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PACIFIC OCEAN DIVISION, U.S. ARMY CORPS OF ENGINEERS
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CEPOD-PD (1200A) 23 February 2023

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

SUBJECT: Defense Environmental Restoration Program – Record of Decision (ROD) for Bethel Airport Formerly Used Defense Site, Project No. F10AK0514-03, HTRW, Bethel, Alaska

1. References:

a. ER 200-3-1 [Formerly Used Defense Sites (FUDS) Program Regulation], 01 September 2020.

b. FUDS Handbook, Supplement to ER 200-3-1, 02 December 2022.

c. DoD Manual 4715.20 [Defense Environmental Restoration Program (DERP) Management], 09 March 2012.

d. Memorandum, HQ POA, CEPOA-ZA, 10 Jan 2023, subject: Defense Environmental Restoration Program - Decision Document for Bethel Airport Formerly Used Defense Site, Project No. F10AK0514-03, HTRW, Bethel, Alaska

2. Pursuant to the FUDS and DERP program policies in references 1.a through 1.c, and after review of reference 1.d, I concur with the "no action" recommendation for FUDS project F10AK0514-03. There is zero cost associated with this no action decision.

3. The signed Record of Decision (ROD) is enclosed.

4. Please upload a copy of this memorandum, with enclosure, 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.

Encl

DAMON P. LILLY, SES
Director of Programs

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United States
Army Corps of Engineers

Formerly Used Defense Sites Program

Final Record of Decision

Hazardous, Toxic, and Radioactive Waste (HTRW)

Project #F10AK0514-03
Bethel Airport
Formerly Used Defense Site (FUDS)

Bethel, Alaska

February 2023

U.S. Army Corps of Engineers - Alaska District
P.O. Box 6898
JBER, Alaska 99506-0898

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Acronyms and Abbreviations

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ARAR	Applicable or Relevant and Appropriate Requirement
ASTs	Above ground storage tanks
bgs	Below Ground Surface
BLM	Bureau of Land Management
BNC	Bethel Native Corporation
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CAA	Civil Aeronautics Agency
Calista	Calista Regional Native Corporation
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COC	Contaminant of Concern
COPC	Contaminant of potential concern
CSM	Conceptual Site Model
CUL	Cleanup level
cVOC	chlorinated volatile organic compound
ROD	Record of Decision
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DoD	U.S. Department of Defense
DRO	Diesel Range Organics
EPA	U.S. Environmental Protection Agency
°F	Fahrenheit
FAA	Federal Aviation Administration
f_{oc}	Fraction of Organic Carbon
FUDS	Formerly Used Defense Sites
GRO	Gasoline Range Organics
HTRW	Hazardous, Toxic, and Radioactive Waste
ISE	Imminent and Substantial Endangerment
JBER	Joint Base Elmendorf-Richardson
MEC	Munitions and Explosives of Concern
mg/kg	Milligrams per Kilogram
MLLW	Mean Lower Low Water
M/S	Meters per Second
NCP	National Oil and Hazardous Substance Contingency Plan
PA	Preliminary Assessment
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated biphenols
POLs	Petroleum, oil, and lubricants
PP	Proposed Plan
RI	Remedial Investigation
RRO	Residual Range Organics
TCE	Trichloroethylene
USACE	US Army Corps of Engineers

USC	United States Code
USGS	U.S. Geological Survey
USTs	Underground storage tanks
UVOST	Ultraviolet Optical Screening Tool
VOCs	Volatile Organic Compounds

EXECUTIVE SUMMARY

ES.1 This Record of Decision (ROD) presents the No Action decision for the Bethel Airport, Formerly Used Defense Sites (FUDS) Hazardous, Toxic, and/or Radioactive Waste Project (HTRW) project number F10AK0514-03.

The No Action decision is based on the Administrative Record for this Site, and the investigations that have occurred. In June 1994, the U.S. Army Corps of Engineers (USACE) approved a FUDS project for building demolition/debris removal (USACE, 1998). The USACE prepared a Preliminary Assessment (PA) for the Site in support of Defense Environmental Restoration Program (DERP)-FUDS (USACE, 2014). The PA provided a compilation of information obtained through historical research at various archives and records holding facilities. A Remedial Investigation (RI) was completed for the Site in 2017 (USACE, 2017), with an addendum in 2020 (USACE, 2020).

ES.2 The Site is located near the mouth of the Kuskokwim River, 40 miles inland from the Bering Sea, and 400 air miles west of Anchorage. The Army established multiple remote airfields for staging and servicing of aircraft during World War II (WWII). In October 1940, the Army selected Bethel to construct one of these airfields and the Civil Aeronautics Administration (CAA) began construction of two landing strips. The Army gained control of the 216,000-acre Bethel Staging Field and Garrison property by use permit on 27 October 1943. The airfield included several tracts of land. Tract A is the airport, also known as Todd Army Airfield and Bethel Air Station; Tract B is the garrison. This ROD is exclusive to Tract B. Construction at Tract B was started in July 1942, and continued 15 months until September 1943, when it was canceled (U.S. Army,1944).

The Site was intended to host a variety of infrastructure for a planned garrison. Very little of this infrastructure was constructed prior to Site abandonment. A powerhouse, an auto repair facility, and a motor repair shop were constructed in 1942 (U.S. Army,1944). Details of the auto repair facility and a motor repair shop regarding service activities and associated hazards are not available. These facilities were occupied by the Army from 1942 through 1944 (U.S. Army 1944). Aerial photography shows an aboveground storage tank (AST) was located in a staging area (USACE 2017).

In 1944, the army started removing all equipment and supplies from out-lying areas in preparation for deactivation. The Army finished relinquishing the Use Permit for Tracts A and B to CAA on 2 October 1947 (USACE 2017). Aerial imagery shows the buildings were demolished some time before 1948, with only the foundations remaining.

The Air Force re-acquired 1,853.26 acres from the CAA within Air Navigation Site Withdrawal No. 146; Bethel Air Force Station established by Use Permit dated 2 May 1951, amended on 7 July 1953 and on 19 August 1954. This included the 265 acre Tract B (2 May 1951). The Air Force discontinued use of Tract B (Site) in 1952 because of unfavorable conditions. The Air Force declared Tract B excess and relinquished the land to the CAA on 30 September 1955, and it was officially transferred back to the CAA on 4 January 1956. The Air Force detailed in the declaration of excess that “the land has not

been used for any purpose which might result in the area being contaminated by live bombs, artillery projectiles, or other explosives."

On 22 November 1962, the Bureau of Land Management (BLM) took over control of the Site. The tract was subsequently made available for selection under the Alaska Native Claims Settlement Act of 18 December 1971 (Public Law 92-203). The current landowner of the Site is the Bethel Native Corporation (BNC) (surface estate). The Calista Regional Native Corporation (Calista) owns the subsurface rights.

FUDS are real properties that were owned by, leased to, or otherwise possessed by the United States and under the jurisdiction of the Secretary that was transferred from Department of Defense (DoD) control prior to 17 October 1986. The U.S. Army is DoD's lead agent for the FUDS Program, and USACE has been delegated authority to execute the FUDS Program on behalf of the U.S. Army and DoD. The Site was determined to be eligible for the FUDS program during the Findings and Determination of Eligibility (FDE) (USACE, 2014).

In accordance with DERP-FUDS (United States Code, Title 10, Section 2701, et seq.), this ROD presents the No Action decision for Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) contaminants. CERCLA Contaminants of Potential Concern (COPC) present in soil at the Site include arsenic, vinyl chloride and 1,2-dichloroethane. Arsenic is considered a background COPC. No COPC exceedances were identified in groundwater.

Petroleum, oil and lubricants (POLs) are excluded from CERCLA, but may be addressed under the authority of the DERP-FUDS (United States Code, Title 10, Section 2701, et seq.) if POL contamination poses an imminent and substantial endangerment to public health, welfare, or the environment. The RI did not identify actionable risk from POLs.

ES.3 No CERCLA action is necessary to ensure protection of human health and the environment at the site. None of the detections exceeded EPA's Risk Based Screening Levels, so cumulative risk analysis was not required. Therefore, onsite contaminant concentrations do not pose an unacceptable risk to human health or the environment, and no further investigation or remedial action is necessary.

Part 1: Declaration

1.1 Project Name and Location

The Bethel Airport FUDS (the Site), property number F10AK0514, project number 03, is located near the mouth of the Kuskokwim River, approximately 40 miles inland from the Bering Sea, 400 air miles west of Anchorage, and 2 miles southeast of the city of Bethel. The Site lies at approximately 60.747852° North Latitude and -161.698764° West Longitude. The area encompasses 1,853.26 acres. The location of the Site is shown on Figure 1. The Site is not listed on the National Priorities List.

1.2 Statement of Basis and Purpose

This Record of Decision (ROD) presents the USACE No Action decision for the Site, which was determined in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The Alaska Department of Environmental Conservation (ADEC) concurs with this no action decision (see Attachment B).

Detailed information supporting the No Action decision is contained in the administrative record file for this Site, located at the USACE, Alaska District Office on Joint Base Elmendorf-Richardson (JBER), Alaska, and the information repository in the Kuskokwim Consortium Library in Bethel, Alaska.

1.3 Description of the No Action Decision

No CERCLA action is necessary for the Site.

1.4 Statutory Determinations

The legislation establishing the Defense Environmental Restoration Program (DERP), 10 USC § 2701 et al, authorizes the Secretary of Defense to carry out response actions with respect to releases of hazardous substances at sites that were owned by, leased to, or otherwise possessed by the United States and under the jurisdiction of the Secretary at the time of the release and that were transferred from DoD control prior to 17 October 1986.

No remedial action is necessary to ensure the protection of human health and the environment.

1.5 Authorizing Signatures

This Record of Decision presents the No Action decision for the Bethel Airport project 03. The Department of Defense is the lead agency under the DERP at the Bethel Airport FUDS and USACE has developed this No Action decision for DoD consistent with CERCLA as amended, and the NCP. This ROD will be incorporated into the larger Administrative Record file for the Bethel Airport project, which is available for public view at the two following Information Repositories: (1) Kuskokwim Consortium Library Email: bethel.library@alaska.edu. Phone: 907-543-4516. Physical address: 420 State Highway. Mailing address: P.O. Box 368 Bethel, AK 99559; (2) Alaska District Office on Joint Base Elmendorf-Richardson, 2204 3rd Street, Elmendorf Air Force Base, Alaska, 99506. This Record of Decision presenting a No Action decision is approved by the undersigned, 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 Agency Responsibilities for the FUDS Program.

APPROVED:

DAMON P. LILLY, SES
Director of Programs
U.S. Army Corps of Engineers
Pacific Ocean Division

23 FEB 2023
Date

Part 2: Decision Summary

This Decision Summary provides an overview of the conditions at the Bethel Airport FUDS, property number F10AK0514. Four projects were authorized for the Bethel Airport FUDS property. The Building Demolition/Debris Removal (BD/DR) Project Number F10AK0514-01 included removal of buildings, debris, barbed wire, and an underground storage tank (UST). Additionally, two mechanic pits and open wells were decommissioned, and the project was closed in 1998. The Containerized (CON) HTRW Project Number F10AK0514-02 included the removal of 5,050 drums of asphalt, 2,000 cubic yards of asphalt-contaminated soils, and 500 cubic yards of site debris and was closed in 1996. The CON/HTRW Project Number F10AK0514-04 included the removal of 25 drums of asphalt and was closed in 2006. Project F10AK0514-03 addresses the remaining environmental concerns associated with soil and groundwater contamination identified at the Bethel Airport property and is intended to conclude all remedial activities for this property. This ROD summarizes the data from the Remedial Investigation (RI), and explains the rationale for the No Action decision, and how the decision satisfies the statutory requirements of CERCLA for Project F10AK0514-03.

2.1 Site Name, Location, and Description

The Site is situated near the mouth of the Kuskokwim River, 40 miles inland from the Bering Sea, 400 miles west of Anchorage, and approximately 2 miles southeast of Bethel (Figure 1). It lies at 60.747852° North Latitude and -161.698764° West Longitude. The area encompasses 1,853.26 acres. Precipitation averages 16 inches a year in this area, with snowfall of 50 inches. Summer temperatures range from 62 degrees Fahrenheit (°F) to 42°F; winter temperatures average 19°F to -2°F. The population of Bethel is approximately 6,000 people; however, there are no dwellings within approximately 1 mile of the property. The lead agency is the DoD, through the Alaska District of the USACE. The Site is currently owned by the BNC.

2.2 U.S. Army Site History

During WWII, the Army established multiple remote airfields for staging and servicing of aircraft during wartime activities. In October 1940, the Army selected Bethel to construct one of these airfields and the CAA began construction of two landing strips. The Army gained control of the 216,000-acre Bethel Staging Field and Garrison property by use permit on 27 October 1943. This included several tracts of land, including Tract A (the airport, also known as Todd Army Airfield and Bethel Air Station) and Tract B (the supporting garrison) (Figure 2). This FUDS project is exclusive to Tract B; however, for historical clarity, Tract A will also be discussed.

Construction at Tract B was started in July 1942, and continued 15 months until September 1943, when it was canceled (U.S. Army 1944). During construction, it was noted that “The water table is very close to the surface and great difficulty was experienced in finding areas entirely free of water for camp installations” (U.S. Army

1944). Groundwater elevations at the Site vary seasonally and range from the surface to a depth of 28 feet below ground surface (bgs).

As originally planned, the buildings at Tract B were intended to house infantry to defend the airfield in case of Japanese attack. The Army ramped down efforts in 1944, removing all equipment and supplies from outlying areas in preparation for deactivation of the garrison at Tract B.

The Army finished relinquishing the use permit for Tracts A and B to CAA on 2 October 1947 (USACE 2017). Aerial photos show all buildings were demolished by 1948.

The Air Force re-acquired 1,853.26 acres from the CAA within Air Navigation Site Withdrawal No. 146; Bethel Air Force Station established by use permit dated 2 May 1951, amended on 7 July 1953, and on 19 August 1954 (USACE 2017). This included:

- 1,587.40 acres Tract A – Joint use (2 May 1951)
- 0.86 acre Tract A – Exclusive use (7 July 1953 and 19 August 1954)
- 265.00 acres Tract B – Exclusive use (2 May 1951)

The Air Force discontinued use of Tract B in 1952 because of unfavorable site conditions. The Air Force once again declared the 265-acre Tract B excess and relinquished the land to the CAA on 30 September 1955. The property was officially retransferred to the CAA on 4 January 1956. When the land was relinquished, the Air Force indicated that “the land has not been used for any purpose which might result in the area being contaminated by live bombs, artillery projectiles, or other explosives.”

On 22 October 1959, the Air Force declared the remaining 1,588.26-acre lands (Tract A) excess, terminated the use permit, and retransferred the property to the Federal Aviation Administration (FAA; successor to CAA). On 22 November 1962, the FAA relinquished most of the FUDS area to the Bureau of Land Management (BLM); the remainder of Bethel Airport property was relinquished by the FAA to BLM on 8 February 1968 (USACE 2017). The Site was subsequently made available for selection under the Alaska Native Claims Settlement Act of 18 December 1971 (Public Law 92-203). The land was selected by BNC (surface estate), who remains the current landowner (USACE 2017). The Calista Regional Native Corporation (Calista) is the regional corporation that owns the subsurface rights.

The airfield (Tract A) consisted of a radio range station, an aircraft landing field with two 400-foot by 5,000-foot runways, eight quarters buildings, one utility building, one engine-generator building, one control building, and two transmitter buildings. Also included were five towers for radio beam transmission and five towers for communication transmission (USACE 2017).

On Tract B, a powerhouse was constructed in 1942 (U.S. Army 1944), along with an auto repair facility and motor repair shop. Details of the auto repair facility and a motor repair

shop regarding service activities and associated hazards are not available. These facilities were built and occupied by the Army from 1942 through 1944. No other buildings were constructed. Aerial photography shows an aboveground storage tank (AST) was located in a staging area (USACE 2017). Tract B was also under Air Force jurisdiction from 1951 through 1955; however, the records show it was used for billeting only. It is not clear if Tract B was ever used for any other purpose (USACE 2014).

Tract B was inventoried in May and June 1995 (USACE 2014). Most of the WWII Army buildings were gone, with only the rotting pilings present. Concrete foundations were found from four Corwin Warehouses and two vehicle repair buildings, all of which were overgrown with moss and herbaceous vegetation. The skeletal frames from six erect and two dismantled Quonset huts were also found.

The auto repair facility contained two mechanics' pits in the concrete floor. The 4.5-foot-deep (17-foot by 2.5-foot) concrete pits contained a foot of water when visited in late June 1995. The water observed in the pits did not contain a sheen. The two pits were backfilled with clean soil during the building demolition/debris removal (BD/DR) 1997/1998 removal action (USACE 2007).

At the powerhouse, a pair of 10-foot by 5-foot by 16-inch-thick concrete engine mountings were observed. West of the road to the north of the four Corwin foundations was a 5-foot concrete mass believed to have been an antenna tower base (USACE 2007).

2.3 Investigation and Remedial Action History

The following sections present details of the previous investigations and removal actions at the Site.

2.3.1 Initial Site Inspection (1985-1995)

Property visits conducted by the USACE in 1985, 1992, and 1995 identified several building demolition/debris removal concerns remaining at the Bethel Airport FUDS, which included two areas at the Infantry Area (USACE 1998). The remains of the original buildings and equipment throughout the Site posed a danger to people or wildlife in the vicinity. In June 1994, USACE Headquarters approved a FUDS project for BD/DR and a removal action was executed in 1997/1998 (USACE 1998).

The St. Louis District of the USACE prepared a Preliminary Assessment (PA) for the Bethel Airport FUDS, in support of DERP-FUDS (USACE 2014). The PA provided a compilation of information obtained through historical research at various archives and records holding facilities. The assessment was primarily a textual, cartographic, and photographic research and analysis effort. The research directed efforts towards determining presence of hazardous substance as a result of previous use, storage, and/or disposal. The research placed emphasis on establishing the types, quantities, and areas of hazardous, toxic, and radioactive waste (HTRW), munitions and explosives of concern (MEC), and chemical warfare activities. Information from this research was used in

developing recommendations for further action at the former Bethel Airport FUDS and included areas adjacent to the Bethel Airport property boundary.

The PA identified four areas at the Site which had the potential for CERCLA releases: 1) the former Powerhouse and underground storage tank (UST), 2) the former Auto Repair Shop, 3) the former Motor Repair Shop, and 4) a former AST just outside the FUDS property boundary.

2.3.2 Remedial Investigation (2017)

The Remedial Investigation focused on the areas identified in the PA. It included the following activities:

- An initial Site survey to locate the former AST
- Ultraviolet Optical Screening Tool (UVOST) Laser-Induced Florescence Investigation
- Surface and subsurface soil sampling
- Installation, development, and sampling of groundwater monitoring wells
- Site survey

UVOST screening was performed at 119 individual locations at the Site. Spacing between screening locations was 10 to 20 feet. Soil samples were collected at locations where the UVOST indicated contaminants might be present, or where Site features suggested hazardous materials may have once been used or stored. Soil samples were collected from 16 locations at the former Powerhouse and associated UST. Thirty more locations were sampled, 10 at each location, including the former Auto Repair Shop, the former Motor Repair Shop, and the former AST.

Seven groundwater monitoring wells were also installed and sampled.

Soil and groundwater samples were collected and analyzed for the CERCLA contaminants: polychlorinated biphenyls (PCBs); metals; and volatile organic compounds (VOCs).

2.4 Enforcement History

There have been no enforcement activities or notices of violation pertaining to the DoD activities at the Site.

2.5 Community Relations Activities

The following documents were made available to the public with corresponding release dates:

- Remedial Investigation Report: May 2017.

- Remedial Investigation Addendum: April 2020.
- Proposed Plan: September 2021.

The reports can be found in the Administrative Record file at USACE Alaska District on JBER and the Kuskokwim Consortium Library in Bethel, Alaska.

Public participation has been an important component of the CERCLA process at the Site. The proposed plan and public meeting were advertised on the Bethel City Facebook site, on flyers posted around town, and advertised in the Delta Discovery newspaper. A public meeting was conducted online on January 27, 2022. This meeting was recorded, and the recording is available for review at https://www.youtube.com/watch?v=a-rEVGAnzmg.

Representatives from USACE were available at the public meeting to answer questions about the project. USACE did not receive any public comments on the proposed plan.

USACE also contacted the property owner, BNC. BNC submitted a letter with comments to the proposed plan. Calista submitted a letter that was neutral on the No Action decision. ADEC sent a letter concurring with the No Action decision. All are provided as attachments to this ROD in the Responsiveness Summary (Attachment B).

The ADEC provided comments to the Proposed Plan (PP) and ROD during document development and as part of the ongoing coordination between USACE and Bethel community stakeholders. These comments were considered and addressed in preparing the ROD (Attachment C).

2.6 Site Characteristics

This section provides an overview of the Site, including climate, topography, geology, soils, hydrology, and ecological resources.

2.6.1 Climate

The Site has a subarctic climate with long, somewhat snowy, and moderately cold winters; and short, mild summers. Monthly daily average temperatures in Bethel range from 12°F in January to 63°F in July, with an annual mean of 30.7°F. Warm days of above 70°F can be expected 12 days per summer. Precipitation is both most frequent and greatest during the summer months, averaging 18.58 inches per year. Snowfall averages 62 inches a season. Extreme cold temperatures to -40°F periodically occur at the Site (U.S. Climate Data 2019).

2.6.2 Topography

The Site is on the alluvial plain of the Kuskokwim River in southwestern Alaska. It is relatively flat, with an elevation of 5 to 12 feet above sea level. The Site is located in essentially a peat bog on a flood plain. To some degree, flooding occurs in the Bethel area annually. Bethel's Special Flood Hazard Areas are those areas where the ground

elevation is below 17.1 feet mean lower low water (MLLW). Eighty percent of the residential and commercial areas have been flooded in the past (City of Bethel 1997). The Site is about 5 feet above MLLW. The Site is classified as wetlands and floods almost every year. Because of frequent flooding issues, field work was done during the winter when the ground was frozen.

2.6.3 Geology and Soils

The primary soil type is poorly drained silty soils and silt loam. Bethel is on the alluvial plain of the Kuskokwim River. The alluvial plain is bounded on the west by a terrace escarpment of older silt and sandy silt Yukon-Kuskokwim delta deposits (USACE 2014).

Subsurface deposits observed and described during the RI consist of:

- Peat and organic silt, primarily encountered from ground surface to a depth of less than 1 foot, with occasionally 1 to 11 foot thick deposits at greater depths.
- Silt was encountered at depths ranging from 0 to 40 feet bgs.
- Sandy silt was encountered at depths ranging from 0 to 30 feet bgs.
- Silty sand was encountered at depths ranging from 0.5 to 10 feet, and 27 to 30 feet bgs.

2.6.4 Hydrogeology and Surface Water

The Kuskokwim River is the principal freshwater body near Bethel and flows from northeast to southwest along the southern edge of the city and north and west of the Site (Figure 3). Flow in the Kuskokwim is slow, ranging from 0.25 to 0.67 meter per second (Lanning 1987), corresponding with the generally flat topography. Surrounding the Site are numerous small lakes, ponds, and marshes that are characteristic of the Yukon-Kuskokwim Coastal Lowlands (Figure 3). The Kuskokwim River typically freezes in late October or early November and breaks up in May.

Groundwater elevations ranged from 9.46 to 9.26 feet above mean sea level (msl) during the remedial investigation (USACE 2017). The total head loss across the study area was 0.2 foot. The shallow groundwater flow direction is primarily southwest, with a slight west-northwesterly component observed in the groundwater control area.

Groundwater gradient was calculated to be 0.00067 (USACE 2017). This is a very flat gradient, and coupled with the fine soils, would likely result in a very low groundwater flow velocity.

Shallow groundwater was found from just below the surface to depths of at least 28 feet bgs (USACE 2017). Below this aquifer is permafrost. The sub-permafrost groundwater generally flows southwest, matching the flow direction of the Kuskokwim River. The occurrence of shallow groundwater above permafrost tends to mimic topographic gradients and flows toward local surface-water drainage features.

Shallow groundwater levels were noted to fluctuate with the tides and stages of the river (USACE 2014).

Low-relief terrain, frozen ground, and poor drainage exacerbate flooding problems in the Bethel area. Snow and ice clog stream channels in the spring, causing water to flow in overbank areas (USGS 1995).

2.6.5 Ecological Setting

Vegetation on the wet tundra near Bethel consists of sedges, sphagnum moss, Labrador tea, dwarf birch, and other low-growing tundra shrubs. Shrub thickets consisting of dense growths of alder, willows, and resin birch are found in some areas near Bethel, primarily along the Kuskokwim River. South of Bethel, where the land slopes toward the Kuskokwim River, the vegetation is moist tundra, which consists of sedges, scattered willows, and dwarf birches (Viereck and Little 1972)

The Site has been previously disturbed but has largely revegetated. A variety of land mammals inhabit the area, including brown bear, black bear, moose, caribou, gray wolf, red fox, lynx, muskrat, beaver, porcupine, otter, marten, ground squirrel, tree squirrel, wolverine, weasel, and hare. Several species of fish are found in the Kuskokwim River and its tributaries, including king salmon, silver salmon, chum salmon, pink salmon, Arctic grayling, Dolly Varden trout, whitefish, burbot, Arctic char, Alaska blackfish, and stickleback (USACE 2014). The nearest anadromous stream is the Kuskokwim River, adjacent to the Site. It is unlikely to be affected by residual contaminant concentrations identified in the soil.

Many species of plants, animals, and fish are used as subsistence resources. Salmon are commercially harvested in the Kuskokwim River.

2.7 Nature and Extent of Contamination

The nature and extent of potential CERCLA soil impacts at the Site are summarized in this section. The descriptions in the following section are based on information presented in the 2017 RI report, and the 2020 RI Addendum.

Environmental impacts at the Site are associated with historical military activities, which consisted of a partially constructed garrison for soldiers. It is unclear how much work was completed prior to the Site being abandoned. The RI evaluated the following areas of the Site:

- The former Powerhouse and associated UST
- The former Auto Repair Shop
- The former Motor Repair Shop
- The former AST just outside the FUDS property boundary

The locations of these features are presented in Figure 3 and Figure 4.

2.7.1 CERCLA Site Characterization

Samples were collected and analyzed for PCBs, metals, and VOCs. Groundwater rises and becomes surface flow on a semi-annual basis, so soil contaminants are likely to periodically flush to/from soil, mix with groundwater and surface water, and dissipate over time. ADEC Method 3 migration to groundwater standards, using the Site-specific fraction of organic carbon (f_{oc}) in the soil (0.007) are shown in Table 1.

Table 1: Summary of Soil CERCLA Analytical Results

Analysis/COPC	Number of Samples	Maximum Concentration Detected (mg/kg)	Method 3 Criteria (f_{oc} = 0.007) (mg/kg)	Number of Samples Exceeding Screening Levels (mg/kg)	Notes
Powerhouse and UST					
PCBs	7	Not Detected			
Auto Repair Shop					
Metals	19				
Arsenic	19	35	8.8	12	Naturally occuring
VOCs	19				
Vinyl Chloride	19	0.017	0.0011	2	Q
1,2-Dichloroethane	19	0.014	0.11	0	Q
Motor Repair Shop					
Metals	19				
Arsenic	19	31	8.8	10	Naturally occuring
VOCs	19				
Vinyl Chloride	19	0.032	0.0011	2*	Q
1,2-Dichloroethane	19	0.016	0.11	0	Q
AST at Staging Area					
VOCs	10	Not Detected			

Notes:

*= includes duplicate sample

Q = All chlorinated volatile organic compound (cVOC) exceedances in soil samples were biased or estimated due to lab quality issues
AST = aboveground storage tank
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
COPC = contaminants of potential concern
F_{oc} = fraction of organic carbon
mg/kg = milligrams per kilogram
PCBs = polychlorinated biphenyls
UST = underground storage tank
VOCs = volatile organic compounds

The Powerhouse and UST, and the AST Staging Area did not have detectable concentrations of CERCLA Hazardous Substances. The only metal found to exceed screening levels was arsenic. As discussed in the ADEC March 2009 Technical Memorandum, “Due to naturally occurring variable concentrations throughout the State of Alaska, arsenic must be evaluated as a contaminant of potential concern on a site specific basis.”

Background arsenic samples were collected during the RI, and were found to be consistent with concentrations found in the areas investigated, as well as background values for the Bethel area (USACE 2017). Therefore, the detectable arsenic on site is

assumed naturally occuring and not considered a contaminant of potential concern (COPC) at the Site.

At the Auto Repair Shop and Motor Repair Shop, 1,2-dichloroethane was detected at concentrations below Method 3 screening levels. Vinyl chloride was detected at three isolated locations at concentrations above the Method 3 screening level; however, the vinyl chloride exceedances in soil samples were biased or estimated due to laboratory quality issues and not useable. There are no soil samples with confirmed vinyl chloride exceedances at the Site and use of chlorinated solvents here is considered highly unlikely. The construction on the Bethel Auxiliary Army Airfield was halted in 1943, with the field still incomplete. A November 1942 Army technical order limited the use of chlorinated solvents to "depots and such stations as are specifically authorized…to employ this method of cleaning." During WWII, chlorinated solvents were very expensive and hard to manufacture, and are unlikely to have been used at this remote inoperable auxiliary airfield. It was not until the late 1940s that such products became more commonly available.

There were no exceedances of screening levels of any CERCLA hazardous substances (other than background arsenic) in groundwater. Groundwater is not considered a potentially impacted media at the Site.

2.8 Current and Potential Future Land and Resource Uses

The Site is owned by the BNC. The current use of the Site and surrounding land is limited to occasional Site visitors, recreational users, and subsistence gathering. Present users may access the Site using boats. Groundwater is not currently used. The reasonably anticipated future land use of the project area would continue as it is today. There are no immediate plans to develop the Site; however, workers and residents were evaluated for potential risks to inform case management decisions. The Site has been identified as a potential area for residential expansion.

2.9 Summary of Site Risks

The USACE conducted a Human Health Risk Assessment and Screening-level Ecological Risk Assessment to evaluate the potential risks to human and ecological receptors based on potential exposures to contaminants remaining at the Site. The risk assessments are presented in detail in the 2017 RI and 2020 RI Addendum and are summarized in this section.

2.9.1 Identification of COCs

The 2017 RI report evaluated the remaining COCs based on historical data and soil and groundwater data acquired from the 2017 RI field effort (USACE 2017). Project action limits or screening criteria for soils initially included ADEC Method 2 Tables B1 and B2 for the “under 40-inch” zone (18 Alaska Administrative Code [AAC] 75.341), and as adjusted through the ADEC Method 3 approach under 18 AAC 74.340(e). These were subsequently replaced using the ADEC Method 3 approach.

The calculation of Method 3 screening levels is described in the RI report, Section 6.6 (USACE 2017). Default ADEC soil cleanup values for the protection of groundwater are based on an f_{oc} of 0.001. This is a conservative assumption of the percentage of organic carbon likely to be present at a site. Organic rich soils can have f_{oc} concentrations significantly higher than the default concentrations.

The results of f_{oc} sampling at the Site had an average concentration of 22,000 milligrams per kilogram (mg/kg), or an f_{oc} of 0.022 (USACE 2017). If the two highest values that appear to be outliers are removed, then the average f_{oc} at the Site is 0.007. This is seven times higher than the default value of 0.001 f_{oc} used by ADEC, meaning there could be significant retardation of contaminants through the soils. This finding is consistent with the presence of peaty soils at the Site, as reported in numerous boring logs. The Site-specific calculated value f_{oc} (0.007) was used to determine Method 3 screening levels for soil (Table 3).

For groundwater, Table C Groundwater cleanup levels (18 AAC 75.345) were used for comparison.

As part of the 2017 RI and 2020 RI Addendum, CERCLA constituents in soil potentially exceeding Method 3 human health regulatory standards were identified for the Site. This includes arsenic, vinyl chloride, and 1,2-dichloroethane. The maximum concentrations detected in soil are shown in Table 2.

Table 2: Maximum CERCLA Concentrations Detected in Soil

Chemical	Maximum Concentration (mg/kg)	Method 3 Criteria (f_{oc} = 0.007) (mg/kg)
Arsenic, Inorganic	35	8.8
Vinyl chloride	0.032	0.0011
1,2-Dichloroethane	0.016	0.11

Notes:
18 AAC 75 Oil and Other Hazardous Substances Pollution Control, June 24, 2021. Arsenic is background concentrations.
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
F_{oc} = fraction of organic carbon
mg/kg – milligrams per kilogram.

Arsenic was found to be within background concentration ranges, and was removed from further consideration, and 1,2-Dichloroethane was not found to exceed Method 3 screening levels. Only vinyl chloride exceeded Method 3 screening levels, at both the Auto Repair Shop and Motor Repair Shop. However, the vinyl chloride exceedances in soil samples were biased or estimated due to laboratory quality issues and not usable. There are no soil samples with confirmed vinyl chloride exceedances on the Site.

2.9.2 Conceptual Site Model Overview

The RI identified potential human health receptors and exposure pathways at the Site (USACE 2017). Only potentially complete exposure pathways are evaluated quantitatively in a human health (or ecological) risk evaluation consistent with U.S. Environmental

Protection Agency (EPA) guidance (USEPA 1989, 1997). Attachment A presents the human health conceptual site model (CSM) graphic form, reproduced from the RI, showing potentially relevant exposure pathways and receptors.

Ecological exposure was not evaluated as part of the RI; therefore, an ecological CSM is presented narratively within the context of the Ecoscoping form provided in Attachment A.

2.9.3 Human Health and Ecological Risk

No CERCLA contaminants were detected at the former Powerhouse and associated UST, or the AST; therefore, there is no discussion of human health or ecological risk at these locations.

Auto Repair Shop

At the Auto Repair Shop, no exceedances of human health soil screening levels, were noted for CERCLA hazardous substances. Therefore, neither cumulative risk calculation nor further evaluation is warranted. Screening results are presented in Attachment A.

To further evaluate these results, the detected concentrations can be compared to 1/10th the human health screening levels; 1/10th the screening level for these compounds is:

- 1,2-dichloroethane: 0.55 mg/kg.
- Vinyl chloride: 0.065 mg/kg.

None of the detections exceeded even 1/10th the human health screening level. Therefore, no further investigation appears to be necessary.

A completed Ecoscoping form is included in Attachment A. Based on the outcome of Ecoscoping, no significant exposure of CERCLA hazardous substances at the Auto Repair Shop Area is expected based on contaminant quantity (Ecoscoping Offramp at Step 4). Although a few detections of non-petroleum contaminants were noted (4-chlorotoluene, methylene chloride, and vinyl chloride), none exceeded ecological screening levels. No further ecological evaluation for CERCLA hazardous substances is warranted for the Auto Repair Shop.

Motor Repair Shop

At the Motor Repair Shop, no exceedances of human health soil screening levels were noted for CERCLA hazardous substances. Therefore, neither cumulative risk calculation nor further evaluation is warranted. Screening results are presented in Attachment A.

A completed Ecoscoping form is included in Attachment A. For CERCLA, exceedances of the Method 3 screening level was noted for 1,2 dichloroethane and vinyl chloride at the Motor Repair Shop. However, exceedances were localized to only a few sample locations, and were present only in shallow subsurface soil (from about 1 to 3 feet bgs).

Given the localized exceedances in shallow subsurface soil and non-detection of these compounds in groundwater, migration to groundwater is not expected.

Concentrations were low and qualified as estimated (J-flagged) or indicated a quality control failure (Q–qualified). Exceedance of the ecological screening level was noted for vinyl chloride. Given the localized detection of vinyl chloride and low magnitude of exceedance, and the low quality of the data, significant ecological exposure is not expected.

Based on this review of the data and the regulations, there does not appear to be any need for additional investigation at the Motor Repair Shop, and no action is recommended.

2.9.4 Basis for No Action Decision

The Risk Assessments completed for the Bethel Airport identified no unacceptable human health risk or ecological risk at the site.

Concentrations of 35 mg/kg arsenic, 0.032 mg/kg vinyl chloride, and 0.016 mg/kg 1,2-dichloroethane will remain on the Site. Arsenic was found to be within background concentration ranges. 1,2-Dichloroethane was not found to exceed screening levels. Only four (3 primary and one duplicate) samples exceeded Method 3 screening levels for vinyl chloride.

All vinyl chloride exceedances in soil samples were biased or estimated due to lab quality issues and should be considered not usable. As such, remaining contamination present is adequately characterized and poses no unacceptable risk to human health or the environment.

2.10 Documentation of Significant Changes

The Proposed Plan (PP) for the project was released for public comment on January 15, 2022. The PP described the No Action decision. USACE reviewed all written and verbal comments submitted during the public comment period, and the No Action decision has not changed.

Part 3: Responsiveness Summary

This Responsiveness Summary provides responses to comments received by the USACE regarding the Proposed Plan for the Bethel Airport Site, Bethel, Alaska. ADEC, BNC, and Calista provided comments on the PP during document development as part of the ongoing coordination between USACE and these stakeholders. These comments were addressed in finalizing the PP and this ROD.

3.1 Public Involvement

The PP was released to the public on January 15, 2022. The public comment period on the PP ended on March 28, 2022. The public meeting to discuss the PP was held on-line on January 27, 2022 and included representatives from USACE. No members of the public attended the meeting. The meeting was recorded and placed on YouTube: https://www.youtube.com/watch?v=a-rEVGAnzmg. The initial comment period to the PP was 30 days, and extended to 60 days at the request of Calista. The public comment period on the PP ended on March 28, 2022. USACE has given full consideration to all comments received.

Opportunity to comment on the PP were made available through direct communication with ADEC, BNC, Calista, and the Bethel City government by mail, email, and/or phone.

3.2 Comments and Responses

No comments were received from the general public. Calista, BNC, and ADEC comments are attached to this document (Attachment B). The Calista and ADEC comments have no objection to the no action decision and do not require further discussion. The BNC comments contained concerns to the PP. USACE responses to the BNC comments are summarized below.

1) **USACE, as the proponent for this PP, has not consulted with us in advance of publishing this plan and has not responded to our multiple requests for information subsequent to publishing it for public comment.**

The information has been available at the Kuskokwim public library and online.

2) **We are extremely concerned that the USACE has not obtained concurrence from the Alaska Department of Environmental Conservation (ADEC) in advance of seeking public comment.**

The USACE has been in consultation with ADEC on this project throughout the RI process. ADEC has been provided with multiple opportunities to review and comment on each deliverable, and their comments have been taken into consideration. This consideration included modifying documents in response to their comments, or providing written justification why the changes requested could not be incorporated. The ADEC website currently states “All chlorinated volatile organic compound (cVOC) exceedances in soil samples were biased or estimated due to lab quality issues and

were not usable. The only remaining petroleum contamination at the site is de minimis in quantity. As such, remaining contamination present is adequately characterized and poses no unacceptable risk to human health or the environment." ADEC concurs with the ROD.

3) **Proposed Alternative is Premature. The recommended alternative of "No Further Action" appears to be premature with additional site characterization apparently required. BNC is concerned with the adequacy of the characterization of the site and the associated risk to human health and the environment.**

Both the USACE and ADEC are in agreement that no additional investigation is required. See comment #2.

4) **The current published ADEC opinion regarding the characterization of this site is quoted below from the State's Contaminated Sites database with their comment dated 17 August 2021.**

This opinion by ADEC has changed in the last year, with several additional documents, meetings, and clarifications of the information from the Site. The State contaminated sites database was updated on March 25, 2022, and states the following:

"All chlorinated volatile organic compound (cVOC) exceedances in soil samples were biased or estimated due to lab quality issues and were not usable. The only remaining petroleum contamination at the site is de minimis in quantity. As such, remaining contamination present is adequately characterized and poses no unacceptable risk to human health or the environment."

5) **DEC sent comments on the FUDS managed Bethel Airport Draft Final Proposed Plan. DEC, as expressed earlier, does not agree with the No Further Action alternative selected by USACE.**

This has changed with receipt of the letter from ADEC attached to this ROD, as well as the statement on the ADEC Contaminated Sites website.

6) **There are multiple nondelineated detections of vinyl chloride and naphthalene in soil and detection limits for vinyl chloride were above Table C. In addition, delineation is needed to determine the source of chlorinated solvent coordination (i.e., if it's attributable to an upstream or upgradient source)**

Only one location at the site contained naphthalene above the Method 3 screening levels and has not been detected in groundwater. As stated by ADEC, "The only remaining petroleum contamination at the site is de minimis in quantity. As such, remaining contamination present is adequately characterized and poses no unacceptable risk to human health or the environment." ADEC requires no further action.

Exceedances for vinyl chloride were detected at three locations. These exceedances in soil samples were biased or estimated due to lab quality issues, which ADEC considers

not useable. There is no obvious source, or even theoretical source on Tract B, for this contamination. Samples collected both above and below the impacted samples, as well as samples of groundwater, did not report detectable concentrations of contaminants.

7) **US Government Responsibility for Vinyl Chloride Contamination. The PP draws an unsubstantiated and speculative conclusion that the site was impacted by vinyl chloride after its abandonment by the U.S. Military through flooding. The site is an abandoned and overgrown WWII facility that has not been used for commercial or industrial activities since its abandonment by the U.S. Military. Likewise, the adjacent surrounding area has had no subsequent historical or current commercial or industrial use. The site is isolated from the nearby community of Bethel by one of Alaska's largest rivers, the Kuskokwim River. Further, the limited investigation conducted by the U.S. Government does not support contaminant deposition by flooding. There is no plausible source of the contamination other than from historical U.S. Military operations.**

Construction on the Bethel Auxiliary Army Airfield was halted in 1943, with the field still incomplete. A November 1942 Army technical order limited the use of chlorinated solvents to "depots and such stations as are specifically authorized…to employ this method of cleaning." During WWII, chlorinated solvents were very expensive and hard to manufacture, and are unlikely to have been used at this remote inoperable auxiliary airfield. It was not until the late 1940s that such products became more commonly available. For this reason, their presence at the site prior to 1943, is considered highly unlikely.

Lastly, the vinyl chloride exceedances in soil samples were biased or estimated due to lab quality issues, which ADEC considers not useable. There are no soil samples with confirmed exceedances on the Site.

8) **Vinyl chloride is a breakdown product of multiple common commercial and industrial products used during the 1940s; products that would have been most likely utilized by the U.S. Military in the region at the time. For example, vinyl chloride is a breakdown product of tetrachloroethylene (PCE). According to the California State Water Resources Control Board, "PCE has been used as a metal degreaser by military services and industry since the 1940s". According to the PP, the U.S. Military conducted construction operations starting in 1942, which would have included extensive maintenance of heavy construction equipment; operated an auto repair facility and a motor repair shop from 1942 to 1944; and operated and maintained a powerhouse until as late as 1948. It is reasonable to conclude that the source of the vinyl chloride was from these military maintenance activities; especially, in the absence of any other suspect activities at the site or in the surrounding area since the abandonment of the site by the U.S. Military.**

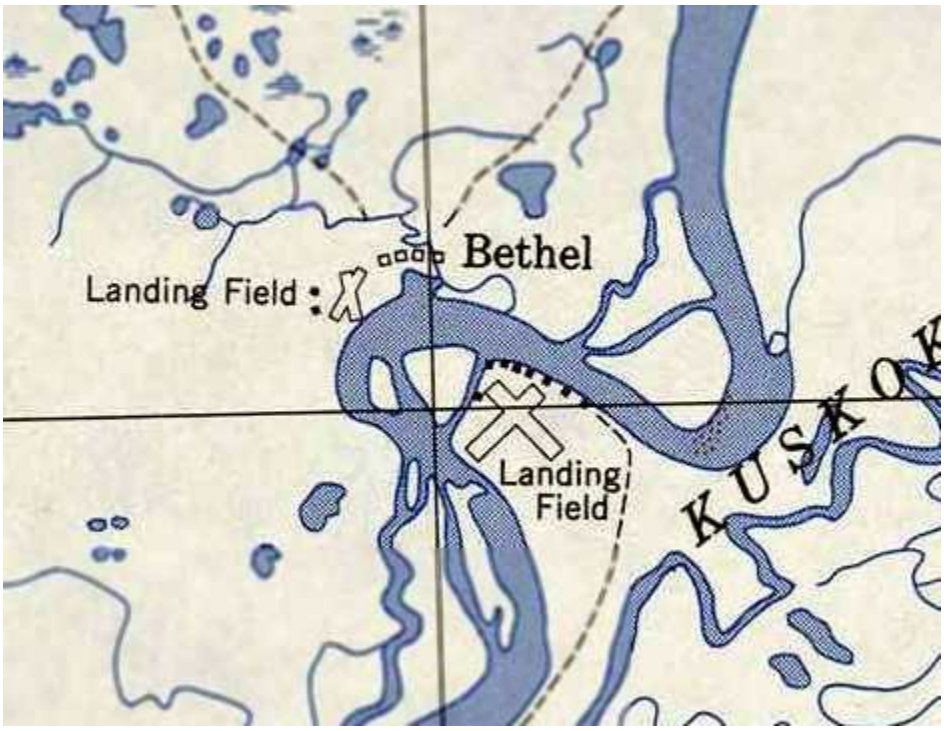
The U.S. Army (1944) indicates there is no evidence that much, if any, activity was conducted on the Site other than construction of the structures mentioned (additionally,

see answer #7). Evidence suggests the small amount of contamination detected at the Site does not pose an unacceptable risk to human health or the environment; and land status is suitable for unlimited use and unrestricted exposure, which includes residential, commercial, and industrial occupancy. For these reasons, the USACE and ADEC have agreed that a No Action decision is warranted.

Note: Unacceptable risk is defined as increasing the background incidence rate of cancer by 1 case in every 10,000 people. Because the background rate developing cancer among Americans is 39 percent (American Cancer Society; https://www.cancer.org/cancer/cancer-basics/lifetime-probability-of-developing-or-dying-from-cancer.html), this means 3,900 out of 10,000 people will develop cancer in their lifetimes. Increasing that rate above 3,901 out of 10,000 people as a result of onsite contaminant exposure would be unacceptable. Despite exceptionally conservative assumptions built into risk calculations, Bethel Airport FUDS did not exceed these standards. Similar conservatism is factored into non-carcinogenic risk calculations, which were not exceeded on site.

9) **For exemption of responsibility, the U.S. Military must substantiate their assertion that they did not use products that would lead to vinyl chloride contamination. To substantiate it, they should provide detailed inventories and records of all materials and supplies used at the site during their occupation and demonstrate that no products or supplies were used onsite that could degrade to vinyl chloride. In the absence of such a demonstration it is highly reasonable to attribute the presence of this contamination to historical military operations; especially, given that the site and its surrounding area have had no relevant commercial or industrial activities prior or subsequent to the period of time actively used by the U.S. Military for their diverse onsite combat support operations.**

The Site and surrounding area was used by the CAA and FAA and private companies for a considerable time after DoD involvement ceased. The FAA maintained the property of the Bethel Airport site until 1959 (additionally, see answer #7).



This a 1950 U.S. Geological Survey (USGS) map showing the landing field and several structures present to the north (small black boxes). The Landing Field was said to be served by PAA, Star Airways, Peterson Air Service, Woodley Airways, and Peck & Rice Airways. http://airfields-freeman.com/AK/Airfields_AK.htm#bethel1

This document is specific to activities that occurred solely on Tract B between July 1942 and September 1943, and contaminants that originated during that time period.

10) **Residual Contamination. The "No Further Action" alternative allows for residual contamination to be left in place. As indicated in the PP, BNC intends to develop the site at a future date for residential and commercial use. Residual contamination at the site taints the desirability of the property, requires future development costs by the owner, and may lead to covenants that further reduces its value. It is unreasonable that the property owner should bear these costs which are due solely to historical use of the property by the U.S. Government.**

There is no evidence the small amount of remaining contaminants at the site present a risk to human health and the environment. The USACE and ADEC agree that the No Action decision is appropriate for this Site.

11) **Structural Remnants. The "No Further Action" alternative does not address the removal of structural remnants of former U.S. Military facilities from the property. These remnants and associated debris should be removed by the U.S. Government and properly disposed off site. This should include the removal of all pilings as well as all concrete footers and foundations to no less than one**

foot below ground surface with the ground surface graded to drain and naturally stabilized with appropriate vegetative cover. It is unreasonable that the property owner should bear these costs which are due solely to historical use of the property by the U.S. Government.

Removal actions focused on inert debris are an issue that can be discussed with the federal government, but it is not part of this decision of the DoD FUDS program. The No Action decision is based solely on the investigation and remediation of contaminated materials and is not applicable to inert debris.

Part 4: References

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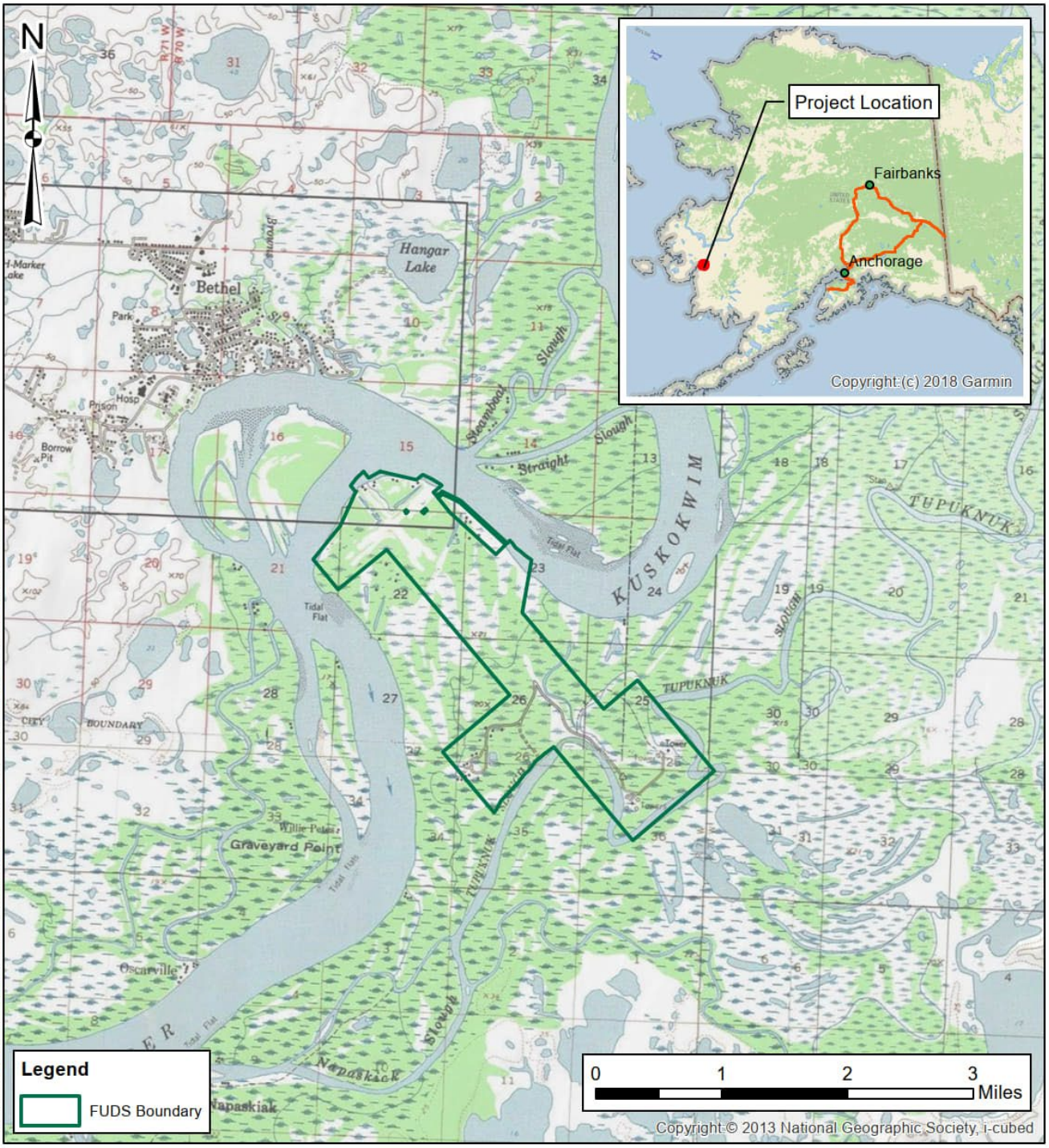
Figures

Figure 1: Site Overview



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	APPROVED BY: PD	Figure 1 Site Overview.mxd	

Figure 2: Bethel Airport Tracts

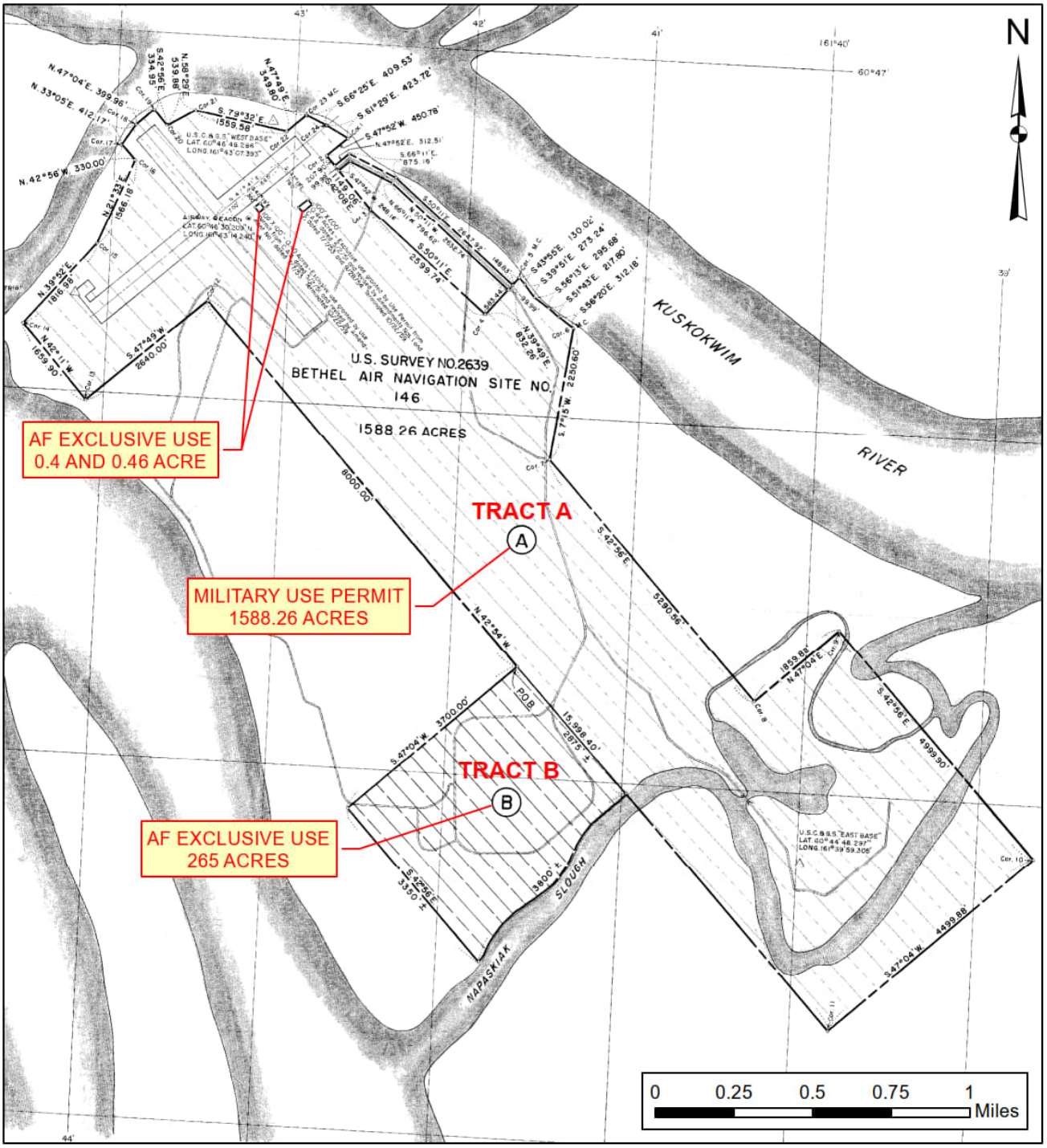

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Figure 3 Former Site Features

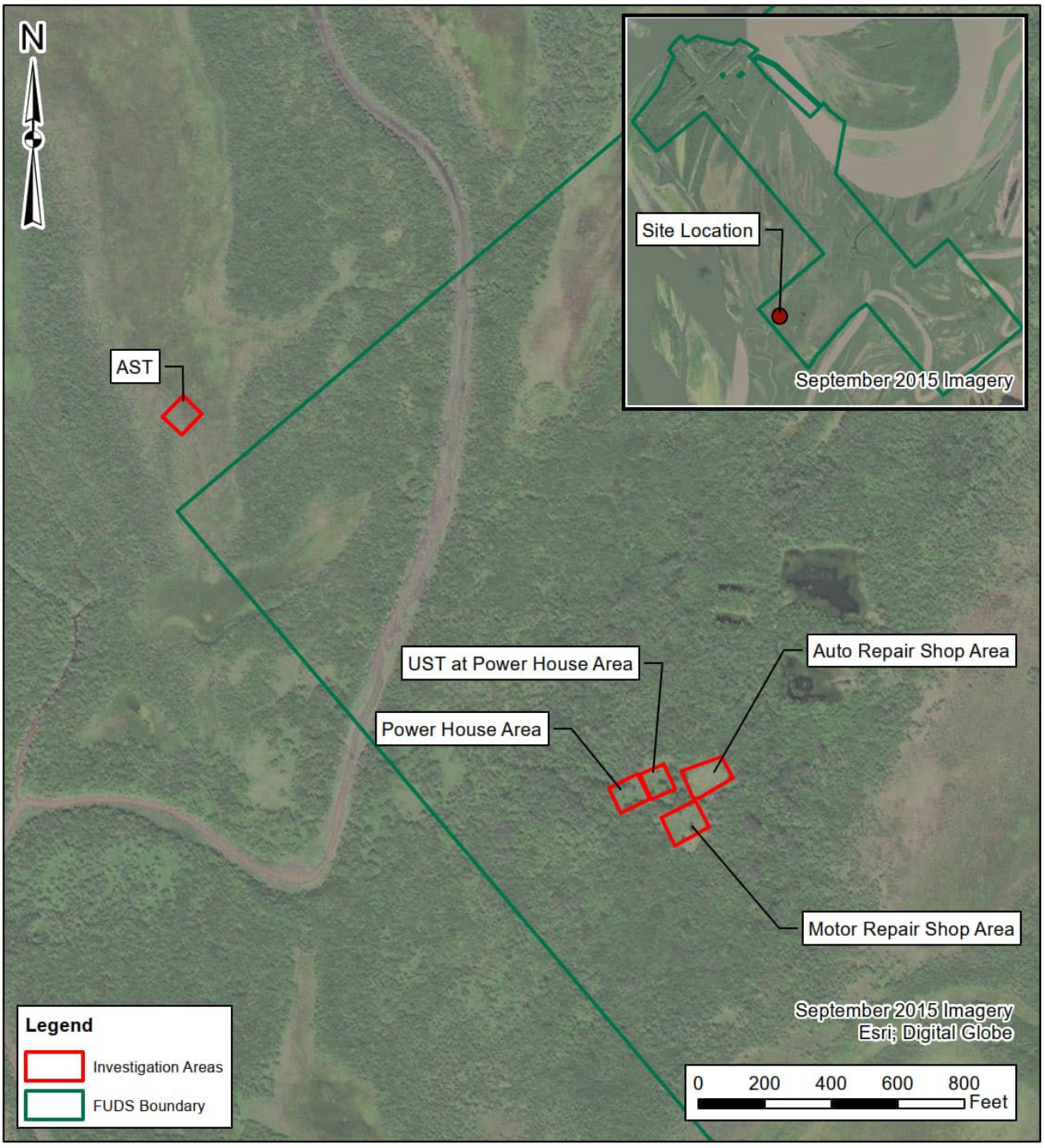

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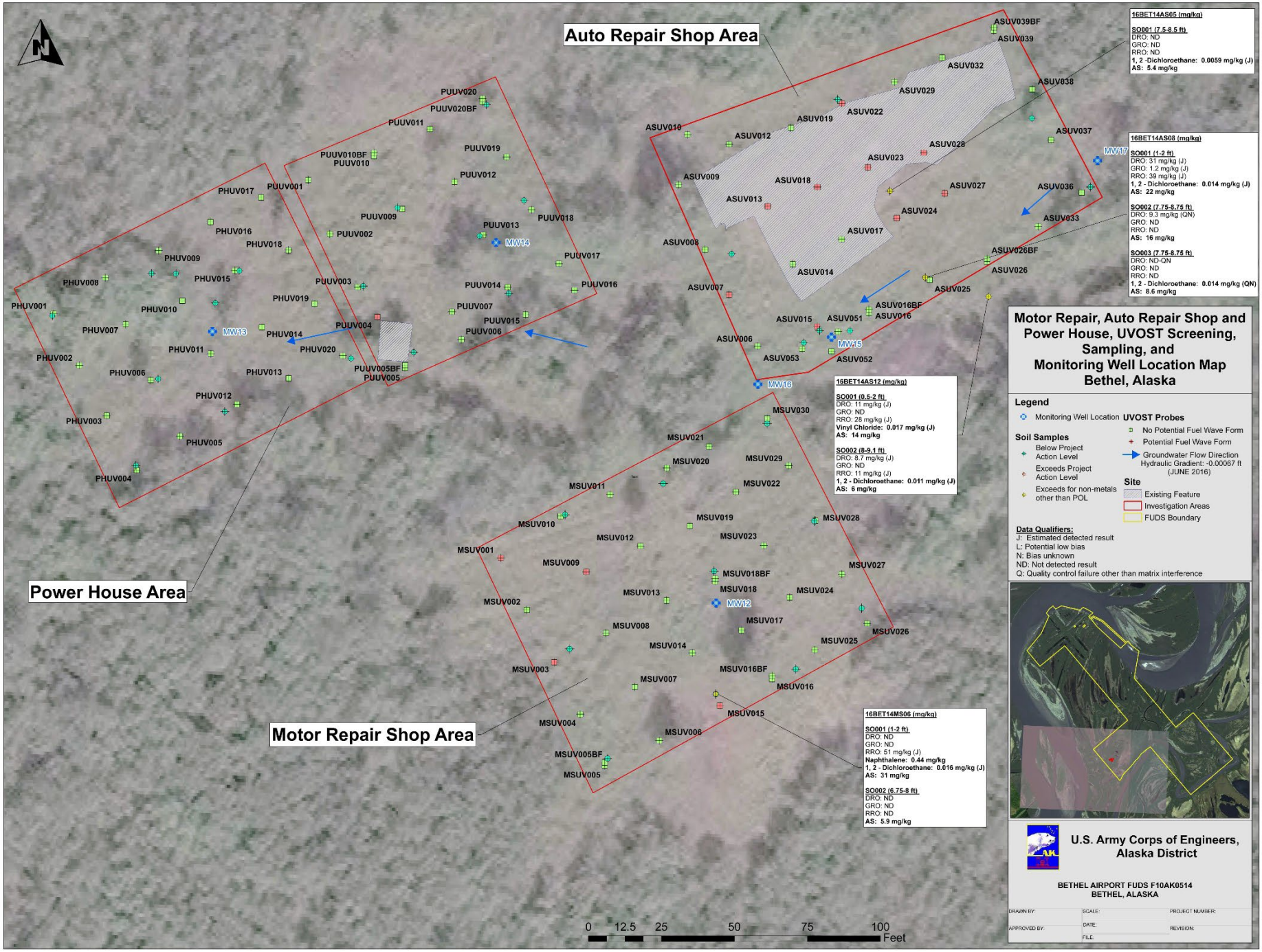
Figure 4 Sample Locations



Attachment A
Human Health and Ecological Conceptual Site Models

Print Form

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

Site Name: Former Bethel Airport FUDS (F10AK0514

File Number: 2407.38.006

Completed by: AECOM (11/21/22)

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: Contaminants not detected in groundwater. Biota potentially impacted due to soil.

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: Incomplete

Comments:

See Section 4 - Other Comments, pg. 7.

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: Incomplete

Comments:

See Section 4 - Other Comments, pg. 7.

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:

See Section 4 - Other Comments, pg. 7

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:

See Section 4 - Other Comments, pg. 7

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: Incomplete

Comments:

The only bioaccumulative COC present is arsenic, which is naturally occurring.

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: Incomplete

Comments:

Vinyl chloride exceeded Method 3 cleanup levels in two soil samples; however, the results were biased or estimated due to laboratory quality issues. Chlorinated solvents have no history of use at the site. 1,2 dichloroethane is below Method 3 cleanup levels.

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 contaminated soil or groundwater; or subject to "preferential path-ways," 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: Incomplete

Comments:

There are no occupied buildings within or near the investigation areas.

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:

- Climate permits recreational use of waters for swimming.
- Climate permits exposure to groundwater during activities, such as construction.
- 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:

Further evaluation of this pathway is not considered necessary. Existing surface water bodies are nearly 1,000 ft away from the investigation areas and soil contamination is limited to surface soils (i.e., groundwater would not be encountered should excavation of contaminated soils be performed).

Inhalation of Volatile Compounds in Tap Water

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

- The contaminated water is used for indoor household purposes such as showering, laundering, and dish washing.
- 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:

Further evaluation of this pathway is not considered necessary. There are no occupied buildings in the investigation area. There is no use of groundwater in this area for household purposes, and it is unlikely to be used in the future due to poor water quality.

Inhalation of Fugitive Dust

Inhalation of fugitive dust may be a complete pathway if:

- 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.
- 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:

Further evaluation of this pathway is not considered necessary. The investigation area is highly vegetated, typically wet or frozen, and the potential for soil to be dispersed as dust particles is unlikely unless construction activities cause soil disturbance in the future.

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:

- Climate permits recreational activities around sediment.
- 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:

Further evaluation of this pathway is not considered necessary. It is unlikely that contact with sediment and incidental ingestion would occur as part of a recreational or subsistence scenario. There is no known industrial activity in the area. Ground is frozen in winter and wetlands in the summer.

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

2. Exposure Pathways:

a) Direct Contact

1) Incidental Soil Ingestion and
2) Dermal Absorption of Contaminants from Soil

Arsenic exceeds human health levels, but is due to background contamination.

Vinyl chloride exceeded cleanup levels in two soil samples, but results were biased or estimated due to lab quality issues.

1,2 dichloroethane was detected, but is below Method 3 Cleanup levels.

Chlorinated solvents have no history of use at the site.

b) Ingestion

1) Ingestion of Groundwater
2) Ingestion of Surface Water
3) Ingestion of Wild and Farmed Foods

No current or expected future drinking water source due to shallow groundwater depth (less than 10 ft), frequent flooding of the Kuskokwim River (2009, 2012, etc.), naturally occurring organics, and naturally occurring background arsenic in excess of health-based cleanup levels in groundwater.

Site is located in bog/wetland area and surface water is not likely to be used because of poor water quality (naturally occurring organics). Surface water bodies are roughly 1,000 ft away from areas investigated. No buildings or residences are on-site.

HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: Former Bethel Airport FUDS (F10AK0514)
2407.38.006

Completed By: P. Dworian
Date Completed: 11/21/2022

***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	Exposure Media	Exposure Pathway/Route	Current & Future Receptors: Residents (adults or children)	Commercial or industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or subsistence harvesters	Subsistence consumers	Other
☑ Surface Soil (0-2 ft bgs)	☑ Direct release to surface soil — check soil									
	☑ Migration to subsurface — check soil									
	☑ Migration to groundwater — check groundwater									
	☑ Volatilization — check air									
	☐ Runoff or erosion — check surface water									
	☑ Uptake by plants or animals — check biota									
	☐ Other (list):									
☑ Subsurface Soil (2-15 ft bgs)	☑ Direct release to subsurface soil — check soil									
	☑ Migration to groundwater — check groundwater									
	☑ Volatilization — check air									
	☑ 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):									
		☑ soil	☑ Incidental Soil Ingestion	F	F	C/F	F	C/F	C/F	
			☑ Dermal Absorption of Contaminants from Soil	F	C/F	F	F	C/F	C/F	
			☑ Inhalation of Fugitive Dust	I	I	I	F	I	I	
		☑ groundwater	☑ Ingestion of Groundwater	F	F	I	I	I	I	
			☑ Dermal Absorption of Contaminants in Groundwater	F	F	I	I	I	I	
			☐ Inhalation of Volatile Compounds in Tap Water							
		☑ air	☑ Inhalation of Outdoor Air	F	F	I	I	I	I	
			☐ Inhalation of Indoor Air							
			☐ 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							
		☑ biota	☑ Ingestion of Wild or Farmed Foods	F	I	I	I	I	I	

Revised, 10/01/2010

Attachment B
Letters from BNC, ADEC, and Calista

THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Environmental Conservation

SPILL PREVENTION & RESPONSE
Contaminated Sites Program

610 University Avenue
Fairbanks, Alaska 99709
Main: 907.451.2143
Fax: 907.451.2155
www.dec.alaska.gov

File No.: 2407.38.006

March 25, 2022

US Army Corps of Engineers
Alaska District, Pacific Ocean Division
ATTN: Mr. Grant Lidren
PO Box 6898
JBER, AK 99506-0898

RE: Approval of Preferred Alternative of No Further Action and Acknowledgement of Receipt for the *Final Proposed Plan for Bethel Airport Formerly Used Defense Site (FUDS), Bethel, AK, Dated September 2021*

Dear Mr. Lidren:

The Alaska Department of Environmental Conservation (ADEC) provided review comments for the draft version of the Proposed Plan for Bethel Airport Formerly Used Defense Site (FUDS) on August 17, 2021. ADEC did not receive responses to our comments before the Proposed Plan was finalized and was not notified of the final date of the public meeting required for comment.

The final version of the Proposed Plan was received on February 1, 2022, along with US Army Corps of Engineers (USACE) responses to ADEC comments. USACE declined to revise the report to address several of the comments ADEC submitted. ADEC acknowledges receipt but does not approve the *Final Bethel Airport FUDS Proposed Plan*.

ADEC previously submitted a Non-Concurrence Letter for the preferred alternative of No Further Action described in the Supplemental Remedial Investigation Report. ADEC's decision at the time was based upon inadequate characterization of vinyl chloride, 1,2-dichloroethane, and naphthalene exceedances in soil above 18 AAC 75.340(e) Method 3 migration to groundwater soil cleanup levels. Upon discussions with USACE and a detailed review of the laboratory packages, ADEC has determined that the chlorinated volatile organic compounds (cVOCs) data is not useable due to contaminated blank samples and other lab data quality issues. The naphthalene exceedance has been adequately characterized and does not pose an unacceptable risk to human health or the environment and is considered de minimis. ADEC now approves the preferred alternative of No Further Action for the Bethel Airport FUDS.

If there are any questions, please contact me by phone at (907) 451-2131, or by email at tim.sharp@alaska.gov.

Sincerely,

Digitally signed by Timothy Sharp
Date: 2022.03.25 16:03:45 -08'00'

Timothy Sharp

Environmental Program Specialist

Enclosure(s): ADEC Comments Table

cc: Nick Waldo, ADEC
Melinda Brunner, ADEC
Bill O'Connell, ADEC

REVIEW COMMENTS

PROJECT: FUDS Bethel Former Airport
DOCUMENT: Draft Proposed Plan

ALASKA DEPT. OF ENVIRONMENTAL CONSERVATION	**DATE: 8/17/2021** **REVIEWERS: Timothy Sharp**	**Action taken on comment by: USACE**			
Item No.	**Drawing Sheet No., Spec. Para.**	**COMMENTS**	**REVIEW CONFERENCE A - comment accepted W - comment withdrawn (if neither, explain)**	**RESPONSE**	**ADEC RESPONSE ACCEPTANCE (A-AGREE) (D-DISAGREE)**	**RESPONSE**
1.	CERCLA Remedial Investigation	Typo, incomplete sentence: "ADEC Method 3 migration to groundwater cleanup standards, using the site specific total organic content of the soil (foc = 0.007)."		Added: "were used to calculate cleanup levels".		
2.	Table 1	What was the detection limit for PCBs and VOCs? Which VOCs were analyzed for?		This information is detailed in the RI/FS. This is a proposed plan for the general public designed to summarize results, hence many of these details are not included. Detection limits for PCBs varied between 0.0053 and 0.034 mg/kg. VOC detection limits are detailed in the RI/FS. VOCs were analyzed by method 8260C. The analytical methods were added to the table.		
3.	CERCLA Remedial Investigation	As discussed with ADEC in the Comments Table for the Remedial Investigation and Limited Removal Report, ADEC does not agree that groundwater is not considered a potentially impacted media. At the Auto Repair Shop, vinyl chloride was detected in soil above migration to groundwater cleanup levels. This exceedance was not delineated on the south side of the source area. Groundwater samples taken from downgradient monitoring wells had detection limits for vinyl chloride above the groundwater cleanup level, and so it cannot be proven that groundwater is not affected. ADEC recommends sampling groundwater from MW15 and MW16 with a suitable level of quantitation for vinyl chloride to confirm groundwater is not affected, despite the migration to groundwater exceedance. Due to similar data readings at the southern area of the Motor Repair Shop, ADEC also notes groundwater contamination cannot be		USACE maintains the following position statements from the April 2020 RI Addendum report - **RI Addendum:** **Sec. 1.3.4:** Given the site conditions the concept of a single and identifiable contaminant source is questionable. If the volume of contamination detected is small, and the geographic spread of the contamination limited, it is unlikely a source will ever be located. Given the frequent flooding of the site, and the nearby city of Bethel, the source of the contaminants could be distant from the site. **p19, 3.3 Auto Repair Shop:** None of the samples currently exceeds the human health soil CULs for 1,2-dichloroethane or vinyl chloride under Method 2. While they do exceed		

		ruled out at this location. ADEC recommends installing a monitoring well south of the source area to close this data gap.		migration to groundwater cleanup standards, groundwater samples failed to detect these compounds. **p20, 3.4, Motor Repair Shop:** None of these compounds had detected concentrations resulting in an exceedance of human health CULs under Method 2. None even exceed 1/10th the human health cleanup level. None of these compounds were detected in groundwater. **p23. 3.4.3 Conclusion:** Exceedances of the Method 2 migration to groundwater cleanup level was noted for 1,2-dicholorethane, naphthalene, and vinyl chloride at the Motor Repair Shop. However, exceedances were localized to only a few sample locations and were present only in shallow subsurface soil (from about 1 to 3 ft bgs). No detected compounds exceeded Method 2 human health CULs. None even exceed 1/10th the cleanup level. Given the localized exceedances in shallow subsurface soil and absence of detection of these compounds in groundwater, potential migration to groundwater is not expected. It should be noted that based on the history of the facility, it is highly unlikely any detected chlorinated solvents originated from activities at the site. The site was occupied just 15 months and was under construction during that time. Chlorinated solvents were not in widespread use in the U.S. until after the site was abandoned in 1943. Due to the frequent flooding, a more likely source is upgradient activities at upstream sources sometime after the site was abandoned.		

				Also note: the work plan for this project had detection limits for vinyl chloride of 0.22 µg/L in water, and 7.1 µg/kg in soil. Actual detection limits of the study were 0.5 µg/L in water, and 12-27 µg/kg in soil. ADEC cleanup levels for VC *at the time of sampling* were 8.5 µg/kg in soil and 2 µg/L in water. ADEC subsequently lowered the VC cleanup levels to 0.8 µg/kg soil and 0.19 µg/L water, creating the issue where the analytical method was no longer in compliance with the cleanup level.		
4.	CERCLA Remedial Investigation	ADEC disagrees with USACE's assertion that, "It is highly unlikely chlorinated solvent contamination originated from site-related activities because the site was only occupied for 15 months and was under construction during that time. Use of chlorinated solvents was not widespread in the U.S. until well after the site had been abandoned. Therefore, upstream/upgradient contribution is suspected during one or more frequent flooding events after the site was abandoned." Additional delineation is needed to determine if the contamination could be attributed to an upstream/upgradient source.		Please reference USACE's response to comment #3. The investigations performed by USACE were extensive. USACE cannot justify additional funding under DERP and the FUDS program to investigate sources not directly attributable to DoD activities during their 15-month occupation of the site.		
5.	Petroleum-Oil-Lubricants Site Characterization	Possible typo: "Only COPCs detected at the site above Method 3 migration to groundwater (MTG) cleanup levels are listed." Should this read "Only COPCs **previously** detected…"? Please clarify or delete this sentence. Please also clarify if groundwater results did not exceed regulatory cleanup levels as described in 18 AAC 75.345, Table C. Consider adding an additional Table for this information.		USACE believes the sentence is correct. Only COPCs that were detected above CULs are shown. The first bullet states that no COPCs were detected in GW above the applied CULs. No additional table will be added.		
6.	Table 2	According to the Remedial Investigation and Limited Removal Report, the Method 3 MTG Cleanup Level for naphthalene is 0.24 mg/kg. Please correct this for the Motor Repair Shop and AST at Staging Area locations.		Corrected.		

7.	Petroleum-Oil-Lubricants Site Characterization, First Bullet Point	The plan states that, "None of the groundwater results exceeded ADEC Method 3 cleanup levels." Method 3 cleanup levels can only be approved for soil. Revise the text.		Agreed. Changed to "default".		
8.	Petroleum-Oil-Lubricants Site Characterization, Last Bullet Point	The Proposed Plan states that no further action is necessary for the POL contamination. ADEC disagrees due to the naphthalene exceedance of the Method 3 cleanup level not being delineated.		USACE has shown that as stated, the result does not pose an imminent and substantial endangerment. As such, expenditures for further investigation of POL constituents cannot be justified under DERP and FUDS program.		
9.	Summary of Site Risks, Human Health Risk	The Proposed Plan states, "potential migration to groundwater at concentrations of concern is not expected." Due to reasons explained earlier, ADEC considers the migration to groundwater pathway potentially complete.		Please refer to responses to comments #3 and #4. Additionally, USACE notes that this site is within a Special Flood Hazard Area defined as an elevation below 17.1 feet mean lower low water. The areas in question are around 5 feet above MLLW and are mapped as wetlands (i.e. a groundwater discharge area). These data and near annual flooding of these areas negate any reasonable consideration of MTG as a complete pathway.		
10	Summary of Site Risks, Petroleum-Oil-Lubricants	The Proposed Plan states, "No locations exceeded the ADEC cleanup level for DRO. Therefore, petroleum related compounds have been determined not to present an imminent and substantial endangerment to public health or welfare and the environment." DRO does not encompass the entire breadth of petroleum related compounds, and a naphthalene exceedance was not delineated, thereby undercutting the argument that there is no imminent and substantial danger. Please revise the text.		Agree. Text changed to indicate a *de minimus* detection of naphthalene was observed. Conclusion of no I&SE remains the same.		
11	Remedial Action Objectives, CERCLA Contaminants of Potential Concern	The Proposed Plan states, "COPCs were not detected in groundwater at concentrations above cleanup levels." As mentioned above, detection limits for vinyl chloride were above the cleanup level, and so cannot be ruled out. Please revise the text.		Please see response to comment #3 above. Additionally, USACE notes that elevated detection limits due to matrix interferences at this site are common and do not indicate or suggest the presence of VC in groundwater between the laboratory detection limit (DL) and CUL. Furthermore, such conditions cannot be used in this case to justify further investigation under		

				the DERP and FUDS program. Please also note that the laboratory DL was appropriate at the time of analyses.		
12	Remedial Action Objectives, Petroleum-Oil-Lubricants COPCs	The Proposed Plan states, "naphthalene did slightly exceed Method 3 cleanup levels, but the analytical results suggest it is a very small volume of soil." ADEC cannot verify the amount of contaminated soil as the contamination is not horizontally delineated. Please revise the text.		An estimated volume of soil will be stated under "Summary of Site Risks, Petroleum-Oil-Lubricants"		
13	Summary of Site Risks, Human Health Risk	Please remove the sentence, "Contaminants have not been detected in the shallow groundwater 75 years since any spills may have occurred," or add the caveat that detection limits for vinyl chloride fell above groundwater cleanup levels.		USACE maintains that this summary statement is correct and that the data and data limitations relative to the regulatory requirements in place at that time have been previously explained and documented.		
14	Basis of the Decision	ADEC disagrees that the No Further Action Alternative is fully protective. The site is not fully characterized, and risk analysis cannot be completed without an understanding of the full nature and extent of the contamination at the site.		USACE maintains that numerous remedial actions and extensive environmental investigations have been conducted at this FUDS property and that these actions have resulted in or otherwise determined that site conditions do not present an imminent and substantial endangerment to human health or the environment. As such, USACE is obligated under DERP and FUDS to conclude that the No Further Action Alternative is fully protective. ADEC has not presented substantive or compelling evidence or reasoning for USACE to justify further remedial investigation.		
		- End of comments -				

CALISTA CORPORATION
www.calistacorp.com

March 28, 2022

AECOM
Bethel Airport FUDS Proposed Plan
3900 C Street, Suite 403
Anchorage, Alaska 99503

Via E-mail: POA-FUDS@usace.army.mil

To Whom It May Concern:

Thank you for the opportunity to comment on the Proposed Plan Bethel Airport Formerly Used Defense Site. The Calista Corporation region includes 56 villages with over 35,000 Shareholders many of whose lifeways depend on the land and waterbodies in the Y-K Delta and its natural vegetation and wildlife for sustenance.

While the Formerly Used Defense Site, which includes Tract B, in Bethel is located across the river from the community of Bethel, the site is on lands where residents hunt small game, gather wild vegetables and berries. In its survey, the surface-owner, Bethel Native Corporation, indicated the site might be used for residential or commercial use in the future. For any cleanup of contaminants in the Calista region, it is important for remediation be completed to acceptable levels to allow for unrestricted future land use on lands conveyed to the village and regional corporations. Calista supports cleanups, especially if it improves safety, decrease environmental risks to human health, safety and the environment, which we understand some removal activities in the Tract B area occurred in 2018.

Calista does not have immediate land use plans for the areas within Tract B, however, knowledge of the test results and their locations can be useful to surface landowners as a guide to help aid in their decision-making for future land use. It is therefore important to include comments from village government entities, as their land use in the vicinity of the community will differ. As population in communities grow, need for nearby lands grow for housing and other infrastructure and use of land for resource use expands. Calista supports USACE's no-action decision provided that it has made every effort to notify the various community Native governments of Bethel regarding the Proposed Plan Bethel Airport Formerly Used Defense Site.

Sincerely,

CALISTA CORPORATION

Mary Martinez

Mary Martinez, Planner
Department of Land and Natural Resources

Bethel Native Corporation

25 March 2022

AECOM
Bethel Airport FUDS Proposed Plan
3900 C Street, Suite 403
Anchorage, AK 99503
Delivery Via Email: POA-FUDS@usace.army.mil

Subject: Comments on Proposed Plan; Bethel Airport, Bethel, Alaska; Formerly Used Defense Site, FUDS Project No. F10AK051403

Dear Sir/Madam:

The Bethel Native Corporation (BNC) does not concur with the Proposed Plan (PP), dated September 2021, for the subject site. As the land owner of Tract B, we are disappointed that the USACE, as the proponent for this PP, has not consulted with us in advance of publishing this plan and has not responded to our multiple requests for information subsequent to publishing it for public comment. Likewise, we are extremely concerned that the USACE has not obtained concurrence from the Alaska Department of Environmental Conservation (ADEC) in advance of seeking public comment. As the landowner, BNC would not support a future Decision Document that is based upon this PP.

The basis for our non-concurrence is several fold as outlined below.

1. Proposed Alternative is Premature. The recommended alternative of "No Further Action" appears to be premature with additional site characterization apparently required. BNC is concerned with the adequacy of the characterization of the site and the associated risk to human health and the environment. The current published ADEC opinion regarding the characterization of this site is quoted below from the State's Contaminated Sites database with their comment dated 17 August 2021.

   DEC sent comments on the FUDS managed Bethel Airport Draft Final Proposed Plan. DEC, as expressed earlier, does not agree with the No Further Action alternative selected by USACE. There are multiple nondelineated detections of vinyl chloride and naphthalene in soil and detection limits for vinyl chloride were above Table C. In addition, delineation is needed to determine the source of chlorinated solvent coordination (i.e, if it's attributable to an upstream or upgradient source)

2. US Government Responsibility for Vinyl Chloride Contamination. The PP draws an unsubstantiated and speculative conclusion that the site was impacted by vinyl chloride after its abandonment by the US Military through flooding. The site is an abandoned and overgrown WWII facility that has not been used for commercial or industrial activities since

its abandonment by the US Military. Likewise, the adjacent surrounding area has had no subsequent historical or current commercial or industrial use. The site is isolated from the nearby community of Bethel by one of Alaska's largest rivers, the Kuskokwim River. Further, the limited investigation conducted by the US Government does not support contaminant deposition by flooding. There is no plausible source of the contamination other than from historical US Military operations.

Vinyl chloride is a breakdown product of multiple common commercial and industrial products used during the 1940s; products that would have been most likely utilized by the US Military in the region at the time. For example, vinyl chloride is a breakdown product of tetrachloroethylene (PCE). According to the California State Water Resources Control Board, "PCE has been used as a metal degreaser by military services and industry since the 1940s". According to the PP, the US Military conducted construction operations starting in 1942, which would have included extensive maintenance of heavy construction equipment; operated an auto repair facility and a motor repair shop from 1942 to 1944; and operated and maintained a power plant until as late as 1948. It is reasonable to conclude that the source of the vinyl chloride was from these military maintenance activities; especially, in the absence of any other suspect activities at the site or in the surrounding area since the abandonment of the site by the US Military.

For exemption of responsibility, the US Military must substantiate their assertion that they did not use products that would lead to vinyl chloride contamination. To substantiate it, they should provide detailed inventories and records of all materials and supplies used at the site during their occupation and demonstrate that no products or supplies were used onsite that could degrade to vinyl chloride. In the absence of such a demonstration it is highly reasonable to attribute the presence of this contamination to historical military operations; especially, given that the site and its surrounding area have had no relevant commercial or industrial activities prior or subsequent to the period of time actively used by the US Military for their diverse onsite combat support operations.

3. Residual Contamination. The "No Further Action" alternative allows for residual contamination to be left in place. As indicated in the PP, BNC intends to develop the site at a future date for residential and commercial use. Residual contamination at the site taints the desirability of the property, requires future development costs by the owner, and may lead to covenants that further reduces its value. It is unreasonable that the property owner should bear these costs which are due solely to historical use of the property by the US Government.

4. Structural Remnants. The "No Further Action" alternative does not address the removal of structural remnants of former US Military facilities from the property. These remnants and associated debris should be removed by the US Government and properly disposed off-site. This should include the removal of all pilings as well as all concrete footers and foundations to no less than one foot below ground surface with the ground surface graded to drain and naturally stabilized with appropriate vegetative cover. It is unreasonable that

unreasonable that the property owner should bear these costs which are due solely to historical use of the property by the US Government.

Thank you for your consideration of our comments on the PP. I am the POC for this action and can be reached by email at ahoffman@bncak.com or by telephone at 907-543-2350.

Sincerely,
Bethel Native Corporation

Anastasia Hoffman
President/CEO

CC: USACE: gregory.s.thorsell@usace.army.mil
ADEC: tim.sharp@alaska.gov

Attachment C
ADEC Comments to the Record of Decision

REVIEW COMMENTS PROJECT: Bethel Former Airport FUDS DOCUMENT: Draft Decision Document

ALASKA DEPT. OF ENVIRONMENTAL CONSERVATION		DATE: 9/20/2022 REVIEWERS: Timothy Sharp	Action taken on comment by: Paul Dworian (AECOM)		
No.	**Location in Document**	**COMMENTS**	**RESPONSE**	**RESPONSE**	**RESPONSE**
1.	Acronyms and Abbreviations	Typo: Polychlorinated **bisphenols**	Corrected	A	
2.	Section 2.5	Statement: "The ADEC provided comments to the Proposed Plan (PP) and DD during document development…These comments were considered and addressed in finalizing the DD." The DD is not finalized yet, and ADEC comments on the Draft PP were not fully integrated into the Final PP, resulting in the document not being approved by ADEC. Please correct and clarify in the statement.	The statement was edited as follows: *The ADEC provided comments to the Proposed Plan (PP) and DD during document development and as part of the ongoing coordination between USACE and Bethel community stakeholders. These comments were considered and addressed in preparing the DD.*	A	
3.	Section 2.7.1	Typos: **deteted** and **vnyl**	Corrected	A	
4.	Section 2.7.1	Please add language to address how vinyl chloride would not have been used by the Department of Defense (DOD) at the site due to the timeframe of use and type of activities documented.	We added this to section 2.7.1. Our addition is as follows: *At the Auto Repair Shop and Motor Repair Shop, 1,2-dichloroethane was detected at concentrations below Method 3 screening levels. Vinyl chloride was detected at three isolated locations at concentrations above the Method 3 screening level; however, the vinyl chloride exceedances in soil samples were biased or estimated due to laboratory quality issues and not useable. There are no soil samples with confirmed vinyl chloride* exceedances at the Site	A	

			and use of chlorinated solvents here is considered highly unlikely. The construction on the Bethel Auxiliary Army Airfield was halted in 1943, with the field still incomplete. A November 1942 Army technical order limited the use of chlorinated solvents to "depots and such stations as are specifically authorized…to employ this method of cleaning." During WWII, chlorinated solvents were very expensive and hard to manufacture, and are unlikely to have been used at this remote inoperable auxiliary airfield. It was not until the late 1940s that such products became more commonly available.		
5.	Section 2.9.1	Please delete the reference to 18 AAC 74.340 (f).	Done.	A	
		- End of comments -			