me move on to the next slide. And the 2014 remedial investigation and limited removal action was conducted by USACE which involved further investigation at the eight features listed here. And six monitoring wells were installed and sampled with no contamination being identified. Electrical equipment and drum remnants that were found in 2012 were removed from DS01. And some drum remnants were removed from a couple other areas. A lot of field screening and laboratory sampling was conducted to characterize and delineate contamination remaining. During the limited removal action, 73-tons of PCB-impacted soil and 1.5-tons of lead-contaminated soil were removed from DS01. PCBs are known to remain at a maximum concentration of 87 parts per million. And at DS04 three sample locations were analyzed, and PCBs exceeded the screening level at one location at 1.3 parts per million. So those are the two locations at DS01, at the Disposal Site, with remaining contamination to be cleaned up. And this is a picture of DS01 to delineate impact. And this is a picture of the excavation that was performed in 2014 at DS01. Next slide. So this is a figure that shows all the previous sample locations. And then right here, where the dot is, you can't see it well otherwise, but this is the DS04 location with the1.3 part per million PCBs remaining. And then this is the estimated extent remaining at DS01. Nice picture of drill rig and sampling equipment and so forth, on site. Next slide, please. So, this is an estimated extent of contamination remaining at DS01, which is the larger area with the 87 parts per million PCBs known to remain. In 2014, the shaded areas are where the excavations were performed. And the slash marks that go across this way. Those excavations for the soil were removed to two feet. So —in this area and these two areas, soil was removed to six feet. And then the 87 was a composite sample of the sidewall. So, the plan is to take the whole area down to-- we're estimating the extent--is down to 10 feet. And then coming out from where the detections on the sidewall were, another 10 feet as well. So we're estimating 605 cubic yards in the ground. And then when we remove it, it plots to 760 cubic yards. And that's an estimate. And after we've removed the soil, we'll collect confirmation samples to send to the laboratory and confirm we've reached cleanup goals both on the floor and on the sidewalls of the excavations. Next slide, please. And then this is DS01. The PCBs were detected at nine--. Again, we're estimating the extent is 12 feet and that we have a 100 square-foot area so a 10 by 10 around that. And, again, we'll collect samples and… (inaudible)… then soil is removed and we will confirm that we've reached our cleanup goal. Next slide, please. Conducted a risk assessment. As potential site risks we had detected the arsenic, had the arsenic exceedances, total chromium, lead, PCBs *audio cuts out* zero and a pesticide heptachlor--heptachlor epoxide were assessed in soil, and chromium was assessed in groundwater. And that just means that these chemicals were detected above conservative screening levels and warranted that we take a further look. That we consider them and see if they're site risks. So following the 2014 removal action we just talked about, the maximum detected concentrations of lead, diesel, and heptachlor epoxide in soil were below human health screening levels. We had removed the lead and the diesel during the (2014) removal action. And heptachlor epoxide was detected above a migration to groundwater cleanup level or screening level for soil that would indicate in--in one sample, in one of six samples, that would indicate a migration to groundwater. However, there was no heptachlor epoxide in the groundwater and a review of the laboratory data indicated that it wasn't a--a real--. It was co-located with PCBs that caused interference basically with the--with the instrument detection. And that's not a real hit. Arsenic and total chromium occur naturally in soil, and they were consistent with background levels. And there's no source for hexavalent chromium at the site. And no unacceptable risk to ecological receptors was identified. So after the risk assessment, the PCBs in soil at the two areas I mentioned, DS01 and DS04, were determined the only contaminants with unacceptable risk, and the risk is to future residents and construction workers. Next slide, please. So our remedial action objective is basically 'what's our endpoint?' So, our cleanup goal is one part per million. And that's to prevent exposure to residents and construction workers. Next slide, please. So we've went through the risk assessment. Now we're at the feasibility stage. We completed a feasibility study in 2022. We developed three alternatives other than the no-action alternative to consider for cleanup remedies. And we initially screened a broad range of technologies and options against site specific effectiveness, implementability, and cost. Next slide, please. And then now, out of that broad range of technologies, we've retained three that we'll present here and evaluate them against these nine CERCLA criteria I keep talking about. And those nine criteria are displayed above, and we'll talk about them further in the next slide. Next, please. So these are our remedial alternatives for cleanup options. First, we have the no-action alternative. It's required under CERCLA that we present the no-action alternative as a basis for comparison. Under the no-action alternative, we wouldn't do anything. PCBs would remain. Nothing would be done. And then under alternative two is what we call an 'ex situ' on-site thermal treatment, and 'ex situ' means that we do that out of the ground. So we remove the soil from the ground, and we treat it, and then we'll put it back. So if it was an 'in situ' treatment then we would actually do something to the soil in the ground, but we're removing the soil and then treating it. So we looked at two technologies for that. One is called a semi-continuous thermal desorption and the other is called in-pile thermal desorption. In both cases, the soil would be removed from the ground, treated, confirmed to be less than our cleanup goal, and then put back into the ground. And in addition to that, when we do excavate the soil from the ground we would take those confirmation samples and assume, and confirm, that we have clean limits both at the floor and the sides of the excavation. Treat the soil, like I said. Verify that it's below cleanup levels. And then put that back in place. The semi-continuous thermal desorption is basically a self-contained mobile modular unit. Soils fed by belt conveyor through a sealed, heated steam chamber. And then the elevated temperature releases the contaminants which are captured and treated. Under the in-pile thermal desorption, the soil is put into piles and treated within the stockpile. Then our third alternative, which is our preferred alternative you'll see later, is removal and off-site disposal. We would just remove the soil from the ground, confirm the limits of the excavation are clean, like we talked about before with floor and sidewall samples, and we would put the soil in, likely, super sacks and barge it to an off-site landfill in the lower 48, Likely in Oregon. Next slide, please. So here the first two of our nine criteria are called threshold criteria. And they're pass and fail. An alternative needs to satisfy these special criteria or it's not an option for us. Those criteria are: protection of human health and the environment, and compliance with what we call ARARs. And ARARs are federal or state statutory requirements. They're either chemical specific, like the cleanup level for PCBs of one part per million. Or they're action specific. Or they're location specific, and they're tied to the remedial action; they're tied to the alternative. So for this site, we identified two ARARs. One is the Toxic Substance Control Act, with a cleanup level of one part per million, which is our remediation goal. It also happens to be the cleanup level under the state of Alaska regulations equivalent to that of one milligram per kilogram. We also identified that, under the state regulations, soil cleanup levels need to be met in the top 15 feet of soil because that's where humans could be exposed to contaminated soil. So we need to meet that one part per million in the top 15 feet of soil. So, on the bottom here is the evaluation of all our alternatives against these two criteria. And you can see the no-action alternative fails the threshold criteria, and all of the other alternatives pass. So we move on to the next five criteria and their long-term effectiveness. Is the alternative going to be effective? Is it going to be permanent? Are we reducing the toxicity of the contaminant? The mobility? The volume? And are we doing that through treatment? There's a statutory preference for treatment. What's the short-term effectiveness? And short-term effectiveness refers to 'what are the risks in the short term while the im--while the remedy is being implemented?' And so how long does it take? Are workers going to be exposed? Is there risk of spills? What are the risks during the implementation period and for how long? And then, implementability is how easy is it to implement? Are resources available? Personnel available? Is it administratively feasible? And then cost? Those are called balancing criteria. And you kind of weigh your alternatives against those balancing criteria. And so that's what we've done here. On the top here, they're all--they're all effective and permanent. Except the no-action alternative, which doesn't satisfy the criteria. And these two--These are treatment methods, the alternatives 2A and 2B, are the ex-situ thermal treatments. They rate high for reduction in toxicity, mobility, and volume through treatment. And this (alternative 3) doesn't--it's not a treatment method, so it doesn't meet that statutory preference. And then short-term effectiveness. The main difference for the treatment alternatives was time. I want to say this one was 30 days. So the ex-situ modular unit was 30 days and the piles were 60 days. And so this rated higher because it's a shorter term on site. And this is low. It's actually, the excavation and off-site disposal, it's actually a pretty short period on time, in comparison. But then, the feasibility study accounts for the complexities in transporting contaminated soil to the lower 48. This implementability, this alternative, was considered low while the other is moderate. And the difference was that there's low industry interest in the treatment and the equipment is a little more specialized. Big picture. And then the cost. Alternative three, the removal and off-site disposal is the cheapest. It's fairly close to this thermal treatment, but it's the cheapest. And then the pile, treatment in piles *inaudible* to *audio cuts off*. Next slide, please. So, I think we've pretty much covered this. I think we pretty much covered the long-term effectiveness and permanence. It's just, are we going to protect human health and the environment, and is that going to be permanent, basically. And like we said, it was rated high for all the alternatives. And then we talked about already what reduction in toxicity, and mobility, and volume was and the preference for treatment. So, I think we can go on to the next slide. And same here. Okay. We can go on to the next slide. And there, as well.

Kelly Eldridge 47:30
Are we going to be able to share these slides?

Beth Astley 47:36
Yes, I can put them on the Reports and Studies page. The same place where the Proposed Plan is, that can be downloaded. Right now, I don't have it in a PDF, but I'll make it into a PDF and put it there.

Ben Mobeck 48:01
How deep do you go down to get rid of the--to get rid of the stuff that's no good?

Wendy Hansen 48:09
We're estimating 10 feet.

Ben Mobeck 48:11
10 feet down?

Wendy Hansen 48:12
Yeah. So at DS01 we've excavated into two feet and six feet--

Ben Mobeck 48:19
Yeah.

Wendy Hansen 48:20
--in the areas that we already removed soil.

Ben Mobeck 48:23
Mhmm.

Wendy Hansen 48:23
So we're estimating that we go to 10 feet. And we're estimating--

Ben Mobeck 48:32
Yeah.

Wendy Hansen 48:32
--at this point, and we'll confirm. And then the sample at DS04 was at 10 feet. So, 12 feet.

Ben Mobeck 48:39
Mhmm. Unless you go *inaudible*

Wendy Hansen 48:43

Wha--

Ben Mobeck 48:43
You're going to see where--I mean which one--how bad it is. I'm saying.

Wendy Hansen 48:51
Yeah. We incrementally remove soil.

Ben Mobeck 48:54
Yeah.

Wendy Hansen 48:54
Yeah.

Ben Mobeck 48:55
Never getting better or not and getting low right now and look down deeper, you know?

Wendy Hansen 49:04
Yeah. PCBs--. Yeah, we'll remove--we'll remove soil and--incrementally likely, and do confirmation samples and--

Ben Mobeck 49:18
Hmm

Wendy Hansen 49:18
--see what those are.

George Gundersen 49:21
The more lik--

Wendy Hansen 49:21
Maybe we'll have a--maybe we'll have an on-site lab.

George Gundersen 49:25
More than likely that stuff kind of brings down like to some of the contaminant carrying down. What happened with the PCBs-- *audio cut off*

Audience 49:38
inaudible

Wendy Hansen 49:38
Alright. I think in this case, it was a disposal site. So it was, yeah just kind of dumped in there.

Hilary Smith 49:48

You say you dig and you're going to send the samples to the lab. How long does it take to get the results back from the lab?

Wendy Hansen 49:55
So I think what we might end up doing is like a mobile lab. So with a mobile lab, you'd actually have a mobile facility come out to site and do PCB samples. So we'd probably that way--might--get, you know, 24 to 48 hour turnaround that way. If we actually go to an off-site lab, then, you know, it takes a few days to get to the labs and you know, maybe you can do a 24 to 48 hour rush and get PCB results back within five days or maybe it's seven--

Hilary Smith 50:34
Inaudible--to get it off the island.

Wendy Hansen 50:35
--it might--it might not Yeah, I was going to say--I was--I was getting to--Yeah, I was going to say it--it really depends on the weather. And you're probably not going to have a service, you know, a boat taking samples every day. So a mobile lab may be the way to go.

Hilary Smith 50:56
Your mobile lab will have your results within 48 hours?

Wendy Hansen 51:00
I think usually 24 to 48 hours. Yep.

Kelly Eldridge 51:04
And we've done that on other sites, too.

Wendy Hansen 51:06
Yeah.

Kelly Eldridge 51:06
Like on Attu, because it was so far away, we stood up a mobile lab, and it worked really well.

Wendy Hansen 51:12
The other thing you can do is a pre-delineation. And we've talked about that as well. Maybe you go out with a--with a rig and--

Kelly Eldridge 51:27
Drilling.

Wendy Hansen 51:27
--and drill some holes.

Arlene Gundersen 51:33

So on the first round when you go out there to do some work, you plan to do some work. There was more contamination than anticipated. So what--do you have some plans to, if there's more contamination than you anticipate this time around, is there going to be something in place to make sure we get it all instead of covering it back up and going back out again?

Wendy Hansen 52:01
That's a good question. Perhaps pre-delineation is one way to do it.

Beth Astley 52:09
Another thing we often do with our contracts is we assume that we might encounter additional contamination and, in this case, because we're--we don't have--to the south there, we don't have a clean sidewall. We don't know how far it extends. We put options in the contract that we can award if we need to remove more soil than what was anticipated. Because these sites are hard because it's hard to delineate everything perfectly and like, the more times you go back and just keep sampling and sampling, you're just delaying the remedy. So sometimes that's how we handle it. You know, in this case, because PCBs generally don't migrate very much in the environment. They sorb on to the soil, and in general don't really migrate very far. So, in this case, we're thinking we should be able to get it all, but we could do things, like I said, like having an option there for additional soil that we can award if needed.

Wendy Hansen 53:31
The contractor is on site, and we just keep the contract moving.

Arlene Gundersen 53:35
I think I heard this. You said that you go down about 15 feet because that's where, you know, the risks to--

Wendy Hansen 53:42
Oh!

Arlene Gundersen 53:42
--individuals and to contractors. So, but you go--if there's contamination at the 15, you're still going down? Or are you cutting it off at 15, and not worrying about it?

Audience 53:54
inaudible

Beth Astley 53:58
Let's see. I guess it depends. Yeah.

Arlene Gundersen 54:03
So-- When you say 'going to 15 feet', what about erosion? You're--I mean, if that happens, you're going to end up getting down to that level, if you just cut it off at 15 feet.

Beth Astley 54:15
Well, in general, that 15 feet is the depth that, according to the ARAR that we have for the Proposed Plan and will go into the decision document, is the state's regulation for unrestricted use. So you have to have it cleaned out to 15 feet. They're assuming for residential use, you wouldn't dig down greater than that. That's just so that's something we have to meet. So that's why we say 15 feet. If we were to go deeper than that, it would depend on, I think, the concentration. If it's just one hit, you know, we--I think we have to look at it and decide if there's a risk. But that's a good question.

Inaudible
You have any--

Arlene Gundersen 55:10
Is that something you would work with the landowners or tribe with to determine how much further to go?

Beth Astley 55:16
Yeah, I don't think we would automatically keep going. But if there is a reason to keep going, a risk-based decision, a risk-reason to keep going, then we would. That's what it comes down to is we have the authority to clean up contamination that poses a risk to human health or the environment. And so if it's greater than 15 feet, it may not be considered a risk because it's so deep.

Arlene Gundersen 55:45
Right now.

Beth Astley 55:46
Right. If ground--but if the future use was going to be--*cuts out*--result in excavating that whole area out, then that would be something that we would want to know now because right now that's not in the Proposed Plan. Right now, we're just assuming residential use would be the use into the future, that's the most--hardest to meet, that it can be used for unrestricted use.

Wendy Hansen 56:30
Unrestricted use? Unrestricted use. A question--

Audience 56:33
inaudible

Kelly Eldridge 56:35
I guess the question I have on that, Arlene, you mentioned erosion and deflation. Is that mostly from--are you guys seeing that on the island from the cattle and the wild horses? Like is there pretty good active erosion happening in that area? From the trampling and, like, winds?

Arlene Gundersen 56:50
There's some coastal erosion right now.

Kelly Eldridge 56:51
Oh, okay. Okay. Okay.

Wendy Hansen 56:53
Okay, yeah.

Kelly Eldridge 56:55
Have you noticed--has anybody noticed any--because like cattle can be super rough on vegetation. So what we've seen in some other places, like Cherokov Island, is with the cattle trampling, it kills all the vegetation and then, when you have the strong winds come, it causes pretty intense depletion of the soil and you can lose, like, a foot of ground.

Arlene Gundersen 57:21
On the south side where we got a lot of sand *inaudible*.

Kelly Eldridge 57:26
We're talking about the south side right now?

Ben Mobeck 57:29
Yeah, and what the cows--have to eat any the grass up in the topside here and there before you check it, you know? Saying grass there, the cows eat it, but what--what happens then? Cows get stoned?

Wendy Hansen 57:47
Okay, alright.

Ben Mobeck 57:49
You know, walking around. They're looking for more or what?

Elaina Torres 57:53
Rick's hand raised.

Ben Mobeck 57:54
What happens?

Wendy Hansen 57:55
Oh, yeah. I was thinking he might have something to add.

Beth Astley 57:55
We're going to get--we're going to get our risk assessor to answer that.

Rick Bernhardt 58:01
Sure. Yeah, this Rick Bernhardt--as Beth mentioned, I'm the Risk Assessor. There are default hidden points. So the law requires us to clean up to 15 feet below ground surface. That's a minimum, but that's also an authorization. We're authorized to clean down to that amount. But everything with CERCLA,

when you're dealing with cleanup, it depends on what we call the conceptual site model, CSM. And that's just, you know, a three word, I don't know, like, just a term that we use for our understanding of what happens at the site, what the contaminants are, what the exposure pathways are, what the receptors are. So if we hear from you that you use the site in a different way, if you typically dig down to 20 feet for whatever reason, and you're actually exposed to soil or contamination at 20 feet deep, that becomes part of our conceptual site model. And then we would design remedies that match our understanding of the site use. It would be extraordinarily unlikely for somebody to--to dig that deep, but--but again, it--the remedy always depends on that conceptual site model. So that's one reason why the Corps of Engineers has come out today to get your input. And so if this was, for example, along a cliff or along the beach, we would understand that erosion. In general you don't have, you know, erosion in flat areas to that sort of depth. So again, we're working with generalities, but we're definitely receptive to input --how this site could differ from the norm.

Wendy Hansen 59:54
Thank you, Rick.

Arlene Gundersen 59:56
Also, along that site, and, you know, there's a big lake sitting right next to it. So, that can change over time as well. The size of that lake.

Ben Mobeck 1:00:09
So, *Inaudible* there. All your stuff is moving around, and you get--do you get new grass coming up for--for them poor--poor cows.

Audience 1:00:19
Yeah.

Ben Mobeck 1:00:20
You know?

Arlene Gundersen 1:00:21
Yeah, we get new--after they're done working, that's grass seeded.

Ben Mobeck 1:00:24
Yeah, that's--sometimes the cows tramp over there, over on that side of the island. A few, you know, not--not as many as the south side, but, yeah.

George Gundersen 1:00:39
Do we know what all the Army had out there--We noted a picture of a bulldozer, but--but we don't know what else they had--*Inaudible*--I don't think they had a whole bunch of machinery.

Kelly Eldridge 1:00:49
Yeah, I don't--I don't think it was much. I know I've seen some photos of soldiers hand-digging latrines and building--.

George Gundersen 1:00:57
That is the bulldozers up there.

Kelly Eldridge 1:00:58
Yeah, they had the bulldozer. They had a couple Jeeps.

George Gundersen 1:01:01
Yeah.

Kelly Eldridge 1:01:02
But even like getting the gravel from that one area, they had to do that by hand. You know, they were carrying this big wheel barrows and stuff. So. But--.

George Gundersen 1:01:12
We talked to one old timer. He said that the Army paid him 50--50 cents a bucket of gravel.

Kelly Eldridge 1:01:20
Inaudible oh, man.

George Gundersen 1:01:20
Oh, but like-- Because the gravel was just *Inaudible*.

Kelly Eldridge 1:01:25
Yeah. Wow.

Ben Mobeck 1:01:30
Yeah.

Arlene Gundersen 1:01:34
So, we mentioned that the composite samples, so just taking a little bit of soil from a couple of different spots in that wall that you refer to.

Wendy Hansen 1:01:44
Mhmm.

Arlene Gundersen 1:01:45
And then, so, one spot may not have any PCBs, but another spot might have a higher--?

Wendy Hansen 1:01:50
Yeah.

Arlene Gundersen 1:01:51
You don't--You won't be know exactly--

Wendy Hansen 1:01:53
We don't know.

Arlene Gundersen 1:01:54
--right where that came from.

Wendy Hansen 1:01:55
We don't know. Yeah, because it was a composite sample.

Kelly Eldridge 1:02:02
Were those collected in 2014?

Wendy Hansen 1:02:04
Yeah. They did composites of the--of the sides, so.

Kelly Eldridge 1:02:10
The bottoms, too?

Wendy Hansen 1:02:12
Yeah. So they--they were all composite samples in 2014. So, yeah, that can--.

Beth Astley 1:02:19
Yeah, that's right. It's a good point that 87 could represent just one spot that was hot, and the rest was all clean. Or it could be that they're all 87. You don't know.

Wendy Hansen 1:02:32
Right. Yeah. That is the difficulty with composite samples.

Arlene Gundersen 1:02:40
That's a normal practice just to do composite samples along the walls?

Wendy Hansen 1:02:46
It can be.

Beth Astley 1:02:56
Don't ask me a technical question.

Wendy Hansen 1:02:58
Yeah. I'm sorry! I was just-- I would-- I think we would-- I would go with discrete sampling.

Beth Astley 1:03:05
We would probably discrete. Yeah. Yes. It follows the DEC--

Arlene Gundersen 1:03:08
We have a--we have the mobile unit sitting there on the island, seemed like you'd--you'd be doing more--

Beth Astley 1:03:13
Discrete, right.

Arlene Gundersen 1:03:14
Yes.

Beth Astley 1:03:14
It would be following the DEC excavation sampling guidance.

Arlene Gundersen 1:03:21
Because I think the last time you guys had the samples going, you were shipping them out.

Wendy Hansen 1:03:27
Yeah.

Arlene Gundersen 1:03:27
And then there was a catamaran boat that was going back and forth every day.

Wendy Hansen 1:03:32
Yep. Yeah, so we have some options. But yeah, I'd go with discrete.

Beth Astley 1:03:48
I think the difference is when we were doing the RI and limited CON/HTRW removal action, we weren't trying to clean up the site at that point. It wasn't trying to get to 'clean'. We were just--we were going there, we were doing the RI, and we wanted to get as much of the sources as much of the drums and so forth and contaminated soil that we could at that time, because we didn't want our barges just to be going back empty, basically. You know? We wanted to maximize the effort. So, the goal wasn't really to have--to be 'clean', at that point. That's probably why they did the composite just to see, 'okay, do we still have an issue here?' And they were probably hoping it would be below one.

Wendy Hansen 1:04:47
Probably hoping and thinking it would be below one based on the data that was available-- Yeah. --at that time.

Beth Astley 1:04:55
Also, during the RI, we had issues with the PCB test kits--or the screening--PCB screening results. They didn't correlate well with the lab data. And so, they were using those immunoassay kits to guide the excavation. Right, right. And they may have thought that they had--they were clean, but then we get the lab results back and it's like, oh, that's not clean. And we didn't realize we had an issue until it was too late.

Arlene Gundersen 1:05:33
Whole sample pretty much.

Beth Astley 1:05:34
Exactly. Yes. You can't really rely on those PCB immunoassay screening kits.

Wendy Hansen 1:05:41
Yeah, I've seen that before at other sites for the screening kits.

Arlene Gundersen 1:05:51
You guys can answer this question or not, but you know, we put the gravel in the--the pit? How do you test the gravel for PCBs? Are you just testing the soil around it? Or how does--because we put the gravel in there, there's still hotspots in it. So how do you know?

Wendy Hansen 1:06:15
To put the--we put gravel in as backfill. *inaudible* To ten feet. What's the size of the gravel?

Beth Astley 1:05:21
It's on a beach.

Wendy Hansen 1:05:22
It's beach gravel?

Ben Mobeck 1:06:29
inaudible

Arlene Gundersen 1:06:32
I had a camera cap, probably about that size. It was smaller than the camera cap. *inaudible*.

Beth Astley 1:06:43
Yeah I have to look back and see did they--if they put visqueen down.

Wendy Hansen 1:06:55
To separate it?

Beth Astley 1:06:56
Yeah. I wasn't out there, so we--but we can look in the report.

Wendy Hansen 1:07:02
Yeah, I mean--I'm trying to think--I--I think--

Beth Astley 1:07:07

I think, probably they would just-- Probably what they would do is they would just sacrifice some of that gravel and ship it off, in reality...

Wendy Hansen 1:07:17
Near at the--Yeah. At--at least at the interface.

Beth Astley 1:07:20
At the interface, yeah.

Ben Mobeck 1:07:22
Yeah. Gravel washing up and down the beach and they're tapped pretty pretty, pretty smooth. Or whatever.

Wendy Hansen 1:07:30
Hard to top that.

Ben Mobeck 1:07:31
Yeah. You got to put it--put them in the tumbler, and then check them out.

Wendy Hansen 1:07:41
Yeah. Yeah, so typically what you do for, like a PCB solid analysis is take so many grams of soil--

Arlene Gundersen 1:07:54
How much soil?

Wendy Hansen 1:07:56
30--35 grams and swirl it with--

Ben Mobeck 1:08:00
Are there rocks--

Wendy Hansen 1:08:00
--like, methylene chloride solvent.

Ben Mobeck 1:08:02
Put them rocks in some kind of solution, maybe a solution can check it out.

Wendy Hansen 1:08:07
Yeah.

Ben Mobeck 1:08:08
You know? Bucket of something, and put some gravel in there. See what happens. Check it out. Check it out after. Yeah.

Beth Astley 1:08:26
Arlene, are you wanting to know if the gravel is clean so it could be used for another--for something else? To reutilize it?

Arlene Gundersen 1:08:35
Yes.

Beth Astley 1:08:35
Okay.

Ben Mobeck 1:08:36
Yeah. All right. Some of that gravel is pretty clean down there from going back and forth up and down the beach like this is a--

George Gundersen 1:08:45
Oh, yeah. Just sitting there on the river. Yeah. Back and forth, stuck up in the hill.

Ben Mobeck 1:08:48
All up in the hill. Oh, yeah. Different, yeah.

Wendy Hansen 1:08:51
So, unless we wrote our scope differently, the contractor would typically test the material, and if it's clean, you can test it, and if it's clean, then they would use it as backfill when they were done. So they just basically stockpile it next to the excavation. And when they're done cleaning and we've got clean limits, then they put it back in the hole.

Kelly Eldridge 1:09:23
Do you know, like, specifically how they test it?

Wendy Hansen 1:09:26
Yeah, so that's what--

Kelly Eldridge 1:09:27
Or is that what we're trying to figure out?

Wendy Hansen 1:09:29
So that's what I was saying is typically how you test a solid. They will take a set amount of--of solid material. Standard is 30--35 grams. So a few rocks, I guess, depending on the size. And you swirl that, basically, with methylene chloride, the typical extraction solvent. And you do that a few times and pour off the methylene chloride and condense it down. And a little extra information because that--that's, you know, the physical process that we're talking about. Can we do that with, you know, a small rock, that type of thing. But just out of interest, after that, once you've collected that methylene chloride, you evaporate it down to a certain volume, and then you exchange it with hexane and get it down to anywhere from 1 to 10 mls extract and then that's what gets injected into the instrument at the

laboratory, so. It might be that you just don't--you don't get as representative of a sample with river rocks. And in theory you know, if you were going to do like a solid material, like, I want to say, concrete or something, but you might do just like a wipe sample, too, but, yeah. A wipe. And I think the wipe sample, if I'm remembering correctly from my laboratory days, it might go directly into the hexane without being exchanged with the methylene chloride.

Wendy Hansen 1:11:25
So, that makes some sense.

Kelly Eldridge 1:11:28
I'm going to ask you-- Right.

Kelly Eldridge 1:11:29
I'm going to ask you for spelling later.

Kelly Eldridge 1:11:32
Methylene chloride?

Wendy Hansen 1:11:34
Hexene?

Audience 1:11:36
H-E-X-A-N-E?

Wendy Hansen 1:11:36
H-E-X-E-N-E. So, I don't know if that's helpful, or if it just brings up more questions.

Arlene Gundersen 1:11:48
I just was--In my mind, I'm trying to figure out how you're going to figure out where the hotspots are, but you would composite samples. So now you got gravel sitting inside there, and now you're trying to figure out where the hotspot was to test those--test that gravel to make sure it's not contaminated.

Wendy Hansen 1:12:08
Yeah, I think typically what we'll do for what we--what we call--what we'll call the gravel is we're going to call it 'overburden'. Like we put it on top of the contamination, and now we're going to remove it as what we call 'overburden'. And we will segregate that in so many samples per so many yards or so, to characterize that.

Arlene Gundersen 1:12:33
I guess the big question is, did they put down that visqueen?

Beth Astley 1:12:36
Yeah, I don't know.

Wendy Hansen 1:12:39
Yeah. And--and usually you still want to do some testing.

Arlene Gundersen 1:12:42
Right.

Wendy Hansen 1:12:43
Yeah, right. Because it was 2014 and, yeah. It will be 2026 and you want to--you want to leave some buffer and make sure.

Beth Astley 1:13:00
But if they didn't put visqueen, typically we would dig until we got close to the native soil and then we would just--that last bit of gravel would just be removed. And hauled off.

Arlene Gundersen 1:13:17
Yeah.

Beth Astley 1:13:18
We would just sacrifice--sacrificial, you know, we just--

Wendy Hansen 1:13:21
Be conservative.

Beth Astley 1:13:22
Yeah, to be conservative. That's generally, I think, how we would approach that.

Wendy Hansen 1:13:33
Are we comfortable? Exhausted or? We're going to let you think for a little more and see if we have some follow on. Okay.

Ben Mobeck 1:13:49
Yeah. Everything is fine, then.

Beth Astley 1:13:59
I have a question about the backfill. So, what type of backfill in the final hole is preferred? Like, you mentioned you want to use the site for gardening so if we put a bunch of gravel in there, that's not going to be very helpful for gardening. Now, I'm not saying we're going to put garden soil in, but, I mean, there's--we could--there's different types of soil, right, that can be specified. You know, when we estimated, we assumed gravel for cost. In the feasibility study, we estimated gravel. So that's the kind of thing, like, if you have comments on things like that, it would be helpful because the next step after the record of decision is to do the remedial design.

Beth Astley 1:14:49
Okay. So at that point, we'd want specific things like that.

Arlene Gundersen 1:14:52
How deep is that top layer? On that--what was--on the previous one? How deep was that top layer of soil?

Wendy Hansen 1:15:00
Yeah, in most cases, it was 6 feet in--on that smaller excavation to the left, and we can go back to that.

Beth Astley 1:15:09
Okay.

Arlene Gundersen 1:15:11
It would have been 2 feet soil coverage. Yeah, where it was at the--

Wendy Hansen 1:15:15
The gravel. You're talking about the gravel.

Arlene Gundersen 1:15:17
And then you got soil on top of gravel. So how much was that? How deep was that soil--

Wendy Hansen 1:15:21
Oh! --covering the gravel? There's 2 feet of--of soil covering the gravel, probably. It's--I--Is it 2 feet?

Beth Astley 1:15:29
I don't know.

Wendy Hansen 1:15:29
Yeah. I don't know for sure. We can get back to you on that for sure. But my guess is that it's 2 feet, but we can get that answer.

Arlene Gundersen 1:15:44
Digging 6 feet, you're putting 4 feet of gravel--

Wendy Hansen 1:15:46
--and then 2 feet of soil--

Arlene Gundersen 1:15:47
--2 feet of soil.

Wendy Hansen 1:15:47
--most likely, but we can confirm that for you. And then the other thing, I think earlier we were talking about invasive species. So...

Kelly Eldridge 1:16:10

Yeah, so there'd be--there'd--we'd need to get certified re-seeding, if you're going to re-seed.

Beth Astley 1:16:20
Yeah, we always use--you should specify weed-free seed.

Kelly Eldridge 1:16:30
On Fish and Wildlife land, they don't have us re-seed. They have us take plugs and put it--like, take plugs from the surrounding tundra and put it in because they're super, super concerned about invasives. Is that something we would want to do here, or, if we get the certified weed-free re-seed material?

Arlene Gundersen 1:16:56
Definitely have something weed-free.

Kelly Eldridge 1:16:58
You have a weed-free--

Arlene Gundersen 1:16:58
Yes.

Kelly Eldridge 1:16:59
Okay.

Wendy Hansen 1:16:59
Yeah.

Arlene Gundersen 1:17:00
They--they take over quite quickly.

Beth Astley 1:17:03
But would you want weed-free seed mix which is developed, like, I think it's in Fairbanks or something? There's a company that develops weed-free seed for the state of Alaska.

Arlene Gundersen 1:17:16
Which is native vegetation for the state of Alaska.

Beth Astley 1:17:18
Yeah, that we generally use, but it may not be exactly matching. What's at Sanak? That's--I don't know. We have to look into what we use in the Aleutian Islands. I don't know.

Arlene Gundersen 1:17:30
Inaudible Tribe. Not take over the native plant life.

Beth Astley 1:17:36

Yeah.

Arlene Gundersen 1:17:36
--and like--

Kelly Eldridge 1:17:37
Yeah, the last--the last couple of sites I've been monitoring in the Aleutians, we haven't done any re-seeding. We've done shovels, like plugs, of tundra from around the excavation and just popped them in. And then over time, they'll eventually regrow, but that might be difficult with cattle. If there's a lot of cattle in the area, they might not re-vegetate.

Arlene Gundersen 1:18:02
And they'll go in, stomping out and just make it all mud instead of--

Kelly Eldridge 1:18:06
Yeah.

Arlene Gundersen 1:18:07
--vegetation regrowing.

Kelly Eldridge 1:18:07
So that could be a problem then, if we do plugging, like we do in a lot of our Aleutian sites.

Beth Astley 1:18:13
Yeah, we--so we would need to look into the source of weed-free seed, and we'd need to know specifically, what species are there, other grasses, and then try to match that? I don't know if we can do a custom seed mix. We might be able to. I don't know. That's, good questions though. Yeah.

Kelly Eldridge 1:18:38
Yeah.

Beth Astley 1:18:38
Again, we're jumping ahead to the remedial design, but--

Kelly Eldridge 1:18:41
Right.

Beth Astley 1:18:42
--you know?

Audience 1:18:42
inaudible.

Beth Astley 1:18:43

It doesn't really change the remedy, but it changes how we implement the remedy. Yes.

Inaudible 1:18:53
Which, that's also important.

Beth Astley 1:18:56
Yes.

Kelly Eldridge 1:18:57
Arlene, do you guys have a list of plants on the island that you could please share with us or...?

Arlene Gundersen 1:19:03
We should.

Kelly Eldridge 1:19:04
Okay.

Arlene Gundersen 1:19:06
Per *inaudible* They do some work and they--they have that--. I'll have to go check this out *inaudible*.

Kelly Eldridge 1:19:11
Yeah, yeah. That's--that's a good plan, thank you.

Arlene Gundersen 1:19:32
Okay. *inaudible*

Inaudible 1:19:32
Okay, good discussion. Thank you. *Inaudible*

Wendy Hansen 1:19:42
Yeah, I think we just started this one. So, we're at the proposed plan stage. We have the last two criteria, CERCLA criteria, which is state and community acceptance. And we're basically--we're at this stage now. So we're presenting our Proposed Plan and asking for input. Next slide, please. On our preferred alternative, which is alternative three, removal and offsite disposal, and why we like this alternative. It quickly, achieves our cleanup objective, tried and true, permanently removes PCB contaminated material greater than one part per million, our cleanup objective. There's very low uncertainty during implementation. We'd expect more technical problems from the treatment alternatives that could cause delays. If that isn't enough, we know that there shouldn't be any untreated residual. We're removing the soil and taking it to another location. There are long-term monitoring requirements, but there also wouldn't be any with other alternatives. We'd expect less coordination. Resources are readily available. Technology is available. It is the lowest cost, and it satisfies our CERCLA statutory requirements. Next, please. So, basically, we're soliciting input. Comments: you can provide feedback on the comment cards, you can provide feedback verbally today, you can call, you can email, you can write a letter. This is where the proposed plan can be found at, if you would like to

view it online. We also have copies right here. And our information is also available at our information repositories at the Pauloff Harbor Tribe office, and the Alaska district in Anchorage on JBER. Your comments will be considered in the final decision. As we formalize our record of decision, we'll respond to the comments in a responsiveness summary that'll be included in the record of decision, and changes could be made through this review process. And yes, *inaudible*. Yes.

Arlene Gundersen 1:23:08
So, at the last work again site they did--the company that was hired did, you know, hire a couple of local people. Tribal members or our local people to work. Is that something that we include here at this part of it or do we talk directly to the person who gets the contract?

Beth Astley 1:23:29
Second.

Arlene Gundersen 1:23:30
Okay.

Beth Astley 1:23:33
We can't direct our contractors to hire particular people. So it's best if we just notify you who we selected, and then you reach out.

Arlene Gundersen 1:23:45
Alright.

Beth Astley 1:23:45
Yes.

George Gundersen 1:23:54
Okay, one other thing that Will *inaudible* told me that I remember. When they were first went to Company Paul Harbor.

Audience 1:23:59
inaudible conversation

Arlene Gundersen 1:24:07
Are you talking about the Jeep we lost?

George Gundersen 1:24:09
Yeah.

Arlene Gundersen 1:24:09
Yeah. Yeah.

George Gundersen 1:24:13

The Jeep had to avoid a couple of them swamps or something, and it went right down and they never seen it again.

Kelly Eldridge 1:24:19
It just, like, sank in the muck there?

George Gundersen 1:24:24
I'm not sure. It must be close to the mountain somewhere because it is kind of wet around there. Yeah.

Kelly Eldridge 1:24:29
They were traveling from Company Harbor to the mountain? Yeah, yeah.

Arlene Gundersen 1:24:32
Yeah. They were taking some of the kids up to the mountain to go watch a movie. Up at the site and, yeah, one of the Jeeps was--that was traveling got into one of the, we call them boogey holes, boogey holes, and sank and they never got it back.

Beth Astley 1:24:51
When you say 'to the mountain', you mean to the AWS?

Arlene Gundersen 1:24:54
Yes.

Beth Astley 1:24:54
Okay.

Kelly Eldridge 1:24:56
So--so the kids, they go up and watch movies with the army personnel?

Arlene Gundersen 1:24:59
Yes.

Kelly Eldridge 1:25:00
That's awesome!

Ben Mobeck 1:25:04
Yeah, might have came out now after we had an earthquake.

Audience 1:25:09
Sure that's-- *inaudible conversations*

Ben Mobeck 1:25:13
So next time we go to Company Harbor, we better look then.

Arlene?? 1:25:16
Yeah, we better look.

Ben Mobeck 1:25:20
Yeah,

Wendy Hansen 1:25:21
How often do you guys make it out to the-to the island?

Ben Mobeck 1:25:25
A couple times a year.

George Gundersen 1:25:27
So, is this funded now through clean up time or we have to go through 2026 or 5 or whatever. Then you get funded or is it funded through or...?

Beth Astley 1:25:39
We get funded annually.

George Gundersen 1:25:40
Yeah.

Beth Astley 1:25:41
Each year. So, we have to request funds each year. We can't ask for funds until the decision document is finished. And so, we wouldn't be able to award a contract right now. It's looking the earliest would be--the earliest would be the end of 2025 would be the earliest, so like December 2025 would be pushing it, but that's what we're going for right now.

Kelly Eldridge 1:26:19
That's the target.

Beth Astley 1:26:20
That's our target, yep. And so that way we would be able get the work plan done and get into the field in 2026. The summer of 2026.

George Gundersen 1:26:29
Looking out long-picture too, we want to, you know *inaudible* and then their government. Everybody's talking about change coming last night. That could be a problem too. We get all the way up to 25 when you ask for the money or whatever and then it might not be available. Which you don't know now. *inaudible*.

Beth Astley 1:26:58
That's true. I can't predict the future.

George Gundersen 1:27:04
Yeah, I know.

Beth Astley 1:27:04
Yeah, but--

George Gundersen 1:27:05
That could happen.

Beth Astley 1:27:06
It could happen, but in general, so once we sign a decision document then we're legally bound to carry out that remedy. So, it's going to be a high priority. This contract will be a higher priority than other work because we have a decision document signed. That make sense? So, there's--yeah, there's no guarantee for future years that it will be funded, but our program has been funded every year. And it hasn't been dependent on the administration that's in power. We seem to just continue to be funded. So, unless that changes, I feel like it's low risk that this wouldn't be funded.

Arlene Gundersen 1:28:06
Knock on all the wood.

Beth Astley 1:28:08
Knock on all the wood, yeah! Well...

George Gundersen 1:28:11
You guys involved in that Durch Harbor cleanup too? There must be lots of contamination over there.

Wendy Hansen 1:28:17
Chernofski, I'm involved in Chernofski.

Kelly Eldridge 1:28:19
Yeah. We have--We have projects on Amaknak Island too. So, this summer, USACE is doing a cleanup at Summer Bay. And then we're also getting cleanup on Little South America and Hill 400. So, we have those two cleanups this summer. That's happening. Our contractor is Ounalashka Corporation Environmental. And then I was just actually out there last week and the city and OC and Qawalangin Tribe, we had a meeting with USACE--and you were on that call too, Beth, right? I think or...?

Beth Astley 1:28:57
No--not this last one, I wasn't.

Kelly Eldridge 1:29:00
Oh, okay. But--so they recently got a lot of EPA grants, in addition to the work USACE is doing, so. Like the city has EPA grant to do some cleanup work and the corporation got--and the tribe all got individual EPA grants and then--so we have four entities right now who are trying to do clean up on--on Amaknak

and Unalaska City. So we're coordinating together to make sure, you know, we're not double dipping or not trying to clean up the same thing or what.

George Gundersen 1:29:36
Yeah, well, those--those are worth--lots of area over there.

Kelly Elridge 1:29:40
Yeah. And we have a couple other FUDS sites on the island further away from town like the Chernofski Harbor that Wendy mentioned. She and I are both involved in that. And then we just--I think we just closed out Cape Prominence? Is that right? That was--that was an AWS site on the south side of the island. And then, we're just starting *starting* the process with Cape Wislow AWS, which is by Reese Bay, and we're just starting the process at Ugadaga station, which is a deeper inlet. So, there's a lot of still a lot of--a lot of contamination.

Wendy Hansen 1:30:19
A lot going on.

Ben Mobeck 1:30:24
Yeah.

Kelly Eldridge 1:30:25
But, like Beth said, once we get the ROD signed for Sanak, Sanak will go to the top of the list.

Audience 1:30:33
For?

Kelly Eldridge 1:30:33
For funding.

George Gundersen 1:30:37
Sounds good.

Ben Mobeck 1:30:38
Sounds good, yeah. Then we got to go out there again for another 12 hours away from here. Then *inaudible* on the boat. Yeah.

Wendy Hansen 1:30:51
Is that a 12--that was a 12 hour?

Ben Mobeck 1:30:53
Yeah.

Wendy Hansen 1:30:54
12 hour route?

Ben Mobeck 1:30:55
Yeah, on average, I guess. *inaudible*. Maybe a little longer. Yeah.

Wendy Hansen 1:31:03
I think I went from Adak to Amchitka once. It was a 24 hour.

Ben Mobeck 1:31:09
Where?

Wendy Hansen 1:31:10
Adak to Amchitka.

Kelly Eldridge 1:31:13
Amchitka Island, yeah.

Ben Mobeck 1:31:15
Oh.

Wendy Hansen 1:31:16
Yeah.

Kelly Eldridge 1:31:16
That's far.

Ben Mobeck 1:31:19
Yeah.

Wendy Hansen 1:31:20
Long haul.

Kelly Eldridge 1:31:27
There's--we have a pretty boat picture on the next slide.

Wendy Hansen 1:31:31
It's the same. Yep.

Kelly Eldridge 1:31:34
Yep.

Ben Mobeck 1:31:42
Fine day here. *inaudible* That--that was in the summertime, right, no?

Wendy Hansen 1:31:46

Yeah.

Ben Mobeck 1:31:48
Because anyway that grass looks a little green over on that hill.

Wendy Hansen 1:31:51
Yeah. I think that was during the *inaudible*

Beth Astley 1:31:54
Yeah.

Wendy Hansen 1:31:55
During the --

Beth Astley 1:31:56
I'm trying to remember when it was, I want to say June, but I think it went into July a little bit.

George Gundersen 1:32:04
Yeah. There's really just not too much green yet.

Ben Mobeck 1:32:09
Yeah. They really need out there something--500 pound anchor or something to--

George Gundersen 1:32:16
Oh to put the boats down?

Ben Mobeck 1:32:17
Yup, huh?

George Gundersen 1:32:18
To put the boats down.

Wendy Hansen 1:32:20
The mooring boats?

Ben Mobeck 1:32:23
Yeah.

Kelly Eldridge 1:32:25
Elaina, are there any questions online? In the chat or anything?

Wendy Hansen 1:32:31
Asking her if there are any online chat questions.

Elaina Torres 1:32:38
No questions on the chat, that I see.

Kelly Eldridge 1:32:50
Does anybody else online have questions? Is William still with us?

William Schmaltz 1:32:56
I am. I don't have any questions. I thought it was very well laid out. No surprises here so. Thank you very much. Again, I thought it was a very good presentation, Wendy.

Wendy Hansen 1:33:06
Thank you. Appreciate it.

Audience 1:33:14
Yeah.

Arlene Gundersen 1:33:14
Thank you for coming out and meeting with us.

Wendy Hansen 1:33:16
Yeah.

Kelly Eldridge 1:33:17
Thank you so much for having us--

Wendy Hansen 1:33:19
Yeah. It's nice--it's nice to be here in person.

Arlene Gundersen 1:33:24
Yes!

1:33:25*meeting ends*

Voicemail Transcript

3/01/2024

Yeah, this is Ben Mobeck here from Sanak tribe here and Corporation. I just was wondering here, we had that meeting with you guys there the other day. And everything went good, I guess, and brought up quite a few things. And--and the soil and all that and--and the dock and--cause that's a hazardous--hazard there. Boats don't know where that is because it's angular and sticking up, so. Could poke a hole in your boat anyway, I know that. And we need a good—good mooring or a good anchor out there, 500 pounder or something because we keep dragging in that bay.

And yeah, I know. I've been brought up out there, and lived out there for quite a few years. And then I went to Sand Point in the six--63 and started crab fishing, and now I'm here. So, born and raised out there, so we used to have quite a time out there. And used to be fine island, but now we got a lot of cattle and horses out there, so.

So, I don't know if you guys are aware of it, but there is a few things going on out there. A little erosion and--and things like that. And up in that Army Camp road, there's still a few things sticking out of the ground, so. So, I guess they want to go dig some more. Well everything that's--hope go--goes well and trying to get the--the Island in good shape again, you know? Trying to get you to do something out there with the cattle, and I guess the water is still fine, I don't know, so. So, okay. I'll see you guys, and you want to give me a call at ***-***-****, Ben Mobeck, and my cell phone is ***-***-**** so that's what I could tell you. And in--in order to--order that that meeting went alright. And we got loose gravel along the beach there too. I don't know if we got enough for that operation, but we can—got to have something to dig it up with, so. Okay, bye for now.

APPENDIX D
Response to Comments

REVIEW COMMENTS **FUDS PROJECT: Sanak Island AWS Station Disposal Site - (F10AK0204-02)**
DOCUMENT: Draft Record of Decision (Feb 2025)

Alaska Department of Environmental Conservation (DEC)	**DATE: 2/20/2025** **REVIEWER: DEC** **PHONE: (907) 451-2185**	**Action taken on comment by:**

Item No.	**Drawing Sheet No., Spec. Para.**	**COMMENTS**	**REVIEW CONFERENCE** **A - comment accepted** **W - comment withdrawn** **(if neither, explain)**	**USACE RESPONSE**	**RESPONSE ACCEPTANCE** **(A-AGREE)** **(D-DISAGREE)**
1.	3.1 Stakeholder Issues and Lead Agency Responses	Why does the document reference *USACE* definition of ARAR as opposed to CERCLA definition of ARAR? Is USACE indicating there is a difference?		The term "USACE" will be removed.	A Pending Backcheck
2.	3.1.1	Bullet point 3, The Uniform Covenants Act. Please reference the statute.		Agree. The reference was not provided in ADEC's comment to the Proposed Plan. It is clarified as part of USACE's response in Section 3.1.1 Paragraph 2 which states "and the Uniform Covenants Act (2019 Alaska Statutes Title 46 Chapter 4 [§ 46.04.300])…" "Uniform Covenants Act" will be changed to "Uniform ***Environmental*** Covenants Act" in this sentence.	A Pending Backcheck
3.	3.1.1	DEC disagrees with the statement that LUC requirements at 18 AAC 75.375 and the UECA Covenants under Title 46 Chapter 4 (46.04.300) are not ARARs. While it is true that the remedy under this ROD anticipates full removal of contaminants to achieve UU/UE, the LUC requirement should be captured as an ARAR to be considered (TBC) in the case that UU/UE is not achieved.		Alternative 3 does not include leaving hazardous substances, pollutants, or contaminants onsite above levels that allow for UU/UE. Therefore, the inclusion of land use controls (LUCs) is not relevant to this ROD.	A Pending Backcheck
4.	Figure A-3	The table of Laboratory Analytical samples does not match the samples in this figure. Please revise to the correct samples.		~~The figure will be revised so the table matches the samples shown.~~ The sample table will be removed from Figure A-3. This was coordinated with Ms. Iler-Galau at ADEC on 3/27/25 and determined to be acceptable.	A Pending Backcheck
End of Comments					

THE STATE of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Site Program

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File No.: 2547.38.004
Hazard ID: 26029

**Electronic Delivery Only*

June 2, 2025

Beth Astley FUDS NALEMP Programs Section Chief, Environmental and Special Programs Branch
U.S. Army Corps of Engineers, Alaska District
P. O. Box 6898
JBER AK 99506

Re: Approval for the *Record of Decision Sanak Island Aircraft Warning Service Station Disposal Site Sanak Island, Alaska FUDS No. F10AK0204-02.*

Dear Ms. Astley:

The Alaska Department of Environmental Conservation (DEC) Contaminated Sites Program received the draft Record of Decision (ROD) Sanak Island Aircraft Warning Service Station Disposal Site Sanak Island, Alaska, FUDS No. F10AK0204-02, on February 14, 2025, and subsequent responses to comments on March 12, 2025, and the final document on 5/27/2025. This ROD presents the Selected Remedy for Project 02 at the Sanak Island AWS Station FUDS property. The Selected Remedy addresses PCB contamination in soil at the Disposal Site Hazard ID 26029.

DEC approves the ROD for the Sanak Island Aircraft Warning Service Station Disposal Site. If you have any questions or need further assistance, please feel free to contact me at 907-451-2085 or via email at kathleen.iler-galau@alaska.gov.

Sincerely,

Kathleen Galau

Kathleen Iler-Galau
Project Manager

CC:
Sarah Bernhardt, DEC
Dennis Shepard, DEC