Proposed Plan
Bethel Airport
Formerly Used Defense Site

U.S. Army Corps of Engineers
Alaska District

Bethel, Alaska **September 2021**
FUDS Project No. F10AK051403

Sections:

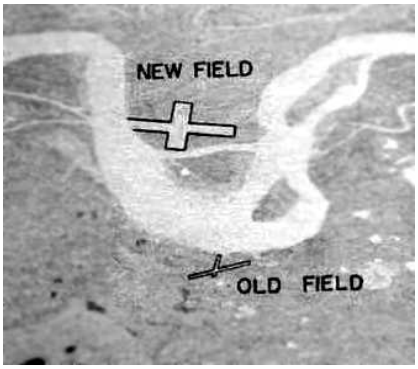

Photo 1: Aerial photo of the site in 1943

INTRODUCTION

The United States (U.S.) Army Corps of Engineers (USACE) requests your comments on this Proposed Plan for the Bethel Airport Formerly Used Defense Site (FUDS) in Bethel, Alaska (Photos 1 and 2; Figures 1 and 2).

FUDS are properties that were under the jurisdiction of the Department of Defense (DoD) and owned by, leased to, or otherwise possessed by the U.S. that were transferred from DoD control prior to 17 October 1986. FUDS properties range from privately owned lands to state or federal lands such as national parks as well as residential land, schools, and industrial areas. The FUDS program includes former Army, Navy, Marine, Air Force, and other defense-used properties. Over 500 FUDS have been identified in Alaska. The site was determined to qualify under the FUDS programs during the Preliminary Assessment (2014).

This Proposed Plan is a document that USACE is required to issue to fulfill the public participation requirements of Section 117(a) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as Superfund (42 United States Code § 9601 et al.). The Proposed Plan was prepared in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan and follows the requirements from Engineer Regulation 200-3-1, FUDS Program Policy (USACE 2004) and U.S. Environmental Protection Agency (USEPA) guidance (USEPA 1994, 1999). The site described in this Proposed Plan is a CERCLA site; however, it is not listed on the National Priority List. USACE is issuing this Proposed Plan as part of its public participation responsibilities under CERCLA.

Petroleum, oil, and lubricants (POL) contamination is not addressed under CERCLA, but is being addressed here under the authority of the Defense Environmental Restoration Program (DERP), United States Code, Title 10, Section 2701, et seq. The DERP provides authority to clean up petroleum contamination if it poses an imminent and substantial endangerment to public health, welfare, or the environment. This Proposed Plan addresses both CERCLA and non-CERCLA contamination at the site.

Although this Proposed Plan recommends a preferred alternative for this site, USACE may modify or select another remedial alternative based on new information or public comment.

Photo 2: Auto Repair Shop, 2016

Therefore, the public is encouraged to review and comment on this Proposed Plan. After considering all public comments, USACE will prepare a Decision Document describing the selected remedy. The Decision Document will include responses to all significant comments in a section called the Responsiveness Summary. Changes to the proposed approach may be made through this comment review process and highlights the importance of community involvement.

This Proposed Plan presents a summary of the history, data, and actions conducted at the site. Detailed supporting documentation is available for review including the Remedial Investigation on file at the information repository in Bethel, Alaska.

PURPOSE

The purpose of this Proposed Plan is to:

- Describe the environmental conditions and the risks posed by the site.
- Describe the investigations, and removal actions previously conducted at the site.
- Provide information on how the public can be involved in the final decision.
- Request public comment on the recommended decision

SITE LOCATION AND HISTORY

The Bethel Airport (Site) is near the mouth of the Kuskokwim River, 40 miles inland from the Bering Sea and 400 air miles west of Anchorage. It is at approximately 60.79222° North Latitude and 161.75583° West Longitude (Sec. 09, T008N, R071W, Seward Meridian). The area encompasses 43.8 square miles of land and 5.1 square miles of water. 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.

During World War II, 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. The 216,000-acre Bethel Staging Field and Garrison was established by the Department of the Interior on 27 October 1943 by PLO No.188. This included several tracts of land. Most important to this investigation is Tract A (the airport, also known as Todd Army Airfield and Bethel Air Station) and Tract B (garrison). This study is exclusive to Tract B, however, for clarity, Tract A will also be discussed.

Construction at Tract B was started in July 1942 and continued 15 months until September 1943 when further development was canceled (Narrative Report 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" (Narrative Report 1944). Groundwater elevations at the site vary spatially and seasonally from the surface to a depth of greater than 17 feet below ground surface (bgs).

Photo 3: Aerial view of the Site, 2016

As originally planned, the buildings at Tract B were intended to house infantry to defend the airfield in case of Japanese attack. By 1943 it was widely acknowledged that such an attack was a remote possibility at the site. The Army significantly ramped down efforts in 1944, removing all equipment and supplies from outlying areas in preparation for deactivation of the detachment.

The Army relinquished the Use Permit for Tracts A and B to the Civil Aeronautics Agency (CAA) on 26 August 1947; the land was retransferred to the CAA on 2 October 1947.

The Air Force reacquired 1,853.26 acres from the CAA within Air Navigation Site Withdrawal No. 146; Bethel Air Force Station was established by Use Permit dated 2 May 1951, amended on 7 July 1953 and 19 August 1954. This included:

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

Photo 4: Map of the investigative area

The Air Force discontinued use of Tract B in 1952 because of unfavorable site conditions. The Air Force 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. 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."

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 October 1959. 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. The Bethel ANS Withdrawal (including the Bethel Airport site) 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 FUDS property is the Bethel Native Corporation (surface estate).

The air field (Tract A) consisted of a radio range station, an aircraft landing field with two 400- 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.

Tract B has a more complex history. A powerhouse was identified, and historical site plans document the construction in 1942. Aerial imagery shows the power plant was already demolished by 1948, with only the foundation remaining.

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.

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.

Photo 5: Drilling at the Auto Repair Shop 2007

Tract B was inventoried in May and June 1995. Most of the World War II Army buildings were gone, with only the rotting pilings present. Concrete foundations were found from four Corwin Warehouses and from 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 found.

The auto repair facility contained two mechanics pits in the concrete floor. The 4.5-foot deep (17 by 2.5 feet) 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 1997/1998 removal action (USACE 2007).

At the Power Plant, a pair of 10- 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).

SITE CHARACTERIZATION

In 1985, 1995, 2014, and 2017, USACE conducted site characterization activities at the site. Historical data for the site was compiled and evaluated in a Preliminary Report (USACE 2014).

The completion of the Remedial Investigations (RIs) and limited removal action included the following activities:

- Ultraviolet Optical Screening Tool Laser Induced Florescence Investigation,
- Surface and subsurface soil sampling,
- Installation, development, and sampling of groundwater monitoring wells,
- Site survey,
- Removal of one lead-acid battery, and
- Characterization and removal of three waste drums and their contents.

Four areas were investigated at the Bethel Airport FUDS:

- Power House and associated underground storage tank (UST)
- Auto Repair Shop
- Motor Repair Shop
- Aboveground storage tank (AST) at the Staging Area

CERCLA REMEDIAL INVESTIGATION

The site was investigated for polychlorinated biphenyls (PCBs), metals, and volatile organic compounds (VOCs). Groundwater rises and becomes surface flow on a semi-annual basis; therefore, 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 cleanup standards, were calucalted using the site specific total organic content of the soil (f_{oc}=0.007).

Table 1: Summary of CERCLA Remedial Investigation Soil Analytical Results

Analysis/COPC	Number of Samples	Maximum Concentration Detected (mg/kg)	Method 3 Migration to Groundwater Criteria (f_{oc} = 0.007) (mg/kg)	Number of Samples Exceeding MtG Cleanup Levels
Power House and UST				
PCBs (8082A)	7	Not Detected (<0.034 mg/kg)		
Auto Repair Shop				
Metals 6020A				
Arsenic	19	35	8.8	12
VOCs (8260C)				
Vinyl Chloride	19	0.017	0.0011	2
1,2-Dichloroethane	19	0.014	0.11	0
Motor Repair Shop				
Metals (6020A)				
Arsenic	19	31	8.8	10
VOCs (8260C)				
Vinyl Chloride	19	0.032	0.0011	1
1,2-Dichloroethane	19	0.016	0.11	0
AST at Staging Area				
VOCs (8260C)	10	Not Detected		

Given that the Powerhouse and UST, and the AST Staging Area did not have detectable concentrations of CERCLA contaminants or had detected concentrations below screening levels, these areas will not be discussed further. The only metal found to exceed screening levels was arsenic, which is due to naturally occuring or background conditions; therefore, arsenic is no longer considered a contaminant of potential

concern (COPC) at the Site. The remainder of this section focuses on the Auto Repair Shop and Motor Repair Shop:

- There were no exceedances of screening levels of any CERCLA contaminants (other than background arsenic) in groundwater. Groundwater is no longer considered a potentially impacted media.
- 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 (Doherty, 2000). Therefore, upstream/upgradient contribution is suspected during one or more frequent flooding events after the site was abandoned. <add ref>

PETROLEUM-OIL-LUBRICANTS SITE CHARACTERIZATION

Soil samples were analyzed for gasoline range organics, diesel range organics (DRO), residual range organics (RRO), and benzene, toluene, ethylbenzene, and xylenes (BTEX), and polyaromatic hydrocarbons. A summary of analytical results by area is provided in Table 2. Only COPCs detected at the site above Method 3 migration to groundwater (MTG) cleanup levels are listed.

Table 2: Summary of Soil POL Analytical Results (only detected compounds are shown)

COPCs	Number of Samples	Maximum Concentration (mg/kg)	Method 3 MTG Cleanup Levels (f_{oc} = 0.007) (mg/kg)	Number of Samples Exceeding Cleanup Levels
Power House and UST				
DRO	28	51	1,700	0
RRO	28	470	76,000*	0
Xylenes	26	0.008	7.4	0
Naphthalene	24	0.004	0.24	0
1-Methylnaphthalene	24	0.0039	2.7	0
2-Methylnaphthalene	24	0.0055	8.3	0
Auto Repair Shop				
DRO	20	280	1,700	0
RRO	20	1,200	76,000*	0
Xylenes	10	0.095	7.4	0
Naphthalene	19	0.20	0.24	0
1-Methylnaphthalene	19	0.0053	2.7	0
2-Methylnaphthalene	19	0.015	8.3	0
Motor Repair Shop				
DRO	14	30	1,700	0
RRO	14	370	76,000*	0
Naphthalene	10	0.44	0.24	1
1-Methylnaphthalene	10	0.19	2.7	0
2-Methylnaphthalene	10	0.35	8.3	0
AST at Staging Area				
DRO	14	67	1,700	
RRO	14	600	76,000*	0
Naphthalene	10	0.0047	0.24	0
1-Methylnaphthalene	10	0.0046	2.7	0
2-Methylnaphthalene	10	0.0074	8.3	0

*RRO modified cleanup level for protection of groundwater evaluated. Where risk of human ingestion exists, the cleanup value of 10,000 mg/kg applies and is unmodified by site-specific TOC results. ADEC maximum allowable concentrations are 22,000 mg/kg.

The POL analytical results were as follows:

- None of the groundwater results exceeded ADEC default cleanup levels.
- One sample (0.44 mg/kg) exceeded the Method 3 migration to groundwater cleanup level for naphthalene. This sample was collected at the Motor Repair Shop.
- Based on these results, this site does not pose an imminent and substantial endangerment to public health, welfare, or the environment. Therefore, no further action (investigatory or cleanup) is necessary for the POL contamination.

SCOPE AND ROLE OF THE DECISION

This will be the final decision regarding investigative and remedial activities for the Site. Several FUDS projects for this site were initiated in the 1990s to address building demolition and debris removal as well as Remedial Actions to address environmental contamination and containerized wastes. Interim Remedial Actions conducted under these projects were successfully completed and the projects closed by 2006. In 2014 a Preliminary Assessment was completed based on historical research and analyses of textual, cartographic and photographic archives and records. This was followed in 2017 by a Remedial Investigation and Limited Removal Action to address potential risks associated with residual environmental contamination. An Addendum RI Report was completed in 2020 to evaluate sample locations with positive detections of contaminants. The results of the Addendum RI report are summarized in this document.

SUMMARY OF SITE RISKS

HUMAN HEALTH RISK

A human health risk evaluation was conducted for contaminants regulated under CERCLA (USEPA 1994; ADEC 2018a) using the USEPA's acceptable carcinogenic risk range of $1x10^{-4}$ to $1x10^{-6}$ and noncarcinogenic criterion not to exceed a Hazard Quotient (or cumulative Hazard Index) of 1.0.

Contaminant pathways and potential receptors were evaluated through individual Conceptual Site Models (CSMs) for both human health and ecological receptors (USACE 2017). Current and future human receptors include site visitors, recreational users, subsistence harvesters, subsistence consumers, potential residents, and commercial or industrial workers. The Site is owned the Bethel Native Corporation, which indicated it may someday develop Bethel Airport FUDS for commercial or residential use.

Maximum sitewide contaminant concentrations were compared to one-tenth of ADEC's Human Health risk-based standards and to USEPA's regional screening levels and then evaluated for cumulative risk potential to estimate whether remaining concentrations posed unacceptable risk and warranted further investigation.

None of the detections exceeded one-tenth of ADEC's risk-based standards or USEPA's RSLs, and cumulative risk analysis did not indicate exceedances of state or federal standards (acceptable carcinogenic risk range of $1x10^{-4}$ to $1x10^{-6}$ and noncarcinogenic criterion not to exceed a Hazard Quotient of 1.0). Therefore, on-site contamination does not pose an unacceptable risk to human health or the environment, and no further investigation or remedial action is necessary.

Contaminants have not been detected in the shallow groundwater 75 years since any spills may have occurred.

ECOLOGICAL RISK

The ecological CSM provided a general overview of potential exposure pathways and ecological receptors to assess risk to the environment on a site-wide basis (USEPA 1997; ADEC 2018a). The Site is situated amidst forested/scrub shrub habitat that is seasonally flooded. Critical or aquatic habitat (e.g., ponds, streams) is absent. Contaminants were all found at depth, beyond the soil interval considered relevant for ecological exposure. Therefore, the ecoscoping process concluded that no further evaluation of risk to the ecological environment was warranted.

PETROLEUM-OIL-LUBRICANTS

The POL contamination at the Site was investigated to determine whether it poses an imminent and substantial endangerment to human health or the environment under DERP. Site concentrations of POL related compounds were compared to 18 Alaska Administrative Code [AAC] 75 Article 3. The petroleum related compounds have been determined not to present an imminent and substantial endangerment to public health or welfare and the environment.

A single sample from a depth of 1-2 ft at the Motor Repair Shop exceeded the Method 3 migration to groundwater soil cleanup level for naphthalene. Naphthalene was not detected at a depth of 6 ft feet at this same location. Within 15 feet north, west, and east of the location naphthalene was also not detected. The estimated volume of impacted soil is less than 15 cubic yards and considered a de-minimus quantity.

BASIS OF THE DECISION

The No Action Alternative 1 is fully protective of human health and the environment based on risk. Excluding arsenic, which is a naturally occurring metal, the concentrations of all CERCLA compounds are less than human health levels of concern.

Two distinct areas contain vinyl chloride concentrations above migration to groundwater screening criteria but below human and ecological levels of concern. Despite migration to groundwater screening level exceedances, vinyl chloride has not been detected in nearby groundwater. These areas, consisting of three samples (AS08SO003, AS12SO001, and MS02SO002) are separated by multiple samples without screening level exceedances, indicating the two areas are isolated from one another and do not represent a continuous spill. Multiple isolated detections with low concentrations and no evidence of migration suggests this contamination did not originate from the Site.

The No Action Alternative will continue to be effective over the long term, resulting in reduced concentrations over time. The small amount of remaining contamination is expected to continue to degrade over time at the site, further reducing the low toxicity, mobility, and volume. The alternative can be implemented at low cost.

COMMUNITY PARTICIPATION

The public is encouraged to provide comments on this Proposed Plan for the Bethel Airport FUDS.

The USACE must provide a reasonable opportunity, not less than 30 calendar days, for submission of written and oral comments on the proposed plan and the supporting analysis and information located in the information repository.

The public comment period ends XXX.

Comments can be submitted to USACE by any of the following methods:

Mail a written comment:

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

Email a comment:

POA-FUDS@usace.army.mil

Attend the public meeting:

Xxxx
Community Hall
Bethel Alaska

A final decision for this site will be made only after public comments are considered.

USACE will provide a written response to all significant comments. A summary of the responses will accompany the Decision Document and will be made available in the Administrative Record and Information Repository.

Contact Information:

For additional information, please contact:

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USACE Project Manager
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Gregory.S.Thorsell@usace.army.mil

Information Repository Location:

Additional detailed information that is not presented in this Proposed Plan (documents that detail previous investigations, remedial actions, and results) is available for your review in the Information Repository at XXXX.

Electronic Copy:

An electronic copy of this Proposed Plan is available during the public comment period at:

https://www.poa.usace.army.mil/Library/Reports-and-Studies/

PUBLIC MEETING:
XXXX

Community Hall
Bethel, Alaska
7 p.m.

ACRONYMS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AST	above ground storage tank
BLM	Bureau of Land Management
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAA	Civil Aeronautics Agency
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
COPC	contaminant of potential concern
CSM	conceptual site model
CULs	cleanup levels
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
DRO	diesel range organics
FAA	Federal Aviation Administration
FUDS	Formerly Used Defense Site
mg/kg	milligrams per kilogram
MTG	migration to groundwater
PCB	polychlorinated biphenyl
POL	petroleum, oil, and lubricants
RI	remedial investigation
RRO	residual range organics
U.S.	United States
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VOCs	volatile organic compounds

REFERENCES

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FIGURES

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Figure 1: Site Overview

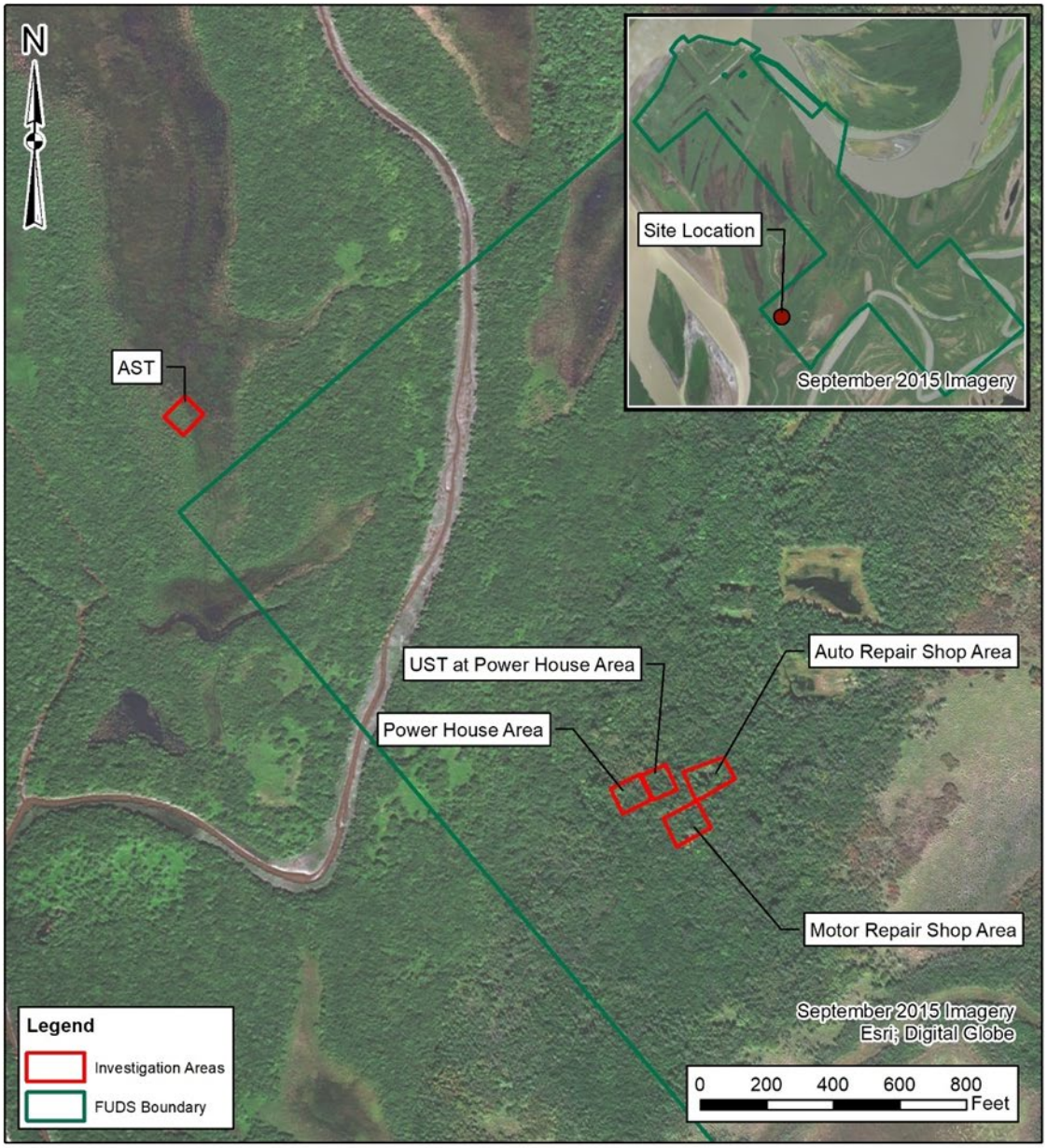

Figure 1-2 Revision Number: 0	Bethel Airport FUDS Investigation Areas Bethel, Alaska	
U.S. Army Corps of Engineers, Alaska District	DATE: 10/25/2019 DESIGNED BY: TF DRAWN BY: CB CHECKED BY: TF APPROVED BY: JH	SCALE: On Map NWI FILE NAME: Fig 1-2 Bethel Airport Project Area
		US Army Corps of Engineers® Alaska District

Figure 2: Summary of UVOST Screening, Sampling, and Monitoring Well Location Map