

**FINAL**

**Preliminary Assessment Report for  
Aqueous Film-Forming Foam Areas**

**Cold Bay Long Range Radar Site, Alaska**

**December 2023**

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**Prepared for:**



**Air Force Civil Engineer Center  
PACAF Regional Support Center**

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## ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
AFCEC	Air Force Civil Engineer Center
AFFF	aqueous film-forming foam
amsl	above mean sea level
AST	aboveground storage tank
bgs	below ground surface
Brice	Brice Engineering, LLC
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CSM	Conceptual Site Model
DNR	Department of Natural Resources
DoD	Department of Defense
DOT	Department of Transportation
EPA	U.S. Environmental Protection Agency
FAA	Federal Aviation Administration
FTA	fire training area
HFPO-DA	hexafluoropropylene oxide dimer acid
JBER	Joint Base Elmendorf-Richardson
LRRS	Long Range Radar Site
MAR	Minimally Attended Radar
NFRAP	No Further Response Action Planned
NWR	National Wildlife Refuge
PA	Preliminary Assessment
PFAS	per- and polyfluoroalkyl substances
PFBS	perfluorobutanesulfonic acid
PFHxS	perfluorohexane sulfonate
PFNA	perfluorononanoic acid
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
POL	petroleum, oil, and lubricant
RI	Remedial Investigation
SI	Site Inspection
TMO	Traffic Management Office
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
WACS	White Alice Communications System

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## 1.0 INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Alaska District has been designated as the service center to implement Preliminary Assessments (PAs) for per- and polyfluoroalkyl substances (PFAS) associated with aqueous film-forming foam (AFFF) areas at multiple locations for the Air Force Civil Engineer Center (AFCEC). Brice Engineering, LLC (Brice) conducted a PA for USACE at the Cold Bay Long Range Radar Site (LRRS), Alaska under Contract W911KB20D0002, Delivery Order W911KB22F0080.

This PA Report was prepared in accordance with the *Work Plan for PFAS Preliminary Assessments at Multiple Installations in Alaska and Hawaii* (USACE 2022) and the guidance and policy outlined in *Management Guidance for the Defense Environmental Restoration Program* (Office of the Deputy Under Secretary of Defense 2001). The team is conducting the PA in accordance with the U.S. Environmental Protection Agency (EPA) document *Guidance for Performing Preliminary Assessments Under Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) (EPA 1991).

The PA evaluates if a potential environmental release of AFFF may have occurred from historical storage or use at fire training areas (FTAs) and other non-FTAs, such as hangars, fire stations, and emergency response locations (e.g., crash sites on- or off-base). Typically, a PA includes an Administrative Record and other relevant document search, followed by interviews with installation personnel with knowledge of past or current operations involving the site being assessed. Information contained in this PA Report was gathered from the historical records found in the AFCEC Administrative Record, provided by Cold Bay LRRS personnel through correspondence with the team and identified during interviews.

### 1.1 Purpose and Objectives

The purpose of this PA Report is to present results of assessments conducted to identify locations at the Cold Bay LRRS, where potential releases of PFAS may have occurred that pose a potential threat to human health and the environment. Although PFAS are not federally regulated under CERCLA or the Resource Conservation and Recovery Act of 1976, PFAS are emerging contaminants resulting from the release of AFFF and may present potential non-carcinogenic risks to human health and the environment. The U.S. Air Force (USAF) follows the CERCLA process in responding to PFAS releases attributable to USAF mission-related activities to fully investigate releases, prioritize responses, and determine appropriate actions based on risk. PFAS are used in numerous industrial applications and products, as described below.

The objective of this PA Report is to identify locations where AFFF may have been stored, used, or released to the environment, provide an initial assessment of potential PFAS migration pathways and receptors, and provide recommendations for no further action or further evaluation in a Site Inspection (SI). Historical locations where AFFF may have been stored, used, or released include FTAs and other non-FTAs such as hangars, fire stations, and emergency response locations (e.g., crash sites on- or off-base).

Non-AFFF sources of PFAS releases, including plating shops, metal finishing shops, electrical and electronic components facilities, photographic shops, landfills, wastewater treatment plant discharge areas, biosolids application areas, auto hobby shops, and carwashes will not be evaluated under this project.

## 1.2 PFAS Background

PFAS are a large group of manmade chemicals that have been used in industry and consumer products worldwide since the 1950s. PFAS are also used in the formulation of AFFF, which was widely used as a firefighting agent used to suppress aircraft and other vehicle fires, and in aircraft hangar fire suppression systems. PFAS are particularly desirable in AFFF because of their unique characteristic of allowing the AFFF to flow across burning petroleum, allowing water to form a layer on top of the burning liquid, which extinguishes the fire.

PFAS analytes have historically been manufactured by two processes: electrochemical fluorination and telomerization. PFAS are highly soluble in water and typically have very low volatility due to their ionic nature. These substances do not readily degrade by most natural processes. They are thermally, chemically, and biologically stable and are resistant to biodegradation, atmospheric photooxidation, direct photolysis, and hydrolysis. PFAS are mobile in soil and leach into groundwater. PFAS have been found to bioaccumulate in animals and humans (Association of State and Territorial Solid Waste Management Officials 2015).

Combined or individual concentrations of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) in drinking water are compared to 70 nanograms per liter per Department of Defense (DoD) Guidance (DoD 2023).

In the United States the largest manufacturer of PFAS voluntarily stopped producing them in 2002, and the nation's production and use of these chemicals in consumer products has decreased during the past 10 years. However, other countries still produce PFAS, which can be imported into the United States in limited quantities.

USAF began using AFFF in approximately 1970 (USAF 2022), which is supported by the following federal government documents:

- Military specification for AFFF (MIL-F-24385), formally issued in 1969
- A History of Fire Protection Training at Chanute Air Force Base, 1964-1976 (Coates 1977)

Based on USAF performance testing results on AFFF, M.G. Goddard, the USAF Director of Civil Engineering, issued authorization for USAF to procure AFFF in 1970 (Coates 1977). No usage of AFFF by USAF could have occurred prior to 1970.

If the results of this PA indicate further evaluation in an SI is warranted, investigations will follow the Regional Screening Levels provided in the 6 July 2022 Memorandum for PFOS, PFOA, perfluorobutanesulfonic acid (PFBS), perfluorononanoic acid (PFNA), perfluorohexane sulfonate (PFHxS), and hexafluoropropylene oxide dimer acid (HFPO-DA, or GenX) (DoD 2022).

## 1.3 Preliminary Assessment Methods

The PA Report was prepared in accordance with the *Work Plan for PFAS Preliminary Assessments at Multiple Installations in Alaska and Hawaii* (USACE 2022) and following guidance documents:

- *Guidance for Preparing Preliminary Assessments under CERCLA* (EPA 1991)
- *Federal Facilities Remedial Preliminary Assessment Summary Guide* (EPA 2005)

Methods used during the PA included the following:

- Readily available historical records from the AFCEC Administrative Record and other online sources were reviewed for documentation of areas where AFFF may have been used, stored, and/or disposed of.
- Historical photographs were reviewed for evidence of potential AFFF-related activities, including potential spray areas indicated by circular or arc shaped features, burn areas, and FTA-related infrastructure.
- Interviews were conducted with current and former personnel familiar with the history of operations at the installation to identify locations where AFFF releases may have occurred.
- A site visit was conducted to document the installation and environmental setting with photographs, Global Positioning System coordinates of features of interest, and site drawings.

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## **2.0 INSTALLATION BACKGROUND**

This section provides a description of the Cold Bay LRRS, including site location and description, site access and security restrictions, physical setting, land use, and groundwater and surface water use.

### **2.1 Site Location and Description**

The Cold Bay LRRS is located near the tip of the Alaska Peninsula (Figure 1). The current installation is located five miles northwest of the community of Cold Bay and encompasses approximately 8-acres within the Pavlof Unit of Alaska Peninsula National Wildlife Refuge (NWR). The previous installation at Grant Point was located 11 miles west of the community of Cold Bay and encompassed 208-acres within the Izembek NWR (Figure 2). This facility was abandoned and demolished in 1987. A USAF-owned petroleum, oil, and lubricant (POL) terminal located east of the Cold Bay Airport in the community of Cold Bay also supported the former LRRS (Figure 2). The POL terminal encompassed approximately 2 acres and was not within an NWR.

This PA Report includes all locations currently and historically associated with the Cold Bay LRRS, including the former installation at Grant Point, the current LRRS site, and the former POL terminal.

### **2.2 Access and Security Restrictions**

The community of Cold Bay can be reached only by sea or air. Access to the LRRS facility is by road from the Cold Bay Airport. A perimeter fence and security gate surround the current LRRS. No access or security restrictions are in place at the former LRRS at Grant Point or the former POL terminal.

### **2.3 Site History**

The airstrip located at the community of Cold Bay was built in 1941 as a forward airfield to support operations in the Aleutian Islands during World War II. USAF transferred control of the airstrip to the Civil Aeronautics Authority, the predecessor to the Federal Aviation Administration (FAA), in the early 1950s (USAF 2001). A White Alice Communications System (WACS) site was constructed at Grant Point in 1958-1959 as part of the extension of the Distant Early Warning Line into the Aleutian Islands. In 1969 Cold Bay LRRS was converted to a North American Air Defense surveillance installation. Communications were provided by the WACS from 1969 until 1978 when the WACS at Grant Point was deactivated and replaced with a commercially owned and operated satellite system. In 1977, a site support contract eliminated 66 military positions in operations. A Joint Surveillance System was installed in 1982, enabling radar and beacon data to be transmitted via satellite to the Elmendorf Region Operations Control Center. In early 1985, the radar dome from the WACS site was moved to the current LRRS location south of Blinn Lake, and a Minimally Attended Radar (MAR) was installed. The Grant Point site was demolished in 1987 (USAF 1998). While it was operational, infrastructure at the Grant Point site included a Composite Building, Quonset hut, WACS antennas, two radar domes, underground storage tanks, and trailers used for housing (Figure 3).

The POL terminal east of the Cold Bay Airport (Figure 2) consisted of two 70,000-barrel aboveground storage tanks (ASTs), a fueling island, a pumphouse, and associated piping (USAF 2001). Diesel fuel was delivered by barge to the ASTs and then transferred by trucks to tanks at the WACS for power generation and heating. The ASTs and piping were demolished in 1994 (USAF 2001).

Infrastructure at the current Cold Bay LRRS includes a MAR tower and satellite communications dome, storage facilities, a vehicle and maintenance shop, drinking water well, septic system leach field, a POL storage tank, and module living train unit (Figure 4). Ancillary infrastructure includes portable storage units, a non-operational incinerator, and a power generator identified for replacement. There is no USAF-owned airstrip or hangar for aircraft use at the LRRS; the LRRS is approximately 2.5 miles away from the state-owned Cold Bay Airport. A former USAF landfill is less than 2 miles northwest of the current LRRS (Figure 2) with the boundaries delineated by land use control signage on the perimeter. The landfill is no longer managed by USAF and does not receive refuse for disposal. Waste generated at the current site is hauled offsite and disposed of at the municipally managed landfill. Onsite billeting for up to five personnel is available in the module train as well as kitchen/dining space, a living room, and restroom facilities. The vehicle and maintenance shop houses a variety of equipment and chemicals necessary for facility upkeep. Electronics and radar specific equipment are inside of the domes. The installation features, except for the water well, are situated on top of a hill and surrounded by fencing within the Izembek NWR for the purposes of aircraft control and warning missions in Alaska (USAF 1998).

## **2.4 Climate**

The climate at Cold Bay LRRS is characterized by frequent but light rains, cool temperatures, and high cloud and fog frequencies. The weather is dominated by frequent cyclonic storms crossing the Northern Pacific and Bering seas, which are responsible for common occurrences of high winds, low ceilings, and low visibility in the area. The open bay area to the south-southwest of the LRRS and the high mountainous terrain to the southwest create complex wind patterns. Seasonal periods at Cold Bay are variable due to the moderating effects of nearby, large ocean areas. Vegetative growth, heralding the arrival of spring, generally does not begin until late May or early June. August is considered mid-summer, and autumn starts early in October.

The summer season experiences the greatest frequency of fog, with the foggy period extending from mid-July to mid-September. Visibility restriction due to blowing snow is common during winter. Sky cover/visibility is an important climatological feature of the Cold Bay area. About 90 percent of the sky is covered by clouds on an average day. The shortest day of the year at Cold Bay has 7 hours and 7 minutes of possible sunshine, while the longest has 17 hours and 27 minutes of possible sunshine. The extreme degree of cloudiness in the area, however, severely restricts the amount of sunshine received. The mean annual precipitation is approximately 42 inches, and although rarely heavy, measurable precipitation occurs approximately 200 days per year. The average annual snowfall is 55 inches. Wind speeds of 30 miles per hour are common for Cold Bay.

Temperature variation at Cold Bay is minimal. Differences between minimum and maximum temperatures for all individual months average less than 10 degrees Fahrenheit (°F). The mean annual temperature is 38°F. Below zero temperatures are extremely rare but can occur between December and March. It is fairly impossible for cold, continental air masses to reach the Cold Bay area on an overland route along the narrow Alaska Peninsula; however, air overlying the frozen Bering Sea may take on continental characteristics.

## **2.5 Geology**

Cold Bay LRRS is surrounded on the landward side by low, rolling tundra with a myriad of freshwater lakes, marsh pools, and interconnecting drainage channels. The area is located within a moraine and outwash-mantled plain. Numerous morainal and thaw lakes dot the wet tundra that surrounds the installation. Elevations range from 5 to 50 feet above mean sea level (amsl).

The nearest notable features in the landscape are a large (1,000-foot) rounded hill 3 miles due west of the community and the 5,784-foot Mt. Frosty, the slopes of which begin ascending approximately 4 miles southwest of town. Being situated on the broad sloping base of Mt. Frosty, Cold Bay is not subject to flooding or dramatic erosion.

The nearest volcano, Mt. Frosty, adjacent to Cold Bay, has been dormant in historical times. The nearest active volcano is the Pavlof complex, approximately 35 miles away, which consists of six separate peaks that erupted dramatically with lava and ash in 1981. There is no known fault line in the immediate proximity to Cold Bay. Cold Bay is subject to tsunamis that are created by submarine earth movements of earthquakes and volcanic eruptions.

The geology of Cold Bay LRRS is dominated by coastal deposits consisting of interlayered marine and alluvial sediments of terrestrial origin. These materials consist of silt and sand. Site geology consists of glacial drift and morainal materials, an unsorted, unstratified mixture of clay, silt, sand, gravel, cobbles, and boulders, deposited in an arcuate pattern about Cold Bay. Numerous small lakes dot the uplands underlain by glacial sediment (USAF 1987).

Volcanic ash, unconsolidated sand, silt, gravel, and decomposed bedrock form most of the parent material for the soil for the Alaska Peninsula. Soils are generally cindery and well drained on slopes but are often sandy or loamy at low elevations. Peat soil is common in lowlands because of poor drainage and the lack of topographic relief (USAF 1987).

Although there are zones of discontinuous permafrost on the eastern half of the Alaska Peninsula, permafrost is usually absent in the western portion, where the LRRS is located. The depth of seasonal freezing depends on temperature and the amount of insulation provided by snow cover (USAF 1987).

## **2.6 Hydrology**

Groundwater below the current and former Cold Bay LRRS is present in an unconfined aquifer associated with sand and gravel lenses within glacial till. Groundwater is assumed to flow along the slopes of Mount Frosty from south to north, discharging into Cold Bay and Izembek Lagoon. Runoff from nearby Mount Frosty infiltrates the soil at lower elevations to recharge the unconfined aquifer (Alaska Department of Community and Regional Affairs 1982). The drainage of Cold Bay LRRS land area is directed to unnamed surface streams and local wetlands, which, in turn, drain to Izembek Lagoon, a principal surface water feature of Izembek NWR. At the former POL terminal area, groundwater is at a depth of approximately 35 feet below ground surface (bgs) and flows east into Cold Bay (USAF 2020).

## **2.7 Ecology**

The city of Cold Bay is adjacent to the Izembek and Alaska Peninsula NWRs. Nearby Izembek Lagoon contains one of the largest eelgrass beds in the world. The nearby wetlands and marshes are populated by thousands of migrating waterfowl each year, including Canada geese, brant, and eider. The Cold Bay area has been highly disturbed, although undisturbed areas are characterized by a mixture of tundra and tall grasses.

Both freshwater and marine fish species occur in the Cold Bay area. Freshwater species include five species of salmon, dolly varden/Arctic char, and steelhead trout. At least 34 other species of fish occur in Izembek Lagoon. Numerous anadromous fish occur in streams in the Cold Bay vicinity. Russell Creek, south of the LRRS, supports chum, pink, and coho salmon as well as dolly varden and Arctic char. Frosty Creek

supports sockeye salmon as well as the previously mentioned species. The small lakes provide rearing habitat for sockeye salmon.

Many large mammals inhabit the area including moose, caribou, wolves, brown bear, and wolverines. Productive salmon streams sustain a large population of brown bear. Numerous species of seabirds and marine mammals inhabit the surrounding marine environment. Sea lions, harbor seals, sea otters, and migratory whales frequent the shores and offshore waters. The area is also inhabited by many species of land birds including ptarmigan and bald eagles.

## **2.8 Land Use**

The current Cold Bay LRRS is located within the Pavlof Unit of the Alaska Peninsula NWR and is surrounded by a perimeter fence. The acreage outside of the perimeter fence has been left in natural condition to contribute to the wildlife habitat of the Alaska Peninsula NWR. Minor gullying of gravel slopes outside of the perimeter fence and some washing of the access road just outside of the gate has been noted in the past. The former LRRS at Grant Point is located within the Izembek NWR and is accessible to the public. Both subsistence and sport hunting and fishing as well as recreational wildlife viewing occur in the former and current LRRS areas. The former POL terminal area is located within the community of Cold Bay adjacent to a dock and public road. The area has not been developed for commercial use and is accessible to the public. USAF is the landowner of the current and former LRRS properties and the former POL terminal area.

## **2.9 Groundwater and Surface Water Use**

According to the Department of Natural Resources (DNR) Well Log Tracking System (DNR 2023), there are 11 wells within the community of Cold Bay and one well at the location of the current LRRS. Both Cold Bay and Izembek Lagoon are saltwater bodies; groundwater obtained from shallow aquifers in the general area may be brackish. For this reason, surface water provides the most reliable drinking water. The current Cold Bay LRRS obtains water supplies from a 113-foot deep well located on a knoll at 150 feet amsl, adjacent to the site. Two public water wells near the water treatment plant, approximately 0.3 miles west of the former POL terminal area, serve the community of Cold Bay. In 1994, Well No. 1 was drilled to 320 feet bgs, and Well No. 2 was drilled to 220 feet bgs. Surface water bodies in the area of the current and former installation and the former POL terminal area may serve as aquatic habitat for animals or as a water source to avian and terrestrial mammal species.

### 3.0 PRELIMINARY ASSESSMENT FINDINGS

During the records review, historical photograph review, interviews, and site visit phases of this PA, no FTAs or non-FTAs associated with potential AFFF storage or use were identified (Table 1). A summary of historical records reviewed during the PA is provided in Appendix A. Appendix B contains the records of communication and completed interview forms from people familiar with historical site activities. Field forms from the site visit are included in Appendix C. Photographs taken during the site visit are shown in Appendix D.

#### 3.1 Historical Records Review and Environmental Data Records Search

The records review included internet searches of readily available resources and databases for any information associated with the storage, use, or release of AFFF at the current and former Cold Bay LRRS and the former POL terminal area. The resources and databases searched included the AFCEC Administrative Record, Alaska Department of Conservation Contaminated Sites Database, as well as internet searches for onsite or offsite crashes/emergency responses. Additionally, hard copies of historical USAF records and photos stored in a warehouse at Joint Base Elmendorf-Richardson (JBER) were reviewed. Historical documents that referenced the current and former Cold Bay LRRS and former POL terminal area were reviewed by searching for key words related to the use, storage, or release of AFFF or PFOA/PFOS. Key words used during the records review are listed in Appendix A, Table A-1.

During the review of one historical record, the *Management Action Plan* for Cold Bay (USAF 1998), it was noted that “fire training” was identified as a hazardous substance activity at the Cold Bay LRRS between 1959 and 1985 when the former LRRS at Grant Point was active; however, the report states that wastes from the former LRRS were transported to an FAA facility for fire training. Other historical reports corroborate this, stating wastes generated at the former LRRS, including spent oils, fuels, and solvents, were shipped offsite to an FAA facility at the Cold Bay Airport for fire training by non-USAF entities including the Department of Transportation (DOT) (USAF 1985, 1997, 1998, 2000). Other than the reference to fire training in Table 1-1 of the *Management Action Plan* (USAF 1998), no documentation of fire training activities conducted by the USAF at the LRRS could be found. Additionally, during the records review, no potential locations where fire training activities could have been conducted by USAF were found at the current or former LRRS or the former POL terminal area.

Historical reports do not identify specific fire suppression systems used in the Composite Building at the former Cold Bay LRRS at Grant Point. Historical layouts from other USAF installations (e.g., Cape Newenham LRRS [USAF 2020a] and Tatalina LRRS [USAF 2020b]) indicate a halon system, carbon dioxide based Ansul system in the kitchen, water sprinklers, and/or mounted dry chemical fire extinguishers were commonly used for fire suppression, and it is possible that similar method were used at the Grant Point Composite Building. Multiple photographs of the Grant Point site posted to blogs and social media accounts show wall mounted fire extinguishers in the Composite Building that appear to be either dry chemical extinguishers or Fireboys, which are presently used at the current Cold Bay LRRS and do not contain AFFF or PFAS. A detailed review of historical site figures and photographs showed no evidence of a USAF fire station at the Cold Bay LRRS.

The current LRRS, located approximately 6 miles southeast of the former LRRS, was activated in 1985; no evidence of fire training or AFFF storage or use at the current LRRS was found. The fire suppression systems used at the current LRRS were observed during the site visit and are discussed in Section 3.3.

Historical documents related to the former POL terminal east of the Cold Bay Airport were reviewed and no evidence of a fire suppression system associated with the tanks was found. Additionally, no evidence of a fire that would have required the use of AFFF or another fire suppression system at the tanks was found. It is possible that the firefighters at the Cold Bay Airport were equipped to respond in the event of a fire at the terminal.

Historical photographs were reviewed for evidence of AFFF-related activities using Google Earth (aerial imagery was available for the years 2011, 2012, 2014, 2020, and 2023), photograph logs from historical reports, photographs obtained from the JBER Base Historian, social media posts, blogs, and other internet resources; photos from as early as the late 1950s were available. Features related to potential AFFF use, including circular or arch shaped features indicating an AFFF spray testing pattern, burn areas, burned vegetation, fire training features (e.g., replicas of airplanes or other structures), or hangars were not found during the review.

As part of the review process, the JBER Traffic Management Office (TMO) was contacted, and the TMO conducted a search of historical shipping records for evidence of AFFF shipments to the Cold Bay LRRS; no record of AFFF shipment to Cold Bay LRRS was found. The TMO only had shipping records available for the last approximately 5 years. The records search did not cover shipments prior to approximately 2018.

**Table 1 Training Areas Identified for Potential Aqueous Film-Forming Foam Releases**

FIRE TRAINING AREAS
None
NON-FIRE TRAINING AREAS
None

**Notes:**

For definitions, refer to the Acronyms and Abbreviations section.

### 3.2 Interviews

AFFF questionnaires were sent to individuals with knowledge of historical activities at the Cold Bay LRRS, including former site personnel. Mr. Mark Mobley, a USAF civilian employee with history working at multiple installations in Alaska (i.e., Anvil, Bear Creek, Bethel, Big Mountain, Bullen Point, Campion, Cold Bay, Granite Mountain, Kalakaket, Kotzebue, Murphy Dome, Naknek Recreation Camps 1 and 2, Nikolski, and Port Heiden) did not recall specific details for most of the sites that he worked at but stated that, in general, if an installation had an airstrip that could accommodate larger aircraft (e.g., C-130), firefighting supplies, including jugs of AFFF, were stored in a supply building near the airstrip; however, if the airstrip was smaller AFFF was not likely stored because firefighting support for larger aircraft was not required. Mr. Mobley did not have specific information related to AFFF at the current Cold Bay LRRS; however, he did indicate that since there was not an airstrip at the installation there would be no need for AFFF storage.

The Cold Bay Airport is state-owned. USAF used the Cold Bay Airport while the LRRS was active; however, historical records do not show any USAF support structures near the Airport, including supply buildings that could potentially have been used to store firefighting equipment for the runway. Firefighting support for the runway was historically provided by a fire station owned by the DOT. During the completion of this PA, no evidence of AFFF storage or use at the Airport by USAF was found.

During the site visit, interviews were conducted with the Station Chief and the Facility Lead. The Station Chief stated that he has history working at multiple installations in Alaska but did not recall specific details for the sites and had no direct knowledge of AFFF storage or use at the Cold Bay LRRS. The Facility Lead did not have any specific information related to AFFF at the installation. A list of interviewees, completed interview forms, and records of communication related to interviews are included in Appendix B.

### 3.3 Site Visit

On 16 August 2023, a site visit to the Cold Bay LRRS was conducted by Brice personnel. During the site visit, the field team performed a site walk, documented site conditions and existing facility infrastructure, and interviewed personnel stationed at the current LRRS. The field team observed the MAR Tower, Module Train, storage facilities, Maintenance/Auto Shop, Satellite Communications Dome, leach field, an inactive incinerator, fuel storage tanks, and the water supply located outside of the perimeter fencing. A portable fire extinguisher (i.e., Fireboy) was observed in the former incinerator shed. According to the Station Chief, no fire suppression substances have been deployed from the canister and the incinerator has been inactive since 2017. An Ansul oxygen-deprivation fire suppression system previously was located in the MAR Technical Equipment Room; the Station Chief said that the system had been removed from the facility but did not know the removal date. Neither the Fireboy nor Ansul system contain PFAS and are not a potential source of AFFF.

There were no signs of stressed vegetation, and no retention ponds or outfalls were in the vicinity of the installation. No areas of potential AFFF-related activities were identified or observed. There are no houses or structures in the immediate vicinity of the LRRS except for an FAA site enclosed in fencing east of the LRRS on the access road approaching the site. Although no longer operational or part of the active installation, Brice staff observed the former USAF landfill less than 2 miles from the LRRS. Figure 4 shows the current site infrastructure. Appendix C presents field forms, and Appendix D presents the photograph index.

## 4.0 PRELIMINARY CONCEPTUAL SITE MODEL

A preliminary conceptual site model (CSM) was developed for the entire Cold Bay LRRS using available data in accordance with the EPA *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (EPA 1988), the USACE *Environmental Quality Conceptual Site Models Engineer Manual* (USACE 2012).

The CSM includes identification of the following elements:

- Sources and types of chemicals
- Release mechanisms
- Impacted media
- Known or potential human and ecological receptors
- Known and potential pathways and routes of exposure (e.g., through the skin, lungs, or digestive tract)

Exposure pathways are considered complete if the following four elements exist:

- A source
- A mechanism of release, retention, or transport of a given chemical in a given medium
- A contact point with the affected medium
- An exposure route at the contact point (e.g., ingestion, dermal absorption, or inhalation)

If any of these elements are missing, the pathway is considered incomplete and thus does not present a means of exposure. The CSM process results in a schematic representation of the links between sources, release and transport mechanisms, potentially affected media, exposure routes, and potentially exposed human receptors.

### 4.1 Sources and Release Mechanisms

During the PA, no evidence of AFFF storage or use at the Cold Bay LRRS was found. Historical sources of AFFF include USAF fire training practices. If AFFF was released, possible PFAS release mechanisms would include spills, leaks, and direct discharges of AFFF during fire training exercises.

### 4.2 Impacted Media

During the PA, no evidence of AFFF storage or use at the Cold Bay LRRS was found.

### 4.3 Transport Mechanisms

If PFAS contamination were present the primary transport mechanisms that are of concern would include migration from surface soil to subsurface soil, migration from subsurface soil to groundwater, surface runoff/overland flow, and bioconcentration/bioaccumulation.

#### **4.4 Potential Receptors and Exposure Pathways**

If PFAS contamination were present current potential human receptors would include commercial or industrial workers, construction workers, site visitors, site trespassers, and subsistence harvesters or consumers. Potentially complete human health exposure pathways in soil for all potential current and future receptors include direct contact, incidental ingestion, dermal exposure, inhalation of fugitive dust, and consumption of subsistence food items. A perimeter fence and security gate surround the current LRRS which limits access to commercial or industrial workers, construction workers, and site visitors only. No access or security restrictions are in place at the former LRRS at Grant Point or the former POL terminal, so these areas may be accessed by commercial or industrial workers, construction workers, and site visitors in addition to site trespassers and subsistence harvesters or consumers.

Construction workers could be exposed to site contaminants through direct contact or incidental ingestion of soil, or inhalation of dust during soil disturbing activities. Commercial workers could engage in subsurface work during maintenance that daylight soil such as brush clearance, maintenance of utility corridors, or other landscaping.

Site visitors are users assumed to visit the site occasionally. These receptors could be exposed through direct contact or incidental exposure to soil. Site visitors may incidentally ingest soil by consuming fine particles that adhere to skin surfaces, particularly the hands, from engaging in outdoor activities. These receptors are expected to visit the site only occasionally.

Subsistence harvesters or consumers may visit the former LRRS at Grant Point or the former POL terminal and ingest site contaminants through dietary intake of harvested plants and animals as PFAS have been shown to bioaccumulate in plants and animals. Exposure for current and future subsistence gatherers is expected to be similar to those of site visitors.

There are no permanent residents at the current and former Cold Bay LRRS and POL terminal area, and the station is not expected to be used for residential use in the future.

If PFAS contamination were present potential ecological receptors would include vegetation, birds, and mammals. Potential exposure pathways for ecological receptors includes direct contact or incidental ingestion of surface soil or surface water.

## 5.0 FIRE TRAINING AREAS

No FTAs were identified at the current or former Cold Bay LRRS or POL terminal area during this PA. Although “Fire Training” was listed as a hazardous substance activity in Table 1-1 of the *Management Action Plan* (USAF 1998), no evidence of fire training activities conducted by USAF or on USAF property was found. All historical reports indicate that drummed wastes were shipped offsite to the Cold Bay Airport for fire training activities by non-USAF entities, including the DOT. Additionally, no evidence of AFFF storage, use, or release at the current or former Cold Bay LRRS or the POL terminal was found. Appendix E presents a general PA form, which evaluates the potential human and ecological pathways for the entire Cold Bay LRRS.

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## **6.0 NON-FIRE TRAINING AREAS**

No non-FTAs such as hangars, fire stations, or emergency response locations were identified at the current or former Cold Bay LRRS or POL terminal area during this PA. Appendix E presents a general PA form, which evaluates potential human and ecological pathways for the entire Cold Bay LRRS.

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## 7.0 CONCLUSIONS AND RECOMMENDATIONS

This section summarizes the findings of the PA for AFFF at the current and former Cold Bay LRRS and POL terminal area and provides conclusions based on those findings.

### 7.1 Conclusions

Based on the review of readily available records, no FTAs or non-FTAs associated with the storage, use, or release of AFFF were identified.

#### 7.1.1 Fire Training Areas

During the completion of this PA, no FTAs were identified.

#### 7.1.2 Non-Fire Training Areas

During the completion of this PA, no non-FTAs such as hangars, fire stations, or emergency response locations were identified.

### 7.2 Limitations

Limitations associated with the results of this PA are a function of the uncertainty associated with information sources. Limitations of the report include:

- **Record Research:** The research conducted for this PA was limited to information, including reports, database records, and other files available through the AFCEC Administrative Record (if available), on the internet, and/or provided by interviewees.
- **Database Searches:** The accuracy and completeness of database searches, of both independent and state-operated databases, were limitations of this PA Report. Database resources were not always up to date with accurate information. Consistency of information between databases was conflicting. State well database queries sometimes lacked descriptive properties of well completions and did not always define the intended use of a well (e.g., drinking water, irrigation, agricultural, monitoring). Additionally, not all private wells were identified in databases.
- **Interviews:** Much of the information presented in this report is based on personal communication and represents the viewpoints of individuals interviewed. These viewpoints are limited to the time span and memories of a given individual, gaps in time or memory could result in information on AFFF storage and usage not being presented in this report. Personnel interviewed at the installation may not have been stationed there throughout the period in which AFFF was used at the site or present on the installation during specific potential release events. Additionally, PFOS and PFOA are emerging contaminants, and the health and environmental impacts of these compounds has only recently been discovered. Because of this recent awareness, past records regarding the storage, handling, and release are generally lacking.
- **Historical Photograph Review:** This review was limited to available digital photographs on Google Earth, photograph logs from historical reports, photographs obtained from the JBER Base Historian, and photographs from other internet resources. The review of the historical

photographs was limited by the number of images available from past years, as well as the resolution of the images.

- **Accuracy or completeness of records and inventories** of AFFF quantities used or stored.
- **Pathway Evaluation:** The completion of the PA Form was limited by the information attained during the records review, interviews with installation personnel, and review of historical photographs.

### 7.3 Recommendations

In accordance with the EPA and CERCLA PA and SI Guidance Documents (EPA 1991) and Air Force policy, sites are recommended for one of the following: implement a response action due to imminent and substantial threat to human health; close out of location due to no release under a No Further Response Action Planned (NFRAP) determination; or initiate an SI to determine presence/absence.

- Response action, as defined in CERCLA Section 104, are actions taken to eliminate, control, or otherwise mitigate a threat posed to public health due to a release or threatened release of hazardous substances (EPA 1991).
- Closeout or NFRAP is defined as a disposition decision that further response under CERCLA is not necessary (EPA 1991).
- Remedial Investigation (RI) is defined as a field investigation to characterize the nature and extent of contamination at a location. The RI supports development, evaluation, and selection of the appropriate response alternative (EPA 1991). An RI is recommended for an area of interest where analytical data from a non-SI source identifies PFAS compounds at concentrations exceeding EPA Regional Screening Levels.
- SI is defined as an investigation to collect and analyze environmental samples to support an evaluation (EPA 1991). An SI is recommended for an area of interest where samples have not been collected.

Based on the available information assessed as a part of this PA, no potential AFFF storage, use, or release locations have been identified at Cold Bay LRRS, including the current installation, the former LRRS at Grant Point, and the former location of USAF-owned POL terminal; therefore, Cold Bay LRRS is recommended for NFRAP. Table 2 summarizes the findings from this PA and presents recommendations for future management.

**Table 2 Summary and Recommendations for Potential Aqueous Film-Forming Foam Releases**

LOCATIONS	RATIONALE	RECOMMENDATIONS
Cold Bay LRRS	No potential AFFF storage, use, or release locations were identified	NFRAP

**Notes:**

For definitions, refer to the Acronyms and Abbreviations section.

## 8.0 REFERENCES

- Alaska Department of Community and Regional Affairs. 1982. *Cold Bay Community Map and Profile*.
- Association of State and Territorial Solid Waste Management Officials. 2015. *Perfluorinated Chemicals (PFCs): Perfluorooctanic Acid (PFOA) & Perfluorooctance Sulfonate (PFOS) Information Paper*. August.
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## FIGURES

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PRELIMINARY ASSESSMENT REPORT FOR  
 AQUEOUS FILM-FORMING FOAM AREAS  
 COLD BAY LONG RANGE RADAR SITE, ALASKA  
**INSTALLATION LOCATION - ALASKA**

**Legend**

★ Approximate Location of Current/Former Installation

**Abbreviations**

LRRS Long Range Radar Site

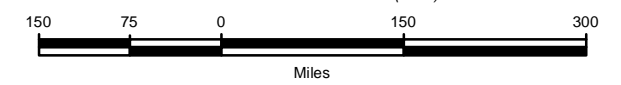
**Notes**

1. Map produced using ESRI ArcMap v. 10.7.

**References**

1. Imagery source: Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

NAD83 (2011) ALASKA ALBERS PROJECTION  
 HORIZONTAL DATUM: NAD83 (2011)



PROJECT No.: W911KB22F0080	DATE: 12/14/2023	FIGURE: <b>1</b>
P.M.: M.O.	DRAWN: G.O.	

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PRELIMINARY ASSESSMENT REPORT FOR  
 AQUEOUS FILM-FORMING FOAM AREAS  
 COLD BAY LONG RANGE RADAR SITE, ALASKA  
 INSTALLATION AND SURROUNDING AREA



**Legend**

--- Installation Boundary

**Abbreviations**

LRRS Long Range Radar Site  
POL Petroleum, Oil, and Lubricants

**Notes**

1. For conceptual purposes only. All locations are approximate.
2. Map produced using ESRI ArcMap v. 10.7.

**References**

1. Imagery source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

ALASKA STATE PLANE COORDINATE SYSTEM ZONE 7, U.S. SURVEY FEET  
HORIZONTAL DATUM: NAD83 (2011) | VERTICAL DATUM: NAVD88

PROJECT No.: W911KB22F0080	DATE: 12/14/2023	FIGURE: <b>2</b>
P.M.: M.O.	DRAWN: G.O.	

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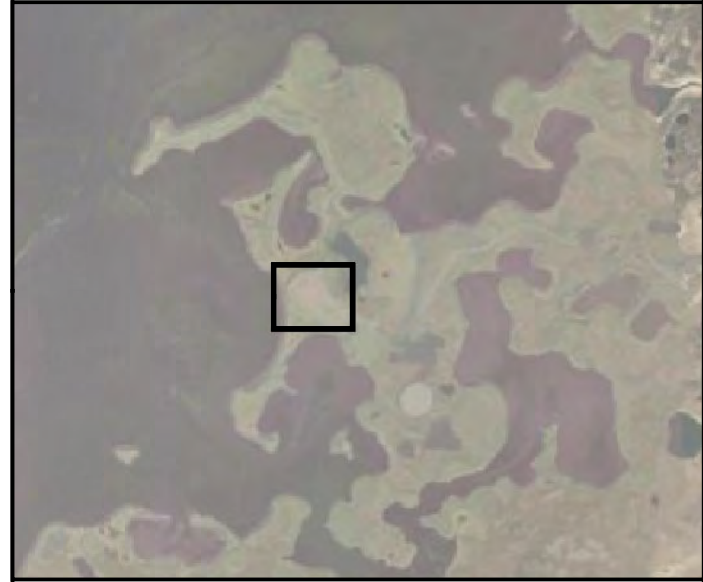
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PRELIMINARY ASSESSMENT REPORT FOR  
 AQUEOUS FILM-FORMING FOAM AREAS  
 COLD BAY LONG RANGE RADAR SITE, ALASKA

**INSTALLATION AREA AND  
 FORMER SITE FEATURE LOCATIONS -  
 FORMER LRRS AT GRANT POINT**



**Legend**

- Antenna Location
- Former Building Location

**Abbreviations**

LRRS Long Range Radar Site

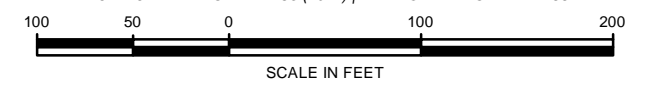
**Notes**

1. For conceptual purposes only. All locations are approximate.
2. Map produced using ESRI ArcMap v. 10.7.

**References**

1. Imagery source (Vicinity Map): ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

ALASKA STATE PLANE COORDINATE SYSTEM ZONE 7, U.S. SURVEY FEET  
 HORIZONTAL DATUM: NAD83 (2011) | VERTICAL DATUM: NAVD88



PROJECT No.: W911KB22F0080	DATE: 12/14/2023	FIGURE: <b>3</b>
P.M.: M.O.	DRAWN: G.O.	

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PRELIMINARY ASSESSMENT REPORT FOR  
 AQUEOUS FILM-FORMING FOAM AREAS  
 COLD BAY LONG RANGE RADAR SITE, ALASKA  
**INSTALLATION AREA AND  
 FORMER SITE FEATURE LOCATIONS -  
 CURRENT LRRS**



**Legend**

Installation Boundary

**Abbreviations**

LRRS Long Range Radar Site  
MAR Minimally Attended Radar

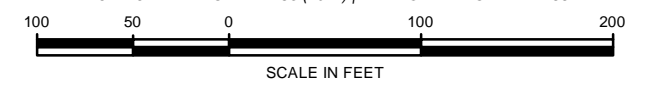
**Notes**

1. For conceptual purposes only. All locations are approximate.
2. Map produced using ESRI ArcMap v. 10.7.

**References**

1. Imagery source (Vicinity Map): ESRI, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

ALASKA STATE PLANE COORDINATE SYSTEM ZONE 7, U.S. SURVEY FEET  
 HORIZONTAL DATUM: NAD83 (2011) | VERTICAL DATUM: NAVD88



PROJECT No.: W911KB22F0080	DATE: 12/14/2023	FIGURE: <b>4</b>
P.M.: M.O.	DRAWN: G.O.	

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**APPENDIX A**  
**RECORDS REVIEW SUMMARY**

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**Table A-1 Records Review Overview and Key Words**

*Preliminary Assessment Report for Aqueous Film-Forming Foam Areas*

*Cold Bay Long Range Radar Station, Alaska*

Facility Name / Location	Infrastructure	Property Ownership	Key Words Used
<p>Cold Bay LRRS /                      55.245048°, -162.770241° (current LRRS),                      55.262551°, -162.887605° (former LRRS at                      Grant Point), 55.203174°, -162.703440°                      (former POL Terminal)</p>	<p>Infrastructure at the current Cold Bay LRRS includes a MAR tower and satellite communications dome, storage facilities, a vehicle and maintenance shop, drinking water well, septic system leach field, aboveground storage tank, and module living train unit. Ancillary infrastructure include portable storage units, a non-operational incinerator, and a power generator identified for replacement. The LRRS is not connected to the local, state-operated airport and there are no hangars at the installation. A former USAF landfill is less than 2 miles northwest of the current LRRS with the boundaries delineated by land use controls signage on the perimeter. The landfill is no longer managed by USAF and does not receive refuse for disposal. No infrastructure remains at the former LRRS at Grant Point or the former POL Terminal.</p>	<p>The installation property is owned by USAF.</p>	<p>Accident, AFFF, aircraft rescue and firefighting, compressed air foam system, concentrate, crash, deluge system, detergent foam, eductor, film-forming fluoroprotein foam, fire, firefighting, fluorine, foam, nozzle, fog nozzle, FTA, mutual aid, motor vehicle accident, perfluorinated, PFAS, perfluorinated compound, PFOA, PFOS, pumper, spray test, sprinkler, standpipe, suppression, tanker, tender, vapor suppression, vehicle fire, vehicle machinery rescue.</p>

**Notes:**

For definitions, refer to the Acronyms and Abbreviations section.

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**Table A-2 Summary of Records Reviewed**

Preliminary Assessment Report for Aqueous Film-Forming Foam Areas  
Cold Bay Long Range Radar Site, Alaska

Administrative Record File Number	Year	Document Title	Contractor	Potential AFFF-Related Info (Y/N)	Notes
112	1985	Phase I Records Search Report	ES Engineering Science	Y	- AFFF is mentioned for another site (King Salmon AFS). - Fire protection training mentioned also at King Salmon AFS. - Activities related to fire protection training is mentioned, "The wastes generated at Cold Bay AFS are primarily waste oils, contaminated fuels and other petroleum-based fluids from power generation and vehicle maintenance operations. Smaller quantities of ethylene glycol, battery acid and paint thinners are also generated in support of the installation's mission. These wastes may have been placed in drums and transported off base since 1959 (to when the landfill was closed in 1976) for use in fire protection training exercises conducted by the FAA." and page 4-12, "When approximately six drums accumulate, the wastes are removed from the installation for use in fire protection training exercises conducted off base by the FAA. There is evidence of minor leakage from drums; however, no major spills or leaks have reportedly occurred in this area." This information is related to the former LRRS at Grant Point, not the current location. - pg 4-29 states "No fire protection training areas have been identified at the...Cold Bay AFS."
3	1986	Phase II - Confirmation/Quantification (Stage 1)	Woodward Clyde Consultants	N	
9	1989	Phase II, Stage 1, Final Confirmation/Quantification Report, Vol I of III	Woodward Clyde Consultants	N	
13	1993	PA/SI, Report	USACE - Alaska District	N	
16	1994	PA, Report	CH2M HILL	N	
23	1994	Site Investigation Final Work Plan	Woodward Clyde Consultants	N	
22	1994	Site Investigation Final Health and Safety Plan	Woodward Clyde Consultants	N	
35	1995	SI, Final Report, Vol I of II	Woodward Clyde Consultants	N	
36	1995	SI, Final Report, Vol II of II, Appendix V	Woodward Clyde Consultants	N	
37	1995	Working Draft Environmental Baseline Survey Air Force Radar Stations, AK	AFCEE	N	
39	1996	Remedial Investigation Final Report	Woodward Clyde Consultants	N	
55	1997	Final Work Plan LF02 Characterization and ST05 Biovent Pilot Study	Woodward Clyde Consultants	Y	- Fire protection training only mentioned as, "The hazardous wastes generated at the nearby White Alice Communications System facility during [1971 and 1976] consisted primarily of contaminated fuel, waste oils, and spent solvents. These wastes may have been shipped off base, used for fire protection training exercises or dust control on roads, or deposited in the landfill." - Nothing in this report indicates that fire training was conducted at the former LRRS at Grant Point or at the current installation.
59	1998	Final Report on the 1997 Field Investigation and Remediation	Woodward Clyde Consultants	Y	Same information as 1997 Work Plan.
61	1998	Management Action Plan	Woodward Clyde Consultants	Y	- "The wastes generated at the Cold Bay WACS were primarily waste oils, contaminated fuels, petroleum-based fluids used in power generation and vehicle maintenance operations, and smaller quantities of ethylene glycol, battery acid, and paint thinner. These wastes were placed in drums and transported to a Federal Aviation Administration facility for fire protection training." - Fire Training listed as Hazardous Substance Activity at former installation. No other information about fire training is included in this report.
73	2000	Project Status Meeting Minutes	Jacobs Engineering Group Inc.	N	- A comment made during the meeting mentions fire training at the Suspected Buried Drums Near AKDOT Sand Removal Area: "Mr. Ellis added that the community brought used oil to that same location for use in fire training. A pit would be dug and 50-75 drums would be dumped there for that purpose."
86	2000	Biovent Treatability Study, Final Report, Vol II of II, ST-05	URS Consultants Inc.	N	
109	2000	Final Environmental Cleanup Plan Addendum, ST- 05	611 CES/CEVR	N	
78	2000	Final Work Plan, Excavation and Thermal Treatment of Fuel Contaminated Soil, ST-05	Ahtna Government Services Corp.	N	
81	2000	RA, Final Report, Excavation and Thermal Treatment of Fuel Contaminated Soil, ST-05	Montuak Environmental Engineering	N	
82	2001	Declaration of Decision	611 CES/CEVR	N	
116	2002	Preliminary SI Report, OT-001	Jacobs Engineering Group Inc.	N	
117	2004	Environmental Site/Project Summary Report, OT- 001, ST-005	Jacobs Engineering Group Inc.	N	
118	2005	Groundwater Sampling and Analysis Cold Bay LRRS Site OT01 and ST05	Jacobs Engineering Group Inc.	N	
119	2005	ADEC Letter to Base Concerning Review of GW Sampling and Analysis Report, Sites OT-001 and ST-005	Deb Cailouet/ADEC	N	
120	2006	OT01 Monitored Natural Attenuation Evaluation Report	Jacobs Engineering Group Inc.	N	
121	2006	ST05 Monitored Natural Attenuation Evaluation Report	Jacobs Engineering Group Inc.	N	
125	2006	ADEC Letter to Base Concerning Review of Draft Annual GW Sampling Report, OT-001	Deb Cailouet/ADEC	N	
127	2006	ADEC Letter to Base Concerning Review and Approval of Annual Groundwater Sampling Report	Deb Cailouet/ADEC	N	
133	2007	Summary Report, Grant Road Site Access, OT-001	Jacobs Engineering Group Inc.	N	
137	2008	Closure Report, OT-001	Jacobs Engineering Group Inc.	N	
143	2009	Final Site Health and Safety Plan for Alaska Long-Term Monitoring and Groundwater Sampling	BNC International, Inc.	N	
91	2011	Fact Sheet, All Around Alaska, Statewide Edition	611 CEX/CEVR	N	
472482	2011	Work Plan for Environmental baseline Surveys for Multiple 611th Civil Engineering	CH2M HILL	N	
476582	2012	Landfill Inspection Report for Sites LF002 and OT001	USAF, USDI Izembek National Wildlife Refuge, ADEC	N	
546676	2012	Five-Year Review for OT001 and ST005	USAF	N	
540461	2015	Groundwater Monitoring Report Final Environmental Long Term Management	BEM-Bay West Joint Venture	N	Groundwater samples were collected at three monitoring wells at ST005. ST005 was originally a petroleum, oil, and lubricant storage area that consisted of two 70,000-barrel aboveground storage tanks, a pump house, a fueling island, and associated piping. the aboveground storage tanks and piping were demolished in 1994. In 1993 and 1996, contaminated soil was discovered inside the dike and near the former pump house.
576561	2018	2017 Five-Year Review Report for Sites LF002, OT001, and ST005	USAF	N	
599662	2020	Final 2019 Environmental Long-Term Management Report	CES-Insight LLC	N	
625756	2023	FINAL 2022 FIVE YEAR REVIEW REPORT FOR LF002 OT001 AND ST005 AT COLD BAY LONG RANGE RADAR SITE ALASKA	Leslie Davis/Ahtna	N	
N/A	2022	Site Report: Cold Bay RRS LF Mile 6 (LF02)	ADEC	N	<a href="https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/2832">https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/2832</a>
N/A	2022	Site Report: Cold Bay RRS POL Tank Farm (ST05)	ADEC	N	<a href="https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/2834">https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/2834</a>
N/A	2022	Site Report: Cold Bay RRS MARS Facility	ADEC	N	<a href="https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/687">https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/687</a>
N/A	2022	ECHO Detailed Facility Report	ECHO	N	<a href="https://echo.epa.gov/detailed-facility-report?fid=110006878860">https://echo.epa.gov/detailed-facility-report?fid=110006878860</a>
N/A	2023	<a href="https://www.radomes.org/museum/showsite.php?site=Cold+Bay+AFS,+AK">https://www.radomes.org/museum/showsite.php?site=Cold+Bay+AFS,+AK</a>	Radomes, Inc.	N	Photos of former LRRS at Grant Point.
N/A	2023	<a href="https://www.facebook.com/media/set/?set=a.2503903423060575&amp;type=3">https://www.facebook.com/media/set/?set=a.2503903423060575&amp;type=3</a>	Facebook	N	Photos of the Cold Bay LRRS. Some photos show wall-mounted fire extinguishers in the former composite building.
N/A	2023	<a href="https://www.pbase.com/waggonerron/cold_bay_air_force_station&amp;page=all">https://www.pbase.com/waggonerron/cold_bay_air_force_station&amp;page=all</a>	Pbase	N	Blog posts and photos of Cold Bay LRRS from former site employee.
N/A	2023	<a href="https://vilda.alaska.edu/digital/collection/cdmg13/search/searchterm/cold%20bay">https://vilda.alaska.edu/digital/collection/cdmg13/search/searchterm/cold%20bay</a>	Alaska's Digital Archives	N	Historical Photos of Cold Bay LRRS

**Notes:**

For definitions, refer to the Acronyms and Abbreviations section.

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**APPENDIX B**  
**RECORDS OF COMMUNICATION**

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**Table B-1 Personnel Contacted**

*Preliminary Assessment Report for Aqueous Film-Forming Foam Areas  
Cold Bay Long Range Radar Site, Alaska*

<b>Name</b>	<b>Entity</b>	<b>Notes</b>
Robert Johnston	AFCEC RPM	Questionnaire sent, response received. Follow up verbal interview via teleconference was conducted. Record of communication form completed.
Steve Mattson	Former AFCEC RPM	Questionnaire sent, response received. Follow up verbal interview via teleconference was conducted. Record of communication form completed.
Jessica Morris	611 Water Program Manager	Verbal interview via teleconference was conducted. Record of communication form completed.
Mark Mobley	USAF	Verbal interview via teleconference was conducted on 01 May 2023; record of communication form completed. Follow up interview conducted on 24 August 2023; no additional information was obtained for Cold Bay. A record of communication for was completed and is included.
Chuck Baker	ARCTEC Alaska	Answered questions in-person during site visit but did not independently complete the questionnaire. Referred staff to third party contractor for additional questions.
John Timmers	ARCTEC Alaska	Answered questions in-person during site visit but did not independently complete the questionnaire. Referred staff to third party contractor for additional questions. No record of communication form completed.
Christopher Koonce	Base Historian, 673D Air Base Wing History Office	Questions asked in-person. No knowledge of AFFF use at installations. No record of communication form completed.
Paul Cooley	ARCTEC Environmental Manager	Questionnaire sent; personnel indicated that they would not be responding.

**Notes:**

For definitions, refer to the Acronyms and Abbreviations section.

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**COMMUNICATION RECORD**

Date: 05 April 2023

Time: 1130

Name of Installation, State: Cold Bay LRRS

Interviewer: Pat Terhune / Monica Oakley / Jess Young

Organization: Brice Engineering

Phone #:

Project Role: Geologist

Email: patrick.terhune@briceeng.com

Interviewee: Robert Johnston

Organization: AFCEC

Phone #:

Position/ Job Title: Remedial Project Manager

Email: robert.johnston.17@us.af.mil

How long in this position? 13 years

How long at this installation?

Have you held a similar position at another installation? USACE, 30 years

If yes, which installations?

How long?

Discussion summary:

This interview covered several remote Alaska installations, including Bear Creek RRS, Beaver Creek RRS, Bethel RRS, Cold Bay LRRS, Driftwood Bay RRS, Fort Yukon LRRS, Indian Mountain Research Station, Kotzebue LRRS, Nikolski RRS, North River RRS, Point Barrow LRRS, Point Lay, Port Heiden RRS, and Tatalina AFS.

No specific information for the Cold Bay LRRS was available.

Fort Yukon had washing machines, but no drycleaning facility. No other information specific to Fort Yukon was available.

Robert worked at Indian Mountain, Clear with USACE.

Robert recalls a laundry facility/laundromat at the Naknek Recreational Camp. Exact location unknown. Robert doesn't know what was buried in the Naknek landfills and doesn't know about the lodge fires. No information available about operations at Beach/Dock area.

Robert does not know of any sites that have metal finishing operations and does not know anything about medical equipment at AK sites. He said there were a lot of painting shops at Alaska installations. Eareckson has corrosion control and there are likely corrosion control operations at other coastal sites.

Robert says spraying/painting of waterproofing chemicals onto radar dome fabrics occurred in place at Indian Mountain, and likely at other sites.

Robert says carwashes were generally on gravel pads and effluent was not contained. Direct buried wiring is common at most sites. Robert does not have information about fire suppression systems at AK sites.

Bear creek and Beaver Creek had septic tanks. At Beaver Creek there is one building on site leased by Alascom and the drainage building ran to the left.

At Cold Bay, the leach field was likely south of the installation. Jessica Morris (USAF) would be a good person to ask about the septic tanks. Robert does not know what the offsite dome structures at Cold Bay are. Robert says Jessi Morris also could answer questions about water treatment facilities, leach fields, OWSs.

COMMUNICATION RECORD	
Date: 10 April 2023	Time: 1130
Name of Installation, State: Cold Bay LRRS	
Interviewer: Pat Terhune / Monica Oakley / Jess Young	
Organization: Brice Engineering	Phone #:
Project Role: Geologist	Email: <a href="mailto:patrick.terhune@briceeng.com">patrick.terhune@briceeng.com</a>
Interviewee: Steve Mattson	
Organization: AFCEC	Phone #:
Position/ Job Title: Remedial Project Manager	Email: <a href="mailto:steve.mattson@us.af.mil">steve.mattson@us.af.mil</a>
How long in this position? 20+ years	
How long at this installation? N/A	
Have you held a similar position at another installation? N/A	
If yes, which installations? N/A	
How long? N/A	
Discussion summary:	
<p>This interview covered several remote Alaska installations, including Anvil RRS, Barter Island RRS, Bear Creek RRS, Beaver Creek RRS, Bethel RRS, Champion AFS, Cape Lisburne LRRS, Cape Newenham LRRS, Cape Romanzof LRRS, Clear SFS, Cold Bay LRRS, Driftwood Bay RRS, Duncan Canal RRS, Fort Yukon LRRS, Granite Mountain LRRS, Indian Mountain Research Station, Kalakaket Creek RRS, King Salmon, Kotzebue LRRS, Naknek 1/2, Nikolski RRS, North River RRS, Oliktok RRS, Point Barrow LRRS, Point Lay, Point Lonely Dome Port Heiden RRS, Sparrevohn, Tin City LRRS, Tatalina AFS, Wainwright, and West Nome Tank Farm.</p>	
No specific information for the Cold Bay LRRS was available.	
Steve says there is a photo of a fire truck at the runway area at Kalakaket with large tank. Contents of tank are unknown but could possibly be AFFF.	
Hard copies of Clean Sweep Management Action Plans are available to look at in office. We can send someone in to look.	
Beaver creek was basically a building, tower, and AST.	
Regarding AST fire suppression systems – Steve said previous AFFF PA/SIs have found AFFF use at fuel terminals. At Romanzof there was a spill at the nak farm and they sprayed foam on it.	

Steve recommends interviewing Mark Mobley (USAF), who has historical knowledge of sites.

Prior to Clean Sweep the program was called the Alaska Cleanup Effort, which did the hazardous waste removal efforts from the installations. This program may have included AFFF removal. There are reports for the Alaska Cleanup Effort, but Steve isn't sure they exist anymore. They document demolitions by the 611<sup>th</sup> in the 1980s. Some may still exist in a warehouse, but building contents are placed on a litigation hold and cannot be removed from the building.

Anvil Mountain had a pipe that went to an insulated tank and the sewage outfall went down towards the city of Nome. This should be in the admin record. That septic tank was removed during Clean Sweep.

Fort Yukon Building 107 basically just dumped water onto the ground in the lagoon area.

Steve recommends contacting 611<sup>th</sup> CES to see if they have a wastewater contact (Jessi Morris)

Steve says to ask Todd Fitch for historical photos of Bellows and provided other Bellows contacts.

Cape Newenham – We could ask Wayne North at PRSC Program Office about the FAA Dome. Steve says the FAA dome has been there a long time and is considered permanent. IT is on USAF property, so it should probably be evaluated.

At CN there were a lot of buildings pre mid-80s. Everything south of the Warehouse Building 2166 (which is actually a gym) was the former Lower Camp area. There is a picture of old buildings, but no figure with buildings labeled. Steve will follow up with 611<sup>th</sup> to see if he can get old drawings.

Steve is unsure about fire suppression systems for CN.

Regarding septic systems – PA/SIs should have evaluated septic systems and sewage outfalls and may have drawings. A lot of the installations had septic tanks that were above ground and had outfalls (not leach fields) so the contents drained onto the ground.

Tin City – We can look at hardcopies of the Clean Sweep Reports at Steve's office to locate all landfills. The upper camp no longer has living facilities, mostly just radar facilities.

Steve has never heard of FFFP foam.

Steve says we should direct all questions about Clear SFS to Jennifer Wehrmann.

COMMUNICATION RECORD	
Date: 05 May 2023	Time: 1300
Name of Installation, State: Cold Bay LRRS	
Interviewer: Pat Terhune / Monica Oakley / Jess Young	
Organization: Brice Engineering	Phone #:
Project Role: Geologist	Email: patrick.terhune@briceeng.com
Interviewee: Jessica Morris	
Organization: 611 <sup>th</sup> CES	Phone #:
Position/ Job Title: Water Program Manager	Email: <a href="mailto:jessica.morris.14@us.af.mil">jessica.morris.14@us.af.mil</a>
How long in this position? 4 years	
How long at this installation? N/A	
Have you held a similar position at another installation? N/A	
If yes, which installations? N/A	
How long? N/A	
Discussion summary:	
<p>This interview covered several remote Alaska installations, including Anvil RRS, Bear Creek RRS, Beaver Creek RRS, Bethel RRS, Cold Bay LRRS, Driftwood Bay RRS, Granite Mountain LRRS, Kalakaket Creek RRS, Kotzebue LRRS, Naknek 1/2, Nikolski RRS, North River RRS, Port Heiden RRS, Sparrevohn, Tin City LRRS.</p>	
<p>Cold Bay – Jessi provided the approximate location of the septic tank and drinking water well.</p>	
<p>Jessi said that ARCTEC has drawings for active sites that could help us located septic systems/leach fields. Leach field locations should also be recorded in GIS. Any overflow events from the septic/leach fields are required to be submitted to ADEC. There have been many overflow events at Eareckson, and possibly some at radar sites. Site personnel would know. We could also check with the division of wastewater, compliance, and enforcement section of ADEC.</p>	
<p>General – Brice can set up a time to go to Jessi’s office and look through her files for compliance. She suggests we should set up an interview with GIS to figure out how to get as-builts, etc.</p>	
<p>Jessi says Regulations in 2005 banned underground injection wells. USAF was supposed to survey injection points, but Jessi doesn’t think that was ever done.</p>	

Geobase database "FIRES" has historical as-builts. Vaults at the Ops warehouse also contain hardcopies. Contact Geobase and reference Ops and Vault and they may be able to get us as-builts of wastewater facilities. Ops has a separate vault at Building 5250. Jessi has records in her office.

There has been PFAS sampling for most facilities. Steve M may have this information.

Jessi provided the contact for the CES Fire Systems POC, Haz Waste Manager, Spills Manage, Civil Engineer, Cultural Resource Manager, and JBPHH Historian.

Jessi has spill logs for the last ~4 years.

## COMMUNICATION RECORD

Date	5/1/2023
Purpose	Discuss Potential AFFF use at Remote AK Installations
Company	USAF
POC	Mark Mobley
Phone	
Email	mark.mobley.1@us.af.mil
Brice employee making the call	Monica Oakley, Pat Terhune, Jess Young

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Team discussed Mark's work history and time spent working for the USAF. Began working for the USAF in the summer of 1976. In 1983, Mark took a permanent position with the 599<sup>th</sup> Civil Engineering Squadron (now 611<sup>th</sup>) until February 2007. Then he moved to the 773<sup>rd</sup> Engineering Squadron, and still works there currently. Mark has over 40 years of experience working with the USAF and supporting work at remote Alaska Installations.

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Reviewed the list of installations that are included in the AFFF contract to identify which ones Mark had visited or supported in some capacity during his work history with the USAF. Installations that Mark had worked at include Anvil, Bear Creek, Bethel, Big Mountain, Bullen Point, Campion, Cold Bay, Granite Mountain, Kalakaket, Kotzebue, Murphy Dome, Naknek Recreation Camps 1 and 2, Nikolski, and Port Heiden.

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Mark was initially hired as an equipment operator and supported the demolition and hazmat cleanup efforts at many of the old remote Alaska installations. Mark recalls seeing plastic containers, typically blue 5-gallon jugs, which contained AFFF and collocated with the fire suppression systems including carbon dioxide and halon cylinders. Almost every installation that Mark visited was very similar; building types and materials were very much the same across the board. Most sites had a supply/warehouse building at the airfield. In general, Mark observed that if the installation had an airfield, the site had a supply building with fire suppression supplies, including the plastic containers of AFFF. Mark recalls the plastic containers being in various states of condition; some full, some empty, and some cracked and compromised due to weathering.

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At the time of the demolition and cleanup efforts, the environmental cleanup efforts were focused on the main contaminants of concern at that time, which were asbestos, POLs, and PCBs. These materials were removed and hauled offsite for disposal before demolition commenced. Each site had anywhere from 3 to 15 C-130 loads of hazmat hauled out; some included contaminated soil. However, since AFFF was not a known contaminant of concern at the time, the plastic containers were typically left in the buildings. As far as Mark remembers, the plastic containers were left in the buildings and included in the demolition debris and buried onsite in the landfills or monofills.

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Mark recalls seeing firefighting trucks at some of the larger installations with airfields. Most of the vehicles were flown to Elmendorf during the decommissioning efforts.

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Mark shared some specific installation memories. At Sparrevohn, the plastic containers were shipped out on a pallet. At Big Mountain, about a dozen 5-gallon buckets of AFFF were hauled out. The only potential fire training area that Mark recalls seeing was one potentially at Campion, which was a structure built of steel tanks (all black and sooty). But he could not remember the exact location or details.

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## COMMUNICATION RECORD

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At Bethel, the State operated runway. Mark does not recollect seeing any fire truck or firefighting materials.

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During demolition, Mark recalls that oil water separators were rare. Some of the buildings contained them, but most drained directly to the subsurface. Most of the time it was an open pit where a vehicle was driven over the top for maintenance, or a dry sump drain in the floor. Mark stated that often the reclaimed material was used for dust suppression on the road. Especially in the Interior, such as Indian Mtn where there is 14mi of road to the top.

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Mark was asked if he recalls anything about a potential lodge fire at Naknek Rec Camp 1. He remembers hearing about it, but the fire occurred before his time. Cecil Schumann 907-360-3969 spent a lot of time in King Salmon. Or Herbert Lemon 907-529-5083. Herbert was at a lot of the other radar sites. Herbie was plumber. Cecil operated a rock crushing plant and resurfaced the runways.

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Most of the photos taken during the decommissioning efforts were kept on carousels of slides and green cloth bound books of operations information for each site. Manifests for the materials shipped offsite were also kept. Mark believes these items were stored in a warehouse building at JBER, and the building collapsed in 2012. Unsure of where the items were moved to and how much was able to be salvaged.

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## COMMUNICATION RECORD

Date	8/24/2023
Purpose	Discuss Potential AFFF use at Remote AK Installations – Bear Creek, Big Mountain, Campion, Granite, Kalakaket, Kotzebue, Murphy Dome, Nikolski, North River, Port Heiden
Company	USAF
POC	Mark Mobley
Phone	
Email	mark.mobley.1@us.af.mil
Brice employee making the call	Pat Terhune, Jess Young

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Mark doesn't recall seeing any fire training areas. He says that he wouldn't be surprised if the landfills were used as fire training areas.

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Mark makes general statement that in the fire pump stations/fire pumphouses, no AFFF was stored. All water storage. AFFF was focused on aircraft and stored by the airstrip.

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**Bear Creek.** Mark says he flew in to Bear Creek, evaluated, and set up a team. He thinks it was probably a similar situation to Nikolski and there was not necessarily a need for AFFF because the big planes didn't fly into the smaller airstrip.

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**Big Mountain.** Mark remembered specifically seeing AFFF at Big Mountain. The AFFF jugs that they hauled out of there were in a ramp and small storage building and wooden structure right off flight operations building along the runway. They also had a fire bottle in there (red cart) and a pallet of AFFF. Mark recalls the jugs of AFFF being blue, but they may also have been green. They were square, 5-gallon jugs. All jugs were pretty deteriorated. Some were shot up. Some were split, broken, damaged and others had holes like they were used for target practice. There was a fire trailer at the lower camp. All the trailers were outfitted the same and staged at the airstrips.

Mark does not recall any big burn areas. He says that landfills were always stained from burning but does not recall a specific fire training area.

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Mark says the fire station at Big Mountain upper camp would have had the deuce and a half (D&1/2). D&1/2. Generally AFFF was not stored at the upper camp. The Fire Station also had generators.

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**Campion.** Mark stated that Campion AFS was associated with Galena. Campion had its own established fire team, but he would be very surprised if they did much fire training at Campion. They did store firefighting supplies onsite because there was an airstrip, but fire training likely occurred at Galena. If they did fire training, it could potentially have occurred at cleared area across from Galena landfarm. Mark did not see training in main cantonment or field. Mark knows that they had AFFF onsite, in the range of 500 gallons in 5-gallon jugs. He was there in the 1976 timeframe when the installation was fully active and fire equipment was present. They had a fire trailer and smaller AWD drive truck.

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Pat/Brice showed the picture of yellow truck provided by another former Campion employee. Mark says that it is a truck mounted crane, not a fire truck. He left the site in September 1976 right before the fire, which was in October. Mark says the fire was responded to with a bulldozer, which was used to sever the fire from the remainder of the facilities. There was a deuce and half (6 tire truck with a tank on the back); 2.5 ton military truck, with a 1,000-gallon tank. Pat/Brice shows the 1954 photos of old Campion truck and Mark and Mark confirms it was a fire truck. He says they would have likely used

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## COMMUNICATION RECORD

water to suppress the 1976 fire. All the buildings are asbestos and they don't burn very well. Campion didn't have a hydrant system so they filled the tanker from the well.

Pat/Brice shows pictures of little yellow trailers. Mark says the triangle one is a compressor and the other is a pump. Looks like a fire line is running down the middle. Not potable water. A lot of the piping was woodstave piping.

Pat/Brice shows pictures of 55-gallon drums outside of doors. Mark is not sure what is in those drums. May have been fuel for auxiliary heating. The orange barrel by the door might be a gun clearing point.

Mark says AFFF was stored at the Civil Engineering Buildings. There was a small building almost like a shed where they had firefighting equipment; they had a 500-gallon tank to be pulled behind the truck (a D&1/2). The trailer was outfitted for AFFF use. About 50 of the 5-gallon jugs were seen on pallets outside of CE complex where maintenance operations were conducted. The jugs on the pallets were deteriorating, split, frozen and split, exposed to weather, hit by heavy equipment and snowplows. Not all, but some of the jugs had leaked.

**Granite.** Pat/Brice shows Mark the Management Action Plan for Granite Mountain and asks what would fall under the term of fire training? Pat/Brice says that there are a number of installations that list that but we can't find out what was done. Mark was not there during the time that fire training would have been done. He was there near the end of operations (between 1985 and 1990). In the 90s everything had been abandoned. He was up there in the 90s because of a fuel spill at the upper camp. Mark saw 15 or 20 of the AFFF containers in the vehicle operations heated parking building at the lower camp by the airstrip. The jugs were empty. There was a private gold mine operating to the west of the installation. Mark speculated that the jugs looked like the gold miners operating nearby may have used them for another purpose. They were scattered on the floor of the building. Mark thinks the jugs were brought to the building from somewhere else. There was a trailer by the vehicle storage building and fire station. Mark says it was not a fuel trailer and thinks it was a fire trailer similar to the ones at Campion and Kalakaket.

Pat/Brice asks if he remembers seeing any burn areas. Mark says no. Mark states that they absolutely burned material at the landfill. Mark says there was an area on the side of the mountain on the way to the upper camp that was a burn pit area, which he says was more of a landfill type of area that they burned (this is the DP009 Burn Area). The firefighting guys would have set up at the burn pit with a D&1/2 and tank to keep the fire from burning across the tundra. It was really windy in that area. No fire training would have been conducted up at the upper camp. If they were doing fire training it would have been done by the disposal area J at the lower camp. He does not remember seeing soot on the ground.

Mark said he does not know of any fire training activities that would not have involved AFFF. The focus was learning how to deal with an aircraft fire and using the foam dispensers with the pump correctly.

**Kalakaket.** Mark did not do much work at Kalakaket and does not have any specific knowledge of AFFF at the installation. He flew into Kalakaket with a team to unload gear. He was not the supervisor on that job. The site had a fire trailer similar to Campion. For the fire trailer, 500 – 1000 gallons at the most is what could be pulled behind the D&1/2. There would be an injector to pick up the foam to introduce to the water. This same type of truck was at Campion.

**Kotzebue.** Mark doesn't remember seeing any AFFF. He also did not see a truck or fire trailer. The airstrip was state run.

**Murphy Dome.** Mark cannot remember anything related to AFFF at Murphy Dome. He says there was not an airstrip, so there was no real need for AFFF. He does not have much info to offer for Murphy Dome.

## COMMUNICATION RECORD

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**Nikolski.** Mark says that AFFF would not have been stored at the runway. The runway was so small that they didn't bring larger planes in until later but by that time the installation had been closed. No recollection or knowledge of AFFF being there.

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**North River.** Mark did not work at North River.

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**Port Heiden.** Mark did not see any AFFF at Port Heiden. Because it was a large runway and large aircraft came in it is likely that they had containers in the fire department, but he does not remember seeing any like at Big Mountain or the other sites.

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QUESTIONNAIRE

ASSESSMENT OF PAST PRACTICES FOR PFAS

Facility: Cold Bay LPRS Date: \_\_\_\_\_  
Name: Chuck Baker Organization: \_\_\_\_\_  
Position: Station Chief How long in the Position? \_\_\_\_\_  
How Long at the Facility? perm. since Jan. 2022 Previous Position? \_\_\_\_\_  
Previous Facilities: \_\_\_\_\_  
Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Interviewer: Kristi / Patrick Organization: Braice

**AFFF**

1. Was AFFF used or stored at this facility?  
no, not historically used
2. What type of AFFF was used at this facility (3%, 6%, high expansion foam) and during what timeframe was it used?  
n/a
3. What manufacturer of AFFF products was used at this facility (3M, Ansul, Chemguard)?  
unknown
4. Where was AFFF solution handled (received, mixed, contained, transferred, used, disposed)?  
n/a
5. How was AFFF stored (5-gallon pail, 55-gallon drum, tank)?
6. Which building(s) contained AFFF?

7. Is there an inventory for AFFF stored at the facility (amount, container size, purchase frequency)? *n/a*

### **FIRE SUPPRESSION SYSTEMS**

1. Have fire suppression / extinguishing systems used AFFF (automated, manual standpipe hose station)? *no*
2. Is there an inventory of the amount of AFFF present in fire suppression systems and/or maintenance/testing logs? *n/a*
3. What procedure was used for supplying fire suppression systems with AFFF? *n/a*
4. Has there been a release(s) of AFFF from fire suppression systems (inadvertent, testing)? *n/a*
5. How were releases of AFFF handled (cleaned up and disposed of)? *n/a*

### **FIRE SUPPRESSION VEHICLES**

1. Where were vehicles (trucks, trailers, mobile units, carts) carrying AFFF parked/stored? *n/a*
2. How much AFFF was carried/stored in the specified vehicles (gallons)? *n/a*
3. Were the vehicles tested to make sure equipment is working properly? *n/a*
4. How often were spray tests performed, and can the locations be provided? *n/a*
5. When AFFF was used during a testing exercise, how was the AFFF cleaned up or disposed of? *n/a*
6. What procedure was used to supply vehicles with AFFF? Where did the resupply occur, and was there secondary containment? *n/a*

7. What procedure was used to clean/decontaminate fire vehicles? *n/a*

**RECORDS, SPILL LOGS, HISTORICAL INFORMATION**

1. Are there records of or do you recall AFFF usage in response to any of the following?

a. Fuel releases to prevent or extinguish fires?

*fire extinguishers but no AFFF system*

b. Historical emergency responses? (crash sites, fires)?

*n/a no emerg. response*

c. Emergency runway landings (as a precaution)?

d. Firefighter training?

*n/a*

e. Burn areas and/or incinerator burn barrels?

*n/a incinerator old, does not function*

2. If yes, are there written records or information regarding spill or emergency response locations where AFFF was used?

3. Are there any other locations where AFFF was stored, contained, or used (fire stations, spray testing areas, wastewater treatment plants, pond/lagoons)?

*n/a not onsite but other chemical*

**FIRE TRAINING AREAS/BURN AREAS**

1. Are/were there fire training areas (FTAs) and where are they located?

*n/a*

2. Was AFFF applied to burn areas?

*n/a*

3. When were they in operation?

*n/a*

4. When was AFFF used?

*n/a*

5. What fuels/flammables were used at the FTAs/Burn Areas?

*n/a*

*inventory  
maintain of*

**OTHER**

1. Is there anyone else with possible AFFF usage knowledge that you would recommend for an interview and can you provide their contact information (name, position/organization, phone number, email)?

Recommend  
speaking to  
this person { Paul Cooley  
Arectec Env. Coord.  
(907) 552 7586

**APPENDIX C**  
**SITE VISIT FORMS**

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## Daily Contractor Quality Control Report

PROJECT TITLE		DATE
AFFF PFAS Preliminary Assessment at Multiple Installations in Alaska and Hawaii		16 Aug 2023
CONTRACT NUMBER		REPORT NUMBER
USACE Contract W911KB20D0002 Task Order W911KB20F0135		001
WEATHER	WIND	TEMPERATURE
Partly cloudy	5 - 10 mph	57 F
ACTIVITY STATUS		
Project Location		
Cold Bay LRRS, Alaska		
Comments		
Personnel on site: Patrick Schick and Kristi Duff. Walked site and observed adjacent facilities including a former USAF landfill and FAA communication station. The ground was uneven due to an active generator replacement project but moderately vegetated outside of the bear fencing.		
Activities Today		
<ul style="list-style-type: none"> <li>• Mobilized to Cold Bay via Aleutians Airways</li> <li>• Conducted site visit at Cold Bay LRRS, an active station.               <ul style="list-style-type: none"> <li>– Minimally attended radar tower module train, storage facilities, maintenance shop, AST, water well, and leach field were observed.</li> <li>– No signs of AFFF use or areas were observed.</li> </ul> </li> <li>• Observed FAA communications station along Grant Road near the LRRS station</li> <li>• Drove to former USAF landfill approximately 1 mile northwest</li> <li>• Photographed installation, FAA station, and landfill area.</li> </ul>		
Activities Planned for Tomorrow		
<ul style="list-style-type: none"> <li>• Day trip, no additional activities planned</li> </ul>		
Cumulative Progress as of Today		
Meetings/Safety		
<ul style="list-style-type: none"> <li>• Pre-trip wildlife safety and bear awareness</li> </ul>		
Visitors		
None		
Project Delays		
N/A		
QC NARRATIVE		
QC Remarks		
None		

## Daily Contractor Quality Control Report

Tests and Inspections Performed
None

CONTRACTORS ON SITE	PERSONNEL
Brice Engineering, LLC	2
<b>Total</b>	<b>2</b>

CONTRACTOR CERTIFICATION
On behalf of the contractor, I certify this report is complete and correct and all equipment and material used and work performed during the reporting period follow the contract plans and specifications, to the best of my knowledge, except as noted above.

*Kristi Duff*

\_\_\_\_\_  
**Signature**

Kristi Duff

\_\_\_\_\_  
**Typed Name**

Scientist

\_\_\_\_\_  
**Title**

8/16/2023

\_\_\_\_\_  
**Date**

PHOTOGRAPH LOG

**Photograph No. 1**  
**Description:**  
Cold Bay LRRS front gate, MAR tower, and module train quarters on right.



**Photograph No. 2**  
**Description:**  
SatComm dome



**Photograph No. 3**

**Description:**

Installation leach field,  
SatComm dome in  
background.



**Photograph No. 4**

**Description:**

Former USAF landfill.  
LUC signage



### **Checklist for Conducting Preliminary Assessment Site Visits**

Site Visit Team: Patrick Schick, Kristi Duff

Date of Visit: 16 Aug 2023

Site Name: Cold Bay, LRRS

#### **General Installation Location and Access Information**

Latitude:  
55.2063°N

Longitude:  
-162.7174°W

Status of Installation:  
 Active       Not Specified  
 Inactive/Closed  
Closure Date: \_\_\_\_\_

Site Access:  
 Airport/Airstrip near installation?  
 Accessible via road?  
 Rental car/ATV/UTV available?

Installation Point of Contact:  
Name Chuck Baker  
Phone 907-552-1645  
907-532-8161  
Email \_\_\_\_\_

Security or Access Restrictions?  
(Y/N)  
 Site Access Request (SAR) approved?  
 Security gate present

Has legal access to the site been obtained from USAF? (Y/N) Yes  
  
Will client representative be present during site visit? (Y/N) Yes, Station Chief Baker

**Site Access Notes:** Call Station Chief before leaving airport for site.

#### **Preparing for Site Reconnaissance**

**Prior to Site Visit, Review/Complete the Following:**

- Section 2.5 of EPA PA Guidance (EPA 1991) (Attachment 1) and FFA Remedial PA Summary Guide (EPA 2005) (Attachment 2)
- Type of site and operations
- Amount of information available concerning sources
- Age and reliability of data available for review
- Potential visibility of the site from public access areas
- Relative ease or difficulty of obtaining site access
- Can personnel at installation (e.g. fire station chiefs or facility managers) provide interviews or tours of locations?
- Health and safety concerns – prepare Health and Safety Plan
- Obtain necessary materials and equipment

#### **Conducting Onsite Reconnaissance**

**While On Site, Document the Following Onsite Information in a Site-Specific Logbook:**

- Visual observations of the site and its surroundings
- Site photographs and descriptions of photographs taken
- Conversations with site personnel, operators, workers, or neighbors
- Preferential migration pathways (e.g., overland flow routes to surface water)
- Freehand site sketches and/or marked up site maps
- Descriptions of potential AFFF source areas
  - Source and source type
  - Location (collect GPS information)
  - Dimensions/volumes
  - Evidence of containment
  - Signs of migration from source area
  - Descriptions of observed areas (stained soil, stressed vegetation, etc.)
  - Descriptions of potential receptors
- Review facility records on site, if available (fire training records, waste management records, etc.) **N/A**
- Monitoring wells and/or drinking water supply wells onsite

## **Checklist for Conducting Preliminary Assessment Site Visits**

Site Visit Team: Patrick Schick, Kristi Duff

Date of Visit: 16 Aug 2023

Site Name: Cold Bay, LRRS

### **Conducting Offsite Reconnaissance**

#### **During the Site Visit, Document the Following Offsite Information in a Site-Specific Logbook:**

- Verify locations of potential AFFF use in the vicinity of the site (along access road, near airstrip, emergency response sites, etc.)
- Gather additional information concerning potential migration pathways and overland flow routes to surface water
- Determine land uses in the vicinity of the site
- Conduct a perimeter survey (walking or driving around the site, as access allows)
- Evidence of contaminant migration **N/A**
- Identify any outfalls discharging to a surface water body **N/A**
- Obtain a count of any houses, cabins, or other structures near the installation **N/A**
- Discussions with local authorities from nearby communities **N/A**
- Monitoring wells and/or drinking water supply wells in the vicinity of the site

### **General Notes:**

#### **Notes:**

No potential sources of AFFF or AFFF uses were identified and personnel interviewed were unaware of AFFF storage or use at the site for the past several years.

No houses or structures were in the immediate vicinity as the LRRS is located within the Izembek National Wildlife Refuge. The drinking water well was just outside the installation fencing and no other wells in the vicinity were identified. The well is tested regularly but not necessarily for AFFF PFAS. No retention ponds or outfalls were observed.

The septic tank is pumped by a local service and waste is removed from the island by barge. All other waste is taken to the municipal landfill (oil, batteries, etc.). The septic system is connected to bathrooms and kitchens in the vehicle maintenance shop, MAR (Minimally Attended Radar) Tower, and living train. The vehicle maintenance shop has a floor sump that does not discharge to the septic system. No oil/water separator is believed to exist.

An Ansul oxygen-deprivation fire suppression system (likely CO<sub>2</sub>) in the MAR TER (Technical Equipment Room) was recently removed and will be replaced by a Halon fire suppression system. Portable fire extinguishers are the only current form of fire suppression on site. A wall-mounted tank of fire suppressant exists in the incinerator building, but the building and incinerator are no longer in use. The CDB airport is managed solely by AKDOT. Site personnel were unaware of historical firefighting training exercises at the airport and confirmed that USAF conducts no fire response training onsite or at the airport.

The former generator has just been removed and will be replaced with a new self-contained generator unit. Two ASTs (aboveground storage tank) exist on the installation, one of which contains DS-1 fuel.

The MAR tower and SatComm domes are believed to have their original exterior fabric and neither of the domes has had the material replaced in recent years. Hill AFB has a civil service team that paints the radar domes every 1-2 years. No other painting or dome cover maintenance occurs on site. Personnel interviewed stated that the entire MAR tower and most of the supporting infrastructure was picked up and transported from the old installation area to the current site during relocation activities in the early 1970s although historical records indicate the move happened in the early-to mid-1980s.

Answers were provided by the ARCTEC Station Chief Chuck Baker and long-time ARCTEC remote installation employee, John Timmers. Both recommended speaking to Paul Cooley, ARCTEC Environmental Coordinator, with additional questions (907-552-7586). Billeting on site provides for up to five personnel but no other staff were available for interviews.

14 16 Aug 2023

Cold Bay LRRS AFFF PFAS <sup>site</sup> visit

~~Safety~~ Safety:

Personnel: K. DUFF, P. SCHICK

Weather: Partly cloudy, 57 F

1155: Arrive at Cold Bay airport, collect vehicle, & drive to LRRS

1245: Arrive at site, initiate personnel interviews, & walk site to take photos & notes.

Observed MAR tower, module train, storage facilities, AST, maintenance / auto shop, water well, leach field, & Sat Comm dome. No interior photos of the domes were authorized. NO signs of AFFF storage or use were identified.

1415: Depart installation to observe nearby FAA comm station & former USAF landfill. Photos taken at each location.

Scale: 1 square = \_\_\_\_\_

15

1430: Depart landfill for Cold Bay airport. End site survey.

1450: Arrive at airport

1550: Depart Cold Bay for ANC

1630: Arrive in ANC

- Small domes on Grant Road & downhill of the LRRS are FAA property, not managed by USAF
- no fire suppression systems are onsite except for fire extinguishers in kitchens & common areas.
- Former incinerator does not function & is scheduled for ~~removal~~ removal (date unknown)
- Septic system receives all sewage, no known haz materials or chemicals are dumped to system
- Drinking water well directly outside of bear fence is tested monthly but analytes tested are unknown
- Generator is being replaced

Scale: 1 square = \_\_\_\_\_

*Rate in the Rain*

- auto/maintenance shop had  
~~floor~~ floor drain but flow direction  
 & breach unknown. NO AFFF  
 observed, all SDS onsite, no  
 known OWSs

- All HW, HM, & SW are taken  
 to municipal landfill. No disposal,  
 incineration, etc. at CRRS

- Landfill has AFCEC posted  
 UIC signage. Has not been used  
 in years (date unknown). Photos  
 taken at site of debris but no  
 visible staining or stressed veg.

16 Aug 2023

**APPENDIX D**  
**PHOTOGRAPH INDEX**

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Photograph 1: Front gate with radar dome and module living train. View west.



Photograph 2: Radar dome with FAA site in background. View east.



Photograph 3: Satellite communications receiver transmitter. View west.



Photograph 4: Fire extinguisher in module living train kitchen. View oblique.



Photograph 5: Equipment storage connexes next to vehicle maintenance shop. View east-southeast.



Photograph 6: Non-operational incinerator shed diesel day tank. View oblique.



Photograph 7: Fire suppressant inside of the non-operational incinerator shed. Incinerator has not been used since 2017. View oblique.



Photograph 8: Non-operational incinerator shed exterior. View north.



Photograph 9: Bulk diesel tank no longer in use. View east.



Photograph 10: Potable water tanks and diesel day tank in shed attached to module train. Piping on lower right comes from installation well. View oblique.



Photograph 11: Main operational diesel tank. View west.



Photograph 12: Installation drinking water wellhead. View oblique.

CDB HAZMAT INVENTORY JULY 2023

NSN	Generic Name	Part No.	Manufacturer	MSDS	Location	Size	QTY
JOL 11 - 03181	Purple Primer	PVC Primer	Ostey		FAC 4	8 oz	2
	Rust Preventive Paint		POR 15		FAC 4	4 oz	1
	Rust Preventive Paint		POR 15		FAC 4	PT.	1
	Grip pipe joint seal	15-515	Hercules		FAC 4	8 oz	1
	Pipe Joint Sealant		TFS		FAC 4	8 oz	1
	Joint Compound HVAC	82481 / ZTR: 1	Loctite		FAC 4	16 oz	3
	Pipe Joint Compound	153254	Loctite		FAC 4	16oz	1
	Cement Calcumcure	12-257	Carnel		FAC 4	8 oz	2
	Flux Solder	Nokrode 14730	M W Dunton Co		FAC 4	16 oz	1
1400721068	Anti-Seize Lube	N-1000	LOCTITE CORP		FAC 4	8 oz	1
EXPIRED	Lock Fluid	Lock Ease	AGS Company		FAC 4	3.4 fl.oz.	1
	Flux Quik	W47 G	Wasser		FAC 4	8.4 oz	4
	White Paint		BEHR		FAC 4	1 gal	1
	Polyrylic	Protection Finish	Mnweax		FAC 4	1 gal	1
	Polyester Resin				FAC 4	1 gal	1
	Seam Sealer	MC342	Mannington		FAC 4	1 gal	1
	Clear Primer	VC9903	West-On		FAC 4	Kit	1
	Rain X Washer Additive	15091FB	West-On		FAC 4	1 pt	1
	Insect Repellent	OFF DW Sportsmen	II Tool Works		FAC 4	PT	0.25
	High Temp RTV	785-1237	S C Johnson		FAC 4	16oz	3
	Antiseize	5P-3931	NAPA		FAC 4	1 oz	1
	Fuel Stabilizer		Caterpillar		FAC 4	3oz	1
	Red Rust Destroyer		Stabil		FAC 4	36 oz	1
	STP Octane Booster	STP Octane Booster	STP		FAC 4	36 oz	1.1/2
	HEET	Gasoline Antiknock	Gold Eagle		FAC 4	QT	1
	Alcohol, Isopropyl	48750	CSD Inc		FAC 4	12oz	1
	Quick Set Cement	VC9983	Carlton		FAC 4	12 oz	1
	Quick Set Cement	VC9982	Carlton		FAC 4	16 oz	1
	Thread Cutting Oil	74012	Ripet		FAC 4	16 oz	1
	PVC Cement	78985	Ipxex		FAC 4	QT	1
	Clear PVC Cement blue	30894	Ostey		FAC 4	1 gal	1
	Cable Cleaning Solvent	CC-4	JM		FAC 4	QT	1
	Mineral Spirits	44805	JM		FAC 4	QT	1
	Hardener Cream		Wasser		FAC 4	30oz	1
	Waste Paint Thinner				FAC 4	2.75 oz	1
					FAC 4	8 Gal	1

Photograph 13: Vehicle maintenance shop HAZMAT room chemical inventory.



Photograph 14: HAZMAT room in vehicle maintenance shop. No fire suppression systems observed. View oblique.



Photograph 15: Vehicle maintenance shop interior. View oblique.



Photograph 16: Closest water body to installation with Very High Frequency Omni-Directional Radio Range (VOR) in distance. View north.



Photograph 17: FAA site east of LRRS.



Photograph 18: Former USAF landfill. View east.



Photograph 19: Former USAF landfill. View north.



Photograph 20: Land Use Control signage at former USAF landfill. View northeast.

**APPENDIX E**  
**PRELIMINARY ASSESSMENT FORM**

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<b>Potential Hazardous Waste Site Preliminary Assessment Form</b>	<b>Identification</b>	
	State: <b>AK</b>	CERCLIS #:
	CERCLIS Discovery Date:	

**1. General Site Information**

Name: <b>Cold Bay LRRS</b>		Street Address:			
City: <b>Cold Bay</b>	State: <b>AK</b>	Zip Code: <b>99571</b>	County:	Co. Code:	Cong. Dist:
Latitude: <b>55.2063 N</b>	Longitude: <b>-162.7174 W</b>	Approximate Area of Site:		Status of Site:	
		<input type="checkbox"/> Acres <input type="checkbox"/> Square Ft		<input checked="" type="checkbox"/> Active <input type="checkbox"/> Not Specified <input type="checkbox"/> Inactive <input type="checkbox"/> NA (GW plume, etc.)	

Site Name: Cold Bay LRRS including former installation, current installation, and former POL Terminal

Site Description: The Cold Bay LRRS is located near the tip of the Alaska Peninsula. The current installation is located five miles northwest of the community of Cold Bay and encompasses approximately 8-acres within the Pavlof Unit of Alaska Peninsula NWR. The previous installation at Grant Point was located 11 miles west of the community of Cold Bay within the Izembek NWR. This facility was abandoned and demolished in 1987. The total land area at Grant Point consists of 208 acres. A USAF-owned POL terminal located east of the Cold Bay Airport also supported the LRRS. According to historical reports, drummed wastes generated at the former installation may have been shipped to an FAA site at the Cold Bay Airport for fire training conducted by the FAA. However, there is no evidence of fire training activities or AFFF storage or use by USAF at the Cold Bay LRRS.

**2. Owner/Operator Information**

Owner: USAF			Operator: USAF		
Street Address: <b>Baldy Vlg Rd</b>			Street Address: <b>Baldy Vlg Rd</b>		
City: Cold Bay			City: Cold Bay		
State: <b>AK</b>	Zip Code: <b>99571</b>	Telephone:	State: <b>AK</b>	Zip Code: <b>99571</b>	Telephone:
Type of Ownership:			Type of Ownership:		
<input type="checkbox"/> Private <input type="checkbox"/> County <input checked="" type="checkbox"/> Federal Agency <input type="checkbox"/> Municipal Name: <b>USAF</b> <input type="checkbox"/> Not Specified <input type="checkbox"/> State <input type="checkbox"/> Other _____ <input type="checkbox"/> Indian			<input type="checkbox"/> Private <input type="checkbox"/> County <input checked="" type="checkbox"/> Federal Agency <input type="checkbox"/> Municipal Name: <u>USAF</u> <input type="checkbox"/> Not Specified <input type="checkbox"/> State <input type="checkbox"/> Other _____ <input type="checkbox"/> Indian		

**3. Site Evaluator Information**

Name of Evaluator: <b>K. Duff</b>	Agency/Organization: <b>Brice Engineering, LLC</b>	Date Prepared: <b>10/26/23</b>
Street Address: <b>3700 Centerpoint Dr., Ste. 800</b>	City: <b>Anchorage</b>	State: <b>AK</b>
Name of EPA or State Agency Contact:	Street Address:	
City:	State:	Telephone:

**4. Site Disposition (for EPA use only)**

Emergency Response/Removal Assessment Recommendation:  <input type="checkbox"/> Yes <input type="checkbox"/> No  Date: _____	CERCLIS Recommendation: <input type="checkbox"/> Higher Priority SI <input type="checkbox"/> Lower Priority SI <input type="checkbox"/> NFRAP <input type="checkbox"/> RCRA <input type="checkbox"/> Other: _____ Date: _____	Signature:
		Name (typed):
		Position:

### 5. General Site Characteristics

<p><b>Predominant Land Use Within 1 Mile of Site (check all that apply):</b></p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Industrial</td> <td><input type="checkbox"/> Agriculture</td> <td><input type="checkbox"/> DOI</td> </tr> <tr> <td><input type="checkbox"/> Commercial</td> <td><input type="checkbox"/> Mining</td> <td><input type="checkbox"/> Other Federal Facility:</td> </tr> <tr> <td><input type="checkbox"/> Residential</td> <td><input checked="" type="checkbox"/> DOD</td> <td>_____</td> </tr> <tr> <td><input type="checkbox"/> Forest/Fields</td> <td><input type="checkbox"/> DOE</td> <td><input type="checkbox"/> Other _____</td> </tr> </table>	<input type="checkbox"/> Industrial	<input type="checkbox"/> Agriculture	<input type="checkbox"/> DOI	<input type="checkbox"/> Commercial	<input type="checkbox"/> Mining	<input type="checkbox"/> Other Federal Facility:	<input type="checkbox"/> Residential	<input checked="" type="checkbox"/> DOD	_____	<input type="checkbox"/> Forest/Fields	<input type="checkbox"/> DOE	<input type="checkbox"/> Other _____	<p><b>Site Setting:</b></p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Urban</td> </tr> <tr> <td><input type="checkbox"/> Suburban</td> </tr> <tr> <td><input checked="" type="checkbox"/> Rural</td> </tr> </table>	<input type="checkbox"/> Urban	<input type="checkbox"/> Suburban	<input checked="" type="checkbox"/> Rural	<p><b>Years of Operation:</b></p> <p>Beginning Year    <b>1958</b></p> <p>Ending Year        <b>Present</b></p> <p><input type="checkbox"/> Unknown</p>
<input type="checkbox"/> Industrial	<input type="checkbox"/> Agriculture	<input type="checkbox"/> DOI															
<input type="checkbox"/> Commercial	<input type="checkbox"/> Mining	<input type="checkbox"/> Other Federal Facility:															
<input type="checkbox"/> Residential	<input checked="" type="checkbox"/> DOD	_____															
<input type="checkbox"/> Forest/Fields	<input type="checkbox"/> DOE	<input type="checkbox"/> Other _____															
<input type="checkbox"/> Urban																	
<input type="checkbox"/> Suburban																	
<input checked="" type="checkbox"/> Rural																	
<p><b>Type of Site Operations (check all that apply):</b></p> <table style="width: 100%;"> <tr> <td style="vertical-align: top;"> <input type="checkbox"/> Manufacturing (must check subcategory)                             <ul style="list-style-type: none"> <li><input type="checkbox"/> Lumber and Wood Products</li> <li><input type="checkbox"/> Inorganic Chemicals</li> <li><input type="checkbox"/> Plastic and/or Rubber Products</li> <li><input type="checkbox"/> Paints, Varnishes</li> <li><input type="checkbox"/> Industrial Organic Chemicals</li> <li><input type="checkbox"/> Agricultural Chemicals</li> <li><input type="checkbox"/> Miscellaneous Chemical Products</li> <li><input type="checkbox"/> Primary Metals</li> <li><input type="checkbox"/> Metal Coating, Plating, Engraving</li> <li><input type="checkbox"/> Metal Forging, Stamping</li> <li><input type="checkbox"/> Fabricated Structural Metal Products</li> <li><input type="checkbox"/> Electronic Equipment</li> <li><input type="checkbox"/> Other Manufacturing</li> </ul> <input type="checkbox"/> Mining                             <ul style="list-style-type: none"> <li><input type="checkbox"/> Metals</li> <li><input type="checkbox"/> Coal</li> <li><input type="checkbox"/> Oil and Gas</li> <li><input type="checkbox"/> Non-metallic Minerals</li> </ul> </td> <td style="vertical-align: top;"> <input type="checkbox"/> Retail  <input type="checkbox"/> Recycling  <input type="checkbox"/> Junk/Salvage Yard  <input type="checkbox"/> Municipal Landfill  <input type="checkbox"/> Other Landfill  <input checked="" type="checkbox"/> DOD  <input type="checkbox"/> DOE  <input type="checkbox"/> DOI  <input type="checkbox"/> Other Federal Facility _____  <input type="checkbox"/> RCRA                             <ul style="list-style-type: none"> <li><input type="checkbox"/> Treatment, Storage, or Disposal</li> <li><input type="checkbox"/> Large Quantity Generator</li> <li><input type="checkbox"/> Small Quantity Generator</li> <li><input type="checkbox"/> Subtitle D                                     <ul style="list-style-type: none"> <li><input type="checkbox"/> Municipal</li> <li><input type="checkbox"/> Industrial</li> </ul> </li> <li><input type="checkbox"/> "Converter"</li> <li><input type="checkbox"/> "Protective Filer"</li> <li><input type="checkbox"/> "Non-or Late Filer"</li> </ul> <input type="checkbox"/> Note Specified  <input type="checkbox"/> Other _____                         </td> </tr> </table>		<input type="checkbox"/> Manufacturing (must check subcategory) <ul style="list-style-type: none"> <li><input type="checkbox"/> Lumber and Wood Products</li> <li><input type="checkbox"/> Inorganic Chemicals</li> <li><input type="checkbox"/> Plastic and/or Rubber Products</li> <li><input type="checkbox"/> Paints, Varnishes</li> <li><input type="checkbox"/> Industrial Organic Chemicals</li> <li><input type="checkbox"/> Agricultural Chemicals</li> <li><input type="checkbox"/> Miscellaneous Chemical Products</li> <li><input type="checkbox"/> Primary Metals</li> <li><input type="checkbox"/> Metal Coating, Plating, Engraving</li> <li><input type="checkbox"/> Metal Forging, Stamping</li> <li><input type="checkbox"/> Fabricated Structural Metal Products</li> <li><input type="checkbox"/> Electronic Equipment</li> <li><input type="checkbox"/> Other Manufacturing</li> </ul> <input type="checkbox"/> Mining <ul style="list-style-type: none"> <li><input type="checkbox"/> Metals</li> <li><input type="checkbox"/> Coal</li> <li><input type="checkbox"/> Oil and Gas</li> <li><input type="checkbox"/> Non-metallic Minerals</li> </ul>	<input type="checkbox"/> Retail <input type="checkbox"/> Recycling <input type="checkbox"/> Junk/Salvage Yard <input type="checkbox"/> Municipal Landfill <input type="checkbox"/> Other Landfill <input checked="" type="checkbox"/> DOD <input type="checkbox"/> DOE <input type="checkbox"/> DOI <input type="checkbox"/> Other Federal Facility _____ <input type="checkbox"/> RCRA <ul style="list-style-type: none"> <li><input type="checkbox"/> Treatment, Storage, or Disposal</li> <li><input type="checkbox"/> Large Quantity Generator</li> <li><input type="checkbox"/> Small Quantity Generator</li> <li><input type="checkbox"/> Subtitle D                                     <ul style="list-style-type: none"> <li><input type="checkbox"/> Municipal</li> <li><input type="checkbox"/> Industrial</li> </ul> </li> <li><input type="checkbox"/> "Converter"</li> <li><input type="checkbox"/> "Protective Filer"</li> <li><input type="checkbox"/> "Non-or Late Filer"</li> </ul> <input type="checkbox"/> Note Specified <input type="checkbox"/> Other _____	<p><b>Waste Generated:</b></p> <p><input checked="" type="checkbox"/> Onsite  <input type="checkbox"/> Offsite  <input type="checkbox"/> Onsite and Offsite</p> <p><b>Waste Deposition Authorized By:</b></p> <p><input checked="" type="checkbox"/> Present Owner  <input type="checkbox"/> Former Owner  <input type="checkbox"/> Present &amp; Former Owner  <input type="checkbox"/> Unauthorized  <input type="checkbox"/> Unknown</p> <p><b>Waste Accessible to the Public:</b></p> <p><input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No</p> <p><b>Distance to Nearest Dwelling, School, or Workplace:</b></p> <p style="text-align: center;">~16,000 Feet</p>													
<input type="checkbox"/> Manufacturing (must check subcategory) <ul style="list-style-type: none"> <li><input type="checkbox"/> Lumber and Wood Products</li> <li><input type="checkbox"/> Inorganic Chemicals</li> <li><input type="checkbox"/> Plastic and/or Rubber Products</li> <li><input type="checkbox"/> Paints, Varnishes</li> <li><input type="checkbox"/> Industrial Organic Chemicals</li> <li><input type="checkbox"/> Agricultural Chemicals</li> <li><input type="checkbox"/> Miscellaneous Chemical Products</li> <li><input type="checkbox"/> Primary Metals</li> <li><input type="checkbox"/> Metal Coating, Plating, Engraving</li> <li><input type="checkbox"/> Metal Forging, Stamping</li> <li><input type="checkbox"/> Fabricated Structural Metal Products</li> <li><input type="checkbox"/> Electronic Equipment</li> <li><input type="checkbox"/> Other Manufacturing</li> </ul> <input type="checkbox"/> Mining <ul style="list-style-type: none"> <li><input type="checkbox"/> Metals</li> <li><input type="checkbox"/> Coal</li> <li><input type="checkbox"/> Oil and Gas</li> <li><input type="checkbox"/> Non-metallic Minerals</li> </ul>	<input type="checkbox"/> Retail <input type="checkbox"/> Recycling <input type="checkbox"/> Junk/Salvage Yard <input type="checkbox"/> Municipal Landfill <input type="checkbox"/> Other Landfill <input checked="" type="checkbox"/> DOD <input type="checkbox"/> DOE <input type="checkbox"/> DOI <input type="checkbox"/> Other Federal Facility _____ <input type="checkbox"/> RCRA <ul style="list-style-type: none"> <li><input type="checkbox"/> Treatment, Storage, or Disposal</li> <li><input type="checkbox"/> Large Quantity Generator</li> <li><input type="checkbox"/> Small Quantity Generator</li> <li><input type="checkbox"/> Subtitle D                                     <ul style="list-style-type: none"> <li><input type="checkbox"/> Municipal</li> <li><input type="checkbox"/> Industrial</li> </ul> </li> <li><input type="checkbox"/> "Converter"</li> <li><input type="checkbox"/> "Protective Filer"</li> <li><input type="checkbox"/> "Non-or Late Filer"</li> </ul> <input type="checkbox"/> Note Specified <input type="checkbox"/> Other _____																

### 6. Waste Characteristics Information

(Refer to PA Table 1 for WC Score)

<p><b>Source Type:</b> (check all that apply)</p> <p><input type="checkbox"/> Landfill</p> <p><input type="checkbox"/> Surface Impoundment</p> <p><input type="checkbox"/> Drums</p> <p><input type="checkbox"/> Tanks and Non-Dum Containers</p> <p><input type="checkbox"/> Chemical Waste Pile</p> <p><input type="checkbox"/> Scrap Metal or Junk Pile</p> <p><input type="checkbox"/> Tailings Pile</p> <p><input type="checkbox"/> Trash Pile (open drum)</p> <p><input type="checkbox"/> Land Treatment</p> <p><input type="checkbox"/> Contaminated GW Plume (unidentified source)</p> <p><input type="checkbox"/> Contaminated SW/Sediment (unidentified source)</p> <p><input type="checkbox"/> Contaminated Soil</p> <p><input type="checkbox"/> Other _____</p> <p><input checked="" type="checkbox"/> No Sources</p>	<p><b>Source Waste Quantity:</b> (include unit)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p><b>Tier*:</b></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p><b>General Type of Waste</b> (check all that apply):</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Metals</td> <td><input type="checkbox"/> Pesticides/Herbicides</td> </tr> <tr> <td><input type="checkbox"/> Organics</td> <td><input type="checkbox"/> Acids/Bases</td> </tr> <tr> <td><input type="checkbox"/> Inorganics</td> <td><input type="checkbox"/> Oily Waste</td> </tr> <tr> <td><input type="checkbox"/> Solvents</td> <td><input type="checkbox"/> Municipal Waste</td> </tr> <tr> <td><input type="checkbox"/> Paints/Pigments</td> <td><input type="checkbox"/> Mining Waste</td> </tr> <tr> <td><input type="checkbox"/> Laboratory/Hospital Waste</td> <td><input type="checkbox"/> Explosives</td> </tr> <tr> <td><input type="checkbox"/> Radioactive Waste</td> <td><input type="checkbox"/> Other</td> </tr> <tr> <td><input type="checkbox"/> Construction/Demolition Waste</td> <td></td> </tr> </table> <p><b>Physical State of Waste as Deposited (check all that apply):</b></p> <p><input type="checkbox"/> Solid</p> <p><input type="checkbox"/> Sludge</p> <p><input type="checkbox"/> Powder</p> <p><input type="checkbox"/> Liquid</p> <p><input type="checkbox"/> Gas</p>	<input type="checkbox"/> Metals	<input type="checkbox"/> Pesticides/Herbicides	<input type="checkbox"/> Organics	<input type="checkbox"/> Acids/Bases	<input type="checkbox"/> Inorganics	<input type="checkbox"/> Oily Waste	<input type="checkbox"/> Solvents	<input type="checkbox"/> Municipal Waste	<input type="checkbox"/> Paints/Pigments	<input type="checkbox"/> Mining Waste	<input type="checkbox"/> Laboratory/Hospital Waste	<input type="checkbox"/> Explosives	<input type="checkbox"/> Radioactive Waste	<input type="checkbox"/> Other	<input type="checkbox"/> Construction/Demolition Waste	
<input type="checkbox"/> Metals	<input type="checkbox"/> Pesticides/Herbicides																		
<input type="checkbox"/> Organics	<input type="checkbox"/> Acids/Bases																		
<input type="checkbox"/> Inorganics	<input type="checkbox"/> Oily Waste																		
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<input type="checkbox"/> Paints/Pigments	<input type="checkbox"/> Mining Waste																		
<input type="checkbox"/> Laboratory/Hospital Waste	<input type="checkbox"/> Explosives																		
<input type="checkbox"/> Radioactive Waste	<input type="checkbox"/> Other																		
<input type="checkbox"/> Construction/Demolition Waste																			

\*C=Constituent, W=Wastestream, V=Volume, A=Area

**7. Ground Water Pathway**

<p>Is Ground Water Used for Drinking Within 4 Miles:</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes, Distance to nearest Drinking Well: <b>Onsite (current L<sub>1</sub>)</b>          ___ Drinking water from the deep aquifer only. No known communication between deep and shallow aquifers in this area.</p> <p>Type of Drinking Water Wells Within 4 Miles (check all that apply):</p> <p><input checked="" type="checkbox"/> Municipal <input checked="" type="checkbox"/> Private <input type="checkbox"/> None</p>	<p>Is There a Suspected Release to Ground Water<sup>1</sup>:</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <hr/> <p>Have Primary Target Drinking Water Wells Been Identified:</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If Yes, Enter Primary Target Population: _____ People<sup>3</sup></p>	<p>List Secondary Target Population Served by Ground Water Withdrawn From:</p> <p>0 - 1/4 Mile                      <u>Unknown</u></p> <p>&gt;1/4 - 1/2 Mile                      <u>Unknown</u></p> <p>&gt;1/2 - 1 Mile                      <u>Unknown</u></p> <p>&gt;1 - 2 Mile                      <u>68</u></p> <p>&gt;2 - 3 Mile                      <u>Unknown</u></p> <p>&gt;3 - 4 Mile                      <u>Unknown</u></p> <p>Total Within 4 Miles<sup>4</sup>              <u>68</u></p> <p><small>*Use population #s for PA Table 2 *Note nearest well for #5 on GW Pathway Scoresheet</small></p>
<p>Depth to Shallowest Aquifer: <u>10-15</u> Feet</p> <p>Karst Terrain/Aquifer Present:</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Nearest Designated Wellhead Protection Area<sup>6</sup>:</p> <p><input type="checkbox"/> Underlies Site <input type="checkbox"/> &gt;0-4 Miles <input checked="" type="checkbox"/> None Within 4 Miles</p>	

**8. Surface Water Pathway**

<p>Type of Surface Water Draining Site and 15 Miles Downstream (check all that apply):</p> <p><input checked="" type="checkbox"/> Stream              <input type="checkbox"/> River              <input checked="" type="checkbox"/> Pond              <input type="checkbox"/> Lake <input checked="" type="checkbox"/> Bay                      <input type="checkbox"/> Ocean              <input type="checkbox"/> Other _____</p>	<p>Shortest Overland Distance From Any Source to Surface Water:</p> <p><u>&lt;100</u> Feet <u>      </u> Miles</p>
<p>Is There a Suspected Release to Surface Water<sup>1</sup>:</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Site is Located in:</p> <p><input type="checkbox"/> Annual - 10 yr Floodplain <input type="checkbox"/> &gt;10yr - 100yr Floodplain <input type="checkbox"/> &gt;100yr - 500yr Floodplain <input type="checkbox"/> &gt;500yr Floodplain</p> <p align="right"><b>No floodplain study has been conducted.</b></p>
<p>Drinking Water Intake Located Along the Surface Water Migration Path:</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Have Primary Target Drinking Water Intakes Been Identified:</p> <p><input checked="" type="checkbox"/> Yes                      If Yes, Distance to Nearest Drinking Water Intake : <u>onsite (current lrs)</u> Miles<sup>6</sup> <input type="checkbox"/> No</p> <p>If Yes, Enter Population Served by Target Intake:</p> <p><u>up to 5</u> People<sup>4</sup></p>	<p>List All Secondary Target Drinking Water Intakes:</p> <p><u>Name:</u>    <u>Water Body:</u>    <u>Flow (cfs):</u>    <u>Population Served:</u></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p align="right">Total within 15 Miles <sup>4</sup> _____</p>
<p>Fisheries Located Along the Surface Water Migration Path:</p> <p><input checked="" type="checkbox"/> Yes    <input type="checkbox"/> No                      If Yes, Distance to Nearest Fishery: <u>&lt;1</u> Miles</p>	<p>List All Secondary Target Fisheries<sup>10</sup>:</p> <p><u>Water Body/ Fishery Name :</u>              <u>Flow (cfs):</u></p>
<p>Have Primary Target Fisheries Been Identified:</p> <p><input type="checkbox"/> Yes                      <input checked="" type="checkbox"/> No</p>	

**8. Surface Water Pathway (continued)**

Wetlands Located Along the Surface Water Migration Path:

- Yes  
 No

Have Primary Target Wetlands Been Identified:

- Yes  
 No

List All Wetlands: **Wetlands surround site**

Water Body :      Flow (cfs):      Frontage miles:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Other Sensitive Environments Located Along the Surface Water Migration Path:

- Yes  
 No

If Yes, Distance to Nearest Sensitive Environment: \_\_\_\_\_ Miles

Have Primary Target Sensitive Environments Been Identified:

- Yes  
 No

List All Sensitive Environments<sup>11</sup>: **Izembek NWR, Alaska Peninsula NWR**

Water Body :      Flow (cfs):      Sensitive Environment Type:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**9. Soil Exposure Pathway**

Are People Occupying Residence or Attending School or Daycare on or Within 200 Feet of Area of Known or Suspected Contamination:

- Yes  
 No

If Yes, Enter Total Residential Population:

\_\_\_\_\_ People<sup>2</sup>

Number of Workers Onsite<sup>4</sup>:

- None  
 1 - 100  
 101 - 1,000  
 > 1,000

Population Within 1 Mile:

<100 People<sup>7</sup>

Have Terrestrial Sensitive Environments Been Identified on or Within 200 Feet of Areas of Known or Suspected Contamination:

- Yes  
 No

If Yes, List Each Terrestrial Sensitive Environment<sup>5</sup>:

Izembek National Wildlife Refuge

Alaska Peninsula NWR

\*Refer to PA Table 7 for environment types

**10. Air Pathway**

Is there a Suspected Release to Air<sup>1</sup>:

- Yes  
 No

Enter Total Population on or Within:

Onsite      0-5 \_\_\_\_\_

0-1/4 Mile      Unknown \_\_\_\_\_

>1/4-1/2 Mile      Unknown \_\_\_\_\_

>1/2-1 Mile      Unknown \_\_\_\_\_

>1-2 Miles      68 \_\_\_\_\_

>2-3 Miles      Unknown \_\_\_\_\_

>3-4 Miles      Unknown \_\_\_\_\_

Total Within 4 Miles<sup>3-5</sup> **73**

Wetlands Located Within 4 Miles of the Site<sup>6</sup>:

- Yes  
 No

If Yes, How Many Acres: \_\_\_\_\_ Acres

Other Sensitive Environments Located Within 4 Miles of the Site:

- Yes  
 No

List All Sensitive Environments Within 1/2 Mile of the Site<sup>6</sup>:

Distance:      Sensitive Environment Type/Wetlands Area (acres):

Onsite      \_\_\_\_\_

0-1/4 Mile      Izembek NWR, Alaska Peninsula NWR

>1/4-1/2 Mile      \_\_\_\_\_

\*Refer to PA Table 10 for calculations on air pathway exposures

<sup>1-11</sup> Refers to question number on the PA scoresheet for each particular pathway

**APPENDIX F**  
**RESPONSE TO COMMENTS**

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THE STATE  
of **ALASKA**  
GOVERNOR MIKE DUNLEAVY

## Department of Environmental Conservation

Spill Prevention and Response  
Contaminated Sites

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File No. 2538.38.011

December 14, 2023

Attn: Robert Johnston  
611 CES/CEVR  
10471 20th Street, Suite 327  
JBER AFB, AK, 99506-2200

Re: **DEC Acknowledgement of Receipt for the *Redline Final Preliminary Assessment Report for Aqueous Film-Forming Foam Areas, Cold Bay Long Range Radar Site, Alaska, December 2023***

Dear Mr. Johnston:

The Alaska Department of Environmental Conservation (DEC) Contaminated Sites Program has reviewed the above referenced document and responses to comments, received on December 14, 2023. The purpose of this Preliminary Assessment (PA) Report is to evaluate if a potential release of Aqueous Film-Forming Foams (AFFF) may have occurred from historical storage or use at fire training areas (FTAs) and other non-FTAs, such as hangars, fire stations, and emergency response locations at the Cold Bay Long Range Radar Site (LRRS). This PA includes information on the installation background, historical records review, and interviews with installation personnel with knowledge of past or current operations.

DEC acknowledges the PA did not identify any FTAs or non-FTAs at the Cold Bay LRRS and the report recommends no further remedial action planned (NFRAP) for AFFF sources. Future investigation of non-AFFF PFAS sources will be evaluated under a separate contract. Please provide DEC with the finalized PA report for our records, with this letter and appended comments attached. If you have any questions regarding this review, please contact the DEC project manager at (907) 451-2181, or by email at [cascade.galasso-irish@alaska.gov](mailto:cascade.galasso-irish@alaska.gov).  
Sincerely,

A handwritten signature in blue ink, appearing to read "Cas Galasso".

Cas Galasso  
Environmental Program Specialist

CC via email: Brian Watts, DEC  
Erica Blake, DEC

Attachment: DEC Cmnts Draft AFFF PA Cold Bay LRRS

Alaska Department of Environmental Conservation (DEC)  
Contaminated Sites Program

**Document Name:** DRAFT Preliminary Assessment Report for Aqueous Film-Forming Foam Areas  
Cold Bay Long Range Relay Station, Alaska. November 2023

**Commenters:** Alaska Department of Environmental Conservation

**Document Received by DEC:** November 20, 2023

**Date RTCs Submitted:** December 14, 2023

#	Section	ADEC Comment	Response	ADEC Response
1.	General Comment	<p>As a general comment DEC would like to ensure that USAF and DEC are in agreement that this review of AFFF sources only covered a portion of the potential sources of PFAS that could be found at military installations. Please confirm that this NFRAP does not preclude the evaluation of additional PFAS sources (i.e. that a non-AFFF PA/SI will occur). This is DEC understanding of the DoD position and the current text.</p> <p>This PA did not identify any Fire Training Areas (FTA), or non FTAs such as hangars, fire stations, or emergency response locations.</p> <p>With regards to a future non-AFFF PA/SI, DEC would point to the landfills/waste accumulation sites as potential non-AFFF PFAS sources.</p>	<p>Concur. Supplemental PFAS sources at Cold Bay are currently being evaluated under a separate contract.</p>	A
2.	General	<p>This PA report mentions Paul Cooley, ARCTEC Environmental Coordinator/manager, several times however this individual did not respond to the questionnaire sent. Recommend following up with this individual via phone with additional questions. There are few site-specific records associated with potential storage or use of AFFF at Cold Bay LRRS and both ARCTEC employees recommended this individual to be contacted for questions.</p>	<p>DEC comment noted. During the site visit, John Timmers and Chuck Baker, both ARCTEC personnel working at the installation, were interviewed. John Timmers did not provide additional information; however, Chuck Baker was able to provide information about AFFF at the Cold Bay LRRS. Mr. Baker indicated that he had no knowledge of historical storage or use of AFFF at Cold Bay LRRS. Fire suppression systems currently in use were viewed and consist of an Ansul oxygen deprivation system, a Fireboy, and fire extinguishers, none of which use AFFF. Historical photographs suggest that the former installation at Grant Point used similar suppression systems. This information is consistent with interviews with personnel at other installations.</p> <p>Based on the information obtained during the site visit from ARCTEC personnel present at the installation, this information is considered sufficient to support the conclusions reached in the report. Additionally, the current and former installation characteristics indicate that AFFF would not have been required at the LRRS (i.e., there was no airport or hangar for aircraft use), and historic reports indicate that fire training was not conducted on USAF property.</p>	A
3.	3.1	<p>Statement: "During the review of historical records, references to fire training at the Cold Bay LRRS were identified."</p> <p>From the description of the fire training and Table A-2, recommend revising statement to: "During the review of historical records, references to <i>activities relating to fire protection training</i> at the Cold Bay LRRS were identified." The records review do not indicate fire training at Cold Bay was conducted and the activities relating to fire training appears to be shipping of wastes to an offsite FAA fire training site.</p>	<p>Concur. The text in Section 3.1 will be revised to read:</p> <p><i>"During the review of historical records, references to fire training at the Cold Bay LRRS were identified. The Management Action Plan for Cold Bay LRRS (USAF 1998) lists "fire training" as a hazardous substance activity at the Cold Bay LRRS between 1959 and 1985 when the former LRRS at Grant Point was active. During the review of one historical record, the Management Action Plan for Cold Bay (USAF 1998), it was noted that "fire training" was identified as a hazardous substance activity at the Cold Bay LRRS between 1959 and 1985 when the former LRRS at Grant Point was active; however, the report states that wastes from the former LRRS were transported to an FAA facility for fire training."</i></p>	A
4.	Table A-2	<p>Re: the notes on the 2000 Project Status Meeting Minutes; "a comment made during the meeting mentions fire training at the Suspected Buried Drums Near AKDOT Sand Removal Area: "Mr. Ellis added that the community brought used oil to that same location for use in fire training. A pit would be dug and 50-75 drums would be dumped there for that purpose."</p> <p>Where is the AKDOT Sand Removal Area? Is this location associated with the Cold Bay LRRS?</p>	<p>The location of the AKDOT Sand Removal Area is not known. The community member who mentioned the area indicated it was "the first site down the road around Trout Creek, on the other side of the road". Suggesting the site was located along Trout Creek Road, which is not USAF property and is not associated with the Cold Bay LRRS. No other reference to the Sand Removal Area or fire training activities in this area was found during the records review.</p>	A

5.	Section 2.3 Appendix B	<p>Other Air Force AFFF PA reports included a communication record that stated spraying/painting of waterproofing chemicals onto radar dome fabrics occurred at some sites.</p> <p>Why was this communication record not included in this PA report? Cold Bay LRRS had two radar domes at the Grant Point site and they were moved to the current LRRS location. DEC recommends highlighting this as a potential concern for a future non-AFFF PA/SI at the site.</p>	<p>Clarification. Mr. Robert Johnston made the comment about spraying/painting of waterproofing chemicals onto radar domes during the 05 April 2023 interview. The record of communication for this interview is included in Appendix B; however, part of the form was mistakenly cut off and was not included in the draft PDF. The report will be revised to include the full record of communication form for the 05 April 2023 meeting with Mr. Johnston.</p> <p>Supplemental PFAS sources including the treatment of radar dome fabrics at Cold Bay LRRS are currently being evaluated under a separate contract.</p>	<p>Noted.</p> <p>Please add the full record of communication to the Final Report. Additional information is on this page regarding the location of the leach field at Cold Bay.</p>
6.	Appendix B Comm Record Jessica Morris	Per the communication report, Jessica Morris provided the locations of the septic tank and drinking water well. Recommend adding these features to the figures.	Concur with clarification. The water supply well is currently included in Figure 4. The location of the septic tank will be added to Figure 4.	A
7.	Appendix B Comm Record Mark Mobley	The Communication Record with Mark Mobley dated 8/24/2023 does not appear to contain any information regarding Cold Bay LRRS. Recommend removing this record.	DEC comment noted. Although the record of communication form for the 24 August 2023 interview with Mr. Mobley does not contain information specific to the Cold Bay LRRS, it does contain information about characteristics of installations that may be indicative of potential AFFF use or storage, such as the presence of an airstrip, the length of the airstrip, the presence of storage buildings along the airstrip, etc. Cold Bay LRRS does not have an airstrip or hangar for aircraft use, which indicates there was no need for USAF to store or use AFFF at the installation.	A
<i>End of comments</i>				