



UNITED STATES AIR FORCE
Joint Base Elmendorf-Richardson, Alaska
ENVIRONMENTAL RESTORATION PROGRAM

LAND USE CONTROL MANAGEMENT PLAN
PACIFIC AIR FORCES REGIONAL SUPPORT CENTER
INSTALLATIONS

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Contents

Abbreviations and Acronyms	vii
1 Introduction	1-1
1.1 Purpose	1-1
1.2 U.S. Air Force Land Use Control Policy	1-2
1.2.1 Definition of Land Use Controls.....	1-2
1.2.2 Land Use Controls Decision Documentation.....	1-3
1.2.3 Land Use Controls Development, Implementation, Documentation, and Maintenance	1-3
1.3 Current Status of Pacific Air Forces Regional Support Center Environmental Restoration Program Sites and Landfill Sites.....	1-4
1.3.1 Sites Currently Undergoing or Requiring Further Investigation or Remedial Action	1-4
1.3.2 No Further Response Action Planned or No Further Action Environmental Restoration Program Sites	1-5
1.3.3 Environmental Restoration Program Sites with Land Use Controls in Effect	1-5
1.4 Land Use Control Management Plan Updates	1-5
1.5 Document Organization.....	1-5
2 Land Use Controls in Effect.....	2-1
2.1 Description of Land Use Controls in Effect.....	2-1
2.1.1 Purpose and Objectives	2-1
2.1.2 Prohibitions and Restrictions.....	2-1
2.1.3 Engineering Controls.....	2-2
2.1.4 Institutional Controls	2-2
2.1.5 Expected Durations.....	2-2
2.1.6 Monitoring, Inspections, Reporting, and Maintenance	2-2
2.2 Additional Requirements for Landfills in Alaska	2-3
3 Land Use Controls Implementation Information	3-1
3.1 Land Use Controls Administrative Approval Forms.....	3-1
3.2 Land Use Controls Responsibilities.....	3-2
3.3 Geographic Information System and Electronic Information Collection	3-2
3.4 Land Use Controls Implementation Monitoring.....	3-2
3.5 Reporting To Date.....	3-3
3.6 5-Year Reviews.....	3-3
3.7 Land Use Controls Modification and/or Termination	3-4
4 References.....	4-1
Tables	
1-1	Status of Land Use Controls in Effect for All Pacific Regional Support Center Installations
1-2	Pacific Regional Support Center Environmental Restoration Program Sites with Land Use Controls in Effect
1-3	Pacific Regional Support Center Landfill Sites
2-1	Description of Land Use Control Types Currently in Effect at Pacific Regional Support Center Environmental Restoration Program Sites
2-2	Description of Pacific Regional Support Center Landfill Sites

- 2-3 Alaska Department of Environmental Conservation Landfill Management Requirements
- 3-1 Land Use Control Compliance Procedures for Pacific Regional Support Center Environmental Restoration Program Sites with Land Use Controls in Effect
- 3-2 Personnel Contact Information for Pacific Regional Support Center Sites with Land Use Controls in Effect
- 3-3 Land Use Control Inspections and Reviews Conducted to Date for Pacific Regional Support Center Environmental Restoration Program Sites

Figures

- 1-1 Site Vicinity for Alaska Installations
- 1-2 Site Vicinity of Hawaii, Wake Island, and Johnston Atoll Installations

- 2-1 Installation Map – Barter Island
- 2-2 Installation Map – Bear Creek RRS
- 2-3 Installation Map – Bethel RRS
- 2-4 Installation Map – Big Mountain RRS
- 2-5 Installation Map – Bullen Point SRRS
- 2-6 Installation Map – Champion Air Station
- 2-7 Installation Map – Cape Lisburne LRRS
- 2-8 Installation Map – Cape Newenham LRRS
- 2-9 Installation Map – Cape Romanzof LRRS
- 2-10 Installation Map – Cold Bay LRRS
- 2-11 Installation Map – Driftwood Bay RRS
- 2-12 Installation Map – Duncan Canal RRS
- 2-13 Installation Map – Eareckson AS
- 2-14 Installation Map – Fort Yukon
- 2-15 Installation Map – Granite Mountain RRS
- 2-16 Installation Map – Indian Mountain LRRS
- 2-17 Installation Map – Kalakaket Creek RRS
- 2-18 Installation Map – King Salmon
- 2-19 Installation Map – Kotzebue LRRS
- 2-20 Installation Map – Lake Louise Recreation Camp
- 2-21 Installation Map – Murphy Dome LRRS
- 2-22 Installation Map – Naknek Recreation Camp 1
- 2-23 Installation Map – Naknek Recreation Camp 2
- 2-24 Installation Map – Nikolski RRS
- 2-25 Installation Map – North River RRS
- 2-26 Installation Map – Oliktok Point LRRS
- 2-27 Installation Map – Pillar Mountain RRS
- 2-28 Installation Map – Point Barrow LRRS
- 2-29 Installation Map – Point Lay LRRS
- 2-30 Installation Map – Point Lonely Dome SRRS
- 2-31 Installation Map – Port Heiden RRS
- 2-32 Installation Map – Sparrevohn LRRS
- 2-33 Installation Map – Tatalina LRRS
- 2-34 Installation Map – Tin City LRRS
- 2-35 Installation Map – Wainwright SRRS
- 2-36 Installation Map – Johnston Atoll
- 2-37 Installation Map – Wake Island Airfield

Appendices

- A Status of Pacific Air Forces Regional Support Center Environmental Restoration Program Sites at Alaska, Hawaii, Johnston Atoll, and Wake Island Airfield Installations
- B Site Summary Sheets for Pacific Regional Support Center Environmental Restoration Program Sites with Land Use Controls in Effect
- C Pacific Regional Support Center Operating Instruction 32-7001, Land Use Control Management
- D U.S. Air Force and U.S. Department of Defense Forms
- E Generic Land Use Control Inspection Checklists

Abbreviations and Acronyms

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AFCEC	Air Force Civil Engineer Center
AFCEE	Air Force Center for Engineering and the Environment
AFF	Air Force Form
AFI	Air Force Instruction
AFLOA	Air Force Legal Operations Agency
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	contaminant of concern
CRP	Compliance Restoration Program
DD	decision document
DERA	Defense Environmental Restoration Account
DoD	U.S. Department of Defense
DUSD	Deputy Under Secretary of Defense
EC	engineering control
EPA	U.S. Environmental Protection Agency
ERP	Environmental Restoration Program
GIS	geographic information system
IC	institutional control
IRP	Installation Restoration Program
JA	Johnston Atoll
JBER	Joint Base Elmendorf-Richardson
LUC	land use control
LUCMP	Land Use Control Management Plan
MMRP	Military Munitions Response Program
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	no further action
NFRAP	No Further Response Action Planned
PA	preliminary assessment
PRSC	Pacific Air Forces Regional Support Center
RAB	Restoration Advisory Board
RAO	remedial action objective
RCRA	Resource Conservation and Recovery Act
ROD	record of decision
RPM	remedial project manager
SI	site inspection
USAF	U.S. Air Force
WIA	Wake Island Airfield

SECTION 1.0

Introduction

As a result of past waste and resource management practices, certain areas within U.S. Air Force (USAF) installations in Alaska, Hawaii, Johnston Atoll (JA), and Wake Island Airfield (WIA) that are managed by the Pacific Air Forces Regional Support Center (PRSC) have been exposed to various organic and inorganic compounds generated by installation activities. In response, environmental restoration has been initiated under the USAF Environmental Restoration Program (ERP), which is currently managed by Air Force Civil Engineer Center (AFCEC)/CZOP¹ based at Joint Base Elmendorf-Richardson (JBER), Alaska.

One strategy applied as part of the ERP (and other programs) to restrict exposure to contaminant concentrations that present unacceptable risk to human health or the environment is implementing land use controls (LUCs). LUCs limit access to and use of contaminated land and can also be used to protect the integrity of the clean-up technologies during their implementation. LUCs are implemented concurrently with active clean-up measures during the clean-up process and after active remediation has reached its technical limit if contaminants remain at concentrations that do not allow for unlimited land use and unrestricted exposure. LUCs may also be necessary before site characterization and remedial alternative section processes are complete if, during the preliminary assessment (PA)/site inspection (SI) phase, contaminants are discovered that likely present a hazard to human health or the environment.

This Land Use Control Management Plan (LUCMP) summarizes the current status of LUCs associated with ERP sites at PRSC installations in Alaska, JA, and WIA with LUCs in effect, and provides a comprehensive strategy for implementing, maintaining, monitoring, enforcing, and modifying or terminating LUCs. In addition to ERP sites, this LUCMP summarizes landfill sites associated with PRSC installations that are not included in the ERP. Currently, no PRSC ERP sites with LUCs are in effect within the State of Hawaii. The LUCMP is a dynamic planning document and represents the current, and reasonably forecasted, status of LUCs at ERP sites as of this version's publication date.

1.1 Purpose

This LUCMP identifies the LUCs in place for ERP (or Defense Environmental Restoration Account [DERA]-funded) sites at PRSC installations in Alaska, JA, and WIA and documents the responsibilities and procedures for maintaining, managing, tracking, enforcing, and when appropriate, modifying or terminating the LUCs. Note that the current version of this LUCMP covers the following sites:

- ERP sites and landfills determined to contain hazardous waste, waste assumed hazardous, or nonhazardous waste
- Sites regulated by the U.S. Environmental Protection Agency (EPA), Alaska Department of Environmental Conservation (ADEC), and the ERP
- ERP sites for which information regarding the contamination and LUC status was readily available during the development of this LUCMP
- Landfill sites managed by PRSC determined to contain hazardous waste, waste assumed hazardous, or nonhazardous waste that are not regulated by the ERP

¹ "CZ" is the abbreviation for the Environmental Engineering Directorate of AFCEC, and "CZOP" is the abbreviation for Environmental Engineering Directorate, Operations Division, Pacific.

Sites managed under the ERP that have an associated decision document (DD), including Installation Restoration Program (IRP), Compliance Restoration Program (CRP), and Military Munitions Response Program (MMRP) sites, are also included in this LUCMP.

This LUCMP provides a framework for consistent and effective LUC implementation, management, and compliance tracking at PRSC installations in Alaska, JA and, WIA. For Alaska ERP sites, the ADEC provides regulatory oversight. For JA ERP sites, the EPA provides regulatory oversight. For WIA, the USAF is the lead agency, while the EPA has been provided copies of reports and documents related to environmental investigations but has not provided comments nor asserted oversight concerning USAF clean-up actions at WIA. Other installation components, base contractors, and Restoration Advisory Board (RAB) members will use this plan as an information source.

In accordance with Air Force Instruction (AFI) 32-7020 (Secretary of the Air Force, 2014), this LUCMP meets the intended purpose of clearly delineating the responsibilities of all parties involved in implementing the LUCs and also specifies the physical, administrative, and legal mechanisms to be used to ensure the restricted use of, or access to, the affected sites. The Air Force Center for Engineering and the Environment (AFCEE)² *Land Use Control Management Guidance* (AFCEE, 2010) was also used to develop this LUCMP. This plan is a management tool internal to the USAF as an agency and does not by itself create any enforceable rights, obligations, or privileges. Documents such as records of decision (RODs), signed action memoranda (applicable to interim remedial actions), or ADEC letters of concurrence establishing LUCs may create enforceable rights. During the 5-year review process (discussed in Section 3.6 of this LUCMP), validating this plan ensures that LUC mechanisms are still in place. The plan also specifies the process for modifying and discontinuing LUCs if some or all become unnecessary.

1.2 U.S. Air Force Land Use Control Policy

AFCEC, formerly AFCEE, developed the *Land Use Control Management Guidance* in 2010 (and it was reviewed by Air Force Legal Operations Agency [AFLOA] in January 2011) to provide guidance for USAF remedial project managers (RPMs) when developing, implementing, and managing LUCs as remedial strategies for protecting human health and the environment at USAF environmental restoration sites. The guidance is not a formal directive or instruction and has not been specifically approved by Headquarters or the USAF, or acknowledged by the EPA. However, it represents the best understanding of the AFCEC and the AFLOA, Environmental Law and Litigation Division regarding the combined requirements of all U.S. Department of Defense (DoD) and USAF policies at active installations.

1.2.1 Definition of Land Use Controls

According to the DoD, LUCs include any mechanism that places restrictions on the use of—or limits access to—real property to prevent or reduce risks to human health or the environment. The intent of using these controls is to protect human health and the environment by limiting the activities that may occur at a particular site and, where necessary, to protect the integrity of an engineered remedy. LUCs fall into two categories: engineering controls (ECs) and institutional controls (ICs). ECs are physical mechanisms that encompass a variety of engineered remedies to contain or reduce contamination, limit the potential for contaminant migration, and/or provide physical barriers to limit access to property, such as fences or signs. ICs are made up of legal (for example, court orders or Resource Conservation and Recovery Act [RCRA] permits), proprietary (for example, easements and restrictive covenants), and administrative (for example, deed notices and the base dig permit process) controls (AFCEE, 2010). Like the DoD, EPA defines LUCs to include ECs, or physical mechanisms, and ICs, which include legal and administrative mechanisms. EPA

² Air Force Center for Engineering and the Environment is now currently known as the Air Force Civil Engineer Center.

policy on LUCs, however, addresses only ICs or nonengineered mechanisms. Physical or engineered mechanisms of LUCs, including fences and signs, are considered by EPA as part of the physical remedy. ICs, defined by EPA as non-engineered instruments, include legal, administrative, and/or procedural actions that may limit access, activities, and actions on a particular site because of environmental contaminants residing on or within soils and/or groundwater at a site. Thus, in discussions or negotiations with EPA, any physical components of USAF-defined LUCs must be considered separately from the IC components.

LUCs as defined herein are separate from the archaeological and ecological reviews as well as the approvals required for any construction project at PRSC installations in Alaska, JA, and WIA. Controls such as Air Force Form (AFF) 103; consultation under the Endangered Species Act, Section 7; and those as established under the ADEC Title 18 Alaska Administrative Code (AAC) are in place to ensure that proposed activities at sites with LUCs in effect do not significantly affect archaeological resources, sensitive ecological habitats, or other infrastructure. Because archaeological and ecological reviews and approvals are not LUCs associated with past waste management practices, they are not addressed further in this LUCMP.

1.2.2 Land Use Controls Decision Documentation

LUCs are needed when the environmental restoration decision for a site requires controls on, or limits to, property use to prevent or limit exposure to hazardous substances. A determination that an LUC is necessary or that a particular response action is not needed is typically made by comparing sampling data with appropriate screening levels developed for various land use scenarios or through a baseline risk assessment using exposure assumptions appropriate for the reasonably anticipated land use.

LUCs are established through environmental restoration documentation such as DDs, RODs, signed action memoranda (applicable to interim remedial actions), or ADEC letters of concurrence. These documentations for remedies with LUCs describe the exposure scenario used to select the remedy, including assumptions made concerning the current and reasonably anticipated future land use, and specify the uses that may be made of the property or the activities to be prohibited. Although not a reasonably anticipated future land use for most PRSC ERP sites, risks to hypothetical future residents are typically considered to assist the USAF in determining whether LUCs are needed to prevent inappropriate movement of contaminated material to a residential setting and to determine if a site is suitable for residential or unrestricted use.

Similarly, at sites where no further action (NFA) decisions have been made, the documentation of decision (typically an NFA DD or No Further Response Action Planned [NFRAP] document) sets forth the rationale behind the finding and includes the relevant exposure assumptions for both current and reasonably anticipated future land use.

1.2.3 Land Use Controls Development, Implementation, Documentation, and Maintenance

The life cycle of LUCs consists of two major stages: development and implementation. LUC development generally occurs during the investigative phases of remedial action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), RCRA, or state regulations. LUCs are evaluated, along with active remedial alternatives, in the CERCLA feasibility study or the RCRA corrective measures study and documented in the DD for the site. Implementing LUCs begins when a DD is approved by all parties and continues during the CERCLA remedial design, construction, and maintenance phases or during the RCRA corrective measures implementation phase (AFCEE, 2010).

Once a decision has been made to place limitations on the use of an ERP site, appropriate control mechanisms are put into place to implement and manage the LUCs and to incorporate them into the existing land use management processes at the installation. The DD, ROD, action memorandum, or regulatory letter of concurrence that establishes the LUCs is commonly used to describe how the LUCs will be implemented, including the reasons for the LUCs, the location of the land subject to the LUCs, the duration of the LUC, and plans for modifications to the LUC as site conditions change. The DD should also

generally explain the restricted uses of the property, identify who is responsible for maintaining and managing the LUCs, and specify the frequency and requirements of LUC inspections. Once the LUCs are established at a site, they are incorporated into the first or most recent version of the installation-wide LUCMP.

LUCs on active installations are not recorded in deeds. The USAF uses existing land use planning and management systems to track and manage LUCs at its installations. These systems typically involve including LUC boundaries and attributes into geographic information system (GIS) layers, incorporating LUCs into the installation master plan, and filing LUCs with the installation offices that are responsible for managing the buildings and grounds, utility systems, and construction.

Once LUCs are implemented, they must be maintained as long as site conditions exist that prevent unrestricted land use and/or unlimited exposure. LUCs can be maintained using a variety of separate and collective processes, including the site approval process, LUC boundary markers, periodic site inspections, environmental self-audits, training, internal notices, and 5-year reviews. If it appears a LUC is being violated, then appropriate installation officials should be notified immediately. Furthermore, regulatory agencies may be notified of the violation as applicable and as detailed in DDs, RODs, signed action memoranda, or ADEC letters of concurrence. The officials should take steps to ensure the integrity of the LUC is restored and the necessary corrective action and notifications are made. In addition, if the type of land use at an ERP site changes, the LUCs for the site should be reviewed to ensure that the new land use is compatible with the LUCs. If it is not, then the site remedy and DDs may need to be revised before implementing a land use change. More information about how LUCs are implemented, documented, and maintained for PRSC ERP sites with LUCs in effect is provided in Section 3.0 of this LUCMP.

1.3 Current Status of Pacific Air Forces Regional Support Center Environmental Restoration Program Sites and Landfill Sites

AFCEC/CZOP currently manages approximately 670 PRSC sites under the ERP that are in various stages of the investigation and remediation process, including either under or requiring further investigation, sites closed with NFRAP or NFA determinations, or sites with LUCs in effect. Table A-1 in Appendix A lists these sites and their status, and includes ERP sites at Alaska, Hawaii, JA, and WIA installations and the status of each ERP site as of the publication date for this LUCMP. Table 1-1 lists all PRSC installations and whether or not sites with LUCs in effect are present at these installations. Table 1-2 lists the specific sites at which LUCs are in effect.

Furthermore, AFCEC/CZOP manages approximately 18 landfill sites not a part of the ERP. AFCEC/CZOP is responsible for the reporting requirements as set forth in 18 AAC 60, as described further in Section 2.2. Table 1-3 lists these non-ERP landfill sites.

The following sections describe the three site categories within which PRSC ERP sites belong. Information for non-ERP landfill sites is provided in Section 2.2. Information and details further provided in this LUCMP are applicable primarily for ERP sites with LUCs in effect and non-ERP landfill sites requiring reporting. Information for sites currently under or requiring further investigation where no LUCs are in effect or NFRAP or No Action ROD sites is available from PRSC.

1.3.1 Sites Currently Undergoing or Requiring Further Investigation or Remedial Action

Appendix A lists PRSC ERP sites currently undergoing or have yet-to-be-performed site/remedial investigations or remedial action. These sites either require documentation sufficient to determine the sites either do or do not pose an unacceptable risk or threat to human health or the environment under an

occupational or industrial use scenario, or a remedial action is currently being implemented to protect human health or the environment.

1.3.2 No Further Response Action Planned or No Further Action Environmental Restoration Program Sites

Appendix A lists PRSC ERP sites that have received regulatory-agency-approved NFRAP or NFA determinations. These NFRAP or NFA determinations are based on site investigation results and/or quantitative risk evaluation results that provide documentation that sufficiently determines the sites do not pose an unacceptable risk or threat to human health or the environment.

1.3.3 Environmental Restoration Program Sites with Land Use Controls in Effect

PRSC sites that have LUCs in effect are shown on Figure 1-1 for Alaska installations and Figure 1-2 for JA and WIA sites (there are no sites in Hawaii subject to LUCs). Table 1-2 lists and describes each site with LUCs in effect by installation. Further details of LUCs associated with each ERP site with LUCs in effect are provided in Section 2.0.

1.4 Land Use Control Management Plan Updates

This LUCMP was developed based on information available as of June 2015. The LUCMP is a dynamic document that will be updated on a periodic, as-needed basis to maintain its applicability and effectiveness. This is the year 2015 update of the LUCMP, which was originally developed in December 2012, and it includes the most updated information about LUC sites.

Future LUCMP updates may include updated information about potentially new LUC sites and modifications or terminations to existing LUCs because of changes in regulatory status (that is, a new DD) at previously identified LUC sites. In addition, if LUCs were to be terminated at a site, the updated LUCMP would no longer contain information about that site or about the LUCs established for it.

1.5 Document Organization

The remainder of this LUCMP focuses on the PRSC ERP sites in Alaska, JA, and WIA that are subject to LUCs; no ERP sites in Hawaii are subject to LUCs. The report is organized as follows:

- **Section 1.0** states the purpose of the LUCMP, summarizes USAF LUC policy, and identifies the PRSC ERP sites covered by this version of the LUCMP.
- **Section 2.0** describes the various LUCs in effect for sites at PRSC installations in Alaska, JA, and WIA.
- **Section 3.0** identifies the procedures for LUC implementation, management, and compliance monitoring with regard to specific responsibilities, records of inspections and reporting, 5-year reviews, and modifying or terminating LUCs at LUC sites.
- **Section 4.0** documents the references cited in Sections 1.0 through 3.0.

Figures and tables accompanying the main text of this report are provided under separate tabs following Section 4.0. The appendices to this report, which address specific details of the 5-year review, are as follows:

- **Appendix A** cumulatively lists all PRSC ERP and landfill sites and the status for each.
- **Appendix B** provides the site summary sheets for each PRSC ERP site with LUCs in effect and includes information such as site descriptions, physical settings, environmental investigation actions, and a summary of quantitative risk assessments as applicable.

- **Appendix C** includes the *Pacific Air Forces Regional Support Center Operating Instruction 32-7001, Land Use Control Management* document dated February 27, 2014.
- **Appendix D** includes copies of key forms, including the *Base Civil Engineer Work Clearance Request (AFF 103)*, *Base Civil Engineer Work Request (AFF 332)*, and *Military Construction Project Data (DoD Form 1391)*.
- **Appendix E** includes generic LUC inspection checklists intended to be used for LUC inspections; these can be tailored to meet site-specific LUC requirements.

SECTION 2.0

Land Use Controls in Effect

Requirements currently established for LUCs and other requirements are described in this section. Section 2.1 describes the various elements comprising LUCs currently in effect at PRSC ERP sites in Alaska, JA, and WIA. Details specific to each site with LUCs in effect are included in Table 2-1, and LUC boundaries (when known) are shown on Figures 2-1 through 2-37. Section 2.2 describes additional requirements for ERP and non-ERP landfill sites that are currently being managed by the PRSC. Table 2-1 includes the ERP landfill sites, and Table 1-3 describes each of these non-ERP landfill sites.

2.1 Description of Land Use Controls in Effect

In general, the type of LUC for a particular site depends on the type of unacceptable risk to human health and the environment that has been identified through the applicable site investigations and/or quantitative risk evaluations. This section provides information for the following components that comprise the LUCs and their implementation at each site:

- Purpose and objectives
- Prohibitions and restrictions
- ECs (if applicable)
- ICs
- Expected duration of LUCs (if available)
- Monitoring, inspections, reporting, and maintenance

The LUC components are generally described below, and detailed LUC information for each PRSC ERP site with LUCs in effect is provided in Table 2-1.

Readily available information for LUCs specific to the applicable ERP site is primarily taken from the DD, ROD, signed action memoranda, or regulatory letter of concurrence specific to each site. Supplemental information was also collected from recent and readily available ERP documentation or from ERP personnel interviews. PRSC must be consulted for scenarios where no specific information is available for LUC components requiring schedule or frequency of activities (that is, duration of LUC at a site or inspection schedule of ECs). Further site background information for each ERP site with LUCs in effect is provided in Appendix B of this LUCMP.

2.1.1 Purpose and Objectives

Objectives developed for each site with LUCs in effect have been established to define what the LUCs should accomplish to protect human health and the environment. Purposes and objectives for each site, as included in Table 2-1, are in essence the remedial action objectives (RAOs) as established in the DD or ROD. Consistent with EPA guidance and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 Code of Federal Regulations [CFR] § 300.430[e][2][i]), these objectives consider contaminants of concern (COCs), exposure routes and receptors, and remedial action clean-up goals.

2.1.2 Prohibitions and Restrictions

As defined in the DD, ROD, signed action memoranda, or regulatory letter of concurrence specific to each site with LUCs in effect, prohibitions and restrictions describe specific activities that are not allowed to protect human health and the environment. These activities may include the prohibited use of surface or groundwater, restricted ground-disturbance activities, and restricted access to the sites. The prohibitions and restrictions associated with LUCs at applicable sites depend on COCs, exposure routes and receptors,

and current or future land uses. Restricted and prohibited activities for each site with LUCs, as summarized in Table 2-1, were established in the site-specific DD.

2.1.3 Engineering Controls

The DoD defines ECs as physical mechanisms that encompass a variety of engineered remedies to contain or reduce contamination and/or physical barriers to limit access to property, such as fences or signs (AFCEE, 2010). ECs currently in place for applicable PRSC ERP sites with LUCs in effect are included in Table 2-1.

2.1.4 Institutional Controls

The DoD defines ICs as legal (for example, court orders or RCRA permits), proprietary (for example, easements or restrictive covenants) and administrative (for example, deed notices and the base dig permit process) controls. The EPA defines ICs as nonengineered instruments, including legal, administrative, and procedural actions that may limit access, activities, and actions on a particular site because of environmental contaminants residing on or within soils and/or groundwater at a site. The State of Alaska, as referenced in 18 AAC 75.375(b), defines ICs to include the following:

- The requirement for and maintenance of physical measures, such as fences and signs, to limit an activity that might interfere with clean-up or result in exposure to a hazardous substance at the site
- The requirement for and maintenance of engineering measures, such as liners and caps, to limit exposure to a hazardous substance
- Restrictive covenants, easements, deed restrictions, or other measures that would be examined during a routine title search and that limit site use or site conditions over time or provide notice of any residual contamination
- A zoning restriction or land use plan by a local government with land use authority

2.1.5 Expected Durations

In general, LUCs will be maintained until concentrations of hazardous substances in media of concern (for example soil, surface water, or groundwater) allow for unlimited use and unrestricted exposure. Unlimited use and unrestricted exposure would be allowed when concentrations of COCs are below the established remedial action clean-up goals or if remaining material (such as landfill debris) is removed or as determined by the lead agency. The available information with regard to the duration of LUCs at PRSC ERP sites is summarized in Table 2-1 and included in their respective RODs. AFCEC/CZOP must be consulted for scenarios where no specific information is readily available for the expected duration of LUCs.

2.1.6 Monitoring, Inspections, Reporting, and Maintenance

As described in Section 1.2.3, the DD, ROD, signed action memoranda, or regulatory letter of concurrence specific to each site with LUCs in effect defines the requirements of LUC inspections. Inspections would include field inspections, document review, and review of ICs currently in place. The findings of inspections are subsequently documented in a report and forwarded to the applicable regulator. Table 2-1 provides the available information with regard to monitoring, inspections, and reporting requirements for ERP sites with LUCs in effect. AFCEC/CZOP must be consulted for scenarios where no specific information is readily available for frequency of monitoring, inspections, and reporting. Section 3.5 of this report provides further information with regard to monitoring, inspections, and reporting activities to date.

Maintenance requirements associated with LUCs generally apply to sites where ECs are in place. These would include ECs such as landfill covers, fences, or signs. Maintenance requirements for the applicable sites are provided in Table 2-1.

2.2 Additional Requirements for Landfills in Alaska

In addition to ICs established as part of LUCs of the ERP for landfill sites with LUCs in effect, both ERP landfill and non-ERP landfill sites in Alaska under the management of PRSC must also comply with regulations set forth by the ADEC solid waste regulations in 18 AAC 60. Furthermore, landfill sites under the management of PRSC but not categorized as an ERP site must also comply with ADEC 18 AAC 60. Table 1-3 describes PRSC non-ERP landfill sites.

Landfills are defined in 18 AAC 60 as “an area of land, or an excavation in which solid wastes are placed for permanent disposal, and that is not an application site, injection well, reserve pit, or waste pile.” This definition applies to most PRSC ERP and non-ERP sites in Alaska designated as landfills, dumps, or caches. Small PRSC ERP and non-ERP landfill sites at remote installations, such as the long-range radar stations, are regulated as Class III landfills as defined by ADEC.

General requirements to manage landfills in place are established by ADEC and included in Table 2-2. However, alternative criteria can and often are adopted through negotiation with ADEC (see 18 AAC 60.900, Waivers). Post-closure notification requirements for Class III landfills, including notifications to ADEC and to potential future landowners, are summarized in Table 2-3. Tables 2-2 and 2-3 both generally assume the subject landfill is closed, has been reasonably well characterized, and a monitoring program for media of concern has been established and approved by ADEC.

SECTION 3.0

Land Use Controls Implementation Information

To ensure that LUCs are maintained and effectively preventing or reducing risk to human health and the environment, responsibilities and procedures for LUC implementation, management, and compliance monitoring must be clearly defined. This section describes these responsibilities and procedures for the PRSC installations in Alaska, JA, and WIA. In addition, it outlines responsibilities and procedures for modifying or terminating LUCs.

3.1 Land Use Controls Administrative Approval Forms

Existing approval processes for intrusive activities and land use changes at sites with LUCs in effect include DoD Form 1391 (Description of Proposed Construction), AFF 332 (Base Civil Engineer Work Request), and AFF 103 (Base Civil Engineer Work Clearance Request) or local equivalent such as the 673 Air Base Wing Form 3 (Base Civil Engineer Work Clearance Request). AFCEC/CZOP environmental restoration personnel must evaluate proposed intrusive activities and land use changes at sites with LUCs before approving each of these forms. Copies of these forms can be found in Appendix D. AFCEC/CZOP review of DoD Form 1391 provides another means to identify facilities or activities planned in areas where LUCs are in place.

The AFF 103 or local equivalent, such as the 673 ABW Form 3, is required to be submitted and approved for projects involving excavation or trenching of any type. This form, which requires AFCEC/CZOP approval, is the final step before start of construction, modification, or maintenance work, and provides a final check on LUC management and compliance.

AFF 332 submittal and approval is required for all projects regardless of size. AFF 332 requires a description of the type of work to be performed, location of the work, and whether digging or trenching will be done. If work is to be performed within a site where LUCs are in place, the AFCEC/CZOP will provide input as to the nature of the LUCs, compatibility of work proposed with LUCs, and, if appropriate, procedures that must be followed to conduct the work.

The USAF construction contract documents typically include sections for technical provisions (Section 01010) and environmental constraints or protection measures required for the work (Section 01120). For contracts where LUCs are involved, AFCEC/CZOP will provide contracts personnel with appropriate language to address constraints imposed by LUCs.

If property with LUCs is transferred outside of the DoD, then an environmental baseline survey or written waiver would be included in the real estate transaction administrative record, thereby making LUC compliance incumbent on any party entering into a real estate agreement. Furthermore, coordination with ADEC will be performed, and ADEC concurrence will be obtained. Lastly, USAF Real Property attorneys will be consulted to ensure that appropriate mechanisms and instruments—within and/or external to the property deed—are executed to ensure continued enforcement of the LUCs. In the case of transfers outside the DoD of property that are subject to LUCs, the USAF retains enforceable rights to inspect, maintain, and enforce the LUCs until they have been terminated. The specific instruments by which this is accomplished will differ among various situations and jurisdictions. Additional information regarding property transfers involving LUCs can be found in the AFCEE *Land Use Control Management Guidance* (AFCEE, 2010).

It should be noted that, while the environmental baseline survey will document the presence or condition of any existing LUCs, the *Pacific Air Forces Regional Support Center Operating Instruction 32-7001, Land Use Control Management* (PRSC, 2014) and this LUCMP will provide guidance and documentation of the responsibilities and procedures for maintaining, managing/tracking, enforcing, and (when appropriate) modifying or terminating them.

3.2 Land Use Controls Responsibilities

Upon performing any project or activity on any PRSC installation, personnel, tenants, and contractors must comply with the *Pacific Air Forces Regional Support Center Operating Instruction 32-7001, Land Use Control Management* (PRSC, 2014; provided in Appendix C of this LUCMP). Section 2.0 of the *Pacific Air Forces Regional Support Center Operating Instruction 32-7001, Land Use Control Management* provides information regarding the organizations involved with implementing and managing LUCs and responsibilities of each.

3.3 Geographic Information System and Electronic Information Collection

GIS and other electronic information with respect to managing LUCs is currently being developed by AFCEC/CZOP to help track LUCs at Alaska, Hawaii, JA, and WIA installations. This includes important information on ERP sites with LUCs and the locations of these LUCs. The GIS will be used to present LUC information in map format. The data will be made available through the Intranet Mapping Framework Web site hosted by the local area network of AFCEC/CZOP. AFCEC/CZOP will provide updates to the GIS to be included on the Intranet Mapping Framework Web site as appropriate. Installation functional groups and tenant organizations involved in facility siting, construction, modification and maintenance, and real estate and land use decisions will have access to this LUC information. AFCEC/CZOP will be responsible for maintaining and updating the database as necessary when new LUCs are established or when existing LUCs are modified.

3.4 Land Use Controls Implementation Monitoring

Table 3-1 contains recommended procedures that are not legal requirements found in the DD for each PRSC ERP site with LUCs in effect but provide additional guidance to ensure compliance with LUC requirements. The following are general procedures for LUC compliance monitoring as prescribed in the DD and in Table 3-1:

- Periodic inspections of all LUC sites by the AFCEC/CZOP representative or designee, including evaluation of procedures designed to ensure consideration of LUCs where land use changes are proposed and ECs
- Preparation of LUC compliance summary reports for all LUC sites, in conjunction with the inspections

These inspections confirm whether any undocumented construction or maintenance activities or changes in land use or groundwater use have occurred at the LUC sites in violation of the LUCs. Furthermore, AFCEC/CZOP inspections will involve preparing LUC compliance summary reports for each site subsequent to the aforementioned inspections. Each report will summarize LUC compliance or noncompliance during the reporting period and will include appropriate documentation of LUC compliance. The schedule and frequency of the compliance inspection and reporting are determined by information readily available from the applicable DD, ROD, action memoranda, or regulatory concurrence letter. If the schedule/frequency is not provided in an appropriate decision document, then an addendum, long-term monitoring plan, or other work plan/documentation with regulatory concurrence will be required to stipulate the schedule/frequency of the compliance inspection.

Compliance monitoring for site-specific requirements will also be conducted during the inspections. Generic LUC inspection checklists are provided in Appendix E and are to be used on inspections as described in this LUCMP. Because of the generic nature of these checklists, they are intended to be modified as appropriate to meet the specific conditions and requirements for the site to be inspected.

Where it becomes apparent that any LUC is being violated, the AFCEC/CZOP RPM will be responsible for coordinating appropriate and immediate action to ensure the appropriate personnel are reported, the

violation is investigated and documented, and that appropriate corrective actions are put in place. Table 3-2 includes updated contact information for personnel who should be notified with regard to the LUC maintenance at each site. AFCEC/CZOP will ensure the appropriate officials or offices undertake the necessary measures to ensure compliance with the LUCMP.

3.5 Reporting To Date

A few select sites with LUCs have been inspected (see Table 3-3). Annual site inspection reports are generated subsequent to these inspections and submitted to the appropriate regulatory agency (for example, ADEC or EPA). LUC inspections will continue to be conducted as specified in each site's environmental restoration LUC documentation (and as described in Table 2-1) unless the applicable 5-year review recommends a different inspection frequency, or onsite activities (e.g., construction) or incidents (e.g., accidents, vandalism, or natural erosion) warrant additional inspections.

3.6 5-Year Reviews

The EPA and USAF policies require a 5-year review of remedial actions in place as a result of ROD documentation in compliance with CERCLA. The USAF must implement 5-year reviews consistent with CERCLA Section 121 and the NCP (40 CFR 300). CERCLA Section 121, as amended, states the following:

If the President (of the United States) selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such Site in accordance with [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

The requirement was further interpreted in the NCP (40 CFR 300.430[f][4][ii]), which states the following:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

The purpose of a 5-year review is not to reconsider decisions made during selection of the remedy, as specified in the ROD, but to evaluate the implementation and performance of the selected remedy. In the case of sites that are still undergoing remedial action, the purpose of the 5-year review is to confirm that immediate threats have been addressed and the remedy will be effective when complete. Five-year review for sites in long-term management or monitoring phases should confirm whether the selected remedy remains protective. Furthermore, 5-year reviews for sites with LUCs in effect should determine that the existing LUCs remain protective to human health and the environment. Protectiveness is generally defined in the NCP by the cancer risk range and the noncancer hazard index. Evaluation of the remedy and the determination of protectiveness should be based on and sufficiently supported by data and observations.

The 5-year review process includes the following elements:

- Notification of potentially interested parties at start of review
- Identification of 5-year review team members
- Components and schedule of 5-year review
- Document review
- Data review and evaluation

- Community notification
- Other community involvement activities
- Site inspection
- Site interviews
- 5-year review report development and distribution

Detailed instructions and procedures for conducting 5-year reviews are provided in the EPA *Comprehensive Five-Year Review Guidance* (EPA, 2001) and the EPA *Recommended Evaluation of Institutional Controls: Supplement to the 'Comprehensive Five-Year Review Guidance'* (EPA, 2011).

The 5-year review clock is triggered by the onset of remedial action construction at a site or, in the case of sites where the remedy does not include construction, the signature date of the ROD or DD. In accordance with the *Comprehensive Five-Year Review Guidance*, lead agencies may conduct individual 5-year reviews for each area where sites are large and complex or where individual operating units are treated as separate sites throughout the remedial process (EPA, 2011). Lead agencies may also choose to combine the separate reviews of different areas into a single 5-year review before, or following, construction completion for the entire site. However, no area should be reviewed later than 5 years after its trigger date or previous reviews. Five-year reviews may no longer be needed when hazardous substances, pollutants, or contaminants are below levels that allow for unlimited use and unrestricted exposure on the site. The basis for this finding should be documented in the final 5-year review report.

Five-year reviews of sites with LUCs in effect will be completed by AFCEC/CZOP at 5-year intervals beginning 5-years after the appropriate regulatory agency signing of a specific ROD.

3.7 Land Use Controls Modification and/or Termination

LUCs will be terminated as specified in the ROD, DD, or applicable documentation when the sites have met required clean-up goals. Modifying or terminating an LUC established in an approved DD can only be accomplished by one or more of the following:

- An amendment to the existing DD
- Mutual signed agreement by the USAF and the appropriate regulatory agency
- An initiative during the 5-year review process

For example, if a site with LUCs is restored to conditions that allow unrestricted land use and/or unlimited exposure, then LUCs will be removed via a mutually signed agreement between the USAF and the appropriate regulatory agency depending on the site location. LUCs may also be added, modified, or terminated for a site if a DD is prepared and approved that supersedes the existing DD (such as final remedy in a ROD verses interim removal actions in an action memorandum).

AFCEC/CZOP will seek prior concurrence from the appropriate regulatory agency to terminate LUCs or modify current land uses in a manner that is not consistent with the LUCs. In addition, AFCEC/CZOP will seek prior concurrence before any anticipated action that might disrupt the effectiveness of the LUCs or any action that might alter or be inconsistent with the land use assumptions or land uses described in the respective ROD, DD, or applicable documentation (PRSC, 2014).

If LUCs are modified or terminated, then this LUCMP proposes that these changes be incorporated into land use planning and management systems (for example, base general plans and GIS) at the scheduled updating of such systems. The AFCEC/CZOP RPM responsible for the subject site with LUCs in effect will initiate and coordinate AFCEC/CZOP efforts for termination of LUCs when the subject site meets requirements (PRSC, 2014).

SECTION 4.0

References

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U.S. Environmental Protection Agency (EPA). 2011. *Recommended Evaluation of Institutional Controls: Supplement to the "Comprehensive Five-Year Review Guidance."* OSWER 9355.7-18. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. September.

Tables

TABLE 1-1

Status of LUCs in Effect for All PRSC Installations

Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	LUCs In Effect at Installation	No LUCs in Effect at Installation	Number of Sites with LUCs in Effect	Landfills at Installations (under both ERP and Compliance Programs)
ALASKA				
Anvil Mountain		x	n/a	n/a
Barter Island LRRS	x		4	6
Bear Creek RRS	x		1	1
Beaver Creek RRS		x	n/a	1
Bethel RRS ¹	x		1	n/a
Big Mountain RRS	x		4	1
Bullen Point RRS		x	n/a	1
Campion AFS		x	n/a	3
Cape Lisburne LRRS	x		3	2
Cape Newenham LRRS	x		1	3
Cape Romanzof LRRS	x		9	5
Cold Bay LRRS	x		3	2
Driftwood Bay RRS	x		3	1
Duncan Canal	x		4	n/a
Eareckson AFS	x		21	7
Fort Yukon LRRS		x	n/a	3
Granite Mountain RRS	x		9	2
Indian Mountain LRRS	x		7	4
Kalakaket Creek RRS	x		2	2
King Salmon	x		14	8
Kotzebue LRRS	x		12	n/a
Lake Louise Rec Camp	x		1	n/a
Murphy Dome LRRS	x		1	2
Naknek 1 (Rec Camp 1)	x		4	1
Naknek 2 (Rec Camp 2)	x		3	2
Nikolski RRS	x		4	1
North River RRS	x		2	n/a
Oliktok Point RRS	x		6	2
Pillar Mountain RRS	x		1	n/a
Point Barrow LRRS	x		2	n/a
Point Lay LRRS	x		1	3
Point Lonely Dome LRRS	x		1	2
Port Heiden	x		3	2
Sparrevohn LRRS	x		5	2
Tatalina LRRS	x		11	3
Tin City LRRS		x	n/a	3
Wainwright RRS		x	n/a	n/a
HAWAII AND SOUTH PACIFIC				
Johnston Atoll	x		3	1
Kaala Air Force Station		x	n/a	n/a
Kokee Air Force Station		x	n/a	n/a
Wake Island Airfield	x		1	4

Notes:

¹ Bethel RRS land use controls, managed under site SS001, apply to the entire former installation, providing coverage for all former ERP sites and a landfill where contaminants remain on site.

- AFS = Air Force Station
- IRP = Installation Restoration Program
- LRRS = Long-Range Radar Site
- LUC = land use control
- N/A = not applicable
- RRS = Radio Relay Station

TABLE 1-2

PRSC ERP Sites with LUCs in Effect

Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number
ALASKA		
Barter Island LRRS	Heated Storage	SS013
Barter Island LRRS	Garage	SS014
Barter Island LRRS	POL Tanks (ST17)	SS017
Barter Island LRRS	Fuel Tanks	ST018
Bear Creek RRS	Landfill #1	LF001
Bethel RRS ¹	POL Storage and Pumping Station RRS	SS001
Big Mountain RRS	Landfill	LF005
Big Mountain RRS	1,000-gallon diesel AST	SS002
Big Mountain RRS	Dual AST Fuel Oil System (fuel oil)	SS014
Big Mountain RRS	42,400-gallon fuel oil AST	ST001
Cape Lisburn LRRS	Landfill No. 1/ Waste Accumulation Area No. 2	LF001
Cape Lisburn LRRS	Spill/Leak #1	ST004
Cape Lisburn LRRS	Spill/Leak #2	ST005
Cape Newenham LRRS	PCBs at Upper Camp	SS007
Cape Romanzof LRRS	Dump Area, Upper Camp	DP011
Cape Romanzof LRRS	Landfill No. 2	LF003
Cape Romanzof LRRS	Weather Station Well Spill Site 4	SS010
Cape Romanzof LRRS	Seep Area/Spill Site 5	SS013
Cape Romanzof LRRS	Drum Storage Area	SS014
Cape Romanzof LRRS	Old UST Site/Leaking USTs, Lower Camp	SS015
Cape Romanzof LRRS	Upper Tram Terminal Area	SS016
Cape Romanzof LRRS	Lower Tram Terminal Area	SS017
Cape Romanzof LRRS	Spill Site 3/POL Fill Stand	ST009
Cold Bay LRRS	Landfill/Gravel Pit	LF002
Cold Bay LRRS	White Alice Communications System	OT001
Cold Bay LRRS	POL Storage Area	ST005
Driftwood Bay RRS	1991 Landfill	SS002
Driftwood Bay RRS	Former Fuel Storage Area at Beach	SS007
Driftwood Bay RRS	Former Water Supply Pumphouse	SS010

TABLE 1-2

PRSC ERP Sites with LUCs in Effect

Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number
Duncan Canal	Barrel Dump Site	SS001
Duncan Canal	Generator Building	SS002
Duncan Canal	Fuel Pumphouse	SS003
Duncan Canal	Vehicle Storage Area/Demolition Debris	SS006
Eareckson AFS	Lightning Strike/Burn Area	FT001
Eareckson AFS	Aircraft Mock-Up Area/Fire Training Area/Abandoned Drum Disposal Area	FT002
Eareckson AFS	Fire Department Foam Training Area	FT003
Eareckson AFS	Wood Dump/Burn Area	LF015
Eareckson AFS	North Beach Landfill	LF018
Eareckson AFS	Barrel Bay	LF024
Eareckson AFS	Scrap Metal Disposal Area	LF026
Eareckson AFS	Scrap Metal Landfill	LF028
Eareckson AFS	Water Gallery	OT048
Eareckson AFS	West End Oil-Water Separator Ponds/ Engineered Wetland	SS007
Eareckson AFS	Site PS-6 JP-4 Spill Vehicle Refueling	SS010/ST010
Eareckson AFS	Old White Alice Site	SS012
Eareckson AFS	Past Drum Storage Area (Asphalt Tar Drum Storage Area)	SS023
Eareckson AFS	WWII Storage Tanks	SS025
Eareckson AFS	Power Plant Spills	ST009
Eareckson AFS	UST 132-2	ST035
Eareckson AFS	USTs at Building 110 (110-1, 110-2, 110-3, and 110-4)	ST039
Eareckson AFS	UST 3051-1	ST044
Eareckson AFS	Abandoned Tank Farm	ST046
Eareckson AFS	Storage Tank Farm	ST050
Eareckson AFS	Fuel Facility Bldg 525	ST051
Granite Mountain RRS	Surface Disposal Area E, F, and G	DA020
Granite Mountain RRS	Surface Disposal Area K	DA021
Granite Mountain RRS	Disposal Pit No. 1 (UC)	DP009
Granite Mountain RRS	Disposal Pit No. 2 (LC)	DP010
Granite Mountain RRS	Landfill	LF002

TABLE 1-2

PRSC ERP Sites with LUCs in Effect

Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number
Granite Mountain RRS	White Alice Site-PCB	OT001
Granite Mountain RRS	Surface Disposal Area A	SS016
Granite Mountain RRS	Surface Disposal Area B	SS017
Granite Mountain RRS	Surface Disposal Area D	SS019
Indian Mountain LRRS	Landfill No. 1	LF004
Indian Mountain LRRS	Landfill No. 2	LF005
Indian Mountain LRRS	Landfills No. 3 and 4, and Waste Accumulation Area 4	LF006
Indian Mountain LRRS	Waste Accumulation Area No. 1 and Area of Concern 07	SS002
Indian Mountain LRRS	Waste Accumulation Area NO. 3 and Spill/Leak Nos. 4 and 11	SS009
Indian Mountain LRRS	Waste Accumulation Area No. 6 and Spill/Leak Nos. 2, 5, 6, 7, 9, and 10	SS010
Indian Mountain LRRS	Spill/Leak Nos. 1, 3, and 8	SS011
Kalakaket Creek RRS	Landfills	LF002/#8631-BA008
Kalakaket Creek RRS	White Alice Site	OT001
King Salmon	Dry Well Located Within ST015	DP023
King Salmon	South Barrel Bluff	LF005
King Salmon	Landfill #5	LF008
King Salmon	North Barrel Bluff	LF014
King Salmon	Groundwater Zone 1	OT027
King Salmon	Groundwater Zone 2	OT028
King Salmon	Groundwater Zone 3	OT029
King Salmon	Groundwater Zone 4	OT030
King Salmon	Fuel Seepage - Eskimo Creek	SS011
King Salmon	Naknek River Storage	SS012
King Salmon	POL Tanks	SS015 /ST015
King Salmon	Old Power Plant Building	SS020
King Salmon	Refueler Shop	SS021
King Salmon	Eskimo Creek Dump (formerly LF022)	SS022
Kotzebue LRRS	KOT-3 Road Oiling	SD003
Kotzebue LRRS	KOT-4-Waste Oil #1	SS001
Kotzebue LRRS	Waste Accumulation Area #2/ Landfill	SS002

TABLE 1-2

PRSC ERP Sites with LUCs in Effect

Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number
Kotzebue LRRS	Spill/Leak #1	SS006
Kotzebue LRRS	KOT-6 Barracks/Barracks Area	SS008
Kotzebue LRRS	KOT-5 PCB Spill	SS009
Kotzebue LRRS	KOT-5 Solvent Spill	SS010
Kotzebue LRRS	Fuel Spill	SS011
Kotzebue LRRS	SPILLS #2 and #3	SS012
Kotzebue LRRS	Former Truck Fill Stand	SS018
Kotzebue LRRS	White Alice Tanks (AOC 9)	ST004
Kotzebue LRRS	KOT-8 Site/Beach Tanks	ST005
Lake Louise Rec Camp	Lake Louise Rec Camp	OT001
Murphy Dome LRRS	Landfill No. 2	LF004
Naknek 1 (Rec Camp 1)	Rapids Camp Disposal Site	LF003
Naknek 1 (Rec Camp 1)	Groundwater Zone 6	OT032
Naknek 1 (Rec Camp 1)	POL Associated with the Generators	SS004
Naknek 1 (Rec Camp 1)	A Septic Tank	ST001
Naknek 2 (Rec Camp 2)	Drum Landfill	LF001
Naknek 2 (Rec Camp 2)	Former Vehicle Maintenance Facility	SS004
Naknek 2 (Rec Camp 2)	Former Generator Pad	SS005
Nikolski RRS	Former Composite Bldg	OT001
Nikolski RRS	Drum Storage Area	SS006
Nikolski RRS	Construction Camp Septic Tank	ST017
Nikolski RRS	Composite Building POL Outfall	WP007
North River RRS	White Alice Communications Site (WACS)	OT001
North River RRS	Vehicle Maintenance Building UST	SO001
Oliktok Point RRS	Deactivated Landfill/Site 16; Oil Landfill	LF001
Oliktok Point RRS	Deactivated Landfill/Site 17; Old Dump LF02	LF002
Oliktok Point RRS	Diesel Fuel Spill Area	SS005
Oliktok Point RRS	Diesel Fuel Storage Area	SS007
Oliktok Point RRS	Garage	SS010
Oliktok Point RRS	Gasoline and Materials Storage Area	ST008

TABLE 1-2

PRSC ERP Sites with LUCs in Effect

Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number
Pillar Mountain RRS	Pillar Mountain Radio Relay Station	OT001
Point Barrow LRRS	Garage (Vehicle Maintenance Facility)	SS002
Point Barrow LRRS	Air Terminal Area	SS003
Point Lay LRRS	Crushed Drum Area	SS008
Point Lonely Dome LRRS	POL Storage Area	SS004
Port Heiden	Radio Relay Station Landfill	LF007
Port Heiden	Former Composite Building Foundation	OT001
Port Heiden	Spill/Leak No 2 at Septic Tank	SS004
Sparrevohn LRRS	White Alice Communications System (WACS)	OT004
Sparrevohn LRRS	Transmitter Pad	SD003
Sparrevohn LRRS	Waste Accumulation Area	SS007
Sparrevohn LRRS	Spill/Leak No.1	ST005
Sparrevohn LRRS	Spill/Leak No. 2	ST006
Tatalina LRRS	Hardfill #2, MK Debris Area, Northeast Landfill	DP005
Tatalina LRRS	Landfill #2	LF004
Tatalina LRRS	Waste Accumulation Area #2 and Upper Landfill #1	LF010
Tatalina LRRS	Former White Alice Communications Facility	OT012
Tatalina LRRS	Minimally Attended Radar Site	SS001
Tatalina LRRS	Barge Landing and Fuel Storage Area	SS002
Tatalina LRRS	Spill/Leak # 1,2,3,4 - Lower Camp Former T/F	SS003
Tatalina LRRS	Waste Accumulation Area #3	SS007
Tatalina LRRS	Waste Accumulation Area #4	SS008
Tatalina LRRS	Former Truck Fill Station	SS009
Tatalina LRRS	Waste Accumulation Area #1	SS011
JOHNSTON ATOLL		
Johnston Atoll	SWMU No. 1 -Solid Waste Burn Pit, and SWMU No. 2, - Former Herbicide Orange Storage Area	SS005
Johnston Atoll	SWMU No. 16, Power Plant Spill Site, and AOC No. 1, Motor Gasoline Area	SS008
Johnston Atoll	SWMU-06	LF009
WAKE ISLAND AIRFIELD		

TABLE 1-2

PRSC ERP Sites with LUCs in Effect

Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number
Wake Island Airfield	Scrap Metal Pile No. 2/Dump Site	OT013

Notes:

¹Bethel RRS land use controls, managed under site SS001, apply to the entire former installation, providing coverage for all former ERP sites and a landfill where contaminants remain on site."

AFS = Air Force Station

AOC = area of concern

AST = aboveground storage tank

IRP = Installation Restoration Program

JP-4 = jet propulsion fuel, grade 4

LRRS = Long-Range Radar Station

PCB = polychlorinated biphenyl

POL = petroleum, oil, & lubricants

RRS = Radio Relay Station

SWMU = solid waste management unit

UST = underground storage tank

WAA = Waste Area Accumulation

WACS = White Alice Communication System

Table 1-3

Pacific Regional Support Center Landfill Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation	Program ¹	ERP Site ID	Landfill Name	Permit Number	Permitted or Active Dates	Status	Classification	Waste Types	Engineering Controls	
ALASKA										
Barter Island LRRS	ERP	LF001	Old Landfill (New Location)	NA	1956-1978	Inactive	NA	domestic garbage, human and animal waste, POL products, scrap metal, batteries, vehicles, electronic equipment, food waste	Signs	TO275 Summary sheet - primary source ADEC Contaminated Sites Database - IRP official status Cleanup Complete
Barter Island LRRS	ERP	LF003	POL Catchment Basin	NA	Unknown	Inactive	NA	POL	None identified	TO275 Summary sheet - primary source 2006 Decision Document for 9 ERP sites - IRP official status Cleanup Complete
Barter Island LRRS	ERP	LF004	Compliance Landfill	Former Compliance Landfill Permit #0731-BA012	1987-1998 permitted if 0731-BA012 is correct; data sheet indicates 1978 - time of NFRAP, 1996, and was still open	NA	NA	household garbage, human/animal waste, drums, maintenance wastes	Signs	ADEC Solid Waste Database - possibly "Barter Island Kaktovik LRRS (BAR-MAIN Dewline)" TO275 summary sheet; primary source 1996 NFRAP DD - ERP site status at the time unknown
Barter Island LRRS	ERP	LF009	Old Dump Area NW	NA	NA	Inactive (one time use)	NA	crushed drums and steel	None identified	TO275 Summary Sheet primary source 2006 DD for 9 ERP Sites; ERP site status Cleanup Complete
Barter Island LRRS	ERP	LF012	Old Runway Dump	NA	1953-1957	Inactive	NA	construction debris, old vehicles, drums, whale carcasses, other miscellaneous	None identified	TO275 Summary Sheet - primary source 2006 NFA DD; ERP site status Cleanup Complete
Barter Island LRRS	ERP	LF019	Old Dump Site	NA	1953-?	Inactive	NA	unknown whether used as dump or just staging area for concrete and lumber	None identified	TO275 Summary Sheet - primary source 2006 NFA DD; Site Status Cleanup Complete
Bear Creek RRS	ERP	LF001	Landfill No. 1	NA	1956-1981	Inactive	NA	fuels, waste oils, metals, domestic solid waste, drums, electronics, metal debris	Cap	TO275 Summary sheet - primary source 2011 ROD; IRP Site Status Open
Big Mountain RRS	ERP	LF005	Landfill	NA	1957-1979	Inactive	NA	refuse disposal	signs	TO275 Summary Sheet - primary reference 2011 ROD
Bullen Point SRRS	Compliance	None	Bullen Point USAF DEW Station Landfill	SW3A058	May 30, 2007-May 30, 2012	Closed	Class III	C&D, Inert, Municipal, non-regulated asbestos-containing materials, PCB-amended paint and PCB bulk product wastes meeting criteria for disposal in a permitted MSW landfill	None identified	ADEC Solid Waste Database May 30, 2007 Letter from ADEC issuing permit November 10, 2010 Annual Inspection Trip Report (includes photos/maps)
Bullen Point SRRS	ERP	LF006	Old Landfill	NA	1956-1971	Closed	NA	miscellaneous debris, scrap metal, drums	None	TO275 Summary sheet - primary source 2007 DD; IRP Status - Cleanup Complete
Campion AFS	Compliance	SS002	Campion AFS Asbestos	9931BA006	April 13, 1983- May 5, 2004	Open	Asbestos Monofill	C&D, NonRACM, RACM	Signs	ADEC Solid Waste Database May 13, 1999 Letter from ADEC issuing most recent permit
Campion AFS	ERP	LF004	Landfill No. 1	NA	?-1994	NA	NA	solid waste	None identified	ADEC Solid Waste Database has only one entry for Campion - Asbestos landfill 9331BA006, already listed in table. TO275 Summary sheet - primary sources 1994 DD, 2007 RI/FS; 1994 DD indicates this or LF005 was covered by permit, uncertain which, but permit terms had not been met.
Campion AFS	ERP	LF005	Landfill No. 2	NA	?-1994	Open	NA	solid waste	None identified	ADEC Solid Waste Database has only one entry for Campion - Asbestos landfill 9331BA006, already listed in table. TO275 Summary sheet - primary sources 1994 DD, 2007 RI/FS; 1994 DD indicates this or LF004 was covered by permit, uncertain which, but permit terms had not been met.
Cape Lisburne LRRS	Compliance	None	Cape Lisburne LRRS Landfill	SWGPLRRS-18-01	May 29, 1991 - January 31, 2018	Active	LRRS - general permit - Municipal	General Solid Waste - incinerated domestic, inert, septage/sludge, RACM	Signs	ADEC Solid Waste Database - Cape Lisburne LRRS GP February 1, 2013 Letter from ADEC Issuing Solid Waste General Permit #SWGPLRRS-18
Cape Lisburne LRRS	ERP	LF001	Landfill/Waste Accumulation Area/Dump 1	NA	1952-1970s	Inactive	NA	waste oils, paints, solvents, diesel fuels, empty drums, discarded vehicles, and scrap metal	None identified	ADEC Solid Waste Database - 3 additional records to SWGLRRS-18-01 - unable to match. TO275 Summary Sheet - primary reference 2003 Decision Document
Cape Newenham LRRS	Compliance	None	Cape Newenham LRRS Landfill	SWGPLRRS-13-02	August 17, 1998 - January 31, 2018	Active	LRRS - general permit - Municipal	General Solid Waste - incinerated domestic, inert, septage/sludge, RACM	Signs	ADEC Solid Waste Database - Cape Newenham LRRS GP February 1, 2013 Letter from ADEC Issuing Solid Waste General Permit #SWGPLRRS-18
Cape Newenham LRRS	ERP	LF002	Landfill No. 1	NA	1950s	Inactive	NA	NA	None identified	ADEC Solid Waste Database - one record besides SWGPLRRS-18-02 (asbestos landfill - likely not correlated to this) TO275 Summary Sheet - primary references 1988 and 2001 MAPs
Cape Newenham LRRS	ERP	LF003	Landfill 2/Waste Accumulation Areas 1 and 2	NA	1950s-1970s	Inactive	NA	drums and debris	None identified	ADEC Solid Waste Database - one record besides SWGPLRRS-18-02 (asbestos landfill - likely not correlated to this) TO275 Summary Sheet - primary references 2000 DD and 2001 MAP
Cape Romanzof LRRS	ERP	LF002	Landfill No. 1	NA	NA	Inactive	NA	Unknown - 2007 DD questions whether it was ever really used - no evidence found	None	ADEC Solid Waste Database - one record, which is for SWGPLRRS-18-03 - Cape Romanzof LRRS GP TO275 Summary Sheet - primary reference 2007 DD
Cape Romanzof LRRS	ERP	LF003	Landfill No. 2	NA	?-mid 1970s	Inactive	NA	garbage, wood, metal, plastic, construction/demolition debris, shop waste, incinerator ash	Cap	ADEC Solid Waste Database - one record, which is for SWGPLRRS-18-03 - Cape Romanzof LRRS GP TO275 Summary Sheet - indicates ROD in process; primary reference 2013 ROD

Table 1-3

Pacific Regional Support Center Landfill Sites
 Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation	Program ¹	ERP Site ID	Landfill Name	Permit Number	Permitted or Active Dates	Status	Classification	Waste Types	Engineering Controls	
Cape Romanzof LRRS	ERP	LF004	Landfill No. 3	NA	1970s to at least 1998	NA	NA	domestic, construction, PCBs, shop waste	None identified	ADEC Solid Waste Database - one record, which is for SWGPLRRS-18-03 - Cape Romanzof LRRS GP Publicadminrec.com lists LF002 as Landfill #1, LF004 as #3 Final Management Action Plan, Cape Romanzof Long Range Radar Station (January 1998)
Cape Romanzof LRRS	ERP	LF012	Landfill	NA	1988 (one time use)	Inactive	NA	demolition debris	Cap	ADEC Solid Waste Database - one record, which is for SWGPLRRS-18-03 - Cape Romanzof LRRS GP TO275 Summary Sheet - primary reference 2007 DD
Cape Romanzof LRRS	Compliance	None	Cape Romanzof LRRS Landfill	SWGPLRRS-13-03	July 11, 1978- January 31, 2013	Active	LRRS - general permit - Municipal	General Solid Waste - incinerated domestic, inert, septage/sludge, RACM	Signs	ADEC Solid Waste Database February 1, 2013 Letter from ADEC Issuing Solid Waste General Permit #SWGPLRRS-18
Cold Bay LRRS	Compliance	None	Cold Bay LRRS Landfill	NA	Unknown	Unknown	NA	Type Z non-municipal	NA	ADEC Solid Waste Database (appears to have 3 records related to LRRS) Tracking Table notes under site status - Type Z - Closed - Non Muni. Post closure - Non Muni.
Cold Bay LRRS	ERP	LF002	Cold Bay Landfill	NA	1971-1976	Inactive	NA	non-hazardous, possibly hazardous	None identified	ADEC Solid Waste Database - possibly entry called "Cold Bay USFWS?" TO275 Summary Sheet - primary reference 2001 DD - description indicates landfill is on land currently owned by USFWS
Driftwood Bay RRS	ERP	LF006	Old Disposal Area	NA	Unknown - station active 1961-1977		NA	Mostly unknown, besides an observed electronics disposal area, possibly drums, discarded equipment	None identified	ADEC Solid Waste Database - No listings for Driftwood Bay Publicadminrec - 2011 FS TO275 documents (no summary sheet) 2005 PA-SI
Eareckson AS	ERP	LF015	Wood Dump - Phone Poles/Posts	NA	Unknown to 1994	Inactive	NA	Wood, combustible debris, EOD	None identified	ADEC Solid Waste Database - only two entries, which we have already accounted for. Publicadminrec - "wood dump/burn area" Remedial Field Investigation at 12 ERP Sites (June 2010) - LF015 listed as ERP site
Eareckson AS	ERP	LF018	North Beach Landfill	NA	NA	Inactive	NA	scrap metal, wood debris, and thousands of empty drums	Cap	ADEC Solid Waste Database has two entries, which we already account for TO275 Summary Sheet - primary reference 2010 ROD
Eareckson AS	ERP	LF024	Barrel Bay	NA	Unknown, most drums removed in 1984	Inactive	NA	drums	Cap	ADEC Solid Waste Database has two entries, which we already account for TO275 Summary Sheet - primary reference 2010 ROD
Eareckson AS	ERP	LF026	LF026/Scrap Metal Disposal Area	NA	NA	Inactive	NA	metal debris, vehicle parts, wood, other debris	Cap	ADEC Solid Waste Database has two entries, which we already account for TO275 Summary Sheet - primary reference 2010 ROD
Eareckson AS	Compliance	LF027	Site SW-13 Base Sanitary Landfill NFA DD	#0525BA000	July 11, 1978 through February 1, 2007	Closed	Class II	Inert, municipal	None identified	ADEC Solid Waste Database (Status = expired) - Eareckson AS Landfill 1
Eareckson AS	ERP	LF028	Scrap Metal Landfill	NA	late 1980s	Inactive	NA	scrap metal from cleanup effort	Cap	ADEC Solid Waste Database has two entries, which we already account for TO275 Summary Sheet - primary reference 2005 ROD
Eareckson AS	Compliance	None	Eareckson AS	#SW2A013-15	8/26/05 - 8/1/15	Active	Class II MSW	C&D, Municipal, RACM	None identified	ADEC Solid Waste Database - Eareckson Air Station Landfill 2 July 29, 2010 Letter from ADEC RE: Solid Waste Permit No. SW21013-15
Fort Yukon LRRS	ERP	LF002	Landfill No. 1	NA	1954-1970	Inactive	NA	Unknown - some metal debris present, possibly oily rags, paints, thinners, and oils.	None identified	TO275 Summary sheet - primary reference 1996 DD
Fort Yukon LRRS	Compliance	None	Fort Yukon Long Range Radar Site Landfill	SWGPLRRS - 18-04	June 1, 1978 - January 31, 2018	Active	LRRS - general permit - Municipal	General Solid Waste - incinerated domestic, inert, septage/sludge, RACM	Signs	ADEC Solid Waste Database - Fort Yukon LRRS GP February 1, 2013 Letter from ADEC Issuing Solid Waste General Permit #SWGPLRRS-18
Fort Yukon LRRS	Compliance	None	Fort Yukon Long Range Radar Site	0031BA012	September 7, 1999 - December 31, 2001	Closed	Inert monofill	C&D, Inert, NonRACM	None identified	ADEC Solid Waste Database - Fort Yukon LRRS Inert
Granite Mountain LRRS	ERP	LF002	Landfill	8632-BA003	1951-1985 used permitted 1984-1990	Inactive (expired)	NA	Ash, C&D, Municipal, NonRACM, RACM	None identified	ADEC Solid Waste Database - Granite Mountain LRRS Landfill expired 1990 Publicadminrec. 2010 Clean Sweep gave permit number, indicated in use till 1985 TO275 Summary Sheet - primary reference 2011DD - indicated used till 1981
Granite Mountain LRRS	Compliance	None	Inert Waste Monofill	SWZA056-14	7-9/15/14	Retired		Type Z inert	None identified	ADEC Solid Waste Database - 2 records for Granite Mountain, one unaccounted for - Granite Mountain RRS Inert has current permit - issued 2009, intended for one-time use/demo debris. Note from Tracking sheet: Type Z - Closed - Inert Waste. Closed 4/5/10. Requires monitoring until 2015.
Indian Mountain LRRS	Compliance	None	Indian Mountain LRRS Landfill	SWGPLRRS-13-05	June 22, 1983 - January 31, 2018	Active	LRRS - general permit - Municipal	General Solid Waste - incinerated domestic, inert, septage/sludge, RACM	Signs	ADEC Solid Waste Database February 1, 2013 Letter from ADEC Issuing Solid Waste General Permit #SWGPLRRS-18
Indian Mountain LRRS	ERP	LF004	Landfill/Waste Accumulation Area No. 1 - Lower Camp	NA	1953-1957	Inactive	NA	metal debris, drums, shop waste	Signs, Caps	Solid Waste database has one Indian Mountain entry - permit SWGPLRRS-13-05 (accounted for) New Site Summary - 2013 ROD: incomplete TO275 Site Summary - primary reference 2007 ROD
Indian Mountain LRRS	ERP	LF005	Landfill No. 2 - Lower Camp	NA	NA	NA	NA	metal debris, drums, garbage, scrap lumber, shop waste	None identified	Solid Waste database has one Indian Mountain entry - permit SWGPLRRS-13-05 Publicadminrec calls LF005 "landfill number 2" 2007 ROD, LF004, LF005, SS003, SD001, SD007, Indian Mountain LRRS TO275 datasheet (minimal/partially completed)
Indian Mountain LRRS	ERP	LF006	Waste Accumulation Area 4 and Landfill 3, 4 - Lower Camp	NA	WAA No 4 - 1950s-1960s Landfill 3 - 1978-1980	Inactive	NA	drums, scrap metal, wood, other debris	None identified	Solid Waste database has one Indian Mountain entry - permit SWGPLRRS-13-05 TO275 Site Summary - primary reference 2007 DD - infers soil disturbance restrictions ("LUCs in place until contaminant concentrations are below action levels")
Kalakaket Creek RRS	Compliance	None	Kalakaket Creek Radio Relay Station	SW3A072	7/27/2009 to 7/27/204	Active	Class III Camp	C&D, Inert, Municipal	None identified	ADEC Solid Waste Database - Kalaket Creek RRS Camp 2
Kalakaket Creek RRS	ERP	LF002	Operational Landfill	#8631-BA008	6/12/86 to 10/1/90	Retired	Class III camp	Inert, municipal	None identified	ADEC Solid Waste Database - Kalaket Creek RRS Landfill 1
King Salmon AS	Compliance	None	King Salmon AS	#SWXA029-15	3/5/84 to 1/1/15	Active	Asbestos Monofill	C&D NonRACM, RACM	6" cover for ACM	ADEC Solid Waste Database - King Salmon USAF C&D
King Salmon AS	ERP	DA042	Naknek River Dump Area	NA	while King Salmon Active Installation	Inactive	NA	drums, vehicles, miscellaneous	None identified	ADEC Solid Waste Database - one record, which is for WSXA029-15 adminre.com - no documents including DA042 in site name found publicadminrec - Final Site Inspection, King Salmon Air Station (August 31, 2007) called Naknek River Dump Area, notes as Paug-Vik property and "no evidence that USAF ever had a presence there". Letter attached indicating administrative closure was approved.
King Salmon AS	ERP	LF005	Landfill No. 1 South Barrel Bluff	NA	1940s-1960s	Inactive	NA	empty barrels	fencing	ADEC Solid Waste Database - one record, which is for WSXA029-15 TO275 Site Summary - primary reference 2000 ROD-FRA
King Salmon AS	ERP	LF006	Landfill No. 2 and Circle Landfill	NA	1950s-1960s	Inactive	NA	garbage, scrap metal, small amounts of shop waste.	None identified	ADEC Solid Waste Database - one record, which is for WSXA029-15 TO275 Site Summary - primary reference 1995 ROD
King Salmon AS	ERP	LF007	Landfill No. 3	NA	1969 to 1976	Inactive	NA	refuse, scrap metal, scrap equipment, shop waste	vegetated cover	ADEC Solid Waste Database - one record, which is for WSXA029-15 2000 Limited Field Investigation at Landfill No. 3 (Site LF07) (April 18, 2001) - calls site an IRP site
King Salmon AS	ERP	LF008	Landfill No. 5 River Storage	NA	Unknown	Inactive	NA	empty drums	cap	ADEC Solid Waste Database - one record, which is for WSXA029-15 TO275 Site Summary - primary reference 1999 ROD

Table 1-3

Pacific Regional Support Center Landfill Sites
 Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation	Program ¹	ERP Site ID	Landfill Name	Permit Number	Permitted or Active Dates	Status	Classification	Waste Types	Engineering Controls	
King Salmon AS	ERP	LF014	North Barrel Bluff	NA	1940s-mid 1960s	Inactive	NA	barrels, metal, wood debris	fencing	ADEC Solid Waste Database - one record, which is for WSXA029-15 TO275 Site Summary - primary reference 2000 ROD
King Salmon AS	ERP	LF022/SS022	Eskimo Creek Dump	NA	Unknown	Inactive	NA	drums, metallic debris	None identified	ADEC Solid Waste Database - one record, which is for WSXA029-15 TO275 Site Summary - primary reference 2002 ROD
Murphy Dome LRRS	ERP	LF003	Landfill No. 1	NA	1950-1969	Inactive	NA	garbage, rubbish, wood, metal, plastic, and other debris	None identified	
Murphy Dome LRRS	ERP	LF004	Landfill No. 2	NA	1970-1978	Inactive	NA	garbage, incinerator ash, wood, plastic, metal, shop waste, drums, and miscellaneous debris	None identified	
Naknek (Recreation Camp 1)	ERP	LF003	Rapids Camp Disposal Site	NA	Unknown camp 1952-1977	Inactive	NA	Unknown	None identified	ADEC Solid Waste Database - 4 records, none appear related to DOD (borough and Naknek Electrical Association) TO275 Site Summary - primary reference 2000 ROD
Naknek (Recreation Camp 2)	ERP	LF001	Drum Landfill	NA	1956-1977 (camp)	Inactive	NA	drums, construction debris	None identified	ADEC Solid Waste Database - 4 records, none appear related to DOD (borough and Naknek Electrical Association) TO275 Site Summary - primary reference 2007 ROD
Naknek (Recreation Camp 2)	ERP	LF002	Construction Debris Landfill	NA	Unknown	Inactive	NA	unknown	None identified	ADEC Solid Waste Database - 4 records, none appear related to DOD (borough and Naknek Electrical Association) TO275 Site Summary - primary reference 2007 ROD
Nikolski RRS	ERP	LF001	Landfill No. 1	NA	site active 1957-1978, 1988 demolition	Inactive	NA	building materials, ACM, other?	3 foot fill on "old landfill" 2.5-4 feet on building debris, 8 feet on ACM cell	ADEC Solid Waste Database - three records, unable to match permit number with name in status tracking sheet publicadminrec - some documents refer to LF002 instead of LF001, but both are called disposal area 1 and there does not appear to be more than one disposal area, so appear to be the same - Nikolski Radio Relay Station Feasibility Study (March 2003) - deduced content: Preliminary Assessment/Site Inspection Radio Relay Station, Nikolski, Alaska (1995); Environmental Baseline Survey, Nikolski Radio Relay Site, Alaska (October 2001)
Oliktok LRRS	ERP	LF001	Old Landfill	NA	1956-1978	Inactive	NA	"installation waste"	Cap	ADEC Solid Waste Database - 1 record, "Oliktok LRRS Landfill (POW1-Dewline)" (not this site) New Data Summary Sheet - primary reference 2012 ROD
Oliktok LRRS	ERP	LF002	Dump Site	NA	late 1970s to 1980s	Inactive	NA	metallic/inert debris	Cap	ADEC Solid Waste Database - 1 record, "Oliktok LRRS Landfill (POW1-Dewline)" (not this site) New Data Summary Sheet - primary reference 2012 ROD
Point Lay LRRS	ERP	LF001	Deactivated Landfill/Point Lay Dewline LIZ-2 (in Solid Waste Database)	NA	1973-1987	Inactive	NA	drums, wastes from operation of installation	Vegetated cover	ADEC Solid Waste Database - possibly "Point Lay Dewline LIZ-2" based on location description (no permit number) TO275 Site Summary - primary reference 1999 DD
Point Lay LRRS	ERP	LF004	Old Dump Site: AC			Administratively closed (same as LF004)				ADEC Solid Waste Database - possibly "Point Lay Polluted Soil Supersacks?" active/open site Publicadminrec - LF005 comes up in list of sites, none of the few documents that come up as related contain any mention (searched LF05, LF005, landfill)
Point Lay LRRS	ERP	LF005	Old Landfill (new location)			Administratively closed (same as LF005)				ADEC Solid Waste Database - unable to match with records Publicadminrec - LF004 comes up in list of sites, none of the few documents that come up as related contain any mention (searched LF04, LF004, landfill)
Point Lonely Dome SRRS	ERP	LF007	Old Dump Site #1	NA	1956-1976	Inactive	NA	unknown	gravel cap	ADEC Solid Waste Database - no records for Point Lonely Dome TO275 Site Summary - primary reference 2008 DD
Point Lonely Dome SRRS	ERP	LF011	Inactive Landfill	8636-BA010	?-1989 (installation closure)	Inactive/Closed	Class III	demolition debris, waste from LF007, incinerated sewage, domestic refuse, incinerator ash	gravel cap (parking area)	ADEC Solid Waste Database - no records for Point Lonely Dome Publicadminrec - Remedial Investigation and Feasibility Study, Point Lonely Radar Installation, Alaska (April 1996) - indicates LF011 (called "inactive landfill" same physical location as SS14 vehicle storage (pad built on top) NFA recommended
Port Heiden RRS	ERP	LF007	Landfill No. 1 at Former Composite Building	NA	1961-1978 (installation)	Inactive	NA	Unknown	Cap	ADEC Solid Waste Database - 10 records total, one specific to USAF, 2 include COE in site name- none appear to match LF007
Port Heiden RRS	ERP	LF008	Buried Drums	NA	NA	Inactive (likely one-time burial areas)	NA	drums, building debris, domestic refuse	None identified	ADEC Solid Waste Database - no records for Port Heiden Publicadminrec - site name Landfill 2 south of runway; Remedial Investigation Report, Port Heiden RRS, Alaska (April, 2006) - LF008 applied to a number of miscellaneous burial areas
Sparrevohn LRRS	ERP	LF001	Landfill No. 1	NA	1951-?	Listed as "current" landfill in documents through 2002	NA	general refuse, asbestos, empty tanks/drums, incinerator ash, waste oil, solvents	gravel and veg cap	ADEC Solid Waste Database - only one site registered - SWGPLRRS-13-06 publicadminrec - site name Landfill 1; Remedial Investigation Report, Sparrevohn LRRS, Alaska (September 1999); Feasibility Study Report, Remedial Investigation/Feasibility Study, Sparrevohn LRRS, Alaska (September 2002);
Sparrevohn LRRS	Compliance	None	Sparrevohn LRRS Landfill	SWGPLRRS-13-06	April 24, 1998 - January 31, 2018	Active	LRRS - general permit - Municipal	General Solid Waste - incinerated domestic, inert, septage/sludge, RACM	Signs	ADEC Solid Waste Database February 1, 2013 Letter from ADEC Issuing Solid Waste General Permit #SWGPLRRS-18
Tatalina LRRS	Compliance Landfill	None	Tatalina LRRS Landfill	SWGPLRRS-13-07	March 1, 1988 - January 31, 2018	Active	LRRS - general permit - Municipal	General Solid Waste - incinerated domestic, inert, septage/sludge, RACM	Signs	ADEC Solid Waste Database February 1, 2013 Letter from ADEC Issuing Solid Waste General Permit #SWGPLRRS-18
Tatalina LRRS	ERP	LF004	Lower Landfill No. 2	NA	1960s-2000	Inactive	NA	waste	Cap (partly covered y newer landfill)	ADEC Solid Waste Database - one record, for SWGPLRRS-13-07; New summary sheet - 2013 ROD
Tatalina LRRS	ERP	LF010	Waste Accumulation Area #2 and Upper Landfill #1	NA	WAA #2 - 1950s-1977 Landfill #1 - 1950s-mid 1960s	Inactive	NA	WAA #2 - drums Landfill #1 - wood, garbage, metal, construction debris and shop wastes	Cap (Landfill #1)	ADEC Solid Waste Database - one record, for SWGPLRRS-13-07 TO275 Summary Sheet - 1999 ROD/2005 5-year review
Tin City LRRS	Compliance	None	Tin City LRRS Landfill	SWGPLRRS-13-08	June 1, 1978 - January 31, 2018	Active	LRRS - general permit - Municipal	General Solid Waste - incinerated domestic, inert, septage/sludge, RACM	Signs	ADEC Solid Waste Database February 1, 2013 Letter from ADEC Issuing Solid Waste General Permit #SWGPLRRS-18
Tin City LRRS	ERP	LF002	Landfill - Privately Owned/AF Resp, 3rd Party Site	NA	NA	NA	NA	refuse	NA	ADEC Solid Waste Database - one record, for SGPLRRS-13-08 Publicadminrec - Clean Sweep Management Action Plan, Tin City Long Range Radar Site, Alaska (May 1998) - indicates site was third party since 1993 and administratively closed; Preliminary Assessment for Tin City Long Range Radar Site, Alaska (1992)
Tin City LRRS	ERP	LF003	Landfill	NA	NA	NA	NA	refuse, waste oil, non chlorinated solvents, shop waste	NA	ADEC Solid Waste Database - one record, for SGPLRRS-13-08 Publicadminrec - Clean Sweep Management Action Plan, Tin City Long Range Radar Site, Alaska (May 1998) - indicates site was active, permitted landfill at time; Preliminary Assessment for Tin City Long Range Radar Site, Alaska (1992)

Table 1-3

Pacific Regional Support Center Landfill Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation	Program ¹	ERP Site ID	Landfill Name	Permit Number	Permitted or Active Dates	Status	Classification	Waste Types	Engineering Controls	
Tin City LRRS	ERP	LF009	Dump No. 2, Lower Camp	NA	1950s-1970s	Inactive	NA	POL, refuse, scrap from cleanups in 1978 and 1984, lumber, equipment	Cap	ADEC Solid Waste Database - one record, for SGPLRRS-13-08 Publicadminrec - Clean Sweep Management Action Plan, Tin City Long Range Radar Site, Alaska (May 1998) - indicates site called Dump No. 2, Lower Camp; Preliminary Assessment for Tin City Long Range Radar Site, Alaska (1992); Environmental Assessment for Property Disposal, Tin City LRRS, Alaska (May 1998) - 1988 ROD-NFRAP
Tin City LRRS	ERP	LF010	Storage Tank Farm	NA	primarily used during construction and refitting of upper camp (1950s-1970s?)	Inactive	NA	demolition debris	None identified	ADEC Solid Waste Database - one record, for SGPLRRS-13-08 Publicadminrec - Clean Sweep Management Action Plan, Tin City Long Range Radar Site, Alaska (May 1998) - indicates site called MidMountain dump; Environmental Assessment for Property Disposal, Tin City LRRS, Alaska (May 1998) - 1988 ROD -NFRAP
JOHNSTON ATOLL										
Johnston Atoll	ERP	LF009	Mixed Metals - Debris Area	NA	1970s, 1995 had one time addition of non-hazardous/treated ash	Inactive	NA	mixed metals, debris, ash, solid waste burn pit, asphalt drums	cap	Publicadminrec - SWMU -6; Phase II Environmental Baseline Survey, Johnston Atoll - SWMU 6 addressed under RCRA Part B Permit Mod: Hazardous Waste CA Permit - later removed from permit: Corrective Measures Completion Report, SWMU No. 6, Mixed Metal Debris Area, Johnston Atoll (May 2005) - indicates had been used for asbestos, but known material was removed and shipped offsite.
WAKE ISLAND AIRFIELD										
Wake Island Airfield	ERP	ID050	Peale LORAN Station	NA	1950-1975	Inactive	NA	Miscellaneous metal, equipment, vehicle parts, glass, reportedly contains transformers	None identified	Publicadminrec - 2007 Site Specific EE/CA TO275 Site Summary - primary reference 2010 ROD
Wake Island Airfield	ERP	EA05	Wilkes Asbestos Landfill	NA	1984-1993	Inactive	NA	ACM	Signs, 5-foot earthen cap	Publicadminrec - Decision Summary Report for Installation Restoration Program Site Code: AOC EA05 (YGFZ-EA05), Wilkes Asbestos Landfill- Doc transfers site from IRP to ECP program
Wake Island Airfield	ERP	LF007	Landfill	NA	1950s-2000	Inactive	NA	general refuse	None identified	Publicadminrec - Memo For Record - Administrative Closure of Installation Restoration Program (IRP Site LF07, Wake Island Airfield, Wake Atoll

Notes:

¹ Both ERP and Compliance Program landfills must comply with Alaska Solid Waste Regulations under 18 AAC 60.

- | | |
|---|---|
| ACM = asbestos-containing material | N/A = not available |
| AFS = air force station | NFRAP = no further remedial action planned |
| AS = air station | PCB = polychlorinated biphenyl |
| C&D = construction and demolition | POL = petroleum, oil, and lubricants |
| DD = decision document | RRS = remote radar station |
| DEW = Distant Early Warning | RACM = regulated asbestos containing material |
| EOD = explosive ordinance disposal | SWDA = solid waste disposal act |
| ERP = Environmental Restoration Program | USAF = United States Air Force |
| ID = identification | UST = underground storage tank |
| LORAN = long-range navigation | WAA = waste accumulation area |
| LRSS = long-range radar station | |
| MSW = municipal solid waste | |

TABLE 2-1

Description of Land Use Control Types Currently in Effect at Pacific Regional Support Center Environmental Restoration Program Sites

Land Use Control Management Plan 2015, Pacific Air Forces Regional Support Center Installations, Joint Base Elmendorf-Richardson, Alaska

Installation: IRP Site(s) with LUCs in Effect ¹	Purpose and Objectives	Prohibitions/Restrictions	Engineered Elements	Expected Durations	Monitoring/ Inspections/ Reporting/ Maintenance	Administrative Elements
ALASKA						
Barter Island LRRS: SS013	<ul style="list-style-type: none"> Protect human health and the environment through resource management, migration, and exposure controls 	<ul style="list-style-type: none"> No surface water use at or adjacent to site (including pond west of the Heated Storage building) No inappropriate land use in the vicinity of the former Heated Storage building. No unauthorized transport or disposal of soil or unauthorized digging/excavation 	<ul style="list-style-type: none"> Signs 	<ul style="list-style-type: none"> Surface water sampling until TCE and byproduct levels are demonstrated to be below AWQS Maintenance of cap over PCB contaminated soil as long as PCB concentrations exceed 1 mg/kg In general, ICs to remain in effect as long as the contaminated media exceeds ADEC unrestricted use criteria (18 AAC 75.341, method two cleanup levels). 	<ul style="list-style-type: none"> Surface water monitoring at least every 5 years until two consecutive sampling events indicate TCE and byproduct concentrations are below Alaska Water Quality Standards (18 AAC 70); results to be reported in Five-Year Review Landfill cap maintenance Annual reporting to ADEC and administrative record on institutional control monitoring Prompt notification to ADEC of any institutional control deficiency/failure along with corrective measures Five-Year Reviews 	<ul style="list-style-type: none"> Use of USAF construction review and dig permit systems (or similar) to prevent uses or activities inconsistent with RAOs Notations regarding land use restrictions recorded in the appropriate Barter Island LRRS land records, including the Base Master Plan Obtain ADEC concurrence for significant changes to use and activity restrictions, give prior notification to ADEC for transfer of property subject to institutional controls, or movement/disposal of contaminated soil
Barter Island LRRS: SS014	<ul style="list-style-type: none"> Protect human health and the environment and allow for continued site use 	<ul style="list-style-type: none"> No unauthorized land use beneath the Garage building. No unauthorized transport or disposal of soil or unauthorized digging/excavation 	<ul style="list-style-type: none"> Fencing to prevent access beneath the Garage building Signs 	<ul style="list-style-type: none"> ICs to remain in effect as long as the contaminated media exceeds ADEC unrestricted use criteria (18 AAC 75.341, method two cleanup levels). 	<ul style="list-style-type: none"> Monitoring and maintenance of fencing is included in routine facility care Annual reporting to ADEC and administrative record on institutional control monitoring Prompt notification to ADEC of any institutional control deficiency/failure along with corrective measures. Five-Year Reviews 	<ul style="list-style-type: none"> Use of USAF construction review and dig permit systems (or similar) to prevent uses or activities inconsistent with RAOs Notations regarding land use restrictions recorded in the appropriate Barter Island LRRS land records, including the Base Master Plan Obtain ADEC concurrence for significant changes to use and activity restrictions, give prior notification to ADEC for transfer of property subject to institutional controls, or movement/disposal of contaminated soil
Barter Island LRRS: SS017 ST018	<ul style="list-style-type: none"> Prevent unauthorized transport or disposal of soil contaminated with diesel range organics with concentrations exceeding 230 mg/kg. 	<ul style="list-style-type: none"> No unauthorized transport or disposal of soil No disposal of soil in surface water. 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Notice in Base Master Plan (and potential land transfer documents) that ADEC approval required prior to disposing or transporting soil containing diesel range organics above 230 mg/kg from the site Site boundaries surveyed to document location of diesel range organics above 230 mg/kg
Bear Creek: LF001	<ul style="list-style-type: none"> Prevent human exposure to PCB contaminated soil exceeding the ADEC Method Two cleanup level of 1 mg/kg Protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment. Maintain the integrity of the landfill cap and prevent inadvertent human exposure to, or handling of, potentially contaminated soils 	<ul style="list-style-type: none"> No excavation without prior ADEC notification and procedures to screen excavated soils for possible contamination 	<ul style="list-style-type: none"> Landfill cap 	<ul style="list-style-type: none"> LUCs will be maintained in perpetuity as long as the landfill remains in place. 	<ul style="list-style-type: none"> Will maintain the cap over the site in accordance with State of Alaska solid waste regulations. Cap maintenance will include inspections and periodic repair of the vegetated 18 inch soil cap placed over the site in 1997. Will perform periodic inspections, monitoring, and reporting of the ICs annually for the first 5 years and then once every 5 years (Five-Year Reviews) to ensure that the remedy remains protective of human health and the environment. If any problems or deficiencies with the landfill cap integrity are detected, the USAF will perform the required maintenance to correct the deficiencies. 	<ul style="list-style-type: none"> Document the site's previous use as an unpermitted landfill Delineate and survey the boundary of the institutional controls at Site LF001 to obtain a property description suitable for recording purposes The IC boundary is expected to encompass the landfill area shown on Figures 2 and 3 of the 2011 ROD Document the presence of the protective soil and vegetative cap Document the IC at the District Recorder's office (including a map indicating IC locations, a survey, and GPS coordinates) Provide the landowner with copies of the survey or figures showing the location and boundaries of the landfill and documents recorded; work with the landowner to incorporate the information into its land use planning tools Require notification of ADEC prior to the commencement of any excavation activities within the landfill boundaries Require that any person conducting excavations within LF001 include procedures to screen excavated soils for possible contamination If encountered, manage contaminated soils in accordance with applicable State of Alaska regulations The USAF to promptly notify ADEC if monitoring detects any condition, change of land use, or activity that is inconsistent with the ICs
Bethel RRS: SS001²	<ul style="list-style-type: none"> Prevent direct exposure to contaminated soil Prevent water infiltration through soil cap (and potential off-site migration of contaminants via runoff) Prevent exposure to contaminated subsurface soil and solid waste remaining in place. 	<ul style="list-style-type: none"> No unauthorized access No disturbance of soil/landfill cover No unauthorized digging/excavation 	<ul style="list-style-type: none"> Fencing Signs Protective Soil Cap 	<ul style="list-style-type: none"> Indefinite pending ADEC approval 	<ul style="list-style-type: none"> Visual monitoring every year for the first 5 years and then every 5 years until ADEC approves discontinuing Biennial groundwater monitoring at least three events starting in 2012 Five-Year Reviews 	<ul style="list-style-type: none"> Use USAF dig permit and construction review process to help enforce restrictions on drilling/excavating Document ROD land use limitations and prohibitions in Air Force Real Property Records, Bethel RRS General Plan, 611 CES IRP Records and Land Use Management Plan Property transfer requires ADEC approval prior
Big Mountain RRS: LF005	<ul style="list-style-type: none"> Protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment Protect human health by reducing the risk from potential exposure 	<ul style="list-style-type: none"> No disturbance of sediment without ADEC concurrence No installation of drinking water wells or intrusive activities in areas with contaminated groundwater 	<ul style="list-style-type: none"> Signs at the new landfill at upper camp containing soil from LF005, indicating the presence of contaminants in the landfill Signs downgradient of the landfill indicating where 4,4-DDD, 4,4-DDT, and 4,4-DDE exceed NOAA Screening Quick Reference probable effects levels Signs downgradient of the landfill near monitoring wells where VOCs exceed cleanup levels specified under 18 AAC 75 warning that contaminated groundwater is present and intrusive activities are prohibited. 	<ul style="list-style-type: none"> ICs and ECs will be maintained as long as the landfill exists. Sediment and surface water will be monitored for a minimum of 33 years, at which point USAF and ADEC will determine whether there is a need for further monitoring. Groundwater will be monitored for a minimum of 35 years, at which point USAF and ADEC will determine whether there is a need for further monitoring. 	<ul style="list-style-type: none"> Periodic site inspections (every 5 years) to check the condition of the landfill cap and signs, with maintenance to be completed as needed Sediment and surface water sampling (see 2011 ROD for details) annually for three years, then every 5 years afterwards for a minimum of 30 years Groundwater sampling annually for five years, then every 5 years for a minimum of 30 years The results of each sampling and/or inspection event will be reported to ADEC following the event. 	<ul style="list-style-type: none"> Place a notice on the property records to notify current and potential owners of the presence of contaminants in the landfill. Conduct a survey of the boundaries of the new landfill to be included in the Land Use Control Management Plan Prior approval from ADEC required to move sediment from the site, as well as analytical characterization and appropriate disposal A notice to be placed on property records to prevent installation of drinking water wells in areas with contaminated groundwater.
Big Mountain RRS: SS002 SS014	<ul style="list-style-type: none"> Document that petroleum hydrocarbons in surface and subsurface soil exceed levels protective of unrestricted use. Restrict excavation and transport of contaminated soil to prevent migration of contaminants. 	<ul style="list-style-type: none"> No unauthorized construction, excavation or transport of soil. 	<ul style="list-style-type: none"> Signs at the new SS014 industrial waste landfill (containing removed PCB soil with concentrations <10ppm from SS010a) noting the presence of contaminants in the landfill 	<ul style="list-style-type: none"> Institutional controls will stay in effect until DRO reaches State of Alaska Cleanup Levels protective of unrestricted use (i.e., ADEC Method Two cleanup level for soil). 	<ul style="list-style-type: none"> Perform visual inspection to verify effectiveness of the institutional controls and report results to ADEC. Inspection reports will evaluate the status of the institutional controls and how any deficiencies or inconsistent uses have been addressed. Actions required to correct any activity that may interfere with the effectiveness of the institutional control will be addressed by the USAF as soon as practicable after discovery, but in no case will the process be initiated later than 10 days after USAF becomes aware of the breach. Five-Year Reviews 	<ul style="list-style-type: none"> Surveys of boundaries of soil with DRO above Method 2 cleanup levels for State of Alaska and USAF real property records ADEC approval is required for excavation activities within the site or property transfer. Property transfer documents will describe institutional controls. USAF shall provide notice to ADEC as soon as practicable after discovery of any activity that is inconsistent with institutional control requirements, objectives of controls, or any action that may interfere with the effectiveness of the institutional controls.
Big Mountain RRS: ST001	<ul style="list-style-type: none"> Protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment Protect human health by reducing the risk from potential exposure 	<ul style="list-style-type: none"> No disturbance of sediment unless concurrence is granted from ADEC No invasive soil activities or use of groundwater (no drinking water wells) in vicinity unless concurrence is granted from ADEC No soil or groundwater may be removed from the site without prior ADEC approval, and analytical characterization and proper disposal is required. 	<ul style="list-style-type: none"> Signs near the wetlands adjacent to ST001 where PCB concentrations in sediment exceed screening criteria (NOAA SQiRTs) Signs that warn of the presence of contaminants in soil and groundwater and restrictions on their use 	<ul style="list-style-type: none"> Sediment annually for 3 years if results are not stable and below NOAA SQiRTs PEL, continued every 5 years until results show PCB concentrations are below cleanup levels Groundwater sampling to occur until results from three consecutive sampling events show that DRO levels in groundwater are below cleanup criteria 	<ul style="list-style-type: none"> Perform sediment sampling for a minimum of three consecutive years to confirm whether sediment COC concentrations are stable and below the NOAA SQiRTs PEL. If so, management will be discontinued; if not, monitoring will continue every 5 years until sediment sample results show that PCB concentrations are below cleanup levels Site inspections would occur at the same frequency as the sediment and groundwater sampling to inspect signs and maintain them as needed. Groundwater sampling each year for 5 years and then at least once every 5 years until results from three consecutive sampling events show that DRO levels in groundwater are below cleanup criteria The results of each sampling and inspection event will be reported to ADEC following the event. Five-Year Reviews 	<ul style="list-style-type: none"> A notice in property records to inform current and future property owners of the presence of PCB sediment contamination ADEC prior approval required if sediment is moved from the site, as is analytical characterization and appropriate disposal Notice on property records to inform current and future property owners of the presence of soil and groundwater DRO contamination.

TABLE 2-1

Description of Land Use Control Types Currently in Effect at Pacific Regional Support Center Environmental Restoration Program Sites
Land Use Control Management Plan 2015, Pacific Air Forces Regional Support Center Installations, Joint Base Elmendorf-Richardson, Alaska

Installation: IRP Site(s) with LUCs in Effect ¹	Purpose and Objectives	Prohibitions/Restrictions	Engineered Elements	Expected Durations	Monitoring/ Inspections/ Reporting/ Maintenance	Administrative Elements
Cape Lisburne LRRS: LF001 (Landfill No. 1/Waste Accumulation Area No. 2)	ICs and LUCs to be established at WAA2 and Dump No. 1 to prevent soil disturbances resulting in exposure to remaining contaminants	No unauthorized digging/excavation. ICs and LUCs to be established at WAA2 and Dump No. 1 to prevent soil disturbances resulting in exposure to remaining contaminants.	Soil Cover Signage	• (None specified)	Cap Maintenance, Periodic Monitoring, and Surface Water Monitoring, Institutional controls and LUCs will be established at WAA2 and Dump No. 1 to prevent disturbance of the soils that may result in exposure to remaining contaminants. Monitoring/maintenance of prominent signs documenting the contamination location indicating a potential hazard to recreational visitors and subsistence hunters. Dig restrictions will be implemented and enforced by USAF. Any activity that is inconsistent with LUC requirements, objectives, or controls (or any action that might interfere with the protectiveness of the LUCs) will be reported to ADEC and addressed by the USAF as soon as practicable after discovery.	USAF will record an NEC with the DNR Recorder's Office and with USAF real estate records. LUCs will be documented into the LUC Management Plan. ICs will be documented with the Alaska DNR. USAF will record an NEC with the DNR Recorder's Office and with USAF real estate records.
Cape Lisburne LRRS: ST004	• Prevent exposure to or transport/disposal of site soils with DRO concentrations above 230 mg/kg.	• No unauthorized off-site transportation or disposal of site ST004 soil containing diesel range organics above 230 mg/kg • No disposal of soil in surface water or environmentally sensitive areas. • No unauthorized digging/excavation	• (None specified)	• Site will be granted closure without conditions when DRO concentrations in the soil degrade below 230 mg/kg.	• (None specified)	• Surveys of boundaries of soil with DRO above Method 2 cleanup levels (18 AAC 75.341 Table B2, Over 40+ inch zone, migration to groundwater) • Base Master Plan will state ADEC approval required for excavation activities within the site or property transfer. • If site is transferred, the statement that ADEC approval is required prior to offsite transportation or disposal of site ST004 soil containing diesel range organics above 230 mg/kg will be included in property transfer documents
Cape Lisburne LRRS: ST005	• Prevent exposure to or transport/disposal of site soils with DRO concentrations above 230 mg/kg or benzene above 0.02 mg/kg.	• No unauthorized offsite transportation or disposal of site ST005 soil containing diesel range organics above 230 mg/kg or benzene above 0.02 mg/kg. • No disposal of soil in surface water or environmentally sensitive areas. • No unauthorized digging/excavation.	• (None specified)	• Site will be granted closure without conditions when DRO concentrations in the soil degrade below 230 mg/kg or benzene above 0.02 mg/kg.	• (None specified)	• Surveys of boundaries of soil with benzene and DRO above Method 2 cleanup levels (18 AAC 75.341 Tables B1 and B2, Over 40+ inch zone, migration to groundwater) • Base Master Plan will state ADEC approval required for excavation activities within the site or property transfer. • If site is transferred, the statement that ADEC approval is required prior to offsite transportation or disposal of site ST005 soil containing diesel range organics above 230 mg/kg or benzene above 0.02 mg/kg will be included in property transfer documents.
Cape Newenham: SS007	• Prevent exposure to remaining PCB-contaminated soil. • Prevent water infiltration through soil cap (and potential off-site migration of contaminants via runoff)	• No excavation, residential or commercial development.	• Warning/restricted access signs • Signs • Protective Soil Cap	• (Indefinitely and/or until a change is approved by ADEC)	• Annual inspections and maintenance of cap and signs • Long term monitoring at established downgradient locations (surface soil) • Five-Year Reviews	• Notation on land records that will be reviewed during a title search of required land use restrictions and notation in the facility Base Master Plan. These include notification that the land has been used for PCB waste disposal and certain restrictions apply to the future use of the property. • Notification also includes a comprehensive record of the capped area survey, the signage and cap maintenance requirements, applicable cleanup levels, and documentation of location and corresponding levels of PCBs present in the area
Cape Romanzof LRRS: LF003 (Landfill No. 2)	ICs that prohibit the development and use of property for residential housing, prohibit excavation or disturbance of the landfill cap/cover, and require maintenance of the cap/cover will be established.	Prohibit the development and use of property for residential housing, and prevent the use of contaminated soil for restricted uses in the event of an excavation by requiring a dig permit, implement soils management plan, and maintain the landfill cap at LF003 in order to prevent direct exposure and water infiltration.	Landfill Cap Signage	Until it is determined that sediments no longer pose an unacceptable risk to human health and the environment and allow for unlimited use and unrestricted exposure.	Annual cap inspections and maintenance will be conducted at which time both sediment and surface water will be analyzed to check PCB contamination levels and collected and disposed if it exceeds clean up levels. Over time, PCB concentrations in collected sediment will decrease as source concentrations decrease. Signs warning that PCB buried solid waste and potentially hazardous materials are present and site access is restricted will be constructed and maintained at the site to alert personnel that PCB-contaminated sediments may be present within the drainage channel and sediment control barriers. Eroded soil barriers, collected sediment, and signs will be managed and maintained by the USAF until it is determined that sediments no longer pose an unacceptable risk to human health and the environment and allow for unlimited use and unrestricted exposure. Locations of the eroded soil control barriers and signs will be surveyed and recorded in the appropriate Cape Romanzof LRRS land records, including the Base Master Plan and Alaska Department of Natural Resources (ADNR) land records. Annually, inspections (with photos and field observations) of the landfill cap, signs, and control barriers, maintenance, and performance reports will be provided to ADEC, annually, for the first five years after remedial activities and will be followed by a Five-Year Review. At that time the frequency of inspections and reports may be reduced.	Locations of the eroded soil control barriers and signs will be surveyed and recorded in the appropriate Cape Romanzof LRRS land records, including the Base Master Plan and Alaska Department of Natural Resources (ADNR) land records. Annually, inspections (with photos and field observations) of the landfill cap, signs, and control barriers, maintenance, and performance reports will be provided to ADEC, annually, for the first five years after remedial activities and will be followed by a Five-Year Review. At that time the frequency of inspections and reports may be reduced.
Cape Romanzof LRRS: DP011	• Restrict access to contaminated subsurface soil and document (for waste management purposes in the event of subsurface activities) that soil impact exceeds ADEC Method Two cleanup levels protective of unrestricted use. • Document that petroleum hydrocarbons in surface soil exceed levels protective of unrestricted use.	• No unauthorized excavation, construction, or transportation of contaminated soil • Future land use to remain non-residential	• (None specified)	• (None specified)	• Visual inspections will be conducted and reported no less often than once every 5 years to evaluate the status of the ICs and how any IC deficiencies or inconsistent uses have been addressed. • Inconsistent activities shall be addressed by USAF as soon as possible, no later than 10 days after becoming aware of the breach. • Five-Year Reviews	• Boundaries of soil with DRO above Method 2 cleanup levels will be delineated. • Institutional controls will be documented in the USAF Real Property records, including a map of IC locations. Appropriate notice will be filed with the USFWS • ADEC will be notified prior to any excavation activities within the contaminated area; before making any major changes to the institutional controls; if activities inconsistent with IC requirements, objectives, or controls are discovered; or in the event the property is transferred, sold, or leased. • Property transfer documents would describe the ICs.

TABLE 2-1

Description of Land Use Control Types Currently in Effect at Pacific Regional Support Center Environmental Restoration Program Sites

Land Use Control Management Plan 2015, Pacific Air Forces Regional Support Center Installations, Joint Base Elmendorf-Richardson, Alaska

Installation: IRP Site(s) with LUCs in Effect ¹	Purpose and Objectives	Prohibitions/Restrictions	Engineered Elements	Expected Durations	Monitoring/ Inspections/ Reporting/ Maintenance	Administrative Elements
Cape Romanzof LRRS: SS010 (Weather Station Well Spill Site)	Institute land use control boundaries to encompass all areas where subsurface soil and groundwater contaminant levels pose an unacceptable risk to human health and the environment	Contaminated subsurface soil and groundwater will remain in place to naturally attenuate. ICs that prevent access to soil and groundwater until cleanup levels have been met and maintain the integrity of any current or future remedial or monitoring system, prohibit the development and use of property for residential housing and prevent the use of contaminated soil for restricted uses in the event of excavation by requiring site dig permit, implement soils management plan, and conduct LTM at SS010.	• (None specified)	Until soil and groundwater cleanup levels have been met.	Annual inspections (with photos and field observations) of the signs, control barriers and submit the performance reports to ADEC, every year, for the first five years followed by a five-year review. At that time, the frequency of inspections and reports may be reduced. ICs that prevent access to groundwater until groundwater cleanup levels have been met and maintain the integrity of any current or future remedial or monitoring system (such as monitoring wells) by implementing a well permitting system. Periodic sampling and analysis of contaminated groundwater in the monitoring wells (LTM) will be performed at the site to assess changes in groundwater contaminant concentrations over time. Annual inspections will be conducted and performance reports will be submitted every year to ADEC for the first five years and then followed by a five-year review.	Land Use Controls will be recorded in the appropriate Cape Romanzof LRRS land records, including the Base Master Plan and ADNRR land records. ECs such as land use control boundaries will encompass all areas where groundwater contaminant levels pose an unacceptable risk to human health and the environment and be surveyed and a map designating their locations will accompany notations placed on land records. Incorporated ICs into the LUC Plan for SS010. Implement soils management plan, and conduct LTM at SS010. In the case that all contaminated subsurface soil is not able to be removed due to safety or logistical issues, then ICs annual inspections and a Five-Year Review will be required. Performance reports will be provided to ADEC, annually, for the first five years after remedial activities and will be followed by a Five-Year Review. At that time the frequency of inspections and reports may be reduced.
Cape Romanzof LRRS: SS013	• To protect human health and the environment for recreational land use	• Future land use within the IC area shown in 2011 ROD, Figure 3, restricted to commercial/industrial use. • Soil or groundwater being removed from the IC area must be properly evaluated and managed. • No unauthorized digging/excavation	• (None specified)	• (None specified)	• Interim reports (Five-Year Reviews) will be prepared no less often than once every 5 years to ensure remedies are still protective of human health and the environment. Interim reports include: *Site inspection checklists *Statement regarding whether all ICs are being adhered to *Description of any deficiencies and resulting corrective actions. • Five-Year Reviews	• Presence of petroleum in soil impacted above levels allowing unrestricted use will be documented in USAF Real Property Records. • USAF dig permit and construction review system or similar system developed by the Base Operation Support contractor will be used to restrict incompatible activities. • Institutional controls will be documented in the USAF Real Property records, including a map of IC locations. Appropriate notice will be filed with the USFWS. • ADEC approval will be required for any major changes to ICs. • ADEC approval will be required at least 6 months prior to land transfer or sale of SS013.
Cape Romanzof LRRS: SS014	• Restrict access to contaminated subsurface soil and document (for waste management purposes in the event of subsurface activities) that soil is impacted above levels allowing unrestricted use.	• Restrict direct contact with petroleum contaminated subsurface soil and document that petroleum hydrocarbons in surface and subsurface soil exceed levels protective of unrestricted use. • Restrict excavation and transportation of contaminated soil to prevent migration of contaminants. • No unauthorized excavation, construction, or transportation of contaminated soil. • future land use to remain non-residential.	• (None specified)	• (None specified)	• Visual inspections will be conducted and reported no less often than once every 5 years to evaluate the status of the ICs and how any IC deficiencies or inconsistent uses have been addressed. • Inconsistent activities shall be addressed by USAF as soon as possible, no later than 10 days after becoming aware of the breach. • Five-Year Reviews	• Boundaries of soil with DRO or GRO above Method 2 cleanup levels will be delineated. • Institutional controls will be documented in the USAF Real Property records, including a map of IC locations. Appropriate notice will be filed with the USFWS • ADEC will be notified prior to any excavation activities within the contaminated area; before making any major changes to the institutional controls; if activities inconsistent with IC requirements, objectives, or controls are discovered; or in the event the property is transferred, sold, or leased. • USAF dig permit and construction review system will be used to restrict incompatible activities from the site. • Property transfer documents would describe the ICs.
Cape Romanzof LRRS: SS015	• To protect human health and the environment for recreational land use	• Installation of water supply wells within the IC area shown in 2011 ROD, Figure 4, is prohibited as long as the aquifer contaminant concentrations exceed ADEC Table C cleanup levels protective of drinking water. • Soil or groundwater being removed from the IC area must be properly evaluated and managed. • No unauthorized digging/excavation	• (None specified)	• Monitoring will continue until 18 AAC 75.350 Table C groundwater cleanup levels are reached and cumulative risk is below Alaska threshold levels, or until the groundwater plume is at a steady state or shrinking, contaminant concentrations are decreasing, and concentrations meet applicable cleanup levels at an approved alternative point of compliance.	• Groundwater monitoring in source area well WW• 01 and downgradient wells WW• 05 and WW• 06 will occur at least once every 5 years for DRO, GRO, and BTEX. • Interim reports (Five-Year Reviews) will be prepared no less often than once every 5 years to ensure remedies are still protective of human health and the environment. Interim reports include: *Site inspection checklists *Statement regarding whether all ICs are being adhered to *Description of any deficiencies and resulting corrective actions • Five-Year Reviews	• Presence of petroleum in soil impacted above levels allowing unrestricted use will be documented in USAF Real Property Records. • USAF dig permit and construction review system or similar system developed by the Base Operation Support contractor will be used to restrict incompatible activities. • Institutional controls will be documented in the USAF Real Property records, including a map of IC locations. Appropriate notice will be filed with the USFWS. • ADEC approval will be required for any major changes to ICs. • ADEC approval will be required at least 6 months prior to land transfer or sale of SS015.
Cape Romanzof LRRS: SS016 (Upper Tram Terminal Area)	Prohibit development and use of property for residential housing, prevent use of contaminated soil for restricted uses, and maintain cap (if necessary) at SS016 in order to prevent direct exposure and water infiltration.	Prohibit development and use of property for residential housing, prevent use of contaminated soil for restricted uses, require dig permit in the event of excavation, implement soil management plan, and maintain cap (if necessary) at SS016 in order to prevent direct exposure and water infiltration. ICs will be incorporated into the LUC Plan.	Soil cap Signage	The cap and signs will be maintained by the USAF until it is determined that PCB contaminated soil no longer poses an unacceptable risk to human health and the environment and allow for unlimited use and unrestricted exposure at the site.	Periodic site inspections will be performed to check the condition of the cap and signs; maintenance will be completed as needed. The cap and signs will be maintained by the USAF until it is determined that PCB contaminated soil no longer poses an unacceptable risk to human health and the environment and allow for unlimited use and unrestricted exposure at the site. If contamination remains on site, ICs and a Five-Year Review will be required. Performance reports will be provided to ADEC, annually, for the first five years after remedial activities and will be followed by a Five-Year Review.	ICs and a Five-Year Review will be required. Performance reports will be provided to ADEC, annually, for the first five years after remedial activities and will be followed by a Five-Year Review. Implement soil management plan Implement LUC Plan incorporating ICs
Cape Romanzof LRRS: SS017 (Lower Tram Terminal Area)	To prevent unacceptable ecological risks to the recreational and subsistence population at Cape Romanzof LRRS.	If excavation to promulgated soil cleanup levels (1 mg/kg PCBs and 400 mg/kg Lead) is infeasible due to safety or logistical issues associated with remedial action, then capping and ICs with long-term monitoring and maintenance on the cap will be required.	• (None specified)	• (None specified)	If contamination greater than cleanup levels remains on site after excavation, then capping and ICs with long-term monitoring and maintenance on the cap will be required.	If contamination greater than cleanup levels remains on site after excavation, then capping and ICs with long-term monitoring and maintenance on the cap will be required.
Cape Romanzof LRRS: ST009	• Ensure that groundwater contamination is not migrating downgradient into Kokechik Bay at levels that could be detrimental to surface water quality. • Restrict use of the groundwater as long as the groundwater DRO concentrations exceed the ADEC Table C cleanup levels, which are protective of drinking water. • Restrict access to contaminated soils above 18 AAC Method 2 levels protective of unrestricted use.	• No unauthorized digging/excavation	• (None specified)	• Annual monitoring will be discontinued if downgradient wells MW• 7 and MW• 9 do not show increasing levels or DRO, GRO, or BTEX, and surface water results are consistently below water quality criteria and not increasing. Otherwise, the monitoring program will be reviewed for protectiveness and representativeness, revised if appropriate, and extended until three consecutive years of monitoring data establish that the criteria listed above have been met.	• Annual monitoring of three wells, MW• 4, MW• 7, and MW• 9 (for DRO, GRO, and BTEX), and one surface water location SW• 5 (for TAqH) will be performed a minimum of 3 years • Visual inspections and reporting at least once every 5 years to assess IC status and how any inconsistencies or inconsistent uses have been addressed.	• Boundaries of soil with DRO above 18 AAC 75.341 Method Two cleanup levels will be delineated • Institutional controls will be documented in the USAF Real Property records, including a map of IC locations. Appropriate notice will be filed with the USFWS. • USAF dig permit and construction review system or similar system developed by the Base Operation Support contractor will be used to restrict incompatible activities • ADEC approval required for any major changes to ICs or excavation activities within contaminated areas • In the event that the property is transferred, the property transfer document will describe the ICs. USAF will provide notice to ADEC prior to any transfer, sale, or lease of the property so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain the ICs.
Cold Bay RRS: LF002	• (None specified)	• (None specified)	• (None specified)	• Annual landfill inspection for 5 years	• The landfill will be surveyed annually for five years for development of sinkholes and for the presence of adequate cover. The landfill cap will be maintained as necessary.	• The landfill will be surveyed and the information will be recorded in the Aleutian Islands Recording District in Anchorage, Alaska.

TABLE 2-1

Description of Land Use Control Types Currently in Effect at Pacific Regional Support Center Environmental Restoration Program Sites

Land Use Control Management Plan 2015, Pacific Air Forces Regional Support Center Installations, Joint Base Elmendorf-Richardson, Alaska

Installation: IRP Site(s) with LUCs in Effect ¹	Purpose and Objectives	Prohibitions/Restrictions	Engineered Elements	Expected Durations	Monitoring/ Inspections/ Reporting/ Maintenance	Administrative Elements
Cold Bay RRS: OT001	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> If solid waste or contaminated soil are excavated or exposed in the future, they must be managed in accordance with laws and regulations applicable at that time. 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Monitored natural attenuation will occur until groundwater DRO concentrations are less than 1.5 mg/L throughout the aquifer (18 AAC 75.345 Table C) and surface water is less than 10 ug/L TAH, 15 ug/L TAqH at the point where groundwater discharges to surface water (ACHIEVED - see 2008 Closure Report). 	<ul style="list-style-type: none"> Monitored natural attenuation will occur until groundwater DRO concentrations are less than 1.5 mg/L throughout the aquifer (18 AAC 75.345 Table C) and surface water is less than 10 ug/L TAH, 15 ug/L TAqH at the point where groundwater discharges to surface water (ACHIEVED - see 2008 Closure Report) Five Year Review Annually inspect the demolition landfill for 5 years to monitor for any further sinkhole or erosion development. Fill any sinkholes and erosion channels with clean fill, grade, and revegetate as necessary. (ACHIEVED - see 2008 Closure Report). 	<ul style="list-style-type: none"> ICs will be established to document the landfill location in appropriate land records. The ICs will include the as-built survey and notice stating that if solid waste or contaminated soil are excavated or exposed in the future, they must be managed in accordance with laws and regulations applicable at that time. If groundwater contamination is found to exceed the remedial action goals, MNA will be implemented and institutional controls will include placing notice in the land records to prevent use of groundwater as a drinking water source. The demolition landfill survey information will be recorded in the Aleutian Islands Recording District in Anchorage, Alaska.
Cold Bay RRS: ST005	<ul style="list-style-type: none"> To meet 18 AAC 75.341, Method 2 migration to groundwater cleanup level for the under 40 inch precipitation zone for soils to a depth of 10 feet To ensure that the inhalation and ingestion standards are met and to reduce the amount of time it will take for natural attenuation to meet the cleanup levels for soils between 10 and 15 feet bgs (For fuel contaminated groundwater) To achieve no greater than 1.5 mg/L DRO throughout the aquifer (18 AAC 75.345 Table C), and to achieve surface water quality standards (10 ug/l TAH, 15 ug/l TAqH) at the point where groundwater discharges to surface water 	<ul style="list-style-type: none"> Groundwater not to be used as drinking water until it meets applicable cleanup levels If contaminated soil is excavated or exposed in the future, it will be managed in accordance with the laws and regulations applicable at that time. 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Monitored natural attenuation will occur until groundwater DRO concentrations are less than 1.5 mg/L throughout the aquifer (18 AAC 75.345 Table C) and surface water is less than 10 ug/L TAH, 15 ug/L TAqH at the point where groundwater discharges to surface water. 	<ul style="list-style-type: none"> Monitored natural attenuation will occur until groundwater DRO concentrations are less than 1.5 mg/L throughout the aquifer (18 AAC 75.345 Table C) and surface water is less than 10 ug/L TAH, 15 ug/L TAqH at the point where groundwater discharges to surface water. 	<ul style="list-style-type: none"> ICs in the form of notice in land records will be developed by USAF, with ADEC concurrence, to document that groundwater should not be used as a drinking water source until it meets the applicable cleanup levels. The ICs will also document that if contaminated soil is excavated or exposed in the future it must be managed in accordance with the laws and regulation applicable at that time.
Duncan Canal RRS: SS001 (Barrel Dump Site) SS002 (Generator Building) SS003 (Fuel Pumphouse)	<ul style="list-style-type: none"> ICs that will limit the use and/or exposure to contaminated water resources will be implemented during remedial action. Site inspections and LTM will be conducted for groundwater annually by the USAF until contaminants are below ADEC Table C groundwater cleanup levels for two consecutive sampling events and it is determined that groundwater no longer poses an unacceptable risk to human health and the environment. 	<ul style="list-style-type: none"> Preclude the use and/or exposure to contaminated groundwater until ADEC Table C cleanup levels are met. 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> ICs and LTM will be in place until ADEC Table C groundwater cleanup levels are met. 	<ul style="list-style-type: none"> Groundwater monitoring Maintain maps illustrating the IC boundaries Inspection of all site areas subject to ICs 5 year reviews The USAF will coordinate with USFS in monitoring and inspecting all site areas subject to ICs. The USAF will submit groundwater monitoring work plans and reports to ADEC for approval with USFS concurrence until contaminant concentrations are below the ADEC Table C cleanup levels for two consecutive sampling events 	<ul style="list-style-type: none"> Specific mechanisms will be implemented by and managed by the USFS to ensure proper implementation, maintenance, monitoring, and reporting of ICs. The USFS Land Status Record System (LSRS) will document all ICs and will include summary information about existing contamination allowed uses, and geographic boundaries of the ICs. Timely notification to ADEC is required for planned transfers of the property subject to ICs. The USAF will coordinate with USFS in monitoring and inspecting all site areas subject to ICs. The USAF will submit groundwater monitoring work plans and reports to ADEC for approval with USFS concurrence until contaminant concentrations are below the ADEC Table C cleanup levels for two consecutive sampling events. At that time, the ICs can be removed. The frequency of inspections and reports, if mutually agreed upon by ADEC, USAF, and USFS, may be reduced. At a minimum, reviews will be conducted every five years for as long as the ICs remain in place. All DD use limitations and exposure restrictions will be documented in the USFS Land Status Record System (LSRS) and in the Geographical Information System (GIS) compatible with USAF and USFS GIS data systems. The USFS land use activity review process will be used to prevent use of groundwater as drinking water, and prevent damage to monitoring wells. ADEC and USFS approvals are needed prior to excavating, approvals should cover characterization, management and treatment or disposal of any water that would be generated. The USFS will maintain maps illustrating the boundaries of SS001 to prevent access to groundwater. The USAF will produce maps showing locations of groundwater contamination, and will provide these maps to ADEC and USFS once remedial action has occurred. Maps will indicate site location, with agreed-upon restrictions on any invasive activities that could potentially result in exposure to contaminants. The USFS LSRS will document all ICs and will include summary information about existing contamination allowed uses, and geographic boundaries of the ICs. The USAF will provide the USFS and ADEC geographic surveyed boundaries of the ICs for approval by the USFS and ADEC for placement into LSRS. A Notice of Environmental Contamination approved by USAF, ADEC, and USFS will be placed in the Alaska Department of Natural Resources' land records. Timely notification to ADEC is required for planned transfers, to include federal-to-federal transfers, of property subject to ICs. The USFS will provide notice to ADEC at least six months prior to any transfer or sale of property containing ICs so that ADEC can be involved in discussions with USAF and USFS to ensure that appropriate provisions are included in the transfer or conveyance documents to maintain effective ICs. If it is not possible for USFS to notify ADEC at least six months prior to any transfer or sale, then USFS will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. The USFS agrees to provide ADEC with such notice, within the same time frames, for federal-to-federal transfers of property accountability. The USFS shall provide either access to, or a copy of, the executed deed or transfer assembly to ADEC. The USFS must notify ADEC as soon as practicable, but no longer than ten days after discovery of any activity that violates or is inconsistent with the IC objectives or use restrictions, or any other action that may interfere with the effectiveness of the ICs. The USFS ensures that prompt measures are taken to correct the violation or deficiency and prevent its recurrence. In this notification, the USFS will identify any corrective measures it has taken, or any corrective measures it plans to take, and the estimated time frame for completing them. For corrective measures taken after the notification, the USFS shall notify ADEC when the measures are complete.
Duncan Canal RRS: SS006 (Mountain Top Facility Area/Demolition Debris)	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Land use restrictions maintained in the property records and signage Control of site access using fencing An impermeable cap placed over surface soil contamination above approved cleanup levels. 	<ul style="list-style-type: none"> Fencing Signage Soil Cap 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Land use restrictions maintained in the property records and signage Control of site access using fencing An impermeable cap placed over surface soil contamination above approved cleanup levels. LTM and maintenance of contaminant concentrations annually by the USAF and LUCs by the USFS. CERCLA Five-Year Reviews would apply until sampling indicates that contaminant concentrations are below the approved cleanup levels. Contaminated soil in the run-off channels will be excavated, loaded onto barges, and shipped off-site to a USEPA approved facility for disposal. 	<ul style="list-style-type: none"> Land use restrictions maintained in the property records and signage LTM and maintenance of contaminant concentrations annually by the USAF and LUCs by the USFS. CERCLA Five-Year Reviews would apply until sampling indicates that contaminant concentrations are below the approved cleanup levels.
Eareckson USAFS: FT001	<ul style="list-style-type: none"> ICs are designed to prevent activities that could disturb contaminants and affect the performance of the other components of the selected remedies and maintain current land uses, while protecting human health and the environment The objective of the ICs are to prevent access or use of soil and groundwater contaminated with petroleum hydrocarbons, VOCs, and SVOCs. 	<ul style="list-style-type: none"> No land use involving subsurface activities. No disturbing of contaminated soil or groundwater without ADEC approval 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> The ICs will remain in effect until the petroleum hydrocarbon concentrations, VOCs, and SVOCs in soil are determined to be less than the ADEC 18 AAC 75.341 Method Two cleanup levels and groundwater meets the cleanup levels listed in 18 AAC 75.345, Table C. 	<ul style="list-style-type: none"> Visual inspections to be conducted to verify effectiveness of ICs and report inspection results to ADEC. Inspection reports will be prepared no less than once every 5 years to evaluate status of the ICs and how any IC deficiencies or inconsistent uses have been addressed. 	<ul style="list-style-type: none"> The Eareckson AS Base General Plan (Plan) and USAF land records will be updated to show the boundaries of the sites to restrict excavation of soil and restrict groundwater use. The Plan will contain a map indicating site locations, with restrictions on any invasive activities that could potentially compromise the integrity of soil covers and expose potential contaminants. Dig permits issued by the Base Operating Contractor are required for any excavation or well installation at Eareckson AS. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the sites where land use has been restricted. USAF will initiate action within 10 days of discovering any activity that may interfere with effectiveness of ICs and notify ADEC as soon as practicable after discovery. USAF will obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow anticipated actions that might disrupt protectiveness of ICs (including excavation or well installation). In the unlikely event that the property is to be transferred, the USAF will notify ADEC at least 30 days prior to any transfer taking place. If ICs fail or are deficient and could immediately lead to actual risk to human health and the environment, USAF will address the situation promptly, including ADEC notification. The USAF will ensure, as appropriate, that any contractor, tenant, or other authorized occupant of land subject to LUCs is informed of the LUCs and is made subject to the requirements of such LUCs.

TABLE 2-1

Description of Land Use Control Types Currently in Effect at Pacific Regional Support Center Environmental Restoration Program Sites
 Land Use Control Management Plan 2015, Pacific Air Forces Regional Support Center Installations, Joint Base Elmendorf-Richardson, Alaska

Installation: IRP Site(s) with LUCs in Effect ¹	Purpose and Objectives	Prohibitions/Restrictions	Engineered Elements	Expected Durations	Monitoring/ Inspections/ Reporting/ Maintenance	Administrative Elements
Eareckson USAFS: FT002	<ul style="list-style-type: none"> ICs are designed to prevent activities that could disturb contaminants and affect the performance of the other components of the selected remedies and maintain current land uses, while protecting human health and the environment. The objective of the ICs are to prevent access or use of soil and groundwater contaminated with petroleum hydrocarbons, VOCs, and SVOCs. 	<ul style="list-style-type: none"> No disturbing of contaminated soil or groundwater without ADEC approval No disturbing of surface water or sediments at FT002• ADDA 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> The ICs will remain in effect until the petroleum hydrocarbon concentrations, VOCs, and SVOCs in soil are determined to be less than the ADEC 18 AAC 75.341 Method Two cleanup levels and groundwater meets the cleanup levels listed in 18 AAC 75.345, Table C. 	<ul style="list-style-type: none"> At FT002• MA, groundwater sampling biennially to monitor natural attenuation of contaminants and limited metals sampling to verify assumptions made during RI, RA, and DD At FT002• ADDA, sediment and surface water monitoring biennially to monitor natural attenuation of remaining contaminants, and limited metals sampling to verify assumptions made during RI, RA, and DD Visual inspections to be conducted in conjunction with MNA sampling to verify effectiveness of ICs and report inspection results to ADEC. Inspection reports will be prepared no less than once every 5 years to evaluate status of the ICs and how any IC deficiencies or inconsistent uses have been addressed. 	<ul style="list-style-type: none"> The Eareckson AS Base General Plan (Plan) and USAF land records will be updated to show the boundaries of the sites to restrict excavation of soil and restrict groundwater use. The Plan will contain a map indicating site locations, with restrictions on any invasive activities that could potentially compromise the integrity of soil covers and expose potential contaminants. Dig permits issued by the Base Operating Contractor are required for any excavation or well installation at Eareckson AS. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the sites where land use has been restricted. USAF will initiate action within 10 days of discovering any activity that may interfere with effectiveness of ICs and notify ADEC as soon as practicable after discovery. USAF will obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow anticipated actions that might disrupt protectiveness of ICs (including excavation or well installation). In the unlikely event that the property is to be transferred, the USAF will notify ADEC at least 30 days prior to any transfer taking place. If ICs fail or are deficient and could immediately lead to actual risk to human health and the environment, USAF will address the situation promptly, including ADEC notification. The USAF will ensure, as appropriate, that any contractor, tenant, or other authorized occupant of land subject to LUCs is informed of the LUCs and is made subject to the requirements of such LUCs.
Eareckson USAFS: FT003	<ul style="list-style-type: none"> ICs are designed to prevent activities that could disturb contaminants and affect the performance of the other components of the selected remedies and maintain current land uses, while protecting human health and the environment The objective of the ICs are to prevent access or use of soil and groundwater contaminated with petroleum hydrocarbons, VOCs, and SVOCs. 	<ul style="list-style-type: none"> No disturbing of contaminated soil or groundwater without ADEC approval 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> The ICs will remain in effect until the petroleum hydrocarbon concentrations, VOCs, and SVOCs in soil are determined to be less than the ADEC 18 AAC 75.341 Method Two cleanup levels and groundwater meets the cleanup levels listed in 18 AAC 75.345, Table C. 	<ul style="list-style-type: none"> Groundwater sampling biennially to monitor natural attenuation of contaminants and limited metals sampling to verify assumptions made during RI, RA, and DD Limited metals sampling of surface water and groundwater to verify assumptions made during RI, RA, ROD, and DD Visual inspections to be conducted in conjunction with MNA sampling to verify effectiveness of ICs and report inspection results to ADEC. Inspection reports will be prepared no less than once every 5 years to evaluate status of the ICs and how any IC deficiencies or inconsistent uses have been addressed. 	<ul style="list-style-type: none"> The Eareckson AS Base General Plan (Plan) and USAF land records will be updated to show the boundaries of the sites to restrict excavation of soil and restrict groundwater use. The Plan will contain a map indicating site locations, with restrictions on any invasive activities that could potentially compromise the integrity of soil covers and expose potential contaminants. Dig permits issued by the Base Operating Contractor are required for any excavation or well installation at Eareckson AS. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the sites where land use has been restricted. USAF will initiate action within 10 days of discovering any activity that may interfere with effectiveness of ICs and notify ADEC as soon as practicable after discovery. USAF will obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow anticipated actions that might disrupt protectiveness of ICs (including excavation or well installation). In the unlikely event that the property is to be transferred, the USAF will notify ADEC at least 30 days prior to any transfer taking place. If ICs fail or are deficient and could immediately lead to actual risk to human health and the environment, USAF will address the situation promptly, including ADEC notification. The USAF will ensure, as appropriate, that any contractor, tenant, or other authorized occupant of land subject to LUCs is informed of the LUCs and is made subject to the requirements of such LUCs.
Eareckson USAFS: LF015 (Wood Dump/Burn Area)	The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate	Restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. The ICs will prohibit future residential use, and restrict site worker use, groundwater use, excavation, and off-site removal of contaminated soil without prior Air Force and ADEC approval.	<ul style="list-style-type: none"> (None specified) 	LUCs and ICs will be maintained until CLs are attained and sites are suitable for unlimited use and unrestricted exposure.	<ul style="list-style-type: none"> Maintain the integrity of the LUCs and ICs by using the Air Force's dig permit, construction review, and water well permit systems, to restrict inappropriate use or development of areas under ICs. Excavation, disturbance, or relocation of contaminated soil, and excavation or drilling in areas of groundwater contamination, will be restricted by the ICs. Maintain the integrity of the monitoring network by performing required maintenance of monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time. Conduct Five-Year Reviews at each site every 5 years and submit a report to ADEC, until it is confirmed that contamination has attenuated to levels safe for unrestricted use and unlimited exposure. Five-Year Reviews include an examination that remedial actions remain sound and protective, assumptions made during risk assessment are still valid, and that use of the site has not changed. The Air Force may self-perform the review, and will include any intermediate remedial actions required by (or in preparation for) the Five-Year Review in the Eareckson AS operation and maintenance schedule. Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service (USFWS). The Air Force will inform, monitor, and enforce LUCs and ICs with contractors and other authorized occupants at Eareckson AS and obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow actions that are consistent with the ICs. Monitor and inspect sites covered by LUCs annually and document the results in a report that will be submitted to ADEC. The annual reports will be used in preparation of the Five-Year Reviews to evaluate the effectiveness of the remedies. 	<ul style="list-style-type: none"> The Air Force will take the following actions to implement Long-term Management with ICs at Eareckson AS: <ul style="list-style-type: none"> Document risk exposure assumptions and reasonably anticipated land uses in the IC. Use the boundaries of LUCs and ICs included on the site figures in this document for inclusion in the Eareckson AS General Plan. Update the Base General Plan, Air Force Real Estate records, and the LUC Management Plan (forthcoming) to include ICs corresponding to each site. Geographical Information System (GIS) data in the Base General Plan and/or the Cleanup Module of the EESOH-MIS will be used to manage location data. The Air Force will notify ADEC prior to making any changes to the Eareckson AS General Plan that could affect the ICs, and obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow actions that might disrupt the ICs. Conduct Five-Year Reviews at each site every 5 years and submit a report to ADEC, until it is confirmed that contamination has attenuated to levels safe for unrestricted use and unlimited exposure. Five-Year Reviews include an examination that remedial actions remain sound and protective, assumptions made during risk assessment are still valid, and that use of the site has not changed. The Air Force may self-perform the review, and will include any intermediate remedial actions required by (or in preparation for) the Five-Year Review in the Eareckson AS operation and maintenance schedule. Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service (USFWS). The Air Force will inform, monitor, and enforce LUCs and ICs with contractors and other authorized occupants at Eareckson AS and obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow actions that are consistent with the ICs. Monitor and inspect sites covered by LUCs annually and document the results in a report that will be submitted to ADEC. The annual reports will be used in preparation of the Five-Year Reviews to evaluate the effectiveness of the remedies. Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service (USFWS).
Eareckson USAFS: LF018 LF024 LF026	<ul style="list-style-type: none"> Protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment Prevent activities that could affect the performance of the other components (landfill caps) of the selected remedies and maintain current land uses, while protecting human health and the environment. 	<ul style="list-style-type: none"> No unauthorized disturbance or relocation of waste No disturbing of contaminated soil or groundwater 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Until cleanup levels in 18 AAC 75 have been met and ADEC approves the land for unrestricted use Biennial landfill inspections to occur until two consecutive inspections indicate the caps are remaining in good condition 	<ul style="list-style-type: none"> Five-Year Reviews Biennial visual landfill cap inspections (concurrently with other biennial sampling) Cover thickness and vegetation will be maintained as necessary to prevent erosion, promote drainage, and prevent escape of waste or leachate. Reporting to ADEC following each biennial inspection 	<ul style="list-style-type: none"> The Eareckson AS Base General Plan (Plan) and USAF land records will be updated to show the boundaries of the sites to restrict excavation of soil and restrict groundwater use. The Plan will contain a map indicating site locations, with restrictions on any invasive activities that could potentially compromise the integrity of soil covers and expose potential contaminants. Dig permits issued by the Base Operating Contractor are required for any excavation or well installation at Eareckson AS. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the sites where land use has been restricted. In accordance with the landfill post closure requirements of 18 AAC 60.396(b), a deed notice or other instrument will be used to document that 1) the property was used as a landfill, 2) it may not be suitable for some uses, 3) maintenance and repairs to the property might become necessary to prevent pollution problems at the site, and 4) any activity that results in damage to the final cover of the property must be corrected to control potential pollution problems. Prior concurrence will be obtained from ADEC to terminate the ICs, modify current land use, or allow anticipated actions that may disrupt protectiveness of ICs. In the unlikely event that the property is to be transferred, the USAF will notify ADEC at least 30 days prior to any transfer taking place. Any contractor, tenant, or other authorized occupant of land subject to LUCs in the ROD is informed of the LUCs and is made subject to the requirements of such LUCs

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Installation: IRP Site(s) with LUCs in Effect ¹	Purpose and Objectives	Prohibitions/Restrictions	Engineered Elements	Expected Durations	Monitoring/ Inspections/ Reporting/ Maintenance	Administrative Elements
<p>Eareckson USAFS: LF028</p>	<ul style="list-style-type: none"> The location of the L0F28 and background information, in the form of a notice, will be recorded with the Aleutian Islands Recording District Recorder located in Anchorage, Alaska. This is a notice only and does not create any property interest or limitation. 	<ul style="list-style-type: none"> No excavation or use of groundwater as a drinking water source 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Indefinitely, to protect human and ecological receptors from potential exposures 	<ul style="list-style-type: none"> Uncovered debris will be removed and properly disposed of and additional cover will be placed in the area. Cover thickness and vegetation will be maintained as necessary to prevent erosion, promote drainage, and prevent escape of waste or leachate. IC monitoring reports will be prepared at a frequency of at least once every 5 years and provided to ADEC on an informational basis only, with copies filed in the administrative record and information repository. Five-Year Reviews 	<ul style="list-style-type: none"> The location of the L0F28 and background information in the form of a notice will be recorded with the Aleutian Islands Recording District Recorder located in Anchorage, Alaska. This is a notice only and does not create any property interest or limitation. The Eareckson AS comprehensive map and master plan will be updated to show the boundaries of the landfill to restrict excavation of soil and use of groundwater as a drinking water source. The Base Master Plan will contain a map indicating the location of LF28 with restrictions on any invasive activities that could potentially compromise the integrity of the cover exposing potential contaminants. Dig permits are required for any excavation on Eareckson AS. The Base Operating Service Contractor at Eareckson AS administers dig permits. Prior to approving a permit, the Eareckson AS comprehensive map and master plan will be reviewed to insure that invasive activities are not taking place within the boundary of the landfill where land use has already been restricted. USAF will notify the ADEC prior to making any major changes to the Base Master Plan that could affect the ICs. The USAF will obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow anticipated actions that may disrupt protectiveness of ICs. In the unlikely event that the property is to be transferred, the USAF will notify the ADEC prior to any transfer taking place. Any activity that is inconsistent with IC requirements, objectives, or controls, or any action that may interfere with the protectiveness of the IC, will be addressed by the USAF as soon as practicable after discovery. In no instance will the ADEC be notified later than 10 days after the USAF becomes aware of a deficiency.
<p>Eareckson USAFS: OT048</p>	<ul style="list-style-type: none"> Prevent access to or use of groundwater contaminated with TCE above ADEC cleanup levels 	<ul style="list-style-type: none"> No unauthorized invasive activities Prevent access to groundwater 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> The ICs will remain in effect until the TCE concentration in the groundwater is determined to be less than the ADEC groundwater cleanup level of 0.005 mg/L (18 AAC 75.345, Table C) for three consecutive monitoring periods or years, whichever is longer, whereupon monitoring can be terminated, with ADEC concurrence. 	<ul style="list-style-type: none"> Groundwater monitoring at least once every 2 years Five-Year Reviews 	<ul style="list-style-type: none"> The Eareckson AS General Plan (Plan) will be updated to show the boundaries of OT048 to restrict access to groundwater. The Plan will contain a map indicating the site location, with restrictions on any invasive activities. Dig permits issued by the Base Operating Contractor are required for any excavation at Eareckson AS. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the site that could potentially compromise natural processes that lead to attenuation of the contaminant concentration in the groundwater. This remedy has been selected under state law and the USAF will obtain concurrence from ADEC prior to terminating the ICs, modifying current land use, or allowing anticipated actions that might disrupt protectiveness of ICs. In the unlikely event that the property is to be transferred, the USAF will notify ADEC at least 30 days prior to any transfer taking place. The USAF will ensure, as appropriate, that any contractor, tenant, or other authorized occupant of land subject to LUCs is informed of the LUCs and is made subject to the requirements of such LUCs.
<p>Eareckson USAFS SS010 (Site PS-6 JP-4 Spill Vehicle Refueling)</p>	<p>The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. ICs will be maintained until cleanup levels (CLs) are attained. Inspections will be conducted periodically to confirm that ICs remain protective.</p>	<ul style="list-style-type: none"> Excavation, disturbance, or relocation of contaminated soil, and excavation or drilling in areas of groundwater contamination, will be restricted by the ICs and will not be conducted without prior Air Force and ADEC approvals. Use the Air Force's dig permit, construction review, and water well permit systems, or similar systems developed by the Base Operation Support contractor, to restrict inappropriate use or development of areas under ICs. Prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; and prevent the use of contaminated soil for restricted uses in the event of excavation and implement a soils management plan. The facility well permitting system will prevent any use of groundwater for drinking water. The land use at these sites is designated as industrial use only currently and in the future in the Base Master Plan 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Maintain the integrity of the ICs by using the Air Force's dig permit, construction review, and water well permit systems to restrict inappropriate use or development of areas under ICs. Maintain the integrity of the monitoring network by performing required maintenance to monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time. Long-term monitoring to be performed throughout the remediation period to provide the data needed to confirm that COC concentrations are attenuating. Contaminants and daughter products will be sampled at least at 2-year intervals, generally until CLs are met, or as reasonable to demonstrate plumes are stable and risk assumptions remain valid. Conduct performance reviews at each site every 2 years and submit a report to ADEC, until it is confirmed by two consecutive sampling events that contamination has attenuated to levels safe for unrestricted use, or it is otherwise confirmed that no threat to human health or the environment exists. Biennial performance reviews include an examination that remedial actions remain sound and protective, assumptions made during risk assessment are still valid, and that use of the site has not changed. The Air Force will include any intermediate remedial actions required by (or in preparation for) the 2-year performance review in the Eareckson AS operation and maintenance schedule. 	<ul style="list-style-type: none"> Delineate the boundaries of each site to restrict excavation of soil, as well as to prevent access to groundwater. Generate or update maps or figures showing locations of the residual contamination and ICs for inclusion in the Eareckson AS General Plan, Air Force Real Estate records, and the LUC Master Plan. Geographical Information System (GIS) data will be used to manage location data. Document ICs in the Air Force Real Property Records, Eareckson AS General Plan, AFCEC/CZOP IRP Records, and the AFCEC/CZOP LUC Management Plan. The Air Force will notify and obtain approval from ADEC prior to making any changes to the Base General Plan that could affect the ICs, and obtain prior concurrence from ADEC to modify or terminate the ICs, modify current land use, or allow actions that might disrupt the ICs. Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service. A Notice of Environmental Contamination will be recorded at the Alaska Department of Natural Resources (ADNR). Timely notification to ADEC of planned transfers, to include federal-to-federal transfers, of property subject to ICs. The Air Force will provide either access to or a copy of the executed deed or transfer assembly to ADEC. Notify ADEC of any violation of the ICs or any other activity that is inconsistent with the ICs or IC objectives, as well as any obstacles to correcting the same. The Air Force will monitor and inspect all site areas subject to ICs and submit a performance report to ADEC every 2 years, for the first 5 years after the date of the signed Decision Document, followed by a 5-year review. Five-year reviews will be conducted as long as hazardous substances are present onsite at concentrations that do not allow for unrestricted use and unlimited exposure. At that time, the frequency of inspections and reports may be reduced. The Air Force will also submit a long-term management sampling plan and subsequent sampling reports to ADEC for approval prior to removal of ICs. The frequency of inspections and reports will only be reduced if agreed upon by the ADEC and the Air Force. The Air Force will inform, monitor, and enforce ICs with contractors and other authorized occupants at Eareckson AS. Site specific remedies change somewhat as a result of the remedial design and construction processes. Changes, if they occur, to the remedy as described in this ROD will be documented using a technical memorandum in the Administrative Record, an Explanation of Significant Differences (ESD), or ROD amendment. Only minor changes may be made without additional public notice and/or involvement. The facility construction review process will prevent damage to existing monitoring wells. The facility Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site.
<p>Eareckson USAFS SS012 (Old White Alice Site)</p>	<p>The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. The ICs will prohibit future residential use, and restrict site worker use, groundwater use, excavation, and off-site removal of contaminated soil without prior Air Force and ADEC approval. LUCs and ICs will be maintained until CLs are attained and sites are suitable for unlimited use and unrestricted exposure</p>	<ul style="list-style-type: none"> ICs will be put in place in order to: <ul style="list-style-type: none"> restrict future site worker and maintenance worker exposure to residual contamination prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds prevent excavation and off-site movement of contaminated soil without prior ADEC and Air Force approval. The ICs will be maintained until the concentration of hazardous substances in the soil and groundwater are at such levels to allow for unlimited use and unrestricted exposure per ADEC concurrence. 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> The ICs will be maintained until the concentration of hazardous substances in the soil and groundwater are at such levels to allow for unlimited use and unrestricted exposure per ADEC concurrence. 	<ul style="list-style-type: none"> Maintain the integrity of the LUCs and ICs by using the Air Force's dig permit, construction review, and water well permit systems, to restrict inappropriate use or development of areas under ICs. Excavation, disturbance, or relocation of contaminated soil, and excavation or drilling in areas of groundwater contamination, will be restricted by the ICs. Maintain the integrity of the monitoring network by performing required maintenance of monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time. Conduct Five-Year Reviews at each site every 5 years and submit a report to ADEC, until it is confirmed that contamination has attenuated to levels safe for unrestricted use and unlimited exposure. Five-Year Reviews include an examination that remedial actions remain sound and protective, assumptions made during risk assessment are still valid, and that use of the site has not changed. The Air Force may self-perform the review, and will include any intermediate remedial actions required by (or in preparation for) the Five-Year Review in the Eareckson AS operation and maintenance schedule. Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service (USFWS). The Air Force will inform, monitor, and enforce LUCs and ICs with contractors and other authorized occupants at Eareckson AS and obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow actions that are consistent with the ICs. Monitor and inspect sites covered by LUCs annually and document the results in a report that will be submitted to ADEC. The annual reports will be used in preparation of the Five-Year Reviews to evaluate the effectiveness of the remedies. 	<ul style="list-style-type: none"> The Air Force will take the following actions to implement Long-term Management with ICs at Eareckson AS: <ul style="list-style-type: none"> Document risk exposure assumptions and reasonably anticipated land uses in the IC. Use the boundaries of LUCs and ICs included on the site figures in this document for inclusion in the Eareckson AS General Plan. Update the Base General Plan, Air Force Real Estate records, and the LUC Management Plan (forthcoming) to include ICs corresponding to each site. Geographical Information System (GIS) data in the Base General Plan and/or the Cleanup Module of the Enterprise Environmental, Safety, and Occupational Health – Management Information System (EESOH-MIS) will be used to manage location data. The Air Force will notify ADEC prior to making any changes to the Eareckson AS General Plan that could affect the ICs, and obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow actions that might disrupt the ICs.

TABLE 2-1

Description of Land Use Control Types Currently in Effect at Pacific Regional Support Center Environmental Restoration Program Sites

Land Use Control Management Plan 2015, Pacific Air Forces Regional Support Center Installations, Joint Base Elmendorf-Richardson, Alaska

Installation: IRP Site(s) with LUCs in Effect ¹	Purpose and Objectives	Prohibitions/Restrictions	Engineered Elements	Expected Durations	Monitoring/ Inspections/ Reporting/ Maintenance	Administrative Elements
<p>Eareckson USAFS SS023 Past Drum Storage Area (Asphalt Tar Drum Storage Area) ST035 (UST 132-2)</p>	<p>The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. ICs will be maintained until cleanup levels (CLs) are attained. Inspections will be conducted periodically to confirm that ICs remain protective.</p>	<ul style="list-style-type: none"> Excavation, disturbance, or relocation of contaminated soil, and excavation or drilling in areas of groundwater contamination, will be restricted by the ICs and will not be conducted without prior Air Force and ADEC approvals. Use the Air Force's dig permit, construction review, and water well permit systems, or similar systems developed by the Base Operation Support contractor, to restrict inappropriate use or development of areas under ICs. Prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; and prevent the use of contaminated soil for restricted uses in the event of excavation and implement a soils management plan. The facility well permitting system will prevent any use of groundwater for drinking water. The land use at these sites is designated as industrial use only currently and in the future in the Base Master Plan 	<ul style="list-style-type: none"> (None specified) 	<p>ICs will be maintained until cleanup levels (CLs) are attained.</p>	<ul style="list-style-type: none"> Maintain the integrity of the ICs by using the Air Force's dig permit, construction review, and water well permit systems to restrict inappropriate use or development of areas under ICs. Maintain the integrity of the monitoring network by performing required maintenance to monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time. Long-term monitoring to be performed throughout the remediation period to provide the data needed to confirm that COC concentrations are attenuating. Contaminants and daughter products will be sampled at least at 2-year intervals, generally until CLs are met, or as reasonable to demonstrate plumes are stable and risk assumptions remain valid. Conduct performance reviews at each site every 2 years and submit a report to ADEC, until it is confirmed by two consecutive sampling events that contamination has attenuated to levels safe for unrestricted use, or it is otherwise confirmed that no threat to human health or the environment exists. Biennial performance reviews include an examination that remedial actions remain sound and protective, assumptions made during risk assessment are still valid, and that use of the site has not changed. The Air Force will include any intermediate remedial actions required by (or in preparation for) the 2-year performance review in the Eareckson AS operation and maintenance schedule. 	<ul style="list-style-type: none"> Delineate the boundaries of each site to restrict excavation of soil, as well as to prevent access to groundwater. Generate or update maps or figures showing locations of the residual contamination and ICs for inclusion in the Eareckson AS General Plan, Air Force Real Estate records, and the LUC Master Plan. Geographical Information System (GIS) data will be used to manage location data. Document ICs in the Air Force Real Property Records, Eareckson AS General Plan, AFCEC/CZOP IRP Records, and the AFCEC/CZOP LUC Management Plan. The Air Force will notify and obtain approval from ADEC prior to making any changes to the Base General Plan that could affect the ICs, and obtain prior concurrence from ADEC to modify or terminate the ICs, modify current land use, or allow actions that might disrupt the ICs. Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service. A Notice of Environmental Contamination will be recorded at the Alaska Department of Natural Resources (ADNR). Timely notification to ADEC of planned transfers, to include federal-to-federal transfers, of property subject to ICs. The Air Force will provide either access to or a copy of the executed deed or transfer assembly to ADEC. Notify ADEC of any violation of the ICs or any other activity that is inconsistent with the ICs or IC objectives, as well as any obstacles to correcting the same. The Air Force will monitor and inspect all site areas subject to ICs and submit a performance report to ADEC every 2 years, for the first 5 years after the date of the signed Decision Document, followed by a 5-year review. Five-year reviews will be conducted as long as hazardous substances are present onsite at concentrations that do not allow for unrestricted use and unlimited exposure. At that time, the frequency of inspections and reports may be reduced. The Air Force will also submit a long-term management sampling plan and subsequent sampling reports to ADEC for approval prior to removal of ICs. The frequency of inspections and reports will only be reduced if agreed upon by the ADEC and the Air Force. The Air Force will inform, monitor, and enforce ICs with contractors and other authorized occupants at Eareckson AS. Site specific remedies change somewhat as a result of the remedial design and construction processes. Changes, if they occur, to the remedy as described in the ROD will be documented using a technical memorandum in the Administrative Record, an Explanation of Significant Differences (ESD), or ROD amendment. Only minor changes may be made without additional public notice and/or involvement. The facility construction review process will prevent damage to existing monitoring wells. The facility Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site.
<p>Eareckson USAFS SS025 (WWII Storage Tanks)</p>	<p>The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. ICs will be maintained until cleanup levels (CLs) are attained. Inspections will be conducted periodically to confirm that ICs remain protective.</p>	<ul style="list-style-type: none"> Excavation, disturbance, or relocation of contaminated soil, and excavation or drilling in areas of groundwater contamination, will be restricted by the ICs and will not be conducted without prior Air Force and ADEC approvals. Use the Air Force's dig permit, construction review, and water well permit systems, or similar systems developed by the Base Operation Support contractor, to restrict inappropriate use or development of areas under ICs. Prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; and prevent the use of contaminated soil for restricted uses in the event of excavation and implement a soils management plan. The facility well permitting system will prevent any use of groundwater for drinking water. The land use at these sites is designated as industrial use only currently and in the future in the Base Master Plan 	<ul style="list-style-type: none"> (None specified) 	<p>ICs will be maintained until cleanup levels (CLs) are attained.</p>	<ul style="list-style-type: none"> Maintain the integrity of the ICs by using the Air Force's dig permit, construction review, and water well permit systems to restrict inappropriate use or development of areas under ICs. Maintain the integrity of the monitoring network by performing required maintenance to monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time. Long-term monitoring to be performed throughout the remediation period to provide the data needed to confirm that COC concentrations are attenuating. Contaminants and daughter products will be sampled at least at 2-year intervals, generally until CLs are met, or as reasonable to demonstrate plumes are stable and risk assumptions remain valid. Conduct performance reviews at each site every 2 years and submit a report to ADEC, until it is confirmed by two consecutive sampling events that contamination has attenuated to levels safe for unrestricted use, or it is otherwise confirmed that no threat to human health or the environment exists. Biennial performance reviews include an examination that remedial actions remain sound and protective, assumptions made during risk assessment are still valid, and that use of the site has not changed. The Air Force will include any intermediate remedial actions required by (or in preparation for) the 2-year performance review in the Eareckson AS operation and maintenance schedule. 	<ul style="list-style-type: none"> Delineate the boundaries of each site to restrict excavation of soil, as well as to prevent access to groundwater. Generate or update maps or figures showing locations of the residual contamination and ICs for inclusion in the Eareckson Base General Plan, Air Force Real Estate records, and the LUC Master Plan. Geographical Information System (GIS) data will be used to manage location data. Document ICs in the Air Force Real Property Records, Eareckson AS General Plan, AFCEC/CZOP IRP Records, and the AFCEC/CZOP LUC Management Plan. The Air Force will notify and obtain approval from ADEC prior to making any changes to the Base General Plan that could affect the ICs, and obtain prior concurrence from ADEC to modify or terminate the ICs, modify current land use, or allow actions that might disrupt the ICs. Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service. A Notice of Environmental Contamination will be recorded at the Alaska Department of Natural Resources (ADNR). Timely notification to ADEC of planned transfers, to include federal-to-federal transfers, of property subject to ICs. The Air Force will provide either access to or a copy of the executed deed or transfer assembly to ADEC. Notify ADEC of any violation of the ICs or any other activity that is inconsistent with the ICs or IC objectives, as well as any obstacles to correcting the same. The Air Force will monitor and inspect all site areas subject to ICs and submit a performance report to ADEC every 2 years, for the first 5 years after the date of the signed Decision Document, followed by a 5-year review. Five-year reviews will be conducted as long as hazardous substances are present onsite at concentrations that do not allow for unrestricted use and unlimited exposure. At that time, the frequency of inspections and reports may be reduced. The Air Force will also submit a long-term management sampling plan and subsequent sampling reports to ADEC for approval prior to removal of ICs. The frequency of inspections and reports will only be reduced if agreed upon by the ADEC and the Air Force. The Air Force will inform, monitor, and enforce ICs with contractors and other authorized occupants at Eareckson AS. Site specific remedies change somewhat as a result of the remedial design and construction processes. Changes, if they occur, to the remedy as described in this ROD will be documented using a technical memorandum in the Administrative Record, an Explanation of Significant Differences (ESD), or ROD amendment. Only minor changes may be made without additional public notice and/or involvement. The facility construction review process will prevent damage to existing monitoring wells. The facility Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site.

TABLE 2-1

Description of Land Use Control Types Currently in Effect at Pacific Regional Support Center Environmental Restoration Program Sites
 Land Use Control Management Plan 2015, Pacific Air Forces Regional Support Center Installations, Joint Base Elmendorf-Richardson, Alaska

Installation: IRP Site(s) with LUCs in Effect ¹	Purpose and Objectives	Prohibitions/Restrictions	Engineered Elements	Expected Durations	Monitoring/ Inspections/ Reporting/ Maintenance	Administrative Elements
<p>Eareckson USAFS ST009 (Power Plant Spills) ST044 (Former UST 3051-1)</p>	<p>The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. The ICs will prohibit future residential use, and restrict site worker use, groundwater use, excavation, and off-site removal of contaminated soil without prior Air Force and ADEC approval.</p>	<p>- restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. - prohibit future residential use, and restrict site worker use, groundwater use, excavation, and off-site removal of contaminated soil without prior Air Force and ADEC approval. - LUCs and ICs will be maintained until CLs are attained and sites are suitable for unlimited use and unrestricted exposure. - Annual monitoring and inspections will be conducted by the Air Force to confirm that ICs remain protective.</p>	<p>• (None specified)</p>	<p>LUCs and ICs will be maintained until CLs are attained and sites are suitable for unlimited use and unrestricted exposure.</p>	<p>— Maintain the integrity of the LUCs and ICs by using the Air Force's dig permit, construction review, and water well permit systems, to restrict inappropriate use or development of areas under ICs. Excavation, disturbance, or relocation of contaminated soil, and excavation or drilling in areas of groundwater contamination, will be restricted by the ICs. — Maintain the integrity of the monitoring network by performing required maintenance of monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time. — Conduct Five-Year Reviews at each site every 5 years and submit a report to ADEC, until it is confirmed that contamination has attenuated to levels safe for unrestricted use and unlimited exposure. Five-Year Reviews include an examination that remedial actions remain sound and protective, assumptions made during risk assessment are still valid, and that use of the site has not changed. The Air Force may self-perform the review, and will include any intermediate remedial actions required by (or in preparation for) the Five-Year Review in the Eareckson AS operation and maintenance schedule. — Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service (USFWS). — The Air Force will inform, monitor, and enforce LUCs and ICs with contractors and other authorized occupants at Eareckson AS and obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow actions that are consistent with the ICs. — Monitor and inspect sites covered by LUCs annually and document the results in a report that will be submitted to ADEC. The annual reports will be used in preparation of the Five-Year Reviews to evaluate the effectiveness of the remedies.</p>	<p>— All site and maintenance workers at Eareckson AS will be informed of the surface soil contamination present upon arrival to Eareckson AS. — Document risk exposure assumptions and reasonably anticipated land uses in the IC. — Use the boundaries of LUCs and ICs included on the site figures in this document for inclusion in the Eareckson AS General Plan. Update the Base General Plan, Air Force Real Estate records, and the LUC Management Plan (forthcoming) to include ICs corresponding to each site. Geographical Information System (GIS) data in the Base General Plan and/or the Cleanup Module of the EESOH-MIS will be used to manage location data. — The Air Force will notify ADEC prior to making any changes to the Eareckson AS General Plan that could affect the ICs, and obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow actions that might disrupt the ICs.</p>
<p>Eareckson USAFS ST046 (Abandoned Tank Farm)</p>	<p>The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. ICs will be maintained until cleanup levels (CLs) are attained. Inspections will be conducted periodically to confirm that ICs remain protective.</p>	<p>• Excavation, disturbance, or relocation of contaminated soil, and excavation or drilling in areas of groundwater contamination, will be restricted by the ICs and will not be conducted without prior Air Force and ADEC approvals. • Use the Air Force's dig permit, construction review, and water well permit systems, or similar systems developed by the Base Operation Support contractor, to restrict inappropriate use or development of areas under ICs. • Prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; and prevent the use of contaminated soil for restricted uses in the event of excavation and implement a soils management plan.</p>	<p>• (None specified)</p>	<p>ICs will be maintained until cleanup levels (CLs) are attained.</p>	<p>• Maintain the integrity of the ICs by using the Air Force's dig permit, construction review, and water well permit systems to restrict inappropriate use or development of areas under ICs. • Maintain the integrity of the monitoring network by performing required maintenance to monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time. • Long-term monitoring to be performed throughout the remediation period to provide the data needed to confirm that COC concentrations are attenuating. Contaminants and daughter products will be sampled at least at 2-year intervals, generally until CLs are met, or as reasonable to demonstrate plumes are stable and risk assumptions remain valid. • Conduct performance reviews at each site every 2 years and submit a report to ADEC, until it is confirmed by two consecutive sampling events that contamination has attenuated to levels safe for unrestricted use, or it is otherwise confirmed that no threat to human health or the environment exists.</p>	<p>• Delineate the boundaries of each site to restrict excavation of soil, as well as to prevent access to groundwater. Generate or update maps or figures showing locations of the residual contamination and ICs for inclusion in the Eareckson AS General Plan, Air Force Real Estate records, and the LUC Master Plan. Geographical Information System (GIS) data will be used to manage location data. • Document ICs in the Air Force Real Property Records, Eareckson AS General Plan, AFCEC/CZOP IRP Records, and the AFCEC/CZOP LUC Management Plan. • The Air Force will notify and obtain approval from ADEC prior to making any changes to the Base General Plan that could affect the ICs, and obtain prior concurrence from ADEC to modify or terminate the ICs, modify current land use, or allow actions that might disrupt the ICs. • Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service. • A Notice of Environmental Contamination will be recorded at the Alaska Department of Natural Resources (ADNR). • Timely notification to ADEC of planned transfers, to include federal-to-federal transfers, of property subject to ICs. The Air Force will provide either access to or a copy of the executed deed or transfer assembly to ADEC. • Notify ADEC of any violation of the ICs or any other activity that is inconsistent with the ICs or IC objectives, as well as any obstacles to correcting the same. • The Air Force will monitor and inspect all site areas subject to ICs and submit a performance report to ADEC every 2 years, for the first 5 years after the date of the signed Decision Document, followed by a 5-year review. • Five-year reviews will be conducted as long as hazardous substances are present onsite at concentrations that do not allow for unrestricted use and unlimited exposure. At that time, the frequency of inspections and reports may be reduced. The Air Force will also submit a long-term management sampling plan and subsequent sampling reports to ADEC for approval prior to removal of ICs. The frequency of inspections and reports will only be reduced if agreed upon by the ADEC and the Air Force. • The Air Force will inform, monitor, and enforce ICs with contractors and other authorized occupants at Eareckson AS.</p>
<p>Eareckson USAFS ST050 (Storage Tank Farm) ST051 (Fuel Facility Building 525)</p>	<p>The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. ICs will be maintained until cleanup levels (CLs) are attained. Inspections will be conducted periodically to confirm that ICs remain protective.</p>	<p>• Excavation, disturbance, or relocation of contaminated soil, and excavation or drilling in areas of groundwater contamination, will be restricted by the ICs and will not be conducted without prior Air Force and ADEC approvals. • Use the Air Force's dig permit, construction review, and water well permit systems, or similar systems developed by the Base Operation Support contractor, to restrict inappropriate use or development of areas under ICs. • Prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; and prevent the use of contaminated soil for restricted uses in the event of excavation and implement a soils management plan. • The facility well permitting system will prevent any use of groundwater for drinking water. • The land use at these sites is designated as industrial use only currently and in the future in the Base Master Plan</p>	<p>• (None specified)</p>	<p>ICs will be maintained until cleanup levels (CLs) are attained.</p>	<p>• Maintain the integrity of the ICs by using the Air Force's dig permit, construction review, and water well permit systems to restrict inappropriate use or development of areas under ICs. • Maintain the integrity of the monitoring network by performing required maintenance to monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time. • Long-term monitoring to be performed throughout the remediation period to provide the data needed to confirm that COC concentrations are attenuating. Contaminants and daughter products will be sampled at least at 2-year intervals, generally until CLs are met, or as reasonable to demonstrate plumes are stable and risk assumptions remain valid. • Conduct performance reviews at each site every 2 years and submit a report to ADEC, until it is confirmed by two consecutive sampling events that contamination has attenuated to levels safe for unrestricted use, or it is otherwise confirmed that no threat to human health or the environment exists. • Biennial performance reviews include an examination that remedial actions remain sound and protective, assumptions made during risk assessment are still valid, and that use of the site has not changed. • The Air Force will include any intermediate remedial actions required by (or in preparation for) the 2-year performance review in the Eareckson AS operation and maintenance schedule.</p>	<p>• Delineate the boundaries of each site to restrict excavation of soil, as well as to prevent access to groundwater. Generate or update maps or figures showing locations of the residual contamination and ICs for inclusion in the Eareckson AS General Plan, Air Force Real Estate records, and the LUC Master Plan. Geographical Information System (GIS) data will be used to manage location data. • Document ICs in the Air Force Real Property Records, Eareckson AS General Plan, AFCEC/CZOP IRP Records, and the AFCEC/CZOP LUC Management Plan. • The Air Force will notify and obtain approval from ADEC prior to making any changes to the Base General Plan that could affect the ICs, and obtain prior concurrence from ADEC to modify or terminate the ICs, modify current land use, or allow actions that might disrupt the ICs. • Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service. • A Notice of Environmental Contamination will be recorded at the Alaska Department of Natural Resources (ADNR). • Timely notification to ADEC of planned transfers, to include federal-to-federal transfers, of property subject to ICs. The Air Force will provide either access to or a copy of the executed deed or transfer assembly to ADEC. • Notify ADEC of any violation of the ICs or any other activity that is inconsistent with the ICs or IC objectives, as well as any obstacles to correcting the same. • The Air Force will monitor and inspect all site areas subject to ICs and submit a performance report to ADEC every 2 years, for the first 5 years after the date of the signed Decision Document, followed by a 5-year review. • Five-year reviews will be conducted as long as hazardous substances are present onsite at concentrations that do not allow for unrestricted use and unlimited exposure. At that time, the frequency of inspections and reports may be reduced. The Air Force will also submit a long-term management sampling plan and subsequent sampling reports to ADEC for approval prior to removal of ICs. The frequency of inspections and reports will only be reduced if agreed upon by the ADEC and the Air Force. • The Air Force will inform, monitor, and enforce ICs with contractors and other authorized occupants at Eareckson AS. • Site specific remedies change somewhat as a result of the remedial design and construction processes. Changes, if they occur, to the remedy as described in this ROD will be documented using a technical memorandum in the Administrative Record, an Explanation of Significant Differences (ESD), or ROD amendment. Only minor changes may be made without additional public notice and/or involvement. • The facility construction review process will prevent damage to existing monitoring wells. • The facility Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site.</p>

TABLE 2-1

Description of Land Use Control Types Currently in Effect at Pacific Regional Support Center Environmental Restoration Program Sites

Land Use Control Management Plan 2015, Pacific Air Forces Regional Support Center Installations, Joint Base Elmendorf-Richardson, Alaska

Installation: IRP Site(s) with LUCs in Effect ¹	Purpose and Objectives	Prohibitions/Restrictions	Engineered Elements	Expected Durations	Monitoring/ Inspections/ Reporting/ Maintenance	Administrative Elements
Eareckson USAFS SS007 ST039	<ul style="list-style-type: none"> Prevent activities that could affect the performance of the selected remedies, to maintain current land uses, while protecting human health and the environment 	<ul style="list-style-type: none"> Use the Air Force's dig permit, construction review, and water well permit systems, or similar systems developed by the Base Operation Support contractor, to restrict inappropriate use or development of areas under ICs. 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> The ICs will remain in effect until the soil concentrations are determined to be less than 250 mg/kg DRO and 300 mg/kg GRO. 	<ul style="list-style-type: none"> SS007 will be monitored every 2 years from the effective date of the decision document. Periodic reports of ICs monitoring and long-term monitoring of the contaminant levels will be provided to ADEC. 	<ul style="list-style-type: none"> The Eareckson AS Base General Plan (Plan) will be updated to show the boundaries of SS007 and ST039 to restrict excavation of soil. The Plan will contain a map indicating site location, with restrictions on any invasive activities that could potentially compromise the integrity of the wetland and drainage system (at SS007) or the cover (ST039) so not to expose potential contamination. Groundwater will also be restricted at ST039. Dig permits issued by the Base Operating Contractor are required for any excavation at Eareckson AS. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the site where land use has already been restricted. Excavation and off-site transportation of contaminated soil will be conducted after obtaining ADEC approval per 18 AAC 75.325(i). The USAF will notify ADEC prior to making any major changes to the Plan that could affect the ICs. The USAF will obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow anticipated actions that may disrupt protectiveness of ICs. In the unlikely event that the property is to be transferred, the USAF will notify ADEC prior to any transfer taking place. Any activity that is inconsistent with the requirements, objectives, or controls of the ICs, or any action that may interfere with the protectiveness of the ICs, will be reported to ADEC and will be addressed by the USAF as soon as practicable after discovery.
Granite Mountain RRS: DA020 DA021 DP009 DP010 LF002 SS016 SS019	<ul style="list-style-type: none"> Limit human exposure to contaminants by restricting use of the sites Prevent human ingestion or direct contact of contaminants in soil containing fuel concentrations in excess of ADEC Method Two cleanup criteria (Lower Camp: DRO 250 mg/kg, RRO 10,000 mg/kg; Upper Camp: DRO 10,250 mg/kg, RRO 10,000 mg/kg) Prevent migration of contaminants offsite to drinkable water or ecologically sensitive areas 	<ul style="list-style-type: none"> Prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; and prevent the use of contaminated soil for restricted uses in the event of excavation and implement a soils management plan. 	<ul style="list-style-type: none"> Signs posted at the sites to let users know of the potential buried waste 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Documenting ICs in the Granite Mountain RRS General Plan, the AFCEC/CZOP IRP and real estate records, and ADNR records as applicable including information regarding: current land uses and allowed uses of the sites and geographic boundaries of IC The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF notify ADEC at least 6 months prior to any transfer or sale, then the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. The USAF will provide similar notice to ADEC within the same timeframes, for federal to federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal to federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
Granite Mountain RRS: SS017	<ul style="list-style-type: none"> Restrict access and limit human and ecological exposure to and use of petroleum-contaminated groundwater and to prevent the disturbance and spread of petroleum contamination Prevent human ingestion or direct contact of contaminants in soil containing fuel concentrations in excess of ADEC Method Two cleanup criteria (Lower Camp: DRO 250 mg/kg, RRO 10,000 mg/kg; Upper Camp: DRO 10,250 mg/kg, RRO 10,000 mg/kg) Prevent migration of contaminants offsite to drinkable water or ecologically sensitive areas 	<ul style="list-style-type: none"> The facility well permitting system will prevent any use of groundwater for drinking water. 	<ul style="list-style-type: none"> Signs posted at the sites to let site users know of the contaminated groundwater. 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Institutional controls will be reviewed every 5 years to ensure that land use has not changed and ICs remain effective in limiting public access to groundwater Performance reports detailing site inspections of the ICs and submitted to ADEC once every 5 years after implementation of the remedial action 	<ul style="list-style-type: none"> Characterizing and managing the groundwater by following the applicable regulations if petroleum-contaminated groundwater is used on or removed from the site Obtaining ADEC approval before removing or disposing of petroleum-contaminated groundwater at the site (pursuant to 18AAC75.325[i]) Documenting ICs in the Granite Mountain RRS General Plan, the AFCEC/CZOP IRP and real estate records, and ADNR records as applicable including information regarding current land uses and allowed uses of the sites and geographic boundaries of IC The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF notify ADEC at least 6 months prior to any transfer or sale, then the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. The USAF will provide similar notice to ADEC within the same timeframes, for federal to federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal to federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
Granite Mountain RRS: OT001	<ul style="list-style-type: none"> Protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment 	<ul style="list-style-type: none"> The land use at these sites is designated as industrial use only currently and in the future in the Base Master Plan 	<ul style="list-style-type: none"> Signs or monuments around landfill to maintain integrity of cap and prevent unauthorized access 	<ul style="list-style-type: none"> ICs will be maintained until the concentration of hazardous substances in the soil are at such levels to allow for unlimited use and unrestricted exposure (less than 1 mg/kg PCBs). 	<ul style="list-style-type: none"> Maintain integrity of landfill cover to prevent direct exposure Implement, maintain, monitor report, and enforce LUCs Monitoring to occur annually for the first 5 years (ROD issued in Jan 2011) in accordance with the solid waste permit, and once every 5 years subsequently Reporting will be subsequent to each monitoring event and will be placed in the administrative record, sent to ADEC, and sent to the Koyuk Indian Reorganization Act council. Report will state the frequency, scope, and nature of IC monitoring activities; the results of such monitoring activities; any proposed changes to the ICs; and any corrective measures resulting from monitoring during the time period. Five-Year Reviews 	<ul style="list-style-type: none"> The USAF shall include a notification describing the PCB contamination within the IC zone (Figure 1-4 in the ROD) in the USAF Real Estate Records at 611 CES. The notification will include the restriction of digging, relocation of soil within the zone, and ground disturbing construction activities. The USAF will inform, monitor, enforce, and bind, where appropriate, authorized lessees, tenants, contractors, and other authorized occupants of the site of ICs impacting the site. The USAF will retain ultimate responsibility for remedy implementation and protectiveness, although the USAF may transfer these procedural responsibilities to another party by contract, property transfer agreement, or through other means. The USAF shall notify the ADEC within 30 days of discovery if the ICs are found to be deficient or failing or if the land use changes. The USAF shall notify the ADEC at least 6 months prior to the transfer of the property subject to ICs, but if 6 months is not possible, ADEC must be notified as soon as possible but no less than 60 days prior to the transfer or property. The USAF will provide access to or a copy of the executed deed or transfer assembly to the ADEC. The USAF shall not modify or terminate ICs or modify land uses which may impact the effectiveness of the ICs or take any anticipated action that may disrupt the effectiveness of the ICs or any action that may alter or negate the need for ICs without seeking and obtaining approval from the ADEC 45 days prior to the change.
Indian Mountain: LF004 (Landfill No. 1) LF005 (Landfill No. 2)	<ul style="list-style-type: none"> LUCs will be put into place to maintain the landfill cover in order to prevent excavation of buried wastes or soil; and maintain the landfill cover at in order to prevent direct exposure to buried wastes. 	<ul style="list-style-type: none"> Prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; prevent the use of contaminated soil for restricted uses in the event of excavation; and implement a soils management plan. The station construction review process as outlined in the Base Master Plan will be used to avoid ground-disturbing construction activities and to ensure safe soil management procedures in areas with residual contamination. AFCEC/CZOP will receive ADEC approval prior to conducting intrusive site activities. 	<ul style="list-style-type: none"> Landfill cover Signage around the landfills to maintain the integrity of the cap and prevent unauthorized access. 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> The Air Force will implement, monitor, maintain, and enforce LUCs. The Air Force will monitor and inspect all site areas subject to ICs and submit a performance report to ADEC every year, for the first 5 years after the date of the signed decision document, followed by a 5-year review 	<ul style="list-style-type: none"> All ROD use limitations and exposure restrictions will be entered in the Base Master Plan and the GIS. The Indian Mountain LRRS comprehensive map and Base Master Plan will be updated to show the boundaries of each site to restrict excavation of soil. The Air Force will produce maps showing location of the residual contamination, and will provide these maps to ADEC. The ICs will be documented in the Air Force Real Property Records, Indian Mountain General Plan, AFCEC/CZOP IRP Records, and the AFCEC/CZOP Installation's LUC Management Plan. Timely notification to ADEC of planned transfers, to include federal-to-federal transfers, of property subject to ICs. The Air Force will also notify ADEC of any violation of the ICs or any other activity that is inconsistent with the ICs or IC objectives, as well as any obstacles to correcting the same. Implement a Soils Management Plan
Indian Mountain: LF006 SS002 SS010	<ul style="list-style-type: none"> Prevent potential risk to human health or the environment that may result if the residual POL contaminated soil were to be disturbed or relocated 	<ul style="list-style-type: none"> No unauthorized relocation or disturbance of residual POL-contaminated soil 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> The LUCs will remain in effect until the soil concentrations are determined to be less than 250 mg/kg DRO and 300 mg/kg GRO. 	<ul style="list-style-type: none"> Periodic reports of LUC monitoring will be provided to ADEC 	<ul style="list-style-type: none"> The Indian Mountain LRRS Base General Plan (Plan) will be updated to show the boundaries of the sites to restrict excavation of soil. The Plan will contain a map indicating site locations with restrictions on any invasive activities that could potentially compromise the integrity of the cover and expose potential contaminants. Dig permits issued by the base operating contractor are required for any excavation at Indian Mountain LRRS. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the sites where land use has already been restricted. The USAF will notify the ADEC prior to making any major changes to the Plan that could affect the LUCs. The USAF will obtain prior concurrence from ADEC to terminate the LUCs, modify current land use, or allow anticipated actions that may disrupt protectiveness of LUCs. In the unlikely event that the property is to be transferred, the USAF will notify the ADEC prior to any transfer taking place. Any activity that is inconsistent with LUC requirements, objectives, or controls, or any action that may interfere with the protectiveness of the LUCs, will be addressed by the USAF as soon as practicable after discovery. USAF land records and the Plan will be updated to include information on site boundaries and the LUCs requirements.

TABLE 2-1

Description of Land Use Control Types Currently in Effect at Pacific Regional Support Center Environmental Restoration Program Sites

Land Use Control Management Plan 2015, Pacific Air Forces Regional Support Center Installations, Joint Base Elmendorf-Richardson, Alaska

Installation: IRP Site(s) with LUCs in Effect ¹	Purpose and Objectives	Prohibitions/Restrictions	Engineered Elements	Expected Durations	Monitoring/ Inspections/ Reporting/ Maintenance	Administrative Elements
Indian Mountain: SS009 SS011	• Prevent the use of and/or exposure to those areas of the property, including water resources, that are contaminated.	<ul style="list-style-type: none"> • No use access to or use of groundwater until cleanup levels are met • No residential land use • No unauthorized disturbance, use, or disposal of contaminated soil 	• (None specified)	<ul style="list-style-type: none"> • ICs will be maintained until the concentration of hazardous substances in the soil and groundwater are at levels that allow for unlimited use and unrestricted exposure per ADEC concurrence. 	<ul style="list-style-type: none"> • SS009 - groundwater will be monitored for natural attenuation annually for 20 years, or until contaminants are below ADEC Table C cleanup levels for two consecutive sampling events • The Air Force will monitor and inspect all site areas subject to ICs and submit a performance report to ADEC every year, for the first 5 years after the date of the signed decision document, followed by a 5-year review. At that time, the frequency of inspections and reports may be reduced. 	<ul style="list-style-type: none"> • The facility well permitting system will prevent any use of groundwater for drinking water. • The facility construction review process will prevent damage to existing monitoring wells. • All ROD use limitations and exposure restrictions will be entered in the Base Master Plan and the Geographical Information System (GIS). • The facility construction review process will be used to avoid ground-disturbing construction activities and to ensure safe soil management procedures in areas with residual contamination. • The facility Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site. • USAF will notify ADEC at least 6 months (if possible, but 60 days at minimum) prior to transfer or sale of property with ICs • USAF will notify ADEC of any violation of the ICs or any other activity that is inconsistent with ICs or IC objectives as soon as possible, but no longer than 10 days after discovery. They will also notify ADEC upon completion of any corrective actions.
Kalakaket: LF002 (includes LF1 and LF2)	• Restrict access and limit exposure to and use of the petroleum• contaminated subsurface soil at LF001 and protect against potential future exposure to unknown contamination emanating from LF002	<ul style="list-style-type: none"> • No unauthorized excavation or disturbance of the final top cover at LF1 and LF2 • No construction on top of LF1 or LF2 without ADEC concurrence • No unauthorized excavation or disturbance of contaminated soil to prevent further groundwater contamination or placement of contaminated soil in environmentally sensitive areas • No movement of contaminated soil without ADEC approval, pursuant to 18 AAC 75325(j) • LF1• No unauthorized excavation or drilling in areas containing petroleum• contaminated groundwater • LF1• If petroleum• contaminated groundwater is used or removed from the site, the groundwater will be characterized and managed by following regulations applicable at the time. • LF1• Obtaining ADEC approval before removing or disposing of petroleum• contaminated groundwater at the site 	• (None specified)	<ul style="list-style-type: none"> • Visual monitoring to occur at LF1 and LF2 until ADEC approves discontinuation of visual monitoring • ICs and the requirements of 18 AAC 60 to remain as long as buried waste remains onsite • LF1• Groundwater LTM will proceed until the groundwater contaminant plume is shown to be stable or shrinking and contaminant concentrations are decreasing 	<ul style="list-style-type: none"> • Visual monitoring of top cover at each landfill for signs of settlement, subsidence, erosion, or other such events once every 5 years • Maintaining the integrity of the final top cover of each landfill to limit exposure to landfill contents and subsurface soils• includes making repairs and preventing run• on or run• off from eroding or otherwise damaging the cover material • Submittal of a Performance Report (Five• Year Review) on ICs to ADEC once every 5 years after implementation of the remedial action (ROD signed 2011) • Groundwater monitoring and reporting to ADEC annually at LF1 for five years after implementation of remedial action for GRO, DRO, RRO, VOCs, and PAHs; after 5 years, may revise schedule with ADEC approval; report to include comparison of current/historic results 	<ul style="list-style-type: none"> • LF1 and LF2 are subject to the requirements of 18 AAC 60, which address inherent risk associated with landfills (included as part of remedy). • Inclusion and documentation of all ICs in USAF Real Property Records, Kalakaket RRS General Plan, and 611 CES IRP Records, including information about the following: <ul style="list-style-type: none"> *Current land uses and allowed uses of IRP Site LF002 * Geographic extent of the IC boundaries (shown in Figure 1• 2 of ROD) *Maintaining existing administrative controls such as reviews under the National Environmental Policy Act, performed during project scoping and approval processes
Kalakaket: OT001	• Restrict access and limit exposure to and use of petroleum• contaminated soil	<ul style="list-style-type: none"> • No excavation or disturbance of petroleum• contaminated soil in environmentally sensitive areas • No movement of petroleum• contaminated soil without prior ADEC approval (pursuant to 18 AAC 75.325(j)) • No unauthorized excavation or drilling in areas containing petroleum• contaminated groundwater • If petroleum• contaminated groundwater is used or removed from the site, characterizing and managing the groundwater by following regulations applicable at the time. • No unauthorized removal or disposal of petroleum• contaminated groundwater from the site without ADEC approval (18 AAC 75.325(j)) 	• (None specified)	<ul style="list-style-type: none"> • When cleanup levels are achieved in soil as shown in Table 1• 1 of the Decision Document, ICs may be terminated with ADEC agreement. • Groundwater LTM will proceed until the groundwater contaminant plume is shown to be stable or shrinking and contaminant concentrations are decreasing. 	<ul style="list-style-type: none"> • An inspection of the site and submittal of a Performance Report on ICs to ADEC once every 5 years after implementation of the remedial action. • Submittal of a sampling plan and sampling report to ADEC for approval prior to removal of ICs • Sampling of groundwater monitoring wells at PT1 annually for volatile organic compounds, polynuclear aromatic hydrocarbons, DRO, and RRO after implementation of the remedial action; monitoring frequency may be revised after 5 years by agreement with ADEC • Submittal of a sampling report annually to ADEC with results of the current groundwater sampling event compared to historical results • Submittal of a Performance Report on ICs to ADEC once every 5 years after implementation of the remedial action (DD signed 2010) 	<ul style="list-style-type: none"> • Inclusion and documentation of all ICs in USAF Real Property Records, Kalakaket RRS General Plan, and 611 CES IRP Records, including information about the following: <ul style="list-style-type: none"> *Current land uses and allowed uses of IRP Site OT001 *Geographic extent of the IC boundaries (shown in Figure 1• 3 of ROD) *Maintaining existing administrative controls such as reviews under the National Environmental Policy Act (NEPA) performed during project scoping and approval processes *Maintaining existing administrative controls such as reviews under the National Environmental Policy Act (NEPA)
King Salmon: LF005 LF014	• Address the possible chemical exposures and associated risk to human health and the environment by minimizing the potential for exposures to site contaminants and offsite contaminant migrations	• No unauthorized public access	<ul style="list-style-type: none"> • 6• foot• high chain• link fence along the perimeter of the bluffs to protect the integrity of the caps • Signs warning the public of the contents of the fenced areas 	• (None specified)	<ul style="list-style-type: none"> • Surface water, groundwater, and sediment monitoring • Determine if landfill gas is present • Cap inspections and evaluation for erosion or subsidence • Implement a management program for the wetlands areas of the site, including surface water and sediment monitoring, and possibly construction of berms, dikes or ditches to manipulate the flow of water and enhance the treatment of affected surface water and sediments • Five-Year Reviews 	• (None specified)
King Salmon: OT027 (covers gw restrictions for DP023, SS011, SS015)	• Address the risk to human health and the environment caused by hypothetical exposure to petroleum product floating on groundwater and TCE• contaminated groundwater, surface water, and sediment	• Drinking water is to be obtained from C• aquifer only. No drinking water wells are to be installed in the A• and B• aquifers.	• (None specified)	• Groundwater, surface water, and sediment to be conducted annually for TCE for 25 years	<ul style="list-style-type: none"> • Groundwater, surface water, and sediment will be conducted annually for TCE. Groundwater contamination will be modeled every 5 years to assess TCE fate and transport. • Five-Year Reviews 	• Because this remedy will result in hazardous substances remaining onsite above risk• based levels, it will be reviewed by USAF and ADEC at a frequency of not less than once every 5 years after implementation of the selected remedy to evaluate if the remedy continues to be effective and appropriate, input from the Naknek/South Naknek Native Village Council, King Salmon Village Council, federal and state trustees, and the King Salmon Restoration Advisory Board (RAB) will be solicited prior to implementing any significant changes.
King Salmon: OT028	• Address the risk to human health and the environment caused by hypothetical exposure to petroleum hydrocarbon constituents and the chlorinated solvent, TCE in site soil, groundwater, and surface water (sites include OT28, SS20, SS21, and SS22)	• No installation of drinking water wells in the A• Aquifer	• (None specified)	• (None specified)	<ul style="list-style-type: none"> • MNA to confirm predicted RAOs are met, including contaminant levels should show a decreasing trend with a predicted end point of reaching cleanup levels within 25 years and contaminants (specifically TCE) detected at the points of compliance may not exceed action levels shown in ROD Table on page iv• • points of compliance refer to one or more of the groundwater monitoring wells or well points adjacent to Eskimo Creek • Annual groundwater and surface water monitoring with a Five• Year Review consistent with a comprehensive monitoring plan to be developed by the agencies • Groundwater modeling every 5 years (monitoring parameters on page iii of ROD). • After the site MNA conditions have been established and evaluated during the Five• Year Review, sampling for MNA parameters may be performed on a less• frequent basis. • Five-Year Reviews 	• Institutional controls (documented in the Base Master Plan and state land records) to restrict installation of drinking water wells or other intrusive activities that would not be appropriate during remediation

TABLE 2-1

Description of Land Use Control Types Currently in Effect at Pacific Regional Support Center Environmental Restoration Program Sites

Land Use Control Management Plan 2015, Pacific Air Forces Regional Support Center Installations, Joint Base Elmendorf-Richardson, Alaska

Installation: IRP Site(s) with LUCs in Effect ¹	Purpose and Objectives	Prohibitions/Restrictions	Engineered Elements	Expected Durations	Monitoring/ Inspections/ Reporting/ Maintenance	Administrative Elements
King Salmon: SS020 SS021 SS022	• Address the risk to human health and the environment caused by hypothetical exposure to petroleum hydrocarbon constituents and the chlorinated solvent, TCE in site soil, groundwater, and surface water (sites include OT028, SS020, SS021, and SS022)	• No installation of drinking water wells in the A Aquifer in SS022 • No unauthorized excavations and other subsurface activities in SS020, SS021, and SS022	• (None specified)	• (None specified)	• Soil sampling to confirm cleanup levels have been achieved (SS020, SS021) • Annual groundwater monitoring (SS020, SS021) • Five Year Review (SS020, SS021) • Removing surface debris as needed, filling in surface depressions to facilitate surface water drainage and minimize ponding, revegetating the cap surface where needed • Annual long term groundwater and surface water monitoring with a Five Year Review (monitoring parameters on page iii of ROD).	• Institutional controls (documented in the Base Master Plan and state land records) to minimize human contact with contaminated soil (e.g., institutional controls will restrict excavations and other subsurface activities at the site) (SS020, SS021)
King Salmon: OT029 (covers gw restrictions for LF005, LF014)	• Protect human health and the environment from risks associated with exposure to contaminated soil, sediment, groundwater, and surface water	• No installation of drinking water wells or soil excavation at LF005 or LF014 • No unauthorized site access • No unauthorized land use	• Fencing	• (None specified)	• The wooden barrier fencing constructed at the bluffs to prevent unauthorized site access will be inspected monthly for damage or vandalism, and maintained/repared as necessary. • An inspection and maintenance program has been developed and implemented for the bluff caps. This program will continue at both sites following plans outlined in the Draft Operation, Monitoring, and Maintenance Manual, North and South Barrel Bluffs, King Salmon, Alaska (Hart Crowser, 1999). • Operation and maintenance of the water treatment system at South Bluff (LFO14) will continue according to plans outlined in the monitoring and maintenance manual (Hart Crowser, 1999). • Groundwater and surface water monitoring at the bluffs will continue on an annual basis following procedures outlined in the revised monitoring plan (Bristol/OASIS, 1999a). • Five-Year Reviews	• The USAF will modify the General Plan and appropriate land records (i.e., deeds) to include approved institutional controls, which restrict future installation of drinking water wells and soil excavation at both sites. Land use restrictions and land surveys will be included in the General Plan, which is scheduled for completion by October 2000. • The remedy summarized above and detailed in the 2000 ROD will be reviewed by USAF, ADEC, and EPA at a frequency of not less than once every 5 years to evaluate if the remedy continues to be effective and appropriate. The first review will be conducted by 2005. Input from the Naknek South Naknek Native Village Council, King Salmon Village Council, Federal and State trustees, and the King Salmon Restoration Advisory Board (RAB) will be solicited prior to implementing any changes.
King Salmon: OT030 LF008 SS012	• Address the risk to health or the environment caused by hypothetical exposure of a future resident to contaminated surface soil, sediment, groundwater, and surface water by reducing DRO and VOC contamination to below cleanup levels established for the sites	• No installation of wells for any purpose other than groundwater monitoring within OT030 until three consecutive monitoring events indicate cleanup levels have been achieved • No soil excavation within OT030	• (None specified)	• Monitoring will continue at each SS012 and OT030 sampling location until three successive monitoring events indicate the contaminant levels are below cleanup levels at that location. If no additional contamination is detected above cleanup levels, the monitoring will be discontinued.	• Annual groundwater, surface water, and sediment monitoring • Operation of existing product recovery system • Landfill cap inspections in spring and fall of each year for evidence of erosion • In situ bioventing to be considered if monitoring results indicate that RAOs are not likely to be reached within 25 years (ROD issued 1999)	• Upon acceptance of this DD, an order will be issued by the Commander, 611 ASG, prohibiting the construction of wells for any purposes other than groundwater monitoring within Zone 4 until three consecutive monitoring events indicate that cleanup levels have been achieved.
Kotzebue LRRS: SD003 SS001 SS006 SS008 SS009 SS010 SS011 ST004	• Prevent unacceptable and/or significant risk to human health, safety, or welfare, or the environment	• Soil containing residual contamination at these sites may not be placed in surface water or other environmentally sensitive areas.	• (None specified)	• (None specified)	• (None specified)	• ADEC approval is required prior to disposing soil or water from the site.
Kotzebue LRRS: SS002 ST005	• Reduce the potential for landfill contents to impact human health • Demonstrate non degradation of surface water due to migration of TAH and TAQH contaminated groundwater	• No disturbance of surface or sub surface soil at either site without ADEC approval	• (None specified)	• As long as undocumented wastes (POL contamination) remains buried at SS002 • LUCs will be implemented and maintained as long as near beach sampling/modeling of surface water and groundwater TAH and TAQH concentrations indicate possible groundwater migration from ST005 and contribution to surface water contaminant levels nearby. LUCs will continue until TAH and TAQH concentrations reach the cleanup criteria in this ROD. • Sampling/monitoring will occur until USAF demonstrates, through modeling, that no degradation of the adjacent surface water is occurring. The estimated duration of this sampling/monitoring is assumed to be 5 years or less.	• Sampling of surface water and near beach groundwater for TAH and TAQH concentrations will be conducted to develop a model of groundwater migration and possible contribution to surface water contaminant levels.	• Notice in the USAF land records to prohibit disturbance of surface or sub surface soil at either site without ADEC approval to prevent possible exposure to fuel contaminants • Notice in USAF land records to prohibit disturbance within SS002 of surface or sub surface soil without ADEC concurrence to prevent possible exposure of landfill contents at SS002. • The areas of LUCs for SS002 and ST005 are shown in the shaded areas of Figure 1 of the 2007 ROD. • Provide for a survey and document LUC boundaries in the Kotzebue LRRS Base General Plan and USAF Land Records.
Kotzebue LRRS: SS012 SS018	• Reduce the potential for risk to human health associated with ingestion or inhalation of DRO contaminated soil • Control offsite migration of contaminants to surface or groundwater.	• DRO contaminated soil is not to be moved or disturbed without notifying ADEC.	• (None specified)	• LUCs (also known as institutional controls under 18 AAC 75.375) will be implemented and maintained as long as DRO in soil remains above 12,500 mg/kg.	• Monitoring for natural attenuation parameters and contaminant levels every 5 years • Visual inspection for presence of a sheen at seasonal surface water ponds located at the downgradient edge of the sites every 5 years • Long term monitoring for potential migration of DRO offsite and into downgradient groundwater will be addressed by monitoring groundwater at ST005 located on the beach adjacent to Kotzebue Sound for five years.	• LUCs will consist of notice in the Base General Plan to inform site workers that DRO contaminated soil is not to be moved or disturbed without notifying ADEC.

TABLE 2-1

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Land Use Control Management Plan 2015, Pacific Air Forces Regional Support Center Installations, Joint Base Elmendorf-Richardson, Alaska

Installation: IRP Site(s) with LUCs in Effect ¹	Purpose and Objectives	Prohibitions/Restrictions	Engineered Elements	Expected Durations	Monitoring/ Inspections/ Reporting/ Maintenance	Administrative Elements
Lake Louise Rec Camp OT001	<ul style="list-style-type: none"> Prevent unacceptable and/or significant risk to human health, safety, or welfare, or the environment 	<ul style="list-style-type: none"> For soil, an LUC in the form of a notation in the LLRC land records management plan will be put in place indicating that environmental contamination remains at the site above ADEC cleanup levels. Because soil will remain onsite with DRO between 250 mg/Kg and 10,250 mg/Kg, there will still be restrictions to the movement of this soil until the DRO naturally attenuates to below 250 mg/Kg. For groundwater, an LUC in the form of a deed notation will be put in place stating that the shallow groundwater should not be used as a drinking water source and the installation of drinking water wells will be prohibited. DRO in groundwater will be allowed to attenuate naturally and long term monitoring will be conducted to assess groundwater concentrations and to determine when the LUCs are no longer needed. 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Until DRO in soil naturally attenuates to below 250 mg/kg and until DRO and PAH concentrations naturally attenuate in groundwater below the ADEC cleanup levels. 	<ul style="list-style-type: none"> DRO soil sampling will initially occur annually. The USAF will report the results of monitoring activities to the ADEC. At the first five year point, and each successive five year interval, a review will be conducted to evaluate the data. Long term monitoring of groundwater will be conducted annually. At the first five year point, and each successive five year interval, a review will be conducted to evaluate the data and determine if the remedy is effective or needs modification. 	<ul style="list-style-type: none"> LUCs will apply to the entire OT001 site. The USAF will be responsible for the implementation of LUCs (notations in LLRC land records management plan), along with any associated activities including monitoring, enforcement, and reporting. The USAF will ensure, as appropriate that any contractor or other authorized occupant of the property subject to LUCs is informed of the LUCs and is made subject to the requirements of the LUCs. The USAF will obtain ADEC concurrence for any changes to activities or restrictions and will provide prompt notification to ADEC of an LUC failure, along with a description of any corrective measures taken or planned. The USAF will provide prior notification to ADEC for the transfer of property associated with LUCs. The USAF may transfer procedural responsibilities to another party by contract, property transfer agreement, or through other means; however, the USAF shall retain ultimate responsibility for remedy integrity. The USAF will record an LUC in the form of a deed notation will be put in place preventing the shallow groundwater from being used as a drinking water source.
Naknek Recreation Camp 1: OT032 LF003 SS004 ST001	<ul style="list-style-type: none"> Ensure no exposure pathways exist to the contamination at Rapids Camp 	<ul style="list-style-type: none"> Concentrations of petroleum hydrocarbons (DRO) in the groundwater will be allowed to degrade through natural attenuation. To prevent the possibility of exposure to DRO in the groundwater during the period of natural attenuation (to at or below the groundwater cleanup level of 1.5 mg/L), an LUC in the form of a deed notation will be put in place preventing the shallow groundwater from being used as a drinking water source. 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Until field and analytical data support the conclusion that contamination levels remain below ADEC 18 AAC 75 Table C groundwater cleanup levels (determined during a Five Year Review) 	<ul style="list-style-type: none"> Annual groundwater monitoring Landfill cap inspection and maintenance Five-Year Reviews 	<ul style="list-style-type: none"> Include exact areas of LUCs in survey data If land transfer occurs, USAF will retain right of entry for monitoring purposes or investigating any additional (newly discovered) contamination. LUCs enforced through General Plan and orders, as necessary, from the Commander of the King Salmon Air Station
Naknek Recreation Camp 2: LF001 SS004 SS005	<ul style="list-style-type: none"> Prevent drinking of groundwater contaminated above 18AAC 75.345 Ensure proper management of soil contaminated above Method Two Cleanup levels 	<ul style="list-style-type: none"> No installation of water supply wells No excavation without proper soil and waste management plan 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Periodic visual inspections will be conducted to verify effectiveness of LUCs. 	<ul style="list-style-type: none"> Notice that soil exceeds ADEC Method Two cleanup levels protective of unrestricted use LUCs documented in King Salmon Base General Plan and with District Recorder for King Salmon Area; King Salmon Base General Plan to include a map of the LUC locations USAF to coordinate with ADEC regarding any changes to LUCs, land use, and activities that might disrupt effectiveness of LUCs. USAF dig permit and construction review system to restrict incompatible activities from the sites Property transfer to require USAF right of entry to continue site monitoring, transfer documents to include description of remaining contamination, and would be require ADEC approval.
Nikolski: OT001 (TU019 included administratively)	<ul style="list-style-type: none"> Protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment Prevent exposure to non-CERCLA COCs remaining in place after implementation of the selected remedy Reduce human or environmental exposure to contamination, and prevent activities that may result in increased exposure or spread the extent of contamination 	<ul style="list-style-type: none"> No surface excavations or digging without ADEC approval Area not to be used for residential purposes 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> The ICs will remain in effect indefinitely or until the COCs at OT001 are below applicable 18 AAC 75 cleanup levels, at which point the ICs can be eliminated with the approval of ADEC in accordance with 18 AAC 75.375(f). 	<ul style="list-style-type: none"> USAF will conduct Five-Year Reviews of the remedy since substances will remain onsite at levels above applicable State of Alaska cleanup levels specified in 18 AAC 75. These Five-Year Reviews will also report on the effectiveness of the ICs. Reviews may become more frequent if conditions change. USAF will also provide a monitoring report to ADEC every 5 years after each monitoring event. 	<ul style="list-style-type: none"> All surface excavation or digging activities within Tract 37C are subject to ADEC approval as may be required by State of Alaska regulations [e.g., 18 AAC 75.325(i)] The ICs established by the State of Alaska regulations will remain in effect indefinitely or until the COCs at OT001 are below applicable 18 AAC 75 cleanup levels, at which point the ICs can be eliminated with the approval of ADEC in accordance with 18 AAC 75.375(f). If the site remedy is found to be deficient during an inspection, ADEC will be contacted and further corrective action will be planned. ADEC will be notified if the property subject to ICs is transferred or if any significant changes are made to the use and activity restrictions of the ICs.
Nikolski: WP007	<ul style="list-style-type: none"> Protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment Limit the use of those areas of the site that have contamination remaining in place Reduce human or environmental exposure to contamination, and prevent activities that may result in increased exposure or spread the extent of contamination 	<ul style="list-style-type: none"> No surface excavations or digging without ADEC approval Area not to be used for long term residential purposes No residential use or occupancy within Tract 37C in excess of 33 days per year by any one individual (40 CFR 761.3) 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> The ICs will remain in effect indefinitely or until the COCs at WP007 are below applicable 18 AAC 75 cleanup levels, at which point the ICs can be eliminated with the approval of ADEC in accordance with 18 AAC 75.375(f). 	<ul style="list-style-type: none"> USAF will conduct Five-Year Reviews of the remedy since substances will remain onsite at levels above applicable State of Alaska cleanup levels specified in 18 AAC 75. These Five-Year Reviews will also report on the effectiveness of the ICs. Reviews may become more frequent if conditions change. USAF will also provide a monitoring report to ADEC every 5 years after each monitoring event. 	<ul style="list-style-type: none"> All surface excavation or digging activities within Tract 37C are subject to ADEC approval as may be required by State of Alaska regulations [e.g., 18 AAC 75.325(i)]. The ICs established by the State of Alaska regulations will remain in effect indefinitely or until the COCs at WP007 are below applicable 18 AAC 75 cleanup levels, at which point the ICs can be eliminated with the approval of ADEC in accordance with 18 AAC 75.375(f) If the site remedy is found to be deficient during an inspection, ADEC will be contacted and further corrective action will be planned. ADEC will be notified if the property subject to ICs is transferred or if any significant changes are made to the use and activity restrictions of the ICs.
Nikolski: SS006 (Former Drum Storage Area)	<ul style="list-style-type: none"> Protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment Limit the use of those areas of the site that have contamination remaining in place Reduce human or environmental exposure to soil and groundwater contamination, and prevent activities that may result in increased exposure or spread the extent of contamination 	<ul style="list-style-type: none"> No residential use. No excavation without prior ADEC approval. 	<ul style="list-style-type: none"> Fence 	<ul style="list-style-type: none"> The ICs will remain in effect indefinitely or until the COCs at SS006 are below applicable 18 AAC 75 cleanup levels, at which point the ICs can be eliminated with the approval of ADEC in accordance with 18 AAC 75.375(f). 	<ul style="list-style-type: none"> Annual monitoring until TCE and breakdown products are in steady state or decreasing for three consecutive monitoring events. Conduct 5-year reviews. Maintain fence. 	<ul style="list-style-type: none"> Conduct 5-year reviews. All surface excavation or digging activities within Tract 39A are subject to ADEC approval as may be required by State of Alaska regulations [e.g., 18 AAC 75.325(i)],2008. The ICs established by the State of Alaska regulations will remain in effect indefinitely or until the COCs at SS06 are below applicable 18 AAC 75 cleanup levels, at which point the ICs can be eliminated with the approval of ADEC in accordance with 18 AAC 75.375(f)
Nikolski: ST017	<ul style="list-style-type: none"> Limit the use of and exposure to surface water down slope from ST017 that is contaminated with TCE in excess of 5.0 ug/L Protect the public health or welfare or the environment from historic releases of hazardous substances into the environment 	<ul style="list-style-type: none"> No use of surface water downgradient of ST017 for drinking water until TCE concentrations are below 5.0 ug/liters 	<ul style="list-style-type: none"> Signs warning individuals against use of the seep area down slope of site ST017 as a drinking water source. 	<ul style="list-style-type: none"> The ICs would remain in effect indefinitely or until such time the COC (TCE) levels are below the applicable MCL (5.0 micrograms/Liter) The signage will remain in place until the TCE concentration falls below the MCL (5.0 ug/L). 	<ul style="list-style-type: none"> Long term surface water monitoring on adjacent Chaluka Corporation property every five years, starting in 2012 Five-Year Reviews (which will report on the effectiveness of the ICs as well as the level of TCE remaining in the surface water) IC monitoring reports prepared periodically and submitted to ADEC 	<ul style="list-style-type: none"> (None specified)

TABLE 2-1

Description of Land Use Control Types Currently in Effect at Pacific Regional Support Center Environmental Restoration Program Sites

Land Use Control Management Plan 2015, Pacific Air Forces Regional Support Center Installations, Joint Base Elmendorf-Richardson, Alaska

Installation: IRP Site(s) with LUCs in Effect ¹	Purpose and Objectives	Prohibitions/Restrictions	Engineered Elements	Expected Durations	Monitoring/ Inspections/ Reporting/ Maintenance	Administrative Elements
North River: S0001	<ul style="list-style-type: none"> Protect human health and the environment ICs to restrict access to, and limit human and ecological exposure to and use of contaminated groundwater at the site. Prevent ingestion or direct contact of contaminants in soil and groundwater containing fuel concentrations in excess of ADEC cleanup criteria. 	<ul style="list-style-type: none"> No unauthorized access to contaminated soil or groundwater 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Monitor contaminated landfarm soil until cleanup levels have been met, at which point the clean soil will be used as backfill at the sites Long term monitoring of the groundwater will occur until cleanup level of 1.5 mg/L DRO in groundwater has been achieved. 	<ul style="list-style-type: none"> Monitor contaminated landfarm soil until cleanup levels have been met, at which point the clean soil will be used as backfill at the sites Groundwater monitoring. Five-Year Reviews 	<ul style="list-style-type: none"> (None specified)
North River: OT001	<ul style="list-style-type: none"> To protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment To restrict access to, and limit human and ecological exposure to and use of asbestos and landfill contents. Prevent ingestion of, and direct contact with, contaminants in soil containing PCBs in excess of 1.0 mg/kg 	<ul style="list-style-type: none"> Restricting excavation or disturbance of the landfill cover and contents to prevent exposure to asbestos and to maintain the integrity of the cap 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Five-Year Reviews 	<ul style="list-style-type: none"> Inclusion and documentation of ICs in the USAF Real Property Records and North River RRS General Plan, including information about the following: <ul style="list-style-type: none"> Current land uses and allowed uses of the landfills. Geographic boundaries of the ICs.
Ollitok Point RRS: LF001 LF002 (Old Dump)	<ul style="list-style-type: none"> Prevent excavation into or development over buried solid waste and potentially hazardous materials in the former RRS landfill, and maintain current land use designation 	<ul style="list-style-type: none"> Restricting construction or demolition disturbance on top of LF001 without prior concurrence from ADEC. Restricting access and excavation or disturbance of contaminated soil. 	<ul style="list-style-type: none"> Top cover 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Monitoring, maintenance, and annual inspection of the top cover currently in place at LF001. Maintaining the integrity of the cover of LF001 Submittal of a Performance Report/Annual Inspection report on ICs to ADEC annually 	<ul style="list-style-type: none"> Five-year reviews will be conducted to ensure the remedy remains protective as long as contaminants levels do not allow for unrestricted land use Inclusion and documentation of all ICs in the AFCEC/CZOP CES IRP Records, Base Master Plan and appropriate real estate files Geographic extent of the IC boundaries Record a Notice of Environmental Contamination in the state land records at the appropriate Department of Natural Resources recording district Prompt notification of ADEC of LUC deficiency/failure along with corrective measures taken or planned ADEC concurrence for significant changes to use and activity restrictions and LUCs and for significant changes. Prior notification to ADEC for transfer of property subject to ICs.
Ollitok Point RRS: SS010 (Garage)	<ul style="list-style-type: none"> Restricting construction or demolition disturbance on top of SS010 until the garage is demolished, and contaminated soil underneath the garage is removed and treated or disposed of properly. 	<ul style="list-style-type: none"> Restricting construction or demolition disturbance on top of SS010 without prior concurrence from Air Force and ADEC. Restricting access and excavation or disturbance of contaminated soil. 	<ul style="list-style-type: none"> Fence and signage 	<ul style="list-style-type: none"> Once the garage is demolished, contaminated soil underneath the garage will be removed and treated or disposed of properly. 	<ul style="list-style-type: none"> Monitoring and maintenance of the fence and signs currently in place at SS010. Maintaining the integrity of the site by restricting construction or demolition or any other ground disturbance of SS010 without prior concurrence from the Air Force and ADEC. Annual inspections and five-year reviews will be conducted. Submittal of a Performance Report/Annual Inspection report on ICs to ADEC annually 	<ul style="list-style-type: none"> Five-year reviews will be conducted to ensure the remedy remains protective as long as contaminants levels do not allow for unrestricted land use Inclusion and documentation of all ICs in the AFCEC/CZOP IRP Records, Base Master Plan and appropriate real estate files Geographic extent of the IC boundaries Record a Notice of Environmental Contamination in the state land records at the appropriate Department of Natural Resources recording district Submittal of a Performance Report/Annual Inspection report on ICs to ADEC annually Prompt notification to ADEC of LUC deficiency/failure along with corrective measures taken or planned Prior notification to ADEC for transfer of property subject to LUCs.
Ollitok Point RRS: SS005 SS007 ST008	<ul style="list-style-type: none"> Prevent improper disposal/transport of soil above 18 AAC 75.341 Table B2 cleanup levels 	<ul style="list-style-type: none"> No unauthorized transport or disposal of soil. No disposal of soil in surface water or environmentally sensitive areas 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Site will be granted closure when soil concentrations are determined to be below 18 AAC 75.341 Table B2 cleanup levels. 	<ul style="list-style-type: none"> Site boundaries will be surveyed to provide description of contamination location. 	<ul style="list-style-type: none"> Base Master Plan for Ollitok LRRS will include a statement that ADEC approval is required prior to offsite transportation or disposal of site soil above 18 AAC 75.341 cleanup levels for GRO, DRO, or RRO.
Pillar Mountain: OT001	<ul style="list-style-type: none"> Inform future land users of the locations and concentrations of remaining contamination Restrict digging in capped areas at POI #5, #10, #11, and #13 where residual PCBs in soil remain 	<ul style="list-style-type: none"> No unauthorized digging in capped areas at POI #5, #10, #11, and #13 where residual PCBs in soil remain 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> The USAF will prepare and file a notice as approved by the ADEC with the land record office describing the locations and concentrations of contaminants remaining below ground surface at bedrock and the location of the on-site landfill containing demolition debris resulting from the Clean Sweep program. In addition, the USAF will notify the ADEC of pending transfer of the real property from USAF control.
Point Barrow LRRS: SS002 (Vehicle Maintenance Facility Area)	<ul style="list-style-type: none"> Protect public health or welfare or the environment in the Vehicle Maintenance Facility Area 	<ul style="list-style-type: none"> No use or excavation of soils beneath the Vehicle Maintenance Facility will require prior notification of and approval from ADEC 	<ul style="list-style-type: none"> Warning signs indicating PCBs are present at the Vehicle Maintenance Facility 	<ul style="list-style-type: none"> Five-Year Reviews 	<ul style="list-style-type: none"> Sign maintenance Periodic inspections will be required to verify signage is maintained and to identify any evidence of use of these soils. Five-Year Reviews 	<ul style="list-style-type: none"> The location of contaminated soils remaining beneath the facility will be surveyed and filed with the USAF Real Property department and the GIS maintained by the 611 CES to document the locations and restrictions associated with contaminated soil beneath the facility. ICs associated with the Vehicle Maintenance Facility will be entered into the Base Master Plan and the Management Action Plan for the facility to ensure that the site is managed in accordance with applicable regulations and requirements and PCB soils beneath the Vehicle Maintenance Facility are remediated at such time as the facility is demolished.
Point Barrow LRRS: SS003 (Air Terminal Area)	<ul style="list-style-type: none"> Address petroleum-based contamination Petroleum hydrocarbons are considered hazardous substances under Title 46 of the Alaska Statutes and regulations promulgated thereunder. 	<ul style="list-style-type: none"> No use of water body (tundra pond) for drinking water or any type of dewatering without prior ADEC approval 	<ul style="list-style-type: none"> Warning signs at the location (tundra pond) where dissolved TAH contaminated surface water exceeds AWQS 18 AAC 70 cleanup levels (figure indicating sign location in 2011 ROD). 	<ul style="list-style-type: none"> Natural attenuation is expected to take several decades unless upgradient source material (located on adjacent non-USAFA property) is remediated. Monitoring will be conducted until cleanup levels (AWQS) have been achieved. 	<ul style="list-style-type: none"> Periodic inspections of the site will be required to verify the signage is maintained and to identify any evidence of use of this water body (tundra pond). Surface water and pore water monitoring will occur annually for the first 5 years (2011 ROD), then once every 5 years or as agreed upon by ADEC and USAF, in order to track natural degradation and migration of contamination. (Additional monitoring specifications included in 2011 ROD.) Five-Year Reviews 	<ul style="list-style-type: none"> The location of contaminated water (tundra pond) will be surveyed and filed with the USAF Real Property Department and entered into the GIS maintained by the 611 CES to document the locations and restrictions associated with contaminated water. ICs will be entered into the Base Master Plan for the facility and the Management Action Plan for the facility to ensure that this site is managed in accordance with applicable regulations and requirements.
Point Lay: SS008	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Obtain approval from ADEC prior to disposing (or transporting) soil from the site Soil may not be disposed in surface water or other environmentally sensitive areas. 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Site will be granted closure without conditions when DRO concentrations in the soil degrade below 230 mg/kg. 	<ul style="list-style-type: none"> Five-Year Reviews 	<ul style="list-style-type: none"> USAF Real Property records for Point Lay LRRS will include a statement that ADEC approval is required prior to offsite transportation or disposal of site SS008 soil containing diesel range organics above 230 mg/kg. If the site is transferred, the statement that ADEC approval is required prior to offsite transportation or disposal of site SS008 soil containing diesel range organics above 230 mg/kg will be included in the property transfer documents.
Point Lonely: SS004	<ul style="list-style-type: none"> Restrict use of surface water as a drinking water source 	<ul style="list-style-type: none"> There will be restrictions against the use of surface water as a drinking water source. Notations regarding the restriction of water usage will be recorded in the appropriate Point Lonely land records, including the Base Master Plan. 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Natural attenuation of VOCs until contaminant concentrations in surface water are below AWQS is anticipated to take approximately 20 years; as such it is assumed that institutional controls will last for 20 years. 	<ul style="list-style-type: none"> Collection of surface water sample for VOC analysis at least once every 5 years, as part of Five-Year Review, until AWQS are attained Five-Year Reviews for approximately 20 years or until Five-Year Reviews indicate VOC contaminant concentrations in surface water meet AWQS 	<ul style="list-style-type: none"> Restrictions against the use of surface water as a drinking water source Notations regarding the restriction of water usage will be recorded in the appropriate Point Lonely land records, including the Base Master Plan.

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Installation: IRP Site(s) with LUCs in Effect ¹	Purpose and Objectives	Prohibitions/Restrictions	Engineered Elements	Expected Durations	Monitoring/ Inspections/ Reporting/ Maintenance	Administrative Elements
Port Heiden: OT001 SS004 LF007	<ul style="list-style-type: none"> Reduce PAH (benzo[a]pyrene, benzo[a]anthracene, dibenzo[a,h]anthracene), PCB and pesticide (dieldrin, heptachlor, epoxide) concentrations in soil to chemical-specific ARARs Reduce TCE and benzene in groundwater to chemical specific ARARs Prevent exposure (via ingestion, inhalation, and/or dermal contact) to contaminated groundwater until such time as the federal drinking water standards and state cleanup levels (i.e. 18 AAC 75 Table C) are met Restrict excavations and the installation of water wells (except for the purposes of monitoring) where contamination levels exceed cleanup levels to reduce the possibility of exposure to contaminants in the contaminated aquifer Prevent excavation into or development over buried solid waste and potentially hazardous materials in the former RRS landfill, and maintain current land use designation Prevent ecological receptor ingestion of, dermal contact with, and inhalation of dust and/or vapors from soil containing PCBs, pesticides, and PAHs presenting a Hazard Index greater than 1 Prevent the possible migration of groundwater containing TCE and benzene to the tributary stream to Reindeer Creek resulting in surface water concentrations in excess of Alaska fresh surface water criteria for aquatic organisms (18 AAC 70) 	<ul style="list-style-type: none"> Restriction of any soil disturbance without the approval of ADEC to prevent the constant contact of this media with water which could impact groundwater or surface water quality Maintenance of the landfill cover and restriction of excavation into or development over the Port Heiden RRS landfill in order to maintain the integrity of cap and to prevent migration of contaminants Limitation on groundwater use as approved by ADEC 	<ul style="list-style-type: none"> Landfill cover/cap 	<ul style="list-style-type: none"> None specified for soil Groundwater LUCs will remain in place until groundwater cleanup levels are achieved through natural attenuation. 	<ul style="list-style-type: none"> Annual Institutional Control Performance Report to ADEC for the first 5 years; post-remedial action is put in place for both soil and groundwater Five-Year Reviews 	<ul style="list-style-type: none"> Notice type of institutional controls will be implemented and make the Land Owner aware that ADEC approval is required for any disturbance of soil. Notice will be provided to make Land Owner aware that the remaining buried wastes may contain contaminants of concern, that the cover should be maintained, and excavation into or development over the Port Heiden RRS Landfill should be restricted to maintain the integrity of the cap and to prevent migration of contaminants. Notices to Land Owner and Village Council of status of institutional controls for groundwater.
Sparrevohn: OT004 SD003 SS007 ST006	<ul style="list-style-type: none"> Prevent human exposure to PCB-contaminated soil exceeding 1 mg/kg Prevent migration of PCBs Protect human health and the environment Comply with applicable federal, state, and local laws and regulations 	<ul style="list-style-type: none"> Restrictions on residential land use Restrictions on digging that could disturb soil acting as a cover to PCB-contaminated areas Requirement for all operators to utilize UAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives 	<ul style="list-style-type: none"> Signs warning of the presence of soil contamination exceeding ADEC residential cleanup levels 	<ul style="list-style-type: none"> Institutional controls will remain in effect for as long as the contaminated media exceeds ADEC unrestricted residential use criteria. 	<ul style="list-style-type: none"> USAF is responsible for enforcing institutional controls; USAF will monitor the effectiveness of the institutional controls. USAF will provide annual report regarding institutional control monitoring to ADEC, with copies filed in the administrative record and information repository. USAF will provide prompt notification to the ADEC of institutional control deficiency/failure, along with corrective measures taken. The USAF will obtain regulatory concurrence of significant changes to use and activity restrictions. The USAF will provide prior notification to ADEC for transfer of property subject to institutional controls. 	<ul style="list-style-type: none"> Notations regarding residual contamination and land use restrictions will be recorded in the appropriate Sparrevohn LRRS land records, including the Base General Plan.
Sparrevohn: ST005	<ul style="list-style-type: none"> To prevent human exposure to PCB and DRO in soil, and TCE (and daughter products) and DRO in groundwater exceeding concentrations in 18 AAC 75.341 Tables B1 and B2, and 18 AAC 75.345(b) Table C, respectively To prevent migration of contaminants to sensitive area such as wetlands and surface water Protect human health and the environment Comply with applicable federal, state, and local laws and regulations 	<ul style="list-style-type: none"> Restrictions on construction of structures at the Lower Camp in areas where chemical concentrations in soil exceed cleanup levels based on the future land use scenarios Restrictions on excavation of soils within contaminated areas at the Lower Camp, where exposure to those soils could result in increased risk to human health Restrictions on groundwater use at the Lower Camp in areas where chemical concentrations exceed cleanup levels based on the future residential exposure scenario 	<ul style="list-style-type: none"> Warning signs to alert site visitors to areas where chemical contamination is present in exceedance of ADEC cleanup levels regardless of whether or not risks associated with these chemicals exceed risk management standards. 	<ul style="list-style-type: none"> Institutional controls will remain in effect for as long as the contaminated media exceeds ADEC unrestricted residential use criteria. Groundwater sampling events will occur no less than once per 5 years and will continue until concentrations decrease to below ADEC cleanup levels. 	<ul style="list-style-type: none"> Groundwater sampling events will occur no less than once per five years and will continue until concentrations decrease to below ADEC cleanup levels. USAF is responsible for enforcing institutional controls and the USAF will monitor the effectiveness of the institutional controls. USAF will provide annual report regarding institutional control monitoring to ADEC, with copies filed in the administrative record and information repository. Five-Year Reviews USAF will provide prompt notification of institutional control deficiency/failure, along with corrective measures taken to the ADEC. The USAF will obtain regulatory concurrence of significant changes to use and activity restrictions. The USAF will provide prior notification to ADEC for transfer of property subject to institutional controls. 	<ul style="list-style-type: none"> There will be administrative restrictions on construction of structures at the Lower Camp in area where chemical concentrations in soil exceed cleanup levels based on the future land use scenarios. Occupation of structures located within these areas could result in exposure to chemicals in excess of risk management standards via (1) incidental ingestion and dermal contact and (2) vapor intrusion from soil to indoor air (VOCs). Areas of construction restrictions via institutional controls are shown on 2009 ROD Figures 1•3 and 1•5. There will be administrative restrictions on excavation of soils within contaminated areas at the Lower Camp, where exposure to those soils could result in increased risk to human health. While not prohibiting such excavation, any work involving contaminated soil would be conducted in accordance with 18 AAC 75.360, Cleanup Operation Requirements. Areas of excavation restrictions via institutional controls are shown on 2009 ROD Figures 1•3 and 1•5. Chemical concentrations exceed cleanup levels, based on the future residential exposure scenario. Residential use of the Lower Camp groundwater would result in exposure to chemicals in excess of risk management standards. Therefore, changes in site use must be preceded by a review of the impacts of those changes on risks posed to human health and ecological receptors. Areas of groundwater use restrictions are shown on 2009 ROD Figure 1•4. Notations regarding residual contamination and land use restrictions will be recorded in the appropriate Sparrevohn LRRS land records, including the base general plan.
Tatalina: DP005 LF010 OT012 SS001 SS007 SS009	<ul style="list-style-type: none"> Prevent exposure of waste left in place 	<ul style="list-style-type: none"> Restrictions on excavation and surface grading For Site SS001, when the current Minimally Attended Radar facility is decommissioned, the extent of subsurface contamination remaining beneath the building will be assessed to determine whether remedial action is necessary. 	<ul style="list-style-type: none"> Landfill cover 	<ul style="list-style-type: none"> (None specified) 	<ul style="list-style-type: none"> Visual inspection of cover material over a 5-year period (starting from signature date of applicable RODs) at the first, third, and fifth years. First Five-Year Review will be conducted to review results of visual inspections. If cover material has remained in good condition, no further inspections will be required. 	<ul style="list-style-type: none"> Notice in land records and Base Master Plan will be developed by the USAF, with ADEC concurrence, that waste has been left in place.
Tatalina LRRS: SS002	<ul style="list-style-type: none"> To limit human exposure to contaminants by restricting use of the site To restrict access to and limit exposure to and use of petroleum contaminated soil To restrict access and limit exposure to and use of petroleum-contaminated groundwater and to prevent discharge and spread of petroleum contamination 	<ul style="list-style-type: none"> No unauthorized digging or excavating No movement of contaminated soil without prior ADEC approval No unauthorized excavation or drilling in areas containing petroleum-contaminated groundwater No removal of petroleum-contaminated groundwater from the site without characterizing and managing the groundwater by following regulations applicable at the time. No unauthorized removing or disposing of petroleum-contaminated groundwater at the site 	<ul style="list-style-type: none"> Signs 	<ul style="list-style-type: none"> LTM and IC management of soil conditions will be discontinued once the ADEC cleanup level for the remaining DRO has been met for two consecutive sampling events. ADEC concurrence will be obtained prior to termination of the ICs LTM and IC management of groundwater conditions will be discontinued once the ADEC cleanup levels for the petroleum have been met for two consecutive sampling events. ADEC concurrence will be obtained prior to termination of the LTM and ICs 	<ul style="list-style-type: none"> The ICs at Site SS002 will be reviewed within a 5-year period and at least once every 5 years thereafter to ensure that land use has not changed and ICs remain effective in limiting public access due to the remaining presence of fuel contamination in soil and groundwater. Sign maintenance Five-Year Reviews Sampling groundwater annually for a minimum of 5 years. The monitoring frequency may be revised after 5 years by agreement between USAF and ADEC. Providing a groundwater sampling report annually to ADEC with results of the current groundwater sampling event compared to historical results, beginning in 2012 	<ul style="list-style-type: none"> The USAF, in cooperation with ADNR, the landowner, will be responsible for IC implementation, monitoring, maintenance, and reporting. AFCEC/CZOP is the USAF point of contact for the ICs and is responsible for coordination with ADNR. The USAF will maintain signage, as appropriate, indicating that the land and groundwater is impacted by petroleum contamination and land use is restricted. In addition, the ADNR will cooperatively manage and enforce the ICs at the site. The ADNR will place a "reserve use" designation for the SS002 property. This designation will alert ADNR land managers to the ICs detailed in this Decision Document (18 AAC 75 et seq.). Inclusion and documentation of ICs in the USAF Real Property Records, Tatalina LRRS General Plan, and AFCEC/CZOP IRP Records, including information about the following: <ul style="list-style-type: none"> Current land uses and allowed uses of Site SS002. Geographic boundaries of the ICs

TABLE 2-1

Description of Land Use Control Types Currently in Effect at Pacific Regional Support Center Environmental Restoration Program Sites
 Land Use Control Management Plan 2015, Pacific Air Forces Regional Support Center Installations, Joint Base Elmendorf-Richardson, Alaska

Installation: IRP Site(s) with LUCs in Effect ¹	Purpose and Objectives	Prohibitions/Restrictions	Engineered Elements	Expected Durations	Monitoring/ Inspections/ Reporting/ Maintenance	Administrative Elements
Tatalina LRRS: SS003 Spill/Leak No. 1- 4 POL Tank Farm	<ul style="list-style-type: none"> To limit human exposure to contaminants by restricting use of the site To restrict access to and limit exposure to and use of contaminated soil To restrict access and limit exposure to and use of contaminated groundwater 	No unauthorized soil disturbance No use of groundwater for drinking water	• (None specified)	• (None specified)	Landfarming activities	<ul style="list-style-type: none"> Site well permitting system Site construction review process Site dig permitting system The site Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site. All ROD use limitations and exposure restrictions will be entered in the Base Master Plan and the Geographical Information System.
Tatalina LRRS: SS008 Waste Accumulation Area #4	<ul style="list-style-type: none"> To limit human exposure to contaminants by restricting use of the site To restrict access to and limit exposure to and use of contaminated soil To restrict access and limit exposure to and use of contaminated groundwater 	No unauthorized soil disturbance/removal No use of groundwater for drinking water	• (None specified)	• (None specified)	Long-term monitoring will be conducted for groundwater every 5 years until contaminants are below ADEC Table C cleanup levels for two consecutive sampling events	<ul style="list-style-type: none"> Site well permitting system Site construction review process Site dig permitting system The site Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site. All ROD use limitations and exposure restrictions will be entered in the Base Master Plan and the Geographical Information System.
Tatalina LRRS: SS011 Waste Accumulation Area #1	<ul style="list-style-type: none"> To limit human exposure to contaminants by restricting use of the site To restrict access to and limit exposure to and use of contaminated soil To restrict access and limit exposure to and use of contaminated groundwater 	No unauthorized soil disturbance/removal No use of groundwater for drinking water	• (None specified)	• (None specified)	None	<ul style="list-style-type: none"> Site well permitting system Site construction review process Site dig permitting system The site Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site. All ROD use limitations and exposure restrictions will be entered in the Base Master Plan and the Geographical Information System.
Tatalina LRRS: LF004	<ul style="list-style-type: none"> To limit human exposure to contaminants by restricting use of the site To restrict access to and limit exposure to and use of contaminated soil To restrict access and limit exposure to and use of contaminated groundwater 	No digging or other activities that could breach landfill cover No use of groundwater for drinking water	• (None specified)	• (None specified)	Biennial cover inspections 5-year inspections for 20 years Groundwater monitoring	<ul style="list-style-type: none"> Site well permitting system Site construction review process Site dig permitting system The site Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site. All ROD use limitations and exposure restrictions will be entered in the Base Master Plan and the Geographical Information System.
HAWAII AND SOUTH PACIFIC						
Johnston Atoll SS005 SWMU No. 2, - Former Herbicide Orange Storage Area	<ul style="list-style-type: none"> Minimize the potential for human exposure to contamination by limiting land or resource use 	Physical access to the facility is restricted by a perimeter fence. Fishing prohibited until criteria identified in EPA approved Monitored Natural Recovery (Biomonitoring) Work Plan are met.	Perimeter fence. Warning signs for fish consumption.	<ul style="list-style-type: none"> Maintain perimeter fence. The warning signs will be removed when the completion criteria for fish tissue have been met and No Further Action status has been approved. 	Maintain perimeter fence. Warning signs will be inspected for wear or damage and either repaired or replaced, as required, during each of the follow-on biomonitoring events. Sediment and fish tissue monitoring.	CCMS 2000, Mod No. 1 RCRA Permit, MNR 2005
Johnston Atoll SS008 SWMU No. 16, Power Plant Spill Site, and AOC No. 1, Motor Gasoline Area	<ul style="list-style-type: none"> Minimize the potential for human exposure to contaminated soil and groundwater until action levels have been achieved. 	Fish and shellfish consumption advisory	Fishing prohibition warning signs	• (None specified)	Maintain fish prohibition warning signs; groundwater, fish tissue and sediment monitoring.	Mod No. 1 RCRA Permit
Johnston Atoll LF009 SWMU-06	<ul style="list-style-type: none"> Minimize the potential for human exposure to soil and groundwater contamination 	Prohibit excavation or construction of buildings within this SWMU. Maintain integrity of soil cap.	Soil cap	• (None specified)	Inspect and maintain integrity of soil cap. Groundwater monitoring.	Mod No. 1 RCRA Permit
Wake Island Airfield: OT13	<ul style="list-style-type: none"> Minimize the potential for human exposure to contamination by limiting land or resource use 	<ul style="list-style-type: none"> No residential use of areas within Site OT13 that contain COC concentrations above the residential RACGs for soil No removal of site soil for uncontrolled use elsewhere 	• (None specified)	<ul style="list-style-type: none"> The LUCs will remain in place until the COC concentrations in soil at Site OT13 are below the corresponding RACGs, as set forth in Section 2.8 of the 2011 ROD, and as long as non-hazardous soil and wastes from other IRP sites are being managed in the soil consolidation area. Five-Year Reviews will be conducted until the COC concentrations in soil at Site OT13 allow for unlimited use and unrestricted exposure, and the soil consolidation area has been removed and closed. 	<ul style="list-style-type: none"> Periodic inspections to verify the effectiveness of LUCs and reporting the results of the inspections to EPA 	<ul style="list-style-type: none"> Land use restrictions to be enforced through dig permit process for excavation and construction projects Land use restrictions incorporated into the Wake Island General Plan Areas subject to land use restrictions delineated on master planning maps Land use restrictions communicated to appropriate offices on the installation Providing prompt notification to EPA of any remedy deficiency or failure that presents or could imminently lead to actual risk to human health and the environment, along with corrective actions taken or planned to address such deficiency or failure Considering LUCs in future land use designations Consulting with the USFWS and EPA before any LUC modification/termination, major land use changes, anticipated actions that may disrupt LUC effectiveness, or actions altering and negating LUC need.

¹Bethel RRS land use controls, managed under site SS001, apply to the entire former installation, providing coverage for all former ERP sites and a landfill where contaminants remain on site."

- ug/L = micrograms per liter
- AAC = Alaska Administrative Code
- ADEC = Alaska Department of Environmental Conservation
- ARAR = Applicable or Relevant and Appropriate Requirement
- AWQS = ambient water quality criteria
- BTEX = benzene, toluene, ethylbenzene, and xylenes
- COC = contaminant of concern
- DD = Decision Document
- DRO = diesel range organics
- EC = environmental controls
- EPA = Environmental Protection Agency
- GRO = gasoline range organics
- IC = Institutional controls
- IRP = Installation Restoration Program
- LRRS = Long Range Radar Station
- LUC = land use control
- mg/kg = milligrams per kilogram
- mg/L = milligrams per liter
- NOAA SQiRTs = National Oceanic and Atmospheric Administration Screen Quick Reference Tables
- PCB = polychlorinated biphenyl
- POI = points of interest
- POL = petroleum, oils, and lubricants
- RA = risk assessment
- RACG = remedial action cleanup goals
- RAO = remedial action objective
- RI = remedial investigation
- ROD = Record of Decision
- RRS = Remote Radar Station
- SVOC = semi-volatile organic compounds
- TAH = total aromatic hydrocarbons
- TAqH = total aqueous hydrocarbons
- TCE = trichloroethene
- USAF = U.S. Air Force
- USFWS = U.S. Fish and Wildlife Service
- VOC = volatile organic compounds

TABLE 2-2
ADEC Landfill Management Requirements
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Management Element	Management Requirement Detail	Alaska Administrative Code
Landfill cap (description)	Final cover for landfills must be 24 inches of soil or another material approved by ADEC. The surface must be graded to promote drainage without erosion and must be revegetated or otherwise treated in a manner appropriate to the anticipated future, long-term use of the facility.	18 AAC 60.390(a)
Landfill cap (maintenance)	Any any activity that results in damage to the final cover of the property must be corrected to control potential pollution problems.	18 AAC 60.396(b)(4)
Groundwater Monitoring (when required)	Groundwater monitoring is required for a Class III Landfill (1) if the landfill is known to be contaminating an aquifer of resource value, (2) if ADEC finds that groundwater monitoring and corrective action are necessary to protect an aquifer, (3) if ADEC has credible evidence that the water quality standards of 18 AAC 70 have been violated in a surface water body or aquifer, (4) or if conditions at the Landfill are likely to result in harm to human health or the environment. Assessment monitoring and corrective actions shall be conducted in accordance with 40 CFR 258.55 - 40 CFR 258.58, as amended through December 6, 1995,	18 AAC 60.820(b)/ 18 AAC 60.860
Groundwater Monitoring (duration)	Groundwater monitoring, at minimum, must be conducted during the 60-month post-closure period for visual inspections.	18 AAC 60.396(a)
Groundwater Monitoring (discontinuation)	ADEC will suspend groundwater monitoring if there is no practical potential for migration of a hazardous constituent from that landfill to an aquifer of resource value. The demonstration must be certified by a qualified groundwater scientist, approved by the department, and be based upon (1) site-specific, field-collected measurements, sampling, and analyses of physical, chemical, and biological processes affecting fate and transport of hazardous constituents, and (2) hazardous constituent fate and transport predictions that anticipate maximum, likely migration and that consider effects on public health and the environment.	18 AAC 60.396(c)
Surface Water Monitoring	Surface water monitoring may be required at a facility if surface water pollution is likely to endanger public health or cause a violation of water quality standards in 18 AAC 70	18 AAC 60.310
Surface Water Monitoring (when required)	If surface water monitoring was required during active life, it must continue during the post-closure period for visual inspections (normally 60 months).	18 AAC 60.396 (a)
Visual Monitoring /Inspections (frequency)	At least every 12 months for the post closure period (normally 60 months)	18 AAC 60.396 (a)
Visual Monitoring/surface water monitoring (corrective action)	If a structural change in or damage to the facility or a monitoring device, or if a violation of a permit condition is observed during visual or surface water monitoring or during a department inspection, the owner or operator shall take action to correct the change, damage, or violation, to prevent the escape of waste or leachate, and to clean up waste that was disposed of in an unauthorized manner.	18 AAC 60.815(a)
Visual Monitoring (Reporting)	After the conclusion of the post-closure period for visual inspection require, the owner or operator shall submit a report to the department that contains (1) photographs of the facility, (2) a description of any problems detected during visual monitoring, and (3) all water monitoring data collected.	18 AAC 60.396 (c)
Surface Water Monitoring (Reporting)	If changes in surface water quality detected during inspections/monitoring threaten to exceed (or exceed) water quality standards, owner/operator must submit a notification to ADEC within 30 days. If the water body is used as a drinking water supply, the written notification must be submitted immediately.	18 AAC 60.815(b)
Survey	Permanent markers or survey markers must be established if there are no readily observable, existing monuments or markers from which the exact location of a facility and each closed portion of the facility can be determined.	18 AAC 60.390 (c)

AAC = Alaska Administrative Code
ADEC = Alaska Department of Environmental Conservation
CFR = Code of Federal Regulations

TABLE 2-3
 Post-Closure Notification Requirements for Class III Landfills
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Management Element	Management Requirement Detail	Alaska Administrative Code
ADEC		
Land use inconsistent with ICs	If ICs such as restrictive covenants, easements, deed restrictions are included in the site remedy, ADEC requires written notice to the department of any proposal to use the site in a manner that is inconsistent with those ICs.	18 AAC 75.375 (d)(3)
Disposal of soil or groundwater from a site subject to ICs	ADEC approval must be obtained before disposing of soil or groundwater from a site that is subject to the site cleanup rules or for which there is a written determination from ADEC under 18 AAC 75.375 (d)(3).	18 AAC 75.325 (i)
Air Force at or Prior to Property Transfer		
Landfill	The owner of the landfill must provide written notification to ADEC that the notation below has been recorded on the deed to the facility. The property deed must indicate: -The property was used as a Class III Landfill. -The property may not be suitable for some uses. -Maintenance and repairs to the property might become necessary to prevent pollution problems at the site. -Any activity that results in damage to the final cover of the property must be corrected to control potential pollution problems.	18 AAC 60.396
Landfill (monofill)	The property deed or other instrument routinely examined during a title search must indicate: -The property was used as a monofill. -The type of waste that was placed in the monofill. -The geographical boundaries of the waste management area(s). -Details of any final cover, cap, or other structures or devices installed as part of closure.	18 AAC 60.490(a)
Alternative PCB cleanup levels	ADEC notification is required within 60 days of completion of PCB cleanup where concentrations onsite remain above 1 mg/kg (with prior approval from ADEC). Notification should indicate that the responsible person has recorded a deed notation in the appropriate land records or other instrument normally examined during a title search, that indicates subsequent interest holders may have legal obligations with respect to the cap and contaminated soil.	18 AAC 75.341 Notes to Table B1 and B2 (9) (a) (ii)

Notes:

AAC = Alaska Administrative Code

ADEC = Alaska Department of Environmental Conservation

IC = institutional controls

mg/kg = milligram per kilogram

PCB = polychlorinated biphenyl

TABLE 3-1
 Land Use Control Compliance Procedures for PRSC ERP Sites with LUCs in Effect
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

REQUIREMENTS AND RECOMMENDATIONS FOR ALL AFCEC/CZOP ERP LAND USE CONTROL SITES

PERIODIC INSPECTIONS AND SUMMARY REPORTS

- 1 RPM shall contract or self-perform inspections as required to verify LUCs compliance. The frequency of the inspections should be performed in accordance with the site-specific DD, ROD, action memorandum, regulatory concurrence letter, or by consultation with RPM. The RPM is to determine whether greater frequency is needed. For example, greater frequency may be needed where construction activities are underway within or near a LUC area.
- 2 It is recommended that the RPM or contractor will develop and complete a site-specific LUC checklist in order to facilitate reporting requirements. RPM is responsible to ensure checklist covers all established institutional and engineering controls are completed.
- 3 RPM will verify the periodic inspection report from the prior period (if applicable) has been provided to ADEC and is in the Administrative Record Information Repository.
- 4 RPM or contractor is required to complete a periodic site summary report that provides information on compliance with site LUCs. A site-specific checklist is to be included in the report. Report shall be submitted as required by the DD, ROD, action memorandum, or regulatory concurrence letter.
- 5 It is recommended that the RPM verify bi-annually with Base Planner Element if any projects are planned for the LUC area.
- 6 RPM verify biannually with Base Planner Element and/or Real Estate Element as to whether transfer or sale of real property is planned. Notify and seek ADEC concurrence at least six months before any major land use changes. For sites managed under CERCLA, RPM must ensure provisions of CERCLA Section 120(h) are satisfied. For all sites, ADEC concurrence must be sought for LUC modification/termination, or any anticipated action that may disrupt LUC effectiveness, or actions altering and/or negating LUC need.
- 7 If land use changes are planned, RPM will provide prompt (within 30 days) written notification to the ADEC office. If land use changes have occurred without ADEC concurrence, RPM will provide prompt (within 10 days) written notification to the ADEC office.

CONSTRUCTION/EXCAVATION PROJECT REQUIREMENTS AND RECOMMENDATIONS

- 8 RPM, or designated representative, in coordination with RPM, review all dig permits, work orders and project plans involving LUC area to ensure users are aware of LUC requirements.
- 9 RPM review all construction projects impacting LUC areas have properly approved dig permits. This is typically verified when construction firms or base employees bring the dig permits into AFCEC/CZOP for coordination.
- 10 RPM ensure and document that construction/excavation projects within LUC areas have approved health and safety plan and proper personal protection equipment before construction. This will typically be done through coordination with the AF construction/excavation project manager. A copy of the approval page from the contractor's health and safety plan should be part of the RPMs documentation for compliance with these provisions. The appropriate AF element should be consulted by the RPM to ensure the proper procedures are used.
- 11 RPM in conjunction with base contractors or workers are to verify and document that construction/excavation projects properly manage wastes in accordance with the Site's ARARs including the CERCLA off-site rule (40 *CFR* 300.440), and State of Alaska requirements.
- 12 If significant construction/excavation work occurred or is to occur, it is recommended that the RPM notify ADEC describing LUC compliance procedures. For emergency or short-notice projects, a Memorandum for Record documenting LUC compliance may be provided with the site-specific LUC summary.
- 13 Recommended that the RPM or contractor perform start-up inspection to verify proper procedures are in-place prior to significant construction/excavation project.

TABLE 3-1
 Land Use Control Compliance Procedures for PRSC ERP Sites with LUCs in Effect
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

REQUIREMENTS AND RECOMMENDATIONS FOR ALL AFCEC/CZOP ERP LAND USE CONTROL SITES

14	Recommended that RPM or contractor perform in-progress inspection (if needed) to confirm proper procedures are followed during major excavation/construction project.
15	Recommended that RPM document construction project has complied with LUCs in a Memorandum for Record. Memo may be appended to a site-specific LUC summary report.
16	RPM is responsible for promptly informing ADEC after becoming aware of any violations of any control resulting in exposure to levels of contamination that the controls were intended to prevent or discovery of any activity inconsistent with the use restrictions.
17	If any activity is identified by the RPM that is inconsistent with the LUC objectives or may interfere with the LUC effectiveness, the RPM must notify ADEC of how the breach is corrected to maintain protectiveness no later than 30 days after the initial notification of said action.

**LAND USE CONTROL IMPLEMENTATION PLAN, BASE GENERAL PLAN,
 AND OTHER NOTIFICATION REQUIREMENTS AND RECOMMENDATIONS**

18	RPM ensures LUCMP contains current information on LUCs and notifies ADEC when any changes are made to the LUCMP. LUCMP is updated on an as-needed basis.
19	RPM verify the Base General Plan contains LUC information on the site in accordance with the DD, ROD, action memorandum, or regulatory concurrence letter.
20	RPM notify ADEC 30 days prior and obtain ADEC concurrence before making substantive changes to the BGP or LUCMP that affect land use at a site.
21	RPM, in conjunction with contractor, is to provide annual or periodic internal notifications to Base offices responsible for building and ground maintenance, construction, and contracting.
22	Recommend that RPM or contractor provide LUC training annually or as-needed to appropriate personnel on Base.
23	RPM or contractor to ensure that appropriate signage and information is posted at the site, where applicable.
24	RPM and contractor are to ensure GIS LUC boundaries and information are accurate.
25	RPM and contractor are to review any monitoring and release reports produced during the reporting period to verify if any new releases have occurred at the site and verify LUC boundaries remain protective.

ADEC	Alaska Department of Environmental Conservation	GIS	geographic information system
ARAR	Applicable or Relevant and Appropriate Requirement	LUC	land use control
BGP	Base General Plan	LUCMP	Land Use Control Management Plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	ROD	Record of Decision
CFR	Code of Federal Regulations	RPM	Remedial Project Manager
DD	Decision Document	USAF	United States Air Force

TABLE 3-2

Personnel Contact Information for PRSC Sites with LUCs in Effect

Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

		Site Personnel Contact Information				
Installation Name	ADEC/HDOH PM	Charley Peyton 10471 20th St Ste 301, JBER, AK 99506-2201 907.552.9765	Keith Barnack 10471 20th St Ste 301, JBER, AK 99506-2201 907.552.5160	Lori Roy 10471 20th St Ste 301, JBER, AK 99506-2201 907.552.7697	Robert Johnston 10471 20th St Ste 301, JBER, AK 99506-2201 907.552.7193	Steve Krause 10471 20th St Ste 301, JBER, AK 99506-2201 907.552.1526
ALASKA						
Barter Island LRRS	Deb Caillouet			x		
Bear Creek RRS	Meredith Savage				x	
Bethel RRS	Curtis Dunkin				x	
Big Mountain RRS	Jessica Morris			x		
Bullen Point RRS	Deb Caillouet			x		
Cape Lisburne LRRS	Melody Debenham		x			
Cape Newenham LRRS	Curtis Dunkin		x			
Cape Romanzof LRRS	Louis Howard		x			
Cold Bay LRRS	Deb Caillouet				x	
Driftwood Bay RRS	Curtis Dunkin				x	
Duncan Canal	Ann Marie Palmieri			x		
Earekson AFS	Jessica Morris		x			
Granite Mountain RRS	Eric Breitenberger		x			
Indian Mountain LRRS	Guy Warren				x	
Kalakaket Creek RRS	Dennis Shepard	x				
King Salmon	Guy Warren	x				
Kotzebue LRRS	Louis Howard				x	
Lake Louise Rec Camp	Meredith Savage			x		
Murphy Dome LRRS	Dennis Shepard				x	
Naknek 1 (Rec Camp 1)	Guy Warren	x				
Naknek 2 (Rec Camp 2)	Guy Warren	x				
Nikolski RRS	Deb Caillouet				x	
North River RRS	Meredith Savage				x	
Oliktok Point RRS	Deb Caillouet			x		
Pillar Mountain RRS	John Halverson			x		
Point Barrow LRRS	John Carnahan			x		
Point Lay LRRS	Melody Debenham			x		

TABLE 3-2

Personnel Contact Information for PRSC Sites with LUCs in Effect

Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

		Site Personnel Contact Information				
Installation Name	ADEC/HDOH PM	Charley Peyton 10471 20th St Ste 301, JBER, AK 99506-2201 907.552.9765	Keith Barnack 10471 20th St Ste 301, JBER, AK 99506-2201 907.552.5160	Lori Roy 10471 20th St Ste 301, JBER, AK 99506-2201 907.552.7697	Robert Johnston 10471 20th St Ste 301, JBER, AK 99506-2201 907.552.7193	Steve Krause 10471 20th St Ste 301, JBER, AK 99506-2201 907.552.1526
Point Lonely Dome LRRS	Deb Caillouet			x		
Port Heiden	Louis Howard		x			
Sparrevohn LRRS	Louis Howard		x			
Tatalina LRRS	Louis Howard				x	
HAWAII AND SOUTH PACIFIC						
Johnston Atoll						x
Wake Island Airfield	EPA Reg 9 (John Moody)		x			

Notes:

AFS = Air Force Station

EPA = Environmental Protection Agency

JBER = Joint Base Elmendorf-Richardson

LRRS = Long Range Radar Station

RRS = Remote Radar Station

TABLE 3-3
LUC Inspections/Reviews Conducted to Date for PRSC ERP Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number	Date(s) of LUC/Five-Year Review Inspection(s)	LUC Inspection(s)/Five-Year Report Submission Date	Summary of Findings/Violations (if applicable) for LUC Inspection(s)	Status of Findings/Violations Resolution (if applicable) for LUC Inspection(s)	Document Title
ALASKA							
Barter Island LRRS	Former Refueling Area	CG002	10-Sep-09, 11-Sep-09	Nov-09	Ponding water observed west and east of former landfarm area.	NA	Long Term Monitoring Report, Former Refueling Area (November 2009)
Barter Island LRRS	Heated Storage Garage Refueling Area Old Landfill New CERCLA Landfill	SS013 SS014 CG002 LF001 NA	10-Sep-12	Apr-13	SS013 - warning sign in good condition, cap in good condition, slight sheen observed on adjacent surface water, but dissipated on disturbance, surface water results below ADEC cleanup levels SS014 - fence and warning signs in good condition, no physical disturbance CG002 - no visible shoreline erosion, no sheen on surface water, sparse vegetation and minor surface erosion/settling on cap, benzene in groundwater above cleanup levels LF001 - evidence of surface settling, erosion, ponding, metal debris, 40% vegetation, recommended revegetation New CERCLA Landfill - mostly free of cracking/settling, minimal revegetation sign at northeast in good condition, sign to north damaged and uprooted, pilings becoming visible along west, vehicle tracks crossing cap	NA	Technical Project Report, Environmental Long Term Management, Barter Island Long Range Radar Station (April 2013)
Barter Island LRRS	Heated Storage Garage Refueling Area Old Landfill New CERCLA Landfill	SS013 SS014 CG002 LF001 NA	25-26-Sep 2013	Apr-14	SS013 - warning sign in good condition, cap in good condition, no sheen on adjacent surface water, one surface water result for TCE above ADEC cleanup level, new pipeline installed across cap but not deep enough to disturb contaminated soil. SS014 - gaps in fence identified, warning signs in good condition, no physical disturbance CG002 - no visible shoreline erosion, no sheen on surface water, sparse vegetation and minor surface erosion/settling on cap, no BTEX in groundwater was above cleanup levels LF001 - evidence of surface settling, erosion, 20% vegetation New CERCLA Landfill - mostly free of cracking/settling, minimal revegetation (0-5% cover) sign at northeast in good condition, sign to north damaged and uprooted, pilings becoming visible along west	SS014 - gaps in fencing repaired in October, 2013 LF001 - grass seed for revegetation stored at base for future use New CERCLA Landfill - sign replaced in October, 2013.	Technical Project Report, Environmental Long Term Management, Barter Island Long Range Radar Station (April 2014)
Barter Island LRRS	Heated Storage Garage Refueling Area Old Landfill New CERCLA Landfill	SS013 SS014 CG002 LF001 NA	11-13-Aug 2014	Feb-15	SS013 - warning sign in good condition, cap in good condition, no petroleum sheen on adjacent surface water, surface water results below ADEC cleanup levels. SS014 - 3 foot gap in fence below building to allow electrical repair, warning sign in good condition, no physical disturbance CG002 - no visible shoreline erosion, no sheen on surface water, benzene in groundwater was above cleanup levels LF001 - evidence of surface settling, ponding, erosion, 50% vegetation New CERCLA Landfill -minor cracking/settling, sidewall erosion, minimal revegetation (5-10% cover), evidence of vehicle traffic on cap, signs in good condition, pilings becoming visible along west	SS014 - gaps in fencing repaired following completion of electrical work.	Technical Project Report, Environmental Long Term Management Activities at Sites CG002, LF001, SS013, SS014 and New CERCLA Landfill, Barter Island Long Range Radar Station (February 2015)
Bethel RRS	Bethel RRS	SS001 and PAD Area	17-Sep-12	5-Mar-13	PAD Area Landfill Inspection - gate damaged, but intact; fencing intact, minor settling and ponding, some exposed liner, small amounts of solid waste observed, minimal revegetation, damage to monitoring point MW-19RRS. Recommended installation of warning signs, repair of gate, repair of minor surface settlement, erosion, exposed liner, replace monitoring well MW-19RRS	NA	Final Bethel Radio Relay Station (RRS) - Site and PAD Area Annual Inspection and Biennial Groundwater Monitoring Letter Report, 2012 (March 5, 2013)

TABLE 3-3
LUC Inspections/Reviews Conducted to Date for PRSC ERP Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number	Date(s) of LUC/Five-Year Review Inspection(s)	LUC Inspection(s)/Five-Year Report Submission Date	Summary of Findings/Violations (if applicable) for LUC Inspection(s)	Status of Findings/Violations Resolution (if applicable) for LUC Inspection(s)	Document Title
Bethel RRS	Bethel RRS	SS001 and PAD Area	23, 24, and 27-Sep 2014	Jan-15	Groundwater below ADEC cleanup level for DRO Some exposed liner along eastern edge of Pad Area, revegetation occurring rapidly in most areas, minor amounts of debris noted	Replaced monitoring well MW-19RRS with MW-19RRS-R at PAD area, backfilled settled area with local borrow material, repaired fence and gates, and added 4 new signs	Technical Project Report, Biennial Groundwater Monitoring Site SS001, Bethel Radio Relay Station, Alaska (January 2015)
Big Mountain RRS	Landfill	LF005	12-Aug-09, 13-Aug-09	Dec-09	Landfill cap in good condition	NA	Final Long Term Monitoring Report, Long Term Monitoring of Site LF005, Big Mountain Radio Relay Station, Alaska (December 2009)
Cape Lisburne LRRS	Landfill No. 1/Waste Accumulation Area No. 2	LF001	Sep-05	Jan-06	Area backfilled in 2004 inspected - cracking indicating settlement noted, cap observed to be soft (possibly not compacted enough) and ponding observed in depressions. Minimal vegetation regrowth had occurred (estimated <5% coverage).	None	2005 Long Term Management Report for LF001 (Landfill/Waste Accumulation Area) (January 2006)
Cape Lisburne LRRS	Landfill No. 1/Waste Accumulation Area No. 2	LF001	Jul-06	Dec-06	Area backfilled in 2004 observed - since 2005 inspection, cracks had increased in size, ponding continued to be present in depressions, and vegetation remained around 5%. In addition, the drainage north of the east excavation widened by two to four feet, and cut approximately 1.5 feet deeper into the bluff; the channel appeared to be eroding headward toward the old Landfill.	None	2006 Long Term Management Report for LF001 (Landfill/Waste Accumulation Area) (December 2006)
Cape Lisburne LRRS	Landfill No. 1/Waste Accumulation Area No. 2	LF001	Aug-08	Jun-09	Area backfilled in 2004 observed - new areas of thermokarsting noted, additional erosion to the drainage north of the east excavation was observed, and a slight increase in vegetation coverage was noted (up to approximately 10% coverage)	Erosion control measures installed in 2008 (regrading the gravel areas, installing silt fence at the base of the eroding channel to prevent silting on the beach, straw wattles, and erosion control matting) were performed at WAA2 (central portion of LF001) to help divert surface water flow, minimize erosion, and mitigate thermokarsting.	2008 Remedial Investigation and Erosion Control Activities Sites LF001 and SS009 (June 2009); 2008 Long Term Management Report for LF001 (Landfill/Waste Accumulation Area) Final (March 2009)
Cape Lisburne LRRS	Landfill No. 1 (Dump No. 1, Waste Accumulation Area (WAA) No. 1, WAA No. 2	LF001	Aug-12	Apr-13	Selected remedies for Cape Lisburne LRRS, Site LF001 are not protective of human health and the environment due to the discovery of additional affected material that was not referenced in the 2003 Decision Document (DD).	An amendment to the 2003 DD to incorporate site conditions as they are now known, the implementation of LUCs, and the requirement for ongoing Five-Year Reviews, is recommended.	First CERCLA Five-Year Review Report. Cape Lisburne LRRS, Site LF001. Cape Lisburne, Alaska. Final April 2013. United States Air Force 611th Air Support Group, 611th Civil Engineer Squadron.
Cape Lisburne LRRS	Landfill No. 1/Waste Accumulation Area No. 2	LF001	Sep-13	Jan-14	Inspection of Site LF001 show the ground surface was uneven, which may be a result of landfill settling and/or thermokarst activity. Areas of depression and cracked tundra surface were also observed. observations are not considered requiring immediate action, however, continued monitoring of site conditions is recommended. Carbon tetrachloride was detected above the cleanup level for the first time in one surface water sample during this event.	Continued LF001 LTM site inspection and surface water monitoring of COCs until deemed unnecessary by USAF and ADEC.	Surface Water Monitoring and landfill Inspection Report. Environmental Long Term Management. Cape Lisburne Long Range Radar Station Site LF001. Final. January 2014.
Cape Newenham LRRS	Upper Camp Substation/ PCBs at Upper Camp	SS007	May-97, July 97	Aug-97	Some vehicle tracks could be identified in the north edge of the cap during the May inspection, but poor weather conditions and partial snow cover prevented a thorough inspection. July inspection indicated the cap was in good condition - no erosion was observed and the vehicle tracks observed in May were no longer evident.	NA	1997 PBC Sampling Long-Term Monitoring Letter Report, Cape Newenham LRRS, Alaska; Contract No. DACA85-94-D-0005, Delivery Order No. 012. To Mr Pat Roth, CENPA-EN-EE-AI Corps of Engineers, Alaska District. From Gary R.Busse, P.E., Woodward-Clyde Federal Services.

TABLE 3-3
LUC Inspections/Reviews Conducted to Date for PRSC ERP Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

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Cape Newenham LRRS	Upper Camp Substation/ PCBs at Upper Camp	SS007	Jun-98 - Jul-98	Sep-99	Cap showed a few spots of geotextile exposure, but otherwise there was no great evidence for erosion or instability. Recommended six inch rolled lift of- 3/4 inch crusher run be provided for geotextile protection.	None	Trip Report, Cape Newenham LRRS, 30 Jun-1 Jul 98. Memorandum for 611 CES/CEVR (Mr. Mattson) From 611 CES/CEVO (Mr. Hornig) 7-Sep 99.
Cape Newenham LRRS	Upper Camp Substation/ PCBs at Upper Camp	SS007	Sep-00	Aug-01	A good overall integrity and solid coverage of the PCB cap was found. However, the north-center end of the cap showed signs of erosion. A thinning of the cover was detected in an area of approximately 12 feet by 8 feet. The underlying liner in this area was exposed in three locations. One area with exposed liner was also detected at the northwestern edge of the cap. Recommended area of thinning coverage be backfilled and regraded to meet the specifications of the original PCB cap. Additional recommendations to minimize the impacts of vehicle and personnel traffic to the surface of the PCB cap included reducing the amount of traffic to this area and/or placement of a hardened surface in the parking area.	The areas of exposed liner were covered with six inches of stockpiled material.	Final A003 - Technical Report, A004 - Digital Imaging, Issued 02 August 2001, PCB Cap Monitoring and Maintenance, Cape Newenham LRRS, Alaska
Cape Newenham LRRS	Upper Camp Substation/ PCBs at Upper Camp	SS007	Spring 2002	Mar-03	PCB signage on the old transformer foundation and the map in the radome entrance which indicates the location of PCB contamination were checked to see if they remained and were legible. All required signage was in place and legible. In the spring of 2002, 611th personnel documented the cap as being severely impacted. The top layer (above the membrane) of gravel was used as backfill for the new arctic walkway by a third party contractor. The membrane was breached in one location.	The original "no excavation" sign (previously missing) was replaced and a second additional sign was installed. A 20'x20' patch was placed over the torn membrane and covered with clean gravel/fill. In addition, gravel/fill was added to areas where the geo-textile membrane was visible. Approximately 60-70 yards of gravel/fill was used to accomplish these tasks. The gravel/fill was graded to fit the contours of the landscape.	PCB Cap Monitoring and Maintenance, CapeNewenham LRRS, Alaska, Final Report.
Cape Newenham LRRS	Upper Camp Substation/ PCBs at Upper Camp	SS007	July-05	Dec-05	Facility General Plan generally agreed with remedy, including maps and restrictions on digging/excavations. Exceptions included inspection frequency(every other year in plan, every year in remedy) the facility plan did not specify signage requirements, cleanup levels, or PCB concentration information. Signs were observed to be in good condition. Cap observed in good condition, though minor erosion was noted along the southwest edge of the cap along the road.	None	Final First Five-Year Review Report for SS07 Upper Camp PCB Spill, Cape Newenham Long Range Radar Station, Cape Newenham LRRS, Alaska.
Cape Newenham LRRS	Upper Camp Substation/ PCBs at Upper Camp	SS007	Fiscal Year 2006	Dec-06	The cap was inspected and found to be in serviceable condition with no visible erosion or degradation. Signage was also noted to be in place and serviceable.	NA	PCB Cap Monitoring and Maintenance (SS007), CapeNewenham LRRS, Alaska, Final Report. (December 2006)
Cape Newenham LRRS	Upper Camp Substation/ PCBs at Upper Camp	SS007	Fiscal Year 2007	Sep-08	Signage was in place and serviceable. Inspection of the PCB cap found thin spots in the gravel cover and two areas where the geotextile membrane had been breached. The two small breaches were located in the central portion of the cap. Plans included covering and grading the cap with an additional 80 cy of gravel in 2008.	The onsite contractor patched the geotextile membrane and placed sufficient gravel over the patches in the Fall of 2007 to ensure the integrity of the cap following the discovery of the breaches.	PCB Cap Monitoring and Maintenance (SS007), CapeNewenham LRRS, Alaska, Final Report. (September 2008)

TABLE 3-3
LUC Inspections/Reviews Conducted to Date for PRSC ERP Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number	Date(s) of LUC/Five-Year Review Inspection(s)	LUC Inspection(s)/Five-Year Report Submission Date	Summary of Findings/Violations (if applicable) for LUC Inspection(s)	Status of Findings/Violations Resolution (if applicable) for LUC Inspection(s)	Document Title
Cape Newenham LRRS	Upper Camp Substation/ PCBs at Upper Camp	SS007	Fiscal Year 2008	May-09	Signage was in place and serviceable with the exception of one sign missing from the old transformer foundation. Inspection of the PCB cap found an 8 to 12 inch gravel cover over the geotextile membrane. The cap had been resurfaced with 100 cy of gravel in the Fall of 2008	Cap had been resurfaced with 100 cy of gravel in September of 2008.	PCB Cap Monitoring and Maintenance (SS007), CapeNewenham LRRS, Alaska, Final Report. (May 2009)
Cape Newenham LRRS	Upper Camp Substation/ PCBs at Upper Camp	SS007	Aug-09	Sep-09	Signage was in place and serviceable with the exception of one sign missing from the old transformer foundation - replacement was scheduled for 2010. Inspection of the PCB cap indicated it was in excellent condition.	Cap had been resurfaced with 100 cy of gravel in September of 2008.	PCB Cap Monitoring and Maintenance (SS007), CapeNewenham LRRS, Alaska, Final Report. (September 2009)
Cape Newenham LRRS	Upper Camp Substation/ PCBs at Upper Camp	SS007	Sep-10	Jan-11	Cap was observed to be in excellent condition, with some grass taking hold along the perimeter. One small piece of exposed liner was observed at the southern extent.	In September 2010, additional gravel was placed by the onsite contractor to cover the exposed liner at the southern extent. Replacement sign installed at the northern corner of the former transformer foundation.	Inspection and Long-term Monitoring of PCB Cap of Installation Restoration Program Site SS007 at Cape Newenham LRRS (January 2011)
Cape Newenham LRRS	Upper Camp Substation/ PCBs at Upper Camp	SS007	Fiscal Year 2011	Feb-12	Cap was found to be in good, serviceable condition. At the time of the inspection, the power cables on the inside edge of the cap had been pulled for rerouting to the new transformer location which left a minor disturbance of the cap's edge.	The station manager indicated the cap edge would be refinished when the work was completed.	PCB Cap Monitoring and Maintenance (SS007) Cape Newenham LRRS, Alaska (February 2012)
Cape Newenham LRRS	Upper Camp Substation/ PCBs at Upper Camp	SS007	8/1/10-3/30/11	Feb-12	Current remedy was found to be protective of human health; continuation of annual inspection of the PCB cap and biennial soil sampling along upper mountainside was recommended, although improvements to the sampling plan were recommended. Also indicated ecological risk should be re-evaluated based on finding higher PCB concentrations on the upper mountainside than previously known. Inclusion of ICs in the Land Use Control Master (Management?) Plan was also recommended.	NA	Second Five-Year Review of Installation Restoration Program Site SS007 at Cape Newenham LRRS, U.S. Air Force Cape Newenham LRRS, Alaska. (February 2012)
Cape Newenham LRRS	Upper Camp Substation/ PCBs at Upper Camp	SS007	Oct-12	Jun-13	Visual inspection confirmed the soil cap covering the PCB-contaminated soil at SS007 was in place and in generally good condition and did not identify any areas of the soil cap that required maintenance or repair. Notification signs used to alert onsite personnel of potential exposure to hazardous soil beneath the soil cap are present at the site. All required signage is in place and complies with the land use controls established for Site SS007. Analytical results indicate that PCB-impacted sediment do not exist within the pond area that result in an unacceptable exposure risk/levels which may impact potential wildlife that utilize the Pond area.	This was the final inspection conducted based on recommendations presented in the first five-year review. The Air Force is developing a new long term monitoring plan based on recommendations of the second five-year review and other subsequent investigations and discussions.	Final Inspection and Long-Term Monitoring of PCB Cap of Installation Restoration Program Site SS007 Cape Newenham Long Range Radar Station, Alaska Technical Project Report. June 2013. Pacific Air Forces.
Cape Newenham LRRS	Upper Camp Substation/ PCBs at Upper Camp	SS007	Jul-13	Feb-14	There were no indications of a change in land use in this area. No additional construction had occurred at the site since the previous annual inspection. The PCB cap area appeared to be undisturbed. No evidence of cap damage or distressed vegetation was observed. There were no indications of excavation activities, and no excavation notifications had been filed within the previous year for this site. No debris or any other material that could cause potential damage to the cap was seen during the inspection.	NA	Letter from Chris Pisarri, BEM Systems Program Manager, to Keith Barnack, 611 CES/CEAR Project manager, regarding the Final Annual Inspection and Long-Term Monitoring of PCB Cap of Site SS007 Technical Project Report for Cape Newenham Long Range Radar Station. 7 February 2014.

TABLE 3-3
LUC Inspections/Reviews Conducted to Date for PRSC ERP Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number	Date(s) of LUC/Five-Year Review Inspection(s)	LUC Inspection(s)/Five-Year Report Submission Date	Summary of Findings/Violations (if applicable) for LUC Inspection(s)	Status of Findings/Violations Resolution (if applicable) for LUC Inspection(s)	Document Title
Cape Newenham LRRS	Upper Camp Substation/ PCBs at Upper Camp	SS007	NA	Dec-14	Optimization of Long-Term Monitoring; recommended discontinuing sampling for PCBs in known areas of contamination and focusing on biennial sampling along upper mountainside and downgradient areas to determine if contaminant migration is occurring and establishing method to address soil with concentrations above site soil cleanup level outside of capped area.	NA	Optimization of the Long-Term Monitoring Program at Cape Newenham (Installation Restoration Program Site SS007), Cape Newenham LRRS, Alaska. December 2014.
Cape Romanzof LRRS	Landfill 2	LF003	Oct-99	Nov-00	Landfill cap inspection limited by snow, which was locally removed in several areas for the purpose of inspection. Two seep areas observed on southeast side.	Recommended sampling seep areas and returning to inspect during summer of 2000 when there would be no snow cover.	United States Air Force Cape Romanzof LRRS, Alaska Long Term Monitoring, Landfill Cap Inspection (November 2000)
Cape Romanzof LRRS	Landfill 2	LF003	Oct-03	Nov-04	Landfill cap not inspected as intended because of snow cover	Proposed carrying through with recommendations proposed in the 2000 inspection report.	Landfill 2 (LF03), SS13 and SS15 Long Term Monitoring, Cape Romanof LRRS, Alaska, Conducted in October 2003 (November 2004)
Cape Romanzof LRRS	Landfill 2	LF003	Jun-04	Jun-05	Landfill liner exposed in several places on the cap, as well as the toe area, no rips or tears evident. Three seeps evident indicated that though the cap/liner is likely preventing infiltration of precipitation, lateral flow appeared to still be entering the Landfill. PCBs detected downgradient appeared to have been carried by this surface flow.	During an inspection in August 2004, observed soil from a decommissioned biocell had been added to cover exposed liner on top, but not along toe.	Final Environmental Monitoring Report for Landfill 2 (LF03) and Spill Sites SS13 and SS15, Cape Romanzof LRRS, Alaska (June 14, 2005)
Cape Romanzof LRRS	Landfill 2	LF003	NA	Apr-08	Although liner appears intact, seeps indicate groundwater is still entering and exiting the Landfill area. Furthermore, one of the seeps has been shown to be transporting PCBs downstream of the Landfill towards Fowler Creek. Interviews indicated large amount of surface water flow occurred in the Landfill area during breakup. PCB hotspot had not been removed as required by the ROD, and the hotspot appeared larger than originally anticipated. RAOs for PCBs (and DRO) had been changed to lower concentrations since ROD was issued.	2008-Planned to revise long-term monitoring to include surface water sampling for PCBs at Fowler Creek. 2013-Planned removal/treatment action for PCB-contaminated soil and sediment (or other remedy).	First Five-Year Review Cape Romanzof Sites Landfill No. 2 (LF003), Diesel Seep Area (SS013), and UST Spill Area (SS015), Cape Romanzof LRRS, Alaska (April 18, 2008)
Cape Romanzof LRRS	Landfill No. 2, Diesel Seep Area, UST Spill Area, Spill/Leak 3, Drum Storage Area, Dump Area	LF003, SS013, SS015, ST009, SS014, DP011	Aug-12	Jun-13	The remedies for SS014, ST009, DP011, SS013, and SS015 have been implemented, meet the remedial action objectives (RAO) defined in the DDs, and are protective of human health and the environment. Because the first CERCLA Five-Year Review for LF003 (completed in 2008) found that the ROD-selected remedy, Cleanup with Institutional Controls, was not protective of human health and the environment, an initial screening of new alternatives for LF003 was conducted in 2010. A Final ROD for LF003 was completed and signed by the U.S. Air Force (USAF) and the Alaska Department of Environmental Conservation (ADEC) in March 2013 and included restricting activities incompatible with contaminated soil and groundwater by including a notice in the Base General Plan, 5-year visual inspections, and requiring approval from ADEC for any changes to the ICs.	Well maintenance recommendations at four sites: at LF003, SS015, ST009, and SS014. This maintenance should be conducted as follows: • At LF003, Monitoring Well CMW7 has an exposed wellhead and should be repaired and inspected for proper function; the protective metal casing has fallen to the ground and standing water surrounds the well. • Monitoring Well WW-03 at SS015 has a broken lock and cap that need repair and protective casing, and Monitoring Well WW-01 on the south end of SS015 is currently unmarked. • Monitoring Wells MW-5 at ST009 have experienced frost jacking and should be inspected for proper function. • Monitoring Wells MW-1, MW-2, and MW-3 at SS014 have also experienced frost jacking and should be inspected for proper function. Additionally, at SS014, broken glass surrounds a plywood platform, which should be removed.	Second CERCLA Five-Year Review & Second Non-CERCLA Periodic Review Report. Cape Romanzof LRRS, Alaska. Final June 2013. United States Air Force 611th Air Support Group 611th Civil Engineer Squadron.
Cape Romanzof LRRS	ST009	ST009	Oct-13	Feb-14	Monitoring results indicate surface water results are below cleanup criteria, groundwater results are above cleanup criteria, but show decreasing trends. Recommends additional sampling events (ROD requires 2 consecutive events below cleanup criteria before monitoring can cease and ICs can be removed.)	NA	2013 Groundwater Monitoring Report For Site ST009 Environmental Long Term Monitoring Cape Romanzof Long Range Radar Station. Cape Romanzof, Alaska. February 2014. Pacific Air Forces, Air Force Civil Engineer Center.

TABLE 3-3
LUC Inspections/Reviews Conducted to Date for PRSC ERP Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

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Cold Bay LRRS	White Alice Communications System	OT001	2002-2006	Aug-07	The selected remedy at OT001 was determined to remain protective of human health and the environment.	Actions prescribed by the ROD include performing an as-built survey of the landfill and recording the information in the Aleutian Islands Recording District in Anchorage; performing annual inspections for 5 years (2002-2006) to monitor and repair any sinkholes and erosion channels; removal of source material; addition of 2-3 feet of clean fill material, grading, and revegetation were all accomplished prior to the 5-year review.	Five Year Review for OT01 and ST05, Cold Bay, Alaska, Final. (August 2007)
Cold Bay LRRS	POL Storage Area	ST005	2002-2006	Aug-07	The selected remedy at ST005 was determined to remain protective of human health and the environment.	Actions prescribed by the ROD include performing an as-built survey of the landfill and recording the information in the Aleutian Islands Recording District in Anchorage; removal of source material; grading and revegetation were all accomplished prior to the 5-year review.	Five Year Review for OT01 and ST05, Cold Bay, Alaska, Final. (August 2007)
Cold Bay LRRS	POL Storage Area	ST005	Sep-09	Feb-10	Observed that there was currently no exposure to groundwater contamination at the site and a Record of Survey had been filed with the Department of Natural Resources Recorder's Office to prevent future human health exposure.	NA	Final Long Term Monitoring Report, Long Term Monitoring of Site ST05, Cold Bay Long Range Radar Site, Alaska (February 2010)
Cold Bay LRRS	White Alice Communications System	OT001	2011	Jul-12	Observations during the 2011 inspection indicated there were no sinkholes and the landfill cap was intact. Natural vegetation continued to spread. The selected remedy was surmised to remain protective of human health and the environment.	NA	Five Year Review for OT01 and ST05, Cold Bay, Alaska, Final. (July, 2012)
Cold Bay LRRS	POL Storage Area	ST005	2007-2011	Jul-12	Groundwater monitoring indicated DRO remained above cleanup levels; institutional controls preventing the use of groundwater for drinking water and exposure to soil were put in place in 2006. The selected remedy was surmised to remain protective of human health and the environment.	NA	Five Year Review for OT01 and ST05, Cold Bay, Alaska, Final. (July, 2012)
Cold Bay LRRS	WACS Site, POL Storage Area	OT001, ST005	Jul-14	Nov-14	Analytical results indicate DRO is still above the ADEC groundwater cleanup level. Institutional controls will be in place until the groundwater is safe to be used as drinking water.	Report recommends replacing well locks and bolts.	Groundwater Monitoring Report, Environmental Long Term management, Cold Bay Long Range Radar Site. Preliminary Draft. November 2014. Pacific Air Forces.
Erickson Air Station	Scrap Metal Landfill	LF028	Jul-10	Mar-11	<ul style="list-style-type: none"> • Soil cap was found to be fully intact and in good condition, with the exception of minor metal protrusions documented herein. • The location of the LF028 and background information in the form of a notice was not recorded with the Aleutian Islands Recording District Recorder located in Anchorage, Alaska. • The Erickson AS comprehensive map and master plan was updated to show the boundaries of the landfill to restrict excavation of soil and use of groundwater. The base master plan now contains a map indicating the location of LF028 with restrictions on any invasive activities that could potentially compromise the integrity of the cover and expose potential contaminants. 	<p>A database of LUCs at Air Force installations open to public access should be developed.</p> <p>A survey of LF028 should be completed per the ROD.</p> <p>Protruding metal debris should be removed.</p>	First Five-Year Review Report for LF028 - Scrap Metal Landfill. Erickson Air Station. Final. March 2011. United States Air Force.

TABLE 3-3
LUC Inspections/Reviews Conducted to Date for PRSC ERP Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number	Date(s) of LUC/Five-Year Review Inspection(s)	LUC Inspection(s)/Five-Year Report Submission Date	Summary of Findings/Violations (if applicable) for LUC Inspection(s)	Status of Findings/Violations Resolution (if applicable) for LUC Inspection(s)	Document Title
Erickson Air Station	Aircraft Mock-up Area (MA)/Fire Training Area (FTA)/Abandoned Drum Disposal Area (ADDA), Fire Department Foam Training Area, West End Oil/Water Separator Ponds & Drainage, Water Gallery	FT002, FT003, SS007, OTO48	Oct-12	Aug-13	FT002 - Detections above ADEC Groundwater Cleanup Levels. Surface water monitoring detections above ADEC Surface Water Cleanup Levels. Sediment monitoring resulted in no exceedances of the ADEC Method Two Soil Cleanup Levels. FT003 - Groundwater monitoring results indicated detections above ADEC Groundwater Cleanup Levels. Surface water monitoring for metals resulted in no exceedances of the ADEC Groundwater and Surface Water Cleanup Levels. SS007 - Surface water monitoring results indicated exceedances of the SS007 Risk-Based Cleanup Level. Sediment monitoring at three locations resulted in exceedances of the SS007 Risk-Based Cleanup Levels. OTO48 - Groundwater monitoring for TCE resulted in concentrations below the ADEC Groundwater Cleanup Level. Surface water monitoring for TCE resulted in concentrations below the ADEC Groundwater Cleanup Level.	Conduct LTM until no longer deemed necessary by USAF and ADEC.	Technical Project Report Environmental Long Term Management Erickson Air Station Shemya Island, Alaska. Final. August 2013. Contract FA8903-10-D-8593-TO19 Project number AYED20127003. Pacific Air Forces.
Erickson Air Station	North Beach Landfill, Barrel Bay/Scrap Metal Disposal Area, Water Gallery Scrap Metal Landfill USTs at Building 110, Lightning Strike/Burn Area, Aircraft Mock-up Area/Fire Training Area, West End Oil/Water Separator Pond	LF018, LF024/LF026, OTO48 LF028 ST039, FT001, FT002, FT003, SS007	Jun-12	Sep-13	LF018, LF024, LF026, LF028, ST039, FT001, FT002, FT003, SS007 - The selected remedies for Erickson Air Station Environmental Restoration Program are protective of human health and the environment, comply with federal and state requirements that are legally applicable or relevant and appropriate, and are considered cost effective. The remedies currently meet the remedial action objectives established in the Record of Decision or Decision Document associated with the site by containing contaminants within the site and preventing exposure to the contaminants. Minor findings/recommendations: LF014-remove surface debris, monitor surface for erosion/subsidence/exposed waste. LF024 - remove surface debris, evaluate burn pit activity for consistency with ROD, monitor erosion along shoreline, continue gw monitoring, add metals LF026- limit site access, remove surface debris, sample seeps, groundwater monitoring for metals, monitor erosion along shoreline LF028 - remove surface debris OTO48 - repair monitoring well WGW1, conduct one additional gw monitoring event to confirm TCE remains below ADEC cleanup levels FT001, FT002, FT003-remove surface debris, continue monitoring SS007-continue monitoring	NA	First CERCLA Five-Year Review Report for:LF018 (North Beach landfill), LF024/LF026 (Barrel Bay/Scrap Metal Disposal Area), and OTO48 (Water Gallery) Second CERCLA Five-Year Review Report for: LF028 (Scrap Metal Landfill) First Periodic Review Report For: ST039 (USTs at Building 110), FT001 (Lightning Strike/Burn Area), FT002 (Aircraft Mock-Up Area/Fire Training Area/Abandoned Drum Disposal Area), FT003 (Fire Department Foam Training Area), and SS007 (West End Oil/Water Separator Pond) Erickson Air Station, Shemya Island Alaska. Final September 2013. United States Air Force 611th Air Support Group 611th Civil Engineer Squadron. Joint Base Elmendorf-Richardson, Alaska
Granite Mountain RRS	Surface Disposal Area B	SS017	Sep-09	Jan-10	SS017 MW02 and SS017 MW03 groundwater DRO concentrations exceed ADEC Table C cleanup level of 1.5 mg/L	The determination that groundwater is not a viable source of drinking water and is not an anticipated transport mechanism. No further action is recommended for this site.	Letter from Drew Anderson, Jacobs Project Engineer, to Pat Roth, Project Manager, 611 CES/CEAR regarding Granite Mountain Radio Relay Station September 2009 Groundwater Monitoring Report. 27 January 2010.
Granite Mountain RRS	White Alice Site Inert Waste Monofill	OT001	Jun-10	Sep-10	Inert waste monofill cap observed to be intact and in good condition.	NA	Letter from Katie Bloom, Jacobs Project Engineer, to Ken Spiers, ADEC Environmental Program Specialist, regarding the Inert Waste Monofill Inspection - Granite Mountain Radio Relay Station (Solid Waste Permit No. SWZA056-14) (September 9, 2011)

TABLE 3-3
LUC Inspections/Reviews Conducted to Date for PRSC ERP Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number	Date(s) of LUC/Five-Year Review Inspection(s)	LUC Inspection(s)/Five-Year Report Submission Date	Summary of Findings/Violations (if applicable) for LUC Inspection(s)	Status of Findings/Violations Resolution (if applicable) for LUC Inspection(s)	Document Title
Granite Mountain RRS	White Alice Site Inert Waste Monofill Landfill Disposal Pit No. 1 Disposal Pit No. 2 Surface Disposal Area A Surface Disposal Area B Surface Disposal Area D Surface Disposal Area E, F, and G Surface Disposal Area K	OT001 LF002 DP009 DP010 SS016 SS017 SS019 DA020 DA021	Jun-11	Sep-11	Set secondary monuments to demarcate geographic site boundaries, performed civil surveys and installed pre-cast concrete and steel signs at site entrances.	Maintenance of site signage and monuments.	Letter from Drew Anderson, Jacobs Project Engineer, to Pat Roth, Project Manager, 611 CES/CEAR regarding Land Use Control Implementation, Granite Mountain Radio Relay Station (ADL# 419222). 26 September 2011.
Granite Mountain RRS	White Alice Site Inert Waste Monofill	OT001	Jun-11	Sep-11	Inert waste monofill cap observed to be intact and in good condition.	A sign was placed by the road at the entrance to the site indicating the presence of buried soil impacted by PCB	Letter from Drew Anderson, Jacobs Project Manager, to Ken Spiers, ADEC Environmental Program Specialist, regarding the Inert Waste Monofill Inspection - Granite Mountain Radio Relay Station (Solid Waste Permit No. SWZA056-14). 26 September 2011.
Granite Mountain RRS	White Alice Site Inert Waste Monofill	OT001	Jul-12	Nov-12	Inert waste monofill cap observed to be intact and in good condition. Pooled rain water was observed in a few locations on the surface of the monofill but did not appear to be an indicator of settling or erosion of the landfill cap.	NA	Letter from Katie Bloom, Jacobs Project Engineer, to Ken Spiers, ADEC Environmental Program Specialist, regarding the Inert Waste Monofill Inspection - Granite Mountain Radio Relay Station (Solid Waste Permit No. SWZA056-14) (07 November 2012)
Granite Mountain RRS	White Alice Site Inert Waste Monofill Landfill Disposal Pit No. 1 Disposal Pit No. 2 Surface Disposal Area A Surface Disposal Area B Surface Disposal Area D Surface Disposal Area E, F, and G Surface Disposal Area K	OT001 LF002 DP009 DP010 SS016 SS017 SS019 DA020 DA021	Jul-12	Nov-12	Landfill cover observed to be in good condition and signage was clear. Landfill cover observed to be in good condition and signage was clear. Landfill cover observed to be in good condition and signage was clear. Landfill cover observed to be in good condition and signage was clear. Landfill cover observed to be in good condition and signage was clear. No signs of access or attempt to access subsurface were noted and signage was clear at the site. Site contains fuel impacted groundwater. Landfill cover observed to be in good condition and signage was clear. Landfill cover observed to be in good condition and signage was clear. Landfill cover observed to be in good condition and signage was clear.	NA	Letter from Drew Anderson, Jacobs Project Engineer, to Pat Roth, Project Manager, 611 CES/CEAR regarding Land Use Controls Inspection - Granite Mountain Radio Relay Station. 07 November 2012
Granite Mountain RRS	Inert Waste Monofill	OT001	Jul-13	Sep-13	Inert waste monofill cap observed to be intact and in good condition. Metal debris removed from surface. No indication of settling or erosion of the landfill cap.	NA	Letter from Katie Bloom, Jacobs Project Engineer, to Ken Spiers, ADEC Environmental Program Specialist, regarding the Inert Waste Monofill Inspection - Granite Mountain Radio Relay Station (Solid Waste Permit No. SWZA056-14). 30 September 2013.
Granite Mountain RRS	White Alice Site Inert Waste Monofill Landfill Disposal Pit No. 1 Disposal Pit No. 2 Surface Disposal Area A Surface Disposal Area B Surface Disposal Area D Surface Disposal Area E, F, and G Surface Disposal Area K	OT001 LF002 DP009 DP010 SS016 SS017 SS019 DA020 DA021	Jul-13	Sep-13	Landfill cover observed to be in good condition and signage was clear. Landfill cover observed to be in good condition and signage was clear. Landfill cover observed to be in good condition and signage was clear. Landfill cover observed to be in good condition and signage was clear. Landfill cover observed to be in good condition and signage was clear. No signs of access or attempt to access subsurface were noted and signage was clear at the site. Landfill cover observed to be in good condition and signage was clear. Landfill cover observed to be in good condition and signage was clear. Landfill cover observed to be in good condition and signage was clear.	200 pounds protruding metal debris removed from cover. 20 pounds protruding metal debris removed from cover. 50 pounds protruding metal debris removed from cover. 30 pounds metal debris identified for removal. 10 pounds metal debris removed from site. 50 pounds metal debris removed from site. Debris protruding from west slope. Signage needs securement. 20 pounds metal debris removed from site. 3 Drums protruding from surface	Letter from Katie Bloom, Jacobs Project Engineer, to Pat Roth, Project Manager, 611 CES/CEAR regarding Land Use Controls Inspection - Granite Mountain Radio Relay Station. 30 September 2013

TABLE 3-3

LUC Inspections/Reviews Conducted to Date for PRSC ERP Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number	Date(s) of LUC/Five-Year Review Inspection(s)	LUC Inspection(s)/Five-Year Report Submission Date	Summary of Findings/Violations (if applicable) for LUC Inspection(s)	Status of Findings/Violations Resolution (if applicable) for LUC Inspection(s)	Document Title
Granite Mountain RRS	White Alice Site Inert Waste Monofill Disposal Area B	OT001 SS017	Jul-14	Aug-14	OT001 Inert waste monofill cap observed to be intact and in good condition. Signage was visible and secured. SS017 LUCs were found to be in good condition with no indication of soil disruption. Signage was visible and secured.	NA	First CERCLA Five-Year Review and ADEC Periodic Review Report. Final. August 2014
Kalakaket Creek RRS	Subarea POL Tank No. 1 Landfill No. 1 Landfill No. 2 Clean Sweep Landfill	OT001 LF001 LF002	Oct-12	Mar-13	No change in land use, no residential construction, excavation or drilling. No evidence of major soil settling, or erosion of cover.	NA	Technical Project Report Environmental Long Term Management Kalakaket Creek Radio Relay Station. Final. March 2013. Contract FA8903-10-D-8593. Task Order 0019. Project Number LXQN20127202. Pacific Air Forces.
Kalakaket Creek RRS	Subarea POL Tank No. 1 Landfill No. 1 Landfill No. 2 Clean Sweep Landfill	OT001 LF001 LF002	Jul-13	Feb-14	No change in land use, no residential construction, excavation or drilling. No evidence of major soil settling, or erosion of cover.	NA	Technical Project Report Environmental Long Term Management Kalakaket Creek Radio Relay Station. Final. February 2014. Contract FA8903-10-D-8593. Project number LXQN20137202. Pacific Air Forces.
Kalakaket Creek RRS	Subarea POL Tank No. 1 Landfill No. 1 Landfill No. 2 Clean Sweep Landfill	OT001 LF001 LF002	Jul-14	Nov-14	No change in land use, no residential construction, excavation or drilling. No evidence of major soil settling, or erosion of cover. 80% vegetated.	NA	Technical Project Report Environmental Long Term Management Kalakaket Creek Radio Relay Station. Draft. November 2014. Contract FA8903-10-D-8593. Project number LXQN20147202. Pacific Air Forces.
King Salmon AS	South Bluff	LF005	Apr-05	May-05	Landfill cap and access roads in good condition. Minor maintenance needs were noted for the barrier fence.	Two of three culverts frozen, thaw cables hooked up to facilitated thawing.	April 2005 Monthly Landfill Cap and Security Fence Inspection Report, North Bluff (LF014) and South Bluff (LF005), King Salmon Air Station, Alaska (May 3, 2005)
King Salmon AS	South Bluff	LF005	May-05	Jun-05	Landfill cap, drains, and associated roads, paths, and gabion wall were in good condition. Minor repair needs noted for barrier fence.	None	May 2005 Monthly Landfill Cap and Security Fence Inspection Report, North Bluff (LF014) and South Bluff (LF005), King Salmon Air Station, Alaska (June 3, 2005)
King Salmon AS	South Bluff	LF005	Jun-05	Jul-05	Landfill cap, drains, and associated roads, paths, and gabion wall were in good condition. Minor repair needs noted for barrier fence.	None	June 2005 Monthly Landfill Cap and Security Fence Inspection Report, North Bluff (LF014) and South Bluff (LF005), King Salmon Air Station, Alaska (July 8, 2005)
King Salmon AS	South Bluff	LF005	NA	Sep-07	(indicates "Landfill inspections, institutional controls requirements of the ROD, and inspection, maintenance, and monitoring activities for the SBTS are reported separately." Not found on admin rec.	NA	2006 Final Monitoring Report, North Bluff (LF014) and South Bluff (LF005), King Salmon Air Station, Alaska (September 24, 2007)
King Salmon AS	South Bluff	LF005	1-Jun-13	Dec-13	Down drains and culverts were clear. No maintenance for access road and foot paths were identified. High water levels in Eskimo Creek have eroded six gabions that are now leaning towards the creek.	NA	Letter Report from Matthew Zukowski, Pug-Vik Project Manager to Mr. Charley Peyton, AFCEC Project Manager regarding: <i>June 2013 South Bluff Treatment System Report, Zone 3 North and South Bluffs Landfill Cap Inspection</i> . 2012 Remedial Action Activities at King Salmon Airport, Alaska. December 10, 2013
King Salmon AS	Landfill #5	LF008	6-Sep-03	Mar-05	Slopes, vegetation, and erosion-control features were inspected. No evidence of erosion or sinkholes observed. Tire ruts of varying age were observed in several locations. Vegetation sparse in some areas.	NA	Final Report, Long-Term Monitoring for 2003, Naknek River Storage (Groundwater Zone 4 - OT030, Sites LF008 and SS012) and Rapids Camp Landfill (Site LF003) King Salmon Air Station, Alaska (March 11, 2005)
King Salmon AS	Landfill #5	LF008	10-May-04	Mar-05	Slopes, vegetation, and erosion-control features were inspected. As in 2003, no evidence of erosion or sinkholes observed. Tire ruts of varying age were observed in several locations. Vegetation sparse in some areas.	NA	Final Report, Long-Term Monitoring for 2003, Naknek River Storage (Groundwater Zone 4 - OT030, Sites LF008 and SS012) and Rapids Camp Landfill (Site LF003) King Salmon Air Station, Alaska (March 11, 2005)

TABLE 3-3
LUC Inspections/Reviews Conducted to Date for PRSC ERP Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number	Date(s) of LUC/Five-Year Review Inspection(s)	LUC Inspection(s)/Five-Year Report Submission Date	Summary of Findings/Violations (if applicable) for LUC Inspection(s)	Status of Findings/Violations Resolution (if applicable) for LUC Inspection(s)	Document Title
King Salmon AS	Landfill #5	LF008	25-Aug-04	Nov-06	Slopes, vegetation, and erosion-control features were inspected. Landfill was observed to be in good condition, except that vegetation (mostly grass) was drying out in the sandy soil and dying. Some tire tracks observed in northeastern corner.	NA	Final Report, Long-Term Monitoring for 2004, Naknek River Storage (Groundwater Zone 4 - OT030, Sites LF008 and SS012) and Rapids Camp Landfill (Groundwater Zone 6 - Site LF003) King Salmon Air Station, Alaska (November 6, 2006)
King Salmon AS	Landfill #5	LF008	2-Jun-05	Nov-06	Slopes, vegetation, and erosion-control features were inspected. Landfill was observed to be in good condition, vegetation noted to be 60-100% cover. One rusty drum observed at the base of the berm.	NA	Final Report, Long-Term Monitoring for 2004, Naknek River Storage (Groundwater Zone 4 - OT030, Sites LF008 and SS012) and Rapids Camp Landfill (Groundwater Zone 6 - Site LF003) King Salmon Air Station, Alaska (November 6, 2006)
King Salmon AS	Landfill #5	LF008	10-Sep-06, 11-Sep-06	Sep-07	Landfill slopes, vegetation, and erosion control features were inspected. No erosion or sink holes were observed, but a small area of excavation was noted in the bluffs on the southeast corner. Vegetation cover was 60-100% and in average conditions.	NA	Final Report, Long-Term Monitoring for 2006, Naknek River Storage (Groundwater Zone 4 - OT030, Sites LF008 and SS012), King Salmon Air Station, Alaska (September 25, 2007)
King Salmon AS	Landfill #5	LF008	1-Jun-07	Sep-07	Landfill observed to be in excellent condition, with vegetation cover nearly 100%.	NA	Final Report, Long-Term Monitoring for 2006, Naknek River Storage (Groundwater Zone 4 - OT030, Sites LF008 and SS012), King Salmon Air Station, Alaska (September 25, 2007)
King Salmon AS	Landfill #5	LF008	6/26/2011	Mar-13	No evidence of landfill cap erosion or sinkholes, 0-30% vegetation cover.	None	Final 2011 Comprehensive Environmental Monitoring Report, Base Living Area (Groundwater Zone 1), Base Industrial Area (Groundwater Zone 2), South Bluff (Groundwater Zone 3), Naknek River Storage Area (Groundwater Zone 4), Rapcon & Red Fox Creek. Volume 1 - Report. King Salmon Airport, Alaska. March 2013.
King Salmon AS	Landfill #5	LF008	6/20/2012	Aug-13	No evidence of landfill cap erosion or sinkholes, 0-30% vegetation cover.	NA	Final 2012 Comprehensive Environmental Monitoring Report, Base Living Area (Groundwater Zone 1), Base Industrial Area (Groundwater Zone 2), South Bluff (Groundwater Zone 3), Naknek River Storage Area (Groundwater Zone 4), Rapcon & Red Fox Creek. Volume 1 - Report. King Salmon Airport, Alaska. August 2013.
King Salmon AS	North Bluff	LF014	1-Apr-05	May-05	Landfill cap and access roads in good condition. Minor maintenance needs were noted for the construction fence.	None	April 2005 Monthly Landfill Cap and Security Fence Inspection Report, North Bluff (LF014) and South Bluff (LF005), King Salmon Air Station, Alaska (May 3, 2005)
King Salmon AS	North Bluff	LF014	1-May-05	Jun-05	Landfill cap, drains, and access roads in good condition. Minor maintenance needs were noted for the construction fence.	None	May 2005 Monthly Landfill Cap and Security Fence Inspection Report, North Bluff (LF014) and South Bluff (LF005), King Salmon Air Station, Alaska (June 3, 2005)
King Salmon AS	North Bluff	LF014	1-Jun-05	Jul-05	Landfill cap, drains, and access roads in good condition. Minor maintenance needs were noted for the construction fence.	None	June 2005 Monthly Landfill Cap and Security Fence Inspection Report, North Bluff (LF014) and South Bluff (LF005), King Salmon Air Station, Alaska (July 8, 2005)
King Salmon AS	North Bluff	LF014	NA	Sep-07	(indicates "Landfill inspections, institutional controls requirements of the ROD, and inspection, maintenance, and monitoring activities for the SBTS are reported separately." Not found on admin rec.	NA	2006 Final Monitoring Report, North Bluff (LF014) and South Bluff (LF005), King Salmon Air Station, Alaska (September 24, 2007)

TABLE 3-3
LUC Inspections/Reviews Conducted to Date for PRSC ERP Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number	Date(s) of LUC/Five-Year Review Inspection(s)	LUC Inspection(s)/Five-Year Report Submission Date	Summary of Findings/Violations (if applicable) for LUC Inspection(s)	Status of Findings/Violations Resolution (if applicable) for LUC Inspection(s)	Document Title
King Salmon AS	North Bluff	LF014	1-Jun-13	Dec-13	Down drains and culverts were clear. Access roads needs vegetation trimmed.	Approximately 650 feet of constriction fence was repaired/replaced.	Letter Report from Matthew Zukowski, Pug-Vik Project Manager to Mr. Charley Peyton, AFCEC Project Manager regarding: <i>June 2013 South Bluff Treatment System Report, Zone 3 North and South Bluffs Landfill Cap Inspection</i> . 2012 Remedial Action Activities at King Salmon Airport, Alaska. December 10, 2013
King Salmon AS	Eskimo Creek Dump	LF022	05-Jun-06	Jun-07	Eskimo Creek dump inspected for debris and fill needs. No debris observed and depressions that had been filled the prior year were still providing adequate surface drainage and additional fill was not needed.	NA	Final Report 2005 Long-Term Monitoring, Base Industrial Area (Groundwater Zone 2 - OT028) and Eskimo Creek Dump (LF022), King Salmon Air Station, Alaska (June 15, 2007)
King Salmon AS	Groundwater Zone 1	OT027	01-Sep-04	Dec-06	Noted under Data Gap section that "The General Plan, 611 ASG Remote Alaska Sites, and any orders promulgated from the Commander of the King Salmon Air Station relevant to the institutional controls specified for Zone 1 should be assembled and reviewed for completeness and any potential data gaps" (for the five-year review)	Addressed in 2006 Five Year Review	Final Report 2004 Long-Term Monitoring, Base Living Area (Groundwater Zone 1 - OT027, King Salmon Air Station, Alaska (December 8, 2006)
King Salmon AS	Groundwater Zone 1	OT027	NA	Sep-06	Zone 1 land use controls were considered effective and protective in the short-term, but do not meet all of the requirements; Base General Plan and Federal, State, and local records needed to be updated to note restrictions and include maps of the contaminated areas. No major deficiencies or unresolved problems were reported as a result of site inspections conducted in 2001, 2002, 2004, and 2005.	Unknown	Final First Five-Year Review OT027-Ground Water Zone 1, OT028 - Ground Water Zone 2, OT029 - Ground Water Zone 3, OT030 - Ground Water Zone 4, OT032 - Ground Water zone 6 (September 2006)
King Salmon AS	Groundwater Zone 2	OT028	1-Sep-04	Oct-05	Noted under Data Gap section that "The General Plan, 611 ASG Remote Alaska Sites, and any orders promulgated from the Commander of the King Salmon Air Station relevant to the institutional controls specified for Zone 2 should be assembled and reviewed for completeness and any potential data gaps" (for the five-year review)	Addressed in 2006 Five Year Review	Final Report 2004 Long-Term Monitoring, Base Industrial Area (Groundwater Zone 2 - OT028 and Eskimo Creek Dump - SS022), King Salmon Air Station, Alaska (October 25, 2005)
King Salmon AS	Groundwater Zone 2	OT028	NA	Sep-06	Zone 2 land use controls were considered effective and protective in the short-term, but do not meet all of the requirements; Base General Plan and Federal, State, and local records needed to be updated to note restrictions and include maps of the contaminated areas. No major deficiencies or unresolved problems were reported as a result of site inspections conducted in 2001, 2002, 2004, and 2005.	Unknown	Final First Five-Year Review OT027-Ground Water Zone 1, OT028 - Ground Water Zone 2, OT029 - Ground Water Zone 3, OT030 - Ground Water Zone 4, OT032 - Ground Water zone 6 (September 2006)
King Salmon AS	Groundwater Zone 3	OT029	NA	Sep-06	Zone 3 land use controls were considered effective and protective in the short-term, but do not meet all of the requirements; Base General Plan and Federal, State, and local records needed to be updated to note restrictions and include maps of the contaminated areas. No major deficiencies or unresolved problems were reported as a result of site inspections conducted on a weekly to monthly basis.	Unknown	Final First Five-Year Review OT027-Ground Water Zone 1, OT028 - Ground Water Zone 2, OT029 - Ground Water Zone 3, OT030 - Ground Water Zone 4, OT032 - Ground Water zone 6 (September 2006)
King Salmon AS	Groundwater Zone 3	OT029	NA	Sep-07	(indicates "Landfill inspections, institutional controls requirements of the ROD, and inspection, maintenance, and monitoring activities for the SBTS are reported separately." Not found on admin rec.	NA	2006 Final Monitoring Report, North Bluff (LF014) and South Bluff (LF005), King Salmon Air Station, Alaska (September 24, 2007)
King Salmon AS	Groundwater Zone 4	OT030	NA	Sep-06	Zone 4 land use controls were considered effective and protective in the short-term, but do not meet all of the requirements; Base General Plan and Federal, State, and local records needed to be updated to note restrictions and include maps of the contaminated areas. No major deficiencies or unresolved problems were reported as a result of site inspections conducted in 2001, 2003, 2004, and 2005	Unknown	Final First Five-Year Review OT027-Ground Water Zone 1, OT028 - Ground Water Zone 2, OT029 - Ground Water Zone 3, OT030 - Ground Water Zone 4, OT032 - Ground Water zone 6 (September 2006)

TABLE 3-3
LUC Inspections/Reviews Conducted to Date for PRSC ERP Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number	Date(s) of LUC/Five-Year Review Inspection(s)	LUC Inspection(s)/Five-Year Report Submission Date	Summary of Findings/Violations (if applicable) for LUC Inspection(s)	Status of Findings/Violations Resolution (if applicable) for LUC Inspection(s)	Document Title
King Salmon AS	Groundwater Zone 2	SS022	1-Sep-04	Oct-05	Noted under Data Gap section that "The General Plan, 611 ASG Remote Alaska Sites, and any orders promulgated from the Commander of the King Salmon Air Station relevant to the institutional controls specified for Zone 2 should be assembled and reviewed for completeness and any potential data gaps", indicating an assessment of the institutional controls had not been performed.	Data gaps addressed in 2006 Five Year Review Approximately 10 cy of debris as removed from SS022 and taken to the local Landfill. Approximately 20 cy of material were used to fill depressions and facilitate surface drainage (in an area of less than .05 acres) and was scheduled to be re-seeded the following year.	Final Report 2004 Long-Term Monitoring, Base Industrial Area (Groundwater Zone 2 - OT028 and Eskimo Creek Dump - SS022), King Salmon Air Station, Alaska (October 25, 2005)
King Salmon AS	Groundwater Zone 1 Groundwater Zone 2 Groundwater Zone 3 Groundwater Zone 4 Groundwater Zone 6 Groundwater Zone 7 Biocell Operation & Maintenance	DP023, SS011, SS015, SS019, Bowling Alley SS021, SS020, LF022, DP-13 LF014, LF005 SS012U, SS012L, LF008 Rapids Camp Lake Camp - SS004, SS005 None	6/25/2013	Jun-14	LUCs are in place. Landfill cap inspections completed and no observations of erosion or sinkholes. IC inspections did not find excavation into or construction within 50 feet of the landfill boundaries and no drinking water wells were found within 100 feet of landfill boundaries.	None	Final 2013 Comprehensive Environmental Monitoring Report, Base Living Area (Groundwater Zone 1), Base Industrial Area (Groundwater Zone 2), North & South Bluff (Groundwater Zone 3), Naknek River Storage Area (Groundwater Zone 4), Rapcon & Red Fox Creek (Zone 5), Naknek Rec Camp Land Fill (Zone 6), lake Camp (Zone 7), Biocell Operation and Maintenance. King Salmon Divert, Alaska. (Formerly King Salmon Airport). June 2014.
Naknek 1 Recreation Camp	Rapids Camp Disposal Site	LF003	6-Sep-03	Mar-05	Slopes, vegetation, and erosion-control features were inspected. No evidence of erosion or sinkholes observed. Some vegetation damage was noted due to buried cable being installed.	NA	Final Report, Long-Term Monitoring for 2003, Naknek River Storage (Groundwater Zone 4 - OT030, Sites LF008 and SS012) and Rapids Camp Landfill (Site LF003) King Salmon Air Station, Alaska (March 11, 2005)
Naknek 1 Recreation Camp	Rapids Camp Disposal Site	LF003	10-May-04	Mar-05	Slopes, vegetation, and erosion-control features were inspected. As in September 2003, no evidence of erosion or sinkholes observed. Some vegetation damage was noted due to buried cable being installed.	NA	Final Report, Long-Term Monitoring for 2003, Naknek River Storage (Groundwater Zone 4 - OT030, Sites LF008 and SS012) and Rapids Camp Landfill (Site LF003) King Salmon Air Station, Alaska (March 11, 2005)
Naknek 1 Recreation Camp	Rapids Camp Disposal Site	LF003	25-Aug-04	Nov-06	Slopes, vegetation, and erosion-control features were inspected. Landfill was observed to be in good condition, vegetation noted to be very healthy.	NA	Final Report, Long-Term Monitoring for 2004, Naknek River Storage (Groundwater Zone 4 - OT030, Sites LF008 and SS012) and Rapids Camp Landfill (Groundwater Zone 6 - Site LF003) King Salmon Air Station, Alaska (November 6, 2006)
Naknek 1 Recreation Camp	Rapids Camp Disposal Site	LF003	2-Jun-05	Nov-06	Slopes, vegetation, and erosion-control features were inspected. Landfill was observed to be in good condition. One piece of steel flooring and one steel rod observed, overgrown by local vegetation.	NA	Final Report, Long-Term Monitoring for 2004, Naknek River Storage (Groundwater Zone 4 - OT030, Sites LF008 and SS012) and Rapids Camp Landfill (Groundwater Zone 6 - Site LF003) King Salmon Air Station, Alaska (November 6, 2006)
Naknek 1 Recreation Camp	Groundwater Zone 6	OT032		Sep-06	Zone 4 land use controls were considered effective and protective in the short-term, but did not meet all of the requirements: Base General Plan and Federal, State, and local records needed to be updated to note restrictions and include maps of the contaminated areas. Annual Landfill inspections have been performed in accordance with the ROD. No corrective actions have been found to be necessary.	Unknown	Final First Five-Year Review OT027-Ground Water Zone 1, OT028 - Ground Water Zone 2, OT029 - Ground Water Zone 3, OT030 - Ground Water Zone 4, OT032 - Ground Water zone 6 (September 2006)
Port Heiden	Radio Relay Station Landfill; Former Composite Building Foundation Spill/Leak No 2 at Septic Tank	LF007; OT001; SS004	2010	Nov-10	No unauthorized soil or groundwater use observed. Removal of contaminated soil ongoing (for PCBs, previously detected dieldrins were not detected during 2010). Despite signs and fencing, evidence of local residents driving through the area was observed, but no damage to soil caps noted. No violations of ICs were noted.	Because of the observations of unauthorized access, institutional controls were explained in a public meeting. Additional signs were also posted.	Institutional Control Performance Report for Port Heiden Radio Relay Station, Port Heiden, Alaska. (18-Nov-2010)
Port Heiden	Radio Relay Station Landfill; Former Composite Building Foundation Spill/Leak No 2 at Septic Tank	LF007; OT001; SS004	2011	Nov-11	No unauthorized soil or groundwater use observed. Removal of contaminated soil ongoing (for PCBs and POL). Despite signs and fencing, evidence of local residents driving through the area was observed, but no damage to soil caps noted. No violations of ICs were noted.	NA	Institutional Control Performance Report for Port Heiden Radio Relay Station, Port Heiden, Alaska. (15-Nov-2011)

TABLE 3-3
LUC Inspections/Reviews Conducted to Date for PRSC ERP Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number	Date(s) of LUC/Five-Year Review Inspection(s)	LUC Inspection(s)/Five-Year Report Submission Date	Summary of Findings/Violations (if applicable) for LUC Inspection(s)	Status of Findings/Violations Resolution (if applicable) for LUC Inspection(s)	Document Title
Port Heiden	Radio Relay Station Landfill; Former Composite Building Foundation Spill/Leak No 2 at Septic Tank	LF007; OT001; SS004	2012	Nov-11	No unauthorized soil or groundwater use observed. Removal of contaminated soil ongoing (for PCBs and POL). Despite signs and fencing, evidence of local residents driving through the area was observed, but no damage to soil caps noted, although a couple of monitoring wells ere noted to have been damaged in 2011. No violations of ICs were noted.	Damaged monitoring wells from 2011 were planned for repair/replacement in 2012.	Institutional Control Performance Report for Port Heiden Radio Relay Station, Port Heiden, Alaska. (20-Nov-2012)
Port Heiden	Radio Relay Station Landfill; Former Composite Building Foundation Spill/Leak No 2 at Septic Tank	LF007; OT001; SS004	41852	Aug-14	The actions performed for soil and groundwater at ERP Sites OT001, SS004, LF007 are considered protective in the short-term because exposures appear to be under control, and no unacceptable risks are occurring. The remedy is ongoing, however, and it is not clear yet that the selected remedy, when complete, will be protective in the long-term because the quantities of soil to be remediated has changed since the decision documents were issued. In addition, soil stockpiling practices should be reviewed and modified to ensure contaminated soil stockpiles are contained in a manner that prevents exposure and cross contamination due to wind erosion or runoff of PCB-contaminated soil. At ERP Site LF007, Lastly, groundwater ICs should be implemented according to the requirements of the ROD, and a site-specific operation and maintenance plan should be prepared to provide the methods and reporting requirements for ICs.		First Five-Year Review of Environmental Restoration Program Sites OT001, WP002, SS004, LF007, and Four Unnumbered Sites (Antenna Pads, Contaminated Soil Removal Areas, Drum Storage Area, and Focus Area) Former Port Heiden Radio Relay Station. Final Report. August 2014. Air Force Civil Engineer Center.
Sparrevohn	Spill/Leak No. 1, Waste Accumulation Area, White Alice Communication System, Transmitter Pad Opportunity Site	ST005, SS007, OT004, SD003, ST006	Jun-14	Jul-14	Signage was replaced at ST006. ICs appear to be functioning as intended to protect human receptors from exposure to soil. No additional actions are necessary to improve and/or correct lcs.	NA	Final Sparrevohn LRRS Annual Institutional Controls Inspection Summary Report. Contract No. FA8903-10-D-8593-0027, Project No. VYLK20138888. 16 July 2013.
Sparrevohn	White Alice Communications System, Transmitter Pad/Opportunity Site, Waste Accumulation Area, Spill/Leak No. 1 and Lower Camp Facility, Spill/Leak No. 2	OT004, SD003, SS007, ST005, ST006	Jun-13	Mar-14	Two issues were noted during this first five-year review. First, a site-specific operation and maintenance plan has not been prepared for the site to provide the specific methods and reporting requirements for the annual inspections. Secondly, the RODs for ERP Sites OT004, SD003, SS007, ST005, and ST006 require that site inspections and inspection reports should be completed annually; however, only two inspections have been documented since the 2009 RODs were finalized. Site inspections should be conducted and documented annually the remedial actions at ERP Sites OT004, SD003, SS007, ST005, and ST006 are protective of human health in the short-term because all known soil exposure pathways have been restricted, the remedial action objectives have been met, and there is no indication of current exposure.	NA	First Five-year Review of Environmental Restoration Program Sites OT004, SD003, SS007, ST005, and ST006 at Sparrevohn LRRS. Final Report. March 2014. United States Air Force AFCEC Contract FA8903-08-D-8769, Task Order 351.
Sparrevohn	Transmitter Pad/Opportunity Site, White Alice Communications System, Spill/Leak No. 1 and Lower Camp Facility, Spill/Leak No. 2, Waste Accumulation Area	SD003, OT004, ST005, ST006, SS007	Jun-13	Oct-14	SD003, OT004, ST006, SS007 - There were no indications of excavation activities, and no excavation notifications had been filed for the previous year. Signage remains in tact and legible. ICs appear to be functioning as intended to protect human receptors from exposure to soil. No additional actions are necessary to improve and/or correct ICs. ST005 - six groundwater monitoring wells were sampled for DRO, PAHs, and VOCs. All sample results were below their corresponding ADEC Table C Groundwater Cleanup Level.	NA	Final Sparrevohn LRRS Annual Institutional Controls Inspection and Groundwater Monitoring Report. Contract No. FA8903-10-D-8593-0027, Project No. VYLK20148888. 9 October 2014.
Tatalina LRRS	Hardfill #2, MK Debris Area, Northeast Landfill	DP005	8-Aug-04 and 24-Aug-05	Nov-05	The inclusion of land use controls in the Base General Plan and the location of the land use controls on the Base Map were verified. No activities were observed that were in violation of the land use controls. Soil material cover was intact and naturally revegetating.	NA	Five-Year Review, Installation Restoration Program Sites DP-005, LF-010, OT-012,SS-001, SS-007, and SS-009,Tatalina Long Range Radar Station (November 2005)
Tatalina LRRS	Waste Accumulation Area #2 and Upper Landfill #1	LF010	8-Aug-04 and 24-Aug-05	Nov-05	The inclusion of land use controls in the Base General Plan and the location of the land use controls on the Base Map were verified. No activities were observed that were in violation of the land use controls. Soil material cover was intact and naturally revegetating.	NA	Five-Year Review, Installation Restoration Program Sites DP-005, LF-010, OT-012,SS-001, SS-007, and SS-009,Tatalina Long Range Radar Station (November 2005)

TABLE 3-3
LUC Inspections/Reviews Conducted to Date for PRSC ERP Sites
Land Use Control Management Plan 2014 for PRSC Installations, JBER, Alaska

Installation Name	Site Name	IRP Site ID Number	Date(s) of LUC/Five-Year Review Inspection(s)	LUC Inspection(s)/Five-Year Report Submission Date	Summary of Findings/Violations (if applicable) for LUC Inspection(s)	Status of Findings/Violations Resolution (if applicable) for LUC Inspection(s)	Document Title
Tatalina LRRS	Former White Alice Communications Facility	OT012	8-Aug-04 and 24-Aug-05	Nov-05	The inclusion of land use controls in the Base General Plan and the location of the land use controls on the Base Map were verified. No activities were observed that were in violation of the land use controls. Soil material cover was intact and naturally revegetating.	NA	Five-Year Review, Installation Restoration Program Sites DP-005, LF-010, OT-012, SS-001, SS-007, and SS-009, Tatalina Long Range Radar Station (November 2005)
Tatalina LRRS	Minimally Attended Radar Site	SS001	24-Aug-05	Nov-05	The inclusion of land use controls in the Base General Plan and the location of the land use controls on the Base Map were verified. No activities were observed that were in violation of the land use controls. Soil material cover was intact and naturally revegetating.	NA	Five-Year Review, Installation Restoration Program Sites DP-005, LF-010, OT-012, SS-001, SS-007, and SS-009, Tatalina Long Range Radar Station (November 2005)
Tatalina LRRS	Waste Accumulation Area #3	SS007	23-Aug-05	Nov-05	The inclusion of land use controls in the Base General Plan and the location of the land use controls on the Base Map were verified. No activities were observed that were in violation of the land use controls. Soil material cover was intact and has revegetated naturally.	NA	Five-Year Review, Installation Restoration Program Sites DP-005, LF-010, OT-012, SS-001, SS-007, and SS-009, Tatalina Long Range Radar Station (November 2005)
Tatalina LRRS	Former Truck Fill Station	SS009	8-Aug-04 and 23-Aug-05	Nov-05	The inclusion of land use controls in the Base General Plan and the location of the land use controls on the Base Map were verified. No activities were observed that were in violation of the land use controls. Soil material cover was intact and has revegetated naturally.	NA	Five-Year Review, Installation Restoration Program Sites DP-005, LF-010, OT-012, SS-001, SS-007, and SS-009, Tatalina Long Range Radar Station (November 2005)
HAWAII AND SOUTH PACIFIC							
N/A							

Notes:

- cy = cubic yards
- DRO = diesel-range organics
- LRRS = Long Range Radar Station
- N/A = not available
- PCB = polychlorinated biphenyl
- POL = petroleum, oils, and lubricants
- ROD = Record of Decision
- RRS = Remote Radar Station
- SBTS = South Bluff Treatment System

Figures

Additional Information to the Color-coded Key to Figures 2-1 through 2-37

The following installation figures depict land use control (LUC) boundaries. LUCs are unique to individual sites and are defined in site-specific record of decision (RODs) and decision document (DDs). Due to multiple variations in site-specific LUCs, the figures provide generalized depictions of the types of LUCs applied to a site. Greater detail for site-specific LUCs is provided in Table 2-1. Please note, if LUC boundaries have not been defined in a site-specific ROD or DD, then site boundaries are depicted on the installation figure. These figures will be reviewed and updated, as necessary, in future publications of this LUCMP.

In general, the categories on the figures are:

Yellow = Restrictions on use, transport or disturbance of contaminated soil or sediment. *These restrictions may include prevention of the use of contaminated soil for fill in areas where wetlands or other sensitive environments might be affected, as well as prevent contaminated soil or sediment disturbances that might result in hazardous dust.*

Green = Restrictions on excavation and digging. *These restrictions may include prevention of excavating and digging or the requirement for a dig permit and soil management plan prior to excavation.*

Pink = Landfill restrictions. These are landfill restrictions for Environmental Restoration Program (ERP) landfills, as defined by RODs and DD as well as ADEC's landfill management requirements (as listed in Table 2-2). *These restrictions may include prevention of digging or excavation that may expose buried waste or contaminated materials and protection of the landfill cap or cover to avoid erosion or damage from vehicle traffic.*

Orange = Landfill restrictions (no ERP restrictions). *These are landfill restrictions that are not dictated by a ROD or DD either because the landfill is not an ERP site or, if the landfill is an ERP site, it has not been fully investigated and received restrictions in a final ROD or DD. These landfills are also subject to ADEC's landfill management requirements (as listed in Table 2-2).*

Purple = Soil cap restrictions (non-landfill/contaminated soil). *These restrictions apply to caps constructed over areas of buried contamination that are not associated with solid waste and may include no unauthorized access; no disturbance of soil cover; or no unauthorized digging or excavating.*

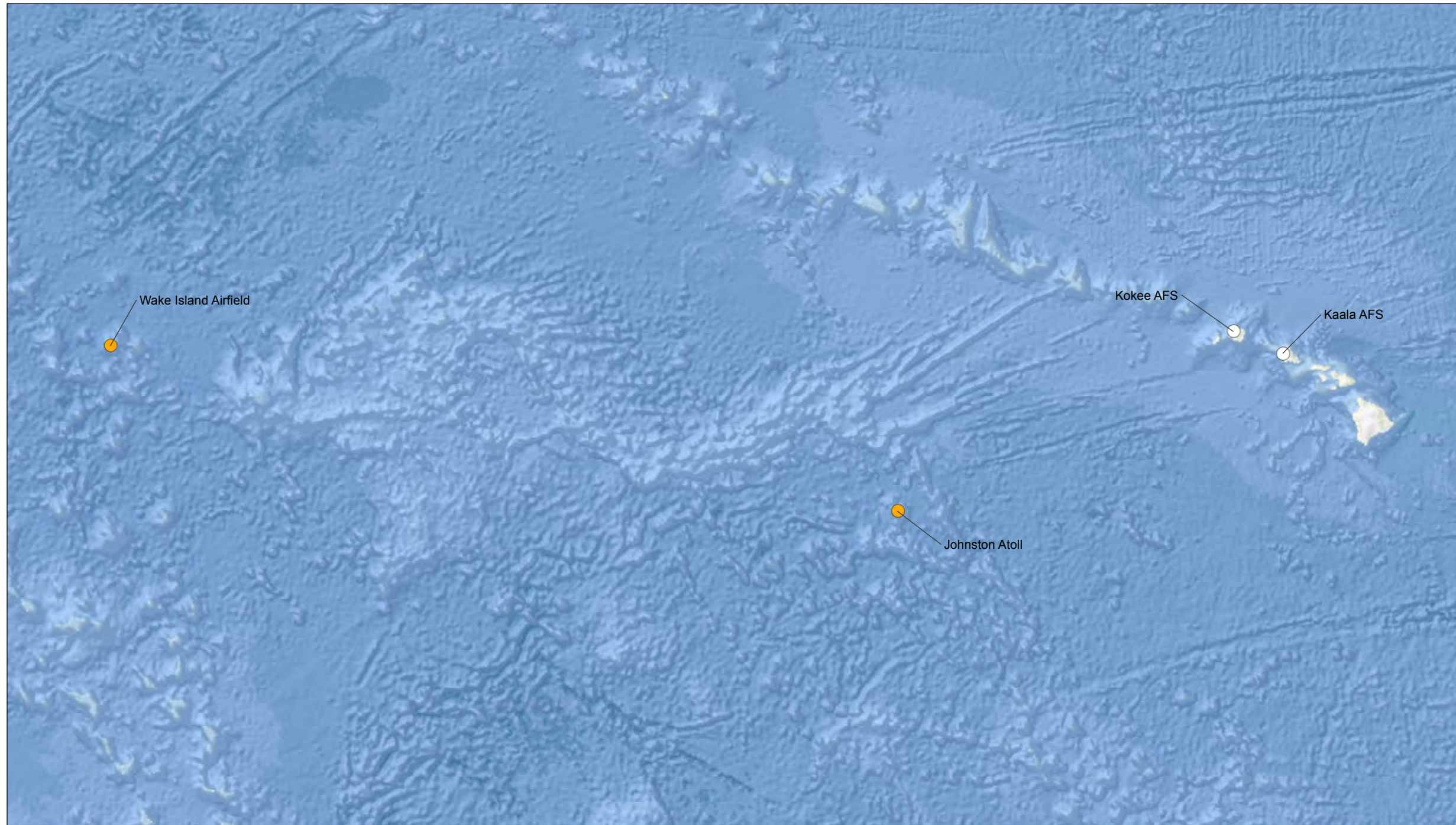
Light Blue = Restrictions on fish consumption downgradient of site. *These restrictions prevent consumption of potentially contaminated fish.*

Medium Blue = Restrictions on groundwater use and/or disposal. *These may include restrictions on using groundwater as a drinking water source or restrictions to prevent access to or disturbance of groundwater.*

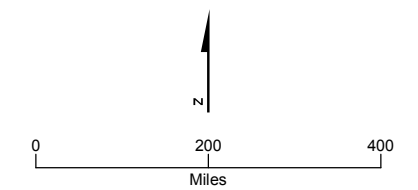
Dark Blue = Restrictions on surface water use. *These may include restrictions on surface water use at or adjacent to a site or restrictions on disposing soil in surface water.*

See Table 2-1 for site-specific LUCs.





- Air Force Installation with LUC
- Air Force Installation without LUC



- Note:
1. LUC = Land Use Control
 2. Background Source: Environmental Systems Research Institute (Esri)

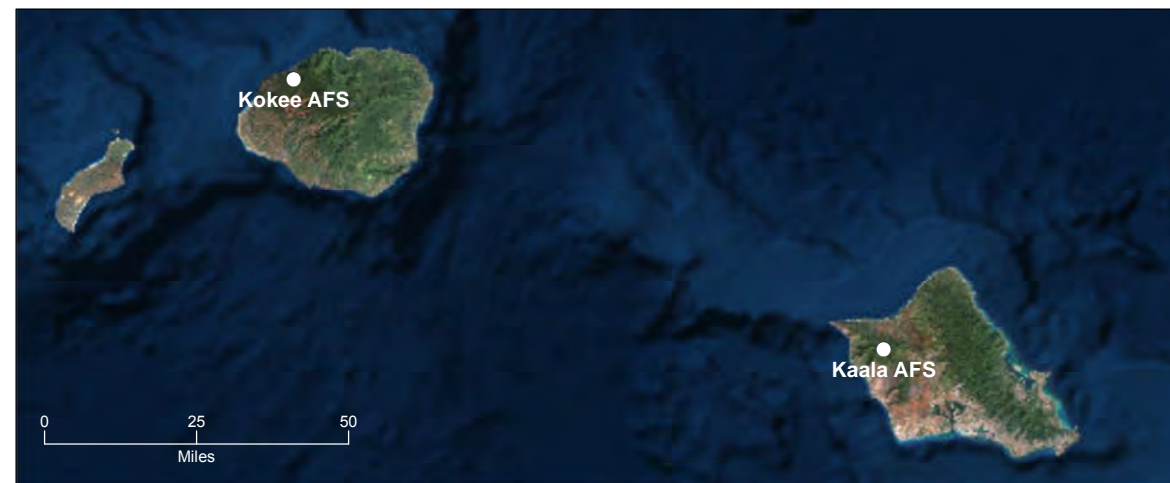
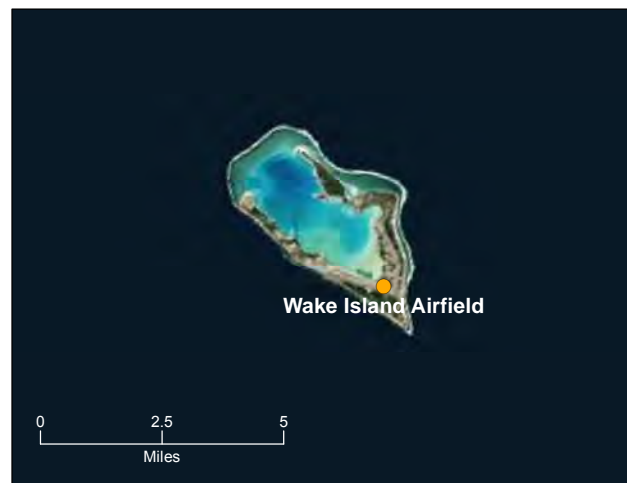
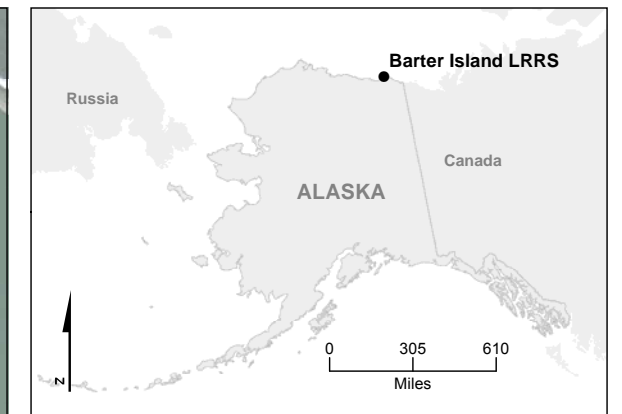


FIGURE 1-2
 Site Vicinity of Hawaii, Wake Island,
 and Johnston Atoll Installations
Land Use Control Management Plan 2015
Pacific Air Forces Regional Support Center Installations
Joint Base Elmendorf-Richardson, Alaska



- Restrictions on use, transport or disturbance of contaminated soil or sediment
- Surface water use restrictions
- Landfill restrictions
- Landfill (no ERP restrictions)
- Existing structure
- Demolished structure
- Installation boundary

Notes:
 1. LRRS = Long Range Radar Site
 2. Data is rendered in UTM Zone 7N WGS 1984 coordinates.
 3. Imagery is 02-Sept-2010, 50cm, from the USAF 611th CES.
 4. For more detailed land use restriction information, see individual site summaries.

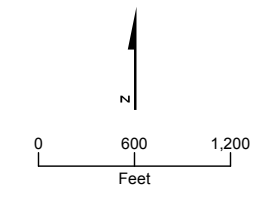
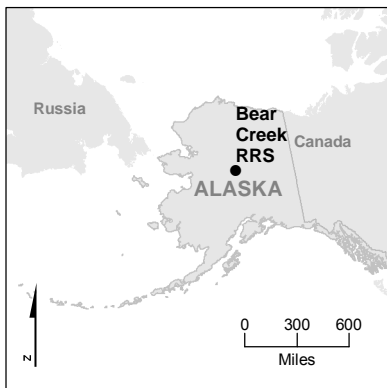





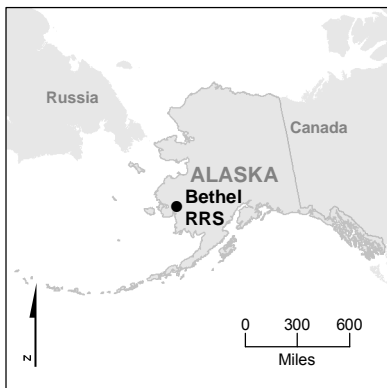
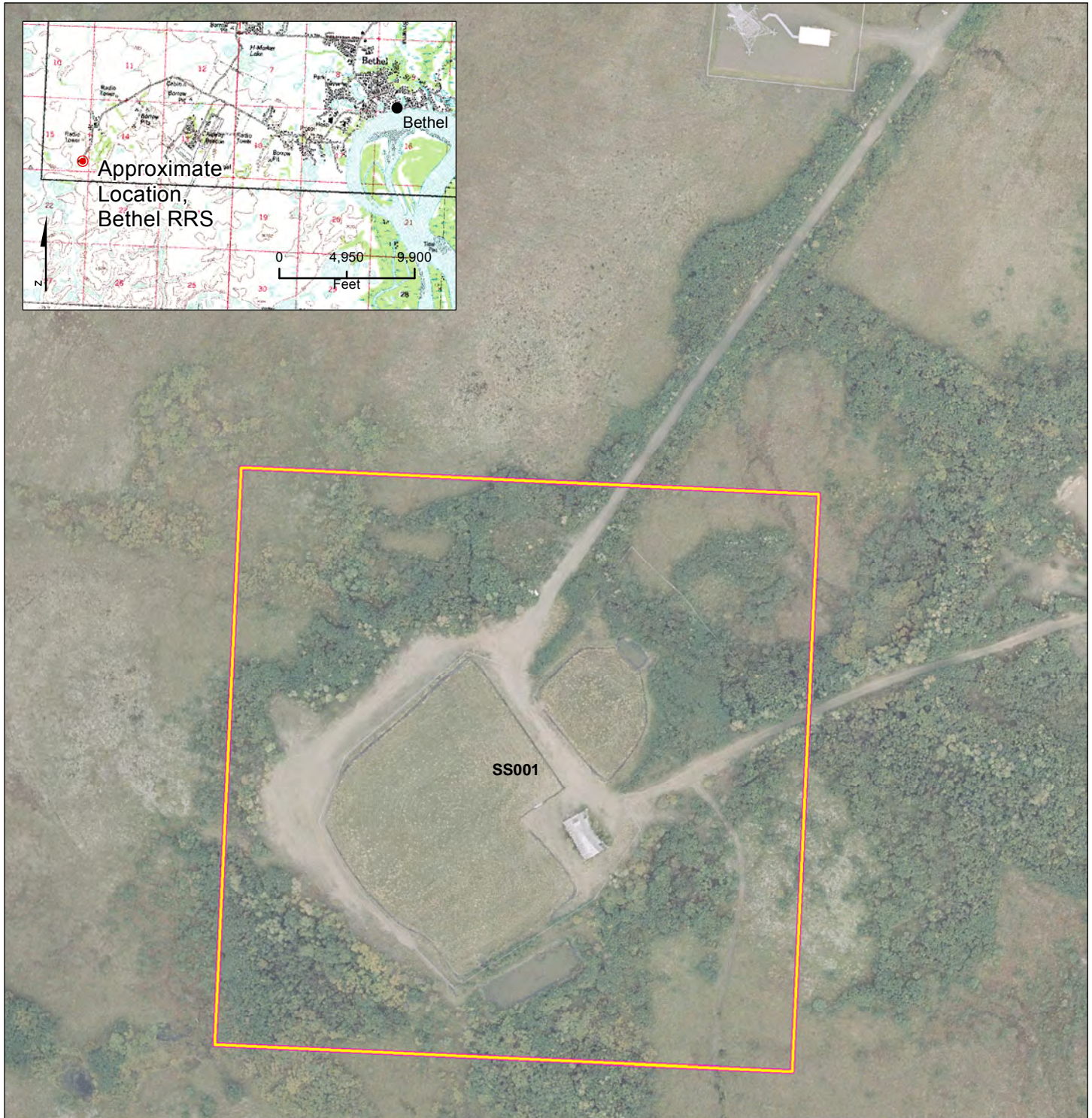
FIGURE 2-1
 Installation Map - Barter Island
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



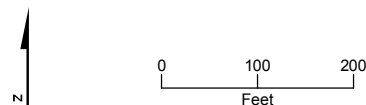
-  Landfill restrictions
-  Existing structures
-  Installation boundary

- Notes:
1. RRS = Radio Relay Station.
 2. Data from 611th GeoBase for Bear Creek RRS. Geo-Base data could be incomplete and are of unknown accuracy.
 3. Data are rendered in UTM Zone 5N, WGS84, Meters.
 4. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-2
 Installation Map - Bear Creek RRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska

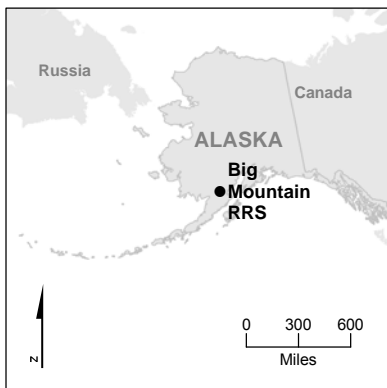
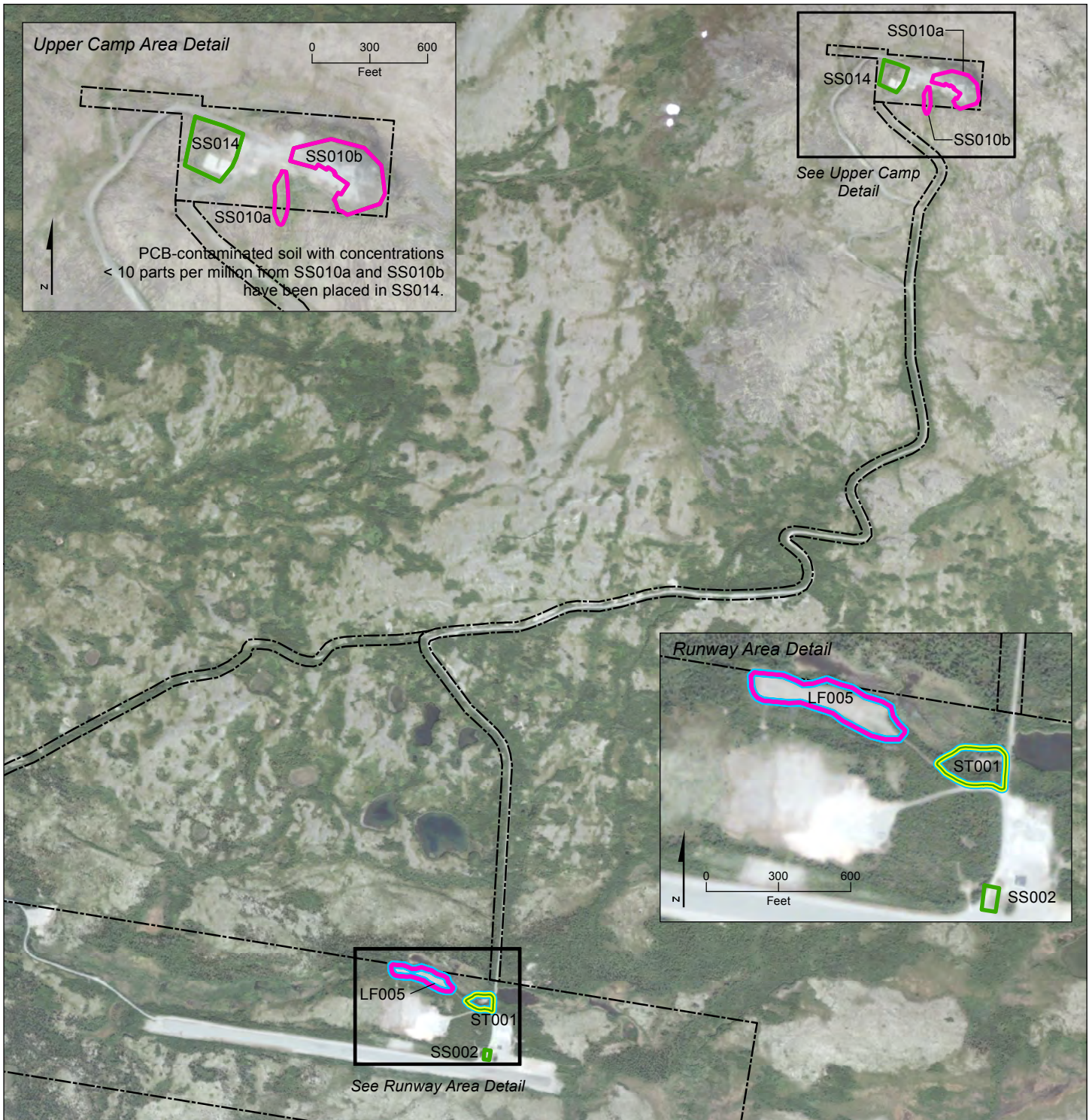


- Restrictions on use, transport or disturbance of contaminated soil or sediment
- Landfill restrictions

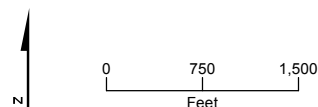


- Notes:
1. RRS = Radio Relay Station.
 2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
 3. Data from 611th GeoBase for Bethel RRS. GeoBase data could be incomplete and are of unknown accuracy.
 4. Data are rendered in UTM Zone 4N, WGS84, Meters.
 5. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-3
 Installation Map - Bethel RRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- Restrictions on use, transport or disturbance of contaminated soil or sediment
- Excavation and digging restrictions
- Restrictions on groundwater use and/or disposal
- Landfill restrictions
- Installation boundary

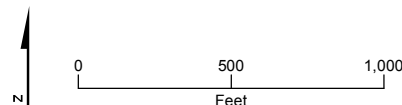


- Notes:
1. RRS = Radio Relay Station.
 2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
 3. Data from 611th GeoBase for Big Mountain RRS. GeoBase data could be incomplete and are of unknown accuracy.
 4. Data are rendered in UTM Zone 5N, WGS84, Meters.
 5. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-4
 Installation Map - Big Mountain RRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



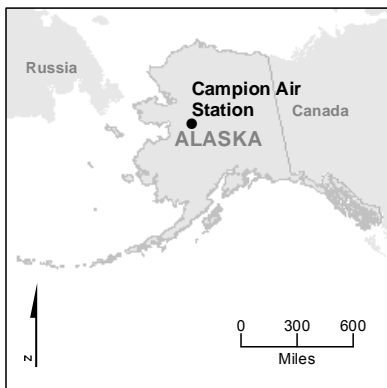
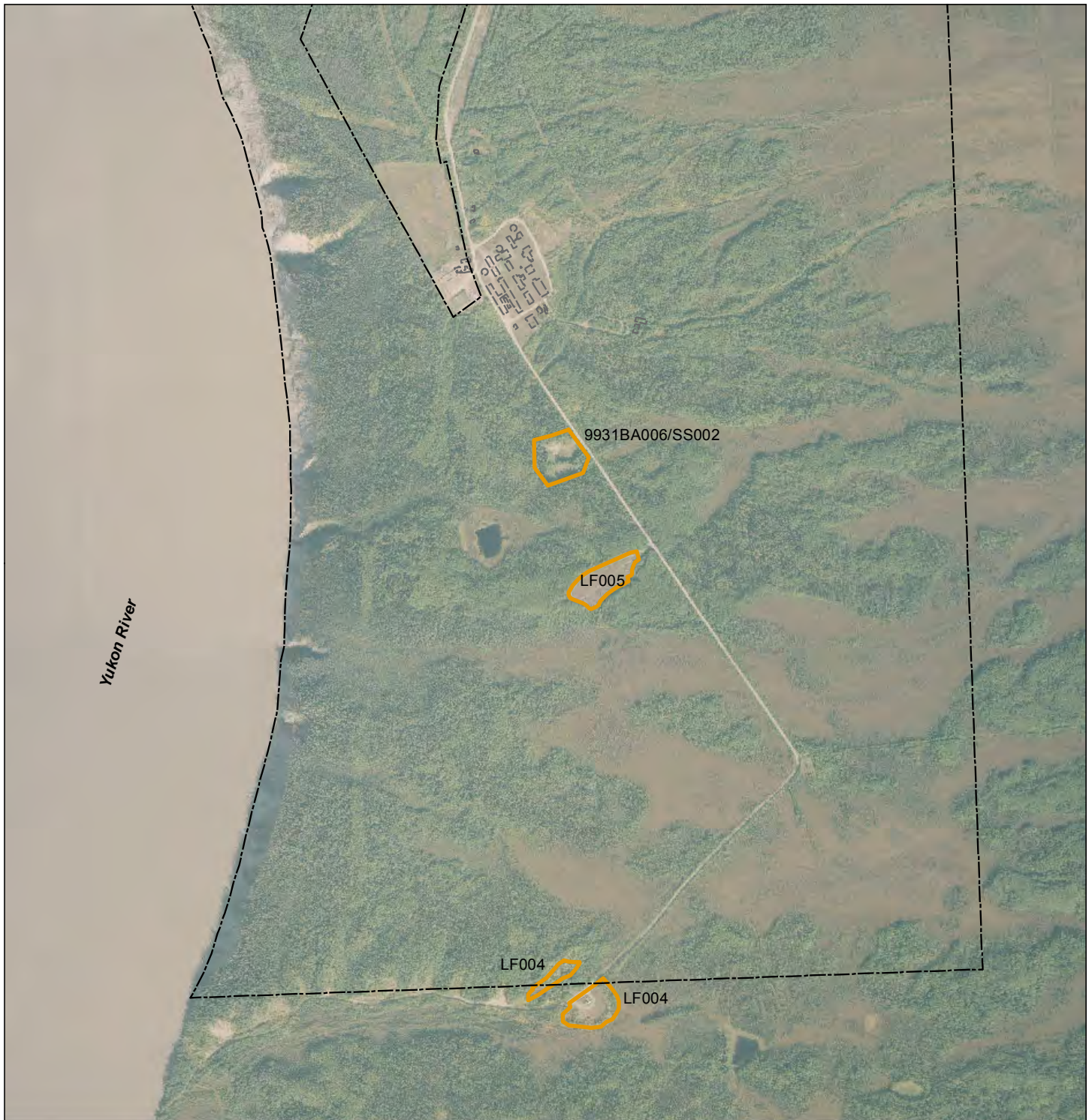
- Landfill (no restrictions)
- Installation boundary
- Demolished structure
- Existing structure







Notes:

1. SRRS = Short Range Radar Site
2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
3. Other data from 611th GeoBase for Bullen Point SRRS. Data could be incomplete and are of unknown accuracy.
4. Data are rendered in UTM Zone 6N, WGS84, Meters.
5. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-5
 Installation Map - Bullen Point SRRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



-  Landfill (no restrictions)
-  Existing structure
-  Demolished structure
-  Installation boundary

Notes:

1. AS = Air Station
2. Data is rendered in UTM Zone 4N WGS 1984 coordinates.
3. Imagery is approximately 0.5-meter, estimated dates 2003 and 2009, from the USAF 611th CES.
4. Compliance Landfill 9931BA006 is not shown because the location is unknown.
5. For more detailed land use restriction information, see individual site summaries.

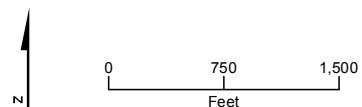
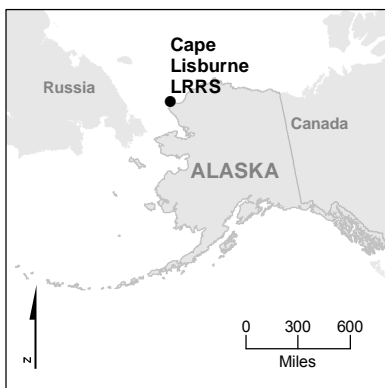
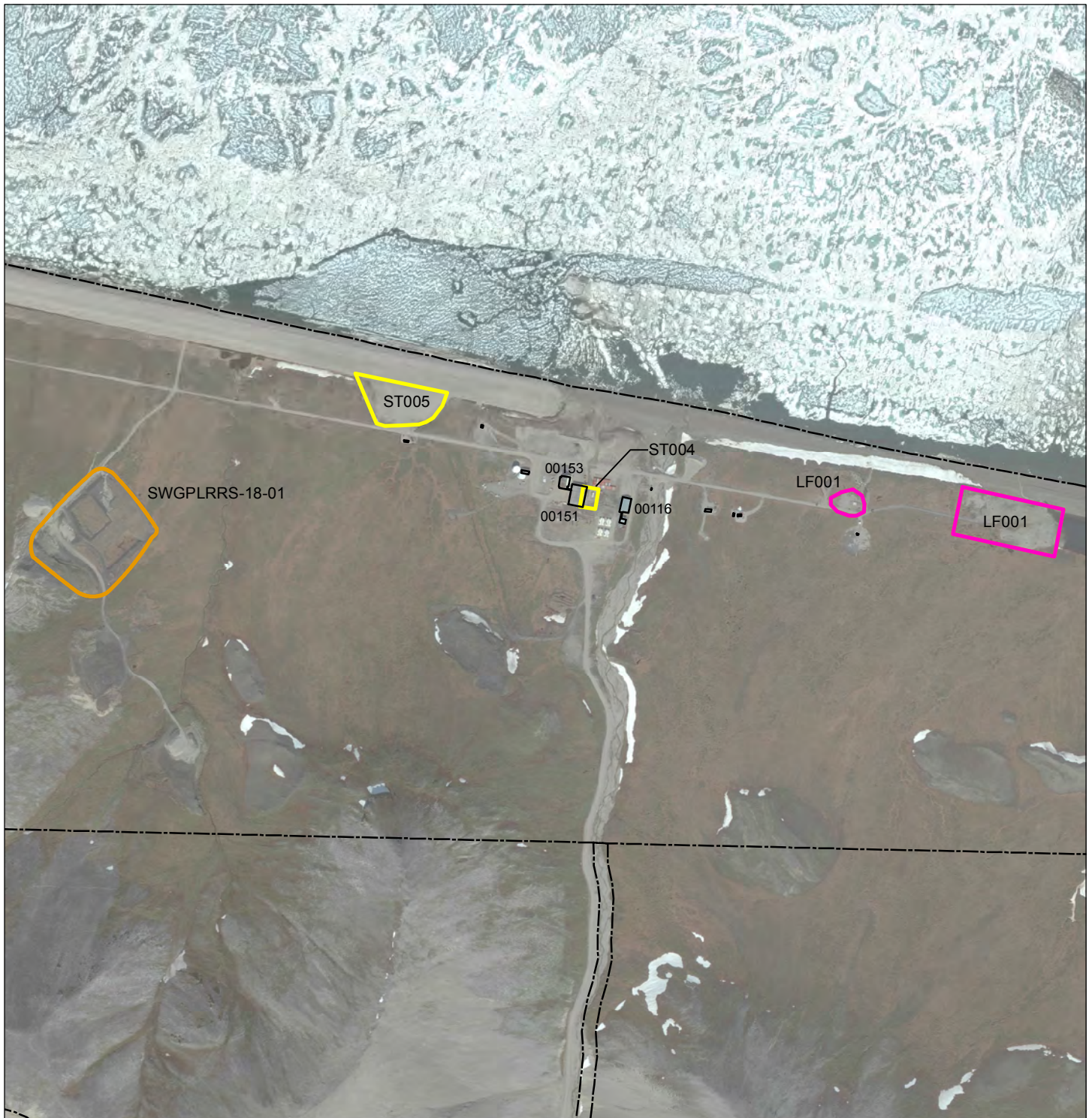
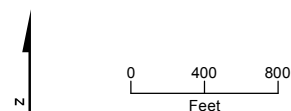


FIGURE 2-6
 Installation Map - Campion Air Station
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



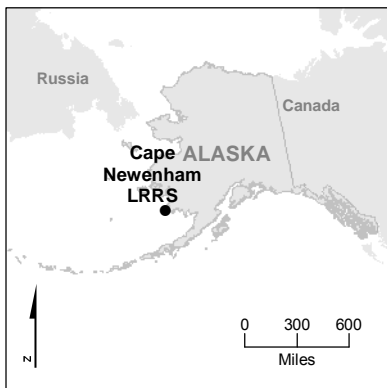
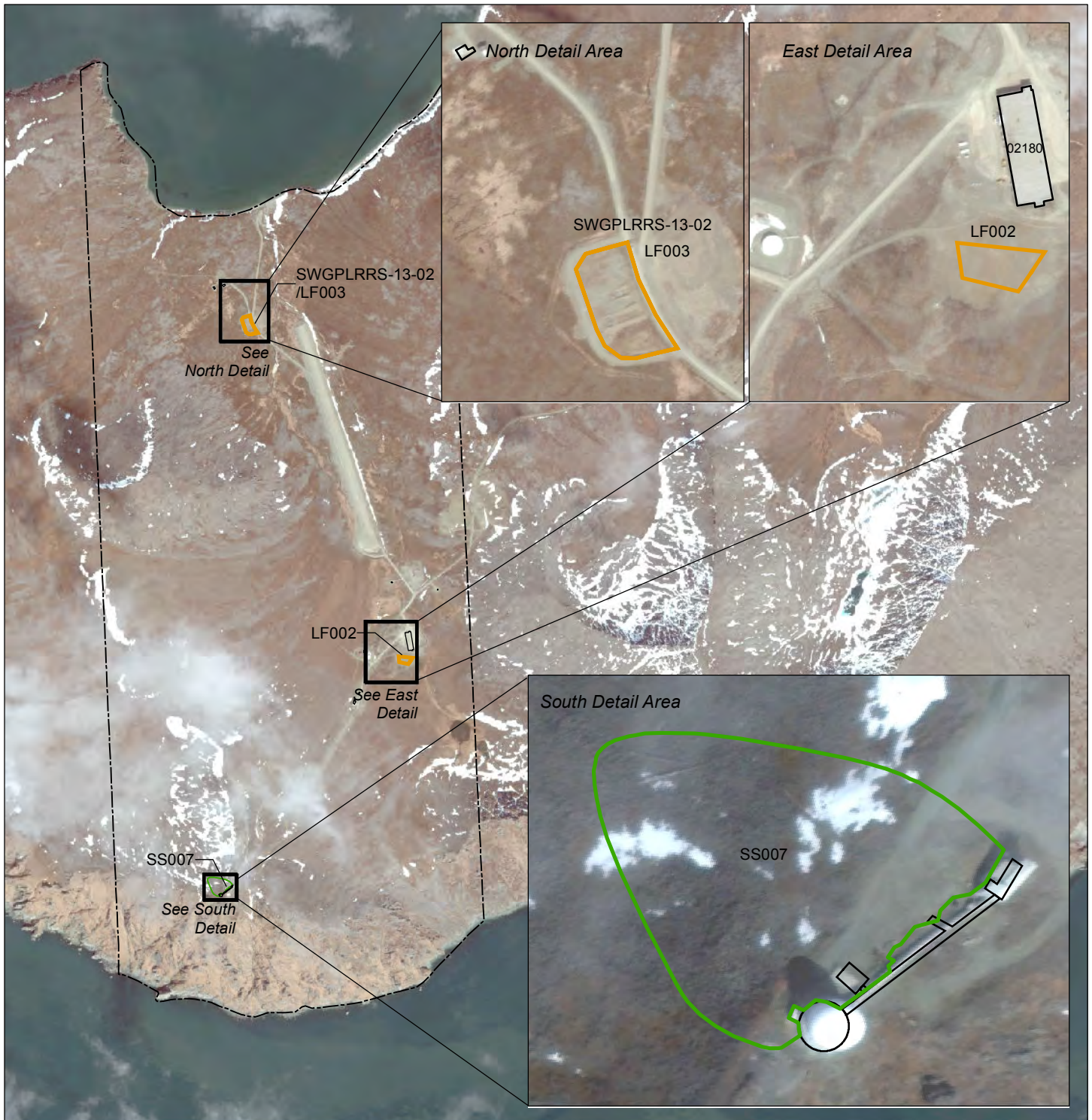
- Restrictions on use, transport or disturbance of contaminated soil or sediment
- Landfill restrictions
- Landfill (no ERP restrictions)
- Existing structure
- Installation boundary







Notes:

1. LRRS = Long Range Radar Site
2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
3. Data from 611th GeoBase for Cape Lisburne LRRS. Geo-Base data could be incomplete and are of unknown accuracy.
4. Data are rendered in UTM Zone 3N, WGS84, Meters.
5. For more detailed land use restriction information, see individual site summaries.

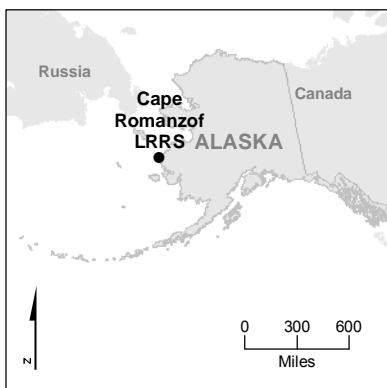
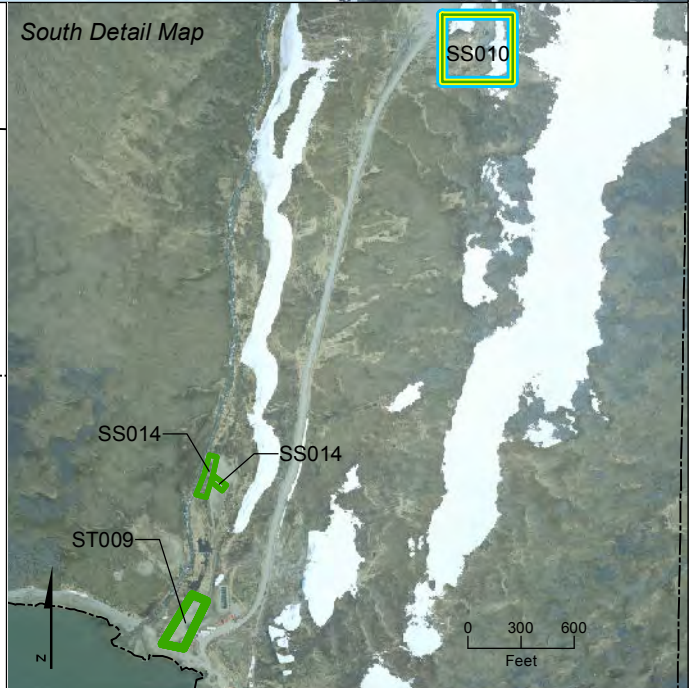
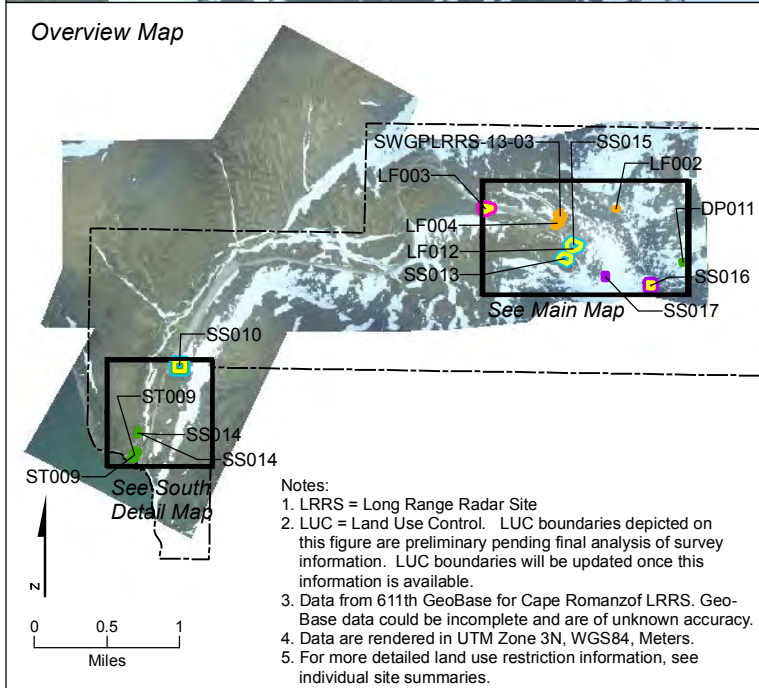
FIGURE 2-7
 Installation Map - Cape Lisburne LRRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



-  Excavation and digging restrictions
-  Landfill (no restrictions)
-  Existing structure
-  Installation boundary

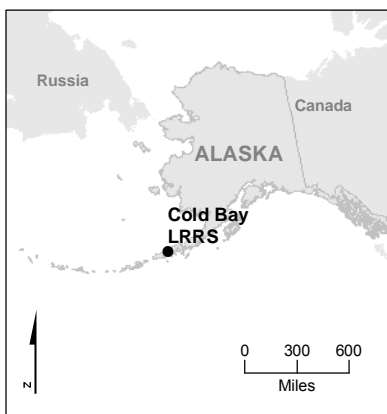
- Notes:
1. LRRS = Long Range Radar Site
 2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
 3. Data from 611th GeoBase for Cape Newenham LRRS. Geo-Base data could be incomplete and are of unknown accuracy.
 4. Data are rendered in UTM Zone 3N, WGS84, Meters.
 5. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-8
 Installation Map - Cape Newenham LRRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- Restrictions on use, transport or disturbance of contaminated soil or sediment
- Excavation and digging restrictions
- Restrictions on groundwater use and/or disposal
- Soil cap restrictions (non-landfill/contaminated soil)
- Landfill restrictions
- Surface water use restrictions
- Landfill (no ERP restrictions)
- Installation boundary

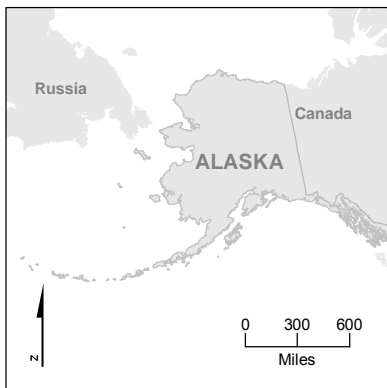
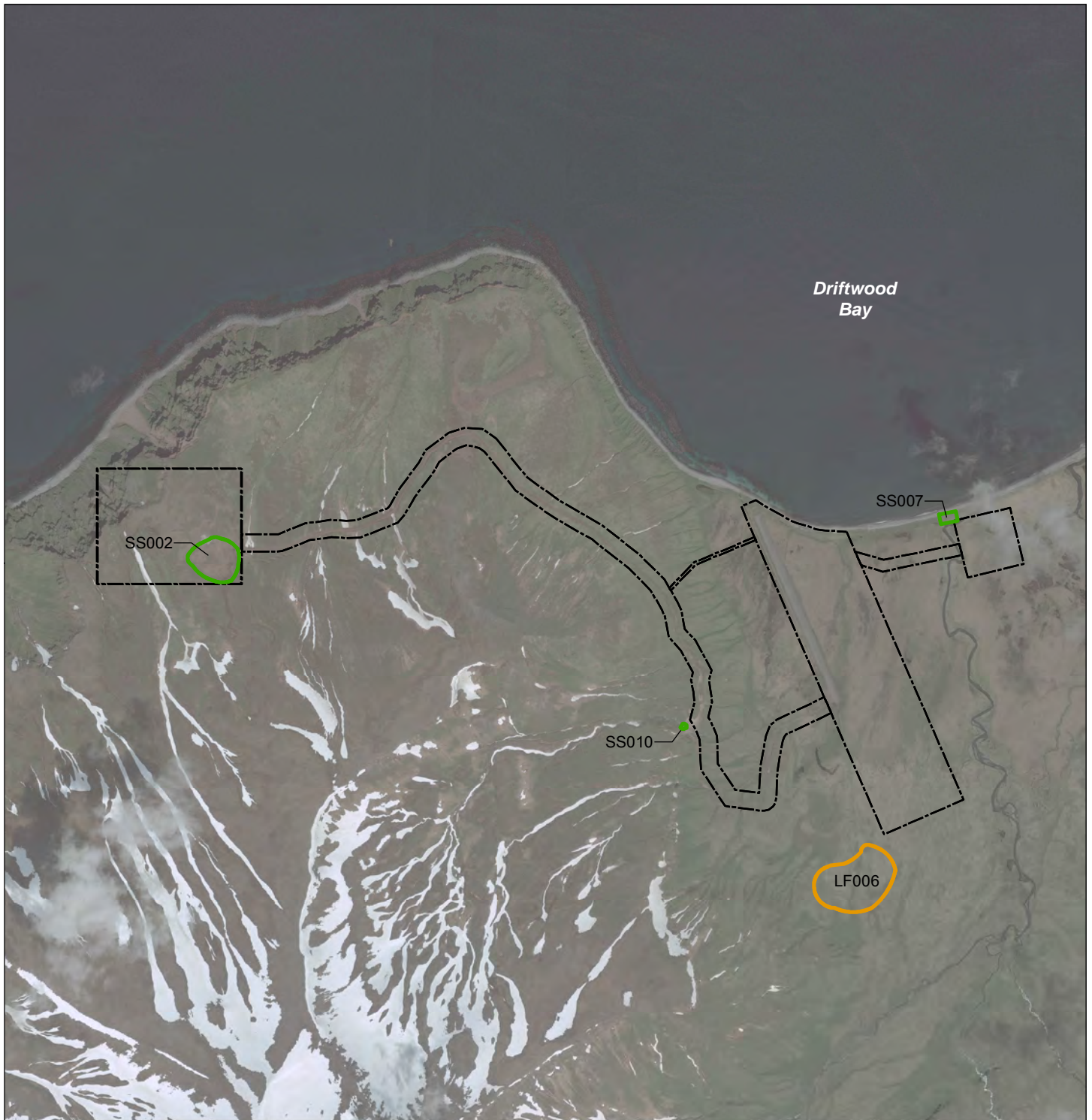
FIGURE 2-9
 Installation Map - Cape Romanzof LRRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- Restrictions on use, transport or disturbance of contaminated soil or sediment
- Restrictions on groundwater use and/or disposal
- Landfill restrictions
- Installation boundary

- Notes:
1. LRRS = Long Range Radar Site.
 2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
 3. LF002 is located on US Fish and Wildlife Service Property, but USAF maintains access rights to conduct 5-year review activities at the site.
 4. An additional Compliance Landfill could not be located; it is not shown.
 5. Other data from 611th GeoBase for Cold Bay LRRS. Data could be incomplete and are of unknown accuracy.
 6. Data are rendered in UTM Zone 3N, WGS84, Meters.
 7. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-10
 Installation Map - Cold Bay LRRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



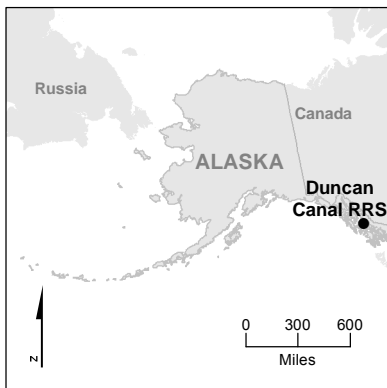
- Excavation and digging restrictions
- Landfill (no ERP restrictions)
- Installation boundary



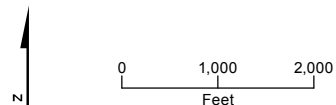
Notes:

1. RRS = Radio Relay Station.
2. Other data from 611th GeoBase for Driftwood Bay RRS. Data could be incomplete and are of unknown accuracy.
3. Sites SS002, SS007, and SS10 do not have an official decision document.
4. Data are rendered in UTM Zone 3N, WGS84, Meters.
5. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-11
 Installation Map - Driftwood Bay RRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- Restrictions on use, transport or disturbance of contaminated soil or sediment
- Restrictions on groundwater use and/or disposal
- Soil cap restrictions (non-landfill/contaminated soil)



- Notes:
1. RRS = Radio Relay Station
 2. Data is rendered in UTM Zone 8N WGS 1984 coordinates.
 3. Imagery is 1-meter, from the USAF 611th CES, approximately 2009.
 4. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-12
 Installation Map - Duncan Canal RRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- Restrictions on use, transport or disturbance of contaminated soil or sediment
- Excavation and digging restrictions
- Restrictions on groundwater use and/or disposal
- Landfill restrictions
- Landfill (no ERP restrictions)
- Installation boundary

Notes:

1. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
2. Data from 611th GeoBase for Eareckson Air Station. Geo-Base data could be incomplete and are of unknown accuracy.
3. Data are rendered in UTM Zone 60N, WGS84, Meters.
4. SS007 and ST039 have not been surveyed. Site boundaries for ST039 were taken from 611th GeoBase. Site boundaries for SS007 digitized from Figure 2-2, 2008 Non-CERCLA Decision Document.
5. For more detailed land use restriction information, see individual site summaries.

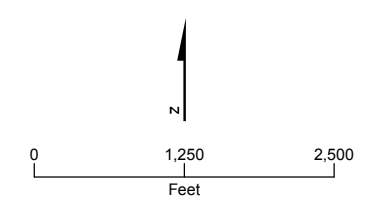


FIGURE 2-13
 Installation Map - Eareckson AS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- Landfill (no ERP restrictions)
- Existing structure
- Demolished structure
- Installation boundary

Notes:
 1. LRRS = Long Range Radar Site
 2. Data is rendered in UTM Zone 4N WGS 1984 coordinates.
 3. Imagery is approximately 0.5-meter, estimated dates 2003 and 2009, from the USAF 611th CES.
 4. For more detailed land use restriction information, see individual site summaries.

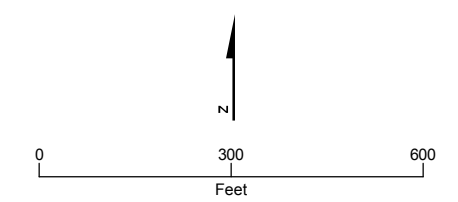
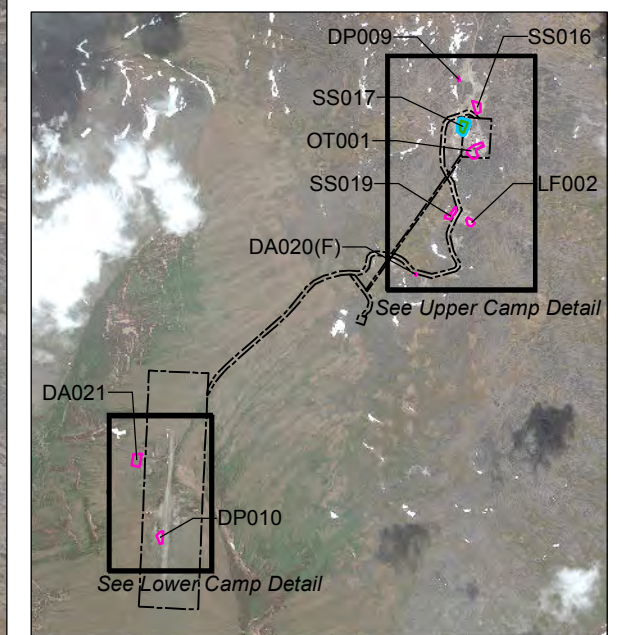
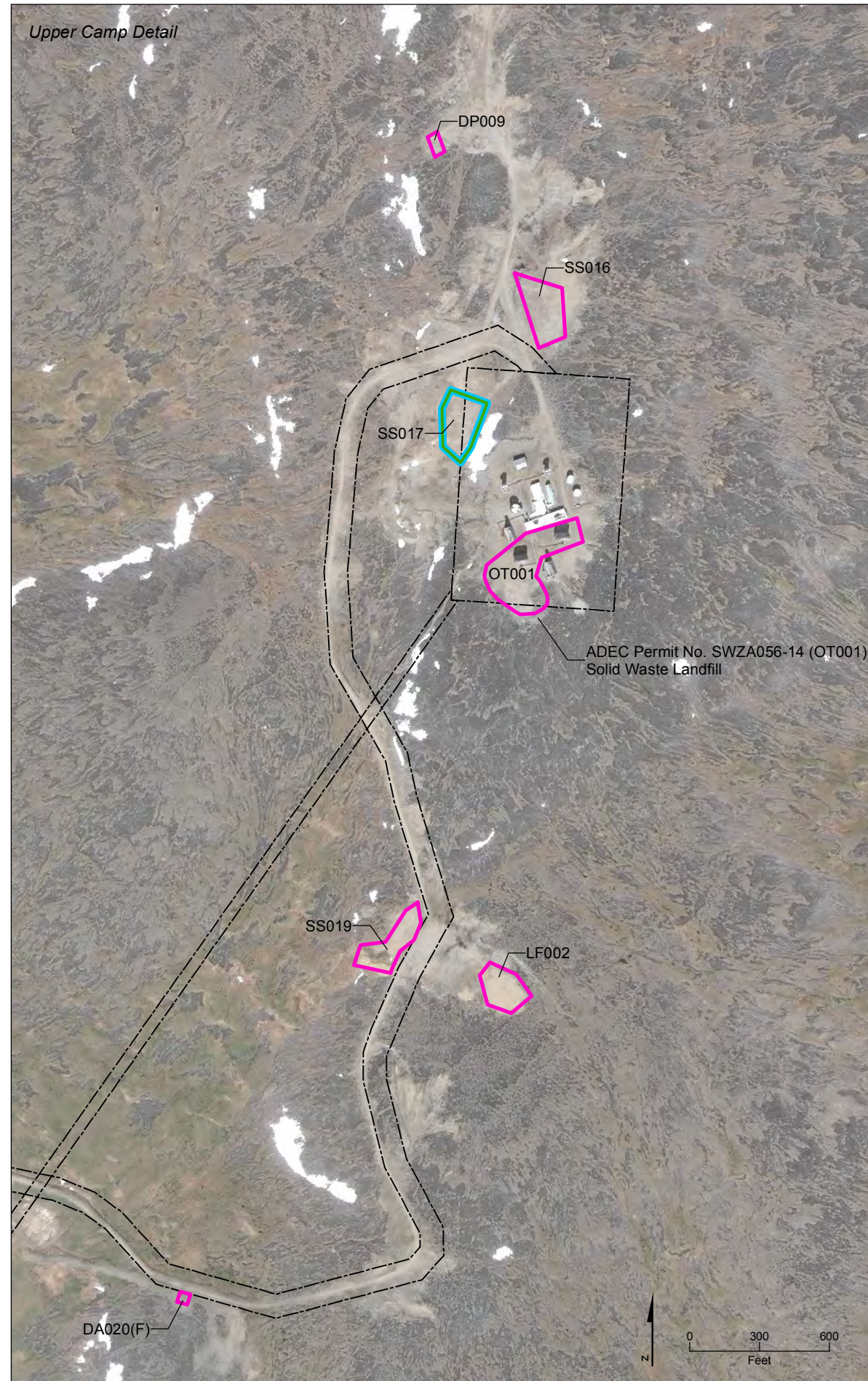


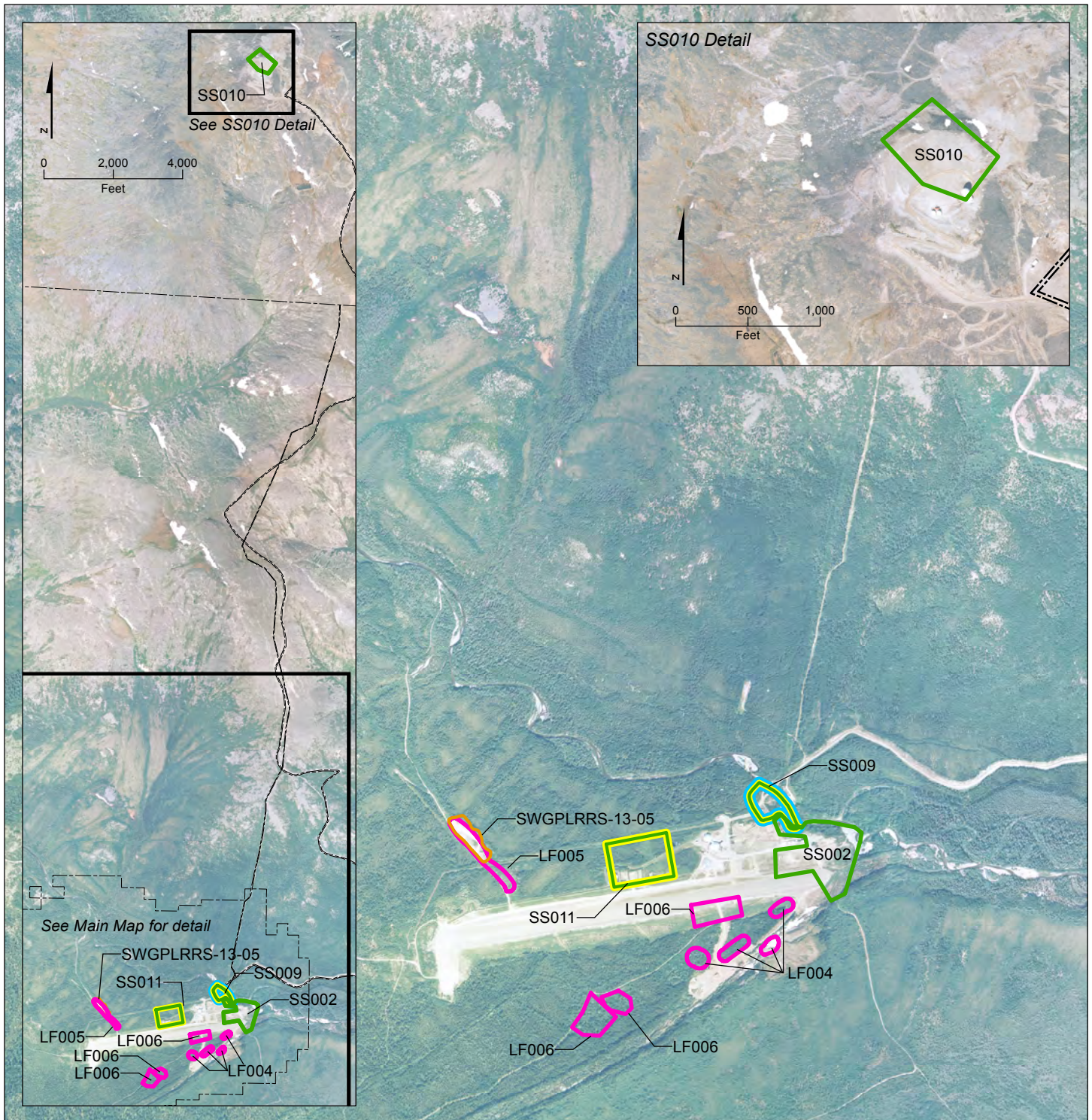
FIGURE 2-14
 Installation Map - Fort Yukon
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska









- Excavation and digging restrictions
- Restrictions on groundwater use and/or disposal
- Landfill restrictions
- Installation boundary

- Notes:
1. RRS = Radio Relay Station.
 2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
 3. Data from 611th GeoBase for Granite Mountain RRS. Data could be incomplete and are of unknown accuracy.
 4. Data are rendered in UTM Zone 4N, WGS84, Meters.
 5. Compliance Landfill SWZA056-14 is equivalent to OT001.
 6. For more detailed land use restriction information, see individual site summaries.

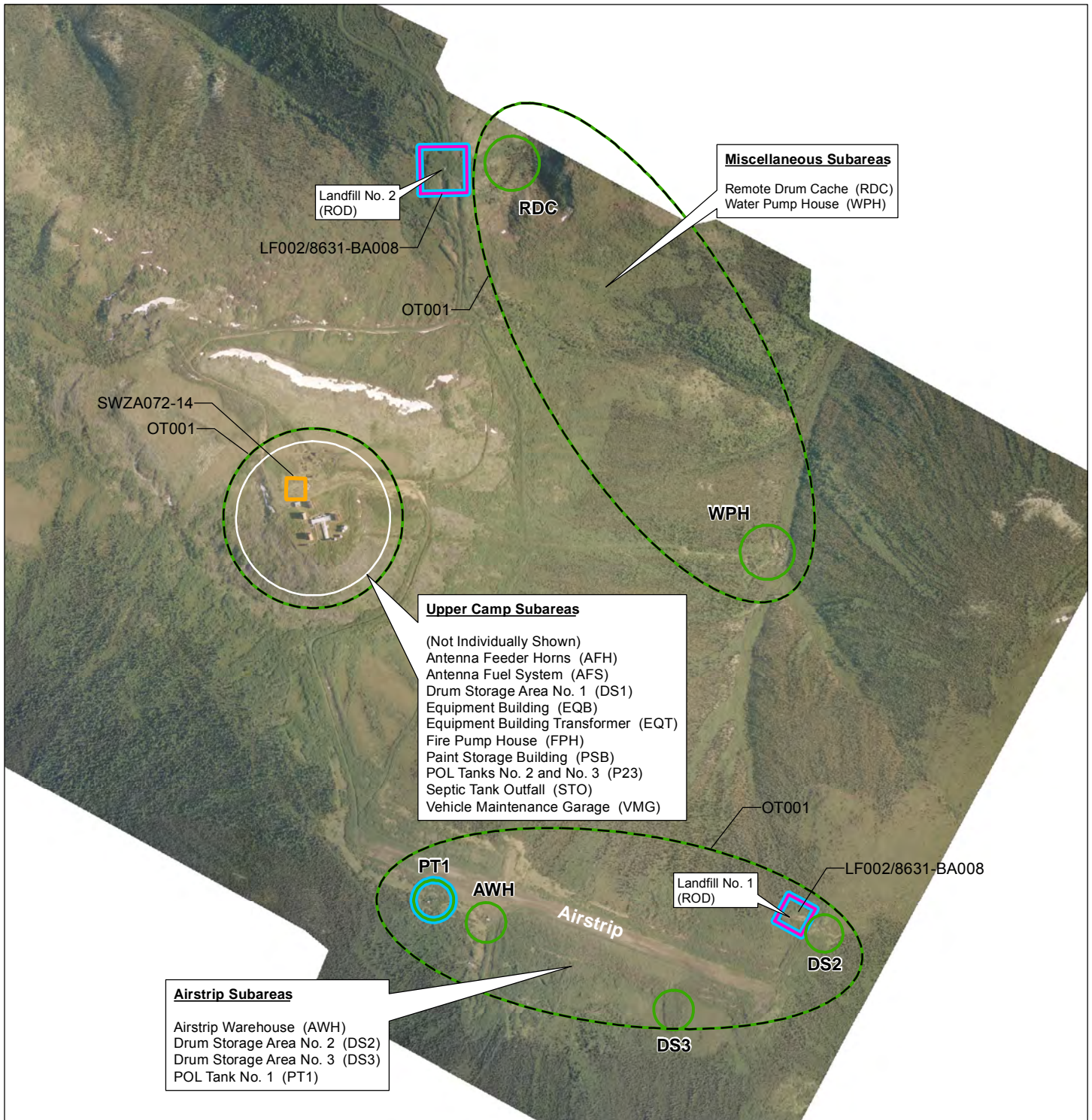
Figure 2-15
Installation Map - Granite Mountain RRS
Land Use Control Management Plan 2015
Pacific Air Forces Regional Support Center Installations
Joint Base Elmendorf-Richardson, Alaska



-  Restrictions on use, transport or disturbance of contaminated soil or sediment
-  Excavation and digging restrictions
-  Restrictions on groundwater use and/or disposal
-  Landfill restrictions
-  Landfill (no restrictions)
-  Installation boundary

- Notes:
1. LRRS = Long Range Radar Site
 2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
 3. Data from 611th GeoBase for Indian Mountain LRRS. Geo-Base data could be incomplete and are of unknown accuracy.
 4. Data are rendered in UTM Zone 5N, WGS84, Meters.
 5. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-16
 Installation Map - Indian Mountain LRRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



Upper Camp Subareas
 (Not Individually Shown)
 Antenna Feeder Horns (AFH)
 Antenna Fuel System (AFS)
 Drum Storage Area No. 1 (DS1)
 Equipment Building (EQB)
 Equipment Building Transformer (EQT)
 Fire Pump House (FPH)
 Paint Storage Building (PSB)
 POL Tanks No. 2 and No. 3 (P23)
 Septic Tank Outfall (STO)
 Vehicle Maintenance Garage (VMG)

Airstrip Subareas
 Airstrip Warehouse (AWH)
 Drum Storage Area No. 2 (DS2)
 Drum Storage Area No. 3 (DS3)
 POL Tank No. 1 (PT1)

Miscellaneous Subareas
 Remote Drum Cache (RDC)
 Water Pump House (WPH)

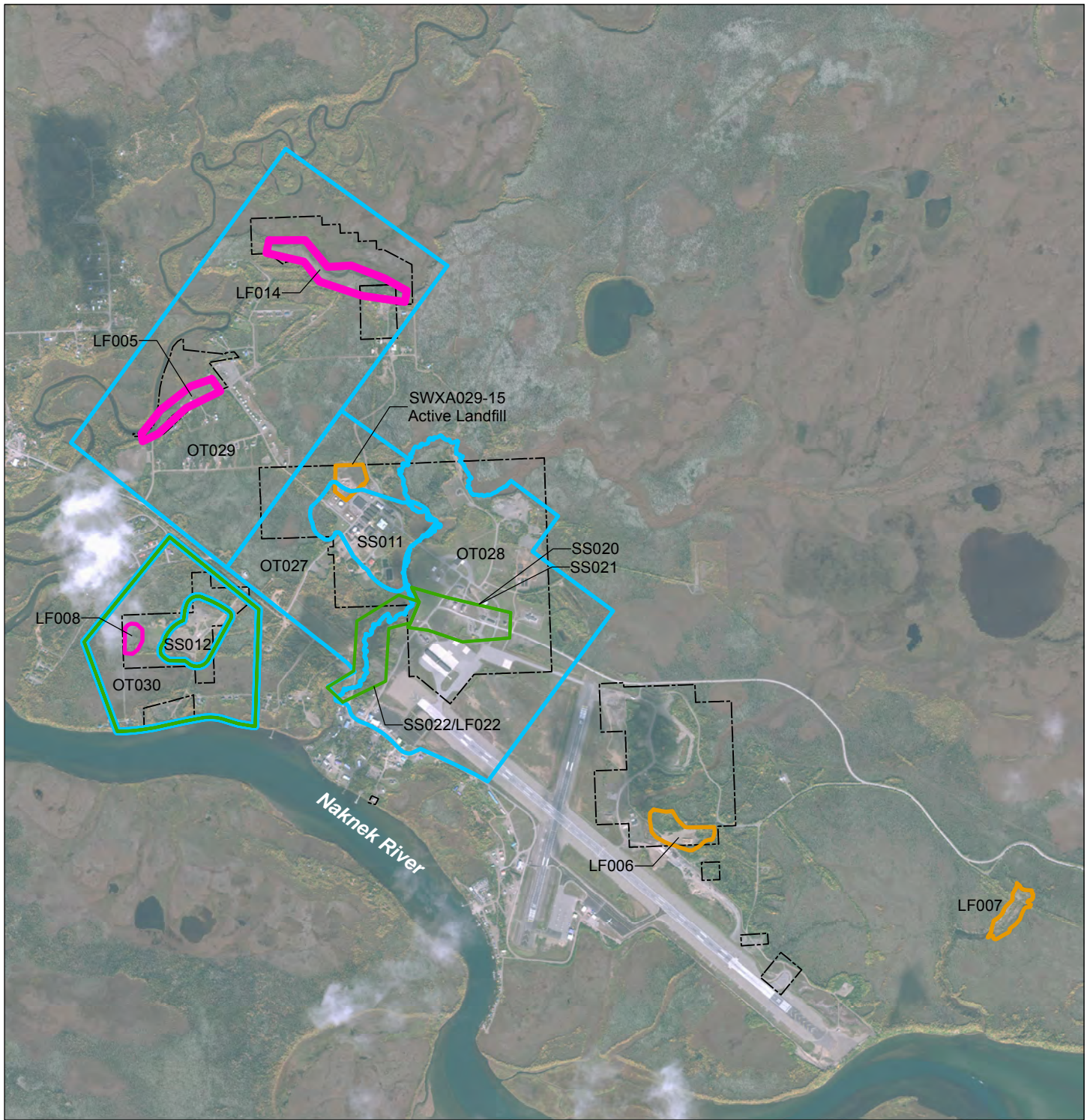


- Area representing OT001
- Excavation and digging restrictions
- Restrictions on groundwater use and/or disposal
- Landfill restrictions
- Landfill (no ERP restrictions)

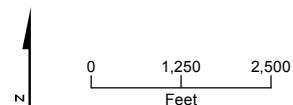


- Notes:
1. RRS = Radio Relay Station.
 2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
 3. There is no 611th GeoBase data for Kalakaket RRS. Map features established during a 2007 study.
 4. Data are rendered in UTM Zone 4N, WGS84, Meters.
 5. ADEC Permit SWZA072-14 is for Solid Waste Landfill (2014) at Upper Camp. Two Landfills (1994) comprise LF002/8631-BA008.
 6. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-17
 Installation Map - Kalakaket Creek RRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



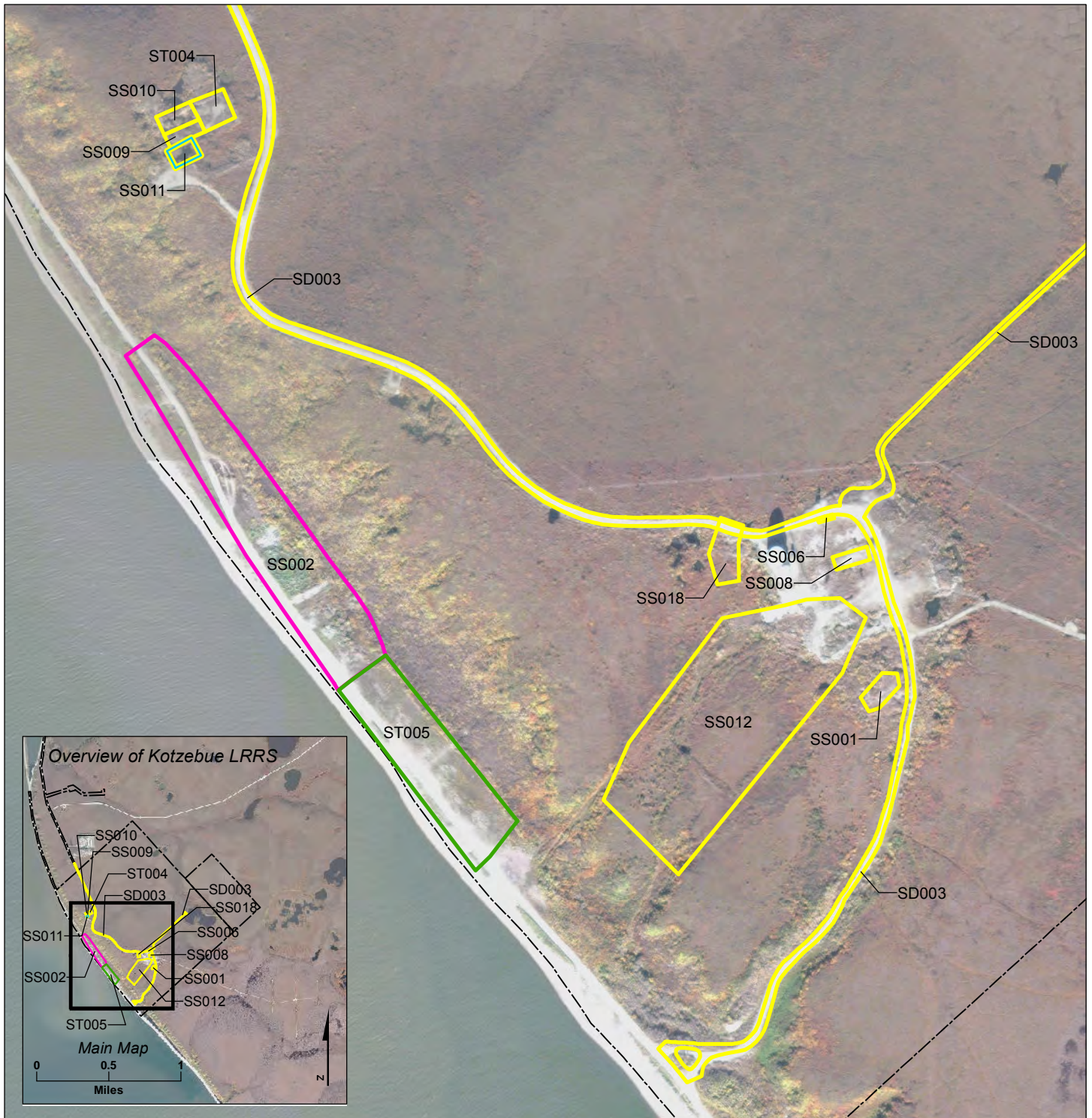
- ▭ Excavation and digging restrictions
- ▭ Restrictions on groundwater use and/or disposal
- ▭ Landfill restrictions
- ▭ Landfill (no ERP restrictions)
- Installation boundary



Notes:

1. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
2. Data from 611th GeoBase for King Salmon Air Station. GeoBase data could be incomplete and are of unknown accuracy.
3. Data are rendered in UTM Zone 4N, WGS84, Meters.
4. DP023 is a dry well located within ST015.
5. For more detailed land use restriction information, see individual site summaries.

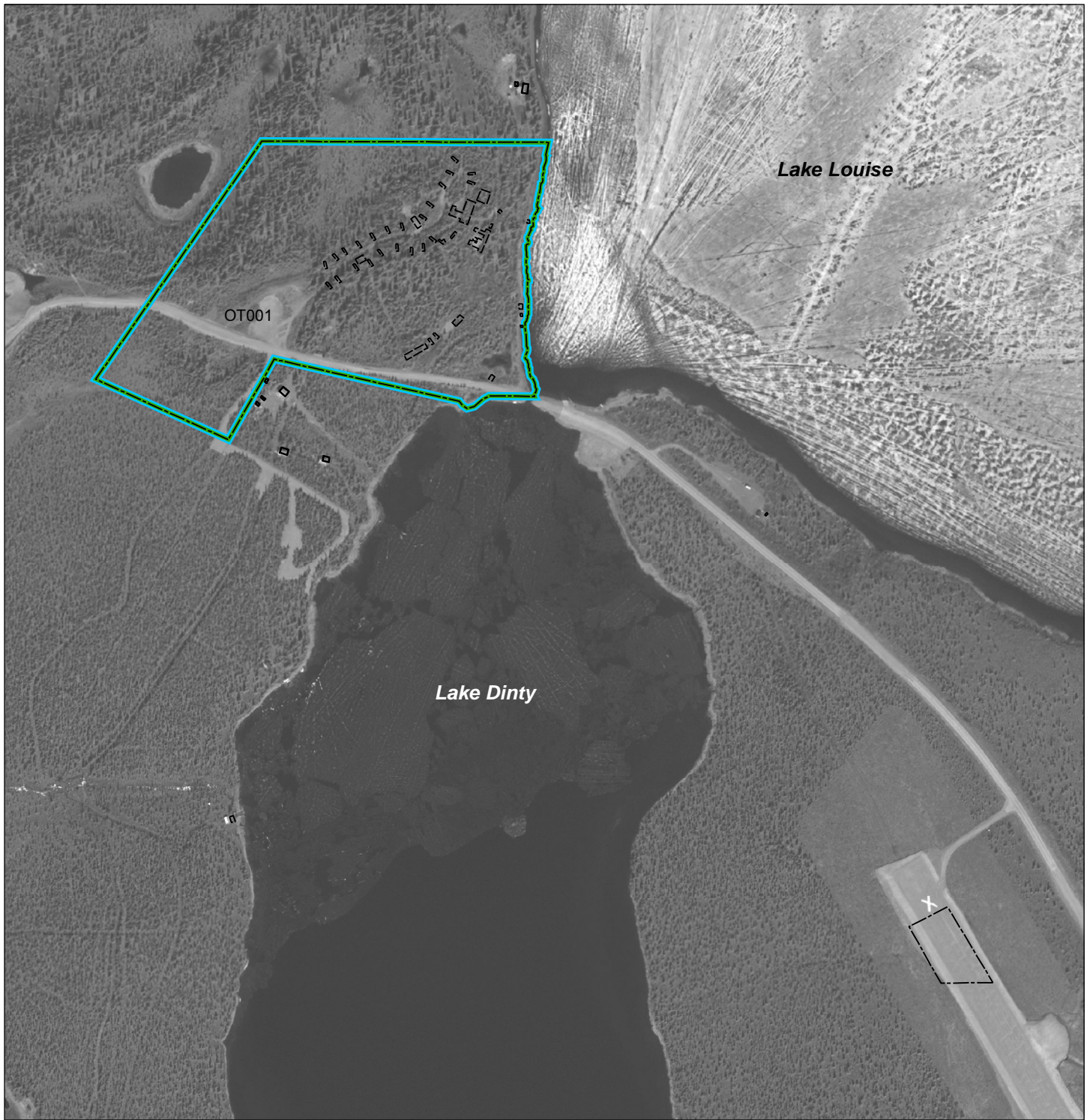
FIGURE 2-18
 Installation Map - King Salmon
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- Restrictions on use, transport or disturbance of contaminated soil or sediment
- Excavation and digging restrictions
- Restrictions on groundwater use and/or disposal
- Landfill restrictions
- Installation boundary

- Notes:
1. LRRS = Long Range Radar Site
 2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
 3. Data from 611th GeoBase for Kotzebue LRRS. GeoBase data could be incomplete and are of unknown accuracy.
 4. Data are rendered in UTM Zone 3N, WGS84, Meters.
 5. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-19
 Installation Map - Kotzebue LRRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska

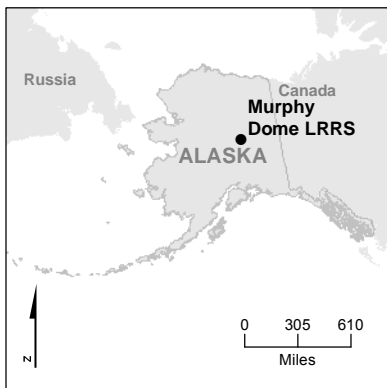
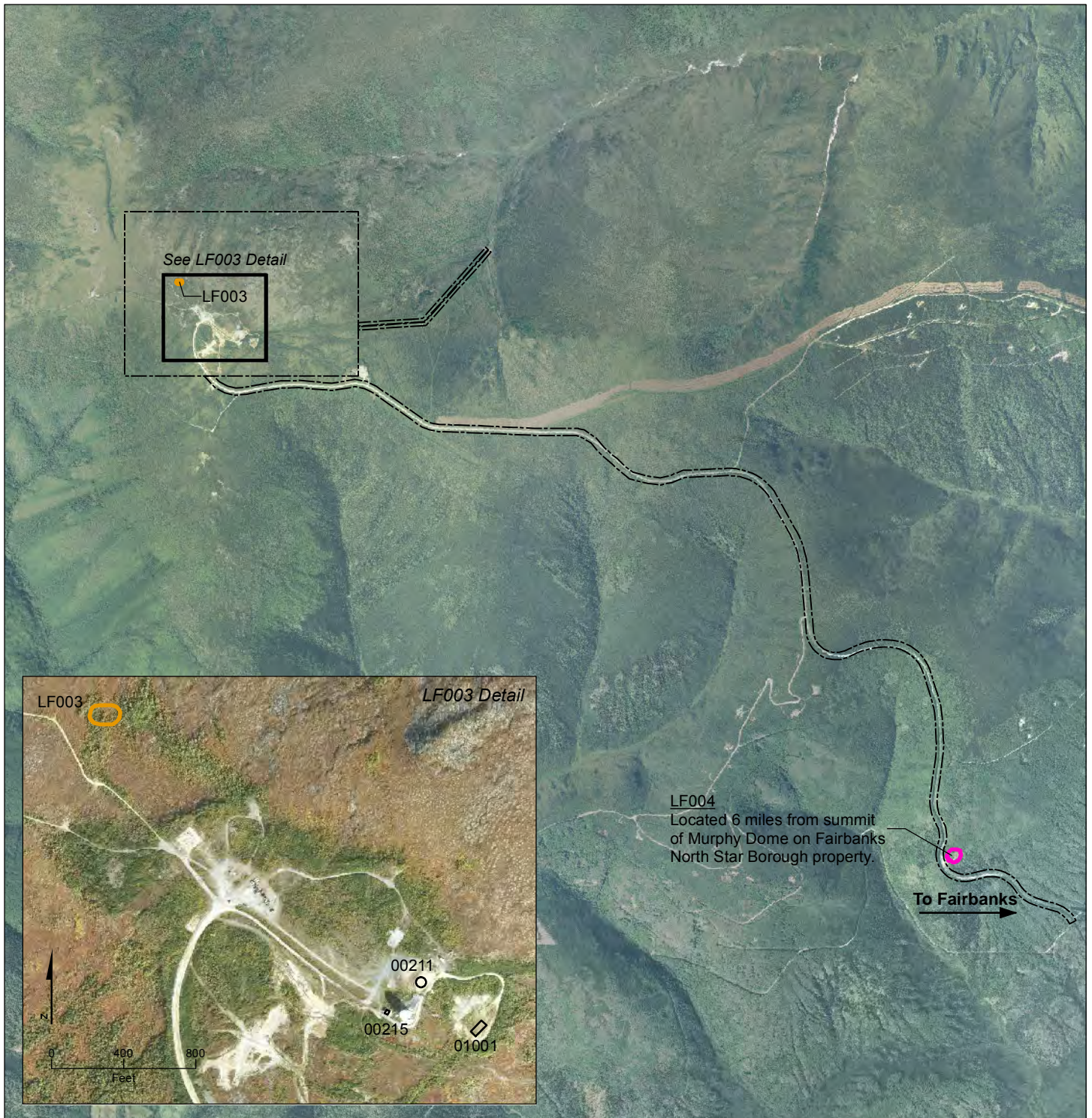


- Excavation and digging restrictions
- Restrictions on groundwater use and/or disposal
- Existing structure
- Demolished structure
- Installation boundary



- Notes:
1. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
 2. Data from 611th GeoBase for Lake Louise Rec Camp. Geo-Base data could be incomplete and are of unknown accuracy.
 3. Data are rendered in UTM Zone 6N, WGS84, Meters.
 4. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-20
 Installation Map -
 Lake Louise Recreation Camp
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- Landfill restrictions
- Landfill (no restrictions)
- Installation boundary

- Notes:
1. LRRS = Long Range Radar Site.
 2. Data from 611th GeoBase for Murphy Dome LRRS. Geo-Base data could be incomplete and are of unknown accuracy.
 3. Data are rendered in UTM Zone 6N, WGS84, Meters.
 4. For more detailed land use restriction information, see individual site summaries.

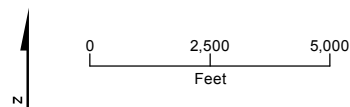
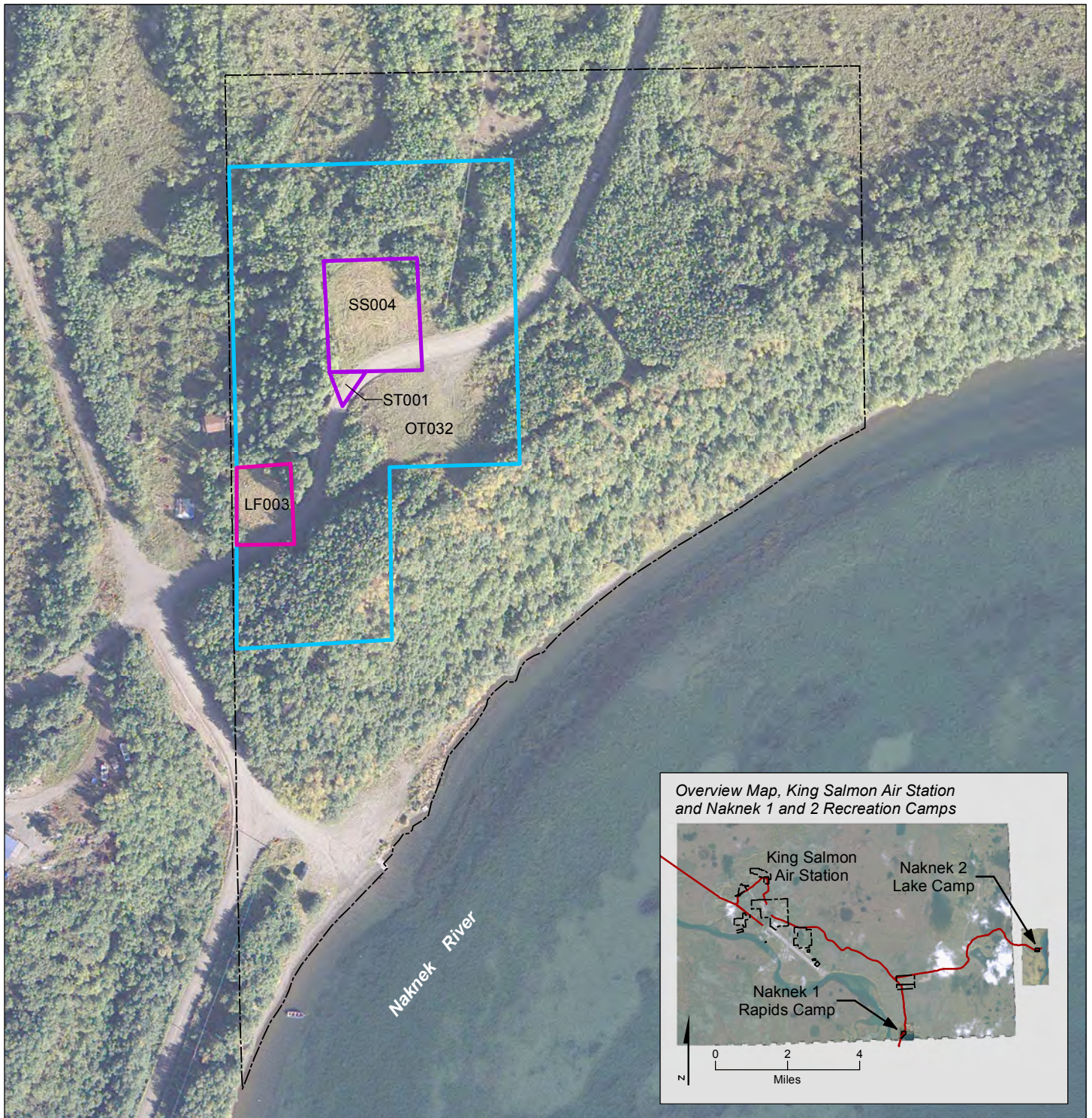
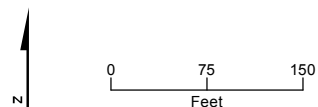


FIGURE 2-21
 Installation Map - Murphy Dome LRRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- Restrictions on groundwater use and/or disposal
- Soil cap restrictions (non-landfill/contaminated soil)
- Landfill restrictions
- Installation boundary

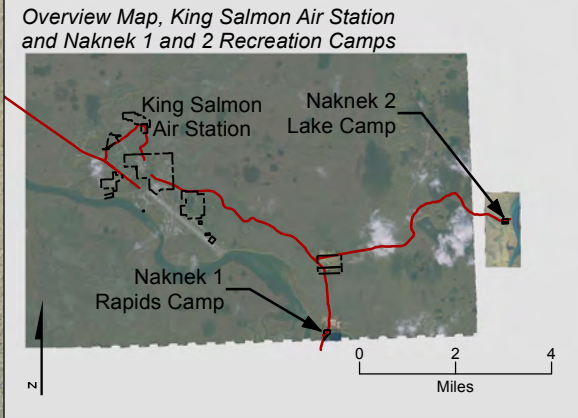
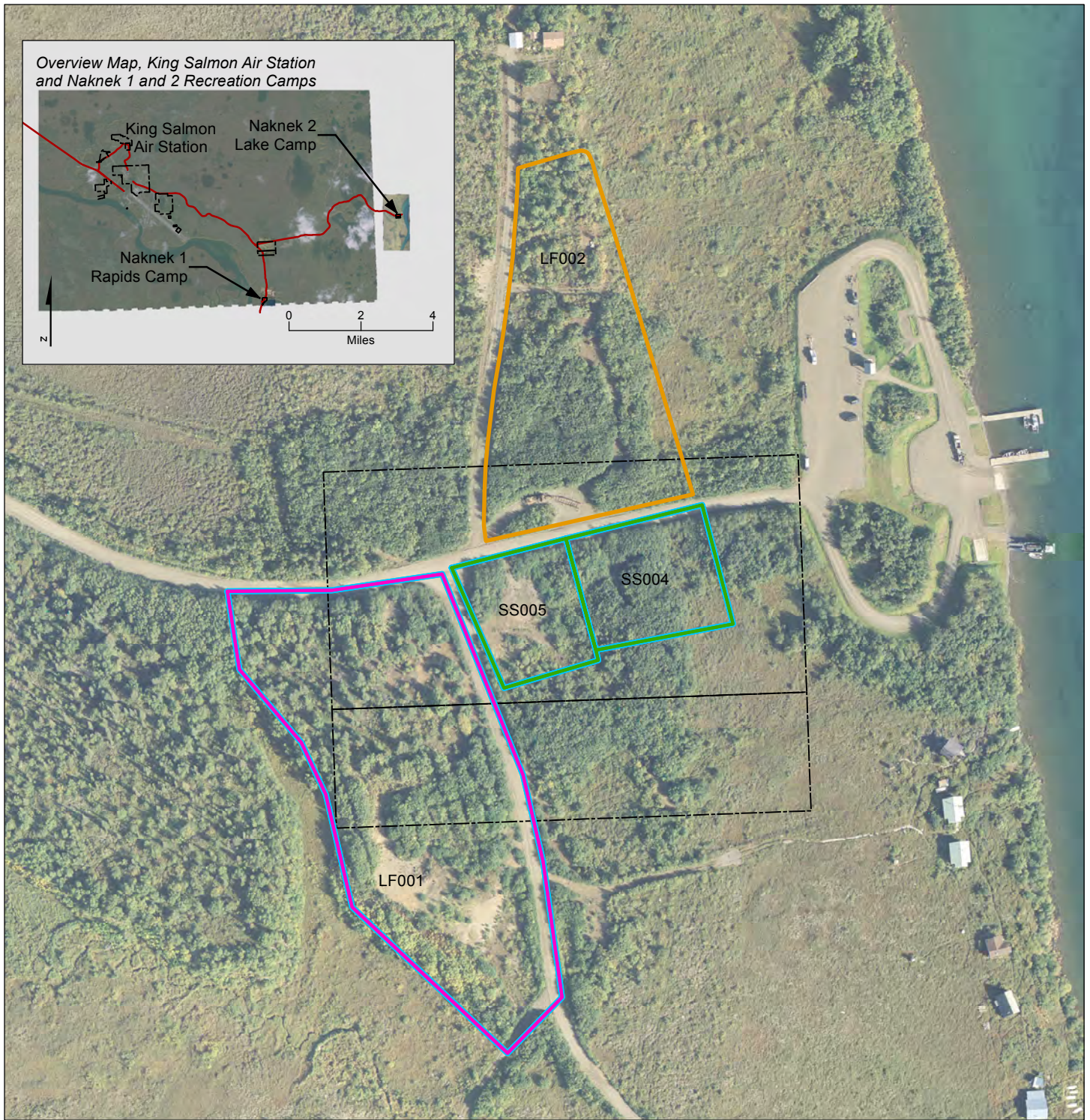


Notes:

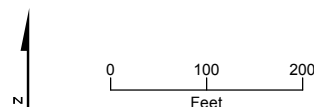
1. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
2. Data from 611th GeoBase for Naknek 1 Recreation Camp. GeoBase data could be incomplete and are of unknown accuracy.
3. Data are rendered in UTM Zone 4N, WGS84, Meters.
4. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-22

Installation Map - Naknek Recreation Camp 1
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



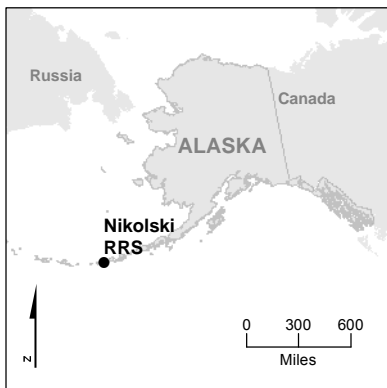
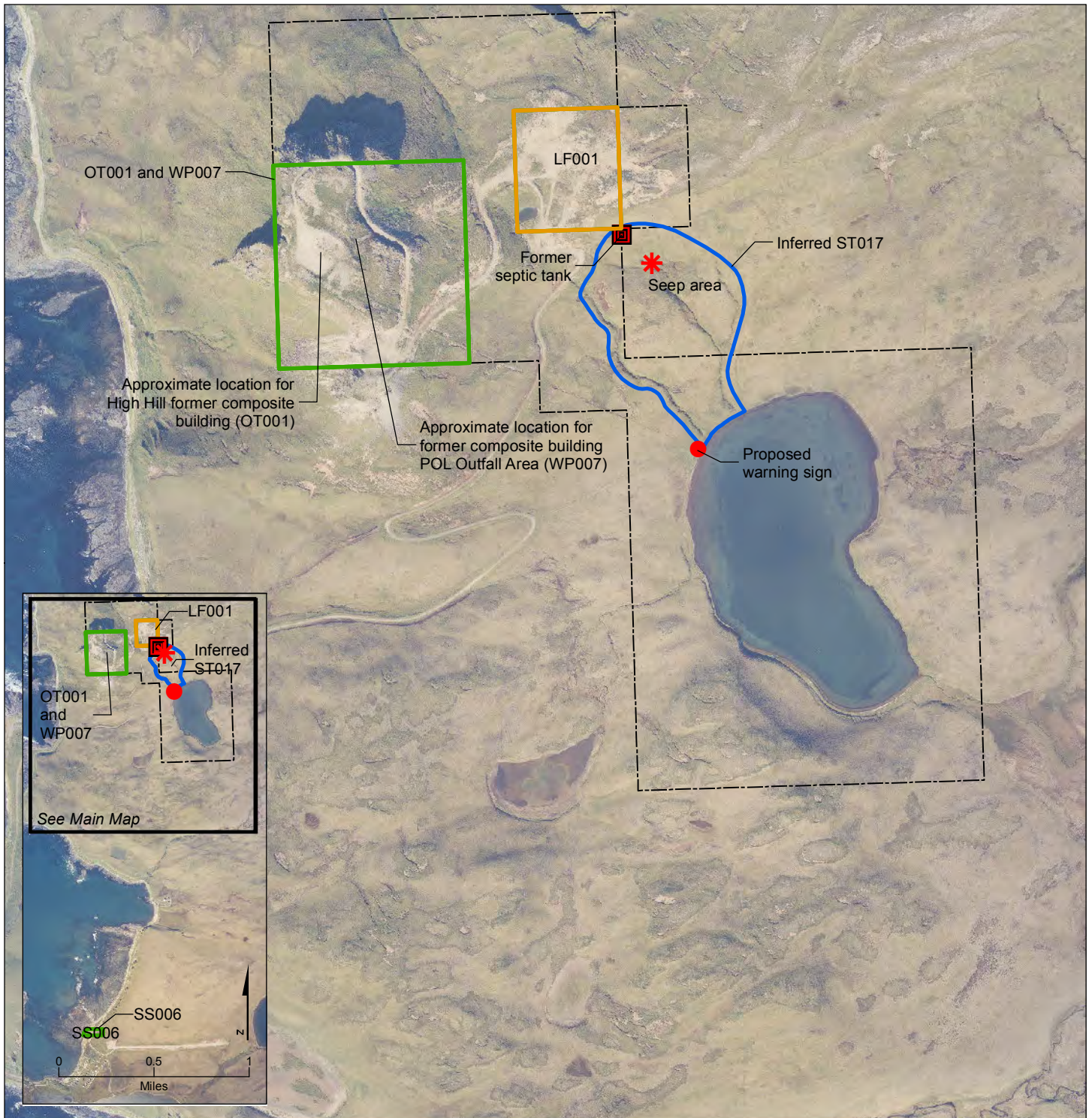
- Excavation and digging restrictions
- Restrictions on groundwater use and/or disposal
- Landfill restrictions
- Landfill (no ERP restrictions)
- Installation boundary



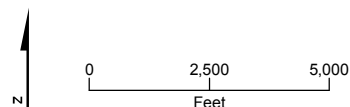
Notes:

1. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
2. Data from 611th GeoBase for Naknek 2 Recreation Camp. GeoBase data could be incomplete and are of unknown accuracy.
3. Data are rendered in UTM Zone 4N, WGS84, Meters.
4. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-23
 Installation Map - Naknek Recreation Camp 2
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska

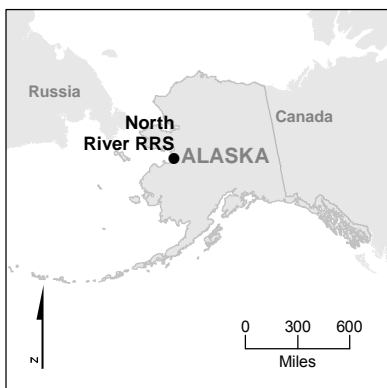
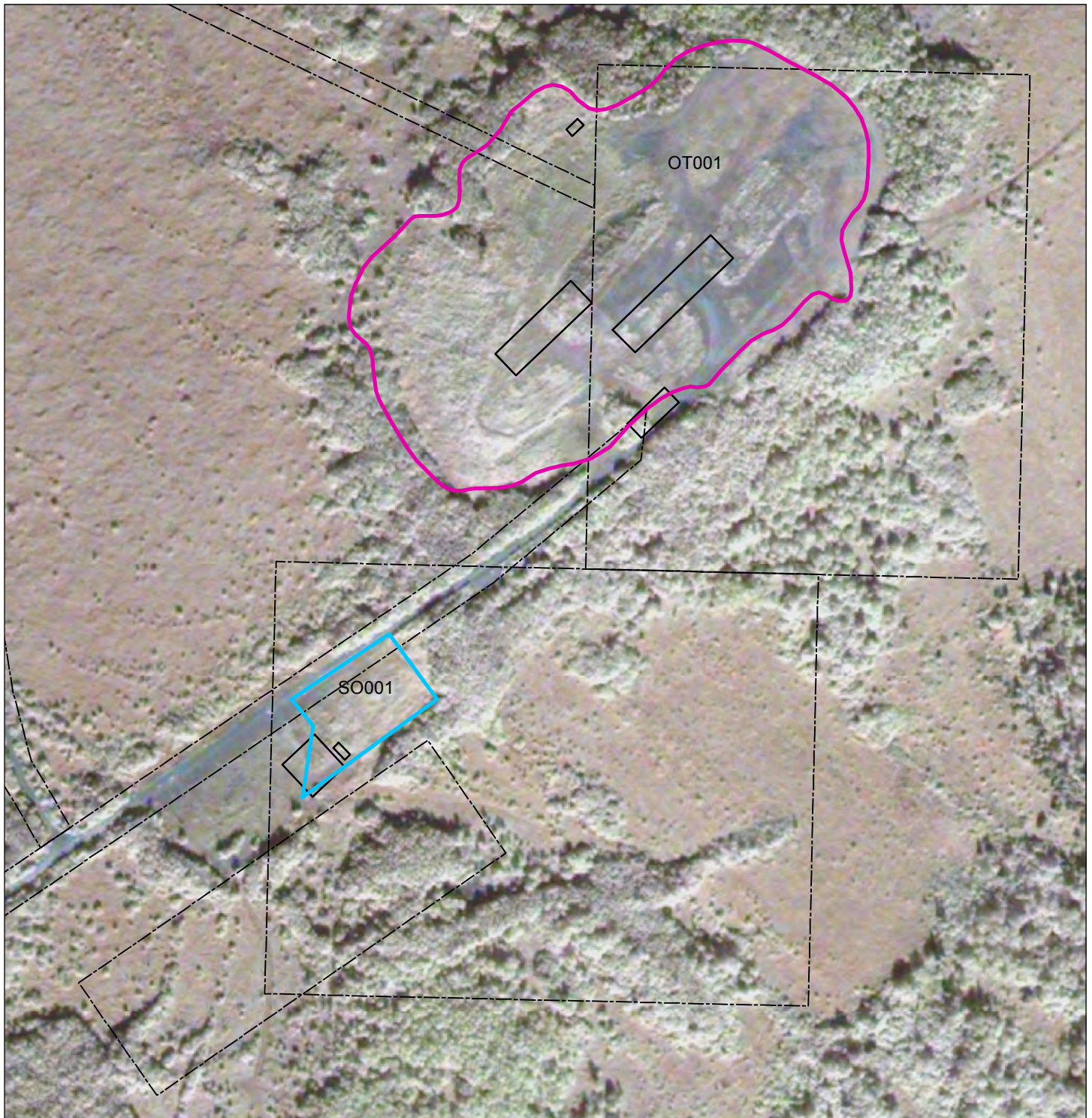


- Excavation and digging restrictions
- Surface water use restrictions
- Landfill (no restrictions)
- Installation boundary
- Former septic tank
- * Seep area
- Warning sign for ST017

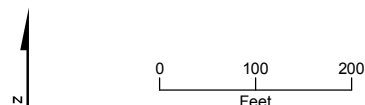


- Notes:
1. RRS = Radio Relay Station.
 2. LUC = Land Use Control. LUC areas recently established for OT001 (which administratively includes TU019) and WP007 are located as digitized from Jacobs Figure B-1, "Intitutional Control Diagram" dated 15-November-2010, not to scale.
 3. Data from GeoBase for Nikolski RRS. GeoBase data could be incomplete and are of unknown accuracy.
 4. Data are rendered in UTM Zone 2N, WGS84, Meters.
 5. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-24
 Installation Map - Nikolski RRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- Restrictions on groundwater use and/or disposal
- Landfill restrictions
- Installation boundary
- Existing structure



Notes:

1. RRS = Radio Relay Station.
2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
3. Data from 611th GeoBase for North River RRS. GeoBase data could be incomplete and are of unknown accuracy.
4. Data are rendered in UTM Zone 4N, WGS84, Meters.
5. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-25
 Installation Map - North River RRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- Restrictions on use, transport or disturbance of contaminated soil or sediment
- Excavation and digging restrictions
- Landfill restrictions
- Soil cap restrictions (non-landfill/contaminated soil)
- Existing structure
- Installation boundary

Notes:

1. LRRS = Long Range Radar Site
2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
3. Data from 611th GeoBase for Oliktok Point LRRS. GeoBase data could be incomplete and are of unknown accuracy.
4. Data are rendered in UTM Zone 6N, WGS84, Meters.
5. For more detailed land use restriction information, see individual site summaries.

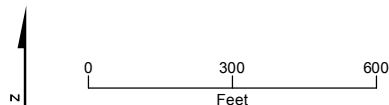
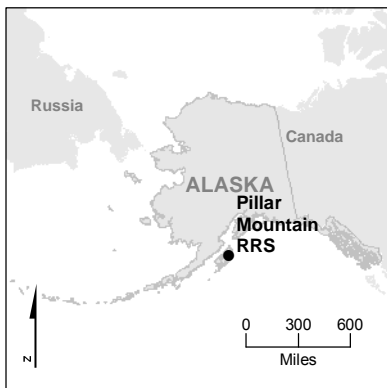
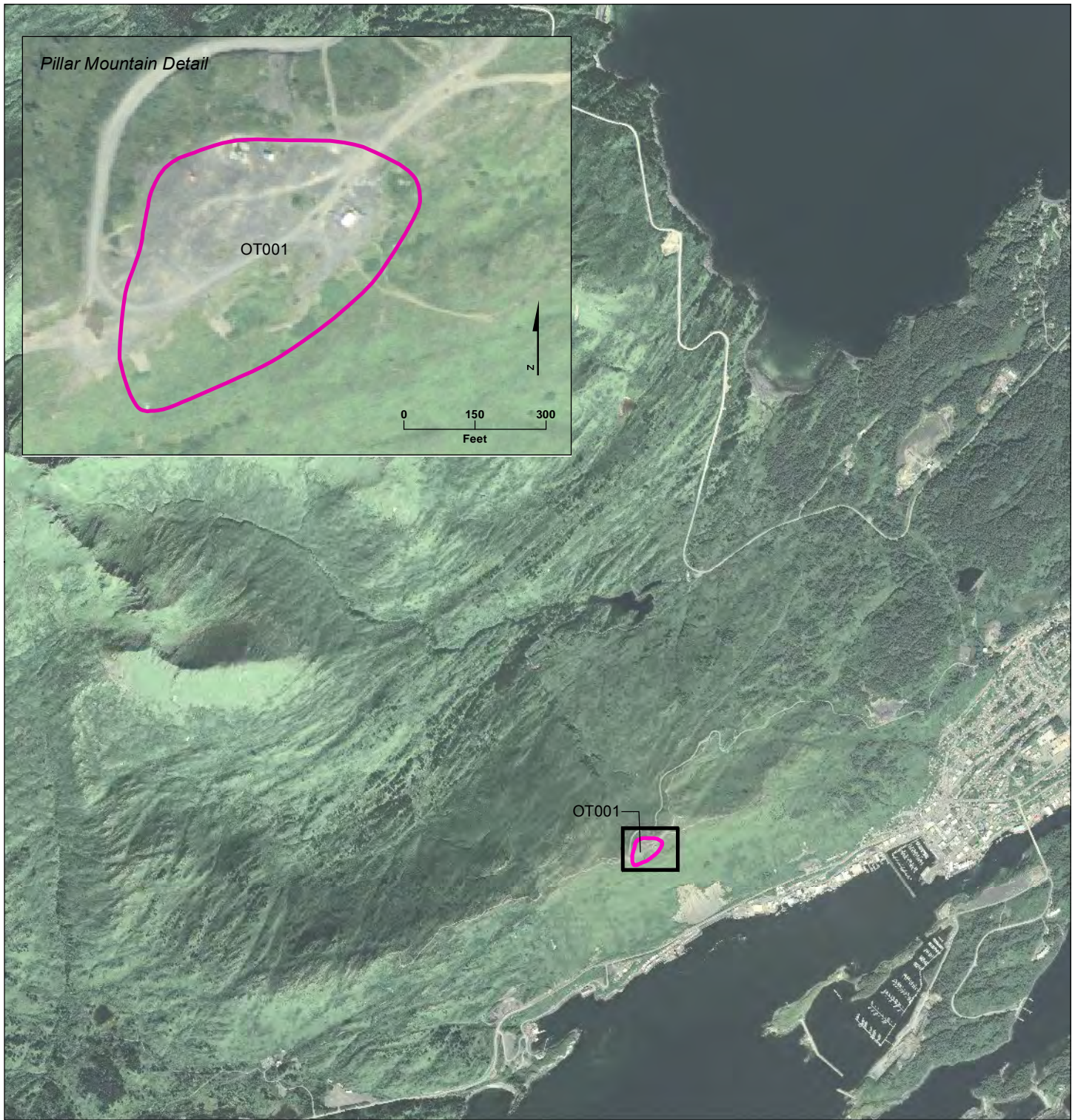


FIGURE 2-26
 Installation Map - Oliktok Point LRRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



 Landfill restrictions

Notes:

1. RRS = Radio Relay Station.
2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
3. There is no 611th GeoBase data for Pillar Mountain RRS.
4. Data are rendered in UTM Zone 5N, WGS84, Meters.
5. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-27
 Installation Map - Pillar Mountain RRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- Excavation and digging restrictions
- Surface water use restrictions
- Restrictions on use, transport or disturbance of contaminated soil or sediment
- Installation boundary

- Notes:
1. LRRS = Long Range Radar Site.
 2. Data from 611th GeoBase for Point Barrow LRRS. Geo-Base data could be incomplete and are of unknown accuracy.
 3. Data are rendered in UTM Zone 4N, WGS84, Meters.
 4. Imagery © Google Earth, approximately 2005.
 5. For more detailed land use restriction information, see individual site summaries.

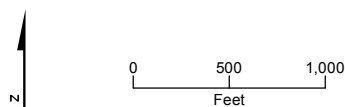
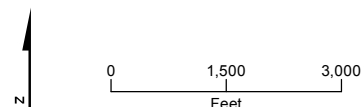


FIGURE 2-28
 Installation Map - Point Barrow LRRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- ADEC Soil Movement Restriction -- ADEC Notification Required
- Restrictions on use, transport or disturbance of contaminated soil or sediment
- Landfill (no restrictions)
- Installation boundary



- Notes:
1. LRRS = Long Range Radar Site
 2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
 3. Data from 611th GeoBase for Point Lay LRRS. GeoBase data could be incomplete and are of unknown accuracy.
 4. Data are rendered in UTM Zone 3N, WGS84, Meters.
 5. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-29
Installation Map - Point Lay LRRS
Land Use Control Management Plan 2015
Pacific Air Forces Regional Support Center Installations
Joint Base Elmendorf-Richardson, Alaska



- Surface water use restrictions
- Landfill (no restrictions)
- Installation boundary
- Existing structure

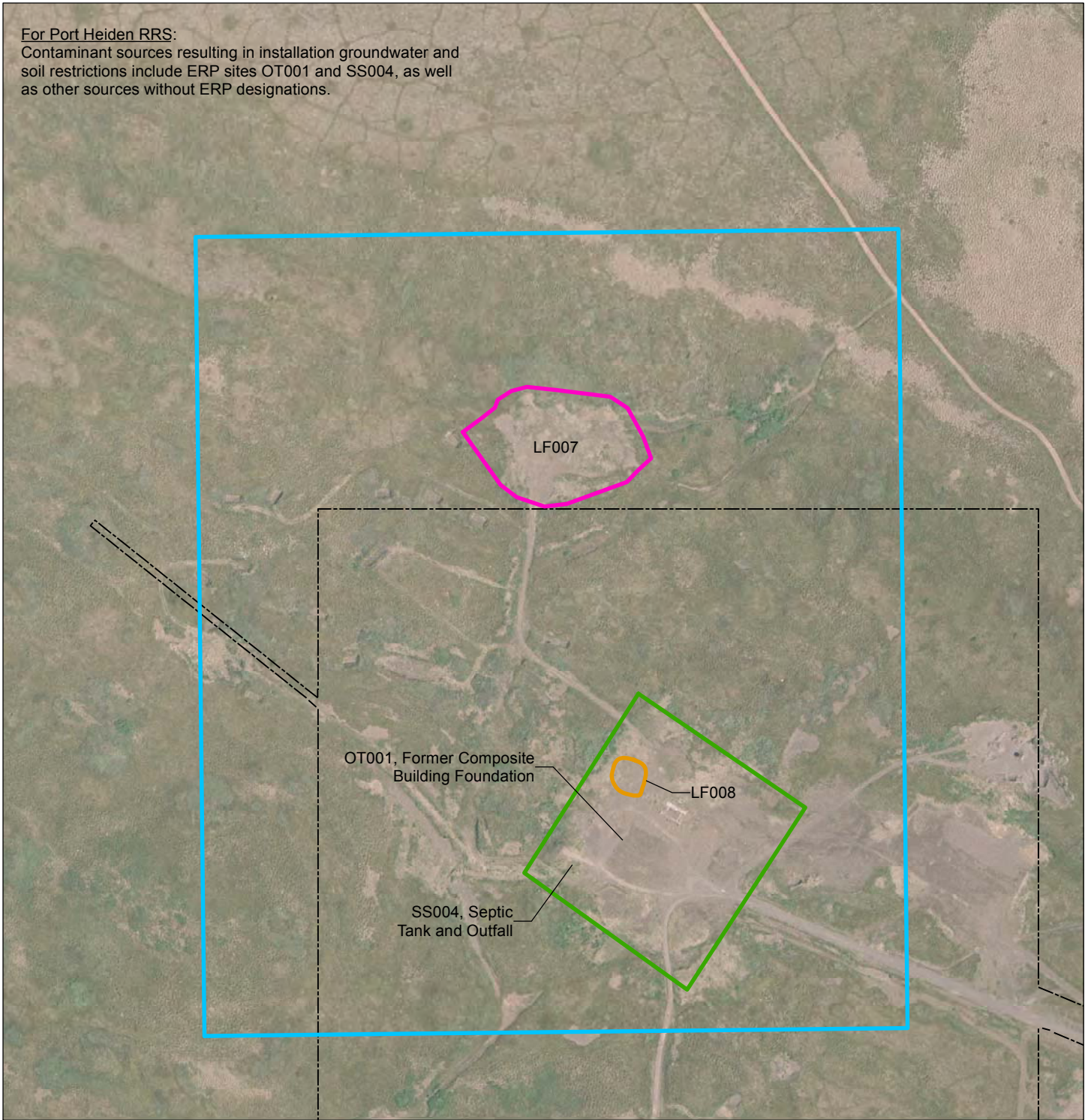


Notes:

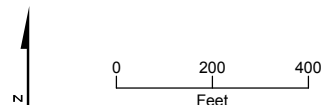
1. SRRS = Short Range Radar Site
2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
3. Data from 611th GeoBase for Point Lonely SRRS. GeoBase data could be incomplete and are of unknown accuracy.
4. Data are rendered in UTM Zone 5N, WGS84, Meters.
5. The Bureau of Land Management manages all property at Point Lonely. Air Force retains right of way with BLM to access Air Force buildings, structures, and equipment.
6. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-30
 Installation Map - Point Lonely Dome SRRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska

For Port Heiden RRS:
 Contaminant sources resulting in installation groundwater and soil restrictions include ERP sites OT001 and SS004, as well as other sources without ERP designations.

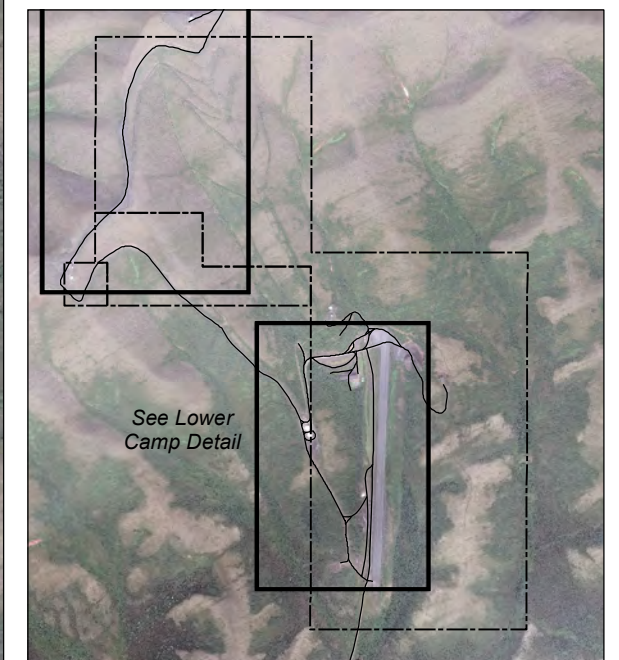
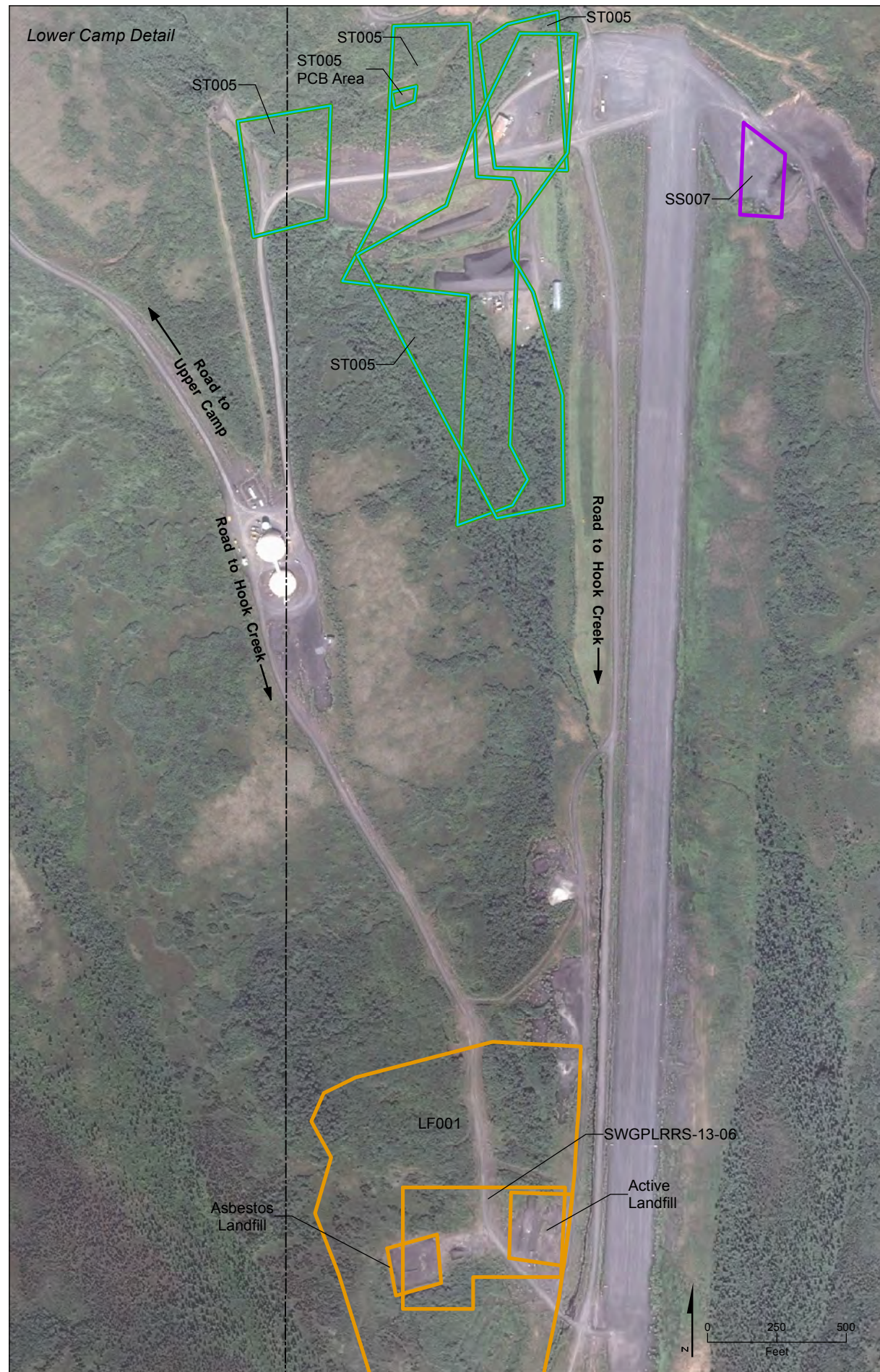


- Excavation and digging restrictions
- Restrictions on groundwater use and/or disposal
- Landfill restrictions
- Landfill (no ERP restrictions)
- Installation boundary



- Notes:
1. RRS = Radio Relay Station.
 2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
 3. Data from 611th GeoBase for Port Heiden RRS. GeoBase data could be incomplete and are of unknown accuracy.
 4. Data are rendered in UTM Zone 4N, WGS84, Meters.
 5. For more detailed land use restriction information, see individual site summaries.

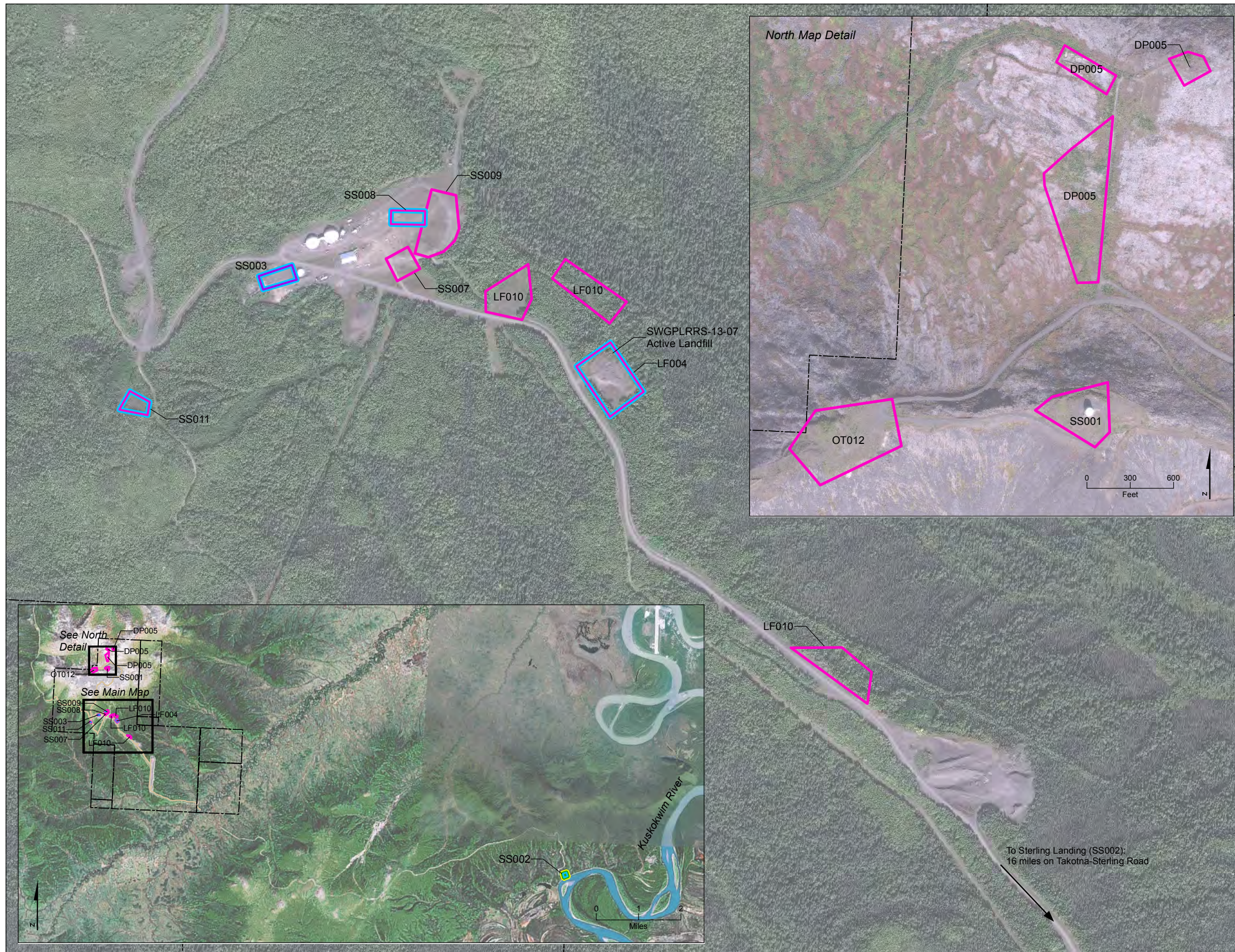
FIGURE 2-31
 Installation Map - Port Heiden RRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- Restrictions on groundwater use and/or disposal
- Excavation and digging restrictions
- Soil cap restrictions (non-landfill/contaminated soil)
- Landfill (no ERP restrictions)
- Installation boundary

- Notes:
1. LRRS = Long Range Radar Site.
 2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
 3. Data from 611th GeoBase for Sparrevohn LRRS. Data could be incomplete and are of unknown accuracy.
 4. Data are rendered in UTM Zone 5N, WGS84, Meters.
 5. Compliance Landfill SWGPLRRS-13-06 is located at LF001.
 6. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-32
 Installation Map - Sparrevohn LRRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- ▭ Restrictions on use, transport or disturbance of contaminated soil or sediment
- ▭ Excavation and digging restrictions
- ▭ Restrictions on groundwater use and/or disposal
- ▭ Soil cap restrictions (non-landfill/contaminated soil)
- ▭ Landfill restrictions
- ▭ Installation boundary

- Notes:
1. LRRS = Long Range Radar Site
 2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
 3. Data from 611th GeoBase for Tatalina LRRS. GeoBase data could be incomplete and are of unknown accuracy.
 4. Data are rendered in UTM Zone 5N, WGS84, Meters.
 5. Compliance Landfill SWGPLRRS-13-07 is located at site LF004.
 6. For more detailed land use restriction information, see individual site summaries.

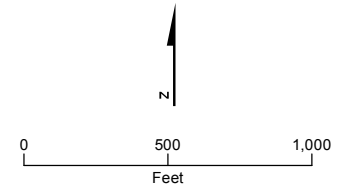
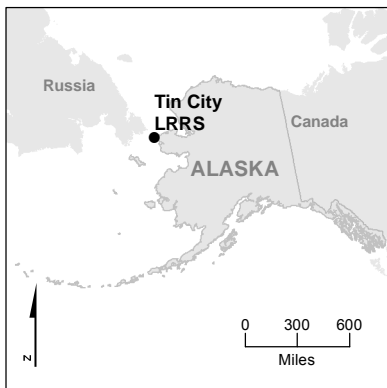



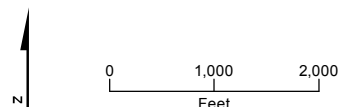


FIGURE 2-33
 Installation Map - Tatalina LRRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska

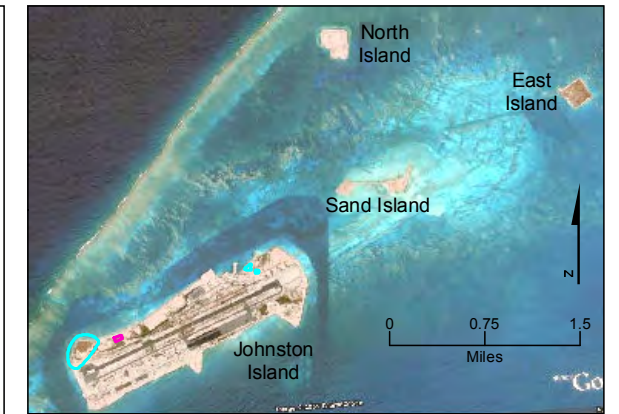
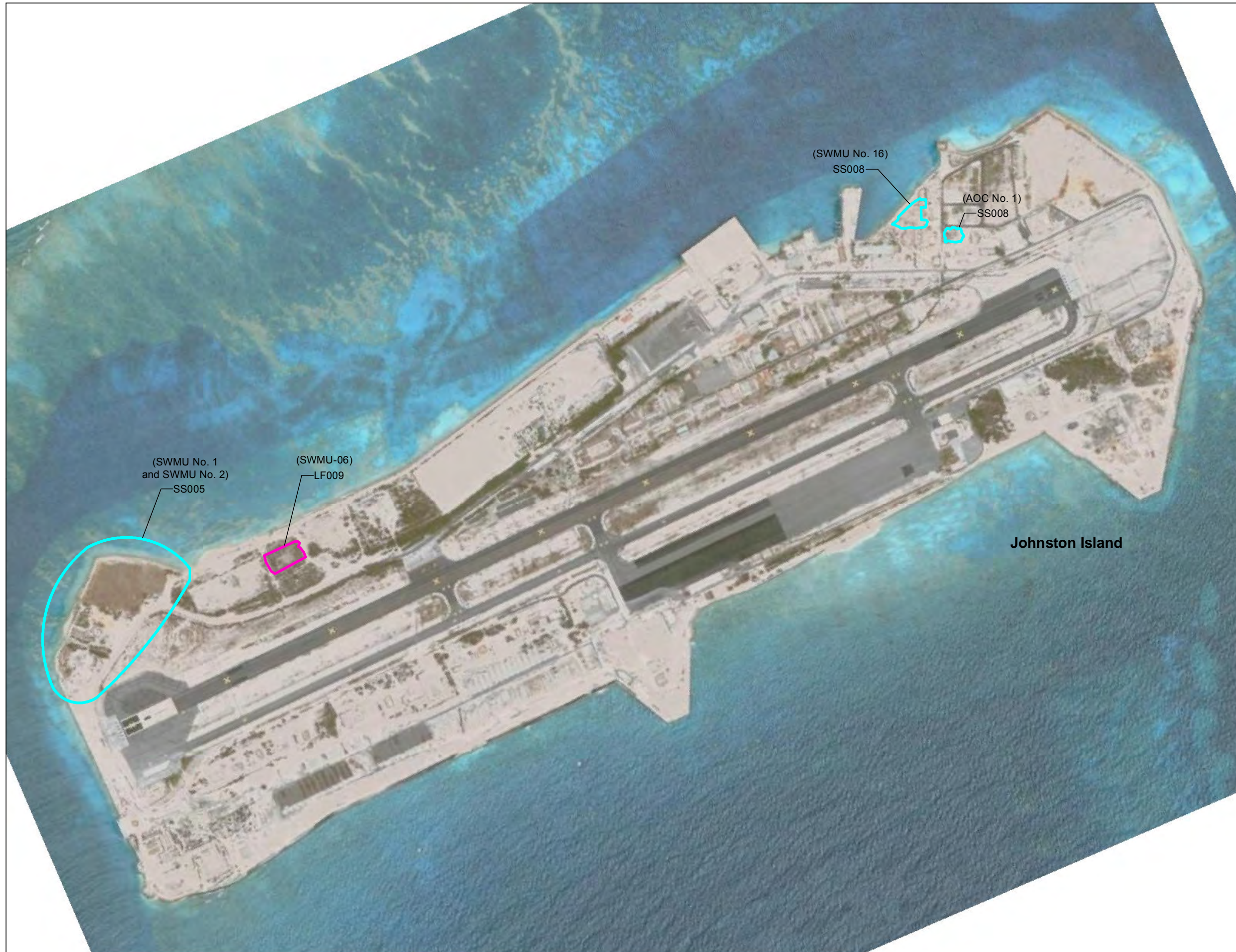


-  Landfill (no ERP restrictions)
-  Existing structure
-  Installation boundary



- Notes:
1. LRRS = Long Range Radar Site
 2. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
 3. Data from 611th GeoBase for Tin City LRRS. GeoBase data could be incomplete and are of unknown accuracy.
 4. Data are rendered in UTM Zone 3N, WGS84, Meters.
 5. For more detailed land use restriction information, see individual site summaries.

FIGURE 2-34
 Installation Map - Tin City LRRS
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- Landfill restrictions
- Consumption of fish downgradient prohibited

- Notes:
1. Johnston Atoll Airfield
 2. Data is rendered in UTM Zone 58N, WGS84, Meters.
 3. Imagery captured from Google Earth. DigitalGlobe 2009.
 4. For more detailed land use restriction information, see individual site summaries.

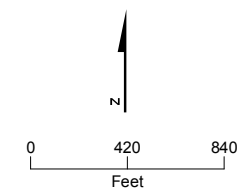
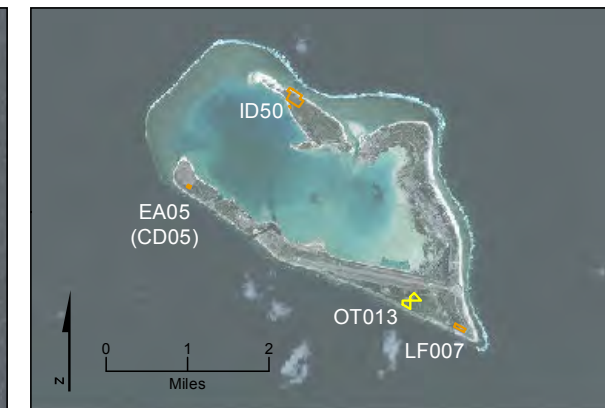


FIGURE 2-35
 Installation Map - Johnston Atoll
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska



- Restrictions on use, transport or disturbance of contaminated soil or sediment
- Landfill (no restrictions)
- Existing structure

- Notes:
1. LUC = Land Use Control. LUC boundaries depicted on this figure are preliminary pending final analysis of survey information. LUC boundaries will be updated once this information is available.
 2. Data from 611th GeoBase for Wake Island Airfield. GeoBase data could be incomplete and are of unknown accuracy.
 3. Data are rendered in UTM Zone 58N, WGS84, Meters.
 4. For more detailed land use restriction information, see individual site summaries.

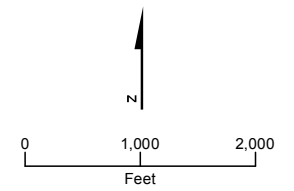


FIGURE 2-36
 Installation Map - Wake Island Airfield
 Land Use Control Management Plan 2015
 Pacific Air Forces Regional Support Center Installations
 Joint Base Elmendorf-Richardson, Alaska

Appendix A
Status of Pacific Air Forces Regional Support
Center Environmental Restoration Program Sites
at Alaska, Hawaii, Johnston Atoll, and
Wake Island Airfield Installations

TABLE A-1

Status of AFCEC/OLAR ERP and Landfill Sites at Alaska, Hawaii, Johnston Atoll and Wake Island Airfield Installations
Land Use Control Management Plan 2014 for AFCEC/OLAR, JBER, Alaska

Installation	Site Name	Site ID	ERP Sites with LUCs in Effect	NFRAP or NFA ERP Sites	ERP Remedial Investigation or Remedial Action On-going	Landfill or Compliance Landfill (No ERP Status)	Site Type - ERP, ERP/LF or LF-Compliance
ALASKA							
Anvil Mountain RRS	White Alice Communications Site	OT001		x			ERP
Anvil Mountain RRS	Garage	SS002		x			ERP
Anvil Mountain RRS	Former CompoSite Building	SS003		x			ERP
Anvil Mountain RRS	Concrete Tank Saddle	SS004		x			ERP
Anvil Mountain RRS	West Tank Annular Foundation	SS005		x			ERP
Anvil Mountain RRS	Containment Ditch	SS006		x			ERP
Anvil Mountain RRS	Concrete Tank Saddle	SS007		x			ERP
Anvil Mountain RRS	Ground Storage	SS008		x			ERP
Barter Island LRRS	Refueling Area	CG002			x		ERP
Barter Island LRRS	Old Landfill	LF001		x			ERP/LF
Barter Island LRRS	POL Catchment Basin	LF003		x			ERP/LF
Barter Island LRRS	Compliance Landfill	LF004		x			ERP/LF
Barter Island LRRS	Old Dump Area Northwest	LF009		x			ERP/LF
Barter Island LRRS	Old Runway Dump	LF012		x			ERP/LF
Barter Island LRRS	Old Dump Site	LF019		x			ERP/LF
Barter Island LRRS	Radio Relay Area - duplicate Site	OT005		x			ERP
Barter Island LRRS	Fuel Tank - duplicate Site	OT006		x			ERP
Barter Island LRRS	Contaminated Ditch	SD008		x			ERP
Barter Island LRRS	POL Storage Tanks - duplicate Site	SP010		x			ERP
Barter Island LRRS	Air Terminal Fuel Storage	SS011		x			ERP
Barter Island LRRS	Heated Storage	SS013	x				ERP
Barter Island LRRS	Garage	SS014	x				ERP
Barter Island LRRS	Weather Station Building	SS015		x			ERP
Barter Island LRRS	White Alice	SS016		x			ERP
Barter Island LRRS	POL Tanks (ST17)	SS017	x				ERP
Barter Island LRRS	Bladder Diesel Spill	SS020		x			ERP
Barter Island LRRS	JP-4 Spill	SS021		x			ERP
Barter Island LRRS	Fuel Tanks	ST018	x				ERP
Bear Creek RRS	Landfill #1	LF001	x				ERP/LF
Bear Creek RRS	Vehicle Maintenance Shop	SS002		x			ERP
Bear Creek RRS	Fuel Storage Area	SS003		x			ERP
Bear Creek RRS	White Alice Site Equipment Building Area	SS004		x			ERP
Bear Creek RRS	Barrel Storage Area	SS006		x			ERP
Bear Creek RRS	Borrow Pit	SS007		x			ERP
Bear Creek RRS	AOC08 Pol Site by the Yukon River	SS008		x			ERP
Beaver Creek RRS	White Alice Site	OT001		x			ERP
Bethel RRS	POL Storage and Pumping Station RRS	SS001 ¹	x				ERP

TABLE A-1

Status of AFCEC/OLAR ERP and Landfill Sites at Alaska, Hawaii, Johnston Atoll and Wake Island Airfield Installations
Land Use Control Management Plan 2014 for AFCEC/OLAR, JBER, Alaska

Installation	Site Name	Site ID	ERP Sites with LUCs in Effect	NFRAP or NFA ERP Sites	ERP Remedial Investigation or Remedial Action On-going	Landfill or Compliance Landfill (No ERP Status)	Site Type - ERP, ERP/LF or LF-Compliance
Bethel RRS	East Road Contaminated Soil	SS006		x			ERP
Bethel RRS	Contaminated Soil at Various Locations	SS009		x			ERP
Bethel RRS	Barrel Storage	SS011			x		ERP
Bethel RRS	Bethel BIA 27 Acre Site	SS013			x		ERP
Big Mountain RRS	Landfill	LF005	x				ERP/LF
Big Mountain RRS	1,000-gallon diesel AST	SS002	x				ERP
Big Mountain RRS	Auto Maintenance Flight Operations Warehouse	SS003		x			ERP
Big Mountain RRS	1,000-gallon Mogas AST	SS004		x			ERP
Big Mountain RRS	Equipment and Power Building (POL, PCBs, metals)	SS010a		x			ERP
Big Mountain RRS	Septic Tank and Fire Pumphouse (formerly SS009)	SS010b		x			ERP
Big Mountain RRS	Temporary Automobile Storage Building/ Former Vehicle Maintenance Shop (POL/metals)	SS011		x			ERP
Big Mountain RRS	Tower and ASTs Nos. 2 and 4(fuel oil)	SS013		x			ERP
Big Mountain RRS	Dual AST Fuel Oil System (fuel oil)	SS014	x				ERP
Big Mountain RRS	Tower and ASTs Nos. 1 and 3 (fuel oil)	SS015		x			ERP
Big Mountain RRS	3,000 Gallon AST System	SS016		x			ERP
Big Mountain RRS	Well and pumphouse	SS017		x			ERP
Big Mountain RRS	42,400-gallon fuel oil AST	ST001	x				ERP
Bullen Point RRS	Old Landfill	LF006		x			ERP/LF
Bullen Point RRS	Outside Transformer	OT003		x			ERP
Bullen Point RRS	Inside Transformer	OT004		x			ERP
Bullen Point RRS	Shed No. 1	SS001			x		ERP
Bullen Point RRS	Shed No. 2	SS002		x			ERP
Bullen Point RRS	POL Tanks & Generator Area	ST005		x			ERP
Bullen Point RRS	Drum Storage Area	ST007		x			ERP
Bullen Point RRS	Fuel Storage Area	ST008		x			ERP
Bullen Point RRS	Bullen Point USAF DEW Station Landfill	SW3A058				x	LF-Compliance
Campion AFS	Landfill No. 1	LF004			x		ERP/LF
Campion AFS	Landfill No. 2	LF005			x		ERP/LF
Campion AFS	LRR Station	OT001			x		ERP
Campion AFS	White Alice Site	OT006		x			ERP
Campion AFS	Waste Accumulation Area No. 1	SS002			x		ERP
Campion AFS	Waste Accumulation Area No. 2	SS003		x			ERP
Campion AFS	Barge Loading Area	SS008		x			ERP
Campion AFS	Road Oiling	SS009			x		ERP
Campion AFS	POL Storage Area	ST007			x		ERP
Campion AFS	Campion AFS Asbestos	9931BA006				x	LF-Compliance
Cape Lisburne LRRS	Dump #2	DP006		x			ERP

TABLE A-1

Status of AFCEC/OLAR ERP and Landfill Sites at Alaska, Hawaii, Johnston Atoll and Wake Island Airfield Installations
Land Use Control Management Plan 2014 for AFCEC/OLAR, JBER, Alaska

Installation	Site Name	Site ID	ERP Sites with LUCs in Effect	NFRAP or NFA ERP Sites	ERP Remedial Investigation or Remedial Action On-going	Landfill or Compliance Landfill (No ERP Status)	Site Type - ERP, ERP/LF or LF-Compliance
Cape Lisburne LRRS	Landfill No. 1/ Waste Accumulation Area No. 2	LF001	x				ERP
Cape Lisburne LRRS	Runway/Road Oiling	OT002		x			ERP
Cape Lisburne LRRS	White Alice Site	OT003		x			ERP
Cape Lisburne LRRS	Upper Camp Transformer Building	SS008		x			ERP
Cape Lisburne LRRS	Two Lower Camp Transformer Buildings and one Lower Camp Tramway Transformer Building	SS009		x			ERP
Cape Lisburne LRRS	Spill/Leak #1	ST004	x				ERP
Cape Lisburne LRRS	Spill/Leak #2	ST005	x				ERP
Cape Lisburne LRRS	Spill/Leak #3	ST007		x			ERP
Cape Lisburne LRRS	Cape Lisburne LRRS Landfill	SWGPLRRS-13-01				x	LF-Compliance
Cape Newenham LRRS	Active Landfill No. 1	LF002		x			ERP/LF
Cape Newenham LRRS	Landfill 2 / WAA 1 & 2	LF003		x			ERP/LF
Cape Newenham LRRS	Road Oiling - Lower Camp (Site 3)	OT004		x			ERP
Cape Newenham LRRS	White Alice Site (Site 6)	OT005		x			ERP
Cape Newenham LRRS	Waste Accumulation Area 3 - Lower Camp (Site 4)	SS001		x			ERP
Cape Newenham LRRS	PCBs at Upper Camp	SS007	x				ERP
Cape Newenham LRRS	Lower Camp Leaking Diesel UST	SS008			x		ERP
Cape Newenham LRRS	Cape Newenham LRRS Landfill	SWGLRRS-13-02				x	LF-Compliance
Cape Newenham LRRS	Upper camp Dump Area (Site 2)	WP006		x			ERP
Cape Romanzof LRRS	Dump Area, Upper Camp	DP011	x				ERP
Cape Romanzof LRRS	Landfill No. 1	LF002		x			ERP/LF
Cape Romanzof LRRS	Landfill No. 2	LF003	x		x		ERP/LF
Cape Romanzof LRRS	Landfill No. 3	LF004			x		ERP/LF
Cape Romanzof LRRS	611th Disposal Pit/Debris Landfill	LF012		x			ERP/LF
Cape Romanzof LRRS	Road Oiling Sites	OT005		x			ERP
Cape Romanzof LRRS	White Alice Site	OT006		x			ERP
Cape Romanzof LRRS	Waste Accumulation Area No. 2	SS001		x			ERP
Cape Romanzof LRRS	Waste Accumulation No. 1/Spill Sites 1 and 2	SS007		x			ERP
Cape Romanzof LRRS	Waste Accumulation No. 3/Spill Sites 6-9	SS008		x			ERP
Cape Romanzof LRRS	Weather Station Well Spill Site 4	SS010	x		x		ERP
Cape Romanzof LRRS	Seep Area/Spill Site 5	SS013	x				ERP
Cape Romanzof LRRS	Drum Storage Area	SS014	x				ERP
Cape Romanzof LRRS	Old UST Site/Leaking USTs, Lower Camp	SS015	x				ERP
Cape Romanzof LRRS	Upper Tram Terminal Area	SS016	x		x		ERP

TABLE A-1

Status of AFCEC/OLAR ERP and Landfill Sites at Alaska, Hawaii, Johnston Atoll and Wake Island Airfield Installations
Land Use Control Management Plan 2014 for AFCEC/OLAR, JBBER, Alaska

Installation	Site Name	Site ID	ERP Sites with LUCs in Effect	NFRAP or NFA ERP Sites	ERP Remedial Investigation or Remedial Action On-going	Landfill or Compliance Landfill (No ERP Status)	Site Type - ERP, ERP/LF or LF-Compliance
Cape Romanzof LRRS	Lower Tram Terminal Area	SS017	x		x		ERP
Cape Romanzof LRRS	Spill Site 3/POL Fill Stand	ST009	x				ERP
Cape Romanzof LRRS	Capre Romanzof LRRS Landfill	SWGLPLRRS-13-03				x	LF-Compliance
Cold Bay LRRS	Landfill/Gravel Pit	LF002	x				ERP/LF
Cold Bay LRRS	White Alice Communications System	OT001	x				ERP
Cold Bay LRRS	Road Oiling	OT003		x			ERP
Cold Bay LRRS	1978 Spill/Leak	OT004		x			ERP
Cold Bay LRRS	POL Storage Area	ST005	x				ERP
Driftwood Bay	Burned Battery Area	DA013		x	x		ERP
Driftwood Bay	Septic Tank and Discharge Pipe	FL009		x			ERP
Driftwood Bay	Old Disposal Area	LF006		x	x		ERP/LF
Driftwood Bay	Former Composite Bldg and Antenna Arrays	OT001		x	x		ERP
Driftwood Bay	1991 Landfill	SS002	x				ERP
Driftwood Bay	Former Drum Storage Area	SS004		x			ERP
Driftwood Bay	Former AST at Runway	SS005		x			ERP
Driftwood Bay	Former Fuel Storage Area at Beach	SS007	x				ERP
Driftwood Bay	Pipeline	SS008		x			ERP
Driftwood Bay	Former Water Supply Pumphouse	SS010	x				ERP
Driftwood Bay	Former Lighting Vault at Runway	SS011		x			ERP
Driftwood Bay	Heavy Equipment Storage	SS014		x			ERP
Driftwood Bay	Former USTs near lighting vault	TU012		x			ERP
Driftwood Bay	Former Floor Drain Pipeline	WP003			x		ERP
Duncan Canal	Former RRS Dump Site	DA001			x		ERP
Duncan Canal	Barrel Dump Site	SS001	x				ERP
Duncan Canal	Generator Building	SS002	x				ERP
Duncan Canal	Fuel Pumphouse	SS003	x				ERP
Duncan Canal	Drum Storage and Disposal Site	SS004			x		ERP

TABLE A-1

Status of AFCEC/OLAR ERP and Landfill Sites at Alaska, Hawaii, Johnston Atoll and Wake Island Airfield Installations
Land Use Control Management Plan 2014 for AFCEC/OLAR, JBER, Alaska

Installation	Site Name	Site ID	ERP Sites with LUCs in Effect	NFRAP or NFA ERP Sites	ERP Remedial Investigation or Remedial Action On-going	Landfill or Compliance Landfill (No ERP Status)	Site Type - ERP, ERP/LF or LF-Compliance
Duncan Canal	Former CompoSite Building	SS005		x			ERP
Duncan Canal	Vehicle Storage Area/Demolition Debris	SS006	x				ERP
Duncan Canal	Former Septic Site/Outfall	SS007		x			ERP
Duncan Canal	Water Pumphouse	SS008		x			ERP
Duncan Canal	Former 130,000-gallon AST-Beach Facility	TA001		x			ERP
Duncan Canal	Former 130,000-gallon AST-Mountain Top Facility	TA002		x			ERP
Duncan Canal	5,000-gallon AST	TA003		x			ERP
Duncan Canal	20,000-gallon UST	TU001		x			ERP
Duncan Canal	1,500-gallon UST	TU002		x			ERP
Eareckson AFS	Lightning Strike/Burn Area	FT001	x				ERP
Eareckson AFS	Aircraft Mock-Up Area/Fire Training Area/Abandoned Drum Disposal Area	FT002	x				ERP
Eareckson AFS	Fire Department Foam Training Area	FT003	x				ERP
Eareckson AFS	Wood Dump/Burn Area	LF015	x				ERP/LF
Eareckson AFS	North Beach Landfill	LF018	x				ERP/LF
Eareckson AFS	Barrel Bay	LF024	x				ERP/LF
Eareckson AFS	Scrap Metal Disposal Area	LF026	x				ERP/LF
Eareckson AFS	Site SW-13 Base Sanitary LF NFA DD/Former Permit 0525BA000	LF027				x	LF-Compliance
Eareckson AFS	Scrap Metal Landfill	LF028	x				ERP/LF
Eareckson AFS	Old Grounded Barge NFA DD	OT021		x			ERP
Eareckson AFS	0.50-Caliber Beach/ Ammunition Disposal Area	OT029			x		ERP
Eareckson AFS	Alaska Cleanup Effort - Multiple Locations NFA DD	OT030		x			ERP
Eareckson AFS	Water Gallery	OT048	x				ERP
Eareckson AFS	Upper Lake NFA DD	OT049		x			ERP
Eareckson AFS	Site HG-01 Mercury/PCB Contam NFA DD	SS004		x			ERP
Eareckson AFS	Transformer Oil Spills at Old Cobra Dane	SS005			x		ERP
Eareckson AFS	Site PS-2 JP-4 West Dock Spill NFA DD	SS006		x			ERP
Eareckson AFS	West End Oil-Water Separator Ponds/ Engineered Wetland	SS007	x				ERP
Eareckson AFS	Site PS-6 JP-4 Spill Vehicle Refueling	SS010/ST010	x		x		ERP
Eareckson AFS	Site PS-7 Vehicle Maintenance Waste Oil NFA DD	SS011		x			ERP
Eareckson AFS	Old White Alice Site	SS012	x		x		ERP
Eareckson AFS	Asphaltic Tar Drum Storage NFA DD	SS013		x			ERP
Eareckson AFS	Base Operations Spill	SS014		x			ERP
Eareckson AFS	Oil Transfer - No Oil in TRA NFA DD	SS017		x			ERP
Eareckson AFS	Retrograde Area, Metal Scrap NFA DD	SS020		x			ERP
Eareckson AFS	Scrap Metal Storage NFA DD	SS022		x			ERP
Eareckson AFS	Past Drum Storage Area (Asphalt Tar Drum Storage Area)	SS023	x				ERP

TABLE A-1

Status of AFCEC/OLAR ERP and Landfill Sites at Alaska, Hawaii, Johnston Atoll and Wake Island Airfield Installations
Land Use Control Management Plan 2014 for AFCEC/OLAR, JBER, Alaska

Installation	Site Name	Site ID	ERP Sites with LUCs in Effect	NFRAP or NFA ERP Sites	ERP Remedial Investigation or Remedial Action On-going	Landfill or Compliance Landfill (No ERP Status)	Site Type - ERP, ERP/LF or LF-Compliance
Eareckson AFS	WWII Storage Tanks	SS025	x				ERP
Eareckson AFS	REM Rusting Waste Oil Drums NFA DD	SS031		x			ERP
Eareckson AFS	Barrel Storage Area NFA DD	SS047		x			ERP
Eareckson AFS	PS-4 Diesel Fuel Tank NO 123 NFA DD	ST008		x			ERP
Eareckson AFS	Power Plant Spills	ST009	x				ERP
Eareckson AFS	UST 4010-2/4012-1 NFA DD	ST032		x			ERP
Eareckson AFS	UST 615-1/617-1 NFA DD	ST033		x			ERP
Eareckson AFS	UST 616-1/616-2 NFA DD	ST034		x			ERP
Eareckson AFS	UST 132-2	ST035	x				ERP
Eareckson AFS	UST 452-5/452-6 NFA DD	ST036		x			ERP
Eareckson AFS	UST 731-1/775-1/729-1..9 NFA DD	ST037		x			ERP
Eareckson AFS	UST 490-1/490-3 NFA DD	ST038		x			ERP
Eareckson AFS	USTs at Building 110 (110-1, 110-2, 110-3, and 110-4)	ST039	x				ERP
Eareckson AFS	UST 600-1/600-4 NFA DD	ST040		x			ERP
Eareckson AFS	UST 504-1/504-2 NFA DD	ST041		x			ERP
Eareckson AFS	UST 5001-1 NFA DD	ST042		x			ERP
Eareckson AFS	UST 605-1/605-2/605-3 NFA DD	ST043		x			ERP
Eareckson AFS	UST 3051-1	ST044	x		x		ERP
Eareckson AFS	AGE Fuel Spill NFA DD	ST045		x			ERP
Eareckson AFS	Abandoned Tank Farm	ST046	x		x		ERP
Eareckson AFS	Storage Tank Farm	ST050	x		x		ERP
Eareckson AFS	Fuel Facility Bldg 525	ST051	x		x		ERP
Eareckson AFS	Eareckson AS Landfill	#SW2A013-15				x	LF-Compliance
Fort Yukon LRRS	Landfill No. 1	LF002		x			ERP/LF
Fort Yukon LRRS	White Alice Site	OT005		x			ERP
Fort Yukon LRRS	Oil/fuel discharge at Power Plant	SD003		x			ERP
Fort Yukon LRRS	Road Oiling	SD004		x			ERP
Fort Yukon LRRS	Waste Accumulation Area	SS001		x			ERP
Fort Yukon LRRS	UST at Fuel Station	SS006		x			ERP
Fort Yukon LRRS	Spill Site at Truck Fill Stand	SS007		x			ERP
Fort Yukon LRRS	Drum Dump Site NEAR White Alice Site	SS008		x			ERP
Fort Yukon LRRS	Fort Yukon LRRS Landfill	0031BA012				x	LF-Compliance
Fort Yukon LRRS	Fort Yukon LRRS Landfill	SWGPLRRS-18-04				x	LF-Compliance
Granite Mountain RRS	Surface Disposal Area H	DA015		x			ERP
Granite Mountain RRS	Surface Disposal Area E, F, and G	DA020	x				ERP
Granite Mountain RRS	Surface Disposal Area K	DA021	x				ERP
Granite Mountain RRS	Runway/Roadway Oiling	DA022		x			ERP
Granite Mountain RRS	Disposal Pit No. 1 (UC)	DP009	x				ERP

TABLE A-1

Status of AFCEC/OLAR ERP and Landfill Sites at Alaska, Hawaii, Johnston Atoll and Wake Island Airfield Installations
Land Use Control Management Plan 2014 for AFCEC/OLAR, JBER, Alaska

Installation	Site Name	Site ID	ERP Sites with LUCs in Effect	NFRAP or NFA ERP Sites	ERP Remedial Investigation or Remedial Action On-going	Landfill or Compliance Landfill (No ERP Status)	Site Type - ERP, ERP/LF or LF-Compliance
Granite Mountain RRS	Disposal Pit No. 2 (LC)	DP010	x				ERP
Granite Mountain RRS	Landfill	LF002	x				ERP/LF
Granite Mountain RRS	White Alice Site-PCB	OT001	x				ERP
Granite Mountain RRS	Spill/Leak No. 1 (LC)	SS003		x			ERP
Granite Mountain RRS	Spill/Leak No. 2 (UC)	SS004		x			ERP
Granite Mountain RRS	Spill/Leak No. 3 (UC)	SS005		x			ERP
Granite Mountain RRS	Spill/Leak No. 4 (LC)	SS006		x			ERP
Granite Mountain RRS	Spill/Leak No. 5 (LC)	SS007		x			ERP
Granite Mountain RRS	Spill/Leak No. 7 at Water Supply Pumphouse	SS013		x			ERP
Granite Mountain RRS	Surface Disposal Area A	SS016	x				ERP
Granite Mountain RRS	Surface Disposal Area B	SS017	x				ERP
Granite Mountain RRS	Spill/Leak No. 6 at Small Day Tanks	SS018		x			ERP
Granite Mountain RRS	Surface Disposal Area D	SS019	x				ERP
Granite Mountain RRS	Septic Tank	WP008		x			ERP
Granite Mountain RRS	Inert Waste Monofil	SWZA056-14				x	LF-Compliance
Indian Mountain LRRS	Landfill No. 1	LF004	x				ERP/LF
Indian Mountain LRRS	Landfill No. 2	LF005	x				ERP/LF
Indian Mountain LRRS	Landfills No. 3 and 4, and Waste Accumulation Area 4	LF006	x				ERP/LF
Indian Mountain LRRS	White Alice Communication System - Upper Camp	OT008			x		ERP
Indian Mountain LRRS	Dump Areas	SD001			x		ERP
Indian Mountain LRRS	Road/Runway Oilings	SD007		x			ERP
Indian Mountain LRRS	Waste Accumulation Area No. 1 and AOC 07	SS002	x				ERP
Indian Mountain LRRS	Waste Accumulation Area No. 5	SS003		x			ERP
Indian Mountain LRRS	Waste Accumulation Area NO. 3 and Spill/Leak Nos. 4 and 11	SS009	x				ERP
Indian Mountain LRRS	Waste Accumulation Area No. 6 and Spill/Leak Nos. 2, 5, 6, 7, 9, and 10	SS010	x				ERP
Indian Mountain LRRS	Spill/Leak Nos. 1, 3, and 8	SS011	x				ERP
Indian Mountain LRRS	Indian Mountain LRRS Landfill	SWGPLRRS-13-05				x	LF-Compliance
Kalakaket Creek RRS	Landfills	LF002/#8631-BA008	x				ERP/LF-Compliance
Kalakaket Creek RRS	White Alice Site	OT001	x				ERP
Kalakaket Creek RRS	Kalakaket Creek RRS Landfill	SW3A072				x	LF-Compliance
King Salmon	Barrel Dump on Lake Camp Road	DA031		x	x		ERP
King Salmon	Revegetating Fill/NE of Incinerator	DA032			x		ERP
King Salmon	Trench (1 and 2) NE	DA033			x		ERP

TABLE A-1

Status of AFCEC/OLAR ERP and Landfill Sites at Alaska, Hawaii, Johnston Atoll and Wake Island Airfield Installations
Land Use Control Management Plan 2014 for AFCEC/OLAR, JBER, Alaska

Installation	Site Name	Site ID	ERP Sites with LUCs in Effect	NFRAP or NFA ERP Sites	ERP Remedial Investigation or Remedial Action On-going	Landfill or Compliance Landfill (No ERP Status)	Site Type - ERP, ERP/LF or LF-Compliance
King Salmon	Trench and Fill (1) NE by Partially Buried Tank	DA034		x	x		ERP
King Salmon	Stained Soils, Debris/Trenches in GWZ 5	DA037			x		ERP
King Salmon	Disturbed Ground North of GWZ 1	DA038			x		ERP
King Salmon	Asphalt Areas Behind Dot Bldg South of Main Runway	DA041			x		ERP
King Salmon	Dry Well Site	DP013		x			ERP
King Salmon	Dry Well Located Within ST015	DP023	x				ERP
King Salmon	Fire Training Area #1	FT001			x		ERP
King Salmon	FPTA NO 2	FT002			x		ERP
King Salmon	FPTA NO 3	FT003			x		ERP
King Salmon	FPTA NO 4	FT004			x		ERP
King Salmon	South Barrel Bluff	LF005	x				ERP/LF
King Salmon	Landfill # 2	LF006		x			ERP/LF
King Salmon	Landfill NO 3	LF007			x		ERP/LF
King Salmon	Landfill #5	LF008	x				ERP/LF
King Salmon	North Barrel Bluff	LF014	x				ERP/LF
King Salmon	White Alice	OT010		x			ERP
King Salmon	Pesticide Site	OT018		x			ERP
King Salmon	Groundwater Zone 1	OT027	x				ERP
King Salmon	Groundwater Zone 2	OT028	x				ERP
King Salmon	Groundwater Zone 3	OT029	x				ERP
King Salmon	Groundwater Zone 4	OT030	x				ERP
King Salmon	Stained Drum Storage Near Pipeline	SA035			x		ERP
King Salmon	12 Drum Storage Areas Near Main Runway	SA036			x		ERP
King Salmon	Drum Storage Areas 4,8, and 3	SA039			x		ERP
King Salmon	Drum Storage Area South of Main Runway	SA040			x		ERP
King Salmon	Drum Storage Area (4) and Trench	SA043			x		ERP
King Salmon	Facility Wide Road Oiling	SD009		x			ERP
King Salmon	Fuel Seepage - Eskimo Creek	SS011	x				ERP
King Salmon	Naknek River Storage	SS012	x				ERP
King Salmon	POL Tanks	SS015 /ST015	x				ERP
King Salmon	Waste Accumulation Area #2	SS016		x			ERP
King Salmon	Waste Accumulation Area #3	SS017		x			ERP
King Salmon	MOGAS Station (Old)	SS019		x			ERP
King Salmon	Old Power Plant Building	SS020	x				ERP
King Salmon	Refueler Shop	SS021	x				ERP
King Salmon	Eskimo Creek Dump (formerly LF022)	SS022	x				ERP/LF

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King Salmon		#SWXA029-15				x	LF-Compliance
Kotzebue LRRS	Small Arms Range	MRS SROO1		x			ERP
Kotzebue LRRS	Informal Shooting Area	MRS SROO1A		x			ERP
Kotzebue LRRS	Suspected Former Ammunition Storage Building	MRS XV001		x			ERP
Kotzebue LRRS	KOT-3 Road Oiling	SD003	x				ERP
Kotzebue LRRS	KOT-4-Waste Oil #1	SS001	x				ERP
Kotzebue LRRS	Waste Accumulation Area #2/ Landfill	SS002	x				ERP
Kotzebue LRRS	Spill/Leak #1	SS006	x				ERP
Kotzebue LRRS	KOT-7 Lake/Spill-LeakFormer Water Supply Lake	SS007		x			ERP
Kotzebue LRRS	KOT-6 Barracks/Barracks Area	SS008	x				ERP
Kotzebue LRRS	KOT-5 PCB Spill	SS009	x				ERP
Kotzebue LRRS	KOT-5 Solvent Spill	SS010	x				ERP
Kotzebue LRRS	Fuel Spill	SS011	x				ERP
Kotzebue LRRS	Spills #2 and #3	SS012	x				ERP
Kotzebue LRRS	Landfarm	SS013		x			ERP
Kotzebue LRRS	East Tanks	SS014		x			ERP
Kotzebue LRRS	Former Power Plant/Garage	SS015		x			ERP
Kotzebue LRRS	Nav Aid Buildings NW of Main Facility	SS016		x			ERP
Kotzebue LRRS	PCB Spill at Building 102	SS017		x			ERP
Kotzebue LRRS	Former Truck Fill Stand	SS018	x				ERP
Kotzebue LRRS	PCB Spill South Fence	SS019		x			ERP
Kotzebue LRRS	Septic Holding Tank/Outfall Line	SS020		x			ERP
Kotzebue LRRS	White Alice Tanks (AOC 9)	ST004	x				ERP
Kotzebue LRRS	KOT-8 Site/Beach Tanks	ST005	x				ERP
Lake Louise Rec Camp	Lake Louise Rec Camp	OT001	x		x		ERP/LF
Murphy Dome LRRS	Landfill No. 1	LF003			x		ERP/LF
Murphy Dome LRRS	Landfill No. 2	LF004	x				ERP/LF
Murphy Dome LRRS	Road Oiling	OT005		x			ERP
Murphy Dome LRRS	White Alice	OT006		x			ERP
Murphy Dome LRRS	Waste Accumulation Area 2	SS001			x		ERP
Murphy Dome LRRS	Waste Accumulation Area 3	SS002			x		ERP
Murphy Dome LRRS	Waste Accumulation Area #1/Bulk Fuel Storage Area	SS007			x		ERP
Murphy Dome LRRS	UST at White Alice Site	SS008			x		ERP
Naknek 1 (Rec Camp 1)	Rapids Camp Disposal Site	LF003	x				ERP/LF
Naknek 1 (Rec Camp 1)	Groundwater Zone 6	OT032	x				ERP

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Naknek 1 (Rec Camp 1)	Drum Storage (Cache) at Rapids Camp Helicopter Pad	SA006			x		ERP
Naknek 1 (Rec Camp 1)	POL Associated with the Generators	SS004	x				ERP
Naknek 1 (Rec Camp 1)	POL Associated with the Fueling of Boats	SS005		x			ERP
Naknek 1 (Rec Camp 1)	A Septic Tank	ST001	x				ERP
Naknek 1 (Rec Camp 1)	A Small Treatment Building Called a Camp	WP002		x			ERP
Naknek 2 (Rec Camp 2)	Former Lodge and Disposal Pit	DP003		x			ERP
Naknek 2 (Rec Camp 2)	Drum Landfill	LF001	x				ERP/LF
Naknek 2 (Rec Camp 2)	Construction Debris Landfill	LF002		x			ERP/LF
Naknek 2 (Rec Camp 2)	Former Vehicle Maintenance Facility	SS004	x				ERP
Naknek 2 (Rec Camp 2)	Former Generator Pad	SS005	x				ERP
Nikolski RRS	Landfill No 1	LF001				x	LF-Compliance
Nikolski RRS	Former CompoSite Bldg	OT001	x				ERP
Nikolski RRS	Water Supply Pump House	SS002		x			ERP
Nikolski RRS	POL Pipeline	SS003			x		ERP
Nikolski RRS	POL Tank Area	SS004			x		ERP
Nikolski RRS	Runway Lighting Vault	SS005			x		ERP
Nikolski RRS	Drum Storage Area	SS006	x		x		ERP
Nikolski RRS	Transformer Building and White Alice Array	SS010			x		ERP
Nikolski RRS	Construction Camp Septic Tank	ST017	x				ERP
Nikolski RRS	CompoSite Building Septic Tank	ST018		x			ERP
Nikolski RRS	Composite Building POL Outfall	WP007	x				ERP
North River RRS	White Alice Communications Site (WACS)	OT001	x		x		ERP
North River RRS	Vehicle Maintenance Building UST	SO001	x				ERP
North River RRS	Drum Storage Yard and PCB Trail (C)	SS001			x		ERP
North River RRS	Aboveground Storage Tank Pit	SS002		x			ERP
North River RRS	Drums and Stained Soil (A)	SS003			x		ERP
North River RRS	Drums and Stained Soil (B)	SS004			x		ERP
Oliktok Point RRS	Deactivated Landfill/Site 16; Oil Landfill	LF001	x				ERP/LF
Oliktok Point RRS	Deactivated Landfill/Site 17; Old Dump LF02	LF002	x				ERP/LF
Oliktok Point RRS	Diesel Fuel Spill Area	SS005	x				ERP
Oliktok Point RRS	Diesel Fuel Storage Area	SS007	x				ERP
Oliktok Point RRS	Barrel Bay	SS009a		x			ERP
Oliktok Point RRS	Barrel Dump on Camp Lake Road	SS009b		x			ERP
Oliktok Point RRS	Garage	SS010	x				ERP
Oliktok Point RRS	Dock Storage Area	ST003		x			ERP
Oliktok Point RRS	Petroleum Products Storage Area	ST004		x			ERP

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Oliktok Point RRS	Modular Train Diesel Spill	ST006		x			ERP
Oliktok Point RRS	Gasoline and Materials Storage Area	ST008	x				ERP
Pillar Mountain RRS	Pillar Mountain Radio Relay Station	OT001	x				ERP
Point Barrow LRRS	Diesel Fuel Spill	SS001		x			ERP
Point Barrow LRRS	Garage (Vehicle Maintenance Facility)	SS002	x				ERP
Point Barrow LRRS	Air Terminal Area	SS003	x				ERP
Point Lay LRRS	Deactivated Landfill/Dew Line Liz-2	LF001			x		ERP/LF
Point Lay LRRS	Old Dump Sites	LF004		x			ERP/LF
Point Lay LRRS	Old Dump Sites	LF005		x			ERP/LF
Point Lay LRRS	Gasoline/Fuel Storage Area	SS002		x			ERP
Point Lay LRRS	Garage	SS006		x			ERP
Point Lay LRRS	Drainage Pathway	SS007		x			ERP
Point Lay LRRS	Crushed Drum Area	SS008	x				ERP
Point Lay LRRS	Barge Beach Area	SS010		x			ERP
Point Lay LRRS	Diesel Fuel and Drum Storage	ST003		x			ERP
Point Lonely Dome LRRS	Old Dump Site #1	LF007		x			ERP/LF
Point Lonely Dome LRRS	Inactive Landfill	LF011			x		ERP/LF
Point Lonely Dome LRRS	Old Dump Site	LF030			x		ERP/LF
Point Lonely Dome LRRS	Sewage Disposal Area	SS001		x			ERP
Point Lonely Dome LRRS	Drum Storage Area	SS002		x			ERP
Point Lonely Dome LRRS	Beach Diesel Tanks, Pumphouse and Pipeline	SS003		x			ERP
Point Lonely Dome LRRS	POL Storage Area	SS004	x				ERP
Point Lonely Dome LRRS	Diesel Spill	SS005		x			ERP
Point Lonely Dome LRRS	Vehicle Storage Area	SS006			x		ERP
Point Lonely Dome LRRS	Garage	SS009		x			ERP
Point Lonely Dome LRRS	Diesel Tank	SS010		x			ERP
Point Lonely Dome LRRS	Module Train	SS012		x			ERP
Point Lonely Dome LRRS	Hangar Pad Area	SS013		x			ERP
Point Lonely Dome LRRS	Drum Storage Area	SS026			x		ERP
Port Heiden	Radio Relay Station Landfill	LF007	x		x		ERP/LF
Port Heiden	Buried Drums	LF008		x			ERP/LF
Port Heiden	Former CompoSite Building Foundation	OT001	x		x		ERP
Port Heiden	Spill/Leak No 2 at Septic Tank	SS004	x				ERP
Port Heiden	Spill/Leak No 4 at POL Tank Farm	SS005		x			ERP
Port Heiden	Spill/Leak No 3 at POL Pipeline	SS006			x		ERP

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Port Heiden	POL Waste Disposal Pit No 1 at Former CompoSite BI	WP002			x		ERP
Port Heiden	POL Waste Disposal Pit No 2 at Former CompoSite BI	WP003			x		ERP
Sparrevohn LRRS	Hillside Disposal Areas	DP008		x			ERP
Sparrevohn LRRS	Landfill No 1	LF001		x			ERP/LF
Sparrevohn LRRS	White Alice Communications System (WACS)	OT004	x				ERP
Sparrevohn LRRS	Road and Runway Oiling	SD002		x			ERP
Sparrevohn LRRS	Transmitter Pad	SD003	x				ERP
Sparrevohn LRRS	Waste Accumulation Area	SS007	x				ERP
Sparrevohn LRRS	Spill/Leak No.1	ST005	x				ERP
Sparrevohn LRRS	Spill/Leak No. 2	ST006	x				ERP
Sparrevohn LRRS	Sparrevohn LRRS Landfill	SWGPLRRS-13-06				x	LF-Compliance
Tatalina LRRS	Hardfill #2, MK Debris Area, Northeast Landfill	DP005	x				ERP
Tatalina LRRS	Landfill #2	LF004	x		x		ERP/LF
Tatalina LRRS	Tatalina LRRS Landfill	SWGPLRRS-13-07				x	LF-Compliance
Tatalina LRRS	Waste Accumulation Area #2 and Upper Landfill #1	LF010	x				ERP/LF
Tatalina LRRS	Airstrip	OT006		x			ERP
Tatalina LRRS	Former White Alice Communications Facility	OT012	x				ERP
Tatalina LRRS	Minimally Attended Radar Site	SS001	x				ERP
Tatalina LRRS	Barge Landing and Fuel Storage Area	SS002	x				ERP
Tatalina LRRS	POL Tank Farm	SS003	x				ERP
Tatalina LRRS	Waste Accumulation Area #3	SS007	x				ERP
Tatalina LRRS	Waste Accumulation Area #4	SS008	x				ERP
Tatalina LRRS	Former Truck Fill Station	SS009	x				ERP
Tatalina LRRS	Waste Accumulation Area #1	SS011	x				ERP
Tin City LRRS	Dump #1 (Source #1)	DP008		x			ERP
Tin City LRRS	Spill/Leak #1 (Source #6)	SS006		x			ERP
Tin City LRRS	Dump # 3 at Beach	DP011		x			ERP
Tin City LRRS	Landfill-Privately Owned/AF Resp, 3rd Party Site	LF002			x		ERP/LF
Tin City LRRS	Landfill	LF003			x		ERP/LF
Tin City LRRS	Dump #2 (Source #3)	LF009		x			ERP/LF
Tin City LRRS	Mid-Mountain Dump	LF010		x			ERP/LF
Tin City LRRS	White Alice Site	OT005		x			ERP

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Tin City LRRS	Runway Oiling	SD004		x			ERP
Tin City LRRS	Waste Accumulation Area (Source #4)	SS001		x			ERP
Tin City LRRS	Spill/Leak #2 (Source #5)	SS007		x			ERP
Tin City LRRS	Spill/Leak #3 at Lower Tram Terminal	SS013		x			ERP
Tin City LRRS	Spill/Leak #4 near Building 76-200	SS014		x			ERP
Tin City LRRS	USTs 3, 9, 16, and 20	ST012		x			ERP
Tin City LRRS	Tin City LRRS Landfill	SWGPLRRS-13-08				x	LF-Compliance
Wainwright RRS	Beach Diesel Fuel Storage Area	SS001			x		ERP
Wainwright RRS	Gasoline Storage Area: AC	SS003			x		ERP
Wainwright RRS	Diesel Fuel Spill	SS004		x			ERP
Wainwright RRS	Garage	SS007		x			ERP
Wainwright RRS	Airstrip Diesel	SS008			x		ERP
Wainwright RRS	Vehicle Storage Area	SS009			x		ERP
Wainwright RRS	Drum Storage Area	ST002			x		ERP
JOHNSTON ATOLL							
Johnston Atoll	SWMU-15	SS001		x			ERP/LF
Johnston Atoll	SWMU No. 1 -Solid Waste Burn Pit, and SWMU No. 2, - Former Herbicide Orange Storage Area	SS005	x				ERP/LF
Johnston Atoll	SWMU No. 16, Power Plant Spill Site, and AOC No. 1, Motor Gasoline Area	SS008	x				ERP/LF
Johnston Atoll	SWMU-06	LF009	x				ERP/LF
HAWAII							
Kaala AFS	Substation Transformer	OT004			x		ERP
Kaala AFS	WWII Tunnel	OT008			x		ERP
Kaala AFS	Waste and New Oil Storage	SS002			x		ERP
Kaala AFS	Drum Rack Outfall	SS005		x			ERP
Kaala AFS	Soil Near Bldg #20	SS006		x			ERP
Kaala AFS	Northeast Disposal Site	SS007		x			ERP
Kaala AFS	Kaala Bog Area	SS009		x			ERP
Kaala AFS	Main Diesel Storage UST	ST001			x		ERP
Kaala AFS	Waste Oil Sump	WP003		x			ERP
Kokee AFS	POL Shed and Contractors Work Area	EA001		x			ERP
Kokee AFS	Former Radar Shaft	EA002		x			ERP
Kokee AFS	Oil Disposal Area	SS001		x			ERP
Kokee AFS	Paint Thinner Disposal Area	SS002		x			ERP
WAKE ISLAND AIRFIELD							
Wake Island Airfield	Lagoon Transformer	DA044		x			ERP
Wake Island Airfield	Power Plant Bunker/Dump Site	DA045		x			ERP

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Wake Island Airfield	Toki Point Dump Site	DP036		x			ERP
Wake Island Airfield	Peale Island Dump Area No. 1	DP037		x			ERP
Wake Island Airfield	Peale Island Dump Area No. 2	DP038		x			ERP
Wake Island Airfield	Wilkes Island Dump Area	DP039		x			ERP
Wake Island Airfield	South Shore UXO and Wreck Site	DP042		x			ERP
Wake Island Airfield	Dock Drum Storage Area	DP043		x			ERP
Wake Island Airfield	Wilkes Asbestos Landfill	EA05				x	ERP/LF
Wake Island Airfield	Fire Training Area No. 1	FT004		x			ERP
Wake Island Airfield	Fire Training Area No. 2	FT005		x			ERP
Wake Island Airfield	Fire Training Area No. 3	FT006		x			ERP
Wake Island Airfield	1950s Shop Area	ID049		x			ERP
Wake Island Airfield	Long-Range Aid to Navigation (LORAN) Station	ID050		x			ERP/LF
Wake Island Airfield	Wilkes VORTAC Station	ID053		x			ERP
Wake Island Airfield	Peale Generator Bunker	ID056		x			ERP
Wake Island Airfield	Asphalt Batching Plant	ID057		x			ERP
Wake Island Airfield	Landfill	LF007		x			ERP/LF
Wake Island Airfield	Demolition Debris Storage Area	OT001		x			ERP
Wake Island Airfield	Burn Area No. 1/Peacock Point Dump Site	OT010			x		ERP
Wake Island Airfield	Burn Area No. 2/Dump Site	OT011		x			ERP
Wake Island Airfield	Installation Road System	OT012A-F			x		ERP
Wake Island Airfield	Scrap Metal Pile No. 2/Dump Site	OT013	x				ERP
Wake Island Airfield	Scrap Metal Pile No. 1/Dump Site	OT023		x			ERP
Wake Island Airfield	Incinerator Drum Storage Area	SA046		x			ERP
Wake Island Airfield	Former Dry Dock	SA047		x			ERP
Wake Island Airfield	Transformer Storage Bunker	SA048		x			ERP
Wake Island Airfield	Former Fuel Storage and Buried Drums	SA055		x			ERP
Wake Island Airfield	Peale Pill Box Dump Site	SD051		x			ERP
Wake Island Airfield	Wetlands Battery Dump Site	SD052			x		ERP
Wake Island Airfield	Pesticide Handling and Storage Area	SS021A		x			ERP
Wake Island Airfield	Pesticide Handling and Storage Area	SS021B			x		ERP
Wake Island Airfield	Transformer Storage Revetment	SS022A		x			ERP
Wake Island Airfield	Former Transformer Storage Area	SS022B		x			ERP
Wake Island Airfield	Revetment with Pondered Waste Oil	SS040		x			ERP
Wake Island Airfield	Aircraft Staging Area	SS041		x			ERP
Wake Island Airfield	1500 Liquid Fuel Storage Area	ST001		x			ERP
Wake Island Airfield	1700 Liquid Fuel Storage Area	ST002		x			ERP
Wake Island Airfield	1800 Liquid Fuel Storage Area	ST003		x			ERP
Wake Island Airfield	1983 JP-5 Defuel Line Leak	ST008			x		ERP

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Wake Island Airfield	Used Oil UST Leak	ST009			x		ERP
Wake Island Airfield	Japanese Fuel Storage Area	ST030		x			ERP
Wake Island Airfield	Wake Avenue/Residential USTs	ST031		x			ERP
Wake Island Airfield	Runway Staging Area USTs	ST032			x		ERP
Wake Island Airfield	Peacock Point USTs	ST033		x			ERP
Wake Island Airfield	Runway USTS	ST034		x			ERP
Wake Island Airfield	Harbor Tank Farm USTs	ST035		x			ERP
Wake Island Airfield	AST SubSites	TA054		x			ERP

Notes:

¹ Bethel Radio Relay Station PCB-landfill, SS002, SS003, SS004, SS005, SS008, and SS010 have been administratively incorporated into SS001 (POL Storage and Pumping Station RRS).

- | | | |
|---|--|--|
| AFS = Air Force Station | LF = Landfill | POL = petroleum, oil, and lubricants |
| AOC = area of concern | LRRS = Long-Range Radar Station | RRS = Radio Relay Station |
| AST = aboveground storage tank | LUC = land use control | SWMU = solid waste management unit |
| DD = Decision Document | MOGAS = motor gasoline | USAF = U.S. Air Force |
| DEW = Distant Early Warning | NFA = no further action | UST = underground storage tank |
| ERP = Environmental Restoration Program | NFRAP = No Further Response Action Planned | VORTAC = VHF Omnidirectional Range/Tactical Aircraft Control |
| FPTA = fire protection training area | PCB = polychlorinated biphenyl | WACS = White Alice Communications Site |
| GWZ = groundwater zone | | |
| JP-4 = jet propulsion fuel, grade 4 | | |

Appendix B
Site Summary Sheets for Pacific Regional
Support Center Environmental Restoration
Program Sites with Land Use Controls in Effect

In the following site summaries "Boundary Status" refers to whether the boundary was defined on the ground (fenced or otherwise defined); it was listed as "Unknown" unless the information was provided in a ROD/DD. "Area_Acres" refers to the acreage of the site; it was listed as "Unknown" unless this information was included in a ROD/DD or other document.

Barter_Island-ST018.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST018
SITE_NAME	Fuel Tanks
DATE_SUMM	3/7/2011
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE STATUS	Cleanup Complete - Institutional Controls
POCID	Lori Roy (AFCEC-CZOP), 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	ST018 is located on a gravel pad east of the main installation on the main road between the installation and the village of Kaktovik (70° 07'52"N latitude and 143° 43'46"W Longitude) at the approximate location of soil sample 05 (SS05). Prior to demolition in August 2006 as part of the Clean Sweep Program, ST018 contained six inactive 10,000-gallon fuel tanks within a lined containment area. The tanks located on each end of the facility were on raised wood and metal stands and were used for motor vehicle fueling. The four remaining tanks were located between the two end tanks. Five of the tanks, including the raised tank on the east end of ST018 contained gasoline. The raised tank on the west end of ST018 contained diesel fuel. The south side of ST018 is bordered by tundra and is located approximately 1,500 feet from the nearest residential structures in the village of Kaktovik. In August 2006, the tanks and the containment berms were removed from ST018. Only the original pad and a small section of containment berm remain at the site.
GEO_HYDRO	The fuel tanks were formerly situated on a gravel pad within a lined berm. Six inches of sandy gravel cover the liner within the containment area. Native soil (tundra) was encountered in two of the 2005 investigation borings at three feet and four feet below ground surface (bgs). A gravel pad is located on the north, east, and west sides of the tanks and joins the main road. Subsurface hydrology is assumed to be consistent with other sites at the Barter Island LRRS with shallow permafrost and a seasonal active zone. Vertical movement of surface water is seasonally inhibited and is likely to pond, or move laterally across the site, rather than percolate into the ground. Fluids penetrating into the ground would be inhibited from further vertical migration due to the permafrost near the surface.
COC	Xylenes
INVESTIGATION_ACTIONS	RIs were conducted in 1993, 2003, and 2005 to assess the extent of contamination from petroleum contamination on the site. During the 1993 RI, soil, sediment, and surface water samples were collected outside of the containment area and analyzed for gasoline and diesel fuel constituents. During the 2003 RI, six surface soil samples were screened using a photoionization detector. During the 2005 RI, soil samples were collected from beneath the containment liner and analyzed for diesel and gasoline products.
FINAL_REM_ACTION	The risk attributed to the concentrations of petroleum and related substances detected at ST018 has been determined to be insignificant to human health and the environment in its present location. The detected substances were all below risk thresholds established by ADEC. Because soil remains with residual levels of petroleum contaminants above the most stringent cleanup levels approval from DEC is required prior to disposing or transporting soil from the site (18 AAC 75.341, Table B2, Over 40-inch Zone, Migration to Groundwater). In addition, soil may not be disposed in surface water or other environmentally sensitive areas. A notice will be included in the Base Master Plan noting the requirement for DEC approval prior to disposal or transport of the soil and this restriction will be included in the real estate transfer documents if the land is transferred. When it is demonstrated that all contaminants are below the prescribed cleanup levels the site may be closed. The following is the selected remedy for site ST018 under state law: * Site boundaries shall be surveyed to document the location of diesel range organics above 230 mg/Kg using figures or historical survey from the RI/FS. * The Base Master Plan for Barter Island will include a statement that ADEC approval is required prior to off-site transportation or disposal of soil containing diesel range organics above 230 mg/Kg. * If the site is transferred, the statement that ADEC approval is required prior to off-site transportation or disposal of site ST018 soil containing diesel range organics above 230 mg/Kg will be included in the property transfer documents.
CONT_RISK	Cumulative risk calculations following ADEC guidance were completed as part of the 2005 investigation. The calculated excess cancer risk posed by the soil contamination to human health was calculated to be zero. The non-cancer hazard index (HI) was 2.9 based on a residential exposure scenario, which was above the ADEC risk management standard of 1.0. The current site conditions do not meet the ADEC risk management standards of 18 AAC 75.325(h) for a residential scenario. However, the residential exposure scenario overestimates the current and future risks because the site is an active military installation. The non-cancer HI based on an industrial scenario was 0.28, which is well below the ADEC risk management standard of 1.0. No evidence of petroleum migration is evident based on the sample results and site observations. The current and future site conditions are protective of surface water.
RATIONALE	
RECOMMENDATIONS	
REFERENCES	United States Air Force (USAF). 1996. <i>Decision Document for No Further Response Action Planned, Barter Island Radar Installation, Alaska</i> . Final. May. (1996 NFRAP) United States Air Force (USAF). 2007. <i>Decision Document for No Further Response Action Planned, Barter Island Radar Installation, Alaska</i> . Final. May. (2007 NFA DD) The selected remedy for SS013 will protect human health and the environment, and allow for continued industrial site use. The major components of the selected remedy in this ROD are as follows: * Capping of the area beneath the former Heated Storage building to prevent exposure to contaminated soil and migration of PCBs. * Maintenance of the cap placed over the PCB-contaminated soil for as long as PCB concentrations exceed 1 mg/Kg. * Implementation of institutional controls restricting land use in the vicinity of the former Heated Storage building and surface water use restrictions at the pond west of the Heated Storage building to achieve remedial action objectives. Institutional controls will include installation of signs warning of the presence of soil and surface water contamination exceeding ADEC cleanup levels under 18 AAC 75.341. The operator will utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives. * Notations regarding land use restrictions will be recorded in the appropriate Barter Island LRRS land records, including the Base Master Plan. * Institutional controls will remain in effect for as long as the contaminated media exceeds ADEC unrestricted use criteria (e.g., 18 AAC 75.341, ADEC Method Two cleanup levels). The USAF is responsible for enforcing institutional controls and the USAF will monitor the effectiveness of the institutional control. The USAF will provide an annual report regarding institutional control monitoring to ADEC with copies filed in the administrative record and information repository. * The USAF will provide prompt notification to ADEC of institutional control deficiency/failure along with corrective measures taken. The USAF will obtain regulatory concurrence of significant changes to use and activity restrictions. The USAF will provide prior notification to ADEC for transfer of property subject to institutional controls. * Monitoring of TCE and related degradation byproduct (i.e., cis-1,2-dichloroethene, vinyl chloride, and 1,1-dichloroethene) concentrations in surface water adjacent to SS013. Surface water sampling is proposed to begin within one year of authorization of this ROD. If TCE and byproduct concentrations are determined to be below AWQS for two consecutive sampling events, then no additional surface water monitoring will be required. If concentrations continue to exceed AWQS, institutional controls will remain in effect. Additional monitoring will be completed at a minimum frequency of once every five years until the concentrations drop below the AWQS. Surface water results will be reported as part of the CERCLA 5-Year Review.
STATUS	

Barter_Island-SS013.ENV_REST_SITE_SUMMARY	
OBJECTID	
HAZSITE_ID	754
SITIRP_ID	SS013
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	With cap in place over PCB-contaminated soil, cancer <1X10 ⁻⁵ ; HI<1.
ALIAS	NA
SITE_NAME	Heated Storage
SITE_DESCRIPTION	The former Heated Storage building (SS013) was located southwest of the module trains and was used for vehicle maintenance and storage.
MEDIA_ID	SS013
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	1953 to present
CATEGORY	ERP
AREA_ACRES	NA
ACTIVITY	Active
LUC_RESTRICTION	<p>The selected remedy for SS013 will protect human health and the environment, and allow for continued industrial site use. The major components of the selected remedy in this ROD are as follows:</p> <ul style="list-style-type: none"> • Capping of the area beneath the former Heated Storage building to prevent exposure to contaminated soil and migration of PCBs. • Maintenance of the cap placed over the PCB-contaminated soil for as long as PCB concentrations exceed 1 mg/Kg. • Implementation of institutional controls restricting land use in the vicinity of the former Heated Storage building and surface water use restrictions at the pond west of the Heated Storage building to achieve remedial action objectives. Institutional controls will include installation of signs warning of the presence of soil and surface water contamination exceeding ADEC cleanup levels under 18 AAC 75.341. The operator will utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives. • Notations regarding land use restrictions will be recorded in the appropriate Barter Island LRRS land records, including the Base Master Plan. • Institutional controls will remain in effect for as long as the contaminated media exceeds ADEC unrestricted use criteria (e.g., 18 AAC 75.341, ADEC Method Two cleanup levels). The USAF is responsible for enforcing institutional controls and the USAF will monitor the effectiveness of the institutional control. The USAF will provide an annual report regarding institutional control monitoring to ADEC with copies filed in the administrative record and information repository. • The USAF will provide prompt notification to ADEC of institutional control deficiency/failure along with corrective measures taken. The USAF will obtain regulatory concurrence of significant changes to use and activity restrictions. The USAF will provide prior notification to ADEC for transfer of property subject to institutional controls. • Monitoring of TCE and related degradation byproduct (i.e., cis-1,2-dichloroethene, vinyl chloride, and 1,1-dichloroethene) concentrations in surface water adjacent to SS013. Surface water sampling is proposed to begin within one year of authorization of this ROD. If TCE and byproduct concentrations are determined to be below AWQS for two consecutive sampling events, then no additional surface water monitoring will be required. If concentrations continue to exceed AWQS, institutional controls will remain in effect. Additional monitoring will be completed at a minimum frequency of once every five years until the concentrations drop below the AWQS. Surface water results will be reported as part of the CERCLA 5-Year Review.
POC	Lori Roy (AFCEC-CZOP), 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-7697
CHEMICALS_OF_CONCERN	PCBs, TCE
MODIFIED_DATE	20110307
CONTAMINATION_SOURCE	The heated storage area was used for oils and paints. The building had floor drains that led directly to the soil beneath the building. These drains were sealed in 1993, however the soil is impacted with PCBs and diesel. The source of the TCE was not identified.
SITEID	SS013
INSTLN_ID	BI
MAINTENANCE	Surface water monitoring; Landfill cap inspections and repair; 5-year reviews; Sign maintenance and repairs
RESTRICTIONS	No surface water use; No inappropriate land use; No unauthorized transport or disposal of soil; No unauthorized digging/excavation; Property records/Base Plan documentation

Barter_Island-SS013.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS013
SITE_NAME	Heated Storage
DATE_SUMM	3/7/2011
CURRENT_STATUS	Active
SITE_STATUS	Open
POCID	Lori Roy (AFCEC-CZOP), 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	The former Heated Storage building (SS013) was located southwest of the module trains and was used for vehicle maintenance and storage. The building was raised on pilings approximately 3 to 4 feet above the tundra and surrounded by a gravel pad. A pond is located southeast of the former building location. The building was demolished in 2006 as part of Clean Sweep operations and the depression beneath the building was filled with clean gravel to create a level pad surface. This area is located on the main pad of the installation very close to the active facilities (e.g., radome and garage). The USAF currently uses this area for a work space and for staging equipment. There are no plans to declare this area as excess property.
GEO_HYDRO	Barter Island is located in an area of continuous permafrost. Potable groundwater is rarely present beneath continuous permafrost. Perched groundwater above the permafrost is found during the summer months when the surface layer thaws. This zone above permafrost is called the active zone because it freezes and thaws with seasonal temperature changes. Active zone water has not been sampled at SS013; however, it has been found to be up to 5 feet thick in arctic gravel pads. Groundwater is not used as a drinking water source at Barter Island due to the continuous permafrost. The permafrost acts as a barrier to vertical movement of groundwater because of low hydraulic permeability resulting from ice-filled pores in the zone of saturation.
COC	PCBs are the only soil chemical of concern for this site. TCE was identified as a surface water COC in 2003 based on exceedances of AWQS (18 AAC 70).
INVESTIGATION_ACTIONS	Ris of the Heated Storage site (SS013) were completed in 1993, 2003, and 2004. Soil, sediment, and surface water were sampled as part of the 1993 and 2003 RI field investigation. Only sediment samples were collected as part of the 2004 field event. PCBs are the only soil COCs for this site. Trichloroethene was identified as a surface water COC in 2003 based on exceedances of Alaska Water Quality Standards (18 AAC 70). PCBs, lead, and phenanthrene were identified in sediments west of SS013, but were not pursued as COCs because concentrations were low and only slightly exceeded the NOAA Screening Quick Reference Tables screening criteria. Risk assessments were completed for SS013 in 1993 and 2003.
FINAL_REM_ACTION	Remedial alternatives for SS013 were developed and evaluated in the 2003 remedial investigation and feasibility study, and a revised feasibility study which was completed in 2008. Based on this evaluation, the USAF selected institutional controls and capping of the PCB-contaminated soil as the preferred alternative for SS013. In addition, further testing of surface water adjacent to SS013 will be required until TCE and byproduct levels are demonstrated to be below AWQS. Institutional controls restricting the use of surface water at or adjacent to SS013 will be implemented in the form of signage and revisions to the appropriate Barter Island land records, including the Base Master Plan. The overall site management strategy for Barter Island involves source management, migration, and exposure controls in order to protect human health and the environment.
CONT_RISK	Capping of the PCB-contaminated soil will achieve ADEC risk management standards (cumulative carcinogenic risk of 1×10^{-5} and a cumulative noncarcinogenic HI of 1.0) by eliminating the exposure pathway for as long as the cap is maintained. Following implementation of the selected remedy, cleanup will be considered complete under CERCLA and 18 AAC 75. No source materials constituting principal threats exist at the site.
RATIONALE	
RECOMMENDATIONS	
REFERENCES	United States Air Force (USAF). 2009. <i>SS013 Record Of Decision Heated Storage (2013)</i> . Final. March. (2009 SS013 ROD). Contaminated Sites Database (accessed 3/7/2011).
STATUS	The selected remedy for SS013 will protect human health and the environment, and allow for continued industrial site use. The major components of the selected remedy in this ROD are as follows: <ul style="list-style-type: none"> • Capping of the area beneath the former Heated Storage building to prevent exposure to contaminated soil and migration of PCBs. • Maintenance of the cap placed over the PCB-contaminated soil for as long as PCB concentrations exceed 1 mg/Kg. • Implementation of institutional controls restricting land use in the vicinity of the former Heated Storage building and surface water use restrictions at the pond west of the Heated Storage building to achieve remedial action objectives. Institutional controls will include installation of signs warning of the presence of soil and surface water contamination exceeding ADEC cleanup levels under 18 AAC 75.341. The operator will utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives. • Notations regarding land use restrictions will be recorded in the appropriate Barter Island LRRS land records, including the Base Master Plan. • Institutional controls will remain in effect for as long as the contaminated media exceeds ADEC unrestricted use criteria (e.g., 18 AAC 75.341, ADEC Method Two cleanup levels). The USAF is responsible for enforcing institutional controls and the USAF will monitor the effectiveness of the institutional control. The USAF will provide an annual report regarding institutional control monitoring to ADEC with copies filed in the administrative record and information repository. • The USAF will provide prompt notification to ADEC of institutional control deficiency/failure along with corrective measures taken. The USAF will obtain regulatory concurrence of significant changes to use and activity restrictions. The USAF will provide prior notification to ADEC for transfer of property subject to institutional controls. • Monitoring of TCE and related degradation byproduct (i.e., cis-1,2-dichloroethene, vinyl chloride, and 1,1-dichloroethene) concentrations in surface water adjacent to SS013. Surface water sampling is proposed to begin within one year of authorization of this ROD. If TCE and byproduct concentrations are determined to be below AWQS for two consecutive sampling events, then no additional surface water monitoring will be required. If concentrations continue to exceed AWQS, institutional controls will remain in effect. Additional monitoring will be completed at a minimum frequency of once every five years until the concentrations drop below the AWQS. Surface water results will be reported as part of the CERCLA 5-Year Review.

Barter_Island-SS014.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	755
SITIRP_ID	SS014
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	The 2003 risk assessment results indicated that the total cumulative maximum cancer risk and the noncancer HI for SS014 is 3.4x10 ⁻⁵ and 3.43.
ALIAS	None
SITE_NAME	Garage
SITE_DESCRIPTION	The Garage (SS014) is an active facility used for vehicle maintenance and storage and is connected to the module train by a corridor. The building is raised on wooden pilings approximately 3 feet above the tundra and surrounded by gravel pad. Until 1993, the floor drains under the building discharged directly to the tundra below the building.
MEDIA_ID	SS014
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	1953 to present
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>The selected remedy for SS013 will protect human health and the environment, and allow for continued industrial site use. The major components of the selected remedy in this ROD are as follows:</p> <ul style="list-style-type: none"> • Capping of the area beneath the former Heated Storage building to prevent exposure to contaminated soil and migration of PCBs. • Maintenance of the cap placed over the PCB-contaminated soil for as long as PCB concentrations exceed 1 mg/Kg. • Implementation of institutional controls restricting land use in the vicinity of the former Heated Storage building and surface water use restrictions at the pond west of the Heated Storage building to achieve remedial action objectives. Institutional controls will include installation of signs warning of the presence of soil and surface water contamination exceeding ADEC cleanup levels under 18 AAC 75.341. The operator will utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives. • Notations regarding land use restrictions will be recorded in the appropriate Barter Island LRRS land records, including the Base Master Plan. • Institutional controls will remain in effect for as long as the contaminated media exceeds ADEC unrestricted use criteria (e.g., 18 AAC 75.341, ADEC Method Two cleanup levels). The USAF is responsible for enforcing institutional controls and the USAF will monitor the effectiveness of the institutional control. The USAF will provide an annual report regarding institutional control monitoring to ADEC with copies filed in the administrative record and information repository. • The USAF will provide prompt notification to ADEC of institutional control deficiency/failure along with corrective measures taken. The USAF will obtain regulatory concurrence of significant changes to use
POC	Lori Roy (AFCEC-CZOP), 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-7697
CHEMICALS_OF_CONCERN	PCBs (Aroclor-1254), lead, arsenic, chromium
MODIFIED_DATE	20110307
CONTAMINATION_SOURCE	Floor drain-improper disposal
SITEID	SS014
INSTLN_ID	BI
MAINTENANCE	Sign maintenance and repairs
RESTRICTIONS	No unauthorized land use; No unauthorized digging/excavation; No unauthorized transport or disposal of soil; Property records/Base Plan documentation;

Barter_Island-SS014.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS014
SITE_NAME	Garage
DATE_SUMM	3/7/2011
CURRENT_STATUS	Active
SITE_STATUS	Open
POCID	Lori Roy (AFCEC-CZOP), 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	The Garage (SS014) is an active facility used for vehicle maintenance and storage, and is connected to the module train by a corridor. The building is raised on wooden pilings approximately 3 feet above the tundra and surrounded by a gravel pad. Until 1993, the floor drains under the building discharged directly to the tundra below the building. Used oil and other automotive fluids or waste may have been discarded down these drains. The floor drains were sealed in July 1993 by the USAF to prevent further discharges. The building is currently in use by personnel at Barter Island LRRS. Gravel fill abuts the foundation on the southern and northern sides of the building, preventing access under the structure. On the eastern and western sides of the building, heavy gauge fencing is in place to prevent polar bear access below the building.
GEO_HYDRO	Barter Island is located in an area of continuous permafrost. Potable groundwater is rarely present beneath continuous permafrost. Perched groundwater above the permafrost is found during the summer months when the surface layer thaws. This zone above permafrost is called the active zone because it freezes and thaws with seasonal temperature changes. Active zone water has not been sampled at SS014; however, it has been found to be up to 5 feet thick in arctic gravel pads. Groundwater is not used as a drinking water source at Barter Island due to the continuous permafrost. The permafrost acts as a barrier to vertical movement of groundwater because of low hydraulic permeability resulting from ice-filled pores in the zone of saturation.
COC	PCBs (Aroclor-1254), lead, arsenic, chromium
INVESTIGATION_ACTIONS	<p>Sampling and analysis in 1993 determined that the Garage site was contaminated with fuel and other waste oil-related compounds. Although petroleum compounds detected in soil and sediment exceeded cleanup levels, calculated risk values were below risk standards.</p> <p>In 2003, PCBs, arsenic, and lead were detected above ADEC Method Two soil cleanup levels under the Garage, with maximum concentrations of 7.11 mg/Kg, 15.9 mg/Kg, and 1,030 mg/Kg, respectively. The maximum concentrations for trichloroethene, tetrachloroethene, 1,2,4- and 1,3,5-trimethylbenzene, and chromium exceeded one-tenth the ADEC Method Two soil cleanup levels which were officially adopted in 2008, but were not included in the 2003 cumulative risk assessment. (Note: the 2003 risk assessment was based on values applicable at that time. Values for these compounds did not exceed one-tenth the ADEC Method Two soil cleanup levels. The maximum gasoline range organic, diesel range organic and residual range organic concentrations were 143 mg/Kg, 4,960 mg/Kg, and 3,870 mg/Kg, respectively.</p> <p>During the 2004 investigation, six sediment samples were collected from the adjacent wetland to the east, near the 2003 PCB exceedance location, and analyzed for PCBs. PCBs were detected in each of the sediment samples, and two samples exceeded the NOAA SquiRT criteria for freshwater sediment. The PCB concentrations in these two samples were 0.565 and 0.822 mg/Kg. However, these exceedances were confined to a narrow surface water drainage that passes through the tundra.</p>
FINAL_REM_ACTION	Based on the evaluation of alternatives discussed in the FS, the preferred remedial alternative for addressing PCB and lead contamination at the site is institutional controls. However, because this remedy will result in hazardous substances, pollutants, or contaminants remaining on site above levels that allow for unlimited use and unrestricted exposure, CERCLA 5-Year Reviews will be required for this remedial action.
CONT_RISK	The 2003 risk assessment results indicated that the total cumulative maximum cancer risk and the noncancer HI for SS014 is 3.4x10 ⁻⁵ and 3.43, respectively. Based on the level of contaminants and risk calculations, the site conditions are not sufficiently protective of human health. The ecological risk assessment results indicated that as long as the Garage building and gravel pad remain intact, SS014 poses low risk to ecological receptors due to limited vegetation and poor habitat for wildlife.
RATIONALE	
RECOMMENDATIONS	
REFERENCES	United States Air Force (USAF). 2009. <i>Record Of Decision Garage (SS014)</i> . Final. March. (2009 SS014 ROD) Contaminated Sites Database (accessed 3/7/2011).
STATUS	<p>The selected remedy for SS013 will protect human health and the environment, and allow for continued industrial site use. The major components of the selected remedy in this ROD are as follows:</p> <ul style="list-style-type: none"> • Capping of the area beneath the former Heated Storage building to prevent exposure to contaminated soil and migration of PCBs. • Maintenance of the cap placed over the PCB-contaminated soil for as long as PCB concentrations exceed 1 mg/Kg. • Implementation of institutional controls restricting land use in the vicinity of the former Heated Storage building and surface water use restrictions at the pond west of the Heated Storage building to achieve remedial action objectives. Institutional controls will include installation of signs warning of the presence of soil and surface water contamination exceeding ADEC cleanup levels under 18 AAC 75.341. The operator will utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives. • Notations regarding land use restrictions will be recorded in the appropriate Barter Island LRRS land records, including the Base Master Plan. • Institutional controls will remain in effect for as long as the contaminated media exceeds ADEC unrestricted use criteria (e.g., 18 AAC 75.341, ADEC Method Two cleanup levels). The USAF is responsible for enforcing institutional controls and the USAF will monitor the effectiveness of the institutional control. The USAF will provide an annual report regarding institutional control monitoring to ADEC with copies filed in the administrative record and information repository. • The USAF will provide prompt notification to ADEC of institutional control deficiency/failure along with corrective measures taken. The USAF will obtain regulatory concurrence of significant changes to use and activity restrictions. The USAF will provide prior notification to ADEC for transfer of property subject to institutional controls. • Monitoring of TCE and related degradation byproduct (i.e., cis-1,2-dichloroethene, vinyl chloride, and 1,1-dichloroethene) concentrations in surface water adjacent to SS013. Surface water sampling is proposed to begin within one year of authorization of this ROD. If TCE and byproduct concentrations are determined to be below AWQS for two consecutive sampling events, then no additional surface water monitoring will be required. If concentrations continue to exceed AWQS, institutional controls will remain in effect. Additional monitoring will be completed at a minimum frequency of once every five years until the concentrations drop below the AWQS. Surface water results will be reported as part of the CERCLA 5-Year Review.

Barter_Island-SS017.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	757
SITIRP_ID	SS017
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	cancer <1X10 ⁻⁵ ; HI<1
ALIAS	ST17
SITE_NAME	POL Tanks
SITE_DESCRIPTION	Site SS017 is located northeast of Module Train D and west of the POL Catchment (LF003). The site contained six approximately 200,000-gallon ASTs and associated piping, each within a lined containment berm. The six ASTs located at Site SS017 were demolished and removed from the site in August, 2006.
MEDIA_ID	SS017
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	1953 to present
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	<p>The selected remedy for SS013 will protect human health and the environment, and allow for continued industrial site use. The major components of the selected remedy in this ROD are as follows:</p> <ul style="list-style-type: none"> • Capping of the area beneath the former Heated Storage building to prevent exposure to contaminated soil and migration of PCBs. • Maintenance of the cap placed over the PCB-contaminated soil for as long as PCB concentrations exceed 1 mg/Kg. • Implementation of institutional controls restricting land use in the vicinity of the former Heated Storage building and surface water use restrictions at the pond west of the Heated Storage building to achieve remedial action objectives. Institutional controls will include installation of signs warning of the presence of soil and surface water contamination exceeding ADEC cleanup levels under 18 AAC 75.341. The operator will utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives. • Notations regarding land use restrictions will be recorded in the appropriate Barter Island LRRS land records, including the Base Master Plan. • Institutional controls will remain in effect for as long as the contaminated media exceeds ADEC unrestricted use criteria (e.g., 18 AAC 75.341, ADEC Method Two cleanup levels). The USAF is responsible for enforcing institutional controls and the USAF will monitor the effectiveness of the institutional control. The USAF will provide an annual report regarding institutional control monitoring to ADEC with copies filed in the administrative record and information repository. • The USAF will provide prompt notification to ADEC of institutional control deficiency/failure along with corrective measures taken. The USAF will obtain regulatory concurrence of significant changes to use and activity restrictions. The USAF will provide prior notification to ADEC for transfer of property subject to institutional controls. • Monitoring of TCE and related degradation byproduct (i.e., cis-1,2-dichloroethene, vinyl chloride, and 1,1-dichloroethene) concentrations in surface water adjacent to SS013. Surface water sampling is proposed to begin within one year of authorization of this ROD. If TCE and byproduct concentrations are determined to be below AWQS for two consecutive sampling events, then no additional surface water monitoring will be required. If concentrations continue to exceed AWQS, institutional controls will remain in effect. Additional monitoring will be completed at a minimum frequency of once every
POC	Lori Roy (AFCEC-CZOP), 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-7697
CHEMICALS_OF_CONCERN	None
MODIFIED_DATE	20110307
CONTAMINATION_SOURCE	leaks associated with ASTs
SITEID	SS017
INSTLN_ID	BI
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil; Property records/Base Plan documentation

Barter_Island-SS017.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS017
SITE_NAME	POL Tanks
DATE_SUMM	3/7/2011
CURRENT STATUS	Cleanup Complete - Institutional Controls
SITE STATUS	Cleanup Complete - Institutional Controls
POCID	Lori Roy (AFCEC-CZOP), 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	Site SS017 is located northeast of Module Train D and west of the POL Catchment (LF003) at 70°07'54"N and 151°38'09"W. These are the coordinates of sample point ST10, located near the approximate center of the site. Arctic-grade diesel was the only petroleum oil and lubricant product stored at Site SS017. The site contained six approximately 200,000-gallon ASTs and associated piping, each within a lined containment berm. The six ASTs located at Site SS017 were demolished and removed from the site in August, 2006 as part of the Clean Sweep Program.
GEO_HYDRO	The current post-demolition topography of the site is generally level with no gradient. Prior to the removal of the Tanks from SS017, precipitation and snowmelt in the bermed containment area was confined within each lined compartment. The berms were drained by a network of pipes, which were blocked for some years prior to the site being decommissioned. Water either evaporated from the lined area or was drained after inspection for spills. Following the removal of the tanks from SS017, the containment berms were leveled and most of the fill removed from the site. Surface water is no longer likely to collect and pond at the site. Subsurface water was encountered 3 feet below ground surface next to the pumphouse, and 1 foot bgs between the pumphouse and main gravel pad. Active zone transport probably occurs between the top of the water table and the permafrost. However, the transport is slow since the surface gradient is low.
COC	None
INVESTIGATION_ACTIONS	Remedial investigations of SS017 were conducted in 1993, 2003, and 2005. As part of the 1993 RI, SS017 was investigated as a possible source area of fuel contamination for the downgradient POL Catchment (LF003) site. During the 2003 RI, soil, sediment and surface water samples were collected from SS017 and in the vicinity of downgradient of LF003. Soil samples were collected from above the liner within SS017 and near the pumphouse. As part of the 2005 RI, samples were collected from below the liner at SS017.
FINAL_REM_ACTION	Based on the current concentrations of petroleum contaminants remaining at SS017, the site has been selected for no further action and conditional closure under Alaska State Laws and regulations. Specifically, ADEC approval is required prior to disposing or transporting soil from the site (18 AAC 75.325(i)). In addition, soil may not be disposed in surface water or other environmentally sensitive areas. A notice will be included in the Base Master Plan noting the requirement for DEC approval prior to disposal or transport of the soil and this restriction will be included in the Real Estate transfer documents if the land is transferred.
CONT_RISK	The current site conditions meet the ADEC risk management standards (risk from hazardous substances does not exceed a cumulative carcinogenic risk of 1 in 100,000 and a cumulative non-carcinogenic hazard index of 1.0) for residential land use.
RATIONALE	
RECOMMENDATIONS	
REFERENCES	<p>United States Air Force (USAF). 1996. <i>Decision Document for No Further Response Action Planned, Barter Island Radar Installation, Alaska</i>. Final. May. (1996 NFRAP)</p> <p>United States Air Force (USAF). 2007. <i>Decision Document for No Further Response Action Planned, Barter Island Radar Installation, Alaska</i>. Final. May. (2007 NFA DD)</p> <p>The selected remedy for SS013 will protect human health and the environment, and allow for continued industrial site use. The major components of the selected remedy in this ROD are as follows:</p> <ul style="list-style-type: none"> • Capping of the area beneath the former Heated Storage building to prevent exposure to contaminated soil and migration of PCBs. • Maintenance of the cap placed over the PCB-contaminated soil for as long as PCB concentrations exceed 1 mg/Kg. • Implementation of institutional controls restricting land use in the vicinity of the former Heated Storage building and surface water use restrictions at the pond west of the Heated Storage building to achieve remedial action objectives. Institutional controls will include installation of signs warning of the presence of soil and surface water contamination exceeding ADEC cleanup levels under 18 AAC 75.341. The operator will utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives. • Notations regarding land use restrictions will be recorded in the appropriate Barter Island LRRS land records, including the Base Master Plan. • Institutional controls will remain in effect for as long as the contaminated media exceeds ADEC unrestricted use criteria (e.g., 18 AAC 75.341, ADEC Method Two cleanup levels). The USAF is responsible for enforcing institutional controls and the USAF will monitor the effectiveness of the institutional control. The USAF will provide an annual report regarding institutional control monitoring to ADEC with copies filed in the administrative record and information repository. • The USAF will provide prompt notification to ADEC of institutional control deficiency/failure along with corrective measures taken. The USAF will obtain regulatory concurrence of significant changes to use and activity restrictions. The USAF will provide prior notification to ADEC for transfer of property subject to institutional controls. • Monitoring of TCE and related degradation byproduct (i.e., cis-1,2-dichloroethene, vinyl chloride, and 1,1-dichloroethene) concentrations in surface water adjacent to SS013. Surface water sampling is proposed to begin within one year of authorization of this ROD. If TCE and byproduct concentrations are determined to be below AWQS for two consecutive sampling events, then no additional surface water monitoring will be required. If concentrations continue to exceed AWQS, institutional controls will remain in effect. Additional monitoring will be completed at a minimum frequency of once every five years until the concentrations drop below
STATUS	

Barter_Island-ST018.ENV REST_SITE SUMMARY	
OBJECTID	
HAZSITE_ID	4037
SITIRP_ID	ST018
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	cancer -residential soil = 0; HI = 2.9; industrial HI = 0.28
ALIAS	ST18
SITE_NAME	Fuel Tanks
SITE_DESCRIPTION	ST018 is located on a gravel pad east of the main installation on the main road between the installation and the village of Kaktovik (70° 07'52"N latitude and 143° 43'46"W Longitude) at the approximate location of soil sample 05 (SS05). Prior to demolition in August 2006 as part of the Clean Sweep Program, ST018 contained six inactive 10,000-gallon fuel tanks within a lined containment area. The tanks located on each end of the facility were on raised wood and metal stands and were used for motor vehicle fueling. The four remaining tanks were located between the two end tanks. Five of the tanks, including the raised tank on the east end of ST018 contained gasoline. The raised tank on the west end of ST018 contained diesel fuel. The south side of ST018 is bordered by tundra and is located approximately 1,500 feet from the nearest residential structures in the village of Kaktovik. In August 2006, the tanks and the containment berms were removed from ST018. Only the original pad and a small section of containment berm remain at the site.
MEDIA_ID	ST018
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Unknown start date to some time between 1993 and 1998
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	The selected remedy for SS013 will protect human health and the environment, and allow for continued industrial site use. The major components of the selected remedy in this ROD are as follows: <ul style="list-style-type: none"> • Capping of the area beneath the former Heated Storage building to prevent exposure to contaminated soil and migration of PCBs. • Maintenance of the cap placed over the PCB-contaminated soil for as long as PCB concentrations exceed 1 mg/Kg. • Implementation of institutional controls restricting land use in the vicinity of the former Heated Storage building and surface water use restrictions at the pond west of the Heated Storage building to achieve remedial action objectives. Institutional controls will include installation of signs warning of the presence of soil and surface water contamination exceeding ADEC cleanup levels under 18 AAC 75.341. The operator will utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives. • Notations regarding land use restrictions will be recorded in the appropriate Barter Island LRRS land records, including the Base Master Plan. • Institutional controls will remain in effect for as long as the contaminated media exceeds ADEC unrestricted use criteria (e.g., 18 AAC 75.341, ADEC Method Two cleanup levels). The USAF is responsible for enforcing institutional controls and the USAF will monitor the effectiveness of the institutional controls. The USAF will provide periodic monitoring and institutional control reports.
POC	Lori Roy (AFCEC-CZOP), 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-7697
CHEMICALS_OF_CONCERN	Xylenes
MODIFIED_DATE	20110307
CONTAMINATION_SOURCE	leaks/spills
SITEID	ST018
INSTLN_ID	BI
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil; Property records/Base Plan documentation

Bear_Creek-LF001.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	792
SITIRP_ID	LF001
SITE_STATUS	Institutional controls implemented in 2013. Site will receive Cleanup Complete with Institutional Controls in 2015.
BOUNDARY_STATUS	Surveyed
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	There is no potentially unacceptable risk to human health in the current or future land use scenarios.
ALIAS	NA
SITE_NAME	Landfill No. 1
SITE_DESCRIPTION	Landfill No. 1 (LF001) is an unlined solid waste disposal area located 1,000 feet west of the Bear Creek RRS main facility, on property that is not controlled by the USAF. The site was capped by an 18-inch soil and vegetative cap in 1997.
MEDIA_ID	LF001
BOUNDARY_DETAILS	Surveyed
DATES_OPERATION	1956 to 1981
CATEGORY	ERP
AREA_ACRES	1.87
ACTIVITY	Active
LUC_RESTRICTION	<p>Institutional Controls include:</p> <ul style="list-style-type: none"> - Document the site's previous use as an unpermitted landfill - Delineate and survey the boundary of the institutional controls at Site LF001 to obtain a property description suitable for recording purposes. The IC boundary is expected to encompass the landfill area shown on Figures 2-2 and 2-3 of the 2011 ROD. - Establish ICs to meet the requirements of 18 AAC 75.341 Table B1 (Note 9). Document the presence of the protective soil and vegetative cap. (An 18-inch soil cap was placed over the site in 1997 and revegetated. Subsequent site inspections have documented that the capping and revegetation was successful). - Document the IC at the District Recorder's office (including a map indicating IC locations, a survey, and GPS coordinates). Provide the landowner with copies of the survey or figures showing the location and boundaries of the landfill and documents recorded, and work with the landowner to incorporate the information into its land use planning tools. - Maintain the cap over the site in accordance with State of Alaska solid waste regulations. Cap maintenance will include inspections and periodic repair of the vegetated 18-inch soil cap placed over the site in 1997. - Require notification of ADEC prior to the commencement of any excavation activities within the landfill boundaries; -Require that any person conducting excavations within LF001 include procedures to screen excavated soils for possible contamination. If encountered, manage contaminated soils in accordance with applicable State of Alaska regulations; - Periodic inspections, monitoring, and reporting of the ICs will be performed annually for the first 5 years and then once every 5 years to ensure that the remedy remains protective of human health and the environment. If any problems or deficiencies with the landfill cap integrity are detected, the USAF will perform the required maintenance to correct the deficiencies. Furthermore, the USAF will promptly notify ADEC if monitoring detects any condition, change of land use, or activity that is inconsistent with the ICs.
POC	Robert Johnston (AFCEC-CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	PCBs
MODIFIED_DATE	20120105
CONTAMINATION_SOURCE	Landfill
SITEID	LF001
INSTLN_ID	BK
MAINTENANCE	Landfill cap inspections and repair; LUC inspections
RESTRICTIONS	No unauthorized digging/excavation; Property records/Base Plan documentation

Bear_Creek-LF001.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	LF001
SITE_NAME	Landfill No. 1
DATE_SUMM	1/5/2012
CURRENT_STATUS	Institutional controls implemented in 2013. Site will receive Cleanup Complete with Institutional Controls in 2015.
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC-CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	Landfill No. 1 (LF001) is an unlined solid waste disposal area located 1,000 feet west of the Bear Creek RRS main facility, on property that is not controlled by the USAF. The site was capped by an 18-inch soil and vegetative cap in 1997. LF001 was used as an unpermitted landfill for Bear Creek RRS between 1956 and 1981. Typical wastes deposited at the landfill reportedly included fuels, waste oil, metals, and domestic solid waste. Also, empty rusted barrels, miscellaneous non-liquid electrical equipment, and metal debris collected during cleanup activities at other Bear Creek RRS sites were reportedly buried at LF001 in 1981 through 1984.
GEO_HYDRO	Groundwater has not been encountered at the ridge top area of the former Bear Creek RRS installation. Attempts to install monitoring wells in this area have not been successful, and borings as deep as 41 feet bgs did not encounter a rechargeable groundwater source. Although water has been encountered in some soil borings at Bear Creek RRS, the water is considered "pore water" (defined as a discontinuous volume of water trapped in the pore spaces of subsurface soil and bedrock material) rather than groundwater. The pore water is not connected to any continuous groundwater, and when bailed out of the soil borings, insignificant recharge occurred. Based on these observations, groundwater is not considered to be a medium of potential environmental concern at this installation.
COC	PCBs in soil
INVESTIGATION_ACTIONS	<p>Beginning with a 1981-1982 hazardous materials inspection and continuing through a 2005-2006 RI, the USAF has conducted investigations of the Bear Creek RRS area to determine if former installation operations caused environmental impacts. Historical site investigation events for Landfill No. 1 are summarized below:</p> <ul style="list-style-type: none"> - Equipment and Hazardous Waste Removals. In 1981 and 1982, the USAF inspected Bear Creek and other former White Alice installations. Hazardous and toxic materials and wastes and most moveable equipment were shipped off-site to Elmendorf AFB. -Preliminary Assessment, Bear Creek Radio Relay Station (HMTC, 1989). The PA was performed by the HMTC in June 1988. The work scope included a site visit, a records search, and the acquisition of available geologic, hydrologic, meteorologic, land use, and critical habitat data from federal, state, and local agencies. HMTC reported that the electrical equipment, batteries, fuels, and PCB-contaminated soil and equipment had been removed from Bear Creek RRS. Although there were no visible signs of contamination evident at Bear Creek RRS, further investigation was recommended. - Site Investigation, Bear Creek Radio Relay Station (USAF [ENSR], 1993). In 1992 and 1993, ENSR performed an SI at Bear Creek RRS. In August 1992, ENSR collected several soil samples from Landfill No. 1 (referred to as the Solid Waste Disposal Area in the SI report). The sample results suggested possible PCB contamination. The SI recommended further investigation. - Remedial Investigation Report for the Bear Creek Radio Relay Station (USAF [Radian], 1999). The RI included site reconnaissance, field screening, soil sampling, and surveying of sample points. A phased approach was used for sampling activities. Field reconnaissance and a review of historical information were used to identify field screening locations, and field screening results were used to identify locations for collecting samples for laboratory analysis.

Bear_Creek-LF001.ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>The selected remedy entails excavation and off-site disposal of soil contaminated with PCBs above the regulatory limit of 1 mg/Kg. Specifically, the following components are included:</p> <ul style="list-style-type: none"> - To delineate the area with PCBs above 1 mg/Kg, a sample grid will be established. Details of the sample grid will be provided in a work plan that will be developed after the ROD is signed and approved by ADEC before work commences. - The assumed volume of soil requiring excavation is approximately 60 cubic yards (cy), based on a 20-foot by 20-foot excavation area and an excavation depth of 4 feet bgs. This assumed excavation volume was the basis for the cost estimate in the FS, although the actual excavation volume will be dependent upon sample grid results. - Excavation confirmation samples will be taken at a frequency and locations to be determined in the ADEC-approved work plan. - The excavated soil will be shipped out-of-state for disposal at a permitted facility in the continental United States. The excavated soil will be characterized by sampling in accordance with the ADEC-approved work plan. Any solid waste commingled with the excavated soil will be disposed in accordance with applicable regulations. - The excavation will be backfilled and compacted with clean backfill from a local borrow source. - The excavation area will be capped with 18-inches of clean soil and revegetated with native plants. Plants which are considered prohibited and restricted noxious weeds per http://dnr.alaska.gov/ag/RevegManual.pdf will not be used to revegetate the excavation area. The selected remedy also include establishment of ICs, maintenance of the soil and vegetative cap, and periodic reporting.
CONT_RISK	<p>Risk calculations were not performed for LF001, because there is no complete exposure pathway to the contamination.</p> <ul style="list-style-type: none"> - In the current land use scenario (recreational), there is no complete exposure pathway to PCBs in subsurface soil. -In the future land use scenario, access to subsurface contamination could be restricted by the use of ICs. There is no potentially unacceptable risk to human health in the current or future land use scenarios.
RATIONALE	
RECOMMENDATIONS	
REFERENCES	<p>United States Air Force (USAF). 2011. <i>Record Of Decision, Landfill No. 1 (LF001), Bear Creek RRS, Alaska</i>. Final. May. (2011 ROD) Contaminated Sites Database (accessed 1/5/2012).</p>
STATUS	

Bethel_SS001_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS001
SITE_NAME	POL Storage Area
DATE_SUMM	10/21/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	SS001, also called "the POL Pad," was the former storage location and distribution center for RRS fuels such as diesel and other petroleum products. The POL Storage Area was a 90-by-90-foot gravel pad 100 feet north of the PAD Area and just west of the access road. Two 550-barrel ASTs, associated piping, and a pump station were in this area. All equipment and structures associated with the former POL storage area were removed during the RRS demolition in 1990. The surface of this area has been reclaimed by native vegetation.
GEO_HYDRO	Groundwater in Bethel is obtained from floodplain and low-terrace alluvial deposits of the Kuskokwim River in permafrost-free areas near the river and from deep sands beneath the permafrost. The floodplain and low terraces are bounded on the west by a terrace escarpment that separates these deposits from an older portion of the Yukon-Kuskokwim Delta and a portion of the coastal lowland.
COC	PCBs in soil and DRO in groundwater
INVESTIGATION_ACTIONS	The 1991 SI determined that a release of petroleum hydrocarbons associated with the fuel ASTs and the pump house had occurred. The investigation also concluded that petroleum hydrocarbon contamination had affected both subsurface soils and groundwater in the area. Subsequent sampling of the groundwater in 1998, 1999, and 2000 continued to detect petroleum hydrocarbons in the groundwater. The objectives of the 2007 RI at Site SS001 included sampling to assess levels of contamination in the soil and groundwater, to characterize non-aqueous phase liquid, and to determine whether contaminants may have migrated offsite. Soil was also sampled in areas of concern as part of the 2007 RI. All sample results were below ADEC Method 2 cleanup levels. Groundwater samples collected from one existing groundwater well in the POL Pad area contained concentrations of DRO above the ADEC Method 2 cleanup level. Recoverable petroleum product was not encountered or observed in the well. Site SS001 currently contains approximately 70 cubic yards of stockpiled soil with low concentrations of PCBs (1 to 8.5 mg/kg) excavated from Site SS009.

Bethel_SS001_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>The major components of the selected remedy under CERCLA are listed below:</p> <ul style="list-style-type: none"> - Dispose of 70 cubic yards of PCB-contaminated soil in an offsite disposal facility approved to receive low-level PCB waste. - Employ LUCs to maintain soil cap, to prevent direct exposure and water infiltration, and prevent the use of contaminated soil for restricted uses in the event of excavation. Listed below are specific LUCs identified to meet these performance objectives: <ul style="list-style-type: none"> * Install fencing and signage around the existing soil cap to maintain the cap and prevent unauthorized access. * Visually monitor the soil cap for signs of settlement, subsidence, erosion, or other such events once every 5 years or until ADEC approves discontinuation of visual monitoring. * Utilize the Air Force dig permit and construction review process to accomplish the following: avoid activities that could breach the landfill cover, avoid ground disturbing construction activities, ensure safe soil managements procedures, and prohibit handling (e.g., excavation or transport) of contaminated soil without prior ADEC approval. * Document ROD land use limitations and prohibitions in Air Force Real Property Records, Bethel RRS General Plan, 611 CES IRP Records and Land Use Management Plan.
	<ul style="list-style-type: none"> * AF will provide advance notice to ADEC of property transfer at Bethel RRS. <p>The selected remedy under State of Alaska Regulations is natural attenuation with LUCs. The major components of the selected remedy are listed below:</p> <ul style="list-style-type: none"> - Sample groundwater for DRO from monitoring well MW-19RRS (or other mutually agreed upon monitoring wells) biennially for at least three consecutive sampling events to ensure contaminant concentrations are decreasing. Groundwater sampling of monitoring well MW-19RRS will be conducted starting in 2012, year 1 of this ROD. An interim monitoring report will be submitted to ADEC after each of the first two biennial monitoring events. At the conclusion of the third biennial monitoring event, a performance report will be submitted to ADEC summarizing the results of all past monitoring events. A determination will be made by ADEC, after review of the performance report, as to whether further monitoring of the groundwater will be required. - Utilize the Air Force dig permit and construction review process to limit/prohibit excavation or drilling at Site SS001. Obtain ADEC approval before removing or disposing of contaminated soil or groundwater at the site. - Document ROD-established land use limitations in Air Force Real Property Records, Bethel RRS General Plan, and 611 CES IRP Records and LUC Management Plan.
CONT_RISK	<p>Based on current conditions, calculated cumulative human health risk of soil and groundwater for SS001 is not greater than the cumulative carcinogenic risk standard established in State of Alaska regulations of 1 in 100,000 (1×10^{-5}) across all exposure pathways, and a cumulative noncarcinogenic risk standard at a hazard index of 1 across all exposure pathways. DRO is excluded from the cumulative risk calculations according to ADEC Cumulative Risk Guidance (ADEC, 2008c). DRO is present in groundwater above the Method 2 cleanup level, and by definition, poses a risk to human health and the environment.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES	<p>United States Air Force (USAF). 2011. Bethel Radio Relay Station, Alaska Record Of Decision. Final. August. (2011 ROD) Contaminated Sites Database (accessed 10/21/2011).</p>
STATUS	

Bethel_SS001_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2831
SITIRP_ID	SS001
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Human: <10X-5, HI<1; Ecological: none
ALIAS	the POL Pad; SS01
SITE_NAME	POL Storage Area
SITE_DESCRIPTION	SS001 was the former storage location and distribution center for RRS fuels such as diesel and other petroleum products.
MEDIA_ID	SS001
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	January 1958 to 1979 (for installation)
CATEGORY	IRP
AREA_ACRES	0.19
ACTIVITY	Active
LUC_RESTRICTION	<p>Employ LUCs to maintain soil cap, to prevent direct exposure and water infiltration, and prevent the use of contaminated soil for restricted uses in the event of excavation. Listed below are specific LUCs identified to meet these performance objectives:</p> <ul style="list-style-type: none"> - Install fencing and signage around the existing soil cap to maintain the cap and prevent unauthorized access. - Visually monitor the soil cap for signs of settlement, subsidence, erosion, or other such events once every 5 years or until ADEC approves discontinuation of visual monitoring. - Utilize the Air Force dig permit and construction review process to accomplish the following: avoid activities that could breach the landfill cover, avoid ground disturbing construction activities, ensure safe soil managements procedures, and prohibit handling (e.g., excavation or transport) of contaminated soil without prior ADEC approval. - Document ROD land use limitations and prohibitions in Air Force Real Property Records, Bethel RRS General Plan, 611 CES IRP Records and Land Use Management Plan. AF will provide advance notice to ADEC of property transfer at Bethel RRS.
POC	Robert Johnston (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	PCBs in soil and DRO in groundwater
MODIFIED_DATE	20111021
CONTAMINATION_SOURCE	Release of petroleum hydrocarbons associated with the fuel ASTs and the pump house. Stockpile soil with low PCBs concentrations excavated from Site SS009.
SITEID	SS001
INSTLN_ID	BT
MAINTENANCE	Visual monitoring; Groundwater monitoring; Fence maintenance and repairs; Sign maintenance and repairs
RESTRICTIONS	No unauthorized site access; No landfill cap/liner disturbance; No unauthorized digging/excavation; Property records/Base Plan documentation

Big_Mountain-LF005.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	77
SITIRP_ID	LF005
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	groundwater as drinking water >1X10-5
ALIAS	POI-5
SITE_NAME	Landfill
SITE_DESCRIPTION	The landfill was used during the operation of the Big Mountain RRS. The landfill area, which has been covered and graded over, is located adjacent to the creek north of the runway.
MEDIA_ID	LF005
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Installation - 1957-1979
CATEGORY	IRP
AREA_ACRES	just over 2 acres
ACTIVITY	Active
LUC_RESTRICTION	Institutional controls will be used to restrict excavations and other subsurface activities in the landfill.
POC	Lori Roy (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-7697
CHEMICALS_OF_CONCERN	None identified
MODIFIED_DATE	20110504
CONTAMINATION_SOURCE	Landfill
SITEID	LF005
INSTLN_ID	BM
MAINTENANCE	Landfill cap inspections and repair; LUC inspections; Sign maintenance and repairs
RESTRICTIONS	Property records/Base Plan documentation

Big Mountain-LF005.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	LF005
SITE_NAME	Landfill
DATE_SUMM	5/4/2011)
CURRENT STATUS	Open
SITE STATUS	Active
POCID	Lori Roy (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	The landfill was used during the operation of the Big Mountain RRS. The landfill area, which has been covered and graded over, is located adjacent to the creek north of the runway. The landfill limits are confined by a beaver pond to the north, a steep glacial moraine to the south, and a creek to the west that emanates from the beaver pond and flows away from the landfill area.
GEO_HYDRO	Groundwater and surface water have not been encountered at the Upper Camp. A thin layer of rocky soil covers bedrock, with no permanent water table. However, during installation operations, potable water and fire protection resources for Upper Camp were reportedly provided by a well located in bedrock (230 feet bgs) approximately 1,000 feet west and downslope of Upper Camp at former Building 1004 (Water Supply Facility, ERP Site SS017). The well has not been used since 1979 and was abandoned in accordance with ADEC guidelines in 2004. Surface water drainage at Upper Camp is generally by overland flow down the mountain. Shallow groundwater and surface water are present at the Lower Camp. Boreholes advanced at the Lower Camp during RI activities encountered water at depths ranging from 1.5 to 25 feet below ground surface (bgs). Generally, groundwater flow at the Lower Camp sites mimics topography and trends northwest. However, a groundwater gradient of 0.08 feet/feet with a south to southwesterly groundwater flow direction was measured at the Lower Camp landfill (LF005). This indicates that the pond may recharge the surrounding shallow water table aquifer under certain conditions (i.e. heavy rainfall or snow melt runoff).
COC	None identified
INVESTIGATION_ACTIONS	<p>The following is a list of environmental reports and technical memorandums published as a result of various environmental restoration efforts performed at the Big Mountain RRS under the USAF IRP:</p> <ul style="list-style-type: none"> * Hazardous Substance Investigation at Big Mountain White Alice Communications Systems Site (DOWL, 1983). * Preliminary Assessment of Big Mountain Radio Relay Station (HMTC, 1989). * Preliminary Assessment of Big Mountain Radio Relay Station (SAIC, 1993). * Environmental Baseline Study at the Big Mountain Proposed Communications Relay Site (DOWL, 1995). * Final Environmental Assessment of Big Mountain Radio Relay Station Demolition (ENSR, 1996). * Site Characterization Technical Memorandum (Dowl/Ogden, 1998). *Community Relations Plan (Dowl/Ogden, 1996). * Final Clean Sweep Management Action Plan (Montgomery Watson, 1998). * Final Remedial Investigation/Feasibility Study (Dowl/Ogden, 2001). <p>During 2001 RI/FS, groundwater samples were analyzed for petroleum hydrocarbons (DRO, RRO, and PAHs), VOCs, semivolatle organic compounds (SVOCs), pesticides, PCBs, metals, nitrate/nitrite, sulfate, and chloride. Detections above preliminary cleanup levels are discussed below:</p> <ul style="list-style-type: none"> *Groundwater - Groundwater samples were collected from five permanent monitoring wells installed at the landfill. No soil samples were collected. Four monitoring wells were installed downgradient or cross-gradient from the landfill, and one well was installed upgradient of the landfill to establish background conditions. Several VOCs and metals were detected in groundwater samples at levels exceeding preliminary cleanup levels (i.e. 1,3-dichlorobenzene, 1,4-dichlorobenzene, aluminum, barium, beryllium, chromium, iron, lead, manganese, nickel, and vanadium). <p>Findings Groundwater - Several VOCs and metals were detected in groundwater at concentrations above preliminary cleanup levels.</p>

Big Mountain-LF005.ENV SITE SUMMARY IRP

FINAL_REM_ACTION	<p>A limited landfill cap and additional assessment activities is the interim remedy selected for site LF005. The interim remedy includes the following components:</p> <ul style="list-style-type: none"> * The landfill cap repair will include removal or covering of debris evident at the surface, placing of additional soil where the cover material is thin, grading the cover to minimize ponding, and revegetation of the cover. * Three to five additional groundwater monitoring wells will be installed to monitor any potential groundwater impacts from possible leachate from buried debris at the landfill. A final groundwater remedy, if necessary, will be identified after the additional monitoring results have been evaluated. * An ecological risk assessment will be performed near the landfill. A minimum of three additional surface water and sediment samples will be collected in conjunction with the ecological risk assessment. A final surface water/sediment remedy, if necessary, will be identified after the ecological risk assessment results have been evaluated. * Long-term annual groundwater, surface water, and sediment monitoring with a five-year review (consistent with 42 USC 9621(c)) will be performed. * Institutional controls will be used to restrict excavations and other subsurface activities in the landfill.
CONT_RISK	<p>A risk evaluation concluded that potential carcinogenic and noncarcinogenic risks above threshold levels may be present due to exposure to metals, 1,4-dichlorobenzene, and 1,3-dichlorobenzene in groundwater at LF005.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>United States Air Force (USAF). 2002. Decision Document for Interim Remedial Action Four IRP Sites at the Big Mountain Radio Relay Station , Alaska, Sites: 42,400-Gallon Fuel Oil AST (ST001), 1,000-Gallon Fuel Oil AST (SS002), Dual AST System (SS014), Landfill (LF005). November. (2002 DD-IRA)</p> <p>United States Air Force (USAF). 2008. Record Of Decision for 1,000-Gallon Fuel Oil AST (SS002), Auto Maintenance Shop and Flight Operations Bldg. (SS003), 1,000-Gallon Motor Vehicle Gasoline (MOGAS) AST (SS004), Temporary Auto Storage Building (SS011), Dual Fuel Oil AST System (126,000-gallon) (SS014), Three Thousand Gallon AST System (SS016), Well and Pump House (SS017), Big Mountain Radio Relay Station, Alaska (Big Mountain RRS). Final June. (2008 ROD).</p> <p>Contaminated Sites Database (accessed 5/4/2011)</p>
STATUS	

Big_Mountain_SS002_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	75
SITIRP_ID	SS002
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	<1X10-5; HI<1
ALIAS	1,000-gal Fuel AST
SITE_NAME	1,000-gallon diesel AST
SITE_DESCRIPTION	1,000-gallon aboveground storage tank system used to store fuel oil for generators and heating systems associated with the Automotive Maintenance Shop and Flight Operations buildings.
MEDIA_ID	SS002
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	September 1957 - April 1979 (Installation)
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	Institutional Controls consist of excavation and construction restrictions within the site boundaries and documentation that soil is impacted above levels allowing unrestricted use.
POC	Lori Roy (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-7697
CHEMICALS_OF_CONCERN	COPC Only: DRO
MODIFIED_DATE	20110404
CONTAMINATION_SOURCE	Historic fuel spills
SITEID	SS002
INSTLN_ID	BM
MAINTENANCE	LUC inspections
RESTRICTIONS	No unauthorized digging/excavation; No unauthorized transport or disposal of soil; no inappropriate land use; Property records/Base Plan documentation

Big Mountain_SS002_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS002
SITE_NAME	Auto Maintenance Flight Operations Warehouse
DATE_SUMM	4/4/2011
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Lori Roy (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	Site SS002 is located approximately ten feet north of the former Flight Operations Building at Lower Camp, adjacent to the Upper Camp Access road. The 1,000-gallon aboveground storage tank system was used to store fuel oil for generators and heating systems associated with the Automotive Maintenance Shop and Flight Operations buildings. Site investigation activities discovered petroleum contamination in the soil at this site. There is no documentation of the contamination source, but the contamination is consistent with one or more historic fuel spills.
GEO_HYDRO	Groundwater and surface water have not been encountered at the Upper Camp. A thin layer of rocky soil covers bedrock, with no permanent water table. However, during installation operations, potable water and fire protection resources for Upper Camp were reportedly provided by a well located in bedrock (230 feet bgs) approximately 1,000 feet west and downslope of Upper Camp at former Building 1004 (Water Supply Facility, ERP Site SS017). The well has not been used since 1979 and was abandoned in accordance with ADEC guidelines in 2004. Surface water drainage at Upper Camp is generally by overland flow down the mountain. Shallow groundwater and surface water are present at the Lower Camp. Boreholes advanced at the Lower Camp during RI activities encountered water at depths ranging from 1.5 to 25 feet bgs. Generally, groundwater flow at the Lower Camp sites mimics topography and trends northwest. However, a groundwater gradient of 0.08 feet/feet with a south to southwesterly groundwater flow direction was measured at the Lower Camp landfill (LF005). This indicates that the pond may recharge the surrounding shallow water table aquifer under certain conditions (i.e. heavy rainfall or snow melt runoff).
COC	COPC Only: DRO
INVESTIGATION_ACTIONS	Soil and groundwater samples were collected from SS002 during environmental investigations in 1998 and 2004, confirmation soil samples were collected at the limits of the 2005 excavation, and groundwater samples were collected in 2006 and 2007. The 2005 excavation removed most of the soil contamination above ADEC Method Two cleanup levels; therefore, only the 2005 confirmation soil samples and previous sample results outside of the 2005 excavation limits are representative of current site conditions.
FINAL_REM_ACTION	Institutional Controls consisting of excavation and construction restrictions within the site boundaries and documentation that soil is impacted above levels allowing unrestricted use. Specifically, the USAF will implement the ICs by taking the following actions: <ul style="list-style-type: none"> * Delineate the boundaries of soil with DRO above Method Two cleanup levels. * The boundaries of soil with DRO above Method Two cleanup levels will be surveyed for State of Alaska and USAF Real Property Records. * Document the ICs in USAF's Real Property Records. The Real Property Records will contain a map indicating IC locations. * Notify ADEC prior to making any major changes to the ICs. The 611th Civil Engineer Squadron (CES) is the point of contact for the IC. * ICs will stay in effect until DRO reaches State of Alaska Cleanup Levels protective of unrestricted use (i.e. ADEC Method Two cleanup levels for soil) at the site.
CONT_RISK	No unacceptable risk to human health and no complete exposure pathways for ecological receptors.
RATIONALE	
RECOMMENDATIONS	
REFERENCES	United States Air Force (USAF). 2008. Record Of Decision for 1,000-Gallon Fuel Oil AST (SS002), Auto Maintenance Shop and Flight Operations Bldg. (SS003), 1,000-Gallon Motor Vehicle Gasoline (MOGAS) AST (SS004), Temporary Auto Storage Building (SS011), Dual Fuel Oil AST System (126,000-gallon) (SS014), Three Thousand Gallon AST System (SS016), Well and Pump House (SS017), Big Mountain Radio Relay Station, Alaska (Big Mountain RRS). Final June. (2008 ROD). Contaminated Sites Database (accessed 4/4/2011)
STATUS	

Big Mountain_SS014_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	82
SITIRP_ID	SS014
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	<1X10 ⁻⁵ ; HI<1
ALIAS	POI-14
SITE_NAME	Dual AST Fuel Oil System (fuel oil)
SITE_DESCRIPTION	The system included two 126,000-gallon ASTs and aboveground and belowground piping within a bermed containment area. The ASTs reportedly held only fuel oil.
MEDIA_ID	SS014
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	September 1957 - April 1979 (Installation)
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	Institutional Controls consist of excavation and construction restrictions within the site boundaries and documentation that soil is impacted above levels allowing unrestricted use.
POC	Lori Roy (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-7697
CHEMICALS_OF_CONCERN	COPC Only: DRO
MODIFIED_DATE	20110404
CONTAMINATION_SOURCE	Leaks from fueling activities and a buried pipeline.
SITEID	SS014
INSTLN_ID	BM
MAINTENANCE	LUC inspections
RESTRICTIONS	No unauthorized digging/excavation; No unauthorized transport or disposal of soil; No unauthorized construction; Property records/Base Plan documentation

Big Mountain_SS014_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS014
SITE_NAME	Dual AST Fuel Oil System (fuel oil)
DATE_SUMM	4/4/2011
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Lori Roy (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	Site SS014 is located at the western end of the Upper Camp facility directly west of the access road to the summit and 125 feet west of the dormitory. The system included two 126,000-gallon ASTs and aboveground and belowground piping within a bermed containment area. The ASTs reportedly held only fuel oil. The area north of the dual ASTs contained the truck-filling stand and another AST formerly located at the edge of a concrete pad. Sampling performed during 1998 RI activities discovered petroleum contamination at this site. Leaks from fueling activities and a buried pipeline discovered during the 2005 excavation activities are the likely sources of petroleum contamination.
GEO_HYDRO	Groundwater and surface water have not been encountered at the Upper Camp. A thin layer of rocky soil covers bedrock, with no permanent water table. However, during installation operations, potable water and fire protection resources for Upper Camp were reportedly provided by a well located in bedrock (230 feet bgs) approximately 1,000 feet west and downslope of Upper Camp at former Building 1004 (Water Supply Facility, ERP Site SS017). The well has not been used since 1979 and was abandoned in accordance with ADEC guidelines in 2004. Surface water drainage at Upper Camp is generally by overland flow down the mountain. Shallow groundwater and surface water are present at the Lower Camp. Boreholes advanced at the Lower Camp during RI activities encountered water at depths ranging from 1.5 to 25 feet bgs. Generally, groundwater flow at the Lower Camp sites mimics topography and trends northwest. However, a groundwater gradient of 0.08 feet/foot with a south to southwesterly groundwater flow direction was measured at the Lower Camp landfill (LF005). This indicates that the pond may recharge the surrounding shallow water table aquifer under certain conditions (i.e. heavy rainfall or snow melt runoff).
COC	COPC Only: DRO
INVESTIGATION_ACTIONS	Soil samples were collected from SS014 during the 1998 RI and pre-excavation activities in 2005, and confirmation soil samples were collected at the limits of the 2005 excavations. The 2005 excavation removed most of the soil contamination above Method Two cleanup levels delineated during the 1998 and 2005 pre-excavation sampling; therefore, only the 2005 confirmation soil samples are representative of current site conditions (except at TP7, which was not excavated).
FINAL_REM_ACTION	Institutional Controls consisting of excavation and construction restrictions within the site boundaries and documentation that soil is impacted above levels allowing unrestricted use. Specifically, the USAF will implement the ICs by taking the following actions: * Delineate the boundaries of soil with DRO above Method Two cleanup levels. * The boundaries of soil with DRO above Method Two cleanup levels will be surveyed for State of Alaska and USAF Real Property Records. * Document the ICs in USAF's Real Property Records. The Real Property Records will contain a map indicating IC locations. * Notify ADEC prior to making any major changes to the ICs. The 6111th Civil Engineer Squadron (CES) is the point of contact for the IC. *ICs will stay in effect until DRO reaches State of Alaska Cleanup Levels protective of unrestricted use (i.e. ADEC Method Two cleanup levels for soil) at the site.
CONT_RISK	No unacceptable risk to human health and no complete exposure pathways for ecological receptors.
RATIONALE	
RECOMMENDATIONS	
REFERENCES	United States Air Force (USAF). 2008. Record Of Decision for 1,000-Gallon Fuel Oil AST (SS002), Auto Maintenance Shop and Flight Operations Bldg. (SS003), 1,000-Gallon Motor Vehicle Gasoline (MOGAS) AST (SS004), Temporary Auto Storage Building (SS011), Dual Fuel Oil AST System (126,000-gallon) (SS014), Three Thousand Gallon AST System (SS016), Well and Pump House (SS017), Big Mountain Radio Relay Station, Alaska (Big Mountain RRS). Final June. (2008 ROD). Contaminated Sites Database (accessed 4/4/2011)
STATUS	

Big_Mountain-ST001.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	74
SITIRP_ID	ST001
SITE_STATUS	Cleanup Complete with Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	<1X10 ⁻⁵ ; HI<1
ALIAS	SS001
SITE_NAME	42,400-gallon fuel oil AST
SITE_DESCRIPTION	The 42,400-gallon fuel oil AST is located north of the airstrip near the access road that leads to the Upper Camp area. A pipeline (mostly aboveground) runs from the AST to the airstrip.
MEDIA_ID	ST001
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Installation - 1957-1979
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete with Institutional Controls
LUC_RESTRICTION	<p>Sediment:</p> <ul style="list-style-type: none"> -Signs near wetlands indicating where PCBs exceed screening criteria -Placing notice in property records informing current and future property owners of presence of sediment contamination -Restricting disturbance or removal of sediment unless approved by ADEC and property disposed <p>Groundwater</p> <ul style="list-style-type: none"> -Placing notice in property records to inform current and future property owners of the presence of soil and groundwater DRO contamination -Installing signs that warn of the presence of contaminants in soil and groundwater and restrictions on their use -Restricting invasive soil activities and the use of groundwater (no drinking wells in vicinity) unless concurrence granted by ADEC -Removal of soil or groundwater from the site requires ADEC approval
POC	Lori Roy (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-7697
CHEMICALS_OF_CONCERN	DRO (surface and subsurface soil)
MODIFIED_DATE	20110504
CONTAMINATION_SOURCE	fuel storage tanks and piping
SITEID	ST001
INSTLN_ID	BM
MAINTENANCE	Landfill cap inspections and repair; LUC inspections; Sign maintenance and repairs
RESTRICTIONS	Property records/Base Plan documentation

Big Mountain-ST001.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST001
SITE_NAME	42,400-gallon fuel oil AST
DATE_SUMM	5/4/2011
CURRENT_STATUS	Cleanup Complete with Institutional Controls
SITE_STATUS	Cleanup Complete with Institutional Controls
POCID	Lori Roy (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	The 42,400-gallon AST and fuel oil system is located approximately 600 feet north of the airstrip and 200 feet west of the access road at the Lower Camp facility. In addition to the AST, the system includes a truck fill stand, a containment berm with an outflow pipe, and a 600-foot long pipeline with a diameter of 4-inches. The pipeline extends east from the AST towards the access road, and turns south to terminate at the runway. The pipeline is above ground for most of its length, buried only where it crosses the landfill access road.
GEO_HYDRO	Groundwater and surface water have not been encountered at the Upper Camp. A thin layer of rocky soil covers bedrock, with no permanent water table. However, during installation operations, potable water and fire protection resources for Upper Camp were reportedly provided by a well located in bedrock (230 feet bgs) approximately 1,000 feet west and downslope of Upper Camp at former Building 1004 (Water Supply Facility, ERP Site SS017). The well has not been used since 1979 and was abandoned in accordance with ADEC guidelines in 2004. Surface water drainage at Upper Camp is generally by overland flow down the mountain. Shallow groundwater and surface water are present at the Lower Camp. Boreholes advanced at the Lower Camp during RI activities encountered water at depths ranging from 1.5 to 25 feet bgs. Generally, groundwater flow at the Lower Camp sites mimics topography and trends northwest. However, a groundwater gradient of 0.08 feet/feet with a south to southwesterly groundwater flow direction was measured at the Lower Camp landfill (LF005). This indicates that the pond may recharge the surrounding shallow water table aquifer under certain conditions (i.e. heavy rainfall or snow melt runoff).
COC	DRO (surface and subsurface soil)
INVESTIGATION_ACTIONS	<p>1998 - Initial RI/FS: The COCs at ST001 with concentrations above cleanup levels were DRO and arsenic in soil and groundwater above cleanup levels. It was recommended removal and transfer of contaminated soil to an onsite biocell and diesel contaminated groundwater was expected to dissipate with the removal of the overlying contaminated soil.</p> <p>2002 Interim Remedial Action and Decision Document: Planned for removal action, established a long term monitoring program.</p> <p>2004 Remedial Investigation: Surface water, sediment, soil, and groundwater samples collected - 800 cy estimated for removal.</p> <p>2005 Interim Remedial Action: 600 cubic yards of POL-contaminated soil excavated and stockpiled onsite in a lined/bermed area for remediation. Some POL-contaminated soil remained.</p> <p>2006-2007 Environmental Monitoring Report: Recommended continuing groundwater monitoring, surface water and sediment analysis.</p> <p>2010 Long-Term Monitoring: Groundwater (DRO), sediment (PCBs), and surface water (VOCs, BTEX, PAHs) collected and sampled. Only exceedance was PCBs in sediment, which exceeded the NOAA SQuiRT TEL screening criteria, but not the PEL criteria.</p> <p>2011 ROD notes COCs are DRO in groundwater (up to 28.4 mg/L) and PCBs in sediment (up to 0.469 mg/kg).</p>
FINAL_REM_ACTION	No action, long-term management and ICs
CONT_RISK	Carcinogenic and noncarcinogenic risks were determined to be below ADEC risk guidelines for ST001. However, site cleanup is necessary to meet DOR cleanup levels.

Big_Mountain-ST001.ENV_SITE_SUMMARY_IRP

RATIONALE

RECOMMENDATIONS

REFERENCES_

United States Air Force (USAF). 2002. Decision Document for Interim Remedial Action Four IRP Sites at the Big Mountain Radio Relay Station , Alaska, Sites: 42,400-Gallon Fuel Oil AST (ST001), 1,000-Gallon Fuel Oil AST (SS002), Dual AST System (SS014), Landfill (LF005). November. (2002 DD-IRA)

United States Air Force (USAF). 2008. Record Of Decision for 1,000-Gallon Fuel Oil AST (SS002), Auto Maintenance Shop and Flight Operations Bldg. (SS003), 1,000-Gallon Motor Vehicle Gasoline (MOGAS) AST (SS004), Temporary Auto Storage Building (SS011), Dual Fuel Oil AST System (126,000-gallon) (SS014), Three Thousand Gallon AST System (SS016), Well and Pump House (SS017), Big Mountain Radio Relay Station, Alaska (Big Mountain RRS). Final. June. (2008 ROD).

Contaminated Sites Database (accessed 5/4/2011)

STATUS

Bullen_Point-ST008.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	872
SITIRP_ID	ST008
SITE_STATUS	Cleanup Complete
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	not analyzed quantitatively
ALIAS	none
SITE_NAME	Fuel Storage Area
SITE_DESCRIPTION	ST008 is part of Bullen Point SRRS, located on the east-central shore of Mikkelson Bay. The fuel storage area is located on the same gravel pad as the POL tank farm (ERP Site ST005), and approximately 100 feet west of the tanks. The site is believed to have been used for the storage of drummed fuel products.
MEDIA_ID	ST008
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Approximately 1953 to 1971 and 1994 to 2007 (Installation)
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete
LUC_RESTRICTION	movement of soil contaminated with DRO concentrations greater than 230 mg/Kg restricted
POC	Lori Roy (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907.552.7697
CHEMICALS_OF_CONCERN	not specified
MODIFIED_DATE	20110617
CONTAMINATION_SOURCE	fuel storage area
SITEID	ST008
INSTLN_ID	BP
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil; No unauthorized digging/excavation; Property records/Base Plan documentation

Bullen_Point-ST008.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST008
SITE_NAME	Fuel Storage Area
DATE_SUMM	6/17/2011
CURRENT_STATUS	Cleanup Complete
SITE_STATUS	Cleanup Complete
POCID	Lori Roy (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	ST008 is part of Bullen Point SRRS, located on the east-central shore of Mikkelson Bay. Bullen Point SRRS was operated as an auxiliary Distant Early Warning Line Station between 1953 and 1971. The installation was closed between 1971 and 1992. Between 1992 and 1994, the station was converted to a SRRS, consisting of a new radar system, a support building, and a helicopter landing area. The SRRS has operated between 1994 and 2007 and is unmanned except for periodic maintenance visits. The fuel storage area is located on the same gravel pad as the POL tank farm (ERP Site ST005), and approximately 100 feet west of the tanks. The site is believed to have been used for the storage of drummed fuel products. The site slopes gradually to the west toward the ocean. The elevation in the area is 8 to 9 feet. There are small, shallow pools of surface water near the edge of the site, which receive runoff and seepage from the gravel pad. The site is unvegetated, except next to the ponds.
GEO_HYDRO	Installation-Groundwater has been found beneath the continuous permafrost, but little is known of these aquifer systems. Shallow groundwater sources are also present in river gravel and in thaw bulbs beneath deep lakes. Perched groundwater is found during the summer months when the active layer melts.
COC	not specified
INVESTIGATION_ACTIONS	<p>The Fuel Storage Area (ST008) is located on the same gravel pad as the POL tanks (ST005), approximately 100 feet west of the tanks. The inactive structures at Bullen Point SRRS are scheduled for demolition under the USAF Clean Sweep Program in 2007. After demolition and remediation activities are complete, the USAF will likely transfer the excess property at Bullen Point to the BLM. The BLM in turn will transfer the land to the State of Alaska based on the State's expressed interest in the property. Based on discussions with the BLM and State of Alaska representatives, the conditions for land transfer include:</p> <ul style="list-style-type: none"> * Cleaning up the soil contamination to 18 AAC 75.341 Method Two Cleanup levels for the Arctic Zone. In addition, the maximum acceptable concentration of DRO in the developed portions of the property (gravel pads and fill areas) is 2,000 mg/Kg. The cleanup level for RRO in the surface soils of gravel pads (0-2 feet) is also 2,000 mg/Kg. The cleanup levels for DRO and RRO in the native soils (e.g., tundra and peat) are the Method Two soil cleanup levels for the Arctic Zone. * Removal of inactive facilities that have no utility (value) to the future landowner. <p>ST008 was investigated in 1993 and 2004. Studies and reports providing details can be found in the Administrative Record file or the Information Repository. All ST008 investigations and actions from 1993 to 2004 are summarized or documented in the "Bullen Point SRRS, Remedial Investigation/Feasibility Study Report for 8 Sites, Final, June 2005" (USAF 2005).</p>

Bullen_Point-ST008.ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Residual levels of petroleum contaminants remain at ST008 above the most stringent Method Two soil cleanup levels (18 AAC 75.341, Table B2, Over 40-inch Zone, Migration to Groundwater); therefore, the site is appropriate for conditional closure. In accordance with 18 AAC 75.325(i), the landowner of a site granted conditional closure shall obtain approval from ADEC prior to disposing (or transporting) soil from the site. In addition, soil may not be disposed in surface water or other environmentally sensitive areas. The following is the selected remedy for site ST008 under state law:</p> <ul style="list-style-type: none"> * Site boundaries will be surveyed to provide a description of the location where soil has a concentration of diesel range organics above 230 mg/Kg; * The Base Master Plan for Bullen Point SRRS will include a statement that ADEC approval is required prior to off-site transportation or disposal of site ST008 soil containing diesel range organics above 230 mg/Kg; * If the site is transferred, the statement that ADEC approval is required prior to off-site transportation or disposal of site ST008 soil containing diesel range organics above 230 mg/Kg will be included in the property transfer documents; <p>The site status will be listed as "conditional closure" in the ADEC contaminated sites database. The site will be granted closure without conditions when diesel range organics concentrations in the soil degrade below 230 mg/Kg.</p>
CONT_RISK	<p>The risk attributed to the concentrations of petroleum and related substances detected at ST008 has been determined to be insignificant to human health and the environment in its present location, The detected substances were all below risk thresholds established by ADEC.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>United States Air Force (USAF). 2004. Management Action Plan Bullen Point Short Range Radar Station, Alaska. Updated. February. (2004 MAP)</p> <p>United States Air Force (USAF). 2007. Bullen Point Short Range Radar Station, Alaska Decision Document for CERCLA Sites OT003, OT004, ST005, and LF006 and for Non-CERCLA sites SS001, SS002, ST007, and ST008 at Bullen Point Short Range Radar Station, Alaska. Final. September. (2007 DD)</p> <p>Contaminated Sites Database (accessed 6/17/2011)</p>
STATUS	

Cape_Lisburne-LF001.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	154
SITIRP_ID	LF001
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA/non-CERCLA
RISK	The original risk assessment performed as part of the 2003 DD no longer applies to LF001; the COCs and site conditions specified in the 2003 DD are no longer representative of the site conditions as they are currently understood. All of the PCBs and most of the fuel contamination have been removed from the site, and the unpermitted landfill had not yet been identified. Because the only remaining COCs (DRO and RRO) are limited to a very small area covered by healthy tundra, and because an EPA Presumptive Remedy (containment) has been selected for the unpermitted landfill at Dump No. 1, an updated risk assessment has not been conducted. Only DRO and RRO remain on site at concentrations greater than cleanup levels.
ALIAS	None
SITE_NAME	Cape Lisburne LRRS Landfill (LF001)
SITE_DESCRIPTION	LF001 is an inactive landfill and debris dump adjacent to the Chukchi Sea. It was reportedly used to store waste oils, paints, solvents, diesel fuels, empty drums, discarded vehicles, and scrap metal. LF001 comprises three areas; WAA 1, WAA2, and Dump No. 1.
MEDIA_ID	LF001
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1957 to 1977
CATEGORY	ERP
AREA_ACRES	approximately 17 acres
ACTIVITY	Active
LUC_RESTRICTION	Prominent signs documenting the contamination location indicating a potential hazard to recreational visitors and subsistence hunters. Dig restrictions will be implemented and enforced by USAF. These measures will be documented into the LUC Management Plan. USAF will record an NEC with the DNR Recorder's Office and with USAF real estate records. In addition to the Cap Maintenance, Periodic Monitoring, and Surface Water Monitoring, Institutional controls and LUCs will be established at WAA2 and Dump No. 1 to prevent disturbance of the soils that may result in exposure to remaining contaminants. Any activity that is inconsistent with LUC requirements, objectives, or controls (or any action that might interfere with the protectiveness of the LUCs) will be reported to ADEC and addressed by the USAF as soon as practicable after discovery. LUCs will be documented into the LUC Management Plan. In addition, the ICs will be documented with the Alaska DNR. USAF will record an NEC with the DNR Recorder's Office and with USAF real estate records.
POC	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	soil - DRO and RRO
MODIFIED_DATE	20141027
CONTAMINATION_SOURCE	landfill/waste storage areas
SITEID	LF001
INSTLN_ID	CL
MAINTENANCE	Maintain signage, Cap Maintenance, Periodic Monitoring/Surface Water Monitoring
RESTRICTIONS	No unauthorized digging/excavation, Property Records/Base Plan documentation, ICs and LUCs to be established at WAA2 and Dump No. 1 to prevent soil disturbances resulting in exposure to remaining contaminants; any activity that is inconsistent with LUC requirements, objectives, or controls (or any action that might interfere with the protectiveness of the LUCs) will be reported to ADEC and addressed by the USAF as soon as practicable after discovery; LUCs will be documented into the LUC Management Plan and the ICs will be documented with the Alaska DNR; USAF will record an NEC with the DNR Recorder's Office and with USAF real estate records.

Cape Lisburne-LF001.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF001
SITE_NAME	Landfill/Waste Accumulation Area
DATE_SUMM	10/27/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	<p>LF001 is an inactive landfill and debris dump adjacent to the Chukchi Sea in northern Alaska. It covers approximately 17 acres. In places the landfill is less than 100 feet from the ocean. It was reportedly used to store waste oils, paints, solvents, diesel fuels, empty drums, discarded vehicles, and scrap metal. The landfill was active approximately from 1957 to the 1977. LF001 includes three areas:</p> <p>*WAA 1 - previously used as a storage area. Drums were stored in this area on a gravel pad prior to shipment by barge. A diesel fuel spill that occurred in 1996. Approximately 350 cubic yards of contaminated soil from this spill was removed and shipped from the site immediately after the spill.</p> <p>*WAA2 - was used as a historical disposal site for waste oils, paints, solvents, diesel fuels, empty drums, and scrap metal. Waste was accumulated in this area until it was shipped offsite.</p> <p>* Dump No. 1 - consists of both a permitted and unpermitted landfill located on the eastern edge of Site LF001. Dump No. 1 covers approximately 5 acres and is covered by a gravel cap. Solid wastes were burned and the residue was buried. Wastes that were routinely disposed of in the unpermitted landfill included batteries, paints, scrap metal, and oily rags. Damaged and/or leaking oil drums were taken to the area for storage awaiting disposal. Spent TCE was also burned with other wastes.</p>
GEO_HYDRO	<p>Permafrost ranges from one to six feet below ground surface at the site. The deeper permafrost appears continuous based on the numerous boring and excavations that have encountered permafrost in LF001. Water flows in the unsaturated, active zone above the permafrost on a seasonal basis. This seasonal groundwater, referred to as "suprapermafrost" water, generally flows north towards the Chukchi Sea. Groundwater is not a current or future source of drinking water at Cape Lisburne LRRS because the site is underlain by at least 1,440 feet of continuous permafrost.</p>
COC	soil - DRO and RRO

Cape_Lisburne-LF001.ENV_SITE_SUMMARY_IRP

INVESTIGATION_ACTIONS	<ul style="list-style-type: none"> * 1985 - Phase 1 Records Search identified LF001 as a potential area of concern. * 1992 - Initial site investigation. Soil and water samples collected from WAA1, WAA2, and Dump No. 1. * 1993 - RI/FS. Offsite treatment and disposal of contaminated soil was recommended. Three interim remedial actions were performed between 1995 and 1997 to remove waste and contaminated soil. * 1998 - a Treatment Alternative Evaluation was performed. * 2000 - An Evaluation of Beach Erosion was conducted. * 2002 - An Engineering Evaluation and Cost Analysis was completed. Offsite treatment and disposal was recommended for remaining waste and contamination. 2002 - A Proposed Plan was developed and excavation and offsite disposal was the preferred remedy. 2003 - A Decision Document was prepared and signed. The document outlined an annual monitoring program for the site (along with the selection of offsite treatment and disposal). * 2004 and 2010 - Waste, drums, and contaminated soil were removed. * 2005 - Geophysical surveys identified multiple anomalies indicative of buried debris remaining on site. * 2008 - A 2008 RI and Erosion Control Activities Report documented erosion control measures and estimated the amount of waste and contamination remaining on site. * 2010 - Remedial activities were conducted to remove remaining contaminants, with the exception of an area around WAA2. * 2012 - First CERCLA five year review conducted. The report concluded that the remaining contamination at WAA2 and the discovery of an unpermitted landfill at Dump No. 1 required an amendment to the 2003 DD to address the remaining contamination.
FINAL_REM_ACTION	<p>The remedy selected in the Amended ROD is Alternative 2, a presumptive remedy that includes Institutional Controls, Cap Maintenance, and Periodic Monitoring plus a minimum of two active zone and surface water sampling events. This remedy satisfies overall protectiveness and complies with ARAR criteria, and was the most favorable alternative with respect to short-term effectiveness, implementability, and cost.</p>
CONT_RISK	<p>The EPA Presumptive Remedy selected under Alternative 2: Institutional Controls with Cap Maintenance, Periodic Monitoring, and Surface Water Sampling, is designed to (1) minimize the infiltration of water that could dissolve contaminants in the landfill, (2) prevent direct contact with the landfill wastes and prevent movement of waste by wind or water, and (3) prevent exposure to landfill gas.</p> <p>An updated risk assessment for LF001 was not conducted in the 2014 Amended ROD.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>United States Air Force (USAF). 2003. <i>Cape Lisburne LRRS, Alaska Installation Restoration Program Seven Decision Documents (LF001, OT002, OT003, DP006, ST007, SS008, SS009)</i>. Final. May. (2003 DD)</p> <p>United States Air Force (USAF). 2007. <i>Decision Document Spill/Leak #1 (ST004) Cape Lisburne LRRS, Alaska</i>. Final. May. (2007 DD - ST004)</p> <p>United States Air Force (USAF). 2007. <i>Decision Document Spill/Leak #2 (ST005) Cape Lisburne LRRS, Alaska</i>. Final. May. (2007 DD - ST005)</p> <p>Contaminated Sites Database (accessed 10/27/2014)</p> <p>United States Air Force (USAF). 2014. <i>Amended Record of Decision Document, Cape Lisburne Long-Range Radar Site, Alaska</i>. Final. June.</p>
STATUS	

Cape_Lisburne-ST004.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	1950
SITIRP_ID	ST004
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	Insignificant risk
ALIAS	Storage tank area
SITE_NAME	Spill/Leak #1
SITE_DESCRIPTION	This site is located on a man-made gravel pad, east of the main composite building. In 1980, a 3,000 gallon diesel fuel spill reportedly occurred at ST004.
MEDIA_ID	ST004
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1952-Present (installation and runway) Spill occurred in 1980
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	Landowner of a site shall obtain approval from ADEC prior to disposing (or transporting) soil from the site. In addition, soil may not be disposed in surface water or other environmentally sensitive areas.
POC	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	DRO
MODIFIED_DATE	20110511
CONTAMINATION_SOURCE	fuel spill
SITEID	ST004
INSTLN_ID	CL
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil; No unauthorized digging/excavation; Property records/Base Plan documentation

Cape_Lisburne-ST004.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST004
SITE_NAME	Spill/Leak #1
DATE_SUMM	5/11/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	This site is located on a man-made gravel pad, east of the main composite building. In 1980, a 3,000 gallon diesel fuel spill reportedly occurred at ST004; however, the details of the spill are not well documented. An active 20,500-gallon AST, enclosed on all sides by a lined gravel berm, is located at the reported spill site. It is believed that the 1980 spill occurred when a previous tank in the same location was overfilled. An active tank farm is situated 150 feet southeast of the site: fuel is piped directly fro the tank farm to the existing AST at ST004. The tank at ST004 has supply and return piping for fuel service to the composite building. This site is unvegetated, and overlies native bedrock at approximately 10 feet below ground surface.
GEO_HYDRO	Groundwater is not a current or future source of drinking water at Cape Lisburne LRRS because the site is underlain by at least 1,440 feet of continuous permafrost. The site conditions are dry, and subsurface water was not encountered in shallow (0-2 feet bgs) test pits and borings at the site. The nearest surface water body to the site is the Chukchi Sea, which is approximately 700 feet away. This site has low transport potential, and contamination is not likely to pose a threat to surrounding surface waters.
COC	DRO
INVESTIGATION_ACTIONS	1988 ROD recommended no further action based on lack of evidence of site impacts; 2003 Remedial Investigation included sampling to confirm lack of impact.
FINAL_REM_ACTION	In accordance with 18 AAC 75.325(i), the landowner of a site granted conditional closure shall obtain approval from ADEC prior to disposing (or transporting) soil from the site. In addition, soil may not be disposed in surface water or other environmentally sensitive areas. The following selected remedy for site ST004 under state law is: * Site boundaries will be surveyed to provide a description of the location where soil has a concentration of DRO above 230 mg/Kg; * The Base Master Plan for Cape Lisburne LRRS will include a statement that ADEC approval is required prior to off-site transportation or disposal of site ST004 soil containing DRO above 230 mg/Kg; * If the site is transferred, the statement that ADEC approval is required prior to off-site transportation or disposal of site ST004 soil containing DRO above 230 mg/Kg will be included in the property transfer documents; The site will be granted closure without conditions when documentation is submitted to ADEC to confirm that DRO concentrations in the soil have degraded below 230 mg/Kg.
CONT_RISK	The risk attributed to the concentrations of petroleum and related substances detected at ST004 has been determined to be insignificant to human health and the environment in its present location. The detected substances were all below risk-based thresholds established by ADEC. However, DRO remain at ST004 above the most stringent Method Two soil cleanup levels (IS8 AAC 75.34 1, Table B2, Over 40-inch Zone, Migration to Groundwater).
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	United States Air Force (USAF). 2007. Decision Document Spill/Leak #1 (ST004) Cape Lisburne LRRS, Alaska. Final. May. (2007 DD) Contaminated Sites Database, (accessed 5/11/2011)
STATUS	

Cape_Lisburne-ST005.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	1951
SITIRP_ID	ST005
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	None
ALIAS	None
SITE_NAME	Spill/Leak #2
SITE_DESCRIPTION	ST005 is located 300 feet south of the Chukchi Sea and approximately 800 feet west of the easternmost edge of the runway. In 1982, 1,500 gallons of aviation fuel reportedly spilled onto the staging area of the runway apron following a fuel bladder rupture.
MEDIA_ID	ST005
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1952-Present (installation and runway) Spill occurred in 1982
CATEGORY	ERP
AREA_ACRES	approximately 1 acre
ACTIVITY	Active
LUC_RESTRICTION	In accordance with 18 AAC 75.325(i), the landowner of a site granted conditional closure shall obtain approval from ADEC prior to disposing (or transporting) soil from the site. In addition, soil may not be disposed in surface water or other environmentally sensitive areas.
POC	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	DRO, benzene
MODIFIED_DATE	20110511
CONTAMINATION_SOURCE	fuel spill
SITEID	ST005
INSTLN_ID	CL
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil; No unauthorized digging/excavation; Property records/Base Plan documentation

Cape_Lisburne-ST005.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST005
SITE_NAME	Spill/Leak #2
DATE_SUMM	5/11/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	ST005 is located 300 feet south of the Chukchi Sea and approximately 800 feet west of the easternmost edge of the runway. In 1982, 1,500 gallons of aviation fuel reportedly spilled onto the staging area of the runway apron following a fuel bladder rupture. The staging area is approximately 45,000 square feet of gravel comprising the runway. The runway and staging are not vegetated though vegetated drainage ditches exist along the eastern and western boundaries of the apron. The apron is used for temporary staging of materials and supplies for loading and off-loading planes. This area is an industrial area in the Lower Camp, and is still actively used to access the runway and to stage equipment. Fuel is no longer stored at the site, and there are no records of cleanup activities to date.
GEO_HYDRO	Groundwater is not a current or future source of drinking water at Cape Lisburne LRRS because the site is underlain by at least 1,440 feet of continuous permafrost. The site conditions are dry, and subsurface water was not encountered in shallow (0-2 feet bgs) test pits and borings at the site. The nearest surface water body to the site is the Chukchi Sea, which is approximately 150 feet away. This site has low transport potential, and contamination is not likely to pose a threat to surrounding surface waters.
COC	DRO, benzene
INVESTIGATION_ACTIONS	1988 ROD recommended no further action based on lack of evidence of site impacts; 2003 Remedial Investigation included sampling to confirm lack of impact.
FINAL_REM_ACTION	<p>Diesel range organics (DRO) and benzene remain at ST005 above the most stringent Method Two soil cleanup levels (18 AAC 75.341, Table B2, Over 40-inch Zone, Migration to Groundwater); therefore, the site will be classified as conditionally closed under 18 AAC 75. In accordance with 18 AAC 75.325(i), the landowner of a site granted conditional closure shall obtain approval from ADEC prior to disposing (or transporting) soil from the site. In addition, soil may not be disposed in surface water or other environmentally sensitive areas. The following selected remedy for site ST005 under state law is:</p> <ul style="list-style-type: none"> * Site boundaries will be surveyed to provide a description of the location where soil has a concentration of DRO above 230 mg/Kg or a concentration of benzene above 0.02 mg/Kg; * The Base Master Plan for Cape Lisburne LRRS will include a statement that ADEC approval is required prior to off-site transportation or disposal of site ST005 soil containing DRO above 230 mg/Kg or benzene above 0.02 mg/Kg; * If the site is transferred, the statement that ADEC approval is required prior to off-site transportation or disposal of site ST005 soil containing DRO above 230 mg/Kg or benzene above 0.02 mg/Kg will be included in the property transfer documents. <p>The site will be granted closure without conditions when documentation is submitted to ADEC to confirm that DRO concentrations in the soil have degraded below 230 mg/Kg and benzene concentrations in the soil have degraded below 0.02 mg/Kg.</p>
CONT_RISK	The risk attributed to the concentrations of petroleum and related substances detected at ST005 has been determined to be insignificant to human health and the environment in its present location. The detected substances were all below risk-based thresholds established by ADEC.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	United States Air Force (USAF). 2007. Decision Document Spill/Leak #2 (ST005) Cape Lisburne LRRS, Alaska. Final. May. (2007 DD) Contaminated Sites Database (accessed 5/11/2011)
STATUS	

Cape Newenham-SS007.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS007
SITE_NAME	PCBs at Upper Camp
DATE_SUMM	6/17/2011
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	PCBs at Upper Camp were historically used in transformers at the former electrical substation. PCBs were first detected in soil near the electrical substation in 1988. The mountainside area was reportedly used from the 1950s to the 1970s to dump debris related to Upper Camp activities including ethylene glycol (antifreeze) and water drained from radar units, waste oil in containers, and scrap metal. Based on PCB-contamination in the soil at SS007, the site was designated as IRP site SS007. SS007 encompasses all of the Upper Camp.
GEO_HYDRO	Several unnamed surface water drainages are located within the installation boundaries. Surface water from Upper Camp drains down slope into available receiving drainages including a small pond about 1.5 miles northwest of Upper Camp. The upper valley at the LRRS is the principal recharge zone of groundwater for the installation. Drinking water at the LRRS is obtained from a gallery water collection system installed at Lower Camp.
COC	PCBs (Aroclor 1260)
INVESTIGATION_ACTIONS	1988 Site Investigation; 1990 RI/FS; 1994 Engineering Evaluation and Cost Analysis; 1995 Remedial Investigation; 1996 Remedial Action-Cap Construction; 1997 HHRA/ERA; 1996-2000 long-term monitoring; 1998 Long-Term Monitoring Baseline Survey; 2000 Final Decision Document for Upper Camp (SS07); PCB Cap Monitoring and Maintenance Reports Dec 2002, March 2003, January 2005, December 2006, September 2008, May 2009, January 2011, February 2012; December 2006 1st Five-year ROD Review; February 2012 2nd Five-year ROD Review; July 2013 site inspection; Ecological Risk Assessment, 2014. December 2014 Optimization of Long Term Monitoring Program. December 2014 Feasibility Study.
FINAL_REM_ACTION	Based on the information generated from the investigations, the comparative analyses of alternatives, and the interim action performed, the selected remedy includes annual inspection and maintenance of the existing cap, long-term monitoring at established down-gradient locations, and implementation of institutional controls to prevent exposure to the remaining PCB-contamination. A detailed, comprehensive review of monitoring and inspection results from the long-term monitoring and inspection activities will occur every five years. Under this alternative, the Air Force will maintain long-term ownership of the site and take responsibility for inspecting and maintaining the existing cap at SS007. Placement of warning and restricted access signs will limit human access. The site will be restricted from future uses that would affect the integrity of the cap (e.g., excavation, residential/commercial development). The site will be inspected annually to ensure the integrity of the cap and the condition of warning signs. Cap and sign maintenance will be performed as necessary based on the results of the visual inspection. Institutional controls will consist of notation on land records that will be reviewed during a title search of required land use restrictions and notation in the facility base master plan. These will include notification that the land has been used for PCB-waste disposal, and certain restrictions apply to the future use of the property. Further, the notification will include a comprehensive record of the capped area survey, the signage and cap maintenance requirements, applicable cleanup levels, and documentation of location and corresponding levels of PCBs present in the area. 2014 Feasibility Study examined alternatives including various combinations of capping, long-term management, institutional controls, and removal.

Cape Newenham-SS007.ENV SITE SUMMARY IRP

CONT_RISK	<p>Data from SS007 were evaluated to determine the risk to human health. This evaluation is based on the location and amount of contaminated media present, toxicity of the contaminant, current and potential future use of the site, and pathways by which people could be exposed. A 2014 Ecological Risk Assessment indicated potential unacceptable risk for terrestrial carnivorous mammals and recommended removal soil in the areas with the highest PCB results.</p> <p>Only two primary exposure pathways were considered complete for these receptors. These are ingestion of surface soil and dermal contact with surface soil. Contact would only occur during months of no snow cover on the ground. Also, LRRS staff spend as little time as possible at Upper Camp (less than one hour per day). Other possible exposure routes, such as inhalation and transport of PCBs to downgradient ponds or drinking water, were shown to be insignificant or lacking completed exposure pathways due to the nature of PCBs, climatic conditions, and the topographical setting of Upper Camp.</p> <p>Data from the 1995 RI (Air Force, 1996b), specifically laboratory results from surface soil samples collected in areas of the Upper Camp that were not capped, were used in the risk assessment.</p> <p>Laboratory analyses identified Aroclor 1260 in 50 of the 55 surface soil samples that were analyzed by USEPA Method 8080. Only one other type of PCB, Aroclor 1254, was detected in one surface soil sample at low levels relative to Aroclor 1260 presence. As a result, Aroclor 1260 was identified as the target chemical of concern for the risk assessment. The average and reasonable maximum exposure excess cancer risk estimates were each less than 1 in one million. These levels are at or below the U.S. Environmental Protection Agency's (USEPA) target cancer risk range of 1 in one million and ADEC action risk level of 1 in one hundred thousand.</p> <p>This indicates that the excess cancer risk at SS007 is negligible. The risk assessment was performed prior to 1997 and did not incorporate elevated PCB results from soils collected from the slope areas between 1997 through 2000. A second quantitative risk assessment using the elevated PCB data, confirmed that the risk was still within acceptable levels. Further, exposure scenarios show that, due to the steep slope and harsh environmental conditions, receptors are not likely to come in contact with the contaminated soils. The level of risk to human life and health to remediate the site greatly out-weighs the negligible risk to human health from contaminant exposure.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites database (accessed 6/17/2011)</p> <p>United States Air Force (USAF). 2000. Cape Newenham LRRS, Alaska Installation Restoration Program Decision Document for Upper Camp (SS07). Final. November. (2000 DD)</p> <p>United States Air Force (USAF). 2012. Cape Newenham LRRS, Alaska Second Five-Year Review of Installation Restoration Program Site SS007 at Cape Newenham LRRS. February. (2012 Second Five-Year Review)</p> <p>USAF. 2014. Revised Ecological Risk Assessment for PCBs at Upper Camp (Installation Restoration Program Site SS007) Cape Newenham LRRS, Alaska. November.</p> <p>USAF. 2014. Optimization of the Long-Term Monitoring Program at Cape Newenham (Installation Restoration Program Site SS007) Cape Newenham LRRS, Alaska.</p> <p>USAF. 2014. Technical Feasibility Study, Uncapped Mountainside of Installation Restoration</p>
STATUS	

Cape_Newenham-SS007.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	526
SITIRP_ID	SS007
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	cancer <1 X 10-5
ALIAS	SS07
SITE_NAME	PCBs at Upper Camp
SITE_DESCRIPTION	PCBs at Upper Camp were historically used in transformers at the former electrical substation. PCBs were first detected in soil near the electrical substation in 1988. SS007 encompasses all of the Upper Camp.
MEDIA_ID	SS007
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1950s-1970s
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	The site will be restricted from future uses that would affect the integrity of the cap (e.g., excavation, residential/commercial development). The site will be inspected annually to ensure the integrity of the cap and the condition of warning signs. Cap and sign maintenance will be performed as necessary based on the results of the visual inspection. Institutional controls will consist of notation on land records that will be reviewed during a title search of required land use restrictions and notation in the facility base master plan. These will include notification that the land has been used for PCB-waste disposal, and certain restrictions apply to the future use of the property. Further, the notification will include a comprehensive record of the capped area survey, the signage and cap maintenance requirements, applicable cleanup levels, and documentation of location and corresponding levels of PCBs present in the area.
POC	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	PCBs (Aroclor 1260)
MODIFIED_DATE	20110617
CONTAMINATION_SOURCE	disposal practices - PCB oil
SITEID	SS007
INSTLN_ID	CN
MAINTENANCE	Landfill cap inspections and repair; Soil monitoring; 5-year reviews; Sign maintenance and repairs
RESTRICTIONS	No unauthorized digging/excavation; No residential use; No commercial use; Property records/Base Plan documentation

Cape_Romanzof_DP011_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	1344
SITIRP_ID	DP011
SITE_STATUS	Cleanup Complete- Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	<1x10 ⁻⁵ ; HI<1
ALIAS	ROM 7
SITE_NAME	Dump Area, Upper Camp
SITE_DESCRIPTION	Discarded debris was deposited over the years when Upper Camp was active.
MEDIA_ID	DP011
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Approximately 1956 until 1979
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete- Institutional Controls
LUC_RESTRICTION	Excavation and construction restrictions within the DP011 site boundaries, documentation that soil is impacted above levels allowing unrestricted use, and a requirement that future land use remains non-residential.
POC	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	No COC identified, PCBs were identified as a COPC in soil.
MODIFIED_DATE	20110410
CONTAMINATION_SOURCE	Unknown
SITEID	DP011
INSTLN_ID	CR
MAINTENANCE	LUC inspections
RESTRICTIONS	No unauthorized digging/excavation; No unauthorized transport or disposal of soil; No unauthorized construction; No residential use; Property records/Base Plan documentation

Cape_Romanzof_DP011_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	DP011
SITE_NAME	Dump Area, Upper Camp
DATE_SUMM	4/10/2011
CURRENT_STATUS	Cleanup Complete- Institutional Controls
SITE_STATUS	Cleanup Complete- Institutional Controls
POCID	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	<p>Dump Area is located in the valley east of Towak Mountain where discarded debris was deposited over the years when Upper Camp was active. A preliminary survey of the site conducted in 2001 concluded that approximately 1,300 to 1,500 primarily empty drums are spread over about a one square mile area. Dump Area has also been known as Upper Camp Debris Area. The DP011 area consists of two glacially carved bowls (cirques) that drain into Ekashluak Creek.</p> <p>Ekashluak Creek flows into Scammon Bay and, eventually, into the Bering Sea. These two cirques divide the site into two topographical units: the northern cirque and the southern cirque. The hanging valley floor of the northern cirque has served as an effective catchment for discarded drums and debris. Drums were noted to be primarily empty and concentrated near the ridge directly east of the radar dome. Batteries, electrical components, old paint cans, auto parts, and tower/cable parts were also noted in this area.</p> <p>The southern cirque is a topographically smooth bowl that contours down to the headwaters of Ekashluak Creek. An estimated 600 to 800 drums are present in this area. An old dumpsite is present in the northern part of the cirque, near the ridge. Old towers, bicycles, rebar, refrigerators, pipes, and miscellaneous cans are present. Drums can be found throughout the basin, but the majority of drums are strewn on the northern part of this cirque. While all debris is accessible by foot, the 2001 survey concluded that transporting or removing drums would require special equipment and procedures due to the steep and rocky landscape.</p>
GEO_HYDRO	There have been no monitoring wells installed at Upper Camp. Based on the thin layer of soil covering bedrock at Upper Camp, the presence of a permanent groundwater aquifer is considered unlikely.
COC	No COC identified, PCBs were identified as a COPC in soil.
INVESTIGATION_ACTIONS	Soil and surface water/sediment samples were collected from DP011 during a 2004 RI. In brief, 16 surface soil samples were collected at areas of suspected contamination based on presence and type of debris, and along the base of the slope below areas with the greatest concentration of accumulated debris. The soil samples were analyzed for DRO, GRO, RRO, PAHs, metals, PCBs, and VOCs to evaluate possible soil contamination from potential historical drum releases.
FINAL_REM_ACTION	Excavation and construction restrictions within the DP011 site boundaries, documentation that soil is impacted above levels allowing unrestricted use, and a requirement that future land use remains non-residential.
CONT_RISK	Contamination at this site does not pose an unacceptable risk to human health or the environment.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>United States Air Force (USAF). 2008. <i>Record of Decisions Spill/Leak 1&2 (ST007) Spill/Leak 3 (ST009) Drum Storage Area (SS014) Dump Area (DP001) Cape Romanzof Long-Range Radar Site (Cape Romanzof LRRS)</i>. Final. February. (2008 ROD)</p> <p>Contaminated Sites database (accessed 4/10/2011)</p>
STATUS	

CR-LF003.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	1341
SITIRP_ID	LF003
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Carcinogenic Risk for PCBs in Surface Soil: 3.0E-3 adult/child residential; 3.2E-4 adult/child subsistence user; 4.6E-7 short-term worker; 1.6E-3 long-term worker Carcinogenic Risk for PCBs in Sediment: 6.9E-5 adult or child; 0.26 adult subsistence user; 1.5 child subsistence user
ALIAS	None
SITE_NAME	Landfill Number (No.) 2
SITE_DESCRIPTION	Landfill No. 2 (LF003) is located along the south side of the access road from the runway to the Lower Camp, approximately 1 mile west of the Composite Facility. The landfill covers approximately 43,800 square feet and contains various wastes including garbage, wood, metal, plastic, construction/demolition debris, shop waste, and incinerator ash, and was operated until the mid-1970s. The landfill is the suspected source of the PCB contamination that has been documented in this area.
MEDIA_ID	LF003
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Operated until mid-1970s
CATEGORY	ERP/LF
AREA_ACRES	43,800 square feet (approximately 1 acre)
ACTIVITY	Active
LUC_RESTRICTION	The selected remedies for LF003 include: -- Surface Soil – Alternative LF03SS5: PCB Soil (≥ 1 mg/kg): Excavation and Off-Site Disposal. No ICs or LUCs will be required for this portion of LF003. -- Sediment – Alternative LF03SD3: Excavation, Off-Site Disposal, and LTM. Because the source of the contamination will not be removed (the actual landfill), the sediment may continue to be impacted. ICs that prohibit the development and use of property for residential housing and prevent the use of contaminated soil for restricted uses, require a dig permit in the event of excavation, implement soils management plan, and maintain the landfill cap at LF003 in order to prevent direct exposure and water infiltration. ICs will be incorporated into the LUC Plan for LF003. -- Landfill – The remedy for buried solid and potentially hazardous materials in Landfill No. 2 is ICs/LUCs and LTM. ICs that prohibit the development and use of property for residential housing, prohibit excavation or disturbance of the landfill cap/cover, and require maintenance of the cap/cover will be established. ICs/LUCs will include site dig permit system and soils management plan to prevent direct exposure to buried wastes and contaminants. ICs will be incorporated into the LUC Plan for LF003.
POC	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160
CHEMICALS_OF_CONCERN	PCBs and lead
MODIFIED_DATE	20140710
CONTAMINATION_SOURCE	Disposal of hazardous materials into the landfill.
SITEID	LF003
INSTLN_ID	CR
MAINTENANCE	Maintain soil cap, signs, soil barriers, and collected sediment
RESTRICTIONS	Prohibit the development and use of property for residential housing, and prevent the use of contaminated soil by requiring a dig permit, implementing soils management plan, and maintaining the landfill cap at LF003 in order to prevent direct exposure and water infiltration.

CR-LF003.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF003
SITE_NAME	Landfill Number (No.) 2
DATE_SUMM	7/10/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	Landfill No. 2 (LF003) is located along the access road from the runway to the Lower Camp. The landfill is situated along the south side of the access road, approximately 1 mile west of the Composite Facility. The landfill covers approximately 43,800 square feet and contains various wastes including garbage, wood, metal, plastic, construction/demolition debris, shop waste, and incinerator ash, and was operated until the mid-1970s. The landfill is the suspected source of the PCB contamination that has been documented in this area.
GEO_HYDRO	The Lower Camp and adjacent facilities are underlain by deposits of talus and other colluvial materials that have moved down the steep valley side slopes toward Fowler Creek, largely under the influence of gravity. The colluvium includes a wide range of material sizes, from large granite blocks to fine-to-coarse grained sand, silt, and minor amounts of clay. The colluvium forms an apron at the base of the steep slope extending across part of the low-angle slope on the valley floor. The Lower Camp is located on the uphill margin of this apron. Soils at the Lower Camp are commonly sand and silt with gravel/talus horizons near the bedrock interface. Groundwater is used as the drinking water source for Cape Romanzof LRRS. The water supply well, Well No. 1 at Lower Camp, was drilled in 1957 to a total depth of 154 ft. The well produces groundwater from two separate casing perforations, from 82 to 102 ft deep and 146 to 148 ft deep. The static water level is approximately 30 ft bgs, which is approximately 20 ft above the top of the aquifer, indicating that the water-bearing zones are confined.
COC	PCBs and lead
INVESTIGATION_ACTIONS	During a 1989 to 1991 RI/FS, soil, sediment, surface water and groundwater samples were collected. The findings indicated a presence of TPH contamination in soil and sediment, and PCBs with TPH contamination in surface water, generally located in the vicinity of the landfill and associated drainage channels. Groundwater contamination included BTEX and VOCs in monitoring wells upgradient and cross gradient to the landfill. From 1993 to 1994 site cleanup and landfill capping activities occurred. Long-term monitoring was conducted from 1996 through 2004. In 2002, an Interim ROD was signed for LF003. The selected remedy in the Interim ROD was landfill closure (with associated capping and LTM of groundwater and effluent), and PCB hotspot removals. In 2000, 2005, and 2008, investigations were conducted to define the boundaries of the hotspots to be excavated.
FINAL_REM_ACTION	The selected remedies include: <ul style="list-style-type: none"> · Surface Soil – PCB Soil (≥ 1 mg/kg): Excavation and Off-Site Disposal · Sediment – Excavation, Off-Site Disposal, and Long-Term Monitoring · Landfill cap – Institutional Controls, Long-Term Monitoring and Maintenance
CONT_RISK	Surface Soil (PCBs): 3.0×10^{-5} (combined adult/child, recreational/residential land use direct exposure), 3.2×10^{-4} (combined adult/child, subsistence user), 4.6×10^{-7} (short term worker), and 1.6×10^{-5} (long term worker) Sediment (PCBs): recreational/residential land use direct exposure; 6.9×10^{-5} (adult) and 6.9×10^{-5} (child), subsistence user; 0.25644 (adult) / 1.51182 (child).
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 7/10/2014) United States Air Force (USAF). 2013. Record Of Decision for Landfill No. 2 (LF003), Spill/Leak No. 4 at the Weather Station Building (SS010), Upper Tram Terminal Area (SS016), Lower Tram Terminal Area (SS017), Cape Romanzof Long-Range Radar Site, Alaska. Final. February. (2013 ROD)
STATUS	

CR-SS010.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	1334
SITIRP_ID	SS010
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	HI <1; The ERA for SS010 found unacceptable risks with Cape Romanzof LRRS. However, the potential risk to ecological receptors from exposure to COPECs is expected to be limited as the forage habitat provided by the source areas is limited.
ALIAS	Wells 2 & 3
SITE_NAME	Spill/Leak No. 4 at the Weather Station Building
SITE_DESCRIPTION	<p>Site SS010 is located approximately 600 ft east of the southwest end of the Cape Romanzof LRRS airstrip, and includes Weather Station Building 4101, two utility trenches, and a newly installed weather observation tower approximately 200 ft uphill of the Weather Station Building. The old weather observation building (Building 4000) has been removed from the gravel pad, as well as Tank #11, a 25,000-gallon diesel fuel AST, and Tank #4, a 1,100-gallon diesel fuel AST. The former location of the 25,000-gallon AST is the Spill/Leak No. 4 area.</p> <p>Two known groundwater wells are associated with Site SS010. The first well (Well No. 2) was drilled in 1962 and was reportedly located near the southeast corner of the Weather Station Building. Groundwater from this well was reportedly contaminated with fuel oil in 1964; however, the source of contamination was never identified and no quantitative data have ever been successfully collected.</p>
MEDIA_ID	SS010
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>The selected remedies for SS010 for DRO-contaminated subsurface soil and potential fuel contaminated (DRO, GRO, or RRO) groundwater are as follows:</p> <p>Subsurface soil – Alternative SS10SB2 – Institutional Controls and Engineering Controls. Contaminated subsurface soil will remain in place to naturally attenuate.</p> <p>ICs that prevent access to groundwater until groundwater cleanup levels have been met and maintain the integrity of any current or future remedial or monitoring system, prohibit the development and use of property for residential housing and prevent the use of contaminated soil for restricted uses in the event of excavation by requiring site dig permit, implement soils management plan, and conduct LTM at SS010. ICs will be incorporated into the LUC Plan for SS010.</p> <p>Land Use Controls will be recorded in the appropriate Cape Romanzof LRRS land records, including the Base Master Plan and ADNR land records. ECs such as land use control boundaries will encompass all areas where subsurface soil contaminant levels pose an unacceptable risk to human health and the environment and will be surveyed and a map designating their locations will accompany notations placed on land records.</p> <p>These controls are in place to ensure that invasive activities are not taking place within the boundary of the sites where land use has been restricted, or that ADEC and USAF approvals are obtained prior to conducting such work.</p> <p>In the case that all contaminated subsurface soil is not able to be removed due to safety or logistical issues, then ICs annual inspections and a Five-Year Review will be required. Performance reports will be provided to ADEC, annually, for the first five years after remedial activities and will be followed by a Five-Year Review. At that time the frequency of inspections and reports may be reduced.</p>

CR-SS010.ENV_REST_SITE_SUMMARY

	<p>Groundwater – Alternative SS10GW2 – Institutional Controls, Engineering Controls, Natural Attenuation, and Long-Term Monitoring.</p> <p>Potentially contaminated groundwater will remain in place. Over time, natural attenuation of the contaminants is expected to occur and LTM will provide the data necessary to determine whether the plume is stable or shrinking or when contaminant levels allow for unlimited use and unrestricted exposure. Land Use Controls will be recorded in the appropriate Cape Romanzof LRRS land records, including the Base Master Plan and ADNR land records. ECs such as land use control boundaries will encompass all areas where groundwater contaminant levels pose an unacceptable risk to human health and the environment and be surveyed and a map designating their locations will accompany notations placed on land records.</p>
POC	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160
CHEMICALS_OF_CONCERN	DRO and GRO
MODIFIED_DATE	20140710
CONTAMINATION_SOURCE	Leaks and spills from the former ASTs.
SITEID	SS010
INSTLN_ID	CR
MAINTENANCE	Maintain signs, control barriers, groundwater monitoring system
RESTRICTIONS	Prohibit the development and use of property for residential housing and prevent the use of contaminated soil

CR-SS010.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS010
SITE_NAME	Spill/Leak No. 4 at the Weather Station Building
DATE_SUMM	7/10/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	<p>Groundwater at Source Area SS010 is not currently used for drinking water. The site is remote, and there is only one drinking water well in the vicinity (Well No. 1, the supply well at the composite facility). Well No. 1 is located approximately two miles upgradient (i.e., up the Fowler Creek drainage) of SS010, and SS010 groundwater does not contribute to groundwater in Well No. 1. Site SS010 is located approximately 600 ft east of the southwest end of the Cape Romanzof LRRS airstrip, and includes Weather Station Building 4101, two utility trenches, and a newly installed weather observation tower approximately 200 ft uphill of the Weather Station Building. The old weather observation building (Building 4000) has been removed from the gravel pad, as well as Tank #11, a 25,000-gallon diesel fuel AST, and Tank #4, a 1,100-gallon diesel fuel AST. The former location of the 25,000-gallon AST is the Spill/Leak No. 4 area. Two known groundwater wells are associated with Site SS010. The first well (Well No. 2) was drilled in 1962 and was reportedly located near the southeast corner of the Weather Station Building. Groundwater from this well was reportedly contaminated with fuel oil in 1964; however, the source of contamination was never identified and no quantitative data have ever been successfully collected. In 1990, as part of additional RI/FS activities, a well (No. 3) was constructed and placed 200 ft northeast of the Weather Station Building, uphill and upgradient from the fuel tanks. One groundwater sample was collected and analyzed and TPH was detected at very low levels. Based on these results the site was again granted NFRAP status by the ADEC. No water wells were present in the area during the 2008 RI, and attempts to install groundwater monitoring wells were unsuccessful due to large, subsurface boulders present throughout the site.</p>
GEO_HYDRO	<p>The Lower Camp and adjacent facilities are underlain by deposits of talus and other colluvial materials that have moved down the steep valley side slopes toward Fowler Creek, largely under the influence of gravity. The colluvium includes a wide range of material sizes, from large granite blocks to fine-to-coarse grained sand, silt, and minor amounts of clay. The colluvium forms an apron at the base of the steep slope extending across part of the low-angle slope on the valley floor. The Lower Camp is located on the uphill margin of this apron. Soils at the Lower Camp are commonly sand and silt with gravel/talus horizons near the bedrock interface.</p> <p>Groundwater is used as the drinking water source for Cape Romanzof LRRS. The water supply well, Well No. 1 at Lower Camp, was drilled in 1957 to a total depth of 154 feet. The well produces groundwater from two separate casing perforations, from 82 to 102 ft deep and 146 to 148 ft deep. The static water level is approximately 30 ft bgs, which is approximately 20 ft above the top of the aquifer, indicating that the water-bearing zones are confined.</p>
COC	DRO and GRO

CR-SS010.ENV_SITE_SUMMARY_IRP

INVESTIGATION_ACTIONS	<p>This site was investigated as part of the 1989 RI. There was no evidence of contamination. The site was granted No Further Response Action Planned (NFRAP) status by the ADEC in 1993.</p> <p>In 1990, as part of additional RI/FS activities, a well (No. 3) was constructed and placed 200 ft northeast of the Weather Station Building, uphill and upgradient from the fuel tanks. BTEX was not detected and TPH was detected at very low levels. The site was again granted NFRAP status by the ADEC. However, in 2006, workers installing an underground utility line reported a strong fuel odor while excavating a trench.</p> <p>The site was again investigated in 2008 as part of an RI. Two small areas of surface soil with DRO contamination were identified. A larger area of subsurface contamination was also identified at the former location of a 25,000-gallon AST. The RI recommended that the area be considered for in-situ soil treatment or removal and treatment to practical extents.</p>
FINAL_REM_ACTION	<p>The selected remedies include:</p> <ul style="list-style-type: none"> · Subsurface Soil – ICs and ECs · Groundwater – ICs, ECs, natural attenuation, and LTM.
CONT_RISK	<p>Surface Soil (Bulk Hydrocarbon, DRO and GRO) Adult/Child (recreational/ residential land use direct exposure) = HI of 0.979 (combined adult/child) Subsistence User (ingestion of plants/small mammals/fish) = HI of 0.38 (combined adult/child)</p> <p>The ERA for SS010 found unacceptable risks with Cape Romanzof LRRS. However, the potential risk to ecological receptors from exposure to COPECs is expected to be limited as the forage habitat provided by the source areas is limited.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 7/10/2014) United States Air Force (USAF). 2013. Record Of Decision for Landfill No. 2 (LF003), Spill/Leak No. 4 at the Weather Station Building (SS010), Upper Tram Terminal Area (SS016), Lower Tram Terminal Area (SS017), Cape Romanzof Long-Range Radar Site, Alaska. Final. February. (2013 ROD)</p>
STATUS	

Cape_Romanzof_SS013_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	1335
SITIRP_ID	SS013
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	Not analyzed
ALIAS	ROM 1S
SITE_NAME	Seep Area/Spill Site 5
SITE_DESCRIPTION	Diesel Seep Area (SS013) is the result of a 14,000-gallon diesel fuel spill in 1979. The spill apparently ran overground and contaminated near surface soil material over a large area. The contamination also migrated down the water table in some areas.
MEDIA_ID	SS013
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Unknown
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<ul style="list-style-type: none"> • At SS013, the presence of petroleum in soil impacted above levels allowing unrestricted use will be documented in USAF's Real Property records. Any excavation within these areas must include procedures to evaluate excavated soils and provide for soil remediation contingency scenarios. Any contaminated groundwater that is encountered (i.e. dewatering for construction within an area of groundwater contamination) will be managed properly. • At SS013, future land use within the IC area will be restricted to commercial/industrial land use. <p>USAF will implement the ICs by taking the following actions.</p> <ul style="list-style-type: none"> • Use USAF's dig permit and construction review system or similar system developed by the Base Operation Support (BOS) contractor to restrict incompatible activities from Sites SS013. • Document the ICs in USAF's Real Property records. The Real Property records will contain a map indicating IC locations. Appropriate notice will be filed with the U.S. Fish and Wildlife Service. • Obtain ADEC approval prior to making any major changes to the ICs. The 611th Civil Engineer Squadron/Civil Engineer (CES/CE) is the point of contact for the ICs. • Provide notice to ADEC, consistent with CERCLA Section 120(h), at least six months prior to any transfer or sale of SS013.
POC	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	DRO and RRO
MODIFIED_DATE	20110509
CONTAMINATION_SOURCE	spill
SITEID	SS013
INSTLN_ID	CR
MAINTENANCE	LUC inspections
RESTRICTIONS	No residential use; No unauthorized transport or disposal of soil; No unauthorized groundwater removal; No unauthorized digging/excavation; Property records/Base Plan documentation

Cape_Romanzof_SS013_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS013
SITE_NAME	Seep Area/Spill Site 5
DATE_SUMM	5/9/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	SS013 is located approximately 1,000 feet south of the lower camp and can be accessed by foot or vehicle by the north-south road from the lower camp. 14,000 gallons of diesel fuel spilled near the incinerator (Bldg. 2-219). Fuel flowed under the dining hall and commissary. Native vegetation was severely impacted by spill which occurred in 1979. Also a location where drummed new products and liquid wastes were stored until 1982. Several major spills and leaks of diesel fuel and MOGAS from storage tanks and pump fill nozzles may have contributed to contamination here.
GEO_HYDRO	SS013 is located downgradient of the water supply well. At SS013 depth to groundwater measured at the site varies from near ground surface (MW-02) to approximately 20 feet bgs (MW-01). Groundwater depth shows large seasonal fluctuations; the depth to water at MW-01 has been measured between approximately 3 feet bgs and 20 feet bgs. Groundwater flow is to the northwest.
COC	DRO and RRO
INVESTIGATION_ACTIONS	1985 Phase I Records Search; 1989-1990 Remedial Investigation/Feasibility Study (RI/FS); 1995 SS013 RI/FS; long-term monitoring 1999, 2000, 2003, 2004, 2006, 2007, and 2008
FINAL_REM_ACTION	<p>Remedial alternatives for addressing petroleum contamination at Site SS013 was developed and evaluated through a Feasibility Study (FS). Based on the results of the FS, a Proposed Plan for Interim Remedial Action for Sites SS013, an Interim ROD for this site, subsequent monitoring, and the Five-Year Review of the Interim ROD, the AF selected ICs as the preferred alternative for SS013.</p> <p>The selected response actions for SS013 is consistent with the interim remedies implemented in the 2002 Interim ROD and recommendations from the 2008 Five-Year Review of the interim remedies. The specific ICs selected for SS013 are listed below.</p> <ul style="list-style-type: none"> • At SS013, the presence of petroleum in soil impacted above levels allowing unrestricted use will be documented in USAF's Real Property records. Any excavation within these areas must include procedures to evaluate excavated soils and provide for soil remediation contingency scenarios. Any contaminated groundwater that is encountered (i.e. dewatering for construction within an area of groundwater contamination) will be managed properly. • At SS013, future land use within the IC area will be restricted to commercial/industrial land use. USAF will implement the ICs by taking the following actions. <ul style="list-style-type: none"> • Use USAF's dig permit and construction review system or similar system developed by the Base Operation Support (BOS) contractor to restrict incompatible activities from Site SS013. • Document the ICs in USAF's Real Property records. The Real Property records will contain a map indicating IC locations. Appropriate notice will be filed with the U.S. Fish and Wildlife Service. • Obtain ADEC approval prior to making any major changes to the ICs. The 611th Civil Engineer Squadron/Civil Engineer (CES/CE) is the point of contact for the ICs. • Provide notice to ADEC, consistent with CERCLA Section 120(h), at least six months prior to any transfer or sale of SS013.
CONT_RISK	Not analyzed. A human health risk assessment is not necessary for SS013 under Alaska regulations.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites database (accessed 5/9/2011) United States Air Force (USAF). 2011. Record of Decision Diesel Seep Area (SS013) and UST Spill Area (SS015) Cape Romanzof LRRS, Alaska. Final. January. (2011 ROD)
STATUS	

Cape_Romanzof_SS014_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	1340
SITIRP_ID	SS014
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	<1x10 ⁻⁵ ; HI<1
ALIAS	ROM-12
SITE_NAME	Drum Storage Area
SITE_DESCRIPTION	Drum Storage Area (SS014) is a former drum storage area located east of a beaver pond and along the south side of Fowler Creek. The area was used to stage drummed petroleum, oil, and lubricants (POL) waste for shipment offsite on the annual barge.
MEDIA_ID	SS014
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	1950s to unknown end date
CATEGORY	ERP
AREA_ACRES	0.25 acre (visible stain)
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	<p>The ICs will consist of excavation and construction restrictions within the SS014 site boundaries, documentation that soil is impacted above levels allowing unrestricted use, and a requirement that future land use remains non-residential. USAF will implement the ICs at SS014 by taking the following actions:</p> <ul style="list-style-type: none"> * Delineate the boundaries of soil with DRO or GRO above Method Two cleanup levels. * Document the ICs in USAF's Real Property records. The Real Property records will contain a map indicating IC locations. File appropriate notice with the U.S. Fish and Wildlife Service. * Utilize USAF's dig permit and construction review system to restrict incompatible activities from the Site. * Notify ADEC prior to making any major changes to the ICs. The 6111th CES is the point of contact for the IC.
POC	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	DRO, GRO (soil)
MODIFIED_DATE	20110427
CONTAMINATION_SOURCE	Unknown
SITEID	SS014
INSTLN_ID	CR
MAINTENANCE	LUC inspections
RESTRICTIONS	No residential use; No unauthorized digging/excavation; No unauthorized transport or disposal of soil; No unauthorized construction; Property records/Base Plan documentation

Cape_Romanzof_SS014_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS014
SITE_NAME	Drum Storage Area
DATE_SUMM	4/27/2011
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	Drum Storage Area (SS014) is a former drum storage area located east of a beaver pond and along the south side of Fowler Creek. The area was used to stage drummed petroleum, oil, and lubricants (POL) waste for shipment offsite on the annual barge. SS014 was formerly known as ROM-12. Site investigation activities in 1989 discovered a dark-stained area approximately ¼-acre in size at this site. Petroleum contamination was confirmed with analytical sample results. The source of the petroleum contamination is not documented, but it presumably resulted from historical spills from the storage of POL drummed waste.
GEO_HYDRO	Monitoring wells installed at site SS014 encountered groundwater at depths between approximately 4 feet bgs and 6 feet bgs. The subsurface geology at SS014 included sandy silt with cobbles and boulders from the ground surface to 10 feet bgs. Monitoring wells installed at ST009 encountered groundwater at depths between approximately 8 feet bgs and 20 feet bgs. The subsurface geology at ST009 was predominantly sand and gravel, with some interbedded layers of sandy silt, silt, and clay, from the ground surface to 25 feet bgs. The apparent groundwater flow direction was toward the west-southwest, following surface topography down toward Kokechik Bay. Groundwater flow has a gradient of 0.049 feet per foot. The shallow groundwater at this site is not considered drinking water due to saltwater intrusion.
COC	DRO, GRO (soil)
INVESTIGATION_ACTIONS	Soil and groundwater samples were collected from SS014 during environmental investigations in 1989, 1994, and 2004. In 1989, two soil samples were collected within the stained area, and one sediment/surface water sample pair was collected immediately downstream in one of the beaver ponds. The samples were analyzed for TPH, metals, VOCs, pesticides, PCBs, and SVOCs. High concentrations of TPH were detected in the two soil samples, and a low concentration of PCBs was detected in one of the soil samples. BTEX were not detected in any of the samples. The 1989 soil sample results do not reflect current site conditions, because the area sampled was subsequently removed during the 1994 excavation. No analytes (except metals at natural background levels and a low level of TPH that is also interpreted to reflect natural organics) were detected in the sediment/surface water samples, suggesting that the petroleum contamination had not migrated downgradient to the beaver pond. 1994 Confirmation Sampling: Confirmation samples from the 1994 soil excavation (discussed in Section 2.6.2.3) were analyzed for DRO, GRO, and BTEX. Three of the 27 confirmation samples showed DRO levels above the 250 mg/Kg Method Two cleanup level (maximum detection of 5,500 mg/Kg). The excavation was deepened in these three areas and new confirmation samples were collected. Ultimately, all confirmation sample results were below the Method Two cleanup level. In 2004, soil samples were collected from 21 soil borings and one monitoring well borehole and field-screened using a PID. The soil samples were collected from depths of 1.5 feet bgs, 2.5 feet bgs, and 3 feet bgs. Most (18) of the samples were also analyzed for GRO, DRO, RRO, metals, PCBs, PAHs, and VOCs. Results indicated DRO and GRO was present in soil above ADEC Method 2 cleanup levels, PCBs and VOCs were not detected, PAHs were detected below cleanup levels, and metals were not detected above background levels. Groundwater was sampled at 3 locations for GRO, DRO, RRO, VOCs, PAHs, PCBs, and metals; no contamination was detected above ADEC Table C groundwater cleanup levels. Surface water and sediments were sampled for VOCs, PAHs, PCBs, and metals; no contaminants exceeded applicable cleanup/screening levels with the exception of arsenic. Arsenic concentrations, however, were consistent with recorded background levels.

Cape_Romanzof_SS014_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Although contamination at the Drum Storage Area (SS014) does not pose unacceptable potential risk to human health or the environment, soil is contaminated by petroleum hydrocarbons above State of Alaska cleanup levels protective of unrestricted use (i.e., the lowest of the ADEC Method Two cleanup levels).</p> <p>The RAOs for SS014 are listed below.</p> <p>a) Restrict direct contact with petroleum-contaminated subsurface soil and document that petroleum hydrocarbons in surface and subsurface soil exceed levels protective of unrestricted use.</p> <p>b) Restrict excavation and transportation of contaminated soil to prevent migration of contaminants. In order to achieve RAOs (a) and (b), USAF will implement the remedy outlined below.</p>
	<p>1. Institutional Controls (ICs) ICs are an integral part of the selected remedy and are required to meet RAOs (a) and (b) above. USAF will implement, monitor, maintain, and enforce the ICs identified below in accordance with State of Alaska contaminated site regulations.</p> <p>The goals of the ICs are to restrict access to contaminated subsurface soil and document (for waste management purposes in the event of subsurface activities) that soil impact exceeds ADEC Method Two cleanup levels protective of unrestricted use.</p> <p>The ICs will consist of excavation and construction restrictions within the SS014 site boundaries, documentation that soil is impacted above levels allowing unrestricted use, and a requirement that future land use remains non-residential.</p> <p>USAF will implement the ICs at SS014 by taking the following actions:</p> <ul style="list-style-type: none"> * Delineate the boundaries of soil with DRO or GRO above Method Two cleanup levels. * Document the ICs in USAF's Real Property records. The Real Property records will contain a map indicating IC locations. File appropriate notice with the U.S. Fish and Wildlife Service. * Utilize USAF's dig permit and construction review system to restrict incompatible activities from the Site. * Notify ADEC prior to making any major changes to the ICs. The 6111th CES is the point of contact for the IC. <p>2. Final Disposition of Site USAF will consider RAOs to have been met when the items in Numbered Section I (above) have been established. At that time, conditional site closure with ICs will be noted in USAF and ADEC records for site SS014.</p>
CONT_RISK	<p>Contamination detected at this site does not pose unacceptable potential risk to human health or the environment. However ICs are required to restrict land use to ensure compliance with the exposure assumptions in the risk assessment (i.e. no surface activities that would allow exposure to subsurface soil and no use of groundwater for water supply).</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>United States Air Force (USAF). 2008. Record of Decisions Spill/Leak 1&2 (ST007) Spill/Leak 3 (ST009) Drum Storage Area (SS014) Dump Area (DP001) Cape Romanzof Long-Range Radar Site (Cape Romanzof LRRS). Final. February. (2008 ROD)</p> <p>Contaminated Sites Database (accessed 4/27/2011)</p>
STATUS	

Cape_Romanzof_SS015_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	1329
SITIRP_ID	SS015
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	Not analyzed
ALIAS	ROM-3
SITE_NAME	Old UST Site/Leaking USTs, Lower Camp
SITE_DESCRIPTION	Underground Storage Tank (UST) Spill Area (SS015) is located north of Site SS013 and is the result of a diesel fuel spill that occurred from two USTs. The USTs (reportedly 5,000-gallons and 15,000-gallons) were discovered in 1991 during an excavation of fuel-contaminated soils from an adjacent aboveground storage tank (AST).
MEDIA_ID	SS015
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Unknown
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<ul style="list-style-type: none"> • At SS015, the presence of petroleum in soil impacted above levels allowing unrestricted use will be documented in USAF's Real Property records. Any excavation within these areas must include procedures to evaluate excavated soils and provide for soil remediation contingency scenarios. Any contaminated groundwater that is encountered (i.e. dewatering for construction within an area of groundwater contamination) will be managed properly. • At SS015, the installation of water supply wells will be prohibited within the site boundaries as shown in Figure 4 as long as the aquifer fails ADEC Table C cleanup levels protective of drinking water. USAF will implement the ICs by taking the following actions. <ul style="list-style-type: none"> • Use USAF's dig permit and construction review system or similar system developed by the Base Operation Support (BOS) contractor to restrict incompatible activities from SS015. • Document the ICs in USAF's Real Property records. The Real Property records will contain a map indicating IC locations. Appropriate notice will be filed with the U.S. Fish and Wildlife Service. • Obtain ADEC approval prior to making any major changes to the ICs. The 611th Civil Engineer Squadron/Civil Engineer (CES/CE) is the point of contact for the ICs. • Provide notice to ADEC, consistent with CERCLA Section 120(h), at least six months prior to any transfer or sale of SS015.
POC	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	GRO, DRO, and Benzene
MODIFIED_DATE	20110509
CONTAMINATION_SOURCE	release from abandoned USTs
SITEID	SS015
INSTLN_ID	CR
MAINTENANCE	Groundwater monitoring; LUC inspections
RESTRICTIONS	No potable groundwater use; No unauthorized transport or disposal of soil; No unauthorized groundwater removal; No unauthorized digging/excavation; Property records/Base Plan documentation

Cape_Romanzof_SS015_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS015
SITE_NAME	Old UST Site/Leaking USTs, Lower Camp
DATE_SUMM	5/9/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	Underground Storage Tank (UST) Spill Area (SS015) is located north of Site SS013 and is the result of a diesel fuel spill that occurred from two USTs. The USTs (reportedly 5,000-gallons and 15,000-gallons) were discovered in 1991 during an excavation of fuel-contaminated soils from an adjacent aboveground storage tank (AST).
GEO_HYDRO	SS015 is located downgradient of the water supply well. Depth to groundwater measured at the site varies from approximately 3 feet bgs at the western edge of the site to approximately 50 feet bgs at the eastern edge of the site. Groundwater depth shows large seasonal fluctuations; depth to water at WW-02 has been measured between approximately 30 feet bgs and 60 feet bgs. Groundwater flow direction has been measured to the west-northwest and north-northwest but generally follows surface topography.
COC	GRO, DRO, and Benzene
INVESTIGATION_ACTIONS	1985 Phase I Records Search; 1989-1990 Remedial Investigation/Feasibility Study (RI/FS); 1991 establishment of SS015 during fuel seep investigation/tank removal; 1993 SS015 RI/FS; 1997 SS015 additional investigation to delineate contamination; long-term monitoring 1999, 2000, 2003, 2004, 2006, 2007, and 2008
FINAL_REM_ACTION	<p>Remedial alternatives for addressing petroleum contamination at Site SS015 were developed and evaluated through a Feasibility Study (FS) (USAF [ENSR], 1993). Based on the results of the FS, a Proposed Plan for Interim Remedial Action for Sites SS013 and SS015 (USAF, 2001), an Interim ROD for SS015, subsequent monitoring, and the Five-Year Review of the Interim ROD, the AF selected MNA with ICs as the preferred alternative for SS015.</p> <p>The selected response actions for SS015 is consistent with the interim remedies implemented in the 2002 Interim ROD and recommendations from the 2008 Five-Year Review of the interim remedies. The specific ICs selected for SS015 is listed below.</p> <ul style="list-style-type: none"> • At SS015, the presence of petroleum in soil impacted above levels allowing unrestricted use will be documented in USAF's Real Property records. Any excavation within these areas must include procedures to evaluate excavated soils and provide for soil remediation contingency scenarios. Any contaminated groundwater that is encountered (i.e. dewatering for construction within an area of groundwater contamination) will be managed properly. • At SS015, the installation of water supply wells will be prohibited within the site boundaries as shown in Figure 4 as long as the aquifer fails ADEC Table C cleanup levels protective of drinking water. USAF will implement the ICs by taking the following actions. • Use USAF's dig permit and construction review system or similar system developed by the Base Operation Support (BOS) contractor to restrict incompatible activities from SS015. <ul style="list-style-type: none"> • Document the ICs in USAF's Real Property records. The Real Property records will contain a map indicating IC locations. Appropriate notice will be filed with the U.S. Fish and Wildlife Service. • Obtain ADEC approval prior to making any major changes to the ICs. The 611th Civil Engineer Squadron/Civil Engineer (CES/CE) is the point of contact for the ICs. • Provide notice to ADEC, consistent with CERCLA Section 120(h), at least six months prior to any transfer or sale of SS015. <p>The major components of the MNA portion of the SS015 remedy are presented below.</p> <ul style="list-style-type: none"> • One source area monitoring well (WW-01) and two downgradient monitoring wells (WW- 05 and WW-06) will be monitored no less often than once every five years. Groundwater samples will be analyzed for DRO, GRO, and benzene, toluene, ethylbenzene, and xylenes (BTEX). • Monitoring will continue until 18 AAC 75.350 Table C groundwater cleanup levels are reached and cumulative risk is below Alaska threshold levels, or until the groundwater plume is steady state or shrinking, contaminant concentrations are decreasing, and concentrations meet applicable cleanup levels at an approved alternative point of compliance.
CONT_RISK	Not analyzed. A human health risk assessment is not necessary for SS015 under Alaska regulations.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites database (accessed 5/9/2011) United States Air Force (USAF). 2011. Record of Decision Diesel Seep Area (SS013) and UST Spill Area (SS015) Cape Romanzof LRRS, Alaska. Final. January. (2011 ROD)
STATUS	

CR-SS016.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	4129
SITIRP_ID	SS016
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Carcinogenic Risk for PCBs in Surface Soil: 1.7E-3 adult residential; 8.2E-4 child residential; 1.9E-2 adult subsistence user; 1.1E-2 child subsistence user 4.4E-5 short-term worker; 1.6E-3 long-term worker
ALIAS	SS016_17 Former Tramway
SITE_NAME	Upper Tram Terminal Area
SITE_DESCRIPTION	Sites SS016 (Upper Tram Terminal Area) and SS017 (Lower Tram Terminal Area) are located at the two tramway buildings. The Upper Tram Terminal Area is situated on top of a steep slope at the Upper Camp. The Lower Tram Terminal Area sits at the toe of this slope. Tramway lines at numerous remote stations required lubrication resulting in petroleum, oil, and lubricant (POL) and, occasionally, PCB contamination at the base of the buildings, generally beneath the tram line.
MEDIA_ID	SS016
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	The selected remedy for SS016 is: Excavation, to the Extent Feasible, and Off-Site Disposal of PCB- and lead-contaminated surface soil at Site SS016. If all contamination cannot be removed, the following actions will be implemented: - A cap will be placed over remaining surface soil contaminated with PCBs and lead above cleanup levels. - Engineering controls (ECs) such as signs warning of contamination will be erected at the location where surface soil is located at concentrations above cleanup levels protective of human health and the environment. - ICs that prohibit development and use of property for residential housing, prevent use of contaminated soil for restricted uses, require dig permit in the event of excavation, implement soil management plan, and maintain cap (if necessary) at SS016 in order to prevent direct exposure and water infiltration. ICs will be incorporated into the LUC Plan. - Locations of the cap and signs will be surveyed and recorded in the appropriate Cape Romanzof LRRS land records, including the Base Master Plan and ADNR land records.
POC	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160
CHEMICALS_OF_CONCERN	PCBs and lead
MODIFIED_DATE	20140711
CONTAMINATION_SOURCE	Spills of petroleum based lubricating oil and transformer oil containing PCBs used on the cables at the tramway for both the upper and lower tramway terminals.
SITEID	SS016
INSTLN_ID	CR
MAINTENANCE	Maintain soil cap and signs
RESTRICTIONS	Prohibit development and use of property for residential housing, prevent use of contaminated soil for restricted uses, require dig permit in the event of excavation, implement soil management plan, and maintain cap (if necessary) at SS016 in order to prevent direct exposure and water infiltration. ICs will be incorporated into the LUC Plan.

CR-SS016.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS016
SITE_NAME	Upper Tram Terminal Area
DATE_SUMM	7/11/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	Sites SS016 (Upper Tram Terminal Area) and SS017 (Lower Tram Terminal Area) are located at the two tramway buildings. The Upper Tram Terminal Area is situated on top of a steep slope at the Upper Camp. The Lower Tram Terminal Area sits at the toe of this slope. Tramway lines at numerous remote stations required lubrication resulting in petroleum, oil, and lubricant (POL) and, occasionally, PCB contamination at the base of the buildings, generally beneath the tram line.
GEO_HYDRO	<p>The Lower Camp and adjacent facilities are underlain by deposits of talus and other colluvial materials that have moved down the steep valley side slopes toward Fowler Creek, largely under the influence of gravity. The colluvium includes a wide range of material sizes, from large granite blocks to fine-to-coarse grained sand, silt, and minor amounts of clay. The colluvium forms an apron at the base of the steep slope extending across part of the low-angle slope on the valley floor. The Lower Camp is located on the uphill margin of this apron. Soils at the Lower Camp are commonly sand and silt with gravel/talus horizons near the bedrock interface.</p> <p>Groundwater is used as the drinking water source for Cape Romanzof LRRS. The water supply well, Well No. 1 at Lower Camp, was drilled in 1957 to a total depth of 154 ft. The well produces groundwater from two separate casing perforations, from 82 to 102 ft deep and 146 to 148 ft deep. The static water level is approximately 30 ft bgs, which is approximately 20 ft above the top of the aquifer, indicating that the water-bearing zones are confined.</p>
COC	PCBs and lead
INVESTIGATION_ACTIONS	Both Upper and Lower Tram Terminal sites were investigated under a PA/SI in 1999. Three areas were identified to have PCB, DRO, and RRO that exceeded cleanup levels. In 2002, contaminated soil was excavated from the Upper Tram Terminal Building (SS016), the Lower Tram Terminal Building (SS017) and the Lower Tram Terminal Waste Disposal Pit. The contaminated soil was disposed of at an off-site disposal facility. In 2008, RI field activities were conducted. Seven areas were identified during this investigation where surface soil exceeds cleanup levels for PCB or lead.
FINAL_REM_ACTION	The selected remedy is excavation of SS016 Surface Soil (PCB soil ≥ 1 mg/kg and Lead soil ≥ 400 mg/kg), to the extent feasible, and off-site disposal.
CONT_RISK	<p>Surface Soil (PCBs): 1.7×10^{-3} (adult) / 8.2×10^{-4} (child) (recreational/residential land use direct exposure), 1.9×10^{-2} (adult) / 1.1×10^{-2} (child) (subsistence user), 4.4×10^{-5} (short term worker), and 1.6×10^{-3} (long term worker)</p> <p>The ERA for SS016 found unacceptable ecological risks to the recreational and subsistence population at Cape Romanzof LRRS. However, the potential risk to ecological receptors from exposure to chemicals of potential ecological concern (COPECs) is expected to be limited as the forage habitat provided by the source areas is limited.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 7/11/2014) United States Air Force (USAF). 2013. Record Of Decision for Landfill No. 2 (LF003), Spill/Leak No. 4 at the Weather Station Building (SS010), Upper Tram Terminal Area (SS016), Lower Tram Terminal Area (SS017), Cape Romanzof Long-Range Radar Site, Alaska. Final. February. (2013 ROD)
STATUS	

CR-SS017.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	4129
SITIRP_ID	SS017
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	<p>Surface Soil (PCBs): 9.4 x 10⁻⁶ (adult) /6.8 x 10⁻⁶ (child) (recreational/residential land use direct exposure), 1.6 x 10⁻⁴ (adult) / 9.1 x 10⁻⁵ (child) (subsistence user), 3.6 x 10⁻⁷ (short term worker), and 1.3 x 10⁻⁵ (long term worker)</p> <p>Subsurface soil (PCBs): 1.5 x 10⁻⁵ (adult) / 1.1 x 10⁻⁵ (child)(recreational/residential land use direct exposure), NA (subsistence user), 5.6 x 10⁻⁷ (short term worker), and 2.0 x 10⁻⁵ (long term worker)</p> <p>The ERA for SS017 found unacceptable ecological risks to the recreational and subsistence population at Cape Romanzof LRRS. However, the potential risk to ecological receptors from exposure to chemicals of potential ecological concern (COPECs) is expected to be limited as the forage habitat provided by the source areas is limited.</p>
ALIAS	SS016_17 Former Tramway
SITE_NAME	Lower Tram Terminal Area
SITE_DESCRIPTION	<p>Sites SS016 (Upper Tram Terminal Area) and SS017 (Lower Tram Terminal Area) are located at the two tramway buildings. The Upper Tram Terminal Area is situated on top of a steep slope at the Upper Camp. The Lower Tram Terminal Area sits at the toe of this slope. Tramway lines at numerous remote stations required lubrication resulting in petroleum, oil, and lubricant (POL) and, occasionally, PCB contamination at the base of the buildings, generally beneath the tram line.</p>
MEDIA_ID	SS017
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>The selected remedies for SS017 are: Excavation and Off-Site Disposal (Surface soil – Alternative SS17SS4); and Excavation and Off-Site Disposal (Subsurface soil – Alternative SS17SB4). If excavation to promulgated soil cleanup levels (1 mg/kg PCBs and 400 mg/kg Lead) is infeasible due to safety or logistical issues associated with remedial action, then capping and ICs with long-term monitoring and maintenance on the cap will be required.</p>
POC	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160
CHEMICALS_OF_CONCERN	PCBs and lead
MODIFIED_DATE	20140711
CONTAMINATION_SOURCE	Spills of petroleum based lubricating oil and transformer oil containing PCBs used on the cables at the tramway for both the upper and lower tramway terminals.
SITEID	SS017
INSTLN_ID	CR
MAINTENANCE	If contamination greater than cleanup levels remains on site after excavation, then capping and ICs with long-term monitoring and maintenance on the cap will be required.
RESTRICTIONS	If contamination greater than cleanup levels remains on site after excavation, prohibit development and use of property for residential housing, prevent use of contaminated soil for restricted uses, require dig permit in the event of excavation, implement soil management plan, and maintain cap (if necessary) at SS017 in order to prevent direct exposure and water infiltration. ICs will be incorporated into the LUC Plan.

CR-SS017.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS017
SITE_NAME	Lower Tram Terminal Area
DATE_SUMM	7/11/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	Sites SS016 (Upper Tram Terminal Area) and SS017 (Lower Tram Terminal Area) are located at the two tramway buildings. The Upper Tram Terminal Area is situated on top of a steep slope at the Upper Camp. The Lower Tram Terminal Area sits at the toe of this slope. Tramway lines at numerous remote stations required lubrication resulting in petroleum, oil, and lubricant (POL) and, occasionally, PCB contamination at the base of the buildings, generally beneath the tram line.
GEO_HYDRO	<p>The Lower Camp and adjacent facilities are underlain by deposits of talus and other colluvial materials that have moved down the steep valley side slopes toward Fowler Creek, largely under the influence of gravity. The colluvium includes a wide range of material sizes, from large granite blocks to fine-to-coarse grained sand, silt, and minor amounts of clay. The colluvium forms an apron at the base of the steep slope extending across part of the low-angle slope on the valley floor. The Lower Camp is located on the uphill margin of this apron. Soils at the Lower Camp are commonly sand and silt with gravel/talus horizons near the bedrock interface.</p> <p>Groundwater is used as the drinking water source for Cape Romanzof LRRS. The water supply well, Well No. 1 at Lower Camp, was drilled in 1957 to a total depth of 154 ft. The well produces groundwater from two separate casing perforations, from 82 to 102 ft deep and 146 to 148 ft deep. The static water level is approximately 30 ft bgs, which is approximately 20 ft above the top of the aquifer, indicating that the water-bearing zones are confined.</p>
COC	PCBs and lead
INVESTIGATION_ACTIONS	Both Upper and Lower Tram Terminal sites were investigated under a PA/SI in 1999. Three areas were identified to have PCB, DRO, and RRO that exceeded cleanup levels. In 2002, contaminated soil was excavated from the Upper Tram Terminal Building (SS016), the Lower Tram Terminal Building (SS017) and the Lower Tram Terminal Waste Disposal Pit. The contaminated soil was disposed of at an off-site disposal facility. In 2008, RI field activities were conducted. Seven areas were identified during this investigation where surface soil exceeds cleanup levels for PCB or lead.
FINAL_REM_ACTION	The selected remedy is excavation and off-site disposal of surface and subsurface soil.
CONT_RISK	<p>Surface Soil (PCBs): 9.4 x 10⁻⁶ (adult) /6.8 x 10⁻⁶ (child) (recreational/residential land use direct exposure), 1.6 x 10⁻⁴ (adult) / 9.1 x 10⁻⁵ (child) (subsistence user), 3.6 x 10⁻⁷ (short term worker), and 1.3 x 10⁻⁵ (long term worker)</p> <p>Subsurface soil (PCBs): 1.5 x 10⁻⁵ (adult) / 1.1 x 10⁻⁵ (child)(recreational/residential land use direct exposure), NA (subsistence user), 5.6 x 10⁻⁷ (short term worker), and 2.0 x 10⁻⁵ (long term worker)</p> <p>The ERA for SS016 found unacceptable ecological risks to the recreational and subsistence population at Cape Romanzof LRRS. However, the potential risk to ecological receptors from exposure to chemicals of potential ecological concern (COPECs) is expected to be limited as the forage habitat provided by the source areas is limited.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 7/11/2014) United States Air Force (USAF). 2013. Record Of Decision for Landfill No. 2 (LF003), Spill/Leak No. 4 at the Weather Station Building (SS010), Upper Tram Terminal Area (SS016), Lower Tram Terminal Area (SS017), Cape Romanzof Long-Range Radar Site, Alaska. Final. February. (2013 ROD)
STATUS	

Cape_Romanzof_ST009_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	1339
SITIRP_ID	ST009
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	<1x10 ⁻⁵ ; HI<1
ALIAS	ROM 10
SITE_NAME	Spill Site 3/POL Fill Stand
SITE_DESCRIPTION	Site investigation activities discovered petroleum contamination in the soil at a former truck fueling station.
MEDIA_ID	ST009
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	1950s to unknown end date
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	<p>Institutional Controls include</p> <p>a) Ensure that groundwater contamination is not migrating downgradient into Kokechik Bay at levels that could be detrimental to surface water quality.</p> <p>b) Restrict use of the groundwater as long as the groundwater DRO concentrations exceed the ADEC Table C cleanup levels, which are protective of drinking water.</p> <p>Restrict direct contact with petroleum-contaminated subsurface soil and document that petroleum hydrocarbons in surface and subsurface soil exceed levels protective of unrestricted use.</p> <p>d) Restrict excavation and transportation of contaminated soil to prevent migration of contaminants.</p>
POC	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	No COC identified. DRO was identified as a COPC in surface soil, and GRO, DRO, and benzene are considered COPCs in groundwater. No COPCs were identified for surface water or sediment.
MODIFIED_DATE	20110410
CONTAMINATION_SOURCE	A number of historical small fuel spills associated with tank filling and transfers.
SITEID	ST009
INSTLN_ID	CR
MAINTENANCE	Groundwater monitoring; surface water monitoring; LUC inspections
RESTRICTIONS	No unauthorized digging/excavation; Property records/Base Plan documentation

Cape_Romanzof_ST009_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST009
SITE_NAME	Spill Site 3/POL Fill Stand
DATE_SUMM	4/10/2011
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Keith Barnack (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	Spill/Leak 3 is located at a former truck fueling station near Kokechik Bay, north of the barge landing area next to a formner beach warehouse (now demolished). This site has also been known as Truck Fueling Station and ROM-10. Site investigation activities discovered petroleum contamination in the soil at this site. There were reportedly a number of historical small fuel spills associated with tank filling and transfers.
GEO_HYDRO	Monitoring wells installed at ST009 encountered groundwater at depths between approximately 8 feet bgs and 20 feet bgs. The subsurface geology at ST009 was predominantly sand and gravel, with some interbedded layers of sandy silt, silt, and clay, from the ground surface to 25 feet bgs. The apparent groundwater flow direction was toward the west-southwest, following surface topography down toward Kokechik Bay.
COC	DRO identified as a COC in soil and groundwater. GRO and benzene are considered COPCs in groundwater. No COPCs were identified for surface water or sediment.
INVESTIGATION_ACTIONS	Soil and groundwater samples were collected from ST009 during environmental investigations in 1989, 1990, 1994, and 2004.
FINAL_REM_ACTION	Annual monitoring of 2 groundwater wells (MW-4, MW-7, and MW-9) and 1 surface water location (SW-5) will be performed for a minimum of three years. Groundwater samples will be analyzed for DRO, GRO, and BTEX, and surface water samples will be analyzed for TAH and TAqH. The monitoring program will be consistent with the technical requirements set forth in state of Alaska regulations. After 3 consecutive years of monitoring, the data will be evaluated using a statistically valid trend analysis. If monitoring data show that downgradient wells (MW-7 and MW-9) do not have increasing levels of DRO, GRO, or BTEX, and surface water results are consistently below water quality criteria and not increasing, sampling will be discontinued. Otherwise, the monitoring program will be reviewed for protectiveness and representativeness, revised if appropriate, and extended until 3 consecutive years of monitoring data establish that the criteria listed above have been met. USAF will also implement and enforce various Institutional Controls consisting of excavation and construction restrictions within the ST009 site boundaries, documentation that soil is impacted above levels allowing unrestricted use, a requirement that future land use remains non-residential, and a prohibition on the installation of water supply wells within the ST009 site boundaries as long as the aquifer fails 18 AAC 75.345(b)(l) Table C cleanup levels protective of drinking water.
CONT_RISK	Contamination detected at this site does not pose unacceptable potential risk to human health or the environment. However ICs are required to restrict land use to ensure compliance with the exposure assumptions in the risk assessment (i.e. no surface activities that would allow exposure to subsurface soil and no use of groundwater for water supply).
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	United States Air Force (USAF). 2008. Record of Decisions Spill/Leak 1&2 (ST007) Spill/Leak 3 (ST009) Drum Storage Area (SS014) Dump Area (DP001) Cape Romanzof Long-Range Radar Site (Cape Romanzof LRRS). Final. February. (2008 ROD) Contaminated Sites database (accessed 4/10/2011)
STATUS	

Cold_Bay-LF002.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2832
SITIRP_ID	LF002
SITE_STATUS	Cleanup complete-Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	not assessed - no results over regulatory MCLs
ALIAS	LF02
SITE_NAME	Landfill/Gravel Pit
SITE_DESCRIPTION	This site is located approximately 7 miles northwest of Cold Bay on property managed by the USFWS. USAF used the site from 1971 to 1976.
MEDIA_ID	LF002
BOUNDARY_DETAILS	W½ NE¼ Sec. 11, T 57 S, R 89 W, Seward Meridian, Alaska, Aleutian Island Recording District; 2001 Decision Recorded survey with notation of landfill boundaries. A survey was completed and filed in the Aleutians Recorders office noting the location of the landfill. CS database indicates 12/22/03 "GIS Position Updated Topozone, NAD 27"
DATES_OPERATION	1971-1976
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup complete-Institutional Controls
LUC_RESTRICTION	Landfill cap restrictions.
POC	Robert Johnston (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	None
MODIFIED_DATE	20110301
CONTAMINATION_SOURCE	landfill rumored buried drum cache
SITEID	LF002
INSTLN_ID	CB
MAINTENANCE	Landfill cap inspections and repair
RESTRICTIONS	None specified

Cold_Bay-LF002.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF002
SITE_NAME	Landfill/Gravel Pit
DATE_SUMM	3/1/2011
CURRENT_STATUS	Cleanup complete-Institutional Controls
SITE_STATUS	Cleanup complete-Institutional Controls
POCID	Robert Johnston (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	This site is located approximately 7 miles northwest of Cold Bay on property managed by the USFWS. USAF used the site from 1971 to 1976.
GEO_HYDRO	Unknown
COC	None
INVESTIGATION_ACTIONS	In 1986, five monitoring wells were installed around this site and groundwater was collected and analyzed for TPH, VOCs, and PCBs. No contaminants were found above the detection limits. Subsequently, it was reported that 200 drums from the WACS demolition might have been buried in the landfill. In response to this report, a geophysical survey was conducted in 1994 to delineate potential drum burial locations. Eight test pits were dug in these areas, but no drums or other containers that may have held hazardous materials were revealed.
FINAL_REM_ACTION	No further action is the selected remedy for the 1978 Spill/Leak (OT004), Road Oiling (OT003), and Landfill/Gravel Pit (LF002) sites
CONT_RISK	None
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	USAF. 2001. Declaration of Decision, White Alice Communications System (OT01), 1978 Spill/Leak (OT04), Road Oiling (OT03), Landfill/Gravel Pit (LF02), Cold Bay, Alaska. January 12. (2001 Decision Document); Contaminated Sites database-last accessed 3/1/11
STATUS	

Cold_Bay-OT001.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2826
SITIRP_ID	OT001
SITE_STATUS	Cleanup Complete
BOUNDARY_STATUS	CS database indicates 12/22/03 "GIS Position Updated Topozone, NAD 27"
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	not analyzed
ALIAS	OT01
SITE_NAME	OT001
SITE_DESCRIPTION	The Cold Bay WACS facility at OT001, constructed in 1958, consisted of four billboard antennas, a composite building, several other structures, two fuel USTs, and an aboveground gasoline-dispensing tank. The facility was deactivated in 1978. In 1987 and 1988, the facility was demolished, and the debris was buried onsite in accordance with a solid waste disposal permit.
MEDIA_ID	White Alice Communications System
BOUNDARY_DETAILS	½ NW¼ Sec. 9, T 57 S, R 89 W, Seward Meridian, Alaska, Aleutian Island Recording District
DATES_OPERATION	1958-1978
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete
LUC_RESTRICTION	A Record of Survey (USAF 2006b) was prepared and filed with the applicable property records in the Aleutian Islands Recording District, Anchorage, Alaska. The Record of Survey identified the following institutional controls for the site: * Any solid waste or contaminated soil exposed or excavated from this site must be managed in accordance with all the currently applicable laws and regulations. * Groundwater from the site is prohibited from use as a drinking water source until DRO concentrations under 1.5 mg/L are attained throughout the aquifer. Note: Groundwater monitoring has indicated that DRO concentrations have fallen below 1.5 mg/L and site status is cleanup complete.
POC	Robert Johnston (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	DRO
MODIFIED_DATE	20110301
CONTAMINATION_SOURCE	buried debris, abandoned USTs
SITEID	OT001
INSTLN_ID	CB
MAINTENANCE	Groundwater monitoring; Surface water monitoring; 5-year reviews; Landfill cap inspections and repair
RESTRICTIONS	No unauthorized digging/excavation; Property records/Base Plan documentation

Cold_Bay-OT001.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	OT001
SITE_NAME	White Alice Communications System
DATE_SUMM	3/1/2011
CURRENT_STATUS	Cleanup Complete
SITE_STATUS	Cleanup Complete
POCID	Robert Johnston (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	The Cold Bay WACS facility at OT001, constructed in 1958, consisted of four billboard antennas, a composite building, several other structures, two fuel USTs, and an aboveground gasoline-dispensing tank. The facility was deactivated in 1978. In 1987 and 1988, the facility was demolished, and the debris was buried onsite in accordance with a solid waste disposal permit. The OT001 site is located in the Izembek National Wildlife Refuge, approximately 10 miles northwest of Cold Bay at 55 degrees (°), 15 minutes ('), 49.9 seconds (") latitude, and 163°53'8" longitude.
GEO_HYDRO	Unknown
COC	DRO
INVESTIGATION_ACTIONS	In 1991, United States Fish and Wildlife Service (USFWS) informed USAF that a sinkhole had developed in the vicinity of the USTs and that accumulated water appeared to have petroleum sheen. Soil borings around the USTs indicated that this appeared to be water accumulating in the abandoned tanks with residual fuel floating on top. Three soil samples showed DRO contamination ranging from 4.4 to 15,000 mg/kg. In 1997, protruding debris was removed and the largest sinkholes were filled with gravel. One of ten sediment samples collected from wetland areas around the WACS contained SVOC at levels above the risk based screening levels. Actual or threatened releases of hazardous substances including DRO and SVOCs if not addressed by implementing the selected remedy could endanger public health, welfare or the environment. In 2001, the Declaration of Decision for OT001 was developed (ADEC 2001) and incorporated the following remedial goals: <ul style="list-style-type: none"> * Soil from the surface to 15 feet bgs that contained more than 1,000 mg/kg DRO was to be excavated and thermally treated to concentrations below 250 mg/kg. • Groundwater was to be monitored for natural attenuation and the absence of sheen and was to achieve no greater than 1.5 mg/L DRO throughout the aquifer as well as surface water quality standards of 10 µg/L total aromatic hydrocarbons and 15 µg/l, total aqueous hydrocarbons at the point where groundwater discharges into surface water.

Cold_Bay-OT001.ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>The OT01 site includes the demolition landfill that contains the WACS nonhazardous building debris, an asbestos debris cell, and two abandoned 20,000-gallon USTs. To address environmental concerns, the following actions were performed:</p> <ul style="list-style-type: none"> * Soil from the surface to 15 feet bgs that contained more than 1,000 mg/kg DRO was excavated and thermally treated in 2003. * The demolition landfill was inspected annually for 5 years, from 2002 to 2006, to monitor for any sinkhole or erosion development. All sinkholes and erosion channels were filled with clean fill, graded, and revegetated, as necessary. * Additional soil cover was added for a minimum cover of 2 feet over the non-asbestos cell and 3 feet over the asbestos cell. * Finish cover material was graded to promote runoff and minimize erosion. • The landfill area was revegetated to minimize the potential for future erosion. * Groundwater monitoring wells were installed and sampled. * Natural attenuation was monitored for residual contamination. <p>A Record of Survey (USAF 2006b) was prepared and filed with the applicable property records in the Aleutian Islands Recording District, Anchorage, Alaska. The Record of Survey identified the following institutional controls for the site:</p> <ul style="list-style-type: none"> * Any solid waste or contaminated soil exposed or excavated from this site must be managed in accordance with all the currently applicable laws and regulations. * Groundwater from the site is prohibited from use as a drinking water source until DRO concentrations under 1.5 mg/L are attained throughout the aquifer.
CONT_RISK	<p>The selected remedy at OT001 remains protective of human health and the environment, and no contaminants remain onsite above levels stated in the Declaration of Decision. As a result, Cold Bay Radio Relay Station site OT001 is recommended for closure.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>USAF. 2001. Declaration of Decision, White Alice Communications System (OT01), 1978 Spill/Leak (OT04), Road Oiling (OT03), Landfill/Gravel Pit (LF02), Cold Bay, Alaska. January 12. (2001 Decision Document); Contaminated Sites database-last accessed 3/1/11 USAF. 2008. Cold Bay Radio Relay Station, Cold Bay, Alaska, OT01 Closure Report. Final. April. (2008 Closure Report)</p>
STATUS	

Cold_Bay-ST005.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2834
SITIRP_ID	ST005
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	Not specified
ALIAS	ST05
SITE_NAME	POL Storage Area
SITE_DESCRIPTION	The POL Storage Area (ST005), consisted of two 70,000-barrel ASTs, a pump house, a fueling island, and associated piping.
MEDIA_ID	ST005
BOUNDARY_DETAILS	Block 4, Lot 5, Cold Bay Subdivision, Alaska State Land Survey #79-82,
DATES_OPERATION	1958-1978
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	ICs in the form of notice land records will be developed by USAF, with ADEC concurrence, to document that groundwater should not be used as a drinking water source until it meets the applicable cleanup levels. The ICs will also document that if contaminated soil is excavated or exposed in the future it must be managed in accordance with the laws and regulation applicable at that time.
POC	Robert Johnston (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	DRO
MODIFIED_DATE	20110224
CONTAMINATION_SOURCE	leaks, spills associated with fuel storage area
SITEID	ST005
INSTLN_ID	CB
MAINTENANCE	Groundwater monitoring; Surface water monitoring;
RESTRICTIONS	No potable groundwater use; No unauthorized digging/excavation; Property records/Base Plan documentation

Cold_Bay-ST005.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST005
SITE_NAME	POL Storage Area
DATE_SUMM	2/24/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP); 10471 20th St Ste 301, JBER, AK 99506-2201
DESC_USE	The POL Storage Area (ST005), consisted of two 70,000-barrel ASTs, a pump house, a fueling island, and associated piping. Diesel fuel was delivered by barge to the ASTs and then transferred by truck to tanks at the WACS for power generation and heating. The ASTs and piping were demolished in 1994.
GEO_HYDRO	Unknown
COC	DRO
INVESTIGATION_ACTIONS	Investigations in 1993 and 1996 indicated diesel-contaminated soil reside the dike and near the former pump house. In 1997, a bioventing system was installed to study the effectiveness of this remedial alternative in cleaning up the contaminated soil. Subsequent data indicated that the system was not achieving project cleanup goals. In 2000, the bioventing system was removed, and approximately 2,000 cy of diesel-contaminated soil was excavated and placed in two long-term stockpiles. The depth of the excavation was limited to 10 feet bgs. Contaminated soil was left in place on some sidewalls and at the bottom of the excavation. The excavation was backfilled with clean fill. However, actual or threatened releases of DRO, if not addressed by implementing the selected remedy could present a danger to public health, welfare or the environment. Because contaminated soils were left in place in the sidewall area and the bottom of the excavation, additional excavation and treatment is required prior to site closure.
FINAL_REM_ACTION	Based on the current conditions at the POL Storage Area (ST005) site, excavation and thermal treatment of contaminated soil up to 15 feet deep, treatment of the approximately 2000 cubic yards of stockpiled contaminated soil, and monitored natural attenuation for the remaining contaminated soil and groundwater is the selected remedy. ICs in the form of notice in land records will be developed by USAF, with ADEC concurrence, to document that groundwater should not be used as a drinking water source until it meets the applicable cleanup levels. The ICs will also document that if contaminated soil is excavated or exposed in the future it must be managed in accordance with the laws and regulation applicable at that time. The remedial action goals for this site are: <ul style="list-style-type: none"> • For soil from the surface to 10 feet bgs - removal and treatment of soil containing more than 250 mg/Kg DRO to meet 18 AAC 75.341, Method 2 migration to groundwater cleanup level for the under 40 inch precipitation zone. • For soil between 10 and 15 feet bgs - removal and treatment of soil containing more than 1,000 mg/Kg DRO to insure that the inhalation and ingestion standards are met and to reduce the amount of time it will take for natural attenuation to meet the cleanup levels • For fuel contaminated groundwater -monitored natural attenuation to achieve no greater than 1.5 mg/L DRO throughout the aquifer (18 AAC 75.345 Table C), and achieve surface water quality standards (10 µg/L TAH, 15 µg/L TAqH) at the point where groundwater discharges to surface water.
CONT_RISK	Not Specified
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	USAF. 2001. Declaration of Decision, POL Storage Area (ST05), Cold Bay, Alaska. January 12. (2001 Declaration of Decision) Contaminated Sites database - last accessed 2/24/11
STATUS	

Duncan_Canal_Radio_Relay_Site-SS001.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	26
SITIRP_ID	SS001
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	ADEC
RISK	NA
ALIAS	NA
SITE_NAME	Barrel Dump Site
SITE_DESCRIPTION	The former Barrel Dump Site (SS001) consists of three locations in the forest near three privately-owned recreational use cabins along the Beach Facility Area (BFA) where numerous empty drums were removed in 2000.
MEDIA_ID	SS001
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Installation operated from 1960-1976
CATEGORY	ERP
AREA_ACRES	approximately 3,600 square feet
ACTIVITY	Active
LUC_RESTRICTION	<ul style="list-style-type: none"> -ICs and LTM will be in place until ADEC Table C groundwater cleanup levels are met. -Specific mechanisms will be implemented by and managed by the USFS to ensure proper implementation, maintenance, monitoring, and reporting of ICs. -The USFS LSRS will document all ICs and will include summary information about existing contamination allowed uses, and geographic boundaries of the ICs. -Timely notification to ADEC is required for planned transfers of the property subject to ICs. -The USAF will coordinate with USFS in monitoring and inspecting all site areas subject to ICs. The USAF will submit groundwater monitoring work plans and reports to ADEC for approval with USFS concurrence until contaminant concentrations are below the ADEC Table C cleanup levels for two consecutive sampling events. At that time, the ICs can be removed. -The frequency of inspections and reports, if mutually agreed upon by ADEC, USAF, and USFS, may be reduced. At a minimum, reviews will be conducted every 5 years for as long as the ICs remain in place.
POC	Lori Roy (AFCEC/CZOP); 10471 20th St. Ste. 301, JBER, AK, 99506-2201
PHONE	907.552.7697
CHEMICALS_OF_CONCERN	DRO in surface and subsurface soils and benzo(a)pyrene and DRO in groundwater; methylene chloride exceeded ADEC Method Two cleanup levels, however, it is a common laboratory contaminant and thus the detected concentration may not be a site-related contaminant.
MODIFIED_DATE	20140916
CONTAMINATION_SOURCE	Wastes such as drums
SITEID	SS001
INSTLN_ID	DC
MAINTENANCE	<ul style="list-style-type: none"> -Maintain maps illustrating the IC boundaries -Inspection of all site areas subject to ICs
RESTRICTIONS	Preclude the use and/or exposure to contaminated groundwater until ADEC Table C cleanup levels are met.

Duncan_Canal_Radio_Relay_Site-SS001.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS001
SITE_NAME	Barrel Dump Site
DATE_SUMM	9/16/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Lori Roy (AFCEC/CZOP); 10471 20th St. Ste. 301, JBER, AK, 99506-2201
DESC_USE	The former Barrel Dump Site (SS001) is located adjacent to three privately-owned recreational use cabins along the Beach Facility Area (BFA) and consists of three locations in the forest near the cabins where numerous empty drums were removed in 2000.
GEO_HYDRO	Duncan Canal Radio Relay Station is located on the west side of the Lindenburg Peninsula on Kupreanof Island. Bedrock deposits within the Lindenburg Peninsula are typified by Mesozoic aged metamorphic sedimentary rocks with sequences of igneous intrusions. The Duncan Canal region is located within an area of dynamic glacial activity where glacial advances and retreats have eroded typical glacial landform into the coastal terrain. Significant glacial alteration has shaped native bedrock into long U-shaped valleys, arites, deep fjords, and other glacial features. Glacial activity, climate, and ecologic influences have resulted in thin, highly-organic soils (Hstosols and Spodosols) in the region. Muskeg and wetlands are present within the eastern vicinity of SS001. Bedrock was not encountered during the 2008 sub-surface soil investigation. Fill material was encountered along the cabin access road and within screening grids 1, 2, and 3. SS001 appears to be a marine bench with highly saturated soils which extend to shallow marine clays acting as an impermeable layer. Groundwater was considered to be approximately 2 feet bgs, and constantly interfacing with surface water based on rainfall and the influence of this water migrating through the soil column, and shallow silt layers. Surface soil at the BFA is comprised of organics, sand and clay deposits that extend to approximately 7 to 9 feet bgs. These unconsolidated deposits overlay the marine sediment terrace deposits, which extends to an unknown depth. Surficial sediments were found to be damp to saturated, with lithology characteristic of engineered gravel pad material. Deeper subsurface soils were found to have damp to dry moisture content with moderate to high plasticity. These sediment conditions have produced a highly impermeable, low porosity formation. These perched water conditions are caused from the highly impermeable sediments and the high evapotranspiration capacity of the beach forests.
COC	DRO in surface and subsurface soils and benzo(a)pyrene and DRO in groundwater; methylene chloride exceeded ADEC Method Two cleanup levels, however, it is a common laboratory contaminant and thus the detected concentration may not be a site-related contaminant.
INVESTIGATION_ACTIONS	During the 2005 Preliminary Assessment/Site Inspection, surface soil screening was conducted around the vicinity of the former drum locations. Photoionization detector (PID) readings were used to select surface soil sample locations. The samples were analyzed for gasoline range organics (GRO), diesel range organics (DRO), residual range organics (RRO), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), pesticides, herbicides, and Resource Conservation and Recovery Act (RCRA) metals. Of six analytical samples analyzed, two samples contained DRO concentrations that exceeded Alaska Department of Environmental Conservation (ADEC) Method Two screening criteria and one sample contained lead in excess of screening criteria. During the 2009 Remedial Investigation (RI), four areas with DRO surface soil contamination in excess of the site-specific ADEC Method Three cleanup levels were identified encompassing an area of approximately 3,600 square feet. DRO was also detected in subsurface soil samples above the site-specific ADEC Method Three cleanup levels with the highest detection from a soil boring adjacent to the storage shed from 5.5 to 7.5 feet bgs. DRO was detected above ADEC Table C groundwater cleanup levels in one of eight groundwater samples. This temporary monitoring well is located adjacent to the storage shed at the location of the highest DRO concentrations in surface soil. Benzo(a)pyrene was also detected at one location northeast of Grid #3 at concentration above ADEC Table C groundwater cleanup level.
FINAL_REM_ACTION	Contaminated soil above approved ADEC cleanup levels will be excavated, loaded onto barges, and shipped to the appropriate commercially operated and permitted landfill for disposal. Confirmation sampling will be conducted to ensure soil cleanup levels are achieved and clean fill (soil) will be used to backfill the excavated areas. The selected remedy for groundwater is Institutional Controls (ICs) and Natural Attenuation with long-term monitoring (LTM). ICs that will limit the use and/or exposure to contaminated water resources will be implemented during remedial action. Site inspections and LTM will be conducted for groundwater annually by the USAF until contaminants are below ADEC Table C groundwater cleanup levels for two consecutive sampling events and it is determined that groundwater no longer poses an unacceptable risk to human health and the environment. Once ADEC Table C groundwater cleanup levels are met, ADEC will issue a cleanup complete letter at which time the ICs will be removed and unrestricted use/unrestricted exposure will be achieved.

Duncan_Canal_Radio_Relay_Site-SS001.ENV_SITE_SUMMARY_IRP

	<p>The following specific mechanisms will be implemented by and managed by the USFS to ensure proper implementation, maintenance, monitoring, and reporting to achieve ICs performance objectives:</p> <ul style="list-style-type: none"> -All DD use limitations and exposure restrictions will be documented in the USFS LSRS and in the GIS compatible with USAF and USFS GIS data systems. -The USFS land use activity review process will be used to prevent use of groundwater as drinking water, and prevent damage to monitoring wells. -ADEC and USFS approvals are needed prior to excavating, approvals should cover characterization, management and treatment or disposal of any water that would be generated. <p>The USFS will maintain maps illustrating the boundaries of SS001 to prevent access to groundwater. The USAF will produce maps showing locations of groundwater contamination, and will provide these maps to ADEC and USFS once remedial action has occurred. Maps will indicate site location, with agreed-upon restrictions on any invasive activities that could potentially result in exposure to contaminants. The USFS LSRS will document all ICs and will include summary information about existing contamination allowed uses, and geographic boundaries of the ICs. The USAF will provide the USFS and ADEC geographic surveyed boundaries of the ICs for approval by the USFS and ADEC for placement into LSRS. A Notice of Environmental Contamination approved by USAF, ADEC, and USFS will be placed in the Alaska Department of Natural Resources' land records.</p> <p>Timely notification to ADEC is required for planned transfers, to include federal-to-federal transfers, of property subject to ICs. The USFS will provide notice to ADEC at least six months prior to any transfer or sale of property containing ICs so that ADEC can be involved in discussions with USAF and USFS to ensure that appropriate provisions are included in the transfer or conveyance documents to maintain effective ICs. If it is not possible for USFS to notify ADEC at least six months prior to any transfer or sale, then USFS will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. The USFS agrees to provide ADEC with such notice, within the same time frames, for federal-to-federal transfers of property accountability. The USFS shall provide either access to, or a copy of, the executed deed or transfer assembly to ADEC.</p> <p>The USFS must notify ADEC as soon as practicable, but no longer than ten days after discovery of any activity that violates or is inconsistent with the IC objectives or use restrictions, or any other action that may interfere with the effectiveness of the ICs. The USFS ensures that prompt measures are taken to correct the violation or deficiency and prevent its recurrence. In this notification, the USFS will identify any corrective measures it has taken, or any corrective measures it plans to take, and the estimated time frame for completing them. For corrective measures taken after the notification, the USFS shall notify ADEC when the measures are complete.</p> <p>The USFS will ensure that the IC provisions contained in the DD are included in the USFS LSRS. The USAF will also coordinate with the USFS in monitoring and inspecting all site areas subject to ICs. The USAF will submit groundwater monitoring work plans and reports to ADEC for approval with USFS concurrence until contaminant concentrations are below the ADEC Table C cleanup levels for two consecutive sampling events. At that time, the ICs can be removed. The frequency of inspections and reports, if mutually agreed upon by ADEC, USAF and USFS, may be reduced. At a minimum, reviews will be conducted every five years for as long as the ICs remain in place. The USFS will not modify or terminate ICs or modify land uses that may impact the effectiveness of the ICs or take any anticipated action that may disrupt the effectiveness of the ICs or take any anticipated action that may alter or negate the need for ICs without seeking and obtaining approval from ADEC and concurrence from USAF prior to the change of any required DD modifications.</p>
CONT_RISK	<p>The Baseline Human Health Risk Assessment has demonstrated that DRO and RRO in groundwater may pose a human health risk. As groundwater is not used as a portable water supply, this exposure pathway is considered incomplete. A qualitative screening-level ecological risk assessment indicated that significant risk to wildlife species is unlikely with the exception of the potential localized areas of DRO and RRO.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>United States Air Force (USAF). 2013. Decision Document for Sites (SS001 (Barrel Dump Site), SS02 (Generator Building), and SS003 (Fuel Pump House and Rock Quarry) Duncan Canal Radio Relay Station Kupreanof Island, Alaska. Final. December. (2013 DD)</p> <p>United States Air Force (USAF). 2009. Remedial Investigation Report Duncan Canal Radio Relay Station Kupreanof Island, Alaska. Final. July. (2009 RI)</p> <p>Contaminated Sites Database (accessed 9/16/2014)</p>
STATUS	

Duncan_Canal_Radio_Relay_Site-SS002.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	26
SITIRP_ID	SS002
SITE_STATUS	Open
BOUNDARY_STATUS	
OU	NA
ECP	NA
REGULATORY	ADEC
RISK	NA
ALIAS	NA
SITE_NAME	Generator Building
SITE_DESCRIPTION	The Generator Building (SS002) is located at the BFA and consists of the former generator building that supplied power for lighting and a nearby fuel pump house.
MEDIA_ID	SS002
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Installation operated from 1960-1976
CATEGORY	ERP
AREA_ACRES	Approximately 400 square feet
ACTIVITY	Active
LUC_RESTRICTION	<p>-ICs and LTM will be in place until ADEC Table C groundwater cleanup levels are met.</p> <p>-Specific mechanisms will be implemented by and managed by the USFS to ensure proper implementation, maintenance, monitoring, and reporting of ICs.</p> <p>-The USFS LSRS will document all ICs and will include summary information about existing contamination allowed uses, and geographic boundaries of the ICs.</p> <p>-Timely notification to ADEC is required for planned transfers of the property subject to ICs.</p> <p>-The USAF will coordinate with USFS in monitoring and inspecting all site areas subject to ICs. The USAF will submit groundwater monitoring work plans and reports to ADEC for approval with USFS concurrence until contaminant concentrations are below the ADEC Table C cleanup levels for two consecutive sampling events. At that time, the ICs can be removed.</p> <p>-The frequency of inspections and reports, if mutually agreed upon by ADEC, USAF, and USFS, may be reduced. At a minimum, reviews will be conducted every five years for as long as the ICs remain in place.</p>
POC	Lori Roy (AFCEC/CZOP); 10471 20th St. Ste. 301, JBER, AK, 99506-2201
PHONE	907.552.7697
CHEMICALS_OF_CONCERN	1-methylnaphthalene, 2-methylnaphthalene, and benzene in subsurface soil and DRO in groundwater; methylene chloride exceeded ADEC Method Two cleanup levels, however, it is a common laboratory contaminant and thus the detected concentration may not be a site-related contaminant.
MODIFIED_DATE	20140916
CONTAMINATION_SOURCE	Unknown
SITEID	SS002
INSTLN_ID	DC
MAINTENANCE	<p>-Maintain maps illustrating the IC boundaries</p> <p>-Inspection of all site areas subject to ICs</p>
RESTRICTIONS	Preclude the use and/or exposure to contaminated groundwater until ADEC Table C cleanup levels are met.

Duncan_Canal_Radio_Relay_Site-SS002.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS002
SITE_NAME	Generator Building
DATE_SUMM	9/16/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Lori Roy (AFCEC/CZOP); 10471 20th St. Ste. 301, JBER, AK, 99506-2201
DESC_USE	The Generator Building (SS002) is located at the Beach Facility Area (BFA) and consists of the former generator building that supplied power for lighting and a nearby fuel pump house.
GEO_HYDRO	Duncan Canal Radio Relay Site is located on the west side of the Lindenburg Peninsula on Kupreanof Island. Bedrock deposits within the Lindenburg Peninsula are typified by Mesozoic aged metamorphic sedimentary rocks with sequences of igneous intrusions. The Duncan Canal region is located within an area of dynamic glacial activity where glacial advances and retreats have eroded typical glacial landform into the coastal terrain. Significant glacial alteration has shaped native bedrock into long U-shaped valleys, arites, deep fjords, and other glacial features. Glacial activity, climate, and ecologic influences have resulted in thin, highly-organic soils (Hstosols and Spodosols) in the region. Bedrock was not encountered at the BFA during the 2008 RI sub-surface soil investigation. Surface soil at the BFA is comprised of organics, sand and clay deposits that extend to approximately 7 to 9 feet bgs. These unconsolidated deposits overlay the marine sediment terrace deposits, which extends to an unknown depth. Surficial sediments were found to be damp to saturated, with lithology characteristic of engineered gravel pad material. Deeper subsurface soils were found to have damp to dry moisture content with moderate to high plasticity. Although the average precipitation for the area is high and is considered a temperate rainforest, the average depth of infiltration within these sediments is only 3.5 feet bgs. These sediment conditions have produced a highly impermeable, low porosity formation. These perched water conditions are caused from the highly impermeable sediments and the high evapotranspiration capacity of the beach forests.
COC	1-methylnaphthalene, 2-methylnaphthalene, and benzene in subsurface soil and DRO in groundwater; methylene chloride exceeded ADEC Method Two cleanup levels, however, it is a common laboratory contaminant and thus the detected concentration may not be a site-related contaminant.
INVESTIGATION_ACTIONS	<p>During the 2005 Preliminary Assessment/Site Inspection (PA/SI), subsurface soil and groundwater samples were collected and analyzed for DRO, RRO, PCBs, and RCRA metals. Discrete samples were also collected and analyzed for GRO, VOCs, PAHs, pesticides, and herbicides. DRO was the only constituent detected above screening criteria from all samples analyzed.</p> <p>During the 2009 Remedial Investigation (RI), no surface soil locations contained in excess of site-specific ADEC Method Three cleanup levels were identified. One subsurface soil location contained DRO, benzene, and PAH contamination that exceeded ADEC Method Three cleanup levels.</p> <p>Total volume of semi-volatile organic compounds and VOCs contaminated soil above the respective cleanup levels is estimated to be approximately 37 cubic yards.</p> <p>DRO was also detected above ADEC Table C groundwater cleanup levels in one of two groundwater samples. The temporary monitoring well, having groundwater that exceeded the cleanup level in 2009, was placed near the location of elevated soil DRO results determined during the 2005 PA/SI. Groundwater contamination was found to range three to eight feet bgs.</p>
FINAL_REM_ACTION	<p>Contaminated soil above approved ADEC cleanup levels will be excavated, loaded onto barges, and shipped to the appropriate commercially operated and permitted landfill for disposal. Confirmation sampling will be conducted to ensure soil cleanup levels are achieved and clean fill (soil) will be used to backfill the excavated areas.</p> <p>The selected remedy for groundwater is ICs and Natural Attenuation with LTM. ICs that will limit the use and/or exposure to contaminated water resources will be implemented during remedial action. Site inspections and LTM will be conducted for groundwater annually by the USAF until contaminants are below ADEC Table C groundwater cleanup levels for two consecutive sampling events and it is determined that groundwater no longer poses an unacceptable risk to human health and the environment. Once ADEC Table C groundwater cleanup levels are met, ADEC will issue a cleanup complete letter at which time the ICs will be removed and unrestricted use/unrestricted exposure will be achieved.</p> <p>The following specific mechanisms will be implemented by and managed by the USFS to ensure proper implementation, maintenance, monitoring, and reporting to achieve ICs performance objectives:</p> <ul style="list-style-type: none"> -All DD use limitations and exposure restrictions will be documented in the USFS LSRS and in the GIS compatible with USAF and USFS GIS data systems. -The USFS land use activity review process will be used to prevent use of groundwater as drinking water, and prevent damage to monitoring wells. -ADEC and USFS approvals are needed prior to excavating, approvals should cover characterization, management and treatment or disposal of any water that would be generated.

Duncan_Canal_Radio_Relay_Site-SS002.ENV_SITE_SUMMARY_IRP

	<p>The USFS will maintain maps illustrating the boundaries of SS002 to prevent access to groundwater. The USAF will produce maps showing locations of groundwater contamination, and will provide these maps to ADEC and USFS once remedial action has occurred. Maps will indicate site location, with agreed-upon restrictions on any invasive activities that could potentially result in exposure to contaminants. The USFS LSRS will document all ICs and will include summary information about existing contamination allowed uses, and geographic boundaries of the ICs. The USAF will provide the USFS and ADEC geographic surveyed boundaries of the ICs for approval by the USFS and ADEC for placement into LSRS. A Notice of Environmental Contamination approved by USAF, ADEC, and USFS will be placed in the Alaska Department of Natural Resources' land records.</p> <p>Timely notification to ADEC is required for planned transfers, to include federal-to-federal transfers, of property subject to ICs. The USFS will provide notice to ADEC at least six months prior to any transfer or sale of property containing ICs so that ADEC can be involved in discussions with USAF and USFS to ensure that appropriate provisions are included in the transfer or conveyance documents to maintain effective ICs. If it is not possible for USFS to notify ADEC at least six months prior to any transfer or sale, then USFS will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. The USFS agrees to provide ADEC with such notice, within the same time frames, for federal-to-federal transfers of property accountability. The USFS shall provide either access to, or a copy of, the executed deed or transfer assembly to ADEC.</p> <p>The USFS must notify ADEC as soon as practicable, but no longer than ten days after discovery of any activity that violates or is inconsistent with the IC objectives or use restrictions, or any other action that may interfere with the effectiveness of the ICs. The USFS ensures that prompt measures are taken to correct the violation or deficiency and prevent its recurrence. In this notification, the USFS will identify any corrective measures it has taken, or any corrective measures it plans to take, and the estimated time frame for completing them. For corrective measures taken after the notification, the USFS shall notify ADEC when the measures are complete.</p> <p>The USFS will ensure that the IC provisions contained in the DD are included in the USFS LSRS. The USAF will also coordinate with the USFS in monitoring and inspecting all site areas subject to ICs. The USAF will submit groundwater monitoring work plans and reports to ADEC for approval with USFS concurrence until contaminant concentrations are below the ADEC Table C cleanup levels for two consecutive sampling events. At that time, the ICs can be removed. The frequency of inspections and reports, if mutually agreed upon by ADEC, USAF and USFS, may be reduced. At a minimum, reviews will be conducted every five years for as long as the ICs remain in place. The USFS will not modify or terminate ICs or modify land uses that may impact the effectiveness of the ICs or take any anticipated action that may disrupt the effectiveness of the ICs or take any anticipated action that may alter or negate the need for ICs without seeking and obtaining approval from ADEC and concurrence from USAF prior to the change of any required DD modifications.</p>
CONT_RISK	NA
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>United States Air Force (USAF). 2013. Decision Document for Sites (SS001 (Barrel Dump Site), SS02 (Generator Building), and SS003 (Fuel Pump House and Rock Quarry) Duncan Canal Radio Relay Station Kupreanof Island, Alaska. Final. December. (2013 DD)</p> <p>United States Air Force (USAF). 2010. Feasibility Study Duncan Canal Radio Relay Station Kupreanof Island, Alaska. Final. June. (2010 FS)</p> <p>United States Air Force (USAF). 2009. Remedial Investigation Report Duncan Canal Radio Relay Station Kupreanof Island, Alaska. Final. July. (2009 RI)</p> <p>Contaminated Sites Database (accessed 9/16/2014)</p>
STATUS	

Duncan_Canal_Radio_Relay_Site-SS003.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	Unknown
SITIRP_ID	SS003
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	ADEC
RISK	NA
ALIAS	NA
SITE_NAME	Fuel Pumphouse
SITE_DESCRIPTION	Site SS003 is located just north of Site SS002 at the BFA, and is the former location of a Fuel Pumphouse which was used to transfer fuel from a former 130,000-gallon AST to fuel trucks for transport from the BFA to the Mountain Top Facility Area.
MEDIA_ID	SS003
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Installation operated from 1960-1976; the Pumphouse was reported demolished in 1986 and disposed of in Landfill No. 2.
CATEGORY	ERP
AREA_ACRES	approximately 800 square feet
ACTIVITY	Active
LUC_RESTRICTION	<p>-ICs and LTM will be in place until ADEC Table C groundwater cleanup levels are met.</p> <p>-Specific mechanisms will be implemented by and managed by the USFS to ensure proper implementation, maintenance, monitoring, and reporting of ICs.</p> <p>-The USFS LSRS will document all ICs and will include summary information about existing contamination allowed uses, and geographic boundaries of the ICs.</p> <p>-Timely notification to ADEC is required for planned transfers of the property subject to ICs.</p> <p>-The USAF will coordinate with USFS in monitoring and inspecting all site areas subject to ICs. The USAF will submit groundwater monitoring work plans and reports to ADEC for approval with USFS concurrence until contaminant concentrations are below the ADEC Table C cleanup levels for two consecutive sampling events. At that time, the ICs can be removed.</p> <p>-The frequency of inspections and reports, if mutually agreed upon by ADEC, USAF, and USFS, may be reduced. At a minimum, reviews will be conducted every five years for as long as the ICs remain in place.</p>
POC	Lori Roy (AFCEC/CZOP); 10471 20th St. Ste. 301, JBER, AK, 99506-2201
PHONE	907.552.7697
CHEMICALS_OF_CONCERN	Benzene in surface soil, benzo(a)pyrene, dibenzo(a,h)anthracene, and DRO in subsurface soil, and benzo(a)pyrene and DRO in groundwater; methylene chloride exceeded ADEC Method Two cleanup levels, however, it is a common laboratory contaminant and thus the detected concentration may not be a site-related contaminant.
MODIFIED_DATE	20140916
CONTAMINATION_SOURCE	Unknown
SITEID	SS003
INSTLN_ID	DC
MAINTENANCE	<p>-Maintain maps illustrating the IC boundaries</p> <p>-Inspection of all site areas subject to ICs</p>
RESTRICTIONS	Preclude the use and/or exposure to contaminated groundwater until ADEC Table C cleanup levels are met.

Duncan_Canal_Radio_Relay_Site-SS003.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS003
SITE_NAME	Fuel Pumphouse
DATE_SUMM	9/16/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Lori Roy (AFCEC/CZOP); 10471 20th St. Ste. 301, JBER, AK, 99506-2201
DESC_USE	Site SS003 is located just north of Site SS002 at the BFA, and is the former location of a Fuel Pumphouse which was used to transfer fuel from a former 130,000-gallon AST to fuel trucks for transport from the BFA to the Mountain Top Facility Area. The Pumphouse was reported demolished in 1986 and disposed of in Landfill No. 2.
GEO_HYDRO	Duncan Canal Radio Relay Site is located on the west side of the Lindenburg Peninsula on Kupreanof Island. Bedrock deposits within the Lindenburg Peninsula are typified by Mezozoic aged metamorphic sedimentary rocks with sequences of igneous intrusions. The Duncan Canal region is located within an area of dynamic glacial activity where glacial advances and retreats have eroded typical glacial landform into the coastal terrain. Significant glacial alteration has shaped native bedrock into long U-shaped valleys, arites, deep fjords, and other glacial features. Glacial activity, climate, and ecologic influences have resulted in thin, highly-organic soils (Hstosols and Spodosols) in the region. Bedrock was not encountered at the BFA during the 2008 RI sub-surface soil investigation. Surface soil at the BFA is comprised of organics, sand and clay deposits that extend to approximately 7 to 9 feet bgs. These unconsolidated deposits overlay the marine sediment terrace deposits, which extends to an unknown depth. Surficial sediments were found to be damp to saturated, with lithology characteristic of engineered gravel pad material. Deeper subsurface soils were found to have damp to dry moisture content with moderate to high plasticity. Although the average precipitation for the area is high and is considered a temperate rainforest, the average depth of infiltration within these sediments is only 3.5 feet bgs. These sediment conditions have produced a highly impermeable, low porosity formation. These perched water conditions are caused from the highly impermeable sediments and the high evapotranspiration capacity of the beach forests.
COC	Benzene in surface soil, benzo(a)pyrene, dibenzo(a,h)anthracene, and DRO in subsurface soil, and benzo(a)pyrene and DRO in groundwater; methylene chloride exceeded ADEC Method Two cleanup levels, however, it is a common laboratory contaminant and thus the detected concentration may not be a site-related contaminant.
INVESTIGATION_ACTIONS	Areas of stressed vegetation were noted in the vicinity of the former Pumphouse location during demolition in 1986. During the 2005 PA/SI, elevated concentrations of DRO and benzo(a)pyrene were identified in the groundwater above screening criteria and elevated DRO concentrations were also identified in surface soil. During the 2009 RI, DRO surface contamination was detected at one location in excess of the site-specific ADEC Method Three cleanup levels, comprising an area of approximately 800 square feet. Subsurface soil contamination in excess of default screening criteria was not identified. DRO was detected above ADEC Table C groundwater cleanup levels in one of the two groundwater samples. This temporary monitoring well was located where the elevated DRO soil result was found during the 2005 PA/SI. The volume of SVOCs, VOCs, and DRO contaminated soils is estimated to be approximately 74 cubic yards.

Duncan_Canal_Radio_Relay_Site-SS003.ENV_SITE_SUMMARY_IRP

<p>FINAL_REM_ACTION</p>	<p>Contaminated soil above approved ADEC cleanup levels will be excavated, loaded onto barges, and shipped to the appropriate commercially operated and permitted landfill for disposal. Confirmation sampling will be conducted to ensure soil cleanup levels are achieved and clean fill (soil) will be used to backfill the excavated areas.</p> <p>The selected remedy for groundwater is Institutional Controls (ICs) and Natural Attenuation with long-term monitoring (LTM). ICs that will limit the use and/or exposure to contaminated water resources will be implemented during remedial action. Site inspections and LTM will be conducted for groundwater annually by the USAF until contaminants are below ADEC Table C groundwater cleanup levels for two consecutive sampling events and it is determined that groundwater no longer poses an unacceptable risk to human health and the environment. Once ADEC Table C groundwater cleanup levels are met, ADEC will issue a cleanup complete letter at which time the ICs will be removed and unrestricted use/unrestricted exposure will be achieved.</p> <p>The following specific mechanisms will be implemented by and managed by the USFS to ensure proper implementation, maintenance, monitoring, and reporting to achieve ICs performance objectives:</p>
	<p>-All DD use limitations and exposure restrictions will be documented in the USFS Land Status Record System (LSRS) and in the Geographical Information System (GIS) compatible with USAF and USFS GIS data systems.</p> <p>-The USFS land use activity review process will be used to prevent use of groundwater as drinking water, and prevent damage to monitoring wells.</p> <p>-ADEC and USFS approvals are needed prior to excavating, approvals should cover characterization, management and treatment or disposal of any water that would be generated.</p> <p>The USFS will maintain maps illustrating the boundaries of SS002 to prevent access to groundwater. The USAF will produce maps showing locations of groundwater contamination, and will provide these maps to ADEC and USFS once remedial action has occurred. Maps will indicate site location, with agreed-upon restrictions on any invasive activities that could potentially result in exposure to contaminants. The USFS LSRS will document all ICs and will include summary information about existing contamination allowed uses, and geographic boundaries of the ICs. The USAF will provide the USFS and ADEC geographic surveyed boundaries of the ICs for approval by the USFS and ADEC for placement into LSRS. A Notice of Environmental Contamination approved by USAF, ADEC, and USFS will be placed in the Alaska Department of Natural Resources' land records.</p>
	<p>Timely notification to ADEC is required for planned transfers, to include federal-to-federal transfers, of property subject to ICs. The USFS will provide notice to ADEC at least six months prior to any transfer or sale of property containing ICs so that ADEC can be involved in discussions with USAF and USFS to ensure that appropriate provisions are included in the transfer or conveyance documents to maintain effective ICs. If it is not possible for USFS to notify ADEC at least six months prior to any transfer or sale, then USFS will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. The USFS agrees to provide ADEC with such notice, within the same time frames, for federal-to-federal transfers of property accountability. The USFS shall provide either access to, or a copy of, the executed deed or transfer assembly to ADEC.</p> <p>The USFS must notify ADEC as soon as practicable, but no longer than ten days after discovery of any activity that violates or is inconsistent with the IC objectives or use restrictions, or any other action that may interfere with the effectiveness of the ICs. The USFS ensures that prompt measures are taken to correct the violation or deficiency and prevent its recurrence. In this notification, the USFS will identify any corrective measures it has taken, or any corrective measures it plans to take, and the estimated time frame for completing them. For corrective measures taken after the notification, the USFS shall notify ADEC when the measures are complete.</p>

Duncan_Canal_Radio_Relay_Site-SS003.ENV_SITE_SUMMARY_IRP

	<p>The USFS will ensure that the IC provisions contained in the DD are included in the USFS LSRS. The USAF will also coordinate with the USFS in monitoring and inspecting all site areas subject to ICs. The USAF will submit groundwater monitoring work plans and reports to ADEC for approval with USFS concurrence until contaminant concentrations are below the ADEC Table C cleanup levels for two consecutive sampling events. At that time, the ICs can be removed. The frequency of inspections and reports, if mutually agreed upon by ADEC, USAF and USFS, may be reduced. At a minimum, reviews will be conducted every five years for as long as the ICs remain in place. The USFS will not modify or terminate ICs or modify land uses that may impact the effectiveness of the ICs or take any anticipated action that may disrupt the effectiveness of the ICs or take any anticipated action that may alter or negate the need for ICs without seeking and obtaining approval from ADEC and concurrence from USAF prior to the change of any required DD modifications.</p>
CONT_RISK	NA
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>United States Air Force (USAF). Decision Document for Sites (SS001 (Barrel Dump Site), SS02 (Generator Building), and SS003 (Fuel Pump House and Rock Quarry) Duncan Canal Radio Relay Station Kupreanof Island, Alaska. Final. December. (2013 DD)</p> <p>United States Air Force (USAF). 2009. Remedial Investigation Report Duncan Canal Radio Relay Station Kupreanof Island, Alaska. Final. July. (2009 RI)</p> <p>Contaminated Sites Database (accessed 9/16/2014)</p>
STATUS	

Duncan_Canal-SS006.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	26
SITIRP_ID	SS006
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	ADEC
RISK	cancer = 5X10-5; HQ=1
ALIAS	NA
SITE_NAME	Demolition Debris Area
SITE_DESCRIPTION	Site SS006 is the Former Demolition Debris Area located in the MTF. Site SS006 consists of a debris burial cell which contains construction debris and soil removed from the MTF during deconstruction. All facilities were removed and soil was removed down to bedrock and placed in the debris cell.
MEDIA_ID	SS006
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Installation operated from 1960-1976
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>Site SS006 has an estimated total volume of 105 cubic yards of RCRA metals, VOCs, and pesticide contaminated subsurface and surface soil, an estimated 473 cubic yards of hazardous debris, an estimated 15 cubic yards of contaminated soil in the run-off channels, and an estimated 3,400 cubic yards of potentially uncontaminated buried debris. The selected remedy for SS006 at the Duncan Canal RRS is as follows:</p> <p>ICs, ECs, Containment, and LTM</p> <ul style="list-style-type: none"> · Land use restrictions maintained in the property records and signage · Control of site access using fencing · An impermeable cap placed over surface soil contamination above approved cleanup levels. · LTM and maintenance of contaminant concentrations annually by the USAF and LUCs by the USFS. · CERCLA Five-Year Reviews would apply until sampling indicates that contaminant concentrations are below the approved cleanup levels. · Contaminated soil in the run-off channels will be excavated, loaded onto barges, and shipped off-site to a USEPA approved facility for disposal.
POC	Lori Roy (AFCEC/CZOP); 10471 20th St. Ste. 301, JBER, AK, 99506-2201
PHONE	907.552.7697
CHEMICALS_OF_CONCERN	<p>Surface Soil: RCRA Metals (Arsenic, Cadmium, and Total Chromium), Pesticides (Dieldrin and Delta-BHC), VOCs (TCE and PCE).</p> <p>Subsurface Soil: Pesticides (Endrin Aldehyde), VOCs (TCE and PCE).</p>
MODIFIED_DATE	20140916
CONTAMINATION_SOURCE	Debris
SITEID	SS006
INSTLN_ID	DC
MAINTENANCE	Land use restrictions maintained in the property records and signage, fencing, LTM. Contaminated soil in the run-off channels will be excavated, loaded onto barges, and shipped off-site to a USEPA approved facility for disposal.
RESTRICTIONS	Controlled site access, ICs, and land use restrictions

Duncan_Canal_Radio_Relay_Site-SS006.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS006
SITE_NAME	Demolition Debris Area
DATE_SUMM	9/16/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Lori Roy (AFCEC/CZOP); 10471 20th St. Ste. 301, JBER, AK, 99506-2201
DESC_USE	Site SS006 is the Former Demolition Debris Area located in the MTF. Site SS006 consists of a debris burial cell which contains construction debris and soil removed from the MTF during deconstruction. All facilities were removed and soil was removed down to bedrock and placed in the debris cell.
GEO_HYDRO	Hydrologic conditions at SS006 were assessed through field observations during the 2009 RI subsurface soil investigation. A layer of gravels and cracked weathered bedrock is present on top of the bedrock itself. It was observed that saturated water within the thin spodic soils that overlie bedrock is vadose water; phreatic zone saturated flow does not appear to be present.
COC	Surface Soil: RCRA Metals (Arsenic, Cadmium, and Total Chromium), Pesticides (Dieldrin and Delta-BHC), VOCs (TCE and PCE). Subsurface Soil: Pesticides (Endrin Aldehyde), VOCs (TCE and PCE).
INVESTIGATION_ACTIONS	<p>During the 2005 Preliminary Assessment/Site Inspection, surface soil, and surface water samples were collected and analyzed for GRO, DRO, RRO, VOCs, PAHs, PCBs, pesticides, herbicides, and RCRA metals. One run-off channel soil sample was collected from an area northwest and down slope of the debris pile. This was the only sample with constituents in excess of screening criteria, including DRO, DDD, and DDT.</p> <p>In 2009, a RI was conducted and documented in the Site Investigation Report at Duncan Canal RRS, Kupreanof Island, Alaska. Surface and subsurface soils above the debris layers contain DRO, PCE, benzo(a)pyrene, arsenic, and chromium exceeding ADEC Method Two cleanup levels. PCE and benzo(a)pyrene were present in several samples from above the debris, but only localized areas exceeded ADEC Method Two cleanup levels. Background threshold values were calculated during the RI. Background threshold values were determined by using the USEPA ProUCL software program to perform the statistical methods for calculating the background threshold values described in the 2002 USEPA guidance. Soil samples were collected to determine a statistically calculated value using total organic carbon in the Method Three cleanup level calculations for petroleum hydrocarbons. In soil DRO was below the site-specific ADEC Method Three cleanup levels at SS006. Subsurface soils within or below the debris layer contain TCE and endrin aldehyde exceeding ADEC Method Two screening criteria. TCE was present in several samples from within or below the debris layer, but only localized areas exceeded ADEC Method Two cleanup levels. Endrin aldehyde was detected in a single sample indicating a localized area exceeded ADEC Method Two cleanup levels for this analyte. Figures 2-3 through 2-5 illustrate locations of analytical sample detections at SS006.</p> <p>Three general locations of run-off channel soil contamination were identified at SS006. Run-off channel soils along a seep northeast of the buried debris contain metals and pesticides exceeding ADEC Method Two screening criteria. Run-off channel soils along a seep southwest of the buried debris contain metals and pesticides that exceeded ADEC Method Two screening criteria.</p> <p>A third seep located west of SS006 contained metals, DRO, and a single pesticide exceeded ADEC Method Two screening criteria. Surface water at SS006 did not contain constituents in excess of ADEC cleanup levels.</p> <p>A Groundwater Use Determination was approved by ADEC 19 April 2013, in accordance with 18 AAC 75.350, which eliminated the groundwater as drinking water pathway as a pathway of concern at SS006 since no groundwater was found in the thin layer of surface soil on top of the bedrock. However, the migration to groundwater ADEC Method Two cleanup levels will be retained to ensure that possible contaminant migration to nearby surface water bodies remains protected.</p>

Duncan_Canal_Radio_Relay_Site-SS006.ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Site SS006 has an estimated total volume of 105 cubic yards of RCRA metals, VOCs, and pesticide contaminated subsurface and surface soil, an estimated 473 cubic yards of hazardous debris, an estimated 15 cubic yards of contaminated soil in the run-off channels, and an estimated 3,400 cubic yards of potentially uncontaminated buried debris. The selected remedy for SS006 at the Duncan Canal RRS is as follows:</p> <ul style="list-style-type: none"> · Institutional Controls, Engineering Controls, Containment, and Long-term Monitoring (LTM) · Land use restrictions maintained in the property records and signage · Control of site access using fencing · An impermeable cap placed over surface soil contamination above approved cleanup levels. · LTM and maintenance of contaminant concentrations annually by the USAF and LUCs by the USFS. · CERCLA Five-Year Reviews would apply until sampling indicates that contaminant concentrations are below the approved cleanup levels. · Contaminated soil in the run-off channels will be excavated, loaded onto barges, and shipped off-site to a USEPA approved facility for disposal.
CONT_RISK	<p>Under the future scenario, total cancer risk for metals (arsenic, cadmium, chromium) exceeded ADEC's target cancer risk level (1E-05) at 5E-05. Total HQ was 1.0. Other COCs were retained due to exceedances of ADEC Method Two cleanup levels but were not considered during the Risk Assessment.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>United States Air Force (USAF). 2014. Record of Decision for Sites DA001 (Former RRS Dump Site), SS004 (Drum Storage and Burial Site), and SS006 (Demolition Debris Area) Duncan Canal Radio Relay Station Kupreanof Island, Alaska. Final. April. (2014 ROD) Contaminated Sites Database, (accessed 9/16/2014)</p>
STATUS	

Eareckson-FT001.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	59
SITIRP_ID	FT001
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	cancer <1X10 ⁻⁵ (surface/subsurface soil) non-cancer HI <1 (surface soil) non-cancer HI >1 (subsurface soil), however this HI is overestimated and is not consider to present an unacceptable risk to human health
ALIAS	FT01
SITE_NAME	Lightning Strike/Burn Area
SITE_DESCRIPTION	FT001 is a bermed area approximately 100 feet in diameter located near the southwestern end of the island, approximately 500 feet south of South Road. FT001 was used to burn wood and other combustible debris for fire training activities from the early 1970s to the mid-1980s.
MEDIA_ID	FT001
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1970s - mid 1980s
CATEGORY	ERP
AREA_ACRES	approximately .2 acre
ACTIVITY	Active
LUC_RESTRICTION	<ul style="list-style-type: none"> • The Eareckson AS Base General Plan (Plan) will be updated to show the boundaries of the sites to restrict excavation of soil and restrict groundwater use. The Plan will contain a map indicating site locations, with restrictions on any invasive activities that could potentially compromise the integrity of soil covers and expose potential contaminants. Dig permits issued by the Base Operating Contractor are required for any excavation or well installation at Eareckson AS. The objective of the ICs are to prevent access or use of soil and groundwater contaminated with petroleum hydrocarbons, VOCs, and SVOCs. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the sites where land use has been restricted. • The remedy has been selected under state law and the USAF will obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow anticipated actions that might disrupt protectiveness of ICs. In the unlikely event that the property is to be transferred, the USAF will notify ADEC at least 30 days prior to any transfer taking place. • The ICs will remain in effect until the petroleum hydrocarbon concentrations, VOCs, and SVOCs in soil are determined to be less than the ADEC 18 AAC 75.341 Method Two cleanup levels and groundwater meets the cleanup levels listed in 18 AAC 75.345, Table C. • The Air Force will ensure, as appropriate, that any contractor, tenant, or other authorized occupant of land subject to LUCs is informed of the LUCs and is made subject to the requirements of such LUCs.
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	List of COCs and their respective concentrations: Petroleum hydrocarbons, benzene, ethylbenzene, antimony, arsenic, cadmium, and chromium in soil
MODIFIED_DATE	20110615
CONTAMINATION_SOURCE	Fire training area
SITEID	FT001
INSTLN_ID	EA
MAINTENANCE	LUC inspections
RESTRICTIONS	No unauthorized digging/excavation; No unauthorized groundwater removal; Property records/Base Plan documentation

Eareckson-FT001.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	FT001
SITE_NAME	Lightning Strike/Burn Area
DATE_SUMM	6/16/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	<p>FT001 is a bermed area approximately 100 feet in diameter located near the southwestern end of the island, approximately 500 feet south of South Road. FT001 was used to burn wood and other combustible debris for fire training activities from the early 1970s to the mid-1980s. The site was covered with 2 feet of clean fill in 1987. FT001 contains no structures and is currently undeveloped.</p> <p>The site has widespread concentrations of petroleum hydrocarbons and volatile and semivolatile compounds associated with fuels exceeding ADEC's most stringent cleanup levels. Therefore, ICs will be put into place to prevent disturbing contaminated soil and groundwater at the site without ADEC approval.</p>
GEO_HYDRO	<p>Groundwater elevations at FT001 range from approximately 10 feet above msl at the northern end of the source area to sea level near the coastline. Groundwater at FT001 is sporadic and does not occur at all locations on the peninsula. At two soil borehole locations, groundwater was not encountered at 20 feet bgs (approximately 7 feet below msl). Groundwater was encountered at only one location near FT001 – Monitoring Well FT1W1. Groundwater levels in FT1W1 were observed to fluctuate from 0.96 feet above msl to 2.62 feet above msl in 1994, and is expected to exhibit a relatively small gradient due to its proximity to the sea and the source area's isolated location relative to the main groundwater influences from the island.</p> <p>Based on topography at FT001 and observations at other source areas with similar proximity to the ocean, groundwater flow direction in the area would be predominantly east-southeast and is influenced by tidal activity. It appears likely that ocean water mixes with groundwater at FT001, based on field observations during the 1992 well installation.</p>
COC	List of COCs and their respective concentrations: Petroleum hydrocarbons, benzene, ethylbenzene, antimony, arsenic, cadmium, and chromium in soil
INVESTIGATION_ACTIONS	1984 Phase I Records Search; 1990 IRP Stage 1 Final Technical Report; 1992 Air IRP Field Investigation; 1993-1994 RI/FS; 1999, 2000, 2001, 2005 basewide monitoring
FINAL_REM_ACTION	<p>Petroleum substances are present at concentrations above 18 AAC 75 Method Two cleanup levels and in the groundwater exceeding Table C levels established in Alaska Site Cleanup Rules (18 AAC 75.325 through 75.390. ICs at sites FT001, FT002, and FT003, along with MNA at FT002 and FT003, are being implemented as part of the remedial alternative for the three ERP sites under Alaska State regulations (including but not limited to Title 46 of the Alaska Statutes and the regulations promulgated there under).</p> <p>At the Lightning Strike/Burn Area (FT001), human health or ecological risks from soil and groundwater are acceptable provided that the land use does not include subsurface activities. ICs to restrict excavations, installation of groundwater wells, and other subsurface activities are the selected remedy to protect human health and the environment at FT001.</p>

Eareckson-FT001.ENV_SITE_SUMMARY_IRP

CONT_RISK	<p>Receptors evaluated in the Tier II HHRA for FT001 included a site worker, transit walker, and future excavation worker. A site worker was evaluated to examine potential exposure to station personnel obtaining access to the area. Although it is not anticipated that a transit walker would use FT001 under the current restricted status of this site, this receptor was included to evaluate a potential future land use scenario.</p> <p>All cancer risk estimates were below the ADEC acceptable risk criterion of 1×10^{-5} for surface and subsurface soils at FT001. In surface soils, all noncancer HI estimates were equal to, or below, the ADEC acceptable HI criterion of 1.0.</p> <p>In subsurface soils, the RME noncancer HI estimates for the FT001 site worker and excavation worker, and average noncancer HI estimate for the site worker, slightly exceeded the ADEC acceptable HI criterion of 1.0. Exceedance of the HI criterion was attributable to the presence of thallium in subsurface soil. The maximum concentration of thallium detected in subsurface soil (110 mg/Kg) was higher than the RME Method Four RBCL calculated for thallium (58 mg/Kg), and equal to the average Method Four RBCL calculated for this chemical (110 mg/Kg).</p>
	<p>However, thallium in soil was analyzed using EPA Method 6010, which is based on inductively coupled plasma. This method is subject to interference from other metals, including aluminum. Consequently, thallium concentrations in soil are over-reported using EPA Method 6010. It should also be noted that there is no known source of thallium contamination at FT001. Based on the above, noncancer HI estimates for FT001 subsurface soil are overestimated and are not considered to present an unacceptable risk to human health.</p> <p>FT001 – Marine Sediment and Groundwater. As described in the RAATM, human exposure pathways for marine sediment are considered to be incomplete. Human exposure pathways for groundwater are also considered to be incomplete, because groundwater at FT001 is marine-influenced and is of inadequate quality for potable uses. Therefore, potential human exposures and health risks were not evaluated for these media.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>United States Air Force (USAF). 2010. Non-CERCLA Decision Document Lightning Strike/Burn Area (FT001) Aircraft Mock-up Area/Fire Training Area/Abandoned Drum Disposal Area (FT002) Fire Department Foam Training Area (FT003) Eareckson Air Station, Alaska. Final. September. (2010 DD)</p> <p>Contaminated Sites database (accessed 6/16/2011)</p>
STATUS	

Eareckson-FT002.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	42
SITIRP_ID	FT002
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	cancer <1X10 ⁻⁵ (surface/subsurface soils) non-cancer HI <1 (surface/subsurface soil, except RME for excavation worker due to thallium) cancer >1X10 ⁻⁵ (groundwater-RME) cancer <1X10 ⁻⁵ (groundwater-average exposure) non-cancer HI >1 (groundwater)
ALIAS	FT02
SITE_NAME	Aircraft Mock-Up Area/Fire Training Area/Abandoned Drum Disposal Area
SITE_DESCRIPTION	FT002 is located in the western end of the island, at the intersection of the north-south runway (abandoned Runway B) and the southwest-northeast runway (abandoned Runway C). It consists of three areas: Aircraft MA FTA, and ADDA.
MEDIA_ID	FT002
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1970s - mid 1980s (FTA)
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<ul style="list-style-type: none"> • The Eareckson AS Base General Plan (Plan) will be updated to show the boundaries of the sites to restrict excavation of soil and restrict groundwater use. The Plan will contain a map indicating site locations, with restrictions on any invasive activities that could potentially compromise the integrity of soil covers and expose potential contaminants. Dig permits issued by the Base Operating Contractor are required for any excavation or well installation at Eareckson AS. The objective of the ICs are to prevent access or use of soil and groundwater contaminated with petroleum hydrocarbons, VOCs, and SVOCs. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the sites where land use has been restricted. • The remedy has been selected under state law and the USAF will obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow anticipated actions that might disrupt protectiveness of ICs. In the unlikely event that the property is to be transferred, the USAF will notify ADEC at least 30 days prior to any transfer taking place. • The ICs will remain in effect until the petroleum hydrocarbon concentrations, VOCs, and SVOCs in soil are determined to be less than the ADEC 18 AAC 75.341 Method Two cleanup levels and groundwater meets the cleanup levels listed in 18 AAC 75.345, Table C. • The Air Force will ensure, as appropriate, that any contractor, tenant, or other authorized occupant of land subject to LUCs is informed of the LUCs and is made subject to the requirements of such LUCs.
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	List of COCs and their respective concentrations: Petroleum hydrocarbons and BTEX concentrations exceed ADEC's most stringent cleanup levels for soil and groundwater. RRO in surface water and DRO and RRO in sediments exceed ADEC Method Four RBCLs for ecological receptors.
MODIFIED_DATE	20110615
CONTAMINATION_SOURCE	Fire training areas, drum disposal area
SITEID	FT002
INSTLN_ID	EA
MAINTENANCE	Groundwater sampling; Soil monitoring; Surface water monitoring; LUC inspections
RESTRICTIONS	No unauthorized digging/excavation; No unauthorized groundwater removal; Property records/Base Plan documentation

Eareckson-FT002.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	FT002
SITE_NAME	Aircraft Mock-Up Area/Fire Training Area/Abandoned Drum Disposal Area
DATE_SUMM	6/15/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	<p>Aircraft MA/FTA/ADDA (FT002). FT002 is located in the western end of the island, at the intersection of the north-south runway (abandoned Runway B) and the southwest-northeast runway (abandoned Runway C). It consists of three areas: MA, FTA, and ADDA. An inactive bioventing system is located at FT002-MA. The bioventing system consists of eight bioventing wells connected by piping to a small blower house.</p> <p>At FT002-FTA concentrations of petroleum hydrocarbons and volatile and semi-volatile compounds associated with fuels still exceed ADEC's most stringent cleanup levels. Therefore, ICs will be put into place to prevent disturbing soil or groundwater at the site without ADEC approval.</p> <p>At FT002-MA groundwater is contaminated with petroleum hydrocarbons at concentrations that exceed ADEC groundwater cleanup levels. ICs will be put into place to prevent disturbance of the subsurface at the site and groundwater sampling will be conducted once every 2 years to monitor the natural attenuation of remaining contaminants. In addition, the groundwater will be re-sampled for metals to verify assumptions made during the remedial investigations, risk assessments, and in this decision document.</p> <p>At FT002-ADDA fuel-related compounds remain in sediments and surface water at the site. Again, ICs will be instituted to protect against disturbance of contaminated media. The ecological risk assessment conducted in 2006 identified DRO and RRO concentrations in sediments and RRO concentrations in surface water above the ecological hazard criterion for the rock sandpiper. Therefore, sediment and surface water sampling will be conducted once every 2 years to monitor the natural attenuation of contaminants. In addition, the surface water will be re-sampled for metals to verify assumptions made during the remedial investigations, risk assessments, and in this Decision Document.</p>
GEO_HYDRO	<p>Because of the presence of fill material, discontinuous peat layers, and weathered bedrock in the FT002 area, the hydrogeology of the area is complex. In the FT002 area, groundwater elevations range from approximately 61 feet above msl at Monitoring Well FT002-MW04, to approximately 3 feet above msl at Monitoring Well-16 (located along the coast). The water level measurements indicate that a mounding or ponding of groundwater occurs in the area of Abandoned Runway C and to the south between Abandoned Runways B and C. Consequently, groundwater flow from this area is multidirectional. On the northern side of Abandoned Runway C, groundwater becomes deeper and has a steep gradient. The peat material encountered during drilling in the FT002 area exhibited relatively low hydraulic conductivities. If peat material is bermed in the subsurface along the margins of the runway, it may be prohibiting lateral flow of groundwater. Thus, a "bathtub" effect could be present in areas underlying the runways.</p> <p>Where significant thickness of peat material is not present, groundwater contained in the fill material is in direct hydraulic communication with bedrock. The lack of surface vegetation and the relatively high porosity of runway fill material enhance the recharge of groundwater in this area. This condition may be contributing to the groundwater ponding observed during site investigations. One feature that has not been positively identified, but would greatly influence the groundwater distribution and flow, is the potential drainage system of piping that might exist under the abandoned runways. As a result of the geophysical survey data collected in 1992, a portion of the drainage system might have been identified. Similar drainage systems have been designed and used for runoff control at other USAF runways.</p>
COC	List of COCs and their respective concentrations: Petroleum hydrocarbons and BTEX concentrations exceed ADEC's most stringent cleanup levels for soil and groundwater. RRO in surface water and DRO and RRO in sediments exceed ADEC Method Four RBCLs for ecological receptors.
INVESTIGATION_ACTIONS	1984 Phase I Records Search; 1990 IRP Stage 1 Final Technical Report; 1992 Air IRP Field Investigation; 1993-1994 RI/FS; 1995 IRP Field Program; 1996-1998 Remedial Action; 1999, 2000, 2001, 2005 basewide monitoring

Eareckson-FT002.ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Petroleum substances are present at concentrations above 18 AAC 75 Method Two cleanup levels and in the groundwater exceeding Table C levels established in Alaska Site Cleanup Rules (18 AAC 75.325 through 75.390. ICs at sites FT001, FT002, and FT003, along with MNA at FT002 and FT003, are being implemented as part of the remedial alternative for the three ERP sites under Alaska State regulations (including but not limited to Title 46 of the Alaska Statutes and the regulations promulgated there under). The Aircraft MA, FTA, and ADDA together comprise FT002 and cannot support unrestricted use due to petroleum hydrocarbons remaining in place. ICs, with MNA of groundwater, is the selected remedy for FT002-MA. At FT002-FTA, the remedy is ICs to restrict subsurface activities. ICs, with MNA of surface water and sediments, is the selected remedy for FT002-ADDA.</p>
CONT_RISK	<p>The Tier II cancer risk estimates for surface and subsurface soil are below ADEC's acceptable risk criterion of 1×10^{-5}. With the exception of the RME noncancer HI estimate for the excavation worker, all noncancer HI estimates are below the ADEC acceptable HI criterion of 1.0. Exceedance of the HI criterion by the RME excavation worker was attributable to the presence of thallium in surface and subsurface soil. The maximum concentration of thallium detected in site soils (67.8 mg/Kg) was only slightly higher than the RME Method Four RBCL calculated for thallium (61.3 mg/Kg), and less than the average Method Four RBCL calculated for this chemical (144 mg/Kg). However, thallium in soil was analyzed using EPA Method 6010, which is based on inductively coupled plasma. This method is subject to interference from other metals, including aluminum. Consequently, thallium concentrations in soil are overreported using EPA Method 6010. It should also be noted that there is no known anthropogenic source of thallium contamination at FT002. Consequently, noncancer HI estimates for FT002 surface soil are also overestimated.</p> <p>For exposure to groundwater, the RME site worker cancer risk estimate exceeded the ADEC acceptable risk criterion of 1×10^{-5}, but average cancer risk estimates were below the ADEC acceptable risk criterion. Exceedance of the cancer risk criterion was attributable to the presence of arsenic and cadmium in fresh groundwater. The maximum concentration of arsenic detected in groundwater (0.019 mg/L) was over four-fold higher than the RME Method Four RBCL calculated for arsenic (0.0044 mg/L), but just slightly higher than the 97.5 percentile background concentration (0.0176 mg/L). The maximum concentration of cadmium detected in groundwater (0.0029 mg/L) was approximately three-fold higher than the RME Method Four RBCL calculated for cadmium (0.0010 mg/L), but was only slightly higher than the 97.5 percentile background concentration (0.0022 mg/L). All noncancer HI estimates for groundwater at FT002 exceeded the ADEC acceptable risk criterion of 1.0. Excess noncancer hazards were primarily attributable to antimony and arsenic in groundwater. The maximum concentration of antimony detected in groundwater (0.026 mg/L) was approximately 1.2 times higher than the RME Method Four RBCL calculated for antimony, but less than the average Method Four RBCL (0.038 mg/L) calculated for this analyte. The maximum concentration of arsenic detected in groundwater (0.019 mg/L) was over four-fold higher than the RME Method Four RBCL calculated for arsenic (0.0044 mg/L), but just slightly higher than the 97.5 percentile background concentration (0.0176 mg/L). It should be noted, however, that it is extremely unlikely that groundwater at FT002 would be used for potable purposes.</p> <p>Cumulative human health risk estimates across media were calculated and cumulative carcinogenic risk and noncarcinogenic HI estimates were below ADEC's acceptable cancer risk criterion of 1×10^{-5} and HI of 1.0.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>United States Air Force (USAF). 2010. Non-CERCLA Decision Document Lightning Strike/Burn Area (FT001) Aircraft Mock-up Area/Fire Training Area/Abandoned Drum Disposal Area (FT002) Fire Department Foam Training Area (FT003). Eareckson Air Station, Alaska. Final. September. (2010 DD) Contaminated Sites database (accessed 6/15/2011)</p>
STATUS	

Eareckson-FT003.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2844
SITIRP_ID	FT003
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	cancer <1X10 ⁻⁵ non-cancer HI>1 (attributed to aluminum in groundwater, believed to be naturally occurring.)
ALIAS	FT03
SITE_NAME	Fire Department Foam Training Area
SITE_DESCRIPTION	FT003 is located in the west central area of the island, north of the western lakes complex and approximately 800 feet to the northwest of Lower Lake. Originally, this area consisted of a hangar building that was removed at some unknown time. A small concrete structure was built at the former hangar location and used for fire training activities. Items burned at the site include wood, paper, fuels (including JP-4 and diesel), and miscellaneous combustible materials.
MEDIA_ID	FT003
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<ul style="list-style-type: none"> • The Eareckson AS Base General Plan (Plan) will be updated to show the boundaries of the sites to restrict excavation of soil and restrict groundwater use. The Plan will contain a map indicating site locations, with restrictions on any invasive activities that could potentially compromise the integrity of soil covers and expose potential contaminants. Dig permits issued by the Base Operating Contractor are required for any excavation or well installation at Eareckson AS. The objective of the ICs are to prevent access or use of soil and groundwater contaminated with petroleum hydrocarbons, VOCs, and SVOCs. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the sites where land use has been restricted. • The remedy has been selected under state law and the USAF will obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow anticipated actions that might disrupt protectiveness of ICs. In the unlikely event that the property is to be transferred, the USAF will notify ADEC at least 30 days prior to any transfer taking place. • The ICs will remain in effect until the petroleum hydrocarbon concentrations, VOCs, and SVOCs in soil are determined to be less than the ADEC 18 AAC 75.341 Method Two cleanup levels and groundwater meets the cleanup levels listed in 18 AAC 75.345, Table C. • The Air Force will ensure, as appropriate, that any contractor, tenant, or other authorized occupant of land subject to LUCs is informed of the LUCs and is made subject to the requirements of such LUCs.
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	List of COCs and their respective concentrations: Petroleum hydrocarbon concentrations exceed ADEC's most stringent cleanup levels in soil and groundwater. Naturally-occurring aluminum in surface water and aluminum and chromium in groundwater exceed ADEC Method Four RBCLs for human and ecological receptors.
MODIFIED_DATE	20110615
CONTAMINATION_SOURCE	fire training area
SITEID	FT003
INSTLN_ID	EA
MAINTENANCE	Groundwater sampling; Surface water monitoring; LUC inspections
RESTRICTIONS	No unauthorized digging/excavation; No unauthorized groundwater removal; No surface water use; Property records/Base Plan documentation

Eareckson-FT003.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	FT003
SITE_NAME	Fire Department Foam Training Area
DATE_SUMM	6/15/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	<p>FT003 is located in the west central area of the island, north of the western lakes complex and approximately 800 feet to the northwest of Lower Lake. Originally, this area consisted of a hangar building that was removed at some unknown time. A small concrete structure was built at the former hanger location and used for fire training activities. Items burned at the site include wood, paper, fuels (including JP-4 and diesel), and miscellaneous combustible materials. Prior to 1993, the concrete structure was removed and up to 4 feet of backfill was placed at this source area.</p> <p>Concentrations of petroleum hydrocarbons and volatile and semi-volatile compounds associated with fuels at the site exceed ADEC's most stringent cleanup levels. Therefore, ICs will be put into place to prevent contaminated soil and groundwater at the site from being disturbed without ADEC approval and groundwater sampling will be conducted once every 2 years to monitor the natural attenuation of remaining contaminants. In addition, the surface water and groundwater will be re-sampled for metals to verify assumptions made during the remedial investigations, risk assessments, Record of Decision, and in this Decision Document.</p>
GEO_HYDRO	<p>Two monitoring wells (FT003-MW01 and FT003-MW02) were installed at FT003 in 1994. In December 1994, groundwater was measured in the two wells at approximately 13.8 and 18.3 feet bgs, respectively. The top of the groundwater was present within the siltstone lithology in both wells and appeared to be unconfined. Based on water levels in these two wells, and on the potentiometric surface map developed for the entire island, groundwater would be expected to flow to the south-southeast toward Lower Lake.</p> <p>In 1993, four wellpoints were installed in the areas south, southeast, and southwest of FT003 as part of the basewide investigations. Peat water was encountered in these well points at depths ranging from approximately 1 to 5 feet bgs.</p>
COC	List of COCs and their respective concentrations: Petroleum hydrocarbon concentrations exceed ADEC's most stringent cleanup levels in soil and groundwater. Naturally-occurring aluminum in surface water and aluminum and chromium in groundwater exceed ADEC Method Four RBCLs for human and ecological receptors.
INVESTIGATION_ACTIONS	1984 Phase I Records Search; 1990 IRP Stage 1 Final Technical Report; 1992 Air IRP Field Investigation; 1993-1994 RI/FS; 1995 IRP Field Program; 1999, 2000, 2001, 2005 basewide monitoring
FINAL_REM_ACTION	<p>Petroleum substances are present at concentrations above 18 AAC 75 Method Two cleanup levels and in the groundwater exceeding Table C levels established in Alaska Site Cleanup Rules (18 AAC 75.325 through 75.390. Institutional controls (ICs) at sites FT001, FT002, and FT003, along with Monitored Natural Attenuation (MNA) at FT002 and FT003, are being implemented as part of the remedial alternative for the three ERP sites under Alaska State regulations (including but not limited to Title 46 of the Alaska Statutes and the regulations promulgated there under).</p> <p>At the Fire Department Foam Training Area (FT003) the risks to human health and the environment identified were due to metals (aluminum and chromium) that are believed to be naturally occurring. However, petroleum hydrocarbon levels in the subsurface soils and groundwater exceed ADEC cleanup levels. The selected remedy at FT003 includes ICs to restrict subsurface activities and MNA of groundwater. Additional sampling and analysis for metals in the site groundwater will also be conducted to substantiate that the metals are naturally occurring.</p>
CONT_RISK	<p>All cancer risk estimates for site workers and transit walkers were below the ADEC acceptable risk criterion of 1×10^{-5}. Noncancer HI estimates did exceed the ADEC acceptable risk criterion of 1.0. Excess noncancer hazards were attributable to aluminum in groundwater. However, there are no known anthropogenic sources for aluminum at the site, and the concentrations detected are believed to be naturally occurring.</p> <p>Cumulative human health risk estimates across media were calculated. Cumulative carcinogenic risk and noncarcinogenic HI estimates were below ADEC's acceptable cancer risk criterion of 1×10^{-5} and HI of 1.0 at FT003.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	United States Air Force (USAF). 2010. Non-CERCLA Decision Document Lightning Strike/Burn Area (FT001) Aircraft Mock-up Area/Fire Training Area/Abandoned Drum Disposal Area (FT002) Fire Department Foam Training Area (FT003). Eareckson Air Station, Alaska. Final. September. (2010 DD) Contaminated Sites database (accessed 6/15/2011)
STATUS	

EAS-LF015.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2900
SITIRP_ID	LF015
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Current/future site worker, all exposure media: carcinogenic risk = 8×10^{-5} and HI = 0.5 Future maintenance worker: carcinogenic risk = 3×10^{-5} and HI = 0.2. Current/future transit walker, all exposure media: carcinogenic risk = 5×10^{-6} and HI = 0.02 ERA HQ < 1
ALIAS	Wood Dump/Burn Area
SITE_NAME	Wood Dump – Phone Poles/Posts
SITE_DESCRIPTION	LF015 is located on a narrow plain on the east coast of Shemya Island. The plain is bounded by ocean cliffs to the west and the Bering Sea to the east. This entire area has been altered by military activities, including road building, regrading, wood dumping, and burning. The source area elevation varies from approximately 15 feet above mean sea level to the west of the burn area to sea level at the eastern edge of LF015. The primary feature of LF015 is a bermed area approximately 275 by 150 feet in size that is located on the eastern end of Shemya Island along the beach. This site was used to burn wood and other combustible debris from an unknown date until 1994. A 1986 aerial photograph indicates that up to three burn areas might once have existed at this location. The topography surrounding LF015 is approximately 20 feet above mean sea level and slopes gradually east to the ocean. Munitions found washed up on the beach in the area might have been detonated by the Elmendorf Explosive Ordnance Disposal Team at LF015. However, there is no record of any unexploded ordnance being disposed of at LF015 by any means other than detonation.
MEDIA_ID	LF015
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown
CATEGORY	ERP/LF
AREA_ACRES	150 feet by 275 feet (0.6 acres)
ACTIVITY	Active
LUC_RESTRICTION	The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. The ICs will prohibit future residential use, and restrict site worker use, groundwater use, excavation, and off-site removal of contaminated soil without prior Air Force and ADEC approval. LUCs and ICs will be maintained until CLs are attained and sites are suitable for unlimited use and unrestricted exposure. Annual monitoring and inspections will be conducted by the Air Force to confirm that ICs remain protective. AFCEC/CZOP is the point of contact for ICs. The Air Force will take the following actions to implement Long-term Management with ICs at Eareckson AS: — Document risk exposure assumptions and reasonably anticipated land uses in the IC. — Use the boundaries of LUCs and ICs included on the site figures in this document for inclusion in the AFCEC/CZOP Base General Plan. Update the Base General Plan, Air Force Real Estate records, and the LUC Management Plan (forthcoming) to include ICs corresponding to each site. Geographical Information System (GIS) data in the Base General Plan and/or the Cleanup Module of the EESOH-MIS will be used to manage location data. — The Air Force will notify ADEC prior to making any changes to the AFCEC/CZOP Base General Plan that could affect the ICs, and obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow actions that might disrupt the ICs.
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160

EAS-LF015.ENV_REST_SITE_SUMMARY

CHEMICALS_OF_CONCERN	DRO, Antimony, Arsenic, Chromium, Copper, Benzo(a)pyrene, Cyclotrimethylenetrinitramine, 2,6-Dinitrotoluene, 2,3,7,8-TCDD TEQ
MODIFIED_DATE	20140624
CONTAMINATION_SOURCE	Burning of wood and other combustible debris
SITEID	LF015
INSTLN_ID	EAS
MAINTENANCE	<p>— Maintain the integrity of the LUCs and ICs by using the Air Force's dig permit, construction review, and water well permit systems, to restrict inappropriate use or development of areas under ICs. Excavation, disturbance, or relocation of contaminated soil, and excavation or drilling in areas of groundwater contamination, will be restricted by the ICs.</p> <p>— Maintain the integrity of the monitoring network by performing required maintenance of monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time.</p> <p>— Conduct Five-Year Reviews at each site every 5 years and submit a report to ADEC, until it is confirmed that contamination has attenuated to levels safe for unrestricted use and unlimited exposure. Five-Year Reviews include an examination that remedial actions remain sound and protective, assumptions made during risk assessment are still valid, and that use of the site has not changed. The Air Force may self-perform the review, and will include any intermediate remedial actions required by (or in preparation for) the Five-Year Review in the Eareckson AS operation and maintenance schedule.</p> <p>— Provide notice of the ICs, and any changes to the ICs, to the USFWS.</p> <p>– The Air Force will inform, monitor, and enforce LUCs and ICs with contractors and other authorized occupants at Eareckson AS and obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow actions that are consistent with the ICs.</p> <p>– Monitor and inspect sites covered by LUCs annually and document the results in a report that will be submitted to ADEC. The annual reports will be used in preparation of the Five-Year Reviews to evaluate the effectiveness of the remedies.</p>
RESTRICTIONS	<p>— Restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate.</p> <p>— Prohibit future residential use, and restrict site worker use, groundwater use, excavation, and off-site removal of contaminated soil without prior Air Force and ADEC approval.</p> <p>— LUCs and ICs will be maintained until CLs are attained and sites are suitable for unlimited use and unrestricted exposure.</p> <p>— Annual monitoring and inspections will be conducted by the Air Force to confirm that ICs remain protective.</p>

EAS-LF015.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF015
SITE_NAME	Wood Dump – Phone Poles/Posts
DATE_SUMM	6/24/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	<p>LF015 is located on a narrow plain on the east coast of Shemya Island. The plain is bounded by ocean cliffs to the west and the Bering Sea to the east. This entire area has been altered by military activities, including road building, regrading, wood dumping, and burning. The source area elevation varies from approximately 15 feet above mean sea level to the west of the burn area to sea level at the eastern edge of LF015. The primary feature of LF015 is a bermed area approximately 275 by 150 feet in size that is located on the eastern end of Shemya Island along the beach. This site was used to burn wood and other combustible debris from an unknown date until 1994. A 1986 aerial photograph indicates that up to three burn areas might once have existed at this location. The topography surrounding LF015 is approximately 20 feet above mean sea level and slopes gradually east to the ocean. Munitions found washed up on the beach in the area might have been detonated by the Elmendorf Explosive Ordnance Disposal Team at LF015. However, there is no record of any unexploded ordnance being disposed of at LF015 by any means other than detonation.</p>
GEO_HYDRO	<p>The surface of the burn area at LF015 is composed of reddish-brown to brown silty sand with gravel and debris. Surface lithology is characterized by heavily disturbed areas in which heavy machinery and other traffic have turned the primarily gravel subsurface layers into compacted, discontinuous layers. The gravel directly under the burn area contains very little sand or silt, with scattered cobbles and boulders. The area comprising the eastern edge of LF015 is underlain by dark gray and black beach sands with cobbles and boulders. Bedrock lithology in the LF015 area is believed to be composed of shallow intrusive and extrusive igneous rock with some possible lenses of sedimentary rock because of the proximity of the source area to the Bering Sea. Groundwater is shallow, but the lack of seeps indicates that the groundwater is not hydraulically connected to fresh surface water bodies. It is assumed that groundwater from LF015 discharges to marine water off island. Groundwater flow direction at LF015 is predominantly east-northeast and is most likely influenced by tidal activity because of its proximity to the Bering Sea.</p>
COC	DRO, Antimony, Arsenic, Chromium, Copper, Benzo(a)pyrene, Cyclotrimethylenetrinitramine, 2,6-Dinitrotoluene, 2,3,7,8-TCDD TEQ
INVESTIGATION_ACTIONS	<p>Analytical results for soil samples collected at LF015 during previous investigations showed DRO, dioxin/furans, and metals at concentrations greater than CLs. Concentrations for explosive compounds are greater than CLs. However, the contamination is from a one-time detonation of one item, and the amount of contamination was determined not to be a migration to groundwater concern. Contaminants were not detected in groundwater at concentrations exceeding CLs.</p> <p>Previous investigations include:</p> <ul style="list-style-type: none"> - 1992 IRP Field Investigation (USAF, 1993) - 1994 IRP RI/FS (USAF, 1995-1996) - 1995 IRP Field Program (USAF, 1996) - 2008 RFI (USAF, 2010b)
FINAL_REM_ACTION	The selected remedial alternative for LF015 is Long-term Management with Institutional Controls for surface and subsurface soil contaminated above cleanup levels.

EAS-LF015.ENV_SITE_SUMMARY_IRP

CONT_RISK	<p>Cumulative carcinogenic risk and noncarcinogenic HI estimates for a current/future site worker across all exposure media at LF015 were 8×10^{-5} and 0.5, respectively, for non-PHC chemicals of potential concern. The primary contributors to the carcinogenic risk estimate arsenic (EPC = 80 mg/Kg), benzo(a)pyrene (EPC = 2.3 mg/Kg), and 2,3,7,8-TCDD TEQ (EPC = 0.00032 mg/Kg) in surface soil. The noncarcinogenic HI for a current/future site worker exposed to non-PHC-related COPCs was below ADEC's acceptable HI criterion of 1.</p> <p>Cumulative carcinogenic risk and noncarcinogenic HI estimates for a future maintenance worker across all exposure media were 3×10^{-5} and 0.2, respectively, for non-PHC COPCs. The primary contributor to a carcinogenic risk estimate was arsenic (EPC = 80 mg/Kg) in surface soil. The noncarcinogenic HI for a future maintenance worker exposed to non-PHC-related COPCs was below ADEC's acceptable HI criterion of 1.</p> <p>Cumulative carcinogenic risk and noncarcinogenic HI estimates for a current/future transit walker across all exposure media were 5×10^{-6} and 0.02 respectively, for non-PHC COPCs. PHC-related constituents were not selected as COPCs at LF015; therefore, a noncarcinogenic HI for a current/future transit walker exposed to PHC-related compounds was not calculated.</p> <p>Lead was identified as a COPC for surface soil (EPC = 386 mg/Kg). Geometric mean adult blood-lead concentrations, and 95 percent blood-lead concentrations for the fetus of an adult, were below the target level of 10 micrograms (μg)/deciliter for all receptors.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 6/24/2014) United States Air Force (USAF). 2014. Record Of Decision for LF015, SS005, SS012, ST009, and ST044. Final. February. (2014 ROD)</p>
STATUS	

Eareckson-LF018.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	66
SITIRP_ID	LF018
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	cancer <1X10 ⁻⁵ (surface and subsurface soil) non-cancer HI <1 (surface and subsurface soil) cancer 1.2X10 ⁻⁴ ("fresh" groundwater) non-cancer HI 4.0 ("fresh" groundwater)
ALIAS	LF18
SITE_NAME	North Beach Landfill
SITE_DESCRIPTION	ERP Site LF018 is located along the northwestern coast of Shemya Island. This area was formerly used for the disposal of scrap metal, wood debris, and thousands of empty drums.
MEDIA_ID	LF018
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown - most of drums and debris removed in early 1980s
CATEGORY	ERP
AREA_ACRES	15.0
ACTIVITY	Active
LUC_RESTRICTION	restrictions on any invasive activities that could potentially compromise the integrity of the cover and expose potential contaminants
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	groundwater - antimony, arsenic, lead, benzo(a)anthracene, benzo(b)pyrene, benzo(b)fluoranthene, indeno(1,2,3-cd)pyrene
MODIFIED_DATE	20110616
CONTAMINATION_SOURCE	landfill
SITEID	LF018
INSTLN_ID	EA
MAINTENANCE	5-year reviews; Landfill cap inspections and repair
RESTRICTIONS	No unauthorized waste removal; No landfill cap/liner disturbance; No unauthorized groundwater removal; No unauthorized digging/excavation; Property records/Base Plan documentation

Eareckson-LF018.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF018
SITE_NAME	North Beach Landfill
DATE_SUMM	6/16/2011
CURRENT STATUS	Open
SITE STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	ERP Site LF018 is located along the northwestern coast of Shemya Island. It covers an area of about 15 acres, bordered on the south by 230-foot high, grass-covered slopes, and on the north by North Beach Road and the Bering Sea. This area was formerly used for the disposal of scrap metal, wood debris, and thousands of empty drums. The drums likely contained liquids that were shipped to the island, including but not limited to cooking oils, POLs, PCBs, solvents, and glycol. A portion/majority of the drums were removed in the early 1980s. A geophysical survey conducted at LF018 in 1992 indicated the presence of large areas of buried metal debris (drums) remaining at the site. The landfill area is currently covered by peat and vegetation.
GEO_HYDRO	At LF018, upper layers of soil consist of moist peat and sandy organic soils mixed with fill materials and occasional shell fragments to depths ranging from 5 to 10 feet bgs. These materials are directly underlain by moist, gray to green, chlorite-altered, fissile claystone bedrock. The bedrock surface is approximately 5 to 16 feet bgs. Bedrock is shallowest near the bluff and deepest toward the Bering Sea. Groundwater at LF018 was encountered at a depth of 10 to 14 feet bgs, varying from 3 to 10 feet above msl, and decreasing in elevation to the northeast. Groundwater flows to the Bering Sea in a north-northeasterly direction - following surface topography. Groundwater is not directly or immediately influenced by precipitation, nor is a strong tidal influence apparent.
COC	groundwater - antimony, arsenic, lead, benzo(a)anthracene), benzo(b)pyrene, benzo(b)fluoranthene, indeno(1,2,3-cd)pyrene
INVESTIGATION_ACTIONS	In 1984 the Phase I report identified 28 source areas at Eareckson AS as potentially containing hazardous material from past activities. Eight of the areas were assessed as having a low potential for contaminant release; the Hazard Assessment Ranking Methodology was used to prioritize the remaining 20 source areas. These source areas were determined to be likely areas containing hazardous waste constituents where significant potential for migration of the potentially hazardous constituents was thought to exist. During the 1992 IRP investigation, surface and subsurface soil samples were collected and a geophysical survey was conducted at LF018. The geophysical survey revealed extensive buried debris, as well as the landfill extent in the east-west direction. Buried debris, fill, and petroleum odors were encountered in trenches excavated to approximately 8 feet bgs. Groundwater with an oily sheen was found at a depth of 7 feet bgs in one trench. Surface water samples from LF018 were analyzed during the 1992 site characterization. Well points were sampled, and three monitoring wells were installed to investigate groundwater in the area. During 1993 RI/FS activities, surface water samples were collected from ephemeral ponds in the LF018 area. Three monitoring wells were installed, and soil and groundwater samples were collected. In 1994, groundwater samples were collected from each of the monitoring wells, and sediment samples were collected. A groundwater sample was collected at LF18-MW01 in 1995 to monitor off-island discharge of constituents from the landfill area. Groundwater at LF018 has been sampled three times (1998, 1999, and 2000) as part of the Eareckson Basewide Monitoring Program. In 2004, sediment samples were collected from in or just above the intertidal zone where transportation of contaminants from LF018 would be most likely. A groundwater sample was collected at LF018 in 2005 at the request of ADEC. Disturbance of the LF018 area is apparent in a 1961 aerial photograph (USAF, 1996c). This photo shows tens of thousands of drums stacked in the area. Hand-written remarks made in 1971 describing cells of "3,500 barrels" and "4,500 barrels" are made in a 1964 Alaskan Air Command Master Plan Base Map. In a 1986 stereo photograph, LF018 appears much as it does today, with the visible drums having been removed. Based on the presence of drums in 1971 and their absence in 1986, it is assumed that the drums were removed during the USAF Alaska Cleanup Effort in the 1980s. The 1990 Stage 1 Final Technical Report (USAF, 1990) reports that scrap metal was removed from the barrel dump area, and 4- to 12-inch-diameter rock was placed in the old dump site by 1987. The landfill is currently capped by peat.

Eareckson-LF018.ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>LF018 cannot support unrestricted use due to remaining metal debris buried at the sites. In addition, elevated concentrations of metals have been detected in the soil, groundwater, marine surface water, and marine sediments. Institutional controls (ICs) are necessary to prevent disturbance of the waste left in place. There is buried solid waste remaining at the sites and inorganics in the soil and groundwater at concentrations above the State's cleanup levels, and therefore ICs are necessary under Alaska State regulations. ICs are being implemented as part of closure for ERP Sites LF018 and LF024/LF026 under CERCLA and Alaska State regulations (including but not limited to Title 46 of the Alaska Statutes and the regulations promulgated thereunder).</p> <p>The USAF will implement, monitor, maintain, and enforce the ICs identified below in accordance with State of Alaska 18 AAC 75.375 and 18 AAC 60.390. The 611th Civil Engineer Squadron will be the point of contact for ICs. A potential risk to human health or the environment might result if the buried waste were to be disturbed or relocated. To mitigate this potential risk, the following ICs will be implemented:</p> <ul style="list-style-type: none"> * The Eareckson AS Base General Plan (Plan) will be updated to show the boundaries of ERP Sites LF018 and LF024/LF026 to restrict excavation of soil and use of groundwater at the sites. The Plan will contain a map indicating the locations of the sites, with restrictions on any invasive activities that could potentially compromise the integrity of the cover and expose potential contaminants. Dig permits issued by the Base Operating Contractor are required for any excavation at Eareckson AS. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the sites where land use has already been restricted. * In accordance with the landfill post closure requirements of 18 AAC 60.396(b), a deed notice or other instrument will be used to document that: 1) the property was used as a landfill, 2) it may not be suitable for some uses, 3) maintenance and repairs to the property might become necessary to prevent pollution problems at the site, and 4) any activity that results in damage of the final cover of the property must be corrected to control potential pollution problems. * This remedy has been selected in compliance with state law and the USAF will obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow anticipated actions that may disrupt protectiveness of ICs. In the unlikely event that the property is to be transferred, the USAF will notify ADEC at least 30 days prior to any transfer taking place. * The ICs on the landfills will extend until cleanup levels in 18 AAC 75 have been met and ADEC approves the land for unrestricted use, to ensure that human and ecological receptors are protected from potential exposures. The effectiveness of the ICs will be evaluated and reported on during each 5-year review. * The USAF will ensure, as appropriate, that any contractor, tenant, or other authorized occupant of land subject to LUCs in the ROD is informed of the LUCs and is made subject to the requirements of such LUCs.
CONT_RISK	<p>No carcinogenic COPCs were identified in surface soils, and noncarcinogenic COPCs resulted in a total cumulative noncancer HI of 0.19. Consequently, surface soils do not pose a significant human health concern. Since there are no ADEC Table B1 Soil Cleanup Levels currently available for magnesium, this analyte was not included in Tier I human health screening. However, this analyte is generally of low concern for human health. Furthermore, LF018 is covered, and potential exposure pathways between surface soils and human receptors are currently incomplete.</p> <p>The Tier I cumulative cancer risk and noncancer HI estimates for subsurface soils were 2.3×10^{-6} and 0.15, respectively. These estimates are less than ADEC screening cancer risk and noncancer HI criteria of 1.0×10^{-5} and 1.0, respectively. Consequently, subsurface soils at LF018 are not anticipated to pose a significant human health concern. Furthermore, LF018 is currently covered, and potential exposure pathways between subsurface soils and human receptors are currently incomplete.</p> <p>The Tier I cumulative cancer risk and noncancer HI for 'fresh' groundwater were estimated as 1.2×10^{-4} and 4.0, respectively. Carcinogenic PAHs are responsible for 90 percent of the cumulative cancer risk, and antimony is responsible for 83 percent of the HI. It should be noted that groundwater samples were not filtered prior to analysis; therefore, dissolved concentrations of PAHs and inorganics in groundwater are most likely lower than those measured. In addition, groundwater at LF18 is tidally influenced and both 'fresh' and marine groundwater samples were collected from the same wells. It is extremely unlikely, therefore, that groundwater in the vicinity of LF018 would ever be used as a drinking water source. Finally, the Air Force is planning to impose institutional controls on groundwater use in the vicinity of this former landfill. Consequently, groundwater at IRP1 Site LF18 is not anticipated to pose a significant human health concern.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>United States Air Force (USAF). 2010. CERCLA Record of Decision North Beach Landfill (LF018) Barrel Bay and Scrap Metal Disposal Area (LF024/LF026). Eareckson Air Station, Alaska. Final. July. (2010 ROD) Contaminated Sites Database (accessed 6/16/2011)</p>
STATUS	

Eareckson-LF024.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	67
SITIRP_ID	LF024
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	cancer 1.0 X10 ⁻⁴ (surface soil) non-cancer HI = 14 (surface soil) cancer 2.0 x 10 ⁻⁵ (subsurface soil) non-cancer HI = 6.5 (subsurface soil)
ALIAS	LF24
SITE_NAME	Barrel Bay
SITE_DESCRIPTION	The LF024/LF026 sites are located along the southwestern coast of Shemya Island, near Skoot Cove. LF024 was used as a disposal area for empty 55-gallon drums, most of which formerly contained fuel. In 1984, the majority of these drums were removed from the island by the USAF.
MEDIA_ID	LF024
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown - most drums removed in 1984
CATEGORY	ERP
AREA_ACRES	9.8
ACTIVITY	Active
LUC_RESTRICTION	restrictions on any invasive activities that could potentially compromise the integrity of the cover and expose potential contaminants
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	surface soil - antimony, arsenic, cadmium, chromium, selenium, thallium, vanadium, methylene chloride, pentachlorophenol subsurface soil - antimony, arsenic, cadmium, chromium, thallium, benzene
MODIFIED_DATE	20110616
CONTAMINATION_SOURCE	drums (residual contents)
SITEID	LF024
INSTLN_ID	EA
MAINTENANCE	5-year reviews; Landfill cap inspections and repair
RESTRICTIONS	No unauthorized waste removal; No landfill cap/liner disturbance; No unauthorized groundwater removal; No unauthorized digging/excavation; Property records/Base Plan documentation

Eareckson-LF024.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF024
SITE_NAME	Barrel Bay
DATE_SUMM	6/16/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	The LF024/LF026 sites are located along the southwestern coast of Shemya Island, near Skoot Cove. LF024 includes 9.8 acres of the intertidal zone and flat lands above the coastal bluffs directly north and west of Skoot Cove. LF024 was used as a disposal area for empty 55-gallon drums, most of which formerly contained fuel. In 1984, the majority of these drums were removed from the island by the USAF.
GEO_HYDRO	The primary surficial lithology in the area at LF024/LF026 consists of a silty sand deposit to a depth of 1.5 to 5 feet bgs, underlain by a 4- to 10-foot thick layer of sandy to silty gravel. Bedrock is primarily claystone ranging from 0 feet (outcrops south of the bluffs) to 15 feet bgs. While the predominant bedrock in the area is sedimentary in origin, it is possible that andesite encountered in one borehole is a result of a shallow magmatic intrusion into fracture zones in the sedimentary claystone bedrock. Peat covers the areas outside the landfills to a depth of approximately 5 feet bgs. Groundwater at LF024/LF026 was encountered at approximately 16 to 19 feet bgs (2 to 7 feet above msl). Water contained in a zone of saturated peat was also common. North of the sources, groundwater was encountered at approximately 15 feet bgs, or 30 feet above msl. The groundwater generally flows south toward the Pacific Ocean and tends to vary in gradient with the surface topography. Several seeps were found along the southern coastline near the source areas, and a few seeps were found upgradient of LF024/LF026. Monitoring Well SW10W3, located approximately 200 feet from the ocean, showed minor responses to tide changes. Monitoring wells located closer to the ocean showed tidal influences of up to 2.5 feet.
COC	surface soil - antimony, arsenic, cadmium, chromium, selenium, thallium, vanadium, methylene chloride, pentachlorophenol subsurface soil - antimony, arsenic, cadmium, chromium, thallium, benzene
INVESTIGATION_ACTIONS	In 1984 the Phase I report identified 28 source areas at Eareckson AS as potentially containing hazardous material from past activities. Eight of the areas were assessed as having a low potential for contaminant release; the Hazard Assessment Ranking Methodology was used to prioritize the remaining 20 source areas. These source areas were determined to be likely areas containing hazardous waste constituents where significant potential for migration of the potentially hazardous constituents was thought to exist. In 1988, pits were dug into the face of the bluff at LF024/LF026 where dense debris was located. The intent was to determine the width of the disposal area. Surface and subsurface soil samples were collected and a geophysical survey was conducted to assess the extent of the landfills. Surface soil samples from the face of the bluff and sediment samples at the beach were collected at LF024 during the 1992 site investigation. Surface soil samples were collected from the face of the bluff at LF026. A groundwater seep sample was collected from a seep emanating from the bluff below LF026. A geophysical survey was conducted and surface and subsurface soil, groundwater, and sediment samples were collected from LF024/LF026 during the 1992 IRP investigation. Additionally, five groundwater monitoring wells were installed, with subsurface samples collected from each soil boring. The areal extents of the landfills were characterized by a geophysical survey. Metal debris was found buried, mostly along the southern edge of the area along the top of the bank. The beach area also contained isolated areas of buried metal. In 1993, during the RI/FS, sediment and surface water samples were collected from a seep and drainage around LF024/LF026. In 1994, sediment and groundwater sampling was conducted. Ecological samples were collected to determine whether potentially hazardous constituents might be affecting receptors in Skoot Cove. Groundwater, surface water, and sediment were sampled at LF024/LF026 as part of the Basewide Monitoring Program in 1998, 1999, and 2000. LF024 was used as a disposal area for empty 55-gallon drums, most of which formerly contained fuel. The number of drums was reported to be in the thousands. In 1984, the majority of these drums were removed from the island by the USAF. As a result of this drum removal effort, the hillsides surrounding LF024 became unstable and considerable sloughing occurred. To stabilize the area, most of LF024 was covered with large rocks in 1987. Various types of metal debris, but no barrels or drums, were observed at the site in 1998 but were not present in 2008.
FINAL_REM_ACTION	LF024 cannot support unrestricted use due to remaining metal debris buried at the sites. In addition, elevated concentrations of metals have been detected in the soil, groundwater, marine surface water, and marine sediments. Institutional controls (ICs) are necessary to prevent disturbance of the waste left in place. There is buried solid waste remaining at the sites and inorganics in the soil and groundwater at concentrations above the State's cleanup levels, and therefore ICs are necessary under Alaska State regulations. ICs are being implemented as part of closure for ERP Sites LF018 and LF024/LF026 under CERCLA and Alaska State regulations (including but not limited to Title 46 of the Alaska Statutes and the regulations promulgated thereunder).

Eareckson-LF024.ENV_SITE_SUMMARY_IRP

	<p>The USAF will implement, monitor, maintain, and enforce the ICs identified below in accordance with State of Alaska 18 AAC 75.375 and 18 AAC 60.390. The 611th Civil Engineer Squadron will be the point of contact for ICs. A potential risk to human health or the environment might result if the buried waste were to be disturbed or relocated. To mitigate this potential risk, the following ICs will be implemented:</p> <p>* The Eareckson AS Base General Plan (Plan) will be updated to show the boundaries of ERP Sites LF018 and LF024/LF026 to restrict excavation of soil and use of groundwater at the sites. The Plan will contain a map indicating the locations of the sites, with restrictions on any invasive activities that could potentially compromise the integrity of the cover and expose potential contaminants. Dig permits issued by the Base Operating Contractor are required for any excavation at Eareckson AS. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the sites where land use has already been restricted.</p> <p>* In accordance with the landfill post closure requirements of 18 AAC 60.396(b), a deed notice or other instrument will be used to document that: 1) the property was used as a landfill, 2) it may not be suitable for some uses, 3) maintenance and repairs to the property might become necessary to prevent pollution problems at the site, and 4) any activity that results in damage o the final cover of the property must be corrected to control potential pollution problems.</p> <p>* This remedy has been selected in compliance with state law and the USAF will obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow anticipated actions that may disrupt protectiveness of ICs. In the unlikely event that the property is to be transferred, the USAF will notify ADEC at least 30 days prior to any transfer taking place.</p> <p>* The ICs on the landfills will extend until cleanup levels in 18 AAC 75 have been meet and ADEC approves the land for unrestricted use, to ensure that human and ecological receptors are protected from potential exposures. The effectiveness of the ICs will be evaluated and reported on during each 5-year review.</p> <p>* The USAF will ensure, as appropriate, that any contractor, tenant, or other authorized occupant of land subject to LUCs in the ROD is informed of the LUCs and is made subject to the requirements of such LUCs.</p>
CONT_RISK	<p>Tier I cumulative cancer risk and noncancer HI estimates for surface soils were 1.0×10^{-4} and 14, respectively. Arsenic is responsible for 97 percent of the total cumulative cancer risk. However, there are no known sources of arsenic contamination at Eareckson AS. The maximum concentration of arsenic detected in site surface soils was 30.1 milligrams per kilogram (mg/Kg). As per ADEC guidance, it may be appropriate to calculate the cumulative risk estimate both including arsenic and excluding arsenic. When arsenic is excluded from the risk estimate for Site LF24/LF26, the remaining cumulative cancer risk is less than 1.0×10^{-5}. Arsenic and thallium are responsible for 89 percent of the total cumulative (noncancer) HI. As is the case for arsenic, there are no known sources of thallium at Eareckson AS. Surface soils were screened against ADEC 18 AAC 75.341 Method Two for the Under 40-Inch Zone, Migration-to-Groundwater criteria. Several inorganics (antimony, arsenic, cadmium, chromium, and selenium), methylene chloride, and pentachlorophenol exceeded their respective Migration-to-Groundwater criteria. However, groundwater at LF24/LF26 is migrating towards the Pacific Ocean and it is unlikely that it would ever be used as a public drinking water supply. Consequently, surface soils at LF24/LF26 are not anticipated to pose a significant human health concern.</p> <p>Tier I human health cancer risk and noncancer HI estimates for subsurface soils were 2.0×10^{-5} and 6.5, respectively. Arsenic is responsible for 85 percent of the estimated cumulative cancer risk, and thallium is responsible for 83 percent of the total cumulative HI. However, there are no known sources of arsenic or thallium at Eareckson AS. If arsenic and thallium are excluded from the cancer risk and HI estimates for subsurface soils, the remaining cancer risk and HI estimates are less than 1.0×10^{-5} and 1.0, respectively. Subsurface soils were screened against ADEC 18 AAC 75.341 Method Two for Under 40-Inch Zone, Migration-to- Groundwater criteria. Antimony, arsenic, cadmium, chromium, and benzene exceeded their respective Migration-to-Groundwater criteria. However, groundwater at LF24/LF26 is migrating towards the Pacific Ocean and it is unlikely that it would ever be used as a public drinking water supply. Consequently, subsurface soils at LF24/LF26 are not anticipated to pose a significant human health concern.</p> <p>Tier I human health risks were not evaluated for marine surface water and sediment.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>United States Air Force (USAF). 2010. CERCLA Record of Decision North Beach Landfill (LF018) Barrel Bay and Scrap Metal Disposal Area (LF024/LF026). Eareckson Air Station, Alaska. Final. June. (2010 ROD) Contaminated Sites Database (accessed 6/16/2011)</p>
STATUS	

Eareckson-LF026.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2901
SITIRP_ID	LF026
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	cancer 1.0 X 10 ⁻⁴ (surface soil) non-cancer HI = 14 (surface soil) cancer 2.0 X 10 ⁻⁵ (subsurface soil) non-cancer HI = 6.5 (subsurface soil)
ALIAS	LF26
SITE_NAME	Scrap Metal Disposal Area
SITE_DESCRIPTION	LF026 is situated on a bedrock outcrop at the end of a 3-acre finger of land jutting into the ocean on the east side of Skoot Cove. LF026 was used as a disposal area for metal debris, vehicle parts, wood, and other debris.
MEDIA_ID	LF026
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown
CATEGORY	ERP
AREA_ACRES	3
ACTIVITY	Active
LUC_RESTRICTION	restrictions on any invasive activities that could potentially compromise the integrity of the cover and expose potential contaminants
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	surface soil - antimony, arsenic, cadmium, chromium, selenium, thallium, vanadium, methylene chloride, pentachlorophenol subsurface soil - antimony, arsenic, cadmium, chromium, thallium, benzene
MODIFIED_DATE	20110616
CONTAMINATION_SOURCE	scrap metal, drums
SITEID	LF026
INSTLN_ID	EA
MAINTENANCE	5-year reviews; Landfill cap inspections and repair
RESTRICTIONS	No unauthorized waste removal; No landfill cap/liner disturbance; No unauthorized groundwater removal; No unauthorized digging/excavation; Property records/Base Plan documentation

Eareckson-LF026.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF026
SITE_NAME	Scrap Metal Disposal Area
DATE_SUMM	6/16/2011
CURRENT_STATUS	Open
SITE STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	The LF024/LF026 sites are located along the southwestern coast of Shemya Island, near Skoot Cove. LF026 is situated on a bedrock outcrop at the end of a 3-acre finger of land jutting into the ocean on the east side of Skoot Cove. LF026 was used as a disposal area for metal debris, vehicle parts, wood, and other debris. Generally, remote sites in Alaska such as Shemya Island received glycol, solvents, oils, and fuels in metal drums. Therefore, the scrap metal debris at LF026 likely included metal drums that contained hazardous substances and wastes.
GEO_HYDRO	<p>The primary surficial lithology in the area at LF024/LF026 consists of a silty sand deposit to a depth of 1.5 to 5 feet bgs, underlain by a 4- to 10-foot thick layer of sandy to silty gravel. Bedrock is primarily claystone ranging from 0 feet (outcrops south of the bluffs) to 15 feet bgs. While the predominant bedrock in the area is sedimentary in origin, it is possible that andesite encountered in one borehole is a result of a shallow magmatic intrusion into fracture zones in the sedimentary claystone bedrock. Peat covers the areas outside the landfills to a depth of approximately 5 feet bgs.</p> <p>Groundwater at LF024/LF026 was encountered at approximately 16 to 19 feet bgs (2 to 7 feet above msl). Water contained in a zone of saturated peat was also common. North of the sources, groundwater was encountered at approximately 15 feet bgs, or 30 feet above msl. The groundwater generally flows south toward the Pacific Ocean and tends to vary in gradient with the surface topography. Several seeps were found along the southern coastline near the source areas, and a few seeps were found upgradient of LF024/LF026.</p> <p>Monitoring Well SW10W3, located approximately 200 feet from the ocean, showed minor responses to tide changes. Monitoring wells located closer to the ocean showed tidal influences of up to 2.5 feet.</p>
COC	<p>surface soil - antimony, arsenic, cadmium, chromium, selenium, thallium, vanadium, methylene chloride, pentachlorophenol</p> <p>subsurface soil - antimony, arsenic, cadmium, chromium, thallium, benzene</p>
INVESTIGATION_ACTIONS	<p>In 1984 the Phase I report identified 28 source areas at Eareckson AS as potentially containing hazardous material from past activities. Eight of the areas were assessed as having a low potential for contaminant release; the Hazard Assessment Ranking Methodology was used to prioritize the remaining 20 source areas. These source areas were determined to be likely areas containing hazardous waste constituents where significant potential for migration of the potentially hazardous constituents was thought to exist.</p> <p>In 1988, pits were dug into the face of the bluff at LF024/LF026 where dense debris was located. The intent was to determine the width of the disposal area. Surface and subsurface soil samples were collected and a geophysical survey was conducted to assess the extent of the landfills.</p> <p>Surface soil samples from the face of the bluff and sediment samples at the beach were collected at LF024 during the 1992 site investigation. Surface soil samples were collected from the face of the bluff at LF026. A groundwater seep sample was collected from a seep emanating from the bluff below LF026.</p> <p>A geophysical survey was conducted and surface and subsurface soil, groundwater, and sediment samples were collected from LF024/LF026 during the 1992 IRP investigation. Additionally, five groundwater monitoring wells were installed, with subsurface samples collected from each soil boring. The areal extents of the landfills were characterized by a geophysical survey. Metal debris was found buried, mostly along the southern edge of the area - along the top of the bank. The beach area also contained isolated areas of buried metal.</p> <p>Groundwater, surface water, and sediment were sampled at LF024/LF026 as part of the Basewide Monitoring Program in 1998, 1999, and 2000.</p> <p>In 1993, during the RI/FS, sediment and surface water samples were collected from a seep and drainage around LF024/LF026. In 1994, sediment and groundwater sampling was conducted. Ecological samples were collected to determine whether potentially hazardous constituents might be affecting receptors in Skoot Cove.</p> <p>LF026 was used as a disposal area for metal debris, vehicle parts, wood, and other debris. Much of the site was backfilled with large rocks and graded for stabilization in 1987.</p>
FINAL_REM_ACTION	<p>LF026 cannot support unrestricted use due to remaining metal debris buried at the sites. In addition, elevated concentrations of metals have been detected in the soil, groundwater, marine surface water, and marine sediments. Institutional controls (ICs) are necessary to prevent disturbance of the waste left in place.</p> <p>There is buried solid waste remaining at the sites and inorganics in the soil and groundwater at concentrations above the State's cleanup levels, and therefore ICs are necessary under Alaska State regulations. ICs are being implemented as part of closure for ERP Sites LF018 and LF024/LF026 under CERCLA and Alaska State regulations (including but not limited to Title 46 of the Alaska Statutes and the regulations promulgated thereunder).</p> <p>The USAF will implement, monitor, maintain, and enforce the ICs identified below in accordance with State of Alaska 18 AAC 75.375 and 18 AAC 60.390. The 611th Civil Engineer Squadron will be the point of contact for ICs. A potential risk to human health or the environment might result if the buried waste were to be disturbed or relocated. To mitigate this potential risk, the following ICs will be implemented:</p>

Eareckson-LF026.ENV SITE SUMMARY_IRP

	<p>* The Eareckson AS Base General Plan (Plan) will be updated to show the boundaries of ERP Sites LF018 and LF024/LF026 to restrict excavation of soil and use of groundwater at the sites. The Plan will contain a map indicating the locations of the sites, with restrictions on any invasive activities that could potentially compromise the integrity of the cover and expose potential contaminants. Dig permits issued by the Base Operating Contractor are required for any excavation at Eareckson AS. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the sites where land use has already been restricted.</p> <p>* In accordance with the landfill post closure requirements of 18 AAC 60.396(b), a deed notice or other instrument will be used to document that: 1) the property was used as a landfill, 2) it may not be suitable for some uses, 3) maintenance and repairs to the property might become necessary to prevent pollution problems at the site, and 4) any activity that results in damage o the final cover of the property must be corrected to control potential pollution problems.</p> <p>* This remedy has been selected in compliance with state law and the USAF will obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow anticipated actions that may disrupt protectiveness of ICs. In the unlikely event that the property is to be transferred, the USAF will notify ADEC at least 30 days prior to any transfer taking place.</p> <p>* The ICs on the landfills will extend until cleanup levels in 18 AAC 75 have been meet and ADEC approves the land for unrestricted use, to ensure that human and ecological receptors are protected from potential exposures. The effectiveness of the ICs will be evaluated and reported on during each 5-year review.</p> <p>* The USAF will ensure, as appropriate, that any contractor, tenant, or other authorized occupant of land subject to LUCs in the ROD is informed of the LUCs and is made subject to the requirements of such LUCs.</p>
CONT_RISK	<p>Tier I cumulative cancer risk and noncancer HI estimates for surface soils were 1.0×10^{-4} and 14, respectively. Arsenic is responsible for 97 percent of the total cumulative cancer risk. However, there are no known sources of arsenic contamination at Eareckson AS. The maximum concentration of arsenic detected in site surface soils was 30.1 milligrams per kilogram (mg/Kg). As per ADEC guidance, it may be appropriate to calculate the cumulative risk estimate both including arsenic and excluding arsenic. When arsenic is excluded from the risk estimate for Site LF24/LF26, the remaining cumulative cancer risk is less than 1.0×10^{-5} Arsenic and thallium. are responsible for 89 percent of the total cumulative (noncancer) HI. As is the case for arsenic, there are no known sources of thallium at Eareckson AS. Surface soils were screened against ADEC 18 AAC 75.341 Method Two for the Under 40-Inch Zone, Migration-to-Groundwater criteria. Several inorganics (antimony, arsenic, cadmium, chromium, and selenium), methylene chloride, and pentachlorophenol exceeded their respective Migration-to-Groundwater criteria. However, groundwater at LF24/LF26 is migrating towards the Pacific Ocean and it is unlikely that it would ever be used as a public drinking water supply. Consequently, surface soils at LF24/LF26 are not anticipated to pose a significant human health concern.</p> <p>Tier I human health cancer risk and noncancer HI estimates for subsurface soils were 2.0×10^{-5} and 6.5, respectively. Arsenic is responsible for 85 percent of the estimated cumulative cancer risk, and thallium is responsible for 83 percent of the total cumulative HI. However, there are no known sources of arsenic or thallium, at Eareckson AS. If arsenic and thallium are excluded from the cancer risk and HI estimates for subsurface soils, the remaining cancer risk and HI estimates are less than 1.0×10^{-5} and 1.0, respectively. Subsurface soils were screened against ADEC 18 AAC 75.341 Method Two for Under 40-Inch Zone, Migration-to- Groundwater criteria. Antimony, arsenic, cadmium, chromium, and benzene exceeded their respective Migration-to-Groundwater criteria. However, groundwater at LF24/LF26 is migrating towards the Pacific Ocean and it is unlikely that it would ever be used as a public drinking water supply. Consequently, subsurface soils at LF24/LF26 are not anticipated to pose a significant human health concern.</p> <p>Tier I human health risks were not evaluated for marine surface water and sediment.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>United States Air Force (USAF). 2010. CERCLA Record of Decision North Beach Landfill (LF018) Barrel Bay and Scrap Metal Disposal Area (LF024/LF026). Eareckson Air Station, Alaska. Final. June. (2010 ROD) Contaminated Sites Database (accessed 6/16/2011)</p>
STATUS	

Eareckson-LF028.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	68
SITIRP_ID	LF028
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	cancer 1.4X10 ⁻⁵ (subsurface soil) non-cancer HI <1 (subsurface soil) cancer 1.1X10 ⁻⁵ (groundwater) non-cancer HI= 13 (groundwater)
ALIAS	LF28
SITE_NAME	Scrap Metal Landfill
SITE_DESCRIPTION	LF028 occupies an area of approximately 3.1 acres on the southeast corner of Shemya Island. The site is located adjacent to the active municipal solid waste landfill. The landfill was used primarily in the late 1980s when scrap metal debris was collected and buried as part of an earlier Air Force cleanup effort.
MEDIA_ID	LF028
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	late 1980s
CATEGORY	ERP
AREA_ACRES	3.1
ACTIVITY	Active
LUC_RESTRICTION	restrictions on excavation of soil and use of groundwater as a drinking water source
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	none specified
MODIFIED_DATE	20110616
CONTAMINATION_SOURCE	landfill
SITEID	LF028
INSTLN_ID	EA
MAINTENANCE	Landfill cap inspections and repair;
RESTRICTIONS	No potable groundwater use; No unauthorized digging/excavation; Property records/Base Plan documentation

Eareckson-LF028.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF028
SITE_NAME	Scrap Metal Landfill
DATE_SUMM	6/16/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	LF028 occupies an area of approximately 3.1 acres on the southeast corner of Shemya Island. The site is located adjacent to the active municipal solid waste landfill and is bordered on the west by a road, and on the east by grass-covered cliffs that slope down to the Pacific Ocean. Groundwater flows to the east-southeast. LF028 was used to dispose of scrap metal and various domestic wastes until 1988. Aerial photographs and historical maps indicate that the site was used for disposal as early as 1971, but the date when the site was first used is unknown. The landfill was used primarily in the late 1980s when scrap metal debris was collected and buried as part of an earlier Air Force cleanup effort. The scrap metal debris likely contained metal drums that contained hazardous substances and wastes. Generally, remote sites in Alaska such as Shemya Island received glycol, solvents, oils, and fuels in metal drums. At other similar Air Force sites in Alaska buried drums have lead to releases of CERCLA hazardous substances. Due to the vast amount of hazardous substances and wastes used, stored, and disposed on Shemya Island, it is likely that CERCLA hazardous substances were buried in LF028 prior to the adoption of restrictive landfill regulations. The surface was graded sometime after 1988, and currently consists of a series of hummocks with broken concrete.
GEO_HYDRO	Groundwater at LF028 was encountered at depths of 10 to 15 feet bgs. Groundwater is believed to follow surface topography in the area, flowing to the southeast. Based in part on observations during rain events, it appears that groundwater at LF028 is hydraulically connected to seeps along the bluff. However, the hydrogeologic data are somewhat inconclusive, and it is possible groundwater encountered at LF028 is perched on top of bedrock.
COC	none specified
INVESTIGATION_ACTIONS	<p>Between 1988 and 1996, five ERP investigations were performed at LF028. Over the course of these investigations, the site boundary, definitions for surface and subsurface soils, and site name changed, with the following results:</p> <ul style="list-style-type: none"> * A consequence of the boundary changes is that some sampling locations that were initially associated with LF028 are no longer located within the source area boundary. Nevertheless, data from these locations are assumed to represent conditions in the source area. * In several ERP documents, surface soils are defined as 0 to 3 feet bgs. For this ROD, surface soils are defined as 0 to 2 feet bgs. Subsurface soils are below 2 feet bgs. This definition change reflects the prevailing regulatory definition for surface and subsurface soils. * Prior to 1993, ERP documents refer to LF28 as SW-14. <p>Investigations included: 1988 ERP Investigation, 1992 Geophysical Survey, 1993 Limited Site Investigation, 1994 Field Sampling, 1996 RI/FS</p>
FINAL_REM_ACTION	<p>The selected remedy for LF028 is necessary to address the potential threat to human health and the environment from contaminated subsurface soil, groundwater, and surface water. The selected remedy for LF028 is ICs. The Air Force will implement and enforce the ICs identified below in accordance with CERCLA and the NCP. To restrict current and future access or exposure to buried debris at the landfill site; the following ICs will be implemented:</p> <ul style="list-style-type: none"> * The selected remedy may result in hazardous substances remaining on-site above levels that allow for unlimited use and unrestricted exposure. The location of the LF028 and background information in the form of a notice will be recorded with the Aleutian Islands Recording District Recorder located in Anchorage, Alaska. This is a notice only and does not create any property interest or limitation. * The Eareckson AS comprehensive map and master plan will be updated to show the boundaries of the landfill to restrict excavation of soil and use of groundwater as a drinking water source. The base master plan will contain a map indicating the location of LF028 with restrictions on any invasive activities that could potentially compromise the integrity of the cover and expose potential contaminants. Dig permits are required for any excavation on Eareckson AS. The Base Operating Service Contractor at Eareckson AS administers dig permits. Prior to approving a permit, the Eareckson AS comprehensive map and master plan will be reviewed to insure that invasive activities are not taking place within the boundary of the landfill where land use has already been restricted. The Air Force will notify the ADEC prior to making any major changes to the base master plan that could affect the ICs. The Air Force will obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow anticipated actions that may disrupt protectiveness of ICs. In the unlikely event that the property is to be transferred, the Air Force will notify the ADEC prior to any transfer taking place. The 611th Civil Engineering Squadron is the point of contact for ICs. A 5-year review will evaluate the cover, the ICs, and general site conditions. In addition to the above ICs, the following activities will be conducted:

Eareckson-LF028.ENV_SITE_SUMMARY_IRP

	<p>* A land survey will be conducted at LF028 to identify site boundaries and determine the extent of buried debris. This information will be used to update land records and the Eareckson AS comprehensive map and master plan.</p> <p>* Since uncovered debris may damage the cover and lead to the migration of contaminants, uncovered debris will be removed and properly disposed and additional cover will be placed on the landfill.</p> <p>* The ICs on the landfill will extend indefinitely, to insure that human and ecological receptors are protected from potential exposures.</p> <p>* Maintain cover thickness and vegetation as necessary to prevent erosion and promote drainage.</p> <p>* Any observed protrusion(s) through the cover will be removed and additional cover will be placed to match the existing cover.</p> <p>* Any activity that is inconsistent with IC requirements, objectives, or controls, or any action that may interfere with the protectiveness of the IC, will be addressed by the Air Force as soon as practicable after discovery. In no instance will the ADEC be notified later than 10 days after the Air Force becomes aware of a deficiency.</p> <p>* Periodic reports of IC monitoring will be prepared at a frequency of at least once every five years and provided to ADEC on an informational basis only, with copies filed in the administrative record and information repository.</p>
CONT_RISK	<p>Surface soils were not sampled during the ERP investigations because LF028 has reportedly been covered and graded. Consequently, surface soils are not a media of concern for human or ecological receptors. Tier I cancer risk and non-cancer HI estimates for subsurface soils were 1.4×10^{-5} and 0.25, respectively. The carcinogenic risk estimate, but not the HI, exceeds the ADEC acceptable risk criterion. Arsenic was responsible for 100 percent of the carcinogenic risk estimate. However, the maximum concentration of arsenic detected in subsurface soils is approximately three times the mean background concentration for arsenic in Eareckson AS soils, and there are no known sources of arsenic at Eareckson AS. In addition, the maximum concentration of arsenic measured at LF028 is well within the range of levels reported for western U.S. soils (0.1 to 97 milligrams per kilogram [mg/Kg] - Shacklette and Boernigen, 1984). Lead was detected in subsurface soils, but was not included in the cumulative risk calculation, consistent with ADEC risk assessment guidance (ADEC, 2000b). However, the maximum concentration of lead detected (36.1 mg/Kg) is well below the U.S. Environmental Protection Agency's (EPA's) soil screening level of 400 mg/Kg for residential soils. Consequently, subsurface soils at LF028 are not anticipated to pose a significant human health concern based on direct exposure pathways.</p> <p>The migration-to-groundwater pathway was also evaluated for subsurface soils. Arsenic and methylene chloride were the only chemicals detected in subsurface soils that exceeded the ADEC 18 AAC 75.341 Method Two, Table B Soil Cleanup Levels for migration-to groundwater. As described above, however, the maximum concentration of arsenic detected in subsurface soils was: 1) only slightly higher than the mean background concentration for Eareckson AS, 2) within the range reported for western U.S. soils, and 3) there are no known sources of arsenic at Eareckson AS. Methylene chloride was identified as a laboratory contaminant in the Remedial Investigation/Feasibility Study and was eliminated from further consideration. Therefore, chemicals detected in subsurface soils are not anticipated to represent a significant threat to groundwater at Site LF028.</p> <p>Tier I cancer risk and noncancer HI estimates for groundwater were 1.1×10^{-5} and 13, respectively. These risk and HI estimates slightly exceed ADEC's acceptable risk and HI criteria of 1.0×10^{-5} and 1.0, respectively. Beryllium is responsible for 64 percent of the total cumulative cancer risk estimate. However, the toxicological evidence is inadequate to classify the carcinogenicity of ingested beryllium. If beryllium is excluded from the risk calculation, the remaining cumulative risk is below the ADEC risk criterion of 1.0×10^{-5}. The excess HI was due entirely to metals (aluminum, beryllium, cadmium, chromium, and manganese). However, groundwater samples were not filtered prior to analysis, and dissolved metals concentrations are most likely lower than those measured. Furthermore, it is highly unlikely that groundwater at this former landfill would ever be used for potable purposes. Consequently, chemicals detected in LF028 groundwater are not anticipated to pose a significant human health risk.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites database (accessed 6/16/2011)</p> <p>United States Air Force (USAF). 2005. <i>Record of Decision Scrap Metal Landfill (LF28) Eareckson Air Station, Alaska</i>. Final. December. (2005 ROD)</p>
STATUS	

Eareckson-OT048.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	62
SITIRP_ID	OT048
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	surface/subsurface soils not presented quantitatively. cancer <1X10 ⁻⁵ groundwater non-cancer HI = 7.7 groundwater (risk from naturally occurring metals)
ALIAS	OT48
SITE_NAME	Water Gallery
SITE_DESCRIPTION	OT048 (Water Gallery) is located in the south-central portion of Shemya Island, east of Tower Road and west of Terminal Way. OT048 has been used since the early 1950s as the source of drinking water for Eareckson AS personnel. The Water Gallery intercepts groundwater using an underground system of perforated piping that collects and stores water for installation use.
MEDIA_ID	OT048
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1950s-present
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	restricted access to/use of groundwater other than the established infiltration system
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	TCE
MODIFIED_DATE	20110616
CONTAMINATION_SOURCE	misc. fuel and solvent spills in drainage basin
SITEID	OT048
INSTLN_ID	EA
MAINTENANCE	Groundwater monitoring; PCB cap maintenance/inspections
RESTRICTIONS	No inappropriate land use; No unauthorized digging/excavation; No unauthorized site access; No groundwater use; Property records/Base Plan documentation

Eareckson-OT048.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	OT048
SITE_NAME	Water Gallery
DATE_SUMM	6/16/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	OT048 (Water Gallery) is located in the south-central portion of Shemya Island, east of Tower Road and west of Terminal Way. Topography at OT048 is relatively flat, with a gentle slope to the south-southeast. Within OT048, the primary surficial deposit is a highly organic peat layer from 1 to 10 feet thick. Depth to bedrock is approximately 20 feet bgs. Groundwater at OT048 generally flows to the south and drains into Gallery Creek. The depth to groundwater at OT048 is approximately 2 to 8 feet bgs. OT048 has been used since the ea+B15rly 1950s as the source of drinking water for Eareckson AS personnel. The Water Gallery intercepts groundwater using an underground system of perforated piping that collects and stores water for installation use.
GEO_HYDRO	Groundwater flow direction is generally to the south. Groundwater elevations in OT048 wells range from a low of approximately 81 feet above msl to a high of 131 feet above msl. The groundwater elevation near the main Water Gallery area averages approximately 118 feet above msl. Depth to groundwater in the OT048 area is approximately 2 to 18 feet bgs. Horizontal hydraulic gradients within the OT048 area vary from 0.015 feet per foot to 0.043 feet per foot. Based on groundwater depths within the lower portions of OT048, it appears that there may be limited hydraulic communication between the shallow groundwater and the surface water within Gallery Creek. Testing at monitoring wells in Management Zone 2 adjacent to OT048 revealed hydraulic conductivity values of approximately 0.037 centimeters per second. Geotechnical analysis of soil samples collected from the SS014 source area, located adjacent to OT048, showed an average porosity of 0.44 for the same general lithology. These data, along with hydraulic gradient information, were used to determine an average groundwater linear velocity of approximately 2,523 feet per year.
COC	TCE
INVESTIGATION_ACTIONS	<p>* 1988 USAF Bioenvironmental Engineering Office. Eareckson AS bioenvironmental staff began collecting water samples from the base water supply in 1988. TCE and other chlorinated by-products were routinely detected. Greens and filtration units were installed to remove particulate and metals from the water at that time.</p> <p>* Water System Phase II, (Water Gallery), POL Contamination Investigations. As part of this investigation, 11 borings and eight wellpoints were installed under a USAF Military Construction/USACE program. The objectives of the investigation were to determine the depth to bedrock, local hydrogeology, and the nature and extent of any contamination present. Possible sources of fuel contamination were discovered throughout OT048.</p> <p>* IRP Site Investigation, Field Investigation Report. In 1992, groundwater monitoring wells and wellpoints were installed, and soil and groundwater samples were collected under the RI/FS. TCE was consistently detected in groundwater at levels above regulatory limits. A fuel source was discovered upgradient of OT048 at sample location WP7 and, as a result, the soil surrounding WP7 was excavated and treated by bioremediation; however, a document discussing this excavation could not be found. No specific TCE source was identified that explains the groundwater TCE contamination. In 1993, groundwater was re-sampled and analyzed for TCE, among other contaminants.</p> <p>* Eareckson AS RI/FS Report, Volumes I and II. In 1994, another round of groundwater samples was collected at OT048. In addition, four surface water samples were collected. A single groundwater sample was again collected in 1995 from Monitoring Well WG7, a well in which TCE had been consistently detected. A drinking water sample was also collected from a tap at the installation.</p> <p>* Eareckson AS RI/FS Report, Volumes III and IV presents the analytical results for samples collected from 1988 through 1994.</p> <p>* 1996 Technical Memorandum on the Results of 1995 IRP Field Program (samples collected in 1995). This memorandum documents the collection of one groundwater sample from WG4 during 1995.</p> <p>* 1999-2000 Eareckson AS Comprehensive Basewide Monitoring Reports. Persistent detection of TCE at OT048 resulted in OT048 being placed in the Eareckson Basewide Monitoring Program. Well WG7 was sampled in 1998, 1999, and 2000 as part of this program.</p> <p>* Final Basewide Monitoring Program Report, 2000. Presents the results of groundwater sampling at OT048 (well WG7) in 2000 as part of this program.</p> <p>* Groundwater Monitoring, 2008. Groundwater monitoring conducted at Monitoring Well WG7 and the water gallery influent sump (WG11) to determine current TCE concentration.</p>

Eareckson-OT048.ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>The USAF will implement, monitor, maintain, and enforce the Institutional Controls (ICs) identified below in accordance with State of Alaska regulations at 18 AAC 75.375. The 611th Civil Engineer Squadron will be the point of contact for ICs. The ICs for ERP Site OT048 consist of:</p> <p>* The Eareckson AS Base General Plan (Plan) will be updated to show the boundaries of OT048 to restrict access to groundwater. The Plan will contain a map indicating the site location, with restrictions on any invasive activities. Dig permits issued by the Base Operating Contractor are required for any excavation at Eareckson AS. The objective of the ICs are to prevent access or use of the groundwater contaminated with TCE above ADEC cleanup levels. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the site that could potentially compromise natural processes that lead to attenuation of the contaminant concentration in the groundwater.</p> <p>* This remedy has been selected under state law and the USAF will obtain concurrence from ADEC prior to terminating the ICs, modifying current land use, or allowing anticipated actions that might disrupt protectiveness of ICs. In the unlikely event that the property is to be transferred, the USAF will notify ADEC at least 30 days prior to any transfer taking place.</p> <p>* The ICs will remain in effect until the TCE concentration in the groundwater is determined to be less than the ADEC groundwater cleanup level of 0.005 milligrams per liter (mg/L - 18 AAC 75.345, Table C) for three consecutive monitoring periods or years, whichever is longer.</p> <p>* The USAF will ensure, as appropriate, that any contractor, tenant, or other authorized occupant of land subject to LUCs is informed of the LUCs and is made subject to the requirements of such LUCs.</p> <p>In addition to ICs, MNA will be implemented at the site. MNA will consist of groundwater monitoring at least once every 2 years by collecting groundwater samples and analyzing for TCE concentration. A monitoring report, including an evaluation of ICs, will be provided to ADEC following each monitoring event. Groundwater monitoring can be discontinued with ADEC concurrence after contaminant concentration falls below the ADEC groundwater cleanup level of 0.005 mg/L for three consecutive monitoring events or years, whichever is longer.</p>
CONT_RISK	<p>Maximum concentrations of arsenic, chromium, and methylene chloride in surface soils exceeded the ADEC Table B1 Soil Cleanup Levels for the Migration-to-Groundwater Pathway, suggesting a potential for impacts to groundwater. However, the maximum U.S. Geological Survey (USGS) arsenic concentration in soil only slightly exceeded the mean background level for Shemya Island and is approximately equal to the geometric mean concentration of arsenic in Alaska soils. The maximum chromium concentrations are well below the geometric mean concentration for chromium in Alaska soils. Methylene chloride detections are believed to represent laboratory contamination because the compound was also detected in laboratory blanks. Therefore, these metals and methylene chloride are not COCS.</p> <p>The screening level cancer risk estimate for direct exposures to subsurface soils was below the screening criterion, while the total screening level noncancer hazard estimate slightly exceeded the screening criterion. Exceedance of the hazard criterion was due primarily to the maximum concentrations of aluminum, antimony, thallium, and vanadium present. However, these noncarcinogenic chemicals affect different target organs; the highest target organ-specific Hazard Index was calculated for antimony and thallium and is below the acceptable screening criterion. Therefore, direct exposures to subsurface soils are not anticipated to result in impacts to human health.</p> <p>Screening results for groundwater suggest the potential for impacts to human health from the use of ERP Site OT048 groundwater as a potable water supply. However, the excess cancer risk estimate was entirely attributable to the maximum concentration of TCE measured in 1995. Sampling indicates that TCE concentrations in OT048 groundwater have been steadily declining. The cancer risk estimate based on data obtained from the 2000 Basewide Monitoring Program is 9.4×10^{-6} which is below the screening risk criterion. A cumulative noncancer hazard estimate of 7.7 was entirely attributable to low concentrations of metals, particularly antimony. However, there is also no known or likely anthropogenic source of antimony at ERP Site OT048. Antimony is most commonly used in flame retardants (primarily in plastics), batteries (alloyed with lead), and is also used to a much lesser extent in ceramic pigments and other lead alloys (munitions). None of these materials were manufactured or disposed of at OT048. Therefore, it is most likely naturally occurring.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>United States Air Force (USAF). 2010. <i>CERCLA Record of Decision OT048 (Water Gallery). Eareckson Air Station, Alaska</i>. Final. March. (2010 ROD)</p> <p>Contaminated Sites Database (accessed 6/16/2011)</p>
STATUS	

Eareckson-SS007.ENV_REST_SITE_SUMMARY

OBJECTID		
HAZSITE_ID	2845	
SITIRP_ID	SS007	
SITE_STATUS	Active	CS database - last accessed 4/23/12
BOUNDARY_STATUS	Unknown	
OU	NA	
ECP	NA	
REGULATORY	non-CERCLA	2008 Decision Document - Contaminants from Petroleum, NFA CERCLA
RISK	Individual detected chemical concentrations and total (cumulative) risk calculated for all chemicals detected at Site SS007 were compared to published risk levels considered acceptable to ADEC. No complete exposure pathways were identified for human receptors at Site SS007.	2008 Decision Document
ALIAS	SS007	
SITE_NAME	West End O/W Sep Ponds 1-5	CS database - last accessed 4/23/12
SITE_DESCRIPTION	SS007 is located on the northwest end of Shemya Island adjacent to the Abandoned Tank Farm (ST046). SS007 historically consisted of a series of five unlined earthen ponds connected by shallow ditches. The ponds were designed as a remedial action to intercept oil-contaminated surface water drainage from areas upgradient of the ponds, such as at the Power Plant and an abandoned tank farm.	2008 Decision Document
MEDIA_ID	SS007	
BOUNDARY_DETAILS	Estimated	
DATES_OPERATION	Operated mid-1980s to 1990s	CS database - last accessed 4/23/12
CATEGORY	ERP	2008 Decision Document
AREA_ACRES	Unknown	
ACTIVITY	Active	CS database - last accessed 4/23/12
LUC_RESTRICTION	<p>The USAF will implement, monitor, maintain, and enforce the ICs identified below for SS007 in accordance with State of Alaska regulation 18 AAC 75.375. Monitoring will occur every two years, beginning the effective date of this Decision Document. The 611th Civil Engineer Squadron will be the point of contact for ICs. A potential risk to human health or the environment may result if the residual petroleum, oil, and lubricant contaminated soil were to be disturbed or relocated. To mitigate this potential risk, the following ICs will be implemented:</p> <ul style="list-style-type: none"> * The Eareckson AS Base General Plan (Plan) will be updated to show the boundaries of SS007 to restrict excavation of soil. The Plan will contain a map indicating site location, with restrictions on any invasive activities that could potentially compromise the integrity of the wetland and drainage system so not to expose potential contamination. Dig permits issued by the Base Operating Contractor are required for any excavation at Eareckson AS. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the site where land use has already been restricted. Excavation and off-site transportation of contaminated soil will be conducted after obtaining ADEC approval per 18 AAC 75.325(i). * The USAF will notify ADEC prior to making any major changes to the Plan that could affect the ICs. * The USAF will obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow anticipated actions that may disrupt protectiveness of ICs. In the unlikely event that the property is to be transferred, the USAF will notify ADEC prior to any transfer taking place. * The ICs will remain in effect until the soil concentrations are determined to be less than 250 mg/kg DRO and 300 mg/kg GRO. <p>In addition to the above ICs, the following activities will be conducted:</p> <ul style="list-style-type: none"> * The SS007 site boundaries shown on Figure 2-2 of the Decision Document are based on existing surveys and observations, including observation of disturbed soil, visible debris and plant growth, and/or geophysics and will be considered the site boundaries for the ICs. USAF land records and the Plan will be updated to include this information and the ICs requirements. * Any activity that is inconsistent with the requirements, objectives, or controls of the ICs, or any action that may interfere with the protectiveness of the ICs, will be reported to ADEC and will be addressed by the USAF as soon as practicable after discovery. <p>Periodic reports of ICs monitoring and long-term monitoring of the contaminant levels will be provided to ADEC.</p>	2008 Decision Document
POC	Keith Barnack; 10471 20th St Ste 301, JBER, AK 99506-2200	
PHONE	907-552-5160	
CHEMICALS_OF_CONCERN	None	2008 Decision Document
MODIFIED_DATE	20120423	
CONTAMINATION_SOURCE	Discharges of petroleum products	2008 Decision Document
SITEID	SS007	
INSTLN_ID	EA	
MAINTENANCE	None specified	2008 Decision Document
RESTRICTIONS	No unauthorized transport or disposal of soil; No unauthorized ground disturbance; Property records/Base Plan documentation	2008 Decision Document

Eareckson-SS007.ENV_SITE_SUMMARY_IRP

SITEID		
OBJECTID		
SITIRP_ID	SS007	
SITE_NAME	West End O/W Sep Ponds1-5	
DATE_SUMM	4/23/2012	
CURRENT_STATUS	Open	CS database - last accessed 4/23/12
SITE_STATUS	Active	CS database - last accessed 4/23/12
POCID	Keith Barnack; 10471 20th St Ste 301, JBER, AK 99506-2200	
DESC_USE	SS007 is located on the northwest end of Shemya Island adjacent to the Abandoned Tank Farm (ST046). SS007 historically consisted of a series of five unlined earthen ponds connected by shallow ditches. The ponds were designed as a remedial action to intercept oil-contaminated surface water drainage from areas upgradient of the ponds, such as at the Power Plant and an abandoned tank farm.	2008 Decision Document
GEO_HYDRO	<p>At SS007, the surficial peat layer varies from 2 to 12 feet in thickness, and in some locations (e.g., the west side of Pond 5) is nonexistent. Fine- to medium-grained eolian sands and/or fine- grained gravel deposits underlying the peat layer are typically present in thicknesses ranging from 2 to 10 feet. The bedrock underlying the area consists of a highly weathered greywacke layer. As with most areas on Shemya Island, the bedrock appears to be moderately to severely fractured and weathered. Depth to bedrock is greater than 15 feet at SS007, and the top of the bedrock surface closely matches that of the existing topographic surface.</p> <p>In most of the SS007 area, groundwater was encountered in the upper portion of the fractured bedrock. However, in the vicinity of Pond 5, groundwater was encountered in the unconsolidated materials overlying bedrock. The transition between groundwater in the bedrock and groundwater within the unconsolidated materials appears to occur somewhere between Ponds 4 and 5. The depth to groundwater at SS007 varies considerably across the site due to the changes in surface topography. In the topographically lower areas, groundwater was found at a depth of approximately 3 to 5 feet bgs.</p>	2008 Decision Document
COC	NONE	2008 Decision Document
INVESTIGATION_ACTIONS	Ponds 1 and 2 were excavated in 1994, along with potentially contaminated soil, and a new, lined pond was constructed in the approximate location of the two original ponds. In 1998, the USAF constructed an Engineered Wetland area at the Pond 3 location. It was designed as a cap to underlying contaminated sediments, and to intercept and attenuate the hydrocarbon sheen on surface water flowing from upgradient areas. Ponds 4 and 5 are located at the western end of the drainage system and have not been modified. 2006 Human Health and Ecological Risk Assessments- The 2006 HHRA updated the earlier risk assessment by incorporating data collected in 1998, 1999, and 2004.	2008 Decision Document
FINAL_REM_ACTION	The selected remedial alternative for SS007 is ICs that allow the Engineered Wetland to perform as intended, and LTM to gauge the attenuation of hydrocarbons over time. The USAF will implement, monitor, maintain, and enforce the ICs identified for SS007 in accordance with State of Alaska regulation 18 AAC 75.375.	2008 Decision Document
CONT_RISK	The primary exposure points evaluated at the SS007 source area included the three remaining oil/water separator ponds, the drainage between the ponds, and the tidal pool at the west end of the drainage. After evaluating all environmental media and performing Tier I screening and a Tier II quantitative risk assessment, the only exposure pathway and potential ecological risk was the surface water at Pond 3.	2008 Decision Document
RATIONALE		
RECOMMENDATIONS		
REFERENCES_	Alaska DEC Contaminated Sites Program Online Database; CERCLA Record of Decision West End Oil/Water Separator Ponds (SS007) Underground Storage Tanks at Building 110 (ST039) September 2008; Non- CERCLA Decision Document West End Oil/Water Separator Ponds (SS007) Underground Storage Tanks at Building 110 (ST039) September 2008	
STATUS		

EAS-SS010.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	63
SITIRP_ID	SS010/ST010
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	HHRA cancer = 7×10^{-4} , HI = 29 (future workers exposure to surface water and groundwater; no unacceptable risks from soil were identified), ERA HQ<1
ALIAS	ST043, ST10, and PS-6
SITE_NAME	Site PS-6 JP-4 Spill, Vehicle Refueling
SITE_DESCRIPTION	SS010 consist of former Building 605, Building 614, and five USTs: 605-1, 605-2, and 605-3 (removed in 1993), 614-1, and 614-2 (removed in 1997). This site is located in the west-central portion of the island. Extensive soil removal and removal of the three USTs in 1993 eliminated much of the primary and secondary source material.
MEDIA_ID	SS010/ST010
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. ICs will be maintained until cleanup levels are attained. Inspections will be conducted periodically to confirm that ICs remain protective. The major components of the selected CERCLA response actions are:</p> <p>Administrative:</p> <ul style="list-style-type: none"> • Delineate the boundaries of each site to restrict excavation of soil, as well as to prevent access to groundwater. Generate or update maps or figures showing locations of the residual contamination and ICs for inclusion in the AFCEC/CZOP Base General Plan, Air Force Real Estate records, and the LUC Master Plan. GIS data will be used to manage location data. • Document ICs in the Air Force Real Property Records, Eareckson AS General Plan, AFCEC/CZOP IRP Records, and the AFCEC/CZOP LUC Management Plan. • The Air Force will notify and obtain approval from ADEC prior to making any changes to the Base General Plan that could affect the ICs, and obtain prior concurrence from ADEC to modify or terminate the ICs, modify current land use, or allow actions that might disrupt the ICs. • Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service. <ul style="list-style-type: none"> • A Notice of Environmental Contamination will be recorded at the ADNR. • Timely notification to ADEC of planned transfers, to include federal-to-federal transfers, of property subject to ICs. The Air Force will provide either access to or a copy of the executed deed or transfer assembly to ADEC. • Notify ADEC of any violation of the ICs or any other activity that is inconsistent with the ICs or IC objectives, as well as any obstacles to correcting the same. • The Air Force will monitor and inspect all site areas subject to ICs and submit a performance report to ADEC every 2 years, for the first 5 years after the date of the signed Decision Document, followed by a 5-year review. • Five-year reviews will be conducted as long as hazardous substances are present onsite at concentrations that do not allow for unrestricted use and unlimited exposure. At that time, the frequency of inspections and reports may be reduced. The Air Force will also submit a long-term management sampling plan and subsequent sampling reports to ADEC for approval prior to removal of ICs. The frequency of inspections and reports will only be reduced if agreed upon by the ADEC and the Air Force. • The Air Force will inform, monitor, and enforce ICs with contractors and other authorized occupants at Eareckson AS.

EAS-SS010.ENV_REST_SITE_SUMMARY

	<ul style="list-style-type: none"> • Site specific remedies change somewhat as a result of the remedial design and construction processes. Changes, if they occur, to the remedy as described in this ROD will be documented using a technical memorandum in the Administrative Record, an ESD, or ROD amendment. Only minor changes may be made without additional public notice and/or involvement. • The facility construction review process will prevent damage to existing monitoring wells. • The facility Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site.
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160
CHEMICALS_OF_CONCERN	Manganese, Mercury, Aluminum, Arsenic, Beryllium, Cobalt, Vanadium
MODIFIED_DATE	20140617
CONTAMINATION_SOURCE	Releases, leaks, and spills from USTs, refueling activities, oil/water separator, and hazardous materials stored on-site.
SITEID	SS010
INSTLN_ID	EAS
MAINTENANCE	<ul style="list-style-type: none"> • Maintain the integrity of the ICs by using the Air Force's dig permit, construction review, and water well permit systems to restrict inappropriate use or development of areas under ICs. • Maintain the integrity of the monitoring network by performing required maintenance to monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time. • The Air Force will include any intermediate remedial actions required by (or in preparation for) the 2-year performance review in the Eareckson AS operation and maintenance schedule.
RESTRICTIONS	<ul style="list-style-type: none"> • Excavation, disturbance, or relocation of contaminated soil, and excavation or drilling in areas of groundwater contamination, will be restricted by the ICs and will not be conducted without prior Air Force and ADEC approvals. • Use the Air Force's dig permit, construction review, and water well permit systems, or similar systems developed by the Base Operation Support contractor, to restrict inappropriate use or development of areas under ICs. • Prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; and prevent the use of contaminated soil for restricted uses in the event of excavation and implement a soils management plan. • The facility well permitting system will prevent any use of groundwater for drinking water. • The land use at these sites is designated as industrial use only currently and in the future in the Base Master Plan

EAS-SS010.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS010/ST010
SITE_NAME	Site PS-6 JP-4 Spill, Vehicle Refueling
DATE_SUMM	6/17/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	SS010 consists of former Building 605 (the Vehicle Refueling Shop), Building 614, and five USTs: 605-1, 605-2, and 605-3 (removed in 1993), 614-1, and 614-2 (removed in 1997). This site is located in the west-central portion of the island. Floor drains in Building 605 discharged to an oil/water separator (UST 605-3) that overflowed to an areas west-southwest of the building. Building 614, located south of Building 605, also has a water discharge that leads to the same drainage. In 1987, a 100-gallon JP-4 fuel spill occurred outside Building 605. The following year, a possible discharge of an unknown quantity of antifreeze may have occurred. The leaking oil/water separator and the associated filling procedure with the UST at Building 605 were cited as the primary cause of contamination. In June 1992, the oil/water separator in Building 605 was deactivated. Extensive soil removal and removal of the three USTs in 1993 eliminated much of the primary and secondary source material.
GEO_HYDRO	Based on historical geologic information, a shallow zone of saturation within the peat layer exists in isolated areas at SS010, ranging in depths from 4 to 7 feet bgs. The groundwater contour map and information collected during the 1993 and 1994 investigations at SS010 indicate that the groundwater flow at SS010 is generally south-southwest (Figure 2-3 in ROD), closely resembling the surface topography and bedrock contours. The groundwater gradient is estimated to be 0.0306 vertical foot to foot distance. During the 1993 IRA, contaminants were encountered from the surface to 24 feet bgs and also appeared to be in the bedrock, indicating a potential for communication between the shallow groundwater and the bedrock water table. The groundwater-to-surface water communication at SS010 is not expected to be significant.
COC	Manganese, Mercury, Aluminum, Arsenic, Beryllium, Cobalt, Vanadium
INVESTIGATION_ACTIONS	The area around Buildings 605 and 614 was extensively investigated during the early 1990s. Extensive soil removal and removal of three USTs in 1993 eliminated much of the primary and secondary source material. A small area of contaminated soil remains under the foundation of Building 605 and deeper than 25 feet bgs in an area just north of ST10-MW03; this was left in place due to the difficulty involved in removing it. It is presumed that DRO concentrations remain above the CL in these two areas, with a maximum concentration of 506 mg/Kg (1993). Surface water and groundwater monitoring conducted at SS010 since 1994 indicate the presence of low levels of hydrocarbons and metals.
FINAL_REM_ACTION	Long-term Management with ICs is the selected remedy for limiting exposure to subsurface soil, surface water, and groundwater at SS010, with MNA for the moderate metal exceedances in groundwater and surface water. Monitoring events will occur every 2 years, with CERCLA five year reviews every 5 years.
CONT_RISK	ILCR and HI estimates for future human receptors exposed to surface water and groundwater were above ADEC's acceptable risk criteria of 1×10^{-5} and 1, respectively. The highest cumulative carcinogenic risk and noncarcinogenic HI estimates were 7×10^{-4} and 29, respectively, for a future site worker exposed to non-PHC COPCs. Primary contributors to a non-carcinogenic HI in excess of ADEC's acceptable HI criterion of 1 for groundwater were: aluminum (exposure point concentration [EPC] = 68 mg/L), arsenic (EPC = 0.055 mg/L), cobalt (EPC = 0.26 mg/L), manganese (EPC = 17 mg/L), and vanadium (EPC = 0.69 mg/L). Because the chemical-specific HQs for aluminum, arsenic, cobalt, manganese, and vanadium in groundwater were greater than 1, target organ specific HI estimates were not calculated. No chemicals in surface soil, subsurface soil, or sediment at SS010 were identified as presenting an unacceptable risk to human health.
RATIONALE	
RECOMMENDATIONS	
REFERENCES	Contaminated Sites Database (accessed 6/17/2014) United States Air Force (USAF). 2014. Record Of Decision for SS010, SS023/ST035, SS025, ST046, ST050, and ST051. Eareckson Air Station, Alaska. Final. February. (2014 ROD) MWH, 2010. Remedial Field Investigation at 12 ERP Sites, Remedial Investigation Report. Final. June. (2010 RI)
STATUS	

EAS-SS012.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	65
SITIRP_ID	SS012
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Current/future site worker, all exposure media: carcinogenic risk = 1x10 ⁻³ , and HI = 0.006 Current/future maintenance worker, all exposure media: carcinogenic risk = 3x10 ⁻⁴ , HI = 0.003 Current/future transit walker, all exposure media: carcinogenic risk = 6x10 ⁻⁵ , HI = 0.0002 (ERA HQ = 122 (Lapland longspur))
ALIAS	None
SITE_NAME	Old White Alice Site
SITE_DESCRIPTION	SS012 consists of an Old White Alice communication facility that has been dismantled. The site currently consists of a gravel pad at the north end, an abandoned Alascom building, two FAA dome structures, and small ancillary buildings. SS012 is located along the top of the bluff at the northeast corner of Shemya Island. During operation of the Old White Alice facility, a spill from a PCB transformer was reported. A 1961 photograph shows the Old White Alice structures were located in an area of SS012 that has been excavated and backfilled for construction over the years and as such, it is not clear when or where the PCB spill occurred. A 1994 site visit showed the area mostly covered with a road-base type fill approximately 2 to 5 feet deep. PCBs have been detected at this site during previous investigations. On the east side of the site, a PHC release was reported at an UST in 1993; the tank was removed in 1997.
MEDIA_ID	SS012
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	The selected remedy, Excavation and Off-site Landfilling at a permitted landfill for PCB contamination, with Long term Management and ICs to remain with the site for remaining PHC contamination, is protective of human health and the environment, complies with promulgated requirements that are applicable or relevant and appropriate to the remedial action, is cost effective, and satisfies the mandates of CERCLA §121 and, to the extent practicable, the NCP, and state law. The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. The ICs will prohibit future residential use, and restrict site worker use, groundwater use, excavation, and off-site removal of contaminated soil without prior Air Force and ADEC approval. LUCs and ICs will be maintained until CLs are attained and sites are suitable for unlimited use and unrestricted exposure. Annual monitoring and inspections will be conducted by the Air Force to confirm that ICs remain protective. AFCEC/CZOP is the point of contact for ICs. The Air Force will take the following actions to implement Long-term Management with ICs at Eareckson AS: — Document risk exposure assumptions and reasonably anticipated land uses in the IC. — Use the boundaries of LUCs and ICs included on the site figures in this document for inclusion in the AFCEC/CZOP Base General Plan. Update the Base General Plan, Air Force Real Estate records, and the LUC Management Plan (forthcoming) to include ICs corresponding to each site. GIS data in the Base General Plan and/or the Cleanup Module of the EESOH-MIS will be used to manage location data. — The Air Force will notify ADEC prior to making any changes to the AFCEC/CZOP Base General Plan that could affect the ICs, and obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow actions that might disrupt the ICs.
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160
CHEMICALS_OF_CONCERN	DRO, RRO, Arochlor 1260
MODIFIED_DATE	20140623
CONTAMINATION_SOURCE	PCB spill and leaks from former UST
SITEID	SS012
INSTLN_ID	EAS
MAINTENANCE	Maintain monitoring wells
RESTRICTIONS	- restrict future site worker and maintenance worker exposure to residual contamination - prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds - prevent excavation and off-site movement of contaminated soil without prior ADEC and Air Force approval.

EAS-SS012.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS012
SITE_NAME	Old White Alice Site
DATE_SUMM	6/23/2014
CURRENT_STATUS	Open
SITE STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	<p>SS012 consists of an Old White Alice communication facility that has been dismantled. The site currently consists of a gravel pad at the north end, an abandoned Alascom building, two FAA dome structures, and small ancillary buildings. SS012 is located along the top of the bluff at the northeast corner of Shemya Island.</p> <p>During operation of the Old White Alice facility, a spill from a PCB transformer was reported. A 1961 photograph shows the Old White Alice structures were located in an area of SS012 that has been excavated and backfilled for construction over the years and as such, it is not clear when or where the PCB spill occurred. A 1994 site visit showed the area mostly covered with a road-base type fill approximately 2 to 5 feet deep. PCBs have been detected at this site during previous investigations. On the east side of the site, a PHC release was reported at an UST in 1993; the tank was removed in 1997.</p>
GEO_HYDRO	<p>Naturally occurring sub-surface materials at SS012 consist of 2 to 9 feet of highly organic, fibrous, and silty peat, underlain by 3 to 7 feet of stiff, moderately plastic, silty clay. Weathered dacite bedrock was encountered at depths ranging from 6 to 12 feet bgs. The parking lot consists of approximately 2 to 5 feet of gravel fill underlain by 1 to 6 feet of silty clay. Weathered dacite bedrock was also encountered at depths of 6 to 8 feet bgs in the parking lot area. Peat, apparently removed before construction, was not encountered in the parking lot area.</p> <p>There are no groundwater monitoring wells in the vicinity, but interpolating the groundwater elevation contours indicates that groundwater would flow to the north and water levels would be at least 113 feet bgs in the bedrock. Heavy vegetation across SS012 slows surface water flow, except at the parking lot. The area surrounding the gravel pad is grass covered and drops off steeply on the north, east, and west. The island groundwater divide, which separates southward-flowing from northward-flowing groundwater, is estimated to exist approximately 2,400 feet southwest of SS012. Therefore, groundwater in the vicinity of SS012 is expected to flow to the north.</p>
COC	DRO, RRO, Arochlor 1260
INVESTIGATION_ACTIONS	<p>PCBs have been detected at SS012 in soil during previous investigations. The PCB concentrations ranged from 0.192 to 6,290 mg/Kg. On the east side of the site, a PHC release was reported at an UST in 1993; the tank was removed in 1997. DRO and RRO concentrations were detected up to 1,300 mg/Kg and 19,000 mg/Kg, respectively.</p> <p>Previous investigations include: 1988 IRP, Stage 1 (USAF, 1990) 1992 IRP Field Investigation (USAF, 1993) 1993 611th Civil Engineering Squadron/Civil Engineering Operating Engineers (CES/CEOR) IRP Investigations (USAF, 1994) 1994 IRP RI/FS (USAF, 1995-1996) 1997 Tank Closure (USAF, 1998) 2008 RFI (USAF, 2010b)</p>
FINAL_REM_ACTION	The selected remedial alternative for PCB-contaminated surface and subsurface soil at SS012 is Excavation and Off-site Landfilling at a permitted landfill for PCB contamination, with Long term Management and ICs to remain with the site for remaining PHC contamination.
CONT_RISK	<p>Cumulative carcinogenic risk and noncarcinogenic HI estimates for a current/future site worker across all exposure media were 1×10^{-3} and 0.006, respectively, for non-PHC COPCs. The primary contributor to a carcinogenic risk estimate was Arochlor 1260 (EPC = 949 mg/Kg) in surface soil.</p> <p>Cumulative carcinogenic risk and noncarcinogenic HI estimates for a current/future maintenance worker across all exposure media were 3×10^{-4} and 0.003, respectively, for non-PHC COPCs. The primary contributor to a carcinogenic risk estimate was Arochlor 1260 (EPC = 949 mg/Kg) in surface soil.</p> <p>Cumulative carcinogenic risk and noncarcinogenic HI estimates for a current/future transit walker across all exposure media were 6×10^{-5} and 0.0002, respectively, for non-PHC COPCs. The primary contributor to a carcinogenic risk estimate was Arochlor 1260 (EPC = 949 mg/Kg) in surface soil.</p> <p>The noncarcinogenic HI for all receptors exposed to non-PHC related COPCs was below ADEC's acceptable HI criterion of 1. (ERA HQ = 122 (Lapland longspur)</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 6/23/2014) United States Air Force (USAF). 2014. Record Of Decision for LF015, SS005, SS012, ST009, and ST044. Eareckson Air Station. Final. February. (2014 ROD)
STATUS	

EAS-SS023.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	41
SITIRP_ID	SS023
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	The highest cumulative carcinogenic risk and noncarcinogenic HI estimates at SS023/ST035 were 1×10^{-2} and 84, respectively, for a future site worker exposed to non-PHC COPCs in all media. ERA HQ<1
ALIAS	None
SITE_NAME	55-gallon Drum Hard Stands
SITE_DESCRIPTION	SS023 consists of seven asphalt-covered hardstands, one previously existing asphalt hardstand (now removed), and the areas between them. The hardstands are located on the southeast side of the old Abandoned Runway C on the western portion of Shemya Island. These hardstands were originally constructed to park fighter aircraft during WWII. During the 1980s, some of these hardstands were used for drum cleaning and crushing operations, as well as drum storage. Before the 1980s, at least three of the hardstands contained numerous drums. Approximately 1,300 drums were stored at or near Hardstands 2, 3, and 4 before 1980. Hardstand 5 contained the rinseate holding tank used during cleaning operations. Scattered drums were observed between Hardstands 6 and 7 on a 1971 map. No information was available on Hardstands 1 and 8, but they are included because of their proximity to the other hardstands. The asphalt cover over Hardstand 8 was removed between 1961 and 1986, based on aerial photographs.
MEDIA_ID	SS023
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1980s to 1990s
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. ICs will be maintained until cleanup levels are attained. Inspections will be conducted periodically to confirm that ICs remain protective. The major components of the selected CERCLA response actions are:</p> <ul style="list-style-type: none"> • Delineate the boundaries of each site to restrict excavation of soil, as well as to prevent access to groundwater. Generate or update maps or figures showing locations of the residual contamination and ICs for inclusion in the AFCEC/CZOP Base General Plan, Air Force Real Estate records, and the LUC Master Plan. GIS data will be used to manage location data. • Document ICs in the Air Force Real Property Records, Eareckson AS General Plan, AFCEC/CZOP IRP Records, and the AFCEC/CZOP LUC Management Plan. • The Air Force will notify and obtain approval from ADEC prior to making any changes to the Base General Plan that could affect the ICs, and obtain prior concurrence from ADEC to modify or terminate the ICs, modify current land use, or allow actions that might disrupt the ICs. • Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service. • A Notice of Environmental Contamination will be recorded at the ADNR. • Timely notification to ADEC of planned transfers, to include federal-to-federal transfers, of property subject to ICs. The Air Force will provide either access to or a copy of the executed deed or transfer assembly to ADEC. <ul style="list-style-type: none"> • Notify ADEC of any violation of the ICs or any other activity that is inconsistent with the ICs or IC objectives, as well as any obstacles to correcting the same. • The Air Force will monitor and inspect all site areas subject to ICs and submit a performance report to ADEC every 2 years, for the first 5 years after the date of the signed Decision Document, followed by a 5-year review. • Five-year reviews will be conducted as long as hazardous substances are present onsite at concentrations that do not allow for unrestricted use and unlimited exposure. At that time, the frequency of inspections and reports may be reduced. The Air Force will also submit a long-term management sampling plan and subsequent sampling reports to ADEC for approval prior to removal of ICs. The frequency of inspections and reports will only be reduced if agreed upon by the ADEC and the Air Force. • The Air Force will inform, monitor, and enforce ICs with contractors and other authorized occupants at Eareckson AS.

EAS-SS023.ENV_REST_SITE_SUMMARY	
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160
CHEMICALS_OF_CONCERN	Benzene, PCE, TCE, Total Xylenes, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Ethylbenzene, Antimony, Arsenic, Chromium, Cobalt, Thallium, 1-Methylnaphthalene, Pentachlorophenol, GRO, DRO
MODIFIED_DATE	20140619
CONTAMINATION_SOURCE	Releases from drum cleaning and crushing operations, and leaks and spills from the drums stored on site.
SITEID	SS023
INSTLN_ID	EAS
MAINTENANCE	<ul style="list-style-type: none"> • Maintain the integrity of the ICs by using the Air Force's dig permit, construction review, and water well permit systems to restrict inappropriate use or development of areas under ICs. • Maintain the integrity of the monitoring network by performing required maintenance to monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time. • Long-term monitoring to be performed throughout the remediation period to provide the data needed to confirm that COC concentrations are attenuating. Contaminants and daughter products will be sampled at least at 2-year intervals, generally until CLs are met, or as reasonable to demonstrate plumes are stable and risk assumptions remain valid. • Conduct performance reviews at each site every 2 years and submit a report to ADEC, until it is confirmed by two consecutive sampling events that contamination has attenuated to levels safe for unrestricted use, or it is otherwise confirmed that no threat to human health or the environment exists. • Biennial performance reviews include an examination that remedial actions remain sound and protective, assumptions made during risk assessment are still valid, and that use of the site has not changed. • The Air Force will include any intermediate remedial actions required by (or in preparation for) the 2-year performance review in the Eareckson AS operation and maintenance schedule.
RESTRICTIONS	<ul style="list-style-type: none"> • Excavation, disturbance, or relocation of contaminated soil, and excavation or drilling in areas of groundwater contamination, will be restricted by the ICs and will not be conducted without prior Air Force and ADEC approvals. • Use the Air Force's dig permit, construction review, and water well permit systems, or similar systems developed by the Base Operation Support contractor, to restrict inappropriate use or development of areas under ICs. • Prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; and prevent the use of contaminated soil for restricted uses in the event of excavation and implement a soils management plan. • The facility well permitting system will prevent any use of groundwater for drinking water. • The land use at these sites is designated as industrial use only currently and in the future in the Base Master Plan

EAS-SS023.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS023
SITE_NAME	55-gallon Drum Hard Stands
DATE_SUMM	6/19/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	SS023 consists of seven asphalt-covered hardstands, one previously existing asphalt hardstand (now removed), and the areas between them. The hardstands are located on the southeast side of the old Abandoned Runway C on the western portion of Shemya Island. These hardstands were originally constructed to park fighter aircraft during WWII. During the 1980s, some of these hardstands were used for drum cleaning and crushing operations, as well as drum storage. Before the 1980s, at least three of the hardstands contained numerous drums. Approximately 1,300 drums were stored at or near Hardstands 2, 3, and 4 before 1980. Hardstand 5 contained the rinseate holding tank used during cleaning operations. Scattered drums were observed between Hardstands 6 and 7 on a 1971 map. No information was available on Hardstands 1 and 8, but they are included because of their proximity to the other hardstands. The asphalt cover over Hardstand 8 was removed between 1961 and 1986, based on aerial photographs.
GEO_HYDRO	Most of the topography at SS023 has been significantly altered. The subsurface consists mostly of peat, grasses, and hummocks. An unconsolidated sand layer underlies the peat layer and can be found at depth intervals between 1 to 25 feet bgs. Bedrock ranges from 50 to 55 feet above msl. Groundwater is present at very shallow depths and often collects in fill materials imported as part of the runway and road construction areas. Groundwater elevations drop sharply to the west. The water table is approximately 60 feet above msl on the northeastern edge of SS023 and was recorded at 14 feet above msl at MW-32. In general, groundwater flow direction is from the eastern edge of the site toward the west and southwest.
COC	Benzene, PCE, TCE, Total Xylenes, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Ethylbenzene, Antimony, Arsenic, Chromium, Cobalt, Thallium, 1-Methylnaphthalene, Pentachlorophenol, GRO, DRO
INVESTIGATION_ACTIONS	TCE, PCBs, DRO, and GRO have been detected at this site during previous investigations which include: - 1988 IRP RI/FS (USAF, 1990) - 1992 IRP RI/FS (USAF, 1993) - 1994 RI/FS (USAF, 1995-1996) - 1995 IRP RI/FS (USAF, 1996) - 1998 Basewide Monitoring Program (BMP – USAF, 1999) - 1999 BMP (USAF, 2000) - 2000 BMP (USAF, 2001)
FINAL_REM_ACTION	MNA for groundwater and Long-term Management with ICs for both subsurface soil and groundwater is the selected remedy for SS023 to limit exposure to soil and groundwater. Monitoring and sampling events will occur every 2 years, with CERCLA five year reviews every 5 years.
CONT_RISK	Note: The risk assessment for SS023 was done in conjunction with the risk assessment for ST035 due the close proximity of the two sites. The highest cumulative carcinogenic risk and noncarcinogenic HI estimates at SS023/ST035 were 1×10^2 and 84, respectively, for a future site worker exposed to non-PHC COPCs in all media, as follows: • Primary contributors to a non-carcinogenic HI in excess of ADEC's acceptable HI criterion of 1 in subsurface soil – 1,2,4-trimethylbenzene (EPC = 343 mg/Kg) and 1,3,5- trimethylbenzene (EPC = 60 mg/Kg). In groundwater, the risk drivers are: arsenic (EPC = 0.013 mg/L), 1-methylnaphthalene (EPC = 0.0049 mg/L), benzene (EPC = 0.26 mg/L), PCE (EPC = 1.4 mg/L), TCE (EPC = 0.24 mg/L), and pentachlorophenol (EPC = 0.020). • The risk drivers for indoor air of potential future buildings impacted by vapor intrusion of VOCs in groundwater are benzene (EPC = 0.26 mg/L), tetrachloroethene (EPC = 1.4 mg/L), and TCE (EPC = 0.24 mg/L). The cumulative non-carcinogenic HI estimate for a future site worker at S023/ST035 exposed to PHC-related compounds was 6. Primary contributors to a non-carcinogenic HI in excess of ADEC's acceptable HI criterion of 1 were GRO (EPC = 7,950 mg/Kg) in subsurface soil, and DRO (EPC = 6.0 mg/L) and GRO (EPC = 12 mg/L) in groundwater. No chemical risk drivers were identified in surface soil and sediment at SS023/ST035.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 6/19/2014) United States Air Force (USAF). 2014. Record Of Decision for SS010, SS023/ST035, SS025, ST046, ST050, and ST051. Eareckson Air Station. Final. February. (2014 ROD) MWH, 2010. Remedial Field Investigation at 12 ERP Sites, Remedial Investigation Report. Final. June. (2010 RI)
STATUS	

EAS-SS025.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	49
SITIRP_ID	SS025
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Highest risks: HHRA cancer = 3 x 10 ⁻³ , HI = 65 (future workers exposed to non-PHC COPCs in all media). No chemical risk drivers were identified in surface soil, subsurface soil, or sediment at SS025. ERA HQ<1
ALIAS	None
SITE_NAME	WWII Fuel Tanks
SITE_DESCRIPTION	SS025 encompasses a roughly rectangular area approximately 1,000 by 2,000 feet. The site is located on a hillside along the northwest side of Cross Island Road, northwest of Taxiway 3, in the south-central portion of the island. The site was used in the past as a bulk fuel storage facility that was composed of 64 fuel ASTs and a network of subsurface pipelines. This tank farm was constructed in the 1940s, as evidenced in aerial photographs taken in 1948. In 1971, a site survey reported the ASTs were in place, but empty. The ASTs were removed between 1986 and 1988.
MEDIA_ID	SS025
BOUNDARY_DETAILS	Estimated
DATES OPERATION	Tank farm was constructed in the 1950s.
CATEGORY	ERP
AREA_ACRES	1,000 feet by 2,000 feet (approximately 46 acres)
ACTIVITY	Active
LUC_RESTRICTION	<p>ICs will be put in place in order to: prevent access or use of the groundwater until clean-up levels are met; maintain the integrity of any current or future remedial or monitoring system, such as monitoring wells; and prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds;. The ICs will be maintained until the concentration of hazardous substances in the groundwater are at such levels to allow for unlimited use and unrestricted exposure and groundwater is within background levels found at Shemya Island per ADEC concurrence.</p> <ul style="list-style-type: none"> – The facility well permitting system will prevent any use of groundwater for drinking water. – The facility construction review process will prevent damage to existing monitoring wells. – All ROD use limitations and exposure restrictions will be entered in the Base Master Plan and the Geographical Information System. – The facility construction review process will be used to avoid ground-disturbing construction activities, to ensure safe soil management procedures in areas with residual contamination, and to restrict future construction of buildings without proper engineering controls in order to prevent vapor intrusion. – The facility Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site. These mechanisms will be implemented and overseen by AFCEC/CZOP. The Air Force is responsible for implementing, maintaining, monitoring, reporting and enforcing ICs. The Air Force is obligated to inform, monitor, enforce and bind, where appropriate, authorized lessees, tenants, contractors and other authorized occupants of the site of ICs impacting the site. <ul style="list-style-type: none"> • Document ICs in the Air Force Real Property Records, Eareckson AS General Plan, AFCEC/CZOP IRP Records, and the AFCEC/CZOP LUC Management Plan. • The Air Force will notify and obtain approval from ADEC prior to making any changes to the Base General Plan that could affect the ICs, and obtain prior concurrence from ADEC to modify or terminate the ICs, modify current land use, or allow actions that might disrupt the ICs. • A Notice of Environmental Contamination will be recorded at the ADNDR.

EAS-SS025.ENV_REST_SITE_SUMMARY

	<ul style="list-style-type: none"> • Timely notification to ADEC of planned transfers, to include federal-to-federal transfers, of property subject to ICs. The Air Force will provide either access to or a copy of the executed deed or transfer assembly to ADEC. • Notify ADEC of any violation of the ICs or any other activity that is inconsistent with the ICs or IC objectives, as well as any obstacles to correcting the same. • The Air Force will monitor and inspect all site areas subject to ICs and submit a performance report to ADEC every 2 years, for the first 5 years after the date of the signed Decision Document, followed by a 5-year review. • Five-year reviews will be conducted as long as hazardous substances are present onsite at concentrations that do not allow for unrestricted use and unlimited exposure. At that time, the frequency of inspections and reports may be reduced. The Air Force will also submit a long-term management sampling plan and subsequent sampling reports to ADEC for approval prior to removal of ICs. The frequency of inspections and reports will only be reduced if agreed upon by the ADEC and the Air Force. • The Air Force will inform, monitor, and enforce ICs with contractors and other authorized occupants at Eareckson AS. • Site specific remedies change somewhat as a result of the remedial design and construction processes. Changes, if they occur, to the remedy as described in this ROD will be documented using a technical memorandum in the Administrative Record, an Explanation of Significant Differences (ESD), or ROD amendment. Only minor changes may be made without additional public notice and/or involvement. • The facility construction review process will prevent damage to existing monitoring wells. • The facility Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site.
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160
CHEMICALS_OF_CONCERN	Aluminum, Cadmium, Chromium, Cobalt, Thallium, 1,1-Dichloropropene, Benzene, Ethylbenzene, Isopropylbenzene, Bis(2-ethylhexyl)phthalate, GRO
MODIFIED_DATE	20140618
CONTAMINATION_SOURCE	Leaks from tanks and associated fuel pipelines
SITEID	SS025
INSTLN_ID	EAS
MAINTENANCE	<ul style="list-style-type: none"> • Maintain the integrity of the monitoring network by performing required maintenance to monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time.
RESTRICTIONS	<ul style="list-style-type: none"> • No excavation, disturbance, or relocation of contaminated soil, or excavation or drilling in areas of groundwater contamination without prior Air Force and ADEC approvals. • Dig permit, construction review, and water well permit systems, or similar systems restrict inappropriate use or development of areas under ICs. • Prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; and prevent the use of contaminated soil for restricted uses in the event of excavation and implement a soils management plan.

EAS-SS025.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS025
SITE_NAME	WWII Fuel Tanks
DATE_SUMM	6/18/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	SS025 encompasses a roughly rectangular area approximately 1,000 by 2,000 feet. The site is located on a hillside along the northwest side of Cross Island Road, northwest of Taxiway 3, in the south-central portion of the island. The site was used in the past as a bulk fuel storage facility that was composed of 64 fuel ASTs and a network of subsurface pipelines. This tank farm was constructed in the 1940s, as evidenced in aerial photographs taken in 1948. The ASTs were removed between 1986 and 1988. Although the specific contents of the tanks are unknown, AVGAS may have been stored at this location to support activities on the active runway. The tank pads and pipeline lineaments are still visible on recent aerial photographs. Berms around the former tanks are still present, as are the pipeline ditches. The whole tank farm is now grass covered and bounded on the east and south by Cross Island Road.
GEO_HYDRO	The original ground covering at SS025 is peat, which varied from 4 to 15 feet thick. Excavation of fuel storage tanks and construction of pipelines and roadways have stripped most of the peat from the ground surface. Underlying the peat layer is a sandy gravel formation approximately 4 to 19 feet thick. Subsurface directional groundwater flow at SS025 generally follows the topography. In the western two-thirds of the area, the majority of the subsurface flow is the south-southeast. In the eastern third of SS025, subsurface flow direction becomes more southeasterly. Because of the north-south trending structural fault, groundwater in the eastern third of the SS025 flow area flows to the southeast until it encounters the faults, at which point the groundwater may be redirected to the south along the fault line.
COC	Aluminum, Cadmium, Chromium, Cobalt, Thallium, 1,1-Dichloropropene, Benzene, Ethylbenzene, Isopropylbenzene, Bis(2-ethylhexyl)phthalate, GRO
INVESTIGATION_ACTIONS	POL constituents and metals have been detected at this site during previous investigations, which include: - 1988 IRP RI/FS (USAF, 1990) - 1992 IRP RI/FS (USAF, 1993) - 1993 IRP RI/FS (USAF, 1994) - 1994 IRP RI/FS (USAF, 1995-1996) - 1998 BMP (USAF, 1999) - 1999 BMP (USAF, 2000) - 2000 BMP (USAF, 2001) - 2008 RI (MWH, 2010) Contaminants detected in groundwater include GRO, DRO, RRO, and BTEX, along with other PAHs and VOCs. Limited soil characterization was conducted, and it is assumed that residual soil contamination exceeds applicable cleanup levels.
FINAL_REM_ACTION	MNA and Long-term Management with ICs for groundwater and ICs for soil is the selected remedy for SS025 to limit exposure to soil and groundwater. Monitoring and sampling events will occur every 2 years, with CERCLA five year reviews every 5 years.
CONT_RISK	The highest cumulative carcinogenic risk and noncarcinogenic HI estimates at SS025 were 3×10^{-3} and 65, respectively, for a future site worker exposed to non-PHC COPCs in all media. Primary contributors to a carcinogenic risk estimate at SS025 in excess of ADEC's acceptable risk criterion of 1×10^{-5} were: 1,1-dichloropropene (EPC = 0.092 mg/L), benzene (EPC = 1.8 mg/L), and bis(2-ethylhexyl)phthalate (DEHP – EPC = 3.1 mg/L) in groundwater. Benzene (EPC = 1.8 mg/L) was identified as exceeding the acceptable risk criteria in indoor air of potential future buildings from vapor intrusion of VOCs from groundwater. Primary contributors to a non-carcinogenic HI at SS025 in excess of ADEC's acceptable HI criterion of 1 were: aluminum (EPC = 56 mg/L), cadmium (EPC = 0.12 mg/L), cobalt (EPC = 0.11 mg/L), thallium (EPC = 0.039 mg/L), benzene (EPC = 1.8 mg/L), isopropylbenzene (EPC = 2.0 mg/L), and DEHP (EPC = 3.1 mg/L) in groundwater. The cumulative non-carcinogenic HI estimate for a future site worker at SS025 exposed to PHC related COPCs was 2. The primary contributors to a non-carcinogenic HI in excess of ADEC's acceptable HI criterion of 1 was GRO (EPC = 11 mg/L) in groundwater. No chemical risk drivers were identified in surface soil, subsurface soil, or sediment at SS025.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 6/18/2014) United States Air Force (USAF). 2014. Record Of Decision for SS010, SS023/ST035, SS025, ST046, ST050, and ST051. Eareckson Air Station. Final. February. (2014 ROD) MWH, 2010. Remedial Field Investigation at 12 ERP Sites, Remedial Investigation Report. Final. June. (2010 RI)
STATUS	

EAS-ST009.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	45
SITIRP_ID	ST009
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Note: The risk assessment for ST009 was done in conjunction with ST044 due to the close proximities of the two sites (ST044 is located within the boundaries of ST009). Current/future site worker, all exposure media: carcinogenic risk = 5×10^5 and HI = 108 Current/future maintenance worker, all exposure media: carcinogenic risk = 1×10^5 and HI = 26 Current/future transit walker, all exposure media: carcinogenic risk = 3×10^6 and HI = 6 ERA HQ = 25 (Lapland longspur) in surface soil
ALIAS	ST09
SITE_NAME	Power Plant Spills
SITE_DESCRIPTION	ST009, the Base Power Plant, is located on the northern portion of the island area surrounding the Power Plant has been extensively disturbed. The Power Plant operates on diesel fuel, which is transported via underground lines to a series of USTs used as day tanks. The soils surrounding the Power Plant have been the site of numerous diesel-fuel spills and other miscellaneous spills. During a 1988 field investigation, several areas of darkened soils were observed around the north side of the Power Plant. Waste oil and fuel generated by the Power Plant have been diverted to sumps beneath the building and flowed to USTs located around the Power Plant. Power Plant parts were washed with solvents on a concrete pad west of Building 3049.
MEDIA_ID	ST009
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	The selected remedy, MNA for groundwater, with Long-term Management and ICs for groundwater, surface soil, and subsurface soil, is protective of human health and the environment, complies with promulgated requirements that are applicable or relevant and appropriate to the remedial action, is cost effective, and satisfies the mandates of CERCLA §121 and, to the extent practicable, the NCP, and state law. The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. The ICs will prohibit future residential use, and restrict site worker use, groundwater use, excavation, and off-site removal of contaminated soil without prior Air Force and ADEC approval. LUCs and ICs will be maintained until CLs are attained and sites are suitable for unlimited use and unrestricted exposure. Annual monitoring and inspections will be conducted by the Air Force to confirm that ICs remain protective. AFCEC/CZOP is the point of contact for ICs. The Air Force will take the following actions to implement Long-term Management with ICs at Eareckson AS: – All site and maintenance workers at Eareckson AS will be informed of the surface soil contamination present upon arrival to Eareckson AS. .— Document risk exposure assumptions and reasonably anticipated land uses in the IC. — Use the boundaries of LUCs and ICs included on the site figures in this document for inclusion in the AFCEC/CZOP Base General Plan. Update the Base General Plan, Air Force Real Estate records, and the LUC Management Plan (forthcoming) to include ICs corresponding to each site. GIS data in the Base General Plan and/or the Cleanup Module of the EESOH-MIS will be used to manage location data. — The Air Force will notify ADEC prior to making any changes to the AFCEC/CZOP Base General Plan that could affect the ICs, and obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow actions that might disrupt the ICs.
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160
CHEMICALS_OF_CONCERN	DRO, Naphthalene, Benzo(a)pyrene, sec-Butylbenzene, 2-Methylnapthalene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Xylenes, n-Propylbenzene, RRO
MODIFIED_DATE	20140623
CONTAMINATION_SOURCE	Diesel-fuel spills and other miscellaneous spills
SITEID	ST009
INSTLN_ID	EAS
MAINTENANCE	— Maintain the integrity of the monitoring network by performing required maintenance of monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time.
RESTRICTIONS	- restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. - prohibit future residential use, and restrict site worker use, groundwater use, excavation, and off-site removal of contaminated soil without prior Air Force and ADEC approval.

EAS-ST009.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST009
SITE_NAME	Power Plant Spills
DATE_SUMM	6/23/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	ST009, the Base Power Plant, is located on the northern portion of the island area surrounding the Power Plant has been extensively disturbed. The Power Plant operates on diesel fuel, which is transported via underground lines to a series of USTs used as day tanks. The soils surrounding the Power Plant have been the site of numerous diesel-fuel spills and other miscellaneous spills. During a 1988 field investigation, several areas of darkened soils were observed around the north side of the Power Plant. Waste oil and fuel generated by the Power Plant have been diverted to sumps beneath the building and flowed to USTs located around the Power Plant. Power Plant parts were washed with solvents on a concrete pad west of Building 3049.
GEO_HYDRO	The primary surficial material in the ST009/ST044 area is composed of silty gravel interlayered with peat. The pattern suggests locally-derived fill material was placed over peat that constituted the natural ground cover when the Power Plant buildings were constructed. The compacted fill material is generally about 5 feet thick. A moderately-compacted silt deposit was encountered below the fill material to a depth of approximately 20 feet bgs. Bedrock was encountered at approximately 20 feet bgs. Boreholes drilled to characterize groundwater at ST009/ST044 have encountered a shallow zone of saturation within fill material that was placed on top of the peat layer. The zone appears to be created by water collecting within fill material, and perched on top of the buried peat zone, is discontinuous, and does not represent the groundwater aquifer in this area. Water levels vary considerably, from 120 feet below TOG to greater than 200 feet TOG (bottom of well). The Power Plant appears to be located north of the groundwater divide. The hydraulic gradient north of the groundwater divide slopes steeply (approximately 0.1 feet per foot) to the north toward the Bering Sea. South of the divide, groundwater flows at a flatter gradient (approximately 0.04 feet per foot) to the southwest, and south towards Lower Lake and the Pacific Ocean. Site-specific hydraulic gradients are difficult to determine because of the overall lack of groundwater data from along the northern bluff areas of the island.
COC	DRO, Naphthalene, Benzo(a)pyrene, sec-Butylbenzene, 2-Methylnapthalene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Xylenes, n-Propylbenzene, RRO
INVESTIGATION_ACTIONS	Analytical results for soil samples collected at ST009/ST044 from previous areas of contamination consisted primarily of DRO, RRO, and PAHs. DRO and naphthalene concentrations exceeded CLs. PHC contamination is above ADEC Method Two CLs in the subsurface soil and groundwater at ST009/ST044. Contamination is present at the surface, but at much lower concentrations, and is not migrating to an appreciable degree. Previous investigations include: - 1988 Air Force (MILCON/COE) Petroleum, Oil, and Lubricant (POL) Contamination Investigations (USACE, 1989) - 1988 Phase II POL Contamination Investigation (USACE, 1989) - 1988 IRP, Stage 1 (USAF, 1990) - 1994 IRP RI/FS (USAF, 1995-1996) - 1994 611th CES/CEOR IRP Investigation (USAF, 1994) - 1997 Tank Closure (USAF, 1998) - 2008 RFI (USAF, 2010)
FINAL_REM_ACTION	The selected remedial alternative for ST009/ST044 are Long-term Management with ICs for surface and subsurface soil contamination above CLs and Monitored Natural Attenuation (MNA) with ICs for groundwater contaminated above CLs.

EAS-ST009.ENV_SITE_SUMMARY_IRP

CONT_RISK	<p>Note: The risk assessment for ST009 was done in conjunction with ST044 due to the close proximities of the two sites (ST044 is located within the boundaries of ST009). Cumulative carcinogenic risk and noncarcinogenic HI estimates for a current/future site worker across all exposure media at ST009/ST044 were 5×10^{-5} and 108, respectively, for non-PHC COPCs. The primary contributor to a carcinogenic risk estimate was benzo(a)pyrene (EPC = 5.8 mg/Kg) in subsurface soil. Primary contributors to a noncarcinogenic HI were 1,2,4-trimethylbenzene (EPC = 510 mg/Kg), 1,3,5-trimethylbenzene (EPC = 4,000 mg/Kg), n-propylbenzene (EPC = 650 mg/Kg), and sec-butylbenzene (EPC = 1,700 mg/Kg) in subsurface soil. The cumulative noncarcinogenic HI estimate for PHC-related COPCs was equal to 1. Cumulative carcinogenic risk and noncarcinogenic HI estimates for a current/future maintenance worker across all exposure media were 1×10^{-5} and 26, respectively, for non- PHC COPCs. Primary contributors to a noncarcinogenic HI in excess of 1 were 1,2,4- trimethylbenzene (EPC = 510 mg/Kg), 1,3,5-trimethylbenzene (EPC = 4,000 mg/Kg), and secbutylbenzene (EPC = 1,700 mg/Kg) in subsurface soil. HIs for exposure to PHC-related COPCs were less than 1. Cumulative carcinogenic risk and noncarcinogenic HI estimates for a current/future transit walker across all exposure media were 3×10^{-6} and 6, respectively, for non-PHC COPCs. The primary contributor to a noncarcinogenic HI was 1,3,5-trimethylbenzene (EPC = 4,000 mg/Kg) in subsurface soil. HIs for exposure to PHC-related COPCs were less than 1. The EPC for lead in groundwater at ST009/ST044 is 0.036 mg/L, which exceeds the Table C Groundwater CL for lead. Therefore, lead in groundwater may pose a potential risk to human health in the event that groundwater beneath ST009/ST044 was used as a potable supply. It should be noted that all potable water at Eareckson AS is derived from the infiltration gallery; therefore, it is highly unlikely that human receptors would ever be in contact with lead in groundwater beneath ST009/ST044.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 6/23/2014) United States Air Force (USAF). 2014. <i>Record Of Decision for LF015, SS005, SS012, ST009, and ST044. Eareckson Air Station</i>. Final. February. (2014 ROD)</p>
STATUS	

EAS-ST023.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	33
SITIRP_ID	ST035
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA/non-CERCLA
RISK	Note: The risk assessment for ST035 was done in conjunction with the risk assessment for SS023 due the close proximity of the two sites. The highest cumulative carcinogenic risk and noncarcinogenic HI estimates at SS023/ST035 were 1×10^{-2} and 84, respectively, for a future site worker exposed to non-PHC COPCs in all media. ERA HQ<1
ALIAS	ST35
SITE_NAME	UST 132-2
SITE_DESCRIPTION	ST035 consists of one UST located near Building 132 on the western portion of Shemya Island. This building was used to house a backup generator system and the UST held diesel fuel. UST 132-2 consisted of a single 3,500-gallon tank installed in 1962, which was located approximately 10 feet east of the building. It was determined that the UST leaked and it was removed in 1994. Excavation of contaminated soil and confirmation sampling were performed in 1994. Approximately 215 cubic yards of contaminated soil was removed, but analytical sample results showed contaminated soil was left in place. Clean fill was placed in the excavation above the contaminated soil. Diesel range organics (DRO) has been detected at this site during previous investigations.
MEDIA_ID	ST035
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1960s to 1990s
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. ICs will be maintained until cleanup levels are attained. Inspections will be conducted periodically to confirm that ICs remain protective. The major components of the selected CERCLA response actions are:</p> <ul style="list-style-type: none"> • Delineate the boundaries of each site to restrict excavation of soil, as well as to prevent access to groundwater. Generate or update maps or figures showing locations of the residual contamination and ICs for inclusion in the AFCEC/CZOP Base General Plan, Air Force Real Estate records, and the LUC Master Plan. Geographical Information System (GIS) data will be used to manage location data. • Document ICs in the Air Force Real Property Records, Eareckson AS General Plan, AFCEC/CZOP IRP Records, and the AFCEC/CZOP LUC Management Plan. • The Air Force will notify and obtain approval from ADEC prior to making any changes to the Base General Plan that could affect the ICs, and obtain prior concurrence from ADEC to modify or terminate the ICs, modify current land use, or allow actions that might disrupt the ICs. • Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service. • A Notice of Environmental Contamination will be recorded at the ADNR. • Timely notification to ADEC of planned transfers, to include federal-to-federal transfers, of property subject to ICs. The Air Force will provide either access to or a copy of the executed deed or transfer assembly to ADEC.

EAS-ST023.ENV_REST_SITE_SUMMARY

	<ul style="list-style-type: none"> • Notify ADEC of any violation of the ICs or any other activity that is inconsistent with the ICs or IC objectives, as well as any obstacles to correcting the same. • The Air Force will inform, monitor, and enforce ICs with contractors and other authorized occupants at Eareckson AS.
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160
CHEMICALS_OF_CONCERN	DRO
MODIFIED_DATE	20140619
CONTAMINATION_SOURCE	Leaks from the UST.
SITEID	ST035
INSTLN_ID	EAS
MAINTENANCE	<ul style="list-style-type: none"> • Maintain the integrity of the monitoring network by performing required maintenance to monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time.
RESTRICTIONS	<ul style="list-style-type: none"> • Excavation, disturbance, or relocation of contaminated soil, and excavation or drilling in areas of groundwater contamination, will be restricted by the ICs and will not be conducted without prior Air Force and ADEC approvals. • Use the Air Force's dig permit, construction review, and water well permit systems, or similar systems developed by the Base Operation Support contractor, to restrict inappropriate use or development of areas under ICs. • Prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; and prevent the use of contaminated soil for restricted uses in the event of excavation and implement a soils management plan. • The facility well permitting system will prevent any use of groundwater for drinking water. • The land use at these sites is designated as industrial use only currently and in the future in the Base Master Plan

EAS-ST035.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST035
SITE_NAME	UST 132-2
DATE_SUMM	6/19/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	ST035 consists of one UST located near Building 132 on the western portion of Shemya Island. This building was used to house a backup generator system and the UST held diesel fuel. UST 132-2 consisted of a single 3,500-gallon tank installed in 1962, which was located approximately 10 feet east of the building. It was determined that the UST leaked and it was removed in 1994. Excavation of contaminated soil and confirmation sampling were performed in 1994. Approximately 215 cubic yards of contaminated soil was removed, but analytical sample results showed contaminated soil was left in place. Clean fill was placed in the excavation above the contaminated soil. Diesel range organics (DRO) has been detected at this site during previous investigations.
GEO_HYDRO	Surface materials at ST035 include grasses, sands, and peat, with gravel fill in areas affected by military activities. Sandy and silty sand are present from the ground surface to approximately 59 feet bgs. Depths at which bedrock was encountered varied from 48 to 59 feet bgs. ST035 is located on top of rolling hills that are primarily bounded by abandoned Runways B and C. Groundwater may be very shallow at seep locations south of the site, indicating that the seeps may be hydraulically connected to the groundwater.
COC	DRO
INVESTIGATION_ACTIONS	Excavation of contaminated soil and confirmation sampling were performed in 1994. Approximately 215 cubic yards of contaminated soil was removed, but analytical sample results showed contaminated soil was left in place. Clean fill was placed in the excavation above the contaminated soil. DRO was the main contaminant detected at this site during previous investigations which include: <ul style="list-style-type: none"> - 1988 IRP RI/FS (USAF, 1990) - 1992 IRP RI/FS (USAF, 1993) - 1994 RI/FS (USAF, 1995-1996) - 1995 IRP RI/FS (USAF, 1996) - 1998 Basewide Monitoring Program (BMP – USAF, 1999) - 1999 BMP (USAF, 2000) - 2000 BMP (USAF, 2001)
FINAL_REM_ACTION	MNA for groundwater and LTM with ICs for both subsurface soil and groundwater is the selected remedy for SS023 to limit exposure to soil and groundwater. Monitoring and sampling events will occur every 2 years, with CERCLA five year reviews every 5 years.
CONT_RISK	Note: The risk assessment for SS023 was done in conjunction with the risk assessment for ST035 due the close proximity of the two sites. The highest cumulative carcinogenic risk and noncarcinogenic HI estimates at SS023/ST035 were 1×10^{-2} and 84, respectively, for a future site worker exposed to non-PHC COPCs in all media, as follows: <ul style="list-style-type: none"> • Primary contributors to a non-carcinogenic HI in excess of ADEC's acceptable HI criterion of 1 in subsurface soil – 1,2,4-trimethylbenzene (EPC = 343 mg/Kg) and 1,3,5- trimethylbenzene (EPC = 60 mg/Kg). In groundwater, the risk drivers are: arsenic (EPC = 0.013 mg/L), 1-methylnaphthalene (EPC = 0.0049 mg/L), benzene (EPC = 0.26 mg/L), PCE (EPC = 1.4 mg/L), TCE (EPC = 0.24 mg/L), and pentachlorophenol (EPC = 0.020). • The risk drivers for indoor air of potential future buildings impacted by vapor intrusion of VOCs in groundwater are benzene (EPC = 0.26 mg/L), tetrachloroethene (EPC = 1.4 mg/L), and TCE (EPC = 0.24 mg/L). The cumulative non-carcinogenic HI estimate for a future site worker at S023/ST035 exposed to PHC-related compounds was 6. Primary contributors to a non-carcinogenic HI in excess of ADEC's acceptable HI criterion of 1 were GRO (EPC = 7,950 mg/Kg) in subsurface soil, and DRO (EPC = 6.0 mg/L) and GRO (EPC = 12 mg/L) in groundwater. No chemical risk drivers were identified in surface soil and sediment at SS023/ST035.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 6/19/2014) United States Air Force (USAF). 2014. <i>Record Of Decision for SS010, SS023/ST035, SS025, ST046, ST050, and ST051. Eareckson Air Station, Alaska.</i> Final. February. (2014 ROD) MWH, 2010. <i>Remedial Field Investigation at 12 ERP Sites, Remedial Investigation Report.</i> Final. June. (2010 RI)
STATUS	

EAS-ST039.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	36
SITIRP_ID	ST039
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	Review of sampling results, potential migration pathways, and exposure points resulted in the conclusion that no exposure pathways were complete for human or ecological receptors at ST039. Therefore, no conceptual exposure mode/1 was developed for human or ecological receptors at Site ST039. Due to the lack of complete exposure routes, media-specific and cumulative risks were not calculated for human receptors. No COPECs were identified for ST039.
ALIAS	ST39
SITE_NAME	USTs at Building 110
SITE_DESCRIPTION	ST039 is located in the north-central portion of Shemya Island near Building 110. This ERP site consists of two USTs (1110-2 and 110-3), located to the east of Building 110, that were removed in 1993. There exists some inconsistencies in the records for ST039 regarding the number of USTs and their designations. Although the Proposed Plan for ST039 describes three USTs present at ST039, only USTs 110-2 and 110-3 were present. A review of the 1993 Interim Action Report, the RI reports, and discussions with the former USAF Remedial Project Manager, the USAF concluded that only two USTs existed at the site. These two USTs, identified in the 1993 report as 110-2 and 110-3, were located on the east side of Building 110 as depicted in the Proposed Plan and were removed. No other USTs were found at ST039.
MEDIA_ID	ST039
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1960s to 1990s
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	The selected remedy, Institutional Controls and Land Use Controls, will ensure that the contaminants remain undisturbed. ICs and LUCs are easily implemented, the most cost-effective remedy, compliant with ARARs, and protective of human health and the environment. The USAF will implement, monitor, maintain, and enforce the ICs identified for ST039 below in accordance with State of Alaska regulation 18 AAC 75.375. The 611th Civil Engineer Squadron will be the point of contact for ICs. A potential risk to human health or the environment may result if the residual petroleum, oil, and lubricant contaminated soil were to be disturbed or relocated. To mitigate this potential risk, the following ICs will be implemented: * The Eareckson AS Base General Plan (Plan) will be updated to show the boundaries of ST039 to restrict excavation of soil. The Plan will contain a map indicating site location, with restrictions on any invasive activities that could potentially compromise the integrity of the cover and expose potential contaminants, including restrictions to access groundwater at the site. Dig permits issued by the Base Operating Contractor are required for any excavation at Eareckson AS. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the site where land use has already been restricted. Excavation and off site transportation of contaminated soil will be conducted after obtaining ADEC approval per 18 AAC 75.325(i). * The USAF will notify ADEC prior to making any major changes to the Plan that could affect the ICs. * The USAF will obtain prior concurrence from ADEC to terminate the ICs, modify current land use, or allow anticipated actions that may disrupt protectiveness of ICs. In the unlikely event that the property is to be transferred, the USAF will notify ADEC prior to any transfer taking place.
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160
CHEMICALS_OF_CONCERN	None
MODIFIED_DATE	20140624
CONTAMINATION_SOURCE	Leaks from USTs
SITEID	ST039
INSTLN_ID	EAS
MAINTENANCE	* The ST039 site boundaries shown on Figure 2-3 in the 2008 ROD are based on existing surveys and observations, including observation of disturbed soil, visible debris and plant growth, and/or geophysics and will be considered the site boundaries for the ICs. USAF land records and the Plan will be updated to include this information and the ICs requirements. * Any activity that is inconsistent with the requirements, objectives, or controls of the ICs, or any action that may interfere with the protectiveness of the ICs, will be reported to ADEC and will be addressed by the USAF as soon as practicable after discovery.
RESTRICTIONS	Any invasive activities that could potentially compromise the integrity of the cover and expose potential contaminants is restricted, this includes restrictions to access groundwater at the site.

EAS-ST039.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST039
SITE_NAME	USTs at Building 110
DATE_SUMM	6/24/2014
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	ST039 is located in the north-central portion of Shemya Island near Building 110. This ERP site consists of two USTs (1110-2 and 110-3), located to the east of Building 110, that were removed in 1993. There exists some inconsistencies in the records for ST039 regarding the number of USTs and their designations. Although the Proposed Plan for ST039 describes three USTs present at ST039, only USTs 110-2 and 110-3 were present. A review of the 1993 Interim Action Report, the RI reports, and discussions with the former USAF Remedial Project Manager, the USAF concluded that only two USTs existed at the site. These two USTs, identified in the 1993 report as 110-2 and 110-3, were located on the east side of Building 110 as depicted in the Proposed Plan and were removed. No other USTs were found at ST039.
GEO_HYDRO	A gravel layer ranging in thickness from 1 to 12 feet is present throughout much of the ST039 area. The gravel is somewhat naturally occurring in the area and was also used for the parking lot and fill material. Mixtures of sand, silt, and gravel were observed beneath the fill materials in several boreholes. Competent bedrock was not encountered during drilling activities to a maximum depth of 39 feet bgs. It is believed that the geology underlying ST039 is weathered mudstone lenses lying above an andesite bedrock layer existing at approximately 46 feet bgs (207 feet msl). Groundwater below ST039 is believed to be at approximately 137 to 142 feet bgs (105 to 110 feet msl) based on measurements at Monitoring Well COE-12, which is located approximately 500 feet southwest of ST039. During the basewide groundwater evaluation, a groundwater divide was identified south of ST039. The groundwater divide is present in a northwest-southeast trending position. Data collected in 1993 and 1994 indicate that groundwater beneath ST039 flows north toward the Bering Sea, with a relatively steep hydraulic gradient.
COC	None
INVESTIGATION_ACTIONS	The USTs were removed in 1993, and the contaminated soil identified during the excavation was used to backfill the pits. Petroleum substances at concentrations above Method Two levels established by State of Alaska regulations were identified at ST039 during previous investigations. No CERCLA hazardous substances were considered COCs at this site. The previous investigations include: * Phase I, Records Search Report (JRB, 1984) * Water System Upgrade, Phase II, POL Contamination Investigation, Shemya AFB (USACE, 1989) * 1990 USAF MJLCON/COE Foundation Investigation * Site Assessment, U.S. Department of Defense Anders Station, Building 110 (Terrasat, 1992) * Interim Action Report - UST Removals, DOD Anders Building 110 (USAF, 1993) * RI/FS, Volumes I-IV and Appendices (USA F 1995; 1996)
FINAL_REM_ACTION	The selected remedial alternative for ST039 is Institutional Controls and Land Use Controls.
CONT_RISK	Review of sampling results, potential migration pathways, and exposure points resulted in the conclusion that no exposure pathways were complete for human or ecological receptors at ST039. Therefore, no conceptual exposure model was developed for human or ecological receptors at Site ST039. Due to the lack of complete exposure routes, media-specific and cumulative risks were not calculated for human receptors. No COPECs were identified for ST039.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 6/24/2014) United States Air Force (USAF). 2008. <i>CERCLA Record of Decision West End Oil/Water Separator Ponds (SS007) Underground Storage Tanks at Building 110 (ST039). Eareckson Air Station. Final. September. (2008 ROD)</i>
STATUS	

EAS-ST044.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2827
SITIRP_ID	ST044
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA/non-CERCLA
RISK	Note: The risk assessment for ST009 was done in conjunction with ST044 due to the close proximities of the two sites (ST044 is located within the boundaries of ST009). Current/future site worker, all exposure media: carcinogenic risk = 5×10^{-5} and HI = 108 Current/future maintenance worker, all exposure media: carcinogenic risk = 1×10^{-5} and HI = 26 Current/future transit walker, all exposure media: carcinogenic risk = 3×10^{-6} and HI = 6 ERA HQ = 25 (Lapland longspur) in surface soil
ALIAS	ST44
SITE_NAME	UST 3051-1
SITE_DESCRIPTION	ST044 is the site of former UST 3051-1, located west of the Power Plant, which was removed in 1994. This UST was a 50,000-gallon steel, single-walled tank and was used to store waste oil; however, the date of installation is unknown. Diesel fuel spills have been reported in the area. In 1988, the Army observed that surface soils around the Power Plant were heavily stained with fuel products and devoid of vegetation.
MEDIA_ID	ST044
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	EAS-ST039.ENV_SITE_SUMMARY_IRP
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160
CHEMICALS_OF_CONCERN	DRO, Naphthalene, Benzo(a)pyrene, sec-Butylbenzene, 2-Methylnaphthalene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Xylenes, n-Propylbenzene, RRO
MODIFIED_DATE	20140623
CONTAMINATION_SOURCE	Diesel-fuel spills
SITEID	ST044
INSTLN_ID	EAS
MAINTENANCE	— Maintain the integrity of the monitoring network by performing required maintenance of monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time.
RESTRICTIONS	- Restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. - Prohibit future residential use, and restrict site worker use, groundwater use, excavation, and off-site removal of contaminated soil without prior Air Force and ADEC approval.

EAS-ST044.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST044
SITE_NAME	UST 3051-1
DATE_SUMM	6/23/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	ST044 is the site of former UST 3051-1, located west of the Power Plant, which was removed in 1994. This UST was a 50,000-gallon steel, single-walled tank and was used to store waste oil; however, the date of installation is unknown. Diesel fuel spills have been reported in the area. In 1988, the Army observed that surface soils around the Power Plant were heavily stained with fuel products and devoid of vegetation.
GEO_HYDRO	<p>The primary surficial material in the ST009/ST044 area is composed of silty gravel interlayered with peat. The pattern suggests locally-derived fill material was placed over peat that constituted the natural ground cover when the Power Plant buildings were constructed. The compacted fill material is generally about 5 feet thick. A moderately-compacted silt deposit was encountered below the fill material to a depth of approximately 20 feet bgs. Bedrock was encountered at approximately 20 feet bgs.</p> <p>Boreholes drilled to characterize groundwater at ST009/ST044 have encountered a shallow zone of saturation within fill material that was placed on top of the peat layer. The zone appears to be created by water collecting within fill material, and perched on top of the buried peat zone, is discontinuous, and does not represent the groundwater aquifer in this area. Water levels vary considerably, from 120 feet below TOG to greater than 200 feet TOG (bottom of well). The Power Plant appears to be located north of the groundwater divide. The hydraulic gradient north of the groundwater divide slopes steeply (approximately 0.1 feet per foot) to the north toward the Bering Sea. South of the divide, groundwater flows at a flatter gradient (approximately 0.04 feet per foot) to the southwest, and south towards Lower Lake and the Pacific Ocean. Site-specific hydraulic gradients are difficult to determine because of the overall lack of groundwater data from along the northern bluff areas of the island.</p>
COC	DRO, Naphthalene, Benzo(a)pyrene, sec-Butylbenzene, 2-Methylnaphthalene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Xylenes, n-Propylbenzene, RRO
INVESTIGATION_ACTIONS	<p>Analytical results for soil samples collected at ST009/ST044 from previous areas of contamination consisted primarily of DRO, RRO, and PAHs. DRO and naphthalene concentrations exceeded CLs. PHC contamination is above ADEC Method Two CLs in the subsurface soil and groundwater at ST009/ST044. Contamination is present at the surface, but at much lower concentrations, and is not migrating to an appreciable degree.</p> <p>Previous investigations include:</p> <ul style="list-style-type: none"> - 1988 Air Force (MILCON/USACE) POL Contamination Investigations (USACE, 1989) - 1988 Phase II POL Contamination Investigation (USACE, 1989) - 1988 IRP, Stage 1 (USAF, 1990) - 1994 IRP RI/FS (USAF, 1995-1996) - 1994 611th CES/CEOR IRP Investigation (USAF, 1994) - 1997 Tank Closure (USAF, 1998) - 2008 RFI (USAF, 2010)
FINAL_REM_ACTION	The selected remedial alternative for ST009/ST044 are Long-term Management with ICs for surface and subsurface soil contamination above CLs and Monitored Natural Attenuation (MNA) with ICs for groundwater contaminated above CLs.

EAS-ST044.ENV_SITE_SUMMARY_IRP

CONT_RISK	<p>Note: The risk assessment for ST009 was done in conjunction with ST044 due to the close proximities of the two sites (ST044 is located within the boundaries of ST009). Cumulative carcinogenic risk and noncarcinogenic HI estimates for a current/future site worker across all exposure media at ST009/ST044 were 5×10^{-5} and 108, respectively, for non-PHC COPCs. The primary contributor to a carcinogenic risk estimate was benzo(a)pyrene (EPC = 5.8 mg/Kg) in subsurface soil. Primary contributors to a noncarcinogenic HI were 1,2,4-trimethylbenzene (EPC = 510 mg/Kg), 1,3,5-trimethylbenzene (EPC = 4,000 mg/Kg), n-propylbenzene (EPC = 650 mg/Kg), and sec-butylbenzene (EPC = 1,700 mg/Kg) in subsurface soil.</p> <p>The cumulative noncarcinogenic HI estimate for PHC-related COPCs was equal to 1. Cumulative carcinogenic risk and noncarcinogenic HI estimates for a current/future maintenance worker across all exposure media were 1×10^{-5} and 26, respectively, for non-PHC COPCs. Primary contributors to a noncarcinogenic HI in excess of 1 were 1,2,4-trimethylbenzene (EPC = 510 mg/Kg), 1,3,5-trimethylbenzene (EPC = 4,000 mg/Kg), and secbutylbenzene (EPC = 1,700 mg/Kg) in subsurface soil. HIs for exposure to PHC-related COPCs were less than 1. Cumulative carcinogenic risk and noncarcinogenic HI estimates for a current/future transit walker across all exposure media were 3×10^{-6} and 6, respectively, for non-PHC COPCs. The primary contributor to a noncarcinogenic HI was 1,3,5-trimethylbenzene (EPC = 4,000 mg/Kg) in subsurface soil. HIs for exposure to PHC-related COPCs were less than 1.</p> <p>The EPC for lead in groundwater at ST009/ST044 is 0.036 mg/L, which exceeds the Table C Groundwater CL for lead. Therefore, lead in groundwater may pose a potential risk to human health in the event that groundwater beneath ST009/ST044 was used as a potable supply. It should be noted that all potable water at Eareckson AS is derived from the infiltration gallery; therefore, it is highly unlikely that human receptors would ever be in contact with lead in groundwater beneath ST009/ST044.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 6/23/2014) United States Air Force (USAF). 2014. Record Of Decision for LF015, SS005, SS012, ST009, and ST044. Final. February. (2014 ROD)</p>
STATUS	

EAS-ST046.ENV_REST_SITE_SUMMARY	
OBJECTID	
HAZSITE_ID	2847
SITIRP_ID	ST046
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA/non-CERCLA
RISK	<p>Risks for a future site worker across all exposure media: ILCR of 5×10^{-3}; a HI of 7 for non-PHC COPCs); and a HI of 3 for PHC-related COPCs.</p> <p>No chemical risk drivers for human health were identified in subsurface soil or modeled indoor air.</p> <p>Ecological risks: Highest HQ estimates were 1.3 for the Bering Sea and 2.6 for Shemya Pass, both attributable to aluminum, for the harbor seal.</p>
ALIAS	ST46
SITE_NAME	Abandoned Tank Farm
SITE_DESCRIPTION	<p>The ST046 Tank Farm originally consisted of numerous, large capacity ASTs used to provide diesel fuel to the Power Plant. The Tank Farm is located between North Road and North Beach Road on the northwest portion of the island. Currently, only three ASTs remain at the site to provide storage requirements for the Power Plant. Thirty-six of the ASTs were removed during the mid-1980s. All other ASTs at ST046 were removed in 1994. In addition, the abandoned pipeline network connecting the former ASTs was removed in 1994 and 1995.</p>
MEDIA_ID	ST046
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1940s to 1980s
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. ICs will be maintained until cleanup levels are attained. Inspections will be conducted periodically to confirm that ICs remain protective. The major components of the selected CERCLA response actions are:</p> <ul style="list-style-type: none"> • Delineate the boundaries of each site to restrict excavation of soil, as well as to prevent access to groundwater. Generate or update maps or figures showing locations of the residual contamination and ICs for inclusion in the AFCEC/CZOP Base General Plan, Air Force Real Estate records, and the LUC Master Plan. GIS data will be used to manage location data. • Document ICs in the Air Force Real Property Records, Eareckson AS General Plan, AFCEC/CZOP IRP Records, and the AFCEC/CZOP LUC Management Plan. • The Air Force will notify and obtain approval from ADEC prior to making any changes to the Base General Plan that could affect the ICs, and obtain prior concurrence from ADEC to modify or terminate the ICs, modify current land use, or allow actions that might disrupt the ICs. • Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service. • A Notice of Environmental Contamination will be recorded at the ADNR. • Timely notification to ADEC of planned transfers, to include federal-to-federal transfers, of property subject to ICs. The Air Force will provide either access to or a copy of the executed deed or transfer assembly to ADEC. <p>• Notify ADEC of any violation of the ICs or any other activity that is inconsistent with the ICs or IC objectives, as well as any obstacles to correcting the same.</p> <ul style="list-style-type: none"> • The Air Force will monitor and inspect all site areas subject to ICs and submit a performance report to ADEC every 2 years, for the first 5 years after the date of the signed Decision Document, followed by a 5-year review. • The Air Force will inform, monitor, and enforce ICs with contractors and other authorized occupants at Eareckson AS.

EAS-ST046.ENV_REST_SITE_SUMMARY	
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160
CHEMICALS_OF_CONCERN	Benzo(a)pyrene, Antimony, Beryllium, Zinc, 1-Methylnaphthalene, Benzo(a)anthracene, Benzo(k)fluoranthene, DRO
MODIFIED_DATE	20140619
CONTAMINATION_SOURCE	Leaks from tanks and associated fuel pipelines
SITEID	ST046
INSTLN_ID	EAS
MAINTENANCE	<ul style="list-style-type: none"> • Maintain the integrity of the monitoring network by performing required maintenance to monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time.
RESTRICTIONS	<ul style="list-style-type: none"> • Excavation, disturbance, or relocation of contaminated soil, and excavation or drilling in areas of groundwater contamination, will be restricted by the ICs and will not be conducted without prior Air Force and ADEC approvals. • Use the Air Force's dig permit, construction review, and water well permit systems, or similar systems developed by the Base Operation Support contractor, to restrict inappropriate use or development of areas under ICs. • Prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; and prevent the use of contaminated soil for restricted uses in the event of excavation and implement a soils management plan. • The facility well permitting system will prevent any use of groundwater for drinking water. • The land use at these sites is designated as industrial use only currently and in the future in the Base Master Plan

EAS-ST046.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST046
SITE_NAME	Abandoned Tank Farm
DATE_SUMM	6/19/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	The ST046 Tank Farm originally consisted of numerous, large capacity ASTs used to provide diesel fuel to the Power Plant. The Tank Farm is located between North Road and North Beach Road on the northwest portion of the island. Currently, only three ASTs remain at the site to provide storage requirements for the Power Plant. Thirty-six of the ASTs were removed during the mid-1980s. All other ASTs at ST046 were removed in 1994. In addition, the abandoned pipeline network connecting the former ASTs was removed in 1994 and 1995.
GEO_HYDRO	The original ground surface was covered by peat that varied in thickness from 0 to 12 feet bgs. In areas where fuel tanks have been removed, the peat layer was found to be thin or absent. In the areas adjacent to the tanks, a peat layer varying from 3 to 10 feet thick was observed directly overlying bedrock. The depth to groundwater at ST046 varies considerably because of the steeply sloping surface topography. Groundwater flow direction at ST046 is to the southwest, primarily towards Site SS007. Thus, a portion of the groundwater from ST046 flow beneath SS007 and any groundwater contamination at SS007 would have originated from ST046. The groundwater in the area is primarily confined to a single aquifer system. Although groundwater was also encountered within saturated peat zone in some locations at ST046, it is not considered a true aquifer. The saturated peat zones appear to be in hydraulic communication with the underlying aquifer in localized areas.
COC	Benzo(a)pyrene, Antimony, Beryllium, Zinc, 1-Methylnaphthalene, Benzo(a)anthracene, Benzo(k)fluoranthene, DRO
INVESTIGATION_ACTIONS	DRO and other POL constituents have been detected at this site during previous investigations, which include: - 1988 Air Force MILCON/USACE Investigation - 1989 Air Force MILCON/USACE Investigation - 1993 IRP Field Investigation - 1994 611 CES/CEOR AST Removal - 1994 IRP RI/FS - 1995 611 CES/CEOR AST Removal - 1995 IRP RI/FS - 1998 BMP - 1999 BMP - 2000 BMP
FINAL_REM_ACTION	Long-term Management with ICs for surface soil, subsurface soil, and groundwater is the selected remedy for ST046 to limit exposure to soil and groundwater. Monitoring and sampling events will occur every 2 years, with CERCLA 5-year reviews every 5 years.
CONT_RISK	The risks for a future site worker across all exposure media at ST046 were an ILCR of 5×10^{-3} and a HI of 7 for non-PHC COPCs. Primary contributors to the carcinogenic risk estimate were: 1-methylnaphthalene (EPC = 0.0084 mg/L), benzo(a)anthracene (EPC = 0.00056 mg/L), benzo(a)pyrene (EPC = 0.000047 mg/L), and benzo(k)fluoranthene (EPC = 0.015 mg/L) in groundwater. Primary contributors to a noncarcinogenic HI in excess of ADEC's acceptable HI criterion of 1 were antimony (EPC = 0.023 mg/L) and zinc (EPC = 38 mg/L) in groundwater. The use of groundwater as potable water is an incomplete pathway for all current receptors at ST046. The cumulative noncarcinogenic HI estimate for a future site worker exposed to PHC-related COPCs was 3. The primary contributors to a noncarcinogenic HI in excess of ADEC's acceptable HI criterion of 1 was DRO (EPC = 5.9 mg/L) in groundwater. No chemical risk drivers for human health were identified in subsurface soil or modeled indoor air at ST046. Ecological HQ and HI estimates were calculated for a mammalian indicator receptor, the harbor seal (marine piscivore), exposed to COPECs in modeled marine surface water (fresh groundwater in communication with marine surface water) in the Bering Sea and Shemya Pass. The highest HQ estimates for ecological risks were 1.3 for the Bering Sea and 2.6 for Shemya Pass, both attributable to aluminum (EPC = 13 mg/L in the Bering Sea and 25 mg/L in Shemya Pass). In order to evaluate potential cumulative effects, ecological HQ estimates were summed to HIs and analyzed for growth/body weight changes. The highest cumulative growth/body weight HI estimate for the harbor seal was calculated as 3. Aluminum was the primary contributor. No ecological HQ estimates in excess of 1 were calculated for any avian receptors exposed to surface soil or modeled marine surface water.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 6/19/2014) United States Air Force (USAF). 2014. Record Of Decision for SS010, SS023/ST035, SS025, ST046, ST050, and ST051. Final. February. (2014 ROD) MWH. 2010. Remedial Field Investigation at 12 ERP Sites, Remedial Investigation Report. Final. June. (2010 RI)
STATUS	

EAS-ST050.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2903
SITIRP_ID	ST050
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA/non-CERCLA
RISK	HHRA cumulative carcinogenic risk = 9×10^{-4} , HI = 11 (future site workers across all exposure medial for non-PHC COPCs). No chemical risk drivers were identified in surface soil or sediment. ERA HQ = 2.9
ALIAS	ST50, Fuel Management Area
SITE_NAME	Storage Tank Farm
SITE_DESCRIPTION	ST050 includes the Alcan Tank Farm and is located on the western side of the island. The Alcan Tank Farm originally consisted of seven bulk ASTs and one UST. One AST (Tank 7) and the UST (Tank 5) have since been removed. Tanks were used to store motor vehicle gas (MOGAS), JP-4, and JP-8. These tanks and pipelines were constructed in the 1950s.
MEDIA_ID	ST050
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Specific dates of operation are unknown.
CATEGORY	ERP
AREA_ACRES	unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. ICs will be maintained until cleanup levels are attained. Inspections will be conducted periodically to confirm that ICs remain protective. The major components of the selected CERCLA response actions are:</p> <ul style="list-style-type: none"> • Delineate the boundaries of each site to restrict excavation of soil, as well as to prevent access to groundwater. Generate or update maps or figures showing locations of the residual contamination and ICs for inclusion in the AFCEC/CZOP Base General Plan, Air Force Real Estate records, and the LUC Master Plan. GIS data will be used to manage location data. • Document ICs in the Air Force Real Prop+A1erty Records, Eareckson AS General Plan, AFCEC/CZOP IRP Records, and the AFCEC/CZOP LUC Management Plan. • The Air Force will notify and obtain approval from ADEC prior to making any changes to the Base General Plan that could affect the ICs, and obtain prior concurrence from ADEC to modify or terminate the ICs, modify current land use, or allow actions that might disrupt the ICs. • Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service. • A Notice of Environmental Contamination will be recorded at the ADNR. • Timely notification to ADEC of planned transfers, to include federal-to-federal transfers, of property subject to ICs. The Air Force will provide either access to or a copy of the executed deed or transfer assembly to ADEC. <p>• Notify ADEC of any violation of the ICs or any other activity that is inconsistent with the ICs or IC objectives, as well as any obstacles to correcting the same.</p> <ul style="list-style-type: none"> • The Air Force will monitor and inspect all site areas subject to ICs and submit a performance report to ADEC every 2 years, for the first 5 years after the date of the signed Decision Document, followed by a 5-year review. • The Air Force will inform, monitor, and enforce ICs with contractors and other authorized occupants at Eareckson AS.
POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160
CHEMICALS_OF_CONCERN	Total Xylenes, TCE, PCE, Benzo(a)pyrene, Arsenic, 1-Mehtylnaphthalene, 1,2,3-Trichloropropane, DRO
MODIFIED_DATE	20140624

EAS-ST050.ENV_REST_SITE_SUMMARY

CONTAMINATION_SOURCE	Leaks from USTs
SITEID	ST050
INSTLN_ID	EAS
MAINTENANCE	<ul style="list-style-type: none">• Maintain the integrity of the monitoring network by performing required maintenance to monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time.
RESTRICTIONS	<ul style="list-style-type: none">• Excavation, disturbance, or relocation of contaminated soil, and excavation or drilling in areas of groundwater contamination, will be restricted by the ICs and will not be conducted without prior Air Force and ADEC approvals.• Use the Air Force's dig permit, construction review, and water well permit systems, or similar systems developed by the Base Operation Support contractor, to restrict inappropriate use or development of areas under ICs.• Prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; and prevent the use of contaminated soil for restricted uses in the event of excavation and implement a soils management plan.• The facility well permitting system will prevent any use of groundwater for drinking water.• The land use at these sites is designated as industrial use only currently and in the future in the Base Master Plan

EAS-ST050.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST051
SITE_NAME	Storage Tank Farm
DATE_SUMM	6/24/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	ST050 includes the Alcan Tank Farm and is located on the western side of the island. The Alcan Tank Farm originally consisted of seven bulk ASTs and one UST. One AST (Tank 7) and the UST (Tank 5) have since been removed. Tanks were used to store MOGAS, JP-4, and JP-8. These tanks and pipelines were constructed in the 1950s.
GEO_HYDRO	<p>The northern portion of ST050 is covered with large-diameter rock, while the southern, eastern, and western areas are covered with beach sands and grasses. A shallow, thin layer of peat with high organic content was encountered at the southeastern edge of ST050. In some parts of the northern ST050 area, subsurface lithology consisted of coarse gravel with cobbles, up to 15 feet deep, while poorly-graded sands (up to 20 feet thick) were encountered in other parts of the northern area. Further south, subsurface lithology was characterized as poorly-graded sands, fine- to medium-grained and subrounded, with a small portion of silt. Bedrock encountered at a few borehole locations at ST050 consisted of dark gray, very fine grained mudstone, with staining on fractured surfaces.</p> <p>Groundwater throughout ST050 flows in a radial pattern to the northwest and northeast (in the northern peninsula) and in a northerly direction east of Warehouse 28. Groundwater in the northern portion is present at relatively shallow depths in gravel and sands. The overall groundwater gradient present at ST050 is steeper at the Alcan Cove Tank Farm, but gradually levels out toward the north. Monitoring wells located near the coast have shown a high degree of tidal influence.</p>
COC	Total Xylenes, TCE, PCE, Benzo(a)pyrene, Arsenic, 1-Mehtlynaphthalene, 1,2,3-Trichloropropane, DRO
INVESTIGATION_ACTIONS	<p>DRO, GRO, TCE, PAHs, and fuel constituents have all been detected at this site during previous investigations, which included:</p> <ul style="list-style-type: none"> * 1988 IRP RI/FS (USAF, 1990) * 1988 MILCON/COE Investigation (USACE, 1989) * 1989 MILCON/COE Investigation (USACE, 1989) * 1992 IRP RI/FS (USAF, 1993) * 1993 UST Inventory (USAF, 1993) * 1993 IRP RI/FS (USAF, 1993) * 1994 IRP RI/FS (USAF, 1996) * 1995 IRP RI/FS (USAF, 1996) * 2000 BMP (USAF, 2001)
FINAL_REM_ACTION	<p>Long-term Management with ICs for all media and MNA for groundwater is the selected remedy for ST050 to limit exposure to soil and groundwater at ST051, with MNA for the fuel contamination in groundwater. Monitoring and sampling events will occur every 2 years, with CERCLA five year reviews every 5 years.</p>
CONT_RISK	<p>Cumulative carcinogenic risk and noncarcinogenic HI estimates for a future site worker across all exposure media were 9×10^{-4} and 11, respectively, for non-PHC COPCs. Primary contributors to the carcinogenic risk estimate were benzo(a)pyrene (EPC = 4.3 mg/Kg) in subsurface soil, and arsenic (EPC = 0.043 mg/L), 1,2,3-trichloropropane (EPC = 0.00029 mg/L), 1-methylnaphthalene (EPC = 0.0066 mg/L), PCE (EPC = 0.011 mg/L), TCE (EPC = 0.012 mg/L), and benzo(a)pyrene (EPC = 0.000038 mg/L) in groundwater. Volatilization of TCE (EPC = 0.012 mg/L) from groundwater to indoor air of potential future buildings contributed to the carcinogenic risk estimate. Primary contributors to a noncarcinogenic HI in excess of ADEC's acceptable HI criterion of 1 were arsenic (EPC = 0.043 mg/L) and total xylenes (EPC = 2.0) in groundwater. Because the chemical-specific HQs for arsenic, total xylenes, and TCE in groundwater were greater than 1, target organ-specific HI estimates were not calculated. The cumulative noncarcinogenic HI estimate for a future site worker at ST050 exposed to PHC-related COPCs was 3. The primary contributor to a noncarcinogenic HI in excess of ADEC's acceptable HI criterion of 1 was DRO (EPC = 6.6 mg/L) in groundwater.</p> <p>No chemical risk drivers for human health were identified in surface soil or sediment at ST050.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 6/24/2014)</p> <p>United States Air Force (USAF). 2014. Record Of Decision for SS010, SS023/ST035, SS025, ST046, ST050, and ST051. Final. February. (2014 ROD)</p> <p>MWH. 2010. Remedial Field Investigation at 12 ERP Sites, Remedial Investigation Report. Final. June. (2010 RI)</p>
STATUS	

EAS-ST051.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	43
SITIRP_ID	ST051
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	HHRA cancer = 1 x 10 ⁻² , HI = 7 (future workers exposure to groundwater). No chemical risk drivers were identified in modeled indoor air or sediment. ERA HQ<1
ALIAS	Building 525
SITE_NAME	Fuel Facility Building 525
SITE_DESCRIPTION	ST051 is located on the south-central portion of Shemya Island. Verbal reports indicate that a fuel handling facility with a history of leaks was previously located in the Building 525 area. Building 525 has been removed, but the foundation remains. A vehicle storage building, a gas station, and the POL vehicle parking area are currently located at ST051. A 300-gallon diesel UST, which has been removed, was located adjacent to the west side of Building 525 and was the primary source of contamination at the site. Currently, an aboveground diesel fuel tank is located in the Building 525 area.
MEDIA_ID	ST051
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Specific dates of operation are unknown.
CATEGORY	ERP
AREA_ACRES	unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>The purpose of the ICs is to restrict access to or inappropriate use of remaining soil and groundwater until contaminant concentrations naturally attenuate. ICs will be maintained until cleanup levels are attained. Inspections will be conducted periodically to confirm that ICs remain protective. The major components of the selected CERCLA response actions are:</p> <ul style="list-style-type: none"> • Delineate the boundaries of each site to restrict excavation of soil, as well as to prevent access to groundwater. Generate or update maps or figures showing locations of the residual contamination and ICs for inclusion in the AFCEC/CZOP Base General Plan, Air Force Real Estate records, and the LUC Master Plan. GIS data will be used to manage location data. • Document ICs in the Air Force Real Property Records, Eareckson AS General Plan, AFCEC/CZOP IRP Records, and the AFCEC/CZOP LUC Management Plan. • The Air Force will notify and obtain approval from ADEC prior to making any changes to the Base General Plan that could affect the ICs, and obtain prior concurrence from ADEC to modify or terminate the ICs, modify current land use, or allow actions that might disrupt the ICs. • Provide notice of the ICs, and any changes to the ICs, to the U.S. Fish and Wildlife Service. • A Notice of Environmental Contamination will be recorded at the ADNR. • Timely notification to ADEC of planned transfers, to include federal-to-federal transfers, of property subject to ICs. The Air Force will provide either access to or a copy of the executed deed or transfer assembly to ADEC. <ul style="list-style-type: none"> • Notify ADEC of any violation of the ICs or any other activity that is inconsistent with the ICs or IC objectives, as well as any obstacles to correcting the same. • The Air Force will monitor and inspect all site areas subject to ICs and submit a performance report to ADEC every 2 years, for the first 5 years after the date of the signed Decision Document, followed by a 5-year review. • Five-year reviews will be conducted as long as hazardous substances are present onsite at concentrations that do not allow for unrestricted use and unlimited exposure. At that time, the frequency of inspections and reports may be reduced. The Air Force will also submit a long-term management sampling plan and subsequent sampling reports to ADEC for approval prior to removal of ICs. The frequency of inspections and reports will only be reduced if agreed upon by the ADEC and the Air Force. • The Air Force will inform, monitor, and enforce ICs with contractors and other authorized occupants at Eareckson AS.

EAS-ST051.ENV_REST_SITE_SUMMARY

POC	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
PHONE	(907) 552-5160
CHEMICALS_OF_CONCERN	Antimony, Manganese, 1-Methylnaphthalene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene, DRO
MODIFIED_DATE	20140618
CONTAMINATION_SOURCE	Leaks from the 300-gallon diesel UST
SITEID	ST051
INSTLN_ID	EAS
MAINTENANCE	<ul style="list-style-type: none">• Maintain the integrity of the monitoring network by performing required maintenance to monitoring wells, and documenting geospatial data needed to ensure soil, surface water, and sediment monitoring locations are consistent over time.
RESTRICTIONS	<ul style="list-style-type: none">• Excavation, disturbance, or relocation of contaminated soil, and excavation or drilling in areas of groundwater contamination, will be restricted by the ICs and will not be conducted without prior Air Force and ADEC approvals.• Use the Air Force's dig permit, construction review, and water well permit systems, or similar systems developed by the Base Operation Support contractor, to restrict inappropriate use or development of areas under ICs.• Prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; and prevent the use of contaminated soil for restricted uses in the event of excavation and implement a soils management plan.• The facility well permitting system will prevent any use of groundwater for drinking water.• The land use at these sites is designated as industrial use only currently and in the future in the Base Master Plan

EAS-ST051.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST051
SITE_NAME	Fuel Facility Building 525
DATE_SUMM	6/18/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack; 611th AFCEC/CZOP 10471 20th Street, Ste 301, JBER, AK 99506-2201
DESC_USE	ST051 is located on the south-central portion of Shemya Island. Verbal reports indicate that a fuel handling facility with a history of leaks was previously located in the Building 525 area. Building 525 has been removed, but the foundation remains. A vehicle storage building, a gas station, and the POL vehicle parking area are currently located at ST051. A 300-gallon diesel UST, which has been removed, was located adjacent to the west side of Building 525 and was the primary source of contamination at the site.
GEO_HYDRO	Groundwater flow generally follows surface topography at ST051 and does not appear to flow to the west towards Lower Lake. Flow direction in the Building 525 area is to the southwest, converging with flow from Buildings 529 and 527 of Cross Island Road. Based on a review of aerial photographs, the surface water drainage patterns at ST051 prior to military construction were toward the south and west. Semi-confining conditions were observed in the Building 525 area, suggesting the presence of distinct water-bearing units. In contrast, the weathered bedrock is highly fractured, and the potential for communication with the surface water exists. Groundwater beneath ST051 is suspected to be contaminated from fuel storage and dispensing activities. Free product has been found and recovered in Well AP1525, located immediately adjacent to Building 525. Well AP1525 was eventually decommissioned and replaced with Well ST051-WP01. Quantities between 0.5 feet and 1.6 feet of free product/light non-aqueous phase liquid hydrocarbon were measured and removed from Well AP1525 at six different monitoring events from 1993 to 2000.
COC	Antimony, Manganese, 1-Methylnaphthalene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene, DRO
INVESTIGATION_ACTIONS	ST051 has been extensively investigated. Surface water, sediment, soil, and groundwater samples were collected from the site during multiple previous investigations (conducted between 1989 and 2008). Free product (separate phase PHC) was removed from Monitoring Well AP1525 multiple times during previous investigations. It should be noted that ST051-WP01 was installed to replace Monitoring Well AP1525, which had been damaged and was decommissioned in 2008. Free product was not found in the replacement well. Limited soil characterization was conducted, and it is assumed that residual soil contamination exceeds applicable cleanup levels due to the previous presence of light nonaqueous phase liquids on top of the shallow groundwater and the observation of fuel-saturated soils between 2 to 6 inches bgs during the installation of a concrete pad around AP1525. No remedial actions have occurred at ST051.
FINAL_REM_ACTION	Long-term Management with ICs is the selected remedy for ST051 to limit exposure to soil and groundwater at ST051, with MNA for the fuel contamination in groundwater. Monitoring and sampling events will occur every 2 years, with CERCLA five year reviews every 5 years.
CONT_RISK	The highest cumulative ILCR estimate was 1×10^{-2} for future site workers exposed to groundwater, and the highest cumulative HI estimate was 7 for future site workers exposed to groundwater. Carcinogenic risk drivers identified in groundwater include: <ul style="list-style-type: none"> • 1-Methylnaphthalene (EPC = 0.021 mg/L) • Benzo(a)anthracene (EPC = 0.0041 mg/L) • Benzo(a)pyrene (EPC = 0.0039 mg/L) • Benzo(b)fluoranthene (EPC = 0.0042 mg/L) • Dibenzo(a,h)anthracene (EPC = 0.00037 mg/L) • Indeno(1,2,3-cd)pyrene (EPC = 0.0010 mg/L) Antimony, manganese, 1-methylnaphthalene, and DRO were identified as noncarcinogenic risk drivers in groundwater at ST051. The primary non-PHC contributor to a non-carcinogenic HI in excess of ADEC's acceptable HI criterion of 1 was manganese (EPC = 20 mg/L) in groundwater. The cumulative noncarcinogenic HI estimate for a future site worker exposed to PHC-related COPCs was 21. The primary contributor to the HI was DRO (EPC = 55 mg/L) in groundwater. All potable water at Eareckson AS is obtained through an infiltration gallery, and ST051 is not within the infiltration watershed, so the use of groundwater as potable water is an incomplete pathway for all current receptors. No chemical risk drivers were identified in modeled indoor air or sediment.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 6/18/2014) United States Air Force (USAF). 2014. Record Of Decision for SS010, SS023/ST035, SS025, ST046, ST050, and ST051. Final. February. (2014 ROD) MWH. 2010. Remedial Field Investigation at 12 ERP Sites, Remedial Investigation Report. Final. June. (2010 RI)
STATUS	

Granite_Mountain_DA020_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	25619
SITIRP_ID	DA020
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	not analyzed quantitatively
ALIAS	AOC14
SITE_NAME	Surface Disposal Area E, F, and G
SITE_DESCRIPTION	Site DA020 consists of the former disposal areas (Area E, F and G) in the Mid-Mountain region, along the east side of the access road between the Upper and Lower Camps.
MEDIA_ID	<p>For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF to notify ADEC at least 6 months prior to any transfer or sale, then the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Constructed in 1950s and decommissioned in 2009 (installation wide).
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and ADNR records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF to notify ADEC at least 6 months prior to any transfer or sale, then the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
POC	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	Arsenic (background) and Beryllium (background)
MODIFIED_DATE	20110516
CONTAMINATION_SOURCE	Waste disposal
SITEID	DA020
INSTLN_ID	GM
MAINTENANCE	Sign maintenance and repairs
RESTRICTIONS	No unauthorized waste removal; No unauthorized site access; Property records/Base Plan documentation

Granite Mountain DA020 SITE SUMMARY IRP

SITEID	
OBJECTID	
SITIRP_ID	DA020
SITE_NAME	Surface Disposal Area E, F, and G
DATE_SUMM	5/16/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
DESC_USE	Site DA020 (also known as Disposal Areas E, F, and G; AOC14) consists of the former disposal areas in the Mid Mountain region, along the east side of the access road between the Upper and Lower Camps. The areas of disturbed soil are as follows: Area E 280 feet by 180 feet Area F 390 feet by 270 feet Area G 270 feet by 225 feet
GEO_HYDRO	The Upper Camp sites generally do not have groundwater, with the exception of Site SS017, which has a perched aquifer. During snowmelt or precipitation events, water infiltrates the shallow soil layer until it encounters a relatively impermeable boundary at either the permafrost zone or when it reaches shallow competent bedrock, where the water is considered to be perched. Groundwater does not appear to be used by seasonal miners and no wells are listed within a 10-mile radius of the site, according to the USGS Groundwater Site Inventory Database. The depth to bedrock is generally at or very near ground surface; therefore, groundwater yield is low and likely of poor quality.
COC	Arsenic (background) and Beryllium (background)
INVESTIGATION_ACTIONS	During the 1994 PA/SI, no stained soil was observed and no metallic debris was detected at Areas E and G. Two areas of surface debris were noted in Area F. These observations suggest that these areas may have served primarily as gravel borrow pits. Consequently, no environmental samples were collected. In Area E, two test pits were excavated to a maximum depth of 3 feet and observed to contain mainly boulders and angular granite. Because of the lack of soil in the test pits, no samples were collected. No debris, stained soil, petroleum odor, or other indications of contamination were detected in the Area E test pits. In Area F, a soil sample was collected from 6 to 12 inches bgs and analyzed. The surface debris observed in Area F included several 1- to 15-gallon containers and 35-gallon drums, steel cable, and metals associated with automotive parts or heavy machinery. Two of the small drums contained residual oil which was decanted into sample jars. The empty drums were then re-capped and left onsite. Samples of the residual oil were analyzed. In Area G, one soil sample was collected from 5.5 feet bgs and analyzed. No indications of fuel contaminants were observed during test pitting at DA020 (Disposal Area E).
FINAL_REM_ACTION	For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following: <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF notify ADEC at least 6 months prior to any transfer or sale, then the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
CONT_RISK	COCs were screened against State of Alaska risk-based cleanup levels in 18 AAC 75.341, Table B2 and 18 AAC 75.345, Table C for Disposal Area F. Screening results indicated concentrations of arsenic and beryllium exceeded the risk-based cleanup levels, but were within background levels. The primary, risk-driving concern at this site is the potential existence of buried solid waste at these former disposal areas, which may endanger human health directly or indirectly through the release of yet-unidentified contaminants.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 5/16/2011) United States Air Force (USAF). 2011. Decision Document Installation Restoration Program for non-CERCLA Sites OT001, LF002, SS003, SS004, SS005, SS006, SS007, WP008, DP009, SS013, SS016, SS017, SS018, SS019, DA020, DA021, and DA022. Final. January. (2011 DD)
STATUS	

Granite Mountain_DA021_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	25620
SITIRP_ID	DA021
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	not analyzed quantitatively
ALIAS	AOC 18
SITE_NAME	Surface Disposal Area K
SITE_DESCRIPTION	Site DA021 is a potential dump area located near the northwestern portion of the runway at the Lower Camp.
MEDIA_ID	<p>For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF to notify ADEC at least 6 months prior to any transfer or sale, then the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Constructed in 1950s and decommissioned in 2009 (installation wide).
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF to notify ADEC at least 6 months prior to any transfer or sale, then the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
POC	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	Arsenic (background)
MODIFIED_DATE	20110516
CONTAMINATION_SOURCE	Waste disposal
SITEID	DA021
INSTLN_ID	GM
MAINTENANCE	Sign maintenance and repairs
RESTRICTIONS	No unauthorized waste removal; No unauthorized site access; Property records/Base Plan documentation

Granite Mountain DA021 SITE SUMMARY IRP

SITEID	
OBJECTID	
SITIRP_ID	DA021
SITE_NAME	Surface Disposal Area K
DATE_SUMM	5/16/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
DESC_USE	Site DA021 (also known as Disposal Area K; AOC18) is a potential dump area located near the northwestern portion of the runway at the Lower Camp. The site is traversed by a road that divides it into two regions of disturbed soil.
GEO_HYDRO	The Upper Camp sites generally do not have groundwater, with the exception of Site SS017, which has a perched aquifer. During snowmelt or precipitation events, water infiltrates the shallow soil layer until it encounters a relatively impermeable boundary at either the permafrost zone or when it reaches shallow competent bedrock, where the water is considered to be perched. Groundwater does not appear to be used by seasonal miners and no wells are listed within a 10-mile radius of the site, according to the USGS Groundwater Site Inventory Database. The depth to bedrock is generally at or very near ground surface; therefore, groundwater yield is low and likely of poor quality.
COC	Arsenic (background)
INVESTIGATION_ACTIONS	During the 1994 PA/SI, surface soil staining was not visible; therefore, no soil samples were collected. However, a run-off water sample and an associated soil sample were collected from an area of standing water between the two disturbed soil areas. In the 1999 RI, two test pits and one surface soil location were sampled to investigate the potential sources of contamination. TP01 was excavated 80 feet southwest of the 1994 PA/SI runoff water and associated soil sampling location. One soil sample was collected at the 1 to 2 feet bgs and analyzed.
FINAL_REM_ACTION	For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following: <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF to notify ADEC at least 6 months prior to any transfer or sale, then the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
CONT_RISK	COCs were screened against State of Alaska risk-based cleanup levels in 18 AAC 75.341, Table B2 and 18 AAC 75.345, Table C for this site. Screening results indicated concentrations of arsenic and beryllium exceeded the risk-based cleanup levels, but were within background levels. The primary, risk-driving concern at this site is the potential existence of buried solid waste at these former disposal areas, which may endanger human health directly or indirectly through the release of yet-unidentified contaminants.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 5/16/2011) United States Air Force (USAF). 2011. Decision Document Installation Restoration Program for non-CERCLA Sites OT001, LF002, SS003, SS004, SS005, SS006, SS007, WP008, DP009, SS013, SS016, SS017, SS018, SS019, DA020, DA021, and DA022. Final. January. (2011 DD)
STATUS	

Granite Mountain_DP009_SITE_SUMMARY	
OBJECTID	
HAZSITE_ID	818
SITIRP_ID	DP009
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	<10X-5
ALIAS	AOC16
SITE_NAME	Disposal Pit No. 1
SITE_DESCRIPTION	DP009 is a former disposal pit located at the crest of a ridge north of the Upper Camp summit.
MEDIA_ID	<p>For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF to notify ADEC at least 6 months prior to any transfer or sale, then the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Constructed in 1950s and decommissioned in 2009 (site wide).
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF to notify ADEC at least 6 months prior to any transfer or sale, then the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
POC	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	Lead (de minimis) and Arsenic (background)
MODIFIED_DATE	20110516
CONTAMINATION_SOURCE	Unknown
SITEID	DP009
INSTLN_ID	GM
MAINTENANCE	Sign maintenance and repairs
RESTRICTIONS	No unauthorized waste removal; No unauthorized site access; Property records/Base Plan documentation

Granite Mountain DP009 SITE SUMMARY IRP	
SITEID	
OBJECTID	
SITIRP_ID	DP009
SITE_NAME	Disposal Pit No. 1 (UC)
DATE_SUMM	5/16/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
DESC_USE	DP009 is a former disposal pit located at the crest of a ridge north of the Upper Camp summit.
GEO_HYDRO	The Upper Camp sites generally do not have groundwater present, with the exception of Site SS013 (formerly AOC13), which has a perched aquifer. During snowmelt or precipitation events, water infiltrates the shallow soil layer until it encounters a relatively impermeable boundary at either the permafrost zone or shallow competent bedrock. When downward migration of this water is impeded by the impermeable layer, the water is considered to be perched.
COC	Lead (de minimis) and Arsenic (background)
INVESTIGATION_ACTIONS	During the 1994 site reconnaissance, an area of stained soil was observed near what appeared to be the pad for a building. In addition, partially buried metallic debris was noticed at the southwestern corner of the area. During the PA/SI, DP009 was surveyed by a metal detector, field screening was conducted, and soil samples were collected for laboratory analysis. Partially buried drums and other miscellaneous debris were observed onsite but no additional subsurface debris was detected. The objective of the investigation at DP009 in 1999 was to determine nature and extent of contamination from past storage and disposal activities. Two test pits were advanced at DP009, as guided by the 1994 PA/SI observations of soil staining. Soil samples from the test pits were analyzed. During the removal action in 2009, approximately 4 cubic yards of POL-stained soil was excavated from two small surface spills in the Western Stain area. Confirmation samples from the excavation indicated that DRO and RRO concentrations in soil remaining in situ were below clean up criteria.
FINAL_REM_ACTION	For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following: <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF notify ADEC at least 6 months prior to any transfer or sale, than the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
CONT_RISK	Because the delineation of lead-impacted soil in 1999 and 2008 did not uncover concentrations of lead above the ADEC criterion of 400 mg/kg, it was determined that lead results historically identified represent a de minimis amount of soil. This minimal amount of soil does not constitute a risk to human health or the environment.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 5/16/2011) United States Air Force (USAF). 2011. Decision Document Installation Restoration Program for non-CERCLA Sites OT001, LF002, SS003, SS004, SS005, SS006, SS007, WP008, DP009, SS013, SS016, SS017, SS018, SS019, DA020, DA021, and DA022. Final. January. (2011 DD) United States Air Force (USAF). 2011. Record of Decision Installation Restoration Program for CERCLA Contaminants at Sites OT001, LF002, DP009, SS003, and DA015.Final. January. (2011 ROD)
STATUS	

Granite Mountain DP010 SITE SUMMARY

OBJECTID	
HAZSITE_ID	819
SITIRP_ID	DP010
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	Not analyzed quantitatively
ALIAS	AOC17; Disposal Area J
SITE_NAME	Disposal Pit No. 2
SITE_DESCRIPTION	Site DP010 was formerly used as a disposal area.
MEDIA_ID	For solid waste at this site, the specific ICs required to comply with state law and implemented
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Constructed in 1950s and decommissioned in 2009 (installation).
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF notify ADEC at least 6 months prior to any transfer or sale, than the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
POC	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	None
MODIFIED_DATE	20110516
CONTAMINATION_SOURCE	Waste disposal
SITEID	DP010
INSTLN_ID	GM
MAINTENANCE	Sign maintenance and repairs
RESTRICTIONS	No unauthorized waste removal; No unauthorized site access; Property records/Base Plan documentation

Granite Mountain DP010 SITE SUMMARY IRP	
SITEID	
OBJECTID	
SITIRP_ID	DP010
SITE_NAME	Disposal Pit No. 2
DATE_SUMM	5/16/2011
CURRENT STATUS	Open
SITE STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
DESC_USE	Site DP010 (also known as Disposal Pit No. 2; Disposal Area J; AOC17) is located near the southwest portion of the runway at the Lower Camp. This site was formerly used as a disposal area. It appears to have been a two-tiered disposal area. The first tier was approximately 50,000 square feet and is located adjacent to the runway above the second tier, which was approximately 30,000 square feet.
GEO_HYDRO	The Upper Camp sites generally do not have groundwater, with the exception of Site SS017, which has a perched aquifer. During snowmelt or precipitation events, water infiltrates the shallow soil layer until it encounters a relatively impermeable boundary at either the permafrost zone or when it reaches shallow competent bedrock, where the water is considered to be perched. Groundwater does not appear to be used by seasonal miners and no wells are listed within a 10-mile radius of the site, according to the USGS Groundwater Site Inventory Database. The depth to bedrock is generally at or very near ground surface; therefore, groundwater yield is low and likely of poor quality.
COC	None
INVESTIGATION_ACTIONS	During the 1994 PA/SI, two subsurface soil samples collected from a 30-square foot stained area. The 1999 RI documented surface debris that included domestic garbage, metal debris, and pieces of an aircraft. Three test pits were excavated in and around the stained area. One soil sample was collected from 6 inches bgs along the western edge of the site, 370 feet southwest of the "C2 L3" survey monument (TP01). Multiple water and soil samples were collected from areas of standing water. The site could not be located during the 2008 investigation. Representatives of ADEC and the USAF inspected the site on 29 July 2009. The area was re-vegetated and surface staining was determined to be minimal. Both parties agreed to classify the site de minimis.
FINAL_REM_ACTION	For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following: <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF to notify ADEC at least 6 months prior to any transfer or sale, then the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
CONT_RISK	COCs were screened against State of Alaska risk-based cleanup levels in 18 AAC 75.341, Table B2 and 18 AAC 75.345, Table C for this site. Screening results indicated concentrations of arsenic and beryllium exceeded the risk-based cleanup levels, but were within background levels. The primary, risk-driving concern at this site is the potential existence of buried solid waste at these former disposal areas, which may endanger human health directly or indirectly through the release of yet-unidentified contaminants.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 5/16/2011) United States Air Force (USAF). 2011. Decision Document Installation Restoration Program for non-CERCLA Sites OT001, LF002, SS003, SS004, SS005, SS006, SS007, WP008, DP009, SS013, SS016, SS017, SS018, SS019, DA020, DA021, and DA022. Final. January. (2011 DD)
STATUS	

Granite Mountain_LF002_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	820
SITIRP_ID	LF002
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	not analyzed
ALIAS	LF02
SITE_NAME	Landfill
SITE_DESCRIPTION	It was a known disposal area during facility operation.
MEDIA_ID	<p>For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF notify ADEC at least 6 months prior to any transfer or sale, than the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1957 through 1981
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF notify ADEC at least 6 months prior to any transfer or sale, than the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
POC	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	Lead (de minimis), Arsenic (background)
MODIFIED_DATE	20110516
CONTAMINATION_SOURCE	Disposal wastes
SITEID	LF002
INSTLN_ID	GM
MAINTENANCE	Sign maintenance and repairs
RESTRICTIONS	No unauthorized waste removal; No unauthorized site access; Property records/Base Plan documentation

Granite Mountain LF002 SITE SUMMARY IRP

SITEID	
OBJECTID	
SITIRP_ID	LF002
SITE_NAME	Landfill
DATE_SUMM	5/16/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
DESC_USE	LF002 is a permitted Solid Waste Disposal area located approximately 2,000 feet south of the Upper Camp facility along the east side of the access road. The landfill was in use during the operational period of the facility 1957 through 1981.
GEO_HYDRO	The Upper Camp sites generally do not have groundwater present, with the exception of Site SS013 (formerly AOC13), which has a perched aquifer. During snowmelt or precipitation events, water infiltrates the shallow soil layer until it encounters a relatively impermeable boundary at either the permafrost zone or shallow competent bedrock. When downward migration of this water is impeded by the impermeable layer, the water is considered to be perched.
COC	Lead (de minimis), Arsenic (background)
INVESTIGATION_ACTIONS	During the 1994 Preliminary Assessment/Site Inspection, centrally located staining and possible downgradient staining was noted during site reconnaissance. LF002 was mapped and analytical samples were taken, but a metal detection survey was not conducted due to visual surface metallic debris scattered throughout the site. The objective of the 1999 investigation was to determine whether past storage and disposal activities had created a source of contamination and determine the nature and extent of contamination. The 2008 investigation focused on filling data gaps where the nature and/or extent of contamination was not well defined. Further sampling was conducted during the 2008 investigation to determine the vertical extent of contamination. The removal action in 2009 excavated approximately 80 cubic yards of POL-contaminated soil from Site LF002. Multi-incremental confirmation samples from the excavation indicate that DRO and RRO concentrations in soil remaining in-situ are below clean up criteria.
FINAL_REM_ACTION	For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following: <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF notify ADEC at least 6 months prior to any transfer or sale, than the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
CONT_RISK	Supplemental investigation revealed CERCLA contaminants at the site (lead and arsenic) were found were found to be de minimis volumes or within background levels not associated with a contaminant source. Therefore, no CERCLA COCs above State and Federal cleanup levels remain at the site.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 5/16/2011) United States Air Force (USAF). 2011. Decision Document Installation Restoration Program for non-CERCLA Sites OT001, LF002, SS003, SS004, SS005, SS006, SS007, WP008, DP009, SS013, SS016, SS017, SS018, SS019, DA020, DA021, and DA022. Final. January. (2011 DD) United States Air Force (USAF). 2011. Record of Decision Installation Restoration Program for CERCLA Contaminants at Sites OT001, LF002, DP009, SS003, and DA015.Final. January. (2011 ROD)
STATUS	

Granite Mountain_OT001_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	776
SITIRP_ID	OT001
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	PCB concentrations in soils exceed the 18 AAC 75.341 Table B-1 cleanup level, however, the cap is protective by limiting exposure.
ALIAS	OT01
SITE_NAME	White Alice Site - PCB
SITE_DESCRIPTION	This site is located at Upper Camp and was comprised of antenna arrays, equipment building, barracks, and other support facilities before the 2009 demolition activities.
MEDIA_ID	<p>For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF to notify ADEC at least 6 months prior to any transfer or sale, then the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Constructed in 1950s and decommissioned in 2009 (installationwide).
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>The selected remedy is ICs to maintain cover over buried wastes, prevent exposure, and limit potential migration of any contaminants. The ICs will consist of but not limited to the following:</p> <ul style="list-style-type: none"> • The USAF shall maintain the integrity of the landfill cover to prevent direct exposure. • The USAF shall maintain the ICs until the concentration of hazardous substances in the soil are at such levels to allow for unlimited use and unrestricted exposure. • The USAF shall include signage or monuments around the landfill to maintain the integrity of the cap and prevent unauthorized access, as implemented by the 611 CES. • The USAF shall include a notification describing the PCB contamination within the IC zone in the USAF Real Estate Records at 611 CES. The notification will include the restriction of digging, relocation of soil within the zone, and ground disturbing construction activities. • The USAF will be responsible for implementing, maintaining, monitoring, reporting, and enforcing land use controls. • The USAF will inform, monitor, enforce, and bind, where appropriate, authorized lessees, tenants, contractors, and other authorized occupants of the site of ICs impacting the site.

- The USAF will retain ultimate responsibility for remedy implementation and protectiveness, although the USAF may transfer these procedural responsibilities to another party by contract, property transfer agreement or through other means.
- The USAF shall notify the ADEC within 30 days of discovery if the ICs are found to be deficient or failing, or if the land use changes.
- The USAF shall notify the ADEC at least 6 months prior to the transfer of the property subject to ICs, but if 6 months is not possible, ADEC must be notified as soon as possible but no less than 60 days prior to the transfer or property. The USAF will provide access to or a copy of the executed deed or transfer assembly to the ADEC.
- The USAF shall not modify or terminate ICs or modify land uses which may impact the effectiveness of the ICs or take any anticipated action that may disrupt the effectiveness of the ICs or any action that may alter or negate the need for ICs without seeking and obtaining approval from the ADEC 45 days prior to the change.
- The USAF shall periodically monitor ICs at the OT001 Monofill to ensure effectiveness and protectiveness. The USAF will monitor the area affected by ICs annually for the first 5 years and then every 5 years after that until the COC is below cleanup criteria.
- After each monitoring event, a report will be compiled, placed in the administrative record, sent to ADEC, and sent to the Koyuk Indian Reorganization Act (IRA) council. The report will state the frequency, scope, and nature of IC monitoring activities; the results of such monitoring activities; any proposed changes to the ICs; and any corrective measures resulting from monitoring during the time period.

POC	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	PCBs
MODIFIED_DATE	20110516
CONTAMINATION_SOURCE	Unknown
SITEID	OT001
INSTLN_ID	GM
MAINTENANCE	Landfill cap inspections and repair; LUC inspections; 5-year reviews; Sign maintenance and repairs
RESTRICTIONS	No unauthorized site access; No unauthorized digging/excavation; No unauthorized transport or disposal of soil; No unauthorized construction; Property records/Base Plan documentation

Granite_Mountain_OT001_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	OT001
SITE_NAME	White Alice Site-PCB
DATE_SUMM	5/16/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
DESC_USE	Site OT001, White Alice Array, is located at Upper Camp and was comprised of antenna arrays, equipment building, barracks, and other support facilities before the 2009 demolition activities. The equipment building housed many of the components that supported activities at Upper Camp and included six large generators that were used to power the facility.
GEO_HYDRO	The Upper Camp sites generally do not have groundwater present, with the exception of Site SS013 (formerly AOC13), which has a perched aquifer. During snowmelt or precipitation events, water infiltrates the shallow soil layer until it encounters a relatively impermeable boundary at either the permafrost zone or shallow competent bedrock. When downward migration of this water is impeded by the impermeable layer, the water is considered to be perched.
COC	PCBs
INVESTIGATION_ACTIONS	Site OT001 was considered an area of concern because soil staining was observed inside the equipment building near the doorway, and on the ground immediately outside of the doorway. The previous activities at the site are as follows: - During the 1994 PA/SI, soil samples from the site were analyzed. - During the 1999 RI at Site OT001, 31 surface soil field-screening samples were collected along the southern and eastern sides of the equipment building as well as north of the electronics and communications room in order to further delineate the extent of PCB contamination identified in the 1994 PA/SI. - During the 2008 Supplemental RI, 95 soil samples were collected in the areas of concern identified in the 1999 RI.

Granite Mountain_OT001_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF notify ADEC at least 6 months prior to any transfer or sale, than the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
	<ul style="list-style-type: none"> • The USAF shall not modify or terminate ICs or modify land uses which may impact the effectiveness of the ICs or take any anticipated action that may disrupt the effectiveness of the ICs or any action that may alter or negate the need for ICs without seeking and obtaining approval from the ADEC 45 days prior to the change. • The USAF shall periodically monitor ICs at the OT001 Monofill to ensure effectiveness and protectiveness. The USAF will monitor the area affected by ICs annually for the first 5 years and then every 5 years after that until the COC is below cleanup criteria. • After each monitoring event, a report will be compiled, placed in the administrative record, sent to ADEC, and sent to the Koyuk Indian Reorganization Act council. The report will state the frequency, scope, and nature of IC monitoring activities; the results of such monitoring activities; any proposed changes to the ICs; and any corrective measures resulting from monitoring during the time period.
CONT_RISK	<p>PCB concentrations in soils exceed the 18 AAC 75.341 Table B-1 cleanup level of 1 mg/kg. Therefore, action is required under CERCLA and state regulations to protect human health and the environment. The cap is protective by limiting exposure.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 5/16/2011)</p> <p>United States Air Force (USAF). 2011. Decision Document Installation Restoration Program for non-CERCLA Sites OT001, LF002, SS003, SS004, SS005, SS006, SS007, WP008, DP009, SS013, SS016, SS017, SS018, SS019, DA020, DA021, and DA022. Final. January. (2011 DD)</p> <p>United States Air Force (USAF). 2011. Record of Decision Installation Restoration Program for CERCLA Contaminants at Sites OT001, LF002, DP009, SS003, and DA015.Final. January. (2011 ROD)</p>
STATUS	

Granite Mountain_SS016_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	25621
SITIRP_ID	SS016
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	Not analyzed quantitatively
ALIAS	AOC01
SITE_NAME	Surface Disposal Area A
SITE_DESCRIPTION	Site SS016 is a former disposal and storage area north of the Upper Camp. As many as 1,100 drums of unknown origin and content have been stored at this location.
MEDIA_ID	For solid waste at this site, the specific ICs required to comply with state law and implemented
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Constructed in 1950s and decommissioned in 2009 (installationwide).
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and ADNR records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF notify ADEC at least 6 months prior to any transfer or sale, than the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
POC	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	Arsenic (background)
MODIFIED_DATE	20110516
CONTAMINATION_SOURCE	disposal/storage area
SITEID	SS016
INSTLN_ID	GM
MAINTENANCE	Sign maintenance and repairs
RESTRICTIONS	No unauthorized waste removal; No unauthorized site access; Property records/Base Plan documentation

Granite Mountain SS016 SITE SUMMARY IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS016
SITE_NAME	Surface Disposal Area A
DATE_SUMM	5/16/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
DESC_USE	Site SS016 (also known as Disposal Area A; AOC01) is a former disposal and storage area north of the Upper Camp. As many as 1,100 drums of unknown origin and content have been stored at this location. In 1985, the USAF removed drums from this site, excavated construction debris and trash, and covered and re-graded the area.
GEO_HYDRO	The Upper Camp sites generally do not have groundwater, with the exception of Site SS017, which has a perched aquifer. During snowmelt or precipitation events, water infiltrates the shallow soil layer until it encounters a relatively impermeable boundary at either the permafrost zone or when it reaches shallow competent bedrock, where the water is considered to be perched. Groundwater does not appear to be used by seasonal miners and no wells are listed within a 10-mile radius of the site, according to the USGS Groundwater Site Inventory Database. The depth to bedrock is generally at or very near ground surface; therefore, groundwater yield is low and likely of poor quality.
COC	Arsenic (background)
INVESTIGATION_ACTIONS	During the 1994 PA/SI, surface seep water and minor quantities of debris were observed. No areas of stained soil were observed, and no buried drums were located, although a magnetic anomaly was detected near the center of the site. One surface seep water and one soil sample were collected and analyzed. During the 1999 RI, three test pits were excavated and sampled to determine whether past storage and disposal activities had created a source of contamination that could leach from the site.
FINAL_REM_ACTION	For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following: <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF to notify ADEC at least 6 months prior to any transfer or sale, then the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
CONT_RISK	COCs were screened against State of Alaska risk-based cleanup levels in 18 AAC 75.341, Table B2 and 18 AAC 75.345, Table C for this site. Screening results indicated concentrations of arsenic and beryllium exceeded the risk-based cleanup levels, but were within background levels. The primary, risk-driving concern at this site is the potential existence of buried solid waste at these former disposal areas, which may endanger human health directly or indirectly through the release of yet-unidentified contaminants.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 5/16/2011) United States Air Force (USAF). 2011. Decision Document Installation Restoration Program for non-CERCLA Sites OT001, LF002, SS003, SS004, SS005, SS006, SS007, WP008, DP009, SS013, SS016, SS017, SS018, SS019, DA020, DA021, and DA022. Final. January. (2011 DD)
STATUS	

Granite_Mountain_SS017_SITE_SUMMARY	
OBJECTID	
HAZSITE_ID	25622
SITIRP_ID	SS017
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	Not analyzed quantitatively
ALIAS	AOC02
SITE_NAME	Surface Disposal Area B
SITE_DESCRIPTION	Site SS017 is a former disposal and storage area west of the Upper Camp where drums of unknown origin and content have been stored.
MEDIA_ID	For solid waste at this site, the specific ICs required to comply with state law and
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Constructed in 1950s and decommissioned in 2009 (installation wide).
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	For groundwater at Site SS017, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit human and ecological exposure to and use of petroleum-contaminated groundwater and to prevent the disturbance and spread of petroleum contamination include the following: <ul style="list-style-type: none"> • Limiting excavation or drilling in areas containing petroleum-contaminated groundwater. • Characterizing and managing the groundwater by following the applicable regulations if petroleum-contaminated groundwater is used on or removed from the site. • Obtaining ADEC approval before removing or disposing of petroleum-contaminated groundwater at the site (pursuant to 18AAC75.325[i]) • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable, including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Performance reports detailing site inspections of the ICs and submitted to ADEC once every 5 years after implementation of the remedial action, and - Posting signs at the sites to let site users know of the contaminated groundwater.
POC	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	DRO
MODIFIED_DATE	20110516
CONTAMINATION_SOURCE	disposal/storage area
SITEID	SS017
INSTLN_ID	GM
MAINTENANCE	5-year reviews; LUC inspections; Sign maintenance and repairs
RESTRICTIONS	No unauthorized groundwater removal; No unauthorized digging/excavation; Property records/Base Plan documentation

Granite Mountain SS017 SITE SUMMARY IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS017
SITE_NAME	Surface Disposal Area B
DATE_SUMM	5/16/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
DESC_USE	Site SS017 (also known as Disposal Area B; AOC02) is a former disposal and storage area west of the Upper Camp where drums of unknown origin and content have been stored. In 1985, the USAF removed 200 drums from this site, excavated construction debris and trash, and covered and re-graded the area
GEO_HYDRO	The Upper Camp sites generally do not have groundwater, with the exception of Site SS017, which has a perched aquifer. During snowmelt or precipitation events, water infiltrates the shallow soil layer until it encounters a relatively impermeable boundary at either the permafrost zone or when it reaches shallow competent bedrock, where the water is considered to be perched. Groundwater does not appear to be used by seasonal miners and no wells are listed within a 10-mile radius of the site, according to the USGS Groundwater Site Inventory Database. The depth to bedrock is generally at or very near ground surface; therefore, groundwater yield is low and likely of poor quality.
COC	DRO
INVESTIGATION_ACTIONS	The 1994 PA/SI noted no visible soil stains or surface debris at this site. A metal detection survey at the site did not identify any buried materials. Numerous subsurface water seeps and an area of disturbed soil, approximately 600 feet by 1,000 feet, were noted. Seep and soil samples were collected and analyzed. During the 1999 RI, three test pits were excavated and three monitoring wells were installed. Two soil samples and one surface water sample were also collected from the site. During the 2001 RI, a surface seep water sample revealed a DRO concentration of 0.3 mg/L. This sample was located downgradient of the three 1999 monitoring wells and was likely indicative of a location where subsurface water daylight, or returns to the ground surface as a seep or spring. The reduced concentration of DRO at this location may also represent downgradient attenuation of DRO in this subsurface water. Trace amounts of DRO were detected in two soil samples, both associated with surface seep. In the 2008 RI, groundwater samples were collected from the three monitoring wells.
FINAL_REM_ACTION	For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following: <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF to notify ADEC at least 6 months prior to any transfer or sale, then the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal
CONT_RISK	Although other chemicals were detected at Site SS017, DRO was retained as the primary, risk-driving COC. During the RI, DRO concentrations in groundwater were screened against State of Alaska risk-based cleanup levels in 18 AAC 75.345, Table C. DRO concentrations in the groundwater at Site SS017 exceeded the 18 AAC 75.345, Table C cleanup criterion of 1.5 mg/L. Therefore, action is required under State of Alaska regulations to protect human health and the environment.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 5/16/2011) United States Air Force (USAF). 2011. Decision Document Installation Restoration Program for non-CERCLA Sites OT001, LF002, SS003, SS004, SS005, SS006, SS007, WP008, DP009, SS013, SS016, SS017, SS018, SS019, DA020, DA021, and DA022. Final. January. (2011 DD)
STATUS	

Granite Mountain_SS019_SITE_SUMMARY	
OBJECTID	
HAZSITE_ID	25624
SITIRP_ID	SS019
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	not analyzed quantitatively
ALIAS	AOC04
SITE_NAME	Surface Disposal Area D
SITE_DESCRIPTION	Site SS019 is a landfill or former disposal and storage area situated along the main access road to the Upper Camp.
MEDIA_ID	<p>For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF notify ADEC at least 6 months prior to any transfer or sale, than the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Constructed in 1950s and decommissioned in 2009 (installation wide).
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF notify ADEC at least 6 months prior to any transfer or sale, than the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
POC	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	Arsenic (background)
MODIFIED_DATE	20110516
CONTAMINATION_SOURCE	storage/disposal area
SITEID	SS019
INSTLN_ID	GM
MAINTENANCE	Sign maintenance and repairs
RESTRICTIONS	No unauthorized waste removal; No unauthorized site access; Property records/Base Plan documentation

Granite Mountain SS019 SITE SUMMARY IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS019
SITE_NAME	Surface Disposal Area D
DATE_SUMM	5/16/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP) 10471 20th St. Ste 301, JBER, AK 99506-2201
DESC_USE	Site SS019 (also known as Disposal Area D; AOC04) is a landfill or former disposal and storage area situated along the main access road to the Upper Camp that was used to store uncontaminated debris from the USAF cleanup of disposal areas A, B, and C in 1980, 1983, and 1985. This disposal area appears to be relatively recent, as evidenced by the uniform, finegrained cover material observed at the site. Due to the porous nature of this cover material – angular crushed granite rock approximately the size of coarse sand to pea gravel – surface runoff is poorly controlled. In 1999, surface runoff seeping into the cover material was observed upgradient of the site. Subsurface flow re-emerged in the middle of the site where several sinkholes had formed. Below this seep area, surface runoff had eroded numerous channels into the cover. The condition of the site has not appeared to deteriorate further since that observation but will be monitored for further erosion.
GEO_HYDRO	The Upper Camp sites generally do not have groundwater, with the exception of Site SS017, which has a perched aquifer. During snowmelt or precipitation events, water infiltrates the shallow soil layer until it encounters a relatively impermeable boundary at either the permafrost zone or when it reaches shallow competent bedrock, where the water is considered to be perched. Groundwater does not appear to be used by seasonal miners and no wells are listed within a 10-mile radius of the site, according to the USGS Groundwater Site Inventory Database. The depth to bedrock is generally at or very near ground surface; therefore, groundwater yield is low and likely of poor quality.
COC	Arsenic (background)
INVESTIGATION_ACTIONS	During the 1994 PA/SI, no visible soil staining was noted; however, numerous subsurface water seeps were observed. An area of disturbed soil approximately 175 feet by 280 feet was documented. Surface soil samples were collected and analyzed. In the 1999 RI, two test pits were excavated, one monitoring well was installed, and surface seep water and associated soil samples were collected to determine if past storage and disposal activities had created a potential source of contamination and if leaching of any contaminants had occurred.

Granite Mountain SS019 SITE SUMMARY IRP

FINAL_REM_ACTION	<p>For solid waste at this site, the specific ICs required to comply with state law and implemented by the USAF to restrict access and limit exposure to buried solid waste include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of buried solid waste to prevent the release of potential contamination or placement of solid waste in environmentally sensitive areas. • Restricting movement of buried solid waste without prior ADEC approval. • Documenting ICs in the Granite Mountain RRS General Plan, the 611th IRP and real estate records, and Alaska Department of Natural Resources records as applicable including information regarding: <ul style="list-style-type: none"> - Current land uses and allowed uses of sites, and - Geographic boundaries of ICs, and - Posting signs at the sites to let site users know of the potential buried waste. • The USAF will provide notice to ADEC at least 6 months prior to any transfer or sale of USAF property associated with Granite Mountain RRS, including transfers to private, state, or local entities, so that ADEC can be involved in discussions to ensure that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective ICs. If it is not possible for the USAF notify ADEC at least 6 months prior to any transfer or sale, than the USAF will notify ADEC as soon as possible, but no later than 60 days prior to the transfer or sale of any property subject to ICs. • The USAF will provide similar notice to ADEC within the same timeframes, for federal-to-federal transfer or property accountability and administrative control. Review and comment opportunities afforded to ADEC for federal-to-federal transfers shall be in accordance with all applicable federal laws. All notice and comment provisions above also apply to leases, in addition to land transfers or sales.
CONT_RISK	<p>COCs were screened against State of Alaska risk-based cleanup levels in 18 AAC 75.341, Table B2 and 18 AAC 75.345, Table C for this site. Screening results indicated concentrations of arsenic and beryllium exceeded the risk-based cleanup levels, but were within background levels. The primary, risk-driving concern at this site is the potential existence of buried solid waste at these former disposal areas, which may endanger human health directly or indirectly through the release of yet-unidentified contaminants.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 5/16/2011) United States Air Force (USAF). 2011. Decision Document Installation Restoration Program for non-CERCLA Sites OT001, LF002, SS003, SS004, SS005, SS006, SS007, WP008, DP009, SS013, SS016, SS017, SS018, SS019, DA020, DA021, and DA022. Final. January. (2011 DD)</p>
STATUS	

IM-LF004.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	146
SITIRP_ID	LF004
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	The overall result of the risk analysis conducted for LF004 is that COPCs and chemicals of potential ecological concern pose no unacceptable risk to human health or the environment. For LF004, no COPCs were identified in soil. Based on the available data, groundwater at LF004 does not pose a risk to human health. The contaminants detected at LF004 do not pose an unacceptable risk to ecological receptors.
ALIAS	None
SITE_NAME	Landfill No. 1
SITE_DESCRIPTION	LF004 consists of four non-contiguous disposal areas (Areas A, B, C, and D) each approximately 1 acre in size near Utopia Creek. The areas were used to dispose of: metal debris, drums, garbage, scrap lumber, and small quantities of shop waste. The three areas north of Utopia Creek are covered with dense vegetation; the area south of the creek is only partly vegetated, because part of it is on the road system. There are two small roads running among and through the disposal areas.
MEDIA_ID	LF004
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1953 to 1957
CATEGORY	ERP
AREA_ACRES	Approximately 4 acres
ACTIVITY	Active
LUC_RESTRICTION	The Air Force selected Cleanup Complete with ICs for soil as the preferred alternative. All ROD use limitations and exposure restrictions will be entered in the Base Master Plan and the GIS. The Indian Mountain LRRS comprehensive map and Base Master Plan will be accessed to show the boundaries of each site to restrict excavation of soil. The Air Force will produce maps showing location of the residual contamination, and will provide these maps to ADEC. The ICs will be documented in the Air Force Real Property Records, Indian Mountain General Plan, 611th IRP Records, and the 611th Installation's LUC Management Plan. The station construction review process as outlined in the Base Master Plan will be used to avoid ground-disturbing construction activities and to ensure safe soil management procedures in areas with residual contamination. Signage around the landfills to maintain the integrity of the cap and prevent unauthorized access. Timely notification to ADEC of planned transfers, to include federal-to-federal transfers, of property subject to ICs. The Air Force will also notify ADEC of any violation of the ICs or any other activity that is inconsistent with the ICs or IC objectives, as well as any obstacles to correcting the same. The 611th Civil Engineering Squadron will receive ADEC approval prior to conducting intrusive site activities. The Air Force will collect groundwater samples at LF004, as well as surface water and sediment samples from upgradient and downgradient of the LF004 disposal areas.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St, Ste 301, JBER, AK 99506-2201
PHONE	907.552.7193
CHEMICALS_OF_CONCERN	None.
MODIFIED_DATE	20140717
CONTAMINATION_SOURCE	The disposal of materials and hazardous substances into the disposal areas at LF004.
SITEID	LF004
INSTLN_ID	MI
MAINTENANCE	The Air Force will implement, monitor, maintain, and enforce LUCs. The LUCs will be put into place to maintain the landfill cover at LF004 in order to prevent excavation buried wastes or soil; and maintain the landfill cover at LF004 in order to prevent direct exposure to buried wastes. The Air Force will monitor and inspect all site areas subject to ICs and submit a performance report to ADEC every year, for the first 5 years after the date of the signed decision document, followed by a 5-year review.
RESTRICTIONS	The LUCs will be put in place in order to: prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; prevent the use of contamination soil for restricted uses in the event of excavation; and implement a soils management plan.

IM-LF004.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF004
SITE_NAME	Landfill No. 1
DATE_SUMM	7/18/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St, Ste 301, JBER, AK 99506-2201
DESC_USE	LF004 consists of four noncontiguous disposal areas (Areas A, B, C, and D) each approximately 1 acre in size near Utopia Creek. The areas were used to dispose of: metal debris, drums, garbage, scrap lumber, and small quantities of shop waste. The three areas north of Utopia Creek are covered with dense vegetation; the area south of the creek is only partly vegetated, because part of it is on the road system. There are two small roads running among and through the disposal areas.
GEO_HYDRO	The regional geology in the central Koyukuk River region can be generally divided into upland and lowland regimes. Unconsolidated glacial drift and till deposits underlie lowland areas in the Indian Mountain areas. Uplands and mountainous areas are underlain by bedrock consisting chiefly of granite intruded into marine andesitic volcanic rocks, volcanic graywacke, mudstone, minor basalt flows, and fossiliferous limestone. There is no groundwater at Upper Camp in the alluvial hydrogeologic unit of concern - the thin layer of colluvium found on top of the bedrock.
COC	None.
INVESTIGATION_ACTIONS	Investigations have been conducted at the Indian Mountain Long Range Radar Station between 1985 and 2005. At LF004, no contaminants were detected at concentrations greater than ADEC cleanup levels, with the exception of several metals, in surface water or soil samples. It was determined that all contaminants detected at LF004 did not pose a risk to human or ecological receptors.
FINAL_REM_ACTION	The Air Force selected Cleanup Complete with ICs as the preferred alternative. ICs are required to prevent unrestricted use and to protect and maintain the landfill cover.
CONT_RISK	The overall result of the risk analysis conducted for LF004 is that COPCs and chemicals of potential ecological concern pose no unacceptable risk to human health or the environment. For LF004, no COPCs were identified in soil. Based on the available data, groundwater at LF004 does not pose a risk to human health. The contaminants detected at LF004 do not pose an unacceptable risk to ecological receptors.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database, last accessed 7/18/2014 United States Air Force (USAF). 2013. Indian Mountain Long Range Radar Station, Alaska, Record of Decision for LF004 (Landfill No. 1), LF005 (Landfill No. 2), SS003 (Waste Accumulation Area No. 5), SD007 (Road/Runway Oilings). Final. October. (2013 ROD)
STATUS	

IM-LF005.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	144
SITIRP_ID	LF005
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	The overall result of the risk analysis conducted for LF005 is that COPCs and chemicals of potential ecological concern pose no unacceptable risk to human health or the environment. For LF005, no COPCs were identified in soil. No complete exposure pathways for human receptors were identified for surface water or groundwater. The contaminants detected at LF005 do not pose an unacceptable risk to ecological receptors.
ALIAS	None
SITE_NAME	Landfill No. 2
SITE_DESCRIPTION	LF005 is located north of the west end of the airstrip and covers an area of approximately 2 acres. The landfill cover is vegetated, but consists of gravel and cobbles with minimal vegetation where disturbed. LF005 was used for disposal of: incinerated ash, wood, metal, oil filters, empty drums, fuel absorbents, oil spill residue, paint residue, and construction debris. Combustible materials were usually burned. The site cover consists of gravel, cobbles, and vegetation. The Air Force does not currently use the land at LF005.
MEDIA_ID	LF005
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1977 to present
CATEGORY	ERP
AREA_ACRES	Approximately 1 acre (Contaminated Sites Database) 2 acres (2013 ROD)
ACTIVITY	Active
LUC_RESTRICTION	The Air Force selected Cleanup Complete with ICs for soil as the preferred alternative. All ROD use limitations and exposure restrictions will be entered in the Base Master Plan and the GIS. The Indian Mountain LRRS comprehensive map and Base Master Plan will be accessed to show the boundaries of LF005 to restrict excavation of soil. The Air Force will produce maps showing location of the residual contamination, and will provide these maps to ADEC. The ICs will be documented in the Air Force Real Property Records, Indian Mountain General Plan, 611th IRP Records, and the 611th Installation's LUC Management Plan. The station construction review process as outlined in the Base Master Plan will be used to avoid ground disturbing construction activities and to ensure safe soil management procedures in areas with residual contamination. Signage around the landfills to maintain the integrity of the cap and prevent unauthorized access. Timely notification to ADEC of planned transfers, to include federal-to-federal transfers, of property subject to ICs. The Air Force will also notify ADEC of any violation of the ICs or any other activity that is inconsistent with the ICs or IC objectives, as well as any obstacles to correcting the same. *The 611th Civil Engineering Squadron will receive ADEC approval prior to conducting intrusive site activities.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St, Ste 301, JBER, AK 99506-2201
PHONE	907.552.7193
CHEMICALS_OF_CONCERN	None.
MODIFIED_DATE	20140717
CONTAMINATION_SOURCE	The disposal of materials and hazardous substances into the disposal area at LF005.
SITEID	LF005
INSTLN_ID	MI
MAINTENANCE	The Air Force will implement, monitor, maintain, and enforce LUCs. The LUCs will be put into place to maintain the landfill cover at LF005 in order to prevent excavation buried wastes or soil; and maintain the landfill cover at LF005 in order to prevent direct exposure to buried wastes. The Air Force will monitor and inspect all site areas subject to ICs and submit a performance report to ADEC every year, for the first 5 years after the date of the signed decision document, followed by a 5-year review.
RESTRICTIONS	The LUCs will be put in place in order to: prohibit the development and use of property for residential housing, elementary and secondary schools, or child care facilities and playgrounds; prevent the use of contamination soil for restricted uses in the event of excavation; and implement a soils management plan.

IM-LF005.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF005
SITE_NAME	Landfill No. 2
DATE_SUMM	7/18/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St, Ste 301, JBER, AK 99506-2201
DESC_USE	LF005 is located north of the west end of the airstrip and covers an area of approximately 2 acres. The landfill cover is vegetated, but consists of gravel and cobbles with minimal vegetation where disturbed. LF005 was used for disposal of: incinerated ash, wood, metal, oil filters, empty drums, fuel absorbents, oil spill residue, paint residue, and construction debris. Combustible materials were usually burned. The site cover consists of gravel, cobbles, and vegetation. The Air Force does not currently use the land at LF005.
GEO_HYDRO	The regional geology in the central Koyukuk River region can be generally divided into upland and lowland regimes. Unconsolidated glacial drift and till deposits underlie lowland areas in the Indian Mountain areas. Uplands and mountainous areas are underlain by bedrock consisting chiefly of granite intruded into marine andesitic volcanic rocks, volcanic graywacke, mudstone, minor basalt flows, and fossiliferous limestone. There is no groundwater at Upper Camp in the alluvial hydrogeologic unit of concern - the thin layer of colluvium found on top of the bedrock.
COC	None.
INVESTIGATION_ACTIONS	Investigations have been conducted at the Indian Mountain Long Range Radar Station between 1985 and 2005. At LF005, no contaminants were detected at concentrations greater than ADEC cleanup levels, with the exception of aluminum, copper, and zinc, in surface water or soil samples. It was determined that the COPCs present at LF005 do not pose a risk to human or ecological receptors.
FINAL_REM_ACTION	The Air Force selected Cleanup Complete with ICs as the preferred alternative. ICs are required to prevent unrestricted use and to protect and maintain the landfill cover.
CONT_RISK	The overall result of the risk analysis conducted for LF005 is that COPCs and chemicals of potential ecological concern pose no unacceptable risk to human health or the environment. For LF005, no COPCs were identified in soil. No complete exposure pathways for human receptors were identified for surface water or groundwater. The contaminants detected at LF005 do not pose an unacceptable risk to ecological receptors.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 7/18/2014) United States Air Force (USAF). 2013. Indian Mountain Long Range Radar Station, Alaska, Record of Decision for LF004 (Landfill No. 1), LF005 (Landfill No. 2), SS003 (Waste Accumulation Area No. 5), SD007 (Road/Runway Oilings). Final. October. (2013 ROD)
STATUS	

Indian_Mountain-LF006_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	143
SITIRP_ID	LF006
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown-2007 ROD indicated LUC boundaries would be updated in future.
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	Not analyzed
ALIAS	Indian Mountain LRRS Landfill
SITE_NAME	Landfills No. 3 and 4, and Waste Accumulation Area 4
SITE_DESCRIPTION	LF006 consists of former WAA No. 4 (150 feet by 400 feet) and inactive Landfills No. 3 (300 feet by 300 feet) and Landfill No. 4 (200 feet by 300 feet).
MEDIA_ID	LF006
BOUNDARY_DETAILS	Unknown-2007 ROD indicated LUC boundaries would be updated in future.
DATES_OPERATION	1951-present (installation). 1950s-1960s WAA No. 4 and Landfill No. 4; 1978-1980 Landfill No. 3;
CATEGORY	ERP
AREA_ACRES	WAA No. 4 - 1.37; Landfill No 3 - 2.07; Landfill No. 4 -1.37
ACTIVITY	Active
LUC_RESTRICTION	<p>Base General Plan (Plan) will be updated to show the boundaries of the sites to restrict excavation of soil;</p> <p>* The Air Force will notify the ADEC prior to making any major changes to the Plan that could affect the LUCs.</p> <p>* The Air Force will obtain prior concurrence from ADEC to terminate the LUCs, modify current land use, or allow anticipated actions that may disrupt protectiveness of LUCs. In the unlikely event that the property is to be transferred, the Air Force will notify the ADEC prior to any transfer taking place.</p> <p>* The LUCs will remain in effect until the soil concentrations are determined to be less than 250 mg/kg DRO and 300 mg/kg GRO.</p>
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St, Ste 301, JBER, AK 99506-2201
PHONE	907.552.7193
CHEMICALS_OF_CONCERN	DRO, GRO
MODIFIED_DATE	20110120
CONTAMINATION_SOURCE	landfills and accumulation areas
SITEID	LF006
INSTLN_ID	IM
MAINTENANCE	LUC inspections and repair; 5-year reviews
RESTRICTIONS	No inappropriate land use; No unauthorized transport or disposal of soil; Property records/Base Plan documentation

Indian_Mountain-LF006_ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	LF006
SITE_NAME	Landfills No. 3 and 4, and Waste Accumulation Area 4
DATE_SUMM	1/20/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St, Ste 301, JBER, AK 99506-2201
DESC_USE	<p>LF006 consists of former WAA No. 4 (150 feet by 400 feet) and inactive Landfills No. 3 (300 feet by 300 feet) and Landfill No. 4 (200 feet by 300 feet). This site is located on the south side of the airstrip at Lower Camp (Figure 2- 1). WAA No. 4 was used in the 1950s and 1960s as a fuel and waste drum storage area. Landfill No. 3 was used from 1978 to 1980 to bury scrap metal, drums, wood, and other debris generated from the cleanup of Lower Camp. Landfill No. 4 was used as a drum disposal area in the 1950s and 1960s and is located east of Landfill No. 3, across an intermittent stream named Southwest Creek. Land use at Indian Mountain LRRS includes airfield and base support operations. Access to Indian Mountain LRRS is limited to Air Force approved activities. Indian Mountain LRRS has no local community or residents. The closest community is Hughes, which is 18 miles from Indian Mountain. Currently, the Air Force retains possession of property within the boundaries of Indian Mountain LRRS. Reasonably anticipated future land uses at Indian Mountain LRRS are consistent with current land uses. The Air Force plans to retain ownership of all property at Indian Mountain LRRS for the foreseeable future.</p>
GEO_HYDRO	<p>The primary aquifer at Indian Mountain LRRS Lower Camp is in the alluvial and colluvial deposits in the drainage of Indian River and Utopia Creek. The alluvium consists of stratified silt, sand, and gravel deposits and is confined to the area of Lower Camp. Groundwater moves through the unconsolidated material until it encounters bedrock, permafrost, or a steep slope where it emerges as a seep or in a stream. Groundwater occurs in bedrock fractures, but the limited extent of groundwater in the alluvial material on top of the bedrock suggests that local recharge to the regional (bedrock) aquifer is not significant.</p> <p>There is no groundwater at Upper Camp in the alluvial hydrogeologic unit of concern; the thin layer of colluvium found on top of the bedrock. Numerous seeps have been observed around the margins of the Upper Camp area, particularly following precipitation events (USAF, 1995). Precipitation and snowmelt would be expected to readily percolate downward, in most areas, to the competent bedrock surface or to low permeability layers near the soil-bedrock contact. Once water encounters lower permeability material, it will migrate laterally, either toward a local stream or radially toward the flanks of the mountain top, discharging to the surface at seeps or in a stream.</p>
COC	non-CERLCA-DRO, GRO
INVESTIGATION_ACTIONS	<p>Indian Mountain LRRS has been characterized through a series of investigations performed from the mid-1980s through 2003. The results of previous site characterization activities are summarized for each site in Section 2.5.7, along with the Nature and Extent of Contamination. The investigations include:</p> <ul style="list-style-type: none"> * 1985 - Phase I, Records Search Report. Eleven sites at Indian Mountain LRRS were identified to have significant potential to create environmental contamination. No sampling was conducted. * 1989 - Phase II, Confirmation/Quantification Report (Stage 1). Investigation to delineate nature and extent of contamination through a geotechnical survey and surface water and sediment sampling. * 1991 - RI/Preliminary ES Report (Stage 2). Investigation at Lower and Upper camps; soil gas, soil, and surface water samples were collected. * 1993 - Final SI Report. Objective was to refine the Hazard Ranking System score. Sites LF004, LF005, LF006, SS002, and SS003 were investigated. * 1995 - RI/FS Final Report. Investigated the nature and extent of contamination in soils, groundwater, and surface water. * 1998 -Addendum to Source Area SS009 Technical Report. Samples of soil, surface water, groundwater, and fish tissue were collected from LF004, LF006, SS009 and Indian River. Minnows collected from the Indian River were used for toxicity testing and results were used along with historical data to perform an ecological risk assessment. * 2000 - Technical Memorandum: Long-Term Monitoring of Soil and Groundwater. Soil and groundwater samples were collected at LF004, LF005, and SS009. Soil samples were collected at LF006. * 2000 - 2001 Long-Term Monitoring. Groundwater monitoring wells were sampled at LF004, LF005, and SS009. In addition, soil samples were collected from LF005 and LF006. * 2002 - SI Report. Groundwater and soil samples were collected as part of this investigation of LF005, LF006, SS011, OT008, and SS002. * 2005 - Drum Removal and Soil Investigation. Drums were removed from LF005, LF006 and SS002. * 2006 - Human Health and Ecological Risk Assessments for OT008 and SS010 Report. Historical data were used to perform human health and ecological risk assessments of OT008 and SS010.

Indian_Mountain-LF006_ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Based on the results of environmental investigations conducted at Sites LF006, SS002, and SS010 addressed in this ROD, no CERCLA hazardous substances are considered chemicals of concern (COCs), and the Air Force has determined that no action is necessary under CERCLA to protect public health or welfare or the environment at any of the three sites. The response action for LF006, SS002, and SS010 in this ROD is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances in the environment. LF006, SS002, and SS010 cannot support unrestricted use due to concentrations of residual petroleum contamination remaining on site. Land use restrictions are required and will be achieved through imposition of land use controls (LUCs) that limit the use and/or exposure to those areas of the property, including water resources.</p> <p>The Air Force is committed to implementing, monitoring, maintaining, and enforcing all components of the LUCs to ensure that they remain compliant with Alaska laws and regulations. A potential risk to human health or the environment may result if the residual POL contaminated soil were to be disturbed or relocated. To mitigate this potential risk; the following LUCs will be implemented:</p> <ul style="list-style-type: none"> * The Indian Mountain LRRS Base General Plan (Plan) will be updated to show the boundaries of the sites to restrict excavation of soil. The Plan will contain a map indicating site locations with restrictions on any invasive activities that could potentially compromise the integrity of the cover and expose potential contaminants. Dig permits issued by the base operating contractor are required for any excavation at Indian Mountain LRRS. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the sites where land use has already been restricted. * The Air Force will notify the ADEC prior to making any major changes to the Plan that could affect the LUCs. * The Air Force will obtain prior concurrence from ADEC to terminate the LUCs, modify current land use, or allow anticipated actions that may disrupt protectiveness of LUCs. In the unlikely event that the property is to be transferred, the Air Force will notify the ADEC prior to any transfer taking place. * The LUCs will remain in effect until the soil concentrations are determined to be less than 250 mg/kg DRO and 300 mg/kg GRO.
CONT_RISK	Not Analyzed
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 1/20/2011) United States Air Force (USAF). 2007. Record of Decision for LF006 (Landfills No. 3 and 4 and Waste Accumulation Area No. 4), SS002 (Waste Accumulation Area No.1 and Area of Concern 07), and SS010 (Waste Accumulation Area No. 6 and Spill/Leak Nos. 2, 5, 6, 7, 9, and 10), Indian Mountain Long Range Radar Site, Alaska. Final. August. (2007 ROD)</p>
STATUS	

Indian_Mountain-SS002_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	147
SITIRP_ID	SS002
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown-2007 ROD indicated LUC boundaries would be accessed in future.
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	Not quantified
ALIAS	Indian Mountain LRRS Waste Area; SS02
SITE_NAME	Waste Accumulation Area No. 1 and Area of Concern 07
SITE_DESCRIPTION	SS002 is located northeast of the airstrip and includes former WAA No. 1 and A0C07. SS002 covers an area of approximately 400 by 250 feet.
MEDIA_ID	SS002
BOUNDARY_DETAILS	Unknown-2007 ROD indicated LUC boundaries would be accessed in future.
DATES_OPERATION	1951-present (installation); 1950s-1980s WAA No.1; sewage pond unknown, filled sometime after 1994.
CATEGORY	ERP
AREA_ACRES	2.30000000
ACTIVITY	Active
LUC_RESTRICTION	<p>Base General Plan (Plan) will be accessed to show the boundaries of the sites to restrict excavation of soil;</p> <p>* The Air Force will notify the ADEC prior to making any major changes to the Plan that could affect the LUCs.</p> <p>* The Air Force will obtain prior concurrence from ADEC to terminate the LUCs, modify current land use, or allow anticipated actions that may disrupt protectiveness of LUCs. In the unlikely event that the property is to be transferred, the Air Force will notify the ADEC prior to any transfer taking place.</p> <p>* The LUCs will remain in effect until the soil concentrations are determined to be less than 250 mg/kg DRO and 300 mg/kg GRO.</p> <p>The IRP site boundaries shown on figures 2-2 through 2-5, are based on existing surveys and observations, including observation of disturbed soil, visible debris and plant growth and/or geophysics will be considered the site boundaries for the LUCs. USAF land records and the Plan will be accessed to include this information and the LUCs requirements.</p> <p>* Any activity that is inconsistent with LUC requirements, objectives, or controls, or any action that may interfere with the protectiveness of the LUCs, will be addressed by the Air Force as soon as practicable after discovery.</p> <p>* Periodic reports of LUG monitoring will be provided to ADEC.</p>
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St, Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	non-CERLCA-DRO
MODIFIED_DATE	20110120
CONTAMINATION_SOURCE	drum storage area and former sewage pond
SITEID	SS002
INSTLN_ID	IM
MAINTENANCE	LUC inspections and repair; 5-year reviews
RESTRICTIONS	No inappropriate land use; No unauthorized transport or disposal of soil; Property records/Base Plan documentation

Indian_Mountain-SS002_ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS002
SITE_NAME	Waste Accumulation Area No. 1 and Area of Concern 07
DATE_SUMM	1/20/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St, Ste 301, JBER, AK 99506-2201
DESC_USE	<p>SS002 is located northeast of the airstrip and includes former WAA No. 1 and A0C07. SS002 covers an area of approximately 400 by 250 feet. WAA No.1 is located just north of the eastern portion of the runway, on a bluff that overlooks the Indian River. WAA No. 1 was used from the 1950s to the mid- 1980s as a drum storage area for waste before it was shipped off site for disposal. In 1984, contaminated soil was removed and shipped off site for disposal.</p> <p>A0C07 consists of the East Runway Dump Area and Former Sewage Effluent Pond. The Former Sewage Effluent Pond was located on the bluff overlooking the Indian River. The rest of A0C07 covers the bluff slope and the floodplain between the runway and the Indian River. The East Runway Dump Area consists of metallic debris and drums that were placed along an escarpment above Indian River. The drums were placed along a bluff above Indian River and likely contained liquids used during past operations at the installation. Sometime after 1994, the Sewage Effluent Pond was filled and graded. Land use at Indian Mountain LRRS includes airfield and base support operations. Access to Indian Mountain LRRS is limited to Air Force approved activities. Indian Mountain LRRS has no local community or residents. The closest community is Hughes, which is 18 miles from Indian Mountain. Currently, the Air Force retains possession of property within the boundaries of Indian Mountain LRRS. Reasonably anticipated future land uses at Indian Mountain LRRS are consistent with current land uses. The Air Force plans to retain ownership of all property at Indian Mountain LRRS for the foreseeable future.</p>
GEO_HYDRO	<p>No groundwater was encountered at SS002 during the RI. The primary aquifer at Indian Mountain LRRS Lower Camp is in the alluvial and colluvial deposits in the drainage of Indian River and Utopia Creek. The alluvium consists of stratified silt, sand, and gravel deposits and is confined to the area of Lower Camp. Groundwater moves through the unconsolidated material until it encounters bedrock, permafrost, or a steep slope where it emerges as a seep or in a stream. Groundwater occurs in bedrock fractures, but the limited extent of groundwater in the alluvial material on top of the bedrock suggests that local recharge to the regional (bedrock) aquifer is not significant.</p> <p>There is no groundwater at Upper Camp in the alluvial hydrogeologic unit of concern; the thin layer of colluvium found on top of the bedrock. Numerous seeps have been observed around the margins of the Upper Camp area, particularly following precipitation events. Precipitation and snowmelt would be expected to readily percolate downward, in most areas, to the competent bedrock surface or to low permeability layers near the soil-bedrock contact. Once water encounters lower permeability material, it will migrate laterally, either toward a local stream or radially toward the flanks of the mountain top, discharging to the surface at seeps or in a stream.</p>
COC	non-CERLCA-DRO
INVESTIGATION_ACTIONS	<p>Indian Mountain LRRS has been characterized through a series of investigations performed from the mid-1980s through 2003. The investigations include:</p> <ul style="list-style-type: none"> * 1985 - Phase I, Records Search Report. Eleven sites at Indian Mountain LRRS were identified to have significant potential to create environmental contamination. No sampling was conducted (USAF, 1985). * 1989 - Phase II, Confirmation/Quantification Report (Stage 1). Investigation to delineate nature and extent of contamination through a geotechnical survey and surface water and sediment sampling (USAF, 1989). * 1991 - RI/Preliminary ES Report (Stage 2). Investigation at Lower and Upper camps; soil gas, soil, and surface water samples were collected (USAF, 1991). * 1993 - Final SI Report. Objective was to refine the Hazard Ranking System score. Sites LFO04, LF005, LF006, SS002, and SS003 were investigated (USAF, 1993). * 1995 - RI/FS Final Report. Investigated the nature and extent of contamination in soils, groundwater, and surface water (USAF, 1995). * 1998 -Addendum to Source Area SS009 Technical Report. Samples of soil, surface water, groundwater, and fish tissue were collected from LFO04, LF006, SS009 and Indian River. Minnows collected from the Indian River were used for toxicity testing and results were used along with historical data to perform an ecological risk assessment (USAF, 1998). * 2000 - Technical Memorandum: Long-Term Monitoring of Soil and Groundwater. Soil and groundwater samples were collected at LFO04, LF005, and 55009. Soil samples were collected at LF006 (USAF, 2000). * 2001 - 2000 Long-Term Monitoring. Groundwater monitoring wells were sampled at LF004, LF005, and SS009. In addition, soil samples were collected from LF005 and LF006 (USAF, 2001). * 2002 - SI Report. Groundwater and soil samples were collected as part of this investigation of LF005, LF006, 5501 1, OT008, and SS002 (USAF, 2002).

Indian_Mountain-SS002_ENV_SITE_SUMMARY_IRP	
	<p>* 2005 - Drum Removal and Soil Investigation. Drums were removed from LF005, LF006 and SS002 (USAF, 2005).</p> <p>* 2006 - Human Health and Ecological Risk Assessments for OT008 and SSOIO Report. Historical data were used to perform human health and ecological risk assessments of OT008 and SS010 (USAF, 2006).</p>
FINAL_REM_ACTION	<p>Based on the results of environmental investigations conducted at Sites LF006, SS002, and SS010 addressed in this ROD, no CERCLA hazardous substances are considered COCs, and the Air Force has determined that no action is necessary under CERCLA to protect public health or welfare or the environment at any of the three sites. The response action for LFOO6, SS002, and SS010 in this ROD is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances in the environment. LF006, SS002, and SS010 cannot support unrestricted use due to concentrations of residual petroleum contamination remaining on site. Land use restrictions are required and will be achieved through imposition of LUCs that limit the use and/or exposure to those areas of the property, including water resources.</p> <p>The Air Force is committed to implementing, monitoring, maintaining, and enforcing all components of the LUCs to ensure that they remain compliant with Alaska laws and regulations. A potential risk to human health or the environment may result if the residual POL contaminated soil were to be disturbed or relocated. To mitigate this potential risk; the following LUCs will be implemented:</p> <p>* The Indian Mountain LRRS Base General Plan (Plan) will be accessed to show the boundaries of the sites to restrict excavation of soil. The Plan will contain a map indicating site locations with restrictions on any invasive activities that could potentially compromise the integrity of the cover and expose potential contaminants. Dig permits issued by the base operating contractor are required for any excavation at Indian Mountain LRRS. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the sites where land use has already been restricted.</p> <p>* The Air Force will notify the ADEC prior to making any major changes to the Plan that could affect the LUCs.</p> <p>* The Air Force will obtain prior concurrence from ADEC to terminate the LUCs, modify current land use, or allow anticipated actions that may disrupt protectiveness of LUCs. In the unlikely event that the property is to be transferred, the Air Force will notify the ADEC prior to any transfer taking place.</p> <p>* The LUCs will remain in effect until the soil concentrations are determined to be less than 250 mg/kg DRO and 300 mg/kg GRO.</p>
CONT_RISK	Not quantified
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 1/20/2011)</p> <p>United States Air Force (USAF). 2007. Record of Decision for LF006 (Landfills No. 3 and 4 and Waste Accumulation Area No. 4), SS002 (Waste Accumulation Area No.1 and Area of Concern 07), and SS010 (Waste Accumulation Area No. 6 and Spill/Leak Nos. 2, 5, 6, 7, 9, and 10), Indian Mountain Long Range Radar Site, Alaska. Final. August. (2007 ROD)</p>
STATUS	

Indian_Mountain-SS009_ENV_REST_SITE_SUMMARY	
OBJECTID	
HAZSITE_ID	142
SITIRP_ID	SS009
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown-2013 ROD indicated LUC boundaries would be updated in future.
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	For potential future residents: cumulative risk from non-petroleum hydrocarbons:ICLR-3E-3; HI-438 cumulative risk from petroleum hydrocarbons: HI 261
ALIAS	NA
SITE_NAME	Waste Accumulation Area No. 3 and Spill/Leak Nos. 4 and 11
SITE_DESCRIPTION	SS009 encompasses the area of Lower Camp between the residential/industrial dome and Indian River. WAA No. 3 was used from the 1950s until 1984 to store waste oil, motor vehicle gas (MOGAS) and other liquids in aboveground storage tanks (ASTs). The ASTs have since been demolished. Spill/Leak Area No. 4 occurred in 1976 and involved an overflow of 4,000 gallons of petroleum, oil, and lubricant (POL) from a tank at Building 110 (the former Power Plant). The overflow was contained in a diked area surrounding the tank and approximately 80 to 90 percent of the POL fuel was recovered. Spill/Leak Area No. 11 occurred over a long period of time and included leaks from the waste oil storage tank lines at the Power Plant and other fuel line leaks.
MEDIA_ID	SS009
BOUNDARY_DETAILS	Unknown-2013 ROD indicated LUC boundaries would be updated in future and incorporated into the Base Master Plan.
DATES_OPERATION	1950s to 1984 (WAA No. 3) 1976 Spill Leak No. 4
CATEGORY	ERP
AREA_ACRES	unknown
ACTIVITY	Active
LUC_RESTRICTION	- The facility well permitting system will prevent any use of groundwater for drinking water. - The facility construction review process will prevent damage to existing monitoring wells. - All ROD use limitations and exposure restrictions will be entered in the Base Master Plan and the Geographical Information System (GIS). - The facility construction review process will be used to avoid ground-disturbing construction activities and to ensure safe soil management procedures in areas with residual contamination. - The facility Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St, Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	Soil - naphthalene, xylenes, GRO, RRO Groundwater - benzene, TCE, 2-methylnaphthalene, naphthalene, DRO, GRO, RRO Sediment - DRO, GRO
MODIFIED_DATE	20150520
CONTAMINATION_SOURCE	waste accumulation area, leaks spills
SITEID	SS009
INSTLN_ID	IM
MAINTENANCE	LUC inspections and repair; 5-year reviews
RESTRICTIONS	<ul style="list-style-type: none"> • No use access to or use of groundwater until cleanup levels are met • No residential land use • No unauthorized disturbance, use, or disposal of contaminated soil

Indian_Mountain-SS009_ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS009
SITE_NAME	Waste Accumulation Area No. 3 and Spill/Leak Nos. 4 and 11
DATE_SUMM	5/20/2015
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St, Ste 301, JBER, AK 99506-2201
DESC_USE	SS009 encompasses the area of Lower Camp between the residential/industrial dome and Indian River. WAA No. 3 was used from the 1950s until 1984 to store waste oil, motor vehicle gas (MOGAS) and other liquids in aboveground storage tanks (ASTs). The ASTs have since been demolished. Spill/Leak Area No. 4 occurred in 1976 and involved an overflow of 4,000 gallons of petroleum, oil, and lubricant (POL) from a tank at Building 110 (the former Power Plant). The overflow was contained in a diked area surrounding the tank and approximately 80 to 90 percent of the POL fuel was recovered. Spill/Leak Area No. 11 occurred over a long period of time and included leaks from the waste oil storage tank lines at the Power Plant and other fuel line leaks.
GEO_HYDRO	The primary aquifer at Indian Mountain LRRS Lower Camp is in the alluvial and coluvial deposits in the drainage of Indian River and Utopia Creek. The alluvium consists of stratified silt, sand, and gravel deposits and is confined to the area of Lower Camp. Groundwater moves through the unconsolidated material until it encounters bedrock, permafrost, or a steep slope, where it emerges as a seep or in a stream. Groundwater occurs in bedrock fractures, but the limited extent of groundwater in the alluvial material on top of the bedrock suggests that local recharge to the regional (bedrock) aquifer is not significant.
COC	Soil - naphthalene, xylenes, GRO, RRO Groundwater - benzene, TCE, 2-methylnaphthalene, naphthalene, DRO, GRO, RRO Sediment - DRO, GRO
INVESTIGATION_ACTIONS	* 1994 Remedial Investigation/Feasibility Study (RI/FS) * 1995 Additional RI * 1996 Bioventing and additional sampling for characterization * 1997 Supplemental Investigation on impact to Indian River * 1998 Groundwater and Sediment Sampling, Fish Tissue Sampling * 1999 Additional Fish Tissue Sampling, LTM sediment and groundwater sampling * 2000 Groundwater sampling * 2003 Follow-on RI * 2004 Additional Follow-on RI (septic line)
FINAL_REM_ACTION	Based on the results of the FFS, the Air Force selected Monitored Natural Attenuation (MNA) with ICs for groundwater, and for soil as the preferred alternatives for SS009.
CONT_RISK	For potential future residents: cumulative risk from non-petroleum hydrocarbons:ICLR-3E-3; HI-438 cumulative risk from petroleum hydrocarbons: HI 261
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 5/20/15) United States Air Force (USAF). 2013. Record of Decision for SS009 (Waste Accumulation Area No. 3 and Spill Leak Area Nos. 4 and 11) and SS011 (Spill/Leak Area Nos. 1, 3, and 8), Indian Mountain Long Range Radar Site, Alaska (2013 ROD)
STATUS	

Indian_Mountain-SS010_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	141
SITIRP_ID	SS010
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown-2007 ROD indicated LUC boundaries would be updated in future.
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	carcinogen, site worker - 1X10 ⁻⁷ ; non-carcinogen HI site worker - 0.07
ALIAS	Indian Mountain LRRS Waste Area; SS10
SITE_NAME	Waste Accumulation Area No. 6 and Spill/Leak Nos. 2, 5, 6, 7, 9, and 10
SITE_DESCRIPTION	SS010 is located at Upper Camp and includes former WAA No. 6 (150 by 450 feet) and Spill/Leak Nos. 2, 5, 6, 7, 9, and 10, which cover an area that is approximately 400 by 400 feet
MEDIA_ID	SS010
BOUNDARY_DETAILS	Unknown-2007 ROD indicated LUC boundaries would be update in future.
DATES_OPERATION	1951-present (installation); 1950s-1970s WAA No. 6; 1973-1979 time period during which spill/leak Nos. 2, 5, 6, 7, 9, and 10 occurred
CATEGORY	ERP
AREA_ACRES	1.86 - WAA No. 6; 3.67 - spills/leaks 2, 5, 6, 7, 9, and 10
ACTIVITY	Active
LUC_RESTRICTION	<p>Base General Plan (Plan) will be updated to show the boundaries of the sites to restrict excavation of soil;</p> <p>* The Air Force will notify the ADEC prior to making any major changes to the Plan that could affect the LUCs.</p> <p>* The Air Force will obtain prior concurrence from ADEC to terminate the LUCs, modify current land use, or allow anticipated actions that may disrupt protectiveness of LUCs. In the unlikely event that the property is to be transferred, the Air Force will notify the ADEC prior to any transfer taking place.</p> <p>* The LUCs will remain in effect until the soil concentrations are determined to be less than 250 mg/kg DRO and 300 mg/kg GRO.</p>
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St, Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	non-CERLCA-DRO, GRO
MODIFIED_DATE	20110120
CONTAMINATION_SOURCE	drum storage area, leaks spills
SITEID	SS010
INSTLN_ID	IM
MAINTENANCE	LUC inspections and repair; 5-year reviews
RESTRICTIONS	No inappropriate land use; No unauthorized transport or disposal of soil; Property records/Base Plan documentation

Indian_Mountain-SS010_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS010
SITE_NAME	Waste Accumulation Area No. 6 and Spill/Leak Nos. 2, 5, 6, 7, 9, and 10
DATE_SUMM	1/20/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St, Ste 301, JBER, AK 99506-2201
DESC_USE	SS010 is located at Upper Camp and includes former WAA No. 6 (150 by 450 feet) and Spill/Leak Nos. 2, 5, 6, 7, 9, and 10, which cover an area that is approximately 400 by 400 feet (Figure 2-1). WAA No. 6 was used as the main drum storage area for Upper Camp from the 1950s to the 1970s. Drums of waste oil and other liquids were stacked on the lower bench below the summit. The drums were removed during cleanup efforts in the late 1970s and early 1980s. Spill/Leaks Nos. 2, 5, 6, 7, 9, and 10 occurred between 1973 and 1979 and consisted of diesel fuel releases from fuel storage tanks at Upper Camp. All buildings, tanks, and fuel lines associated with these releases were demolished in 1986. Land use at Indian Mountain LRRS includes airfield and base support operations. Access to Indian Mountain LRRS is limited to Air Force approved activities. Indian Mountain LRRS has no local community or residents. The closest community is Hughes, which is 18 miles from Indian Mountain. Currently, the Air Force retains possession of property within the boundaries of Indian Mountain LRRS. Reasonably anticipated future land uses at Indian Mountain LRRS are consistent with current land uses. The Air Force plans to retain ownership of all property at Indian Mountain LRRS for the foreseeable future.
GEO_HYDRO	There is no groundwater at Upper Camp in the alluvial hydrogeologic unit of concern; the thin layer of colluvium found on top of the bedrock. Numerous seeps have been observed around the margins of the Upper Camp area, particularly following precipitation events. Precipitation and snowmelt would be expected to readily percolate downward, in most areas, to the competent bedrock surface or to low permeability layers near the soil-bedrock contact. Once water encounters lower permeability material, it will migrate laterally, either toward a local stream or radially toward the flanks of the mountain top, discharging to the surface at seeps or in a stream.
COC	non-CERLCA-DRO, GRO
INVESTIGATION_ACTIONS	<p>Indian Mountain LRRS has been characterized through a series of investigations performed from the mid-1980s through 2003. The results previous site characterization activities are summarized for each site in Section 2.5.7, along with the Nature and Extent of Contamination. The investigations include:</p> <ul style="list-style-type: none"> * 1985 - Phase I, Records Search Report. Eleven sites at Indian Mountain LRRS were identified to have significant potential to create environmental contamination. No sampling was conducted (USAF, 1985). * 1989 - Phase II, Confirmation/Quantification Report (Stage 1). Investigation to delineate nature and extent of contamination through a geotechnical survey and surface water and sediment sampling (USAF, 1989). * 1991 - RI/Preliminary ES Report (Stage 2). Investigation at Lower and Upper camps; soil gas, soil, and surface water samples were collected (USAF, 1991). * 1993 - Final SI Report. Objective was to refine the Hazard Ranking System score. Sites LF004, LF005, LF006, SS002, and SS003 were investigated (USAF, 1993). * 1995 - RI/FS Final Report. Investigated the nature and extent of contamination in soils, groundwater, and surface water (USAF, 1995). * 1998 - Addendum to Source Area SS009 Technical Report. Samples of soil, surface water, groundwater, and fish tissue were collected from LFOO4, LF006, SS009 and Indian River. Minnows collected from the Indian River were used for toxicity testing and results were used along with historical data to perform an ecological risk assessment (USAF, 1998). * 2000 - Technical Memorandum: Long-Term Monitoring of Soil and Groundwater. Soil and groundwater samples were collected at LFOO4, LF005, and 55009. Soil samples were collected at LF006 (USAF, 2000). * 2001 - 2000 Long-Term Monitoring. Groundwater monitoring wells were sampled at LF004, LF005, and SS009. In addition, soil samples were collected from LF005 and LF006 (USAF, 2001). * 2002 - SI Report. Groundwater and soil samples were collected as part of this investigation of LF005, LF006, 5501 1, OT008, and SS002 (USAF, 2002). * 2005 - Drum Removal and Soil Investigation. Drums were removed from LF005, LF006 and SS002 (USAF, 2005). * 2006 - Human Health and Ecological Risk Assessments for OT008 and SSOIO Report. Historical data were used to perform human health and ecological risk assessments of OT008 and SS010 (USAF, 2006).

Indian_Mountain-SS010_ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Based on the results of environmental investigations conducted at Sites LF006, SS002, and SS010 addressed in this ROD, no CERCLA hazardous substances are considered COCs, and the Air Force has determined that no action is necessary under CERCLA to protect public health or welfare or the environment at any of the three sites. The response action for LFOO6, SS002, and SS010 in this ROD is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances in the environment. LF006, SS002, and SS010 cannot support unrestricted use due to concentrations of residual petroleum contamination remaining on site. Land use restrictions are required and will be achieved through imposition of LUCs that limit the use and/or exposure to those areas of the property, including water resources.</p> <p>The Air Force is committed to implementing, monitoring, maintaining, and enforcing all components of the LUCs to ensure that they remain compliant with Alaska laws and regulations. A potential risk to human health or the environment may result if the residual POL contaminated soil were to be disturbed or relocated. To mitigate this potential risk; the following LUCs will be implemented:</p> <ul style="list-style-type: none"> * The Indian Mountain LRRS Base General Plan (Plan) will be updated to show the boundaries of the sites to restrict excavation of soil. The Plan will contain a map indicating site locations with restrictions on any invasive activities that could potentially compromise the integrity of the cover and expose potential contaminants. Dig permits issued by the base operating contractor are required for any excavation at Indian Mountain LRRS. Prior to approving a permit, the Plan will be reviewed to ensure that invasive activities are not taking place within the boundary of the sites where land use has already been restricted. * The Air Force will notify the ADEC prior to making any major changes to the Plan that could affect the LUCs. * The Air Force will obtain prior concurrence from ADEC to terminate the LUCs, modify current land use, or allow anticipated actions that may disrupt protectiveness of LUCs. In the unlikely event that the property is to be transferred, the Air Force will notify the ADEC prior to any transfer taking place. * The LUCs will remain in effect until the soil concentrations are determined to be less than 250 mg/kg DRO and 300 mg/kg GRO.
CONT_RISK	<p>The HHRA showed that the cumulative incremental lifetime cancer risk estimate for potential exposures to SS010 subsurface soil was 1E-7 (i.e., 1 X 10⁻⁷) for a site worker. This incremental lifetime cancer risk estimate is below the EPA risk management range of 10.6 to 1.0, A- and is below the ADEC point of departure criterion for risk management of 1E-5. The non-cancer HI estimate of 0.07 for site workers exposed to 55010 subsurface soils is below the EPA and ADEC point of departure criterion for non-cancer hazards of 1.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES	<p>Contaminated Sites Database (accessed 1/20/2011) United States Air Force (USAF). 2007. Record of Decision for LF006 (Landfills No. 3 and 4 and Waste Accumulation Area No. 4), SS002 (Waste Accumulation Area No.1 and Area of Concern 07), and SS010 (Waste Accumulation Area No. 6 and Spill/Leak Nos. 2, 5, 6, 7, 9, and 10), Indian Mountain Long Range Radar Site, Alaska. Final. August. (2007 ROD)</p>
STATUS	

Indian_Mountain-SS011_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	138
SITIRP_ID	SS011
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown-2013 ROD indicated LUC boundaries would be updated in future.
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	For potential future residents: cumulative risk from non-petroleum hydrocarbons:ICLR-5E-4; HI-135 cumulative risk from petroleum hydrocarbons: HI 291
ALIAS	NA
SITE_NAME	Spill/Leak Nos. 1,3, and 8
SITE_DESCRIPTION	SS011 consists of a former fuel tank farm and surrounding area at Lower Camp. The bulk fuel area is located adjacent to the north side of the runway, about halfway down the length of the runway. Spill/Leak Areas Nos. 1, 3, and 8 occurred at the bulk tank storage area from Tanks 2 through 10. Tanks 2 through 10 have been removed. Diesel fuel releases from Tank 10 include 29,000 gallons in 1973, 33,000 gallons in 1974, and 3,500 gallons in 1977.
MEDIA_ID	SS011
BOUNDARY_DETAILS	Unknown-2013 ROD indicated LUC boundaries would be updated in future and incorporated into the Base Master Plan.
DATES_OPERATION	Releases in 1973, 1974, and 1977
CATEGORY	ERP
AREA_ACRES	unknown
ACTIVITY	Active
LUC_RESTRICTION	- All ROD use limitations and exposure restrictions will be entered in the Base Master Plan and the Geographical Information System (GIS). - The facility construction review process will be used to avoid ground-disturbing construction activities and to ensure safe soil management procedures in areas with residual contamination. - The facility Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St, Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	Surface soil - DRO, GRO, RRO Subsurface soil - 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, naphthalene, n-propylbenzene, xylenes Sediment - DRO, GRO
MODIFIED_DATE	20140521
CONTAMINATION_SOURCE	waste accumulation area, leaks spills
SITEID	SS011
INSTLN_ID	IM
MAINTENANCE	LUC inspections and repair; 5-year reviews
RESTRICTIONS	<ul style="list-style-type: none"> • No residential land use • No unauthorized disturbance, use, or disposal of contaminated soil

Indian_Mountain-SS011_ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS011
SITE_NAME	Spill/Leak Nos. 1,3, and 8
DATE_SUMM	5/21/2015
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St, Ste 301, JBER, AK 99506-2201
DESC_USE	SS011 consists of a former fuel tank farm and surrounding area at Lower Camp. The bulk fuel area is located adjacent to the north side of the runway, about halfway down the length of the runway. Spill/Leak Areas Nos. 1, 3, and 8 occurred at the bulk tank storage area from Tanks 2 through 10. Tanks 2 through 10 have been removed. Diesel fuel releases from Tank 10 include 29,000 gallons in 1973, 33,000 gallons in 1974, and 3,500 gallons in 1977.
GEO_HYDRO	The primary aquifer at Indian Mountain LRRS Lower Camp is in the alluvial and coluvial deposits in the drainage of Indian River and Utopia Creek. The alluvium consists of stratified silt, sand, and gravel deposits and is confined to the area of Lower Camp. Groundwater moves through the unconsolidated material until it encounters bedrock, permafrost, or a steep slope, where it emerges as a seep or in a stream. Groundwater occurs in bedrock fractures, but the limited extent of groundwater in the alluvial material on top of the bedrock suggests that local recharge to the regional (bedrock) aquifer is not significant.
COC	Surface soil - DRO, GRO, RRO Subsurface soil - 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, naphthalene, n-propylbenzene, xylenes Sediment - DRO, GRO
INVESTIGATION_ACTIONS	* 1994 Remedial Investigation/Feasibility Study (RI/FS) * 1995 Additional RI * 1999 Removal action sampling * 2001 Site Investigation *2002 Soil sampling * 2003 Follow-on RI
FINAL_REM_ACTION	At SS011, the highest levels of contaminants are in the surface soil will be treated by Bioremediation with In-situ Landfarming for surface soil and ICs for subsurface soil (where contaminants will naturally attenuate) as the preferred alternative for SS011.
CONT_RISK	For potential future residents: cumulative risk from non-petroleum hydrocarbons:ICLR-5E-4; HI-135 cumulative risk from petroleum hydrocarbons: HI 291
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 5/20/15) United States Air Force (USAF). 2013. Record of Decision for SS009 (Waste Accumulation Area No. 3 and Spill Leak Area Nos. 4 and 11) and SS011 (Spill/Leak Area Nos. 1, 3, and 8), Indian Mountain Long Range Radar Site, Alaska (2013 ROD)
STATUS	

Johnsonton Atoll Site-LF009.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	Unknown
SITIRP_ID	LF009
SITE_STATUS	Unknown
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	EPA
RISK	ILCR for residential receptor = 1.8×10^{-6} at maximum detected concentrations. ILCR for occupational land use scenario $<1 \times 10^{-6}$. HI <1 for both residential and occupational pathways
ALIAS	LF09, SWMU-06
SITE_NAME	Mixed Metal Debris Area
SITE_DESCRIPTION	LF009 is a former burn pit and debris disposal area located on the northwest end of the island immediately east of the Recycle Yard, about 160 feet south of the lagoon.
MEDIA_ID	LF009
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Approximately 1970s to 1995
CATEGORY	ERP/LF
AREA_ACRES	Unknown
ACTIVITY	Unknown
LUC_RESTRICTION	Prohibit excavation or construction of buildings within this SWMU. Maintain integrity of soil cap.
POC	Steve Krause (AFCEC/CZOP); 10471 20th St, Ste 301, JBER, AK 99506-2201
PHONE	907-552-1526
CHEMICALS_OF_CONCERN	total and dissolved lead in groundwater
MODIFIED_DATE	20140926
CONTAMINATION_SOURCE	Debris and potential spills
SITEID	LF009
INSTLN_ID	JT
MAINTENANCE	Inspect and maintain integrity of soil cap. Groundwater monitoring.
RESTRICTIONS	Prohibit excavation or construction of buildings within this SWMU.

Johnsonton Atoll Site-LF009.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF009
SITE_NAME	Mixed Metal Debris Area
DATE_SUMM	9/26/2014
CURRENT_STATUS	Unknown
SITE_STATUS	Unknown
POCID	Steve Krause (AFCEC/CZOP); 10471 20th St, Ste 301, JBER, AK 99506-2201
DESC_USE	<p>The MMDA is located on the northwest end of the island immediately east of the Recycle Yard, about 160 feet south of the lagoon. The limits of the MMDA SWMU include the SWBP and the berm surrounding the pit. The SWMU did not include the area south of the pit. The pit was backfilled with non-hazardous and stabilized ash from SWMU No. 1, and the SWMU was capped in 1995.</p> <p>This inactive site was reportedly used as the island burn pit in the early 1970s. The MMDA contained scrap metal, salvaged appliances, piping, metal furniture, sheet metal, and asbestos-containing transit pipe and debris. The area was also reportedly used for asbestos storage and disposal at one time. As stated in the Current Condition Report of the RFI Work Plan, all previously identified buried asbestos was removed from the site in 1986 and shipped off island for proper disposal.</p> <p>An area approximately 15 by 15 feet in size in the southeastern part of the unit at one time contained approximately 100 lead-acid batteries, which were reportedly removed and disposed of. An area of about 110 by 60 feet located immediately to the west of the battery storage area contained approximately nine hundred 55-gallon drums of asphalt cement. Most of the drums were reported to be partially or completely empty and were shipped off island in 1988.</p> <p>In 1995, a RCRA-hazardous ash pile (10,000 cubic yards [CY]) from the inactive portion of the SWBP and a nonhazardous ash pile (2,100 CY) from the active portion of the site were moved to the MMDA as part of the ash stabilization/solidification project at the SWBP. The RCRA-hazardous ash was treated at the SWBP area prior to being placed at the MMDA. The ash piles were compacted and capped after being placed. The ash filled the pit, which had a volume of approximately 5,000 CY, with the balance exceeding above the top of the pit and over the piles of concrete rubble located immediately to the south of the pit. The cap consists of a 100-mil geotextile fabric and at least 1 foot of clean fill to protect the ash piles from burrowing birds. The cap is covered with patches of planted shrubs and small trees.</p> <p>Currently, some cement and concrete rubble is stored on the western side of the capped area. Petroleum hydrocarbons used as fuel for the burn pit operations may have been released to the soil during the early 1970s when the site was used as the island burn pit.</p> <p>The MMDA contained ferrous and nonferrous metal, salvaged appliances, piping, metal furniture, sheet metal, asbestos-containing transit pipe and debris, cement debris, and lead-acid batteries. No documented records of hazardous material releases have been found for this site.</p>
GEO_HYDRO	The soil typically consists of compacted crushed coral that was hydraulically dredged from the surrounding lagoon. A surface runoff drainage ditch along the western end of the pit drains water from the road and adjacent areas.
COC	total and dissolved lead in groundwater
INVESTIGATION_ACTIONS	<p>Soil Samples, December 1993, RSN (RFI Program)</p> <p>Groundwater Samples, December 1993, RSN (RFI Program)</p> <p>Background Samples, December 1993, RSN (RFI Program)</p> <p>Air Samples, December 1993, RSN (RFI Program)</p> <p>Groundwater Samples, June 1997, OHM (Annual O&M)</p> <p>Groundwater Samples, May 1998, OHM (Annual O&M)</p> <p>Groundwater Samples, June 1999, OHM (Annual O&M)</p> <p>Pit Closure, 1995, OHM</p> <p>SWMU-Specific Risk Assessment, 2000, OHM</p> <p>Groundwater samples, 2003, 2004, 2007, and 2009, CH2M HILL</p>

Johnsonton Atoll Site-LF009.ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Monitoring-Based: Points of Compliance for groundwater monitoring are wells: MMD MW01, MMD MW04, MMD MW05, and MMD MW06. COCs in groundwater are total and dissolved lead. Continue groundwater monitoring in accordance with EPA approved Groundwater Monitoring Work Plan prepared and submitted in accordance with Table III.1. Upon island closure, initiate remote visual monitoring of SWMU and adjacent seawall integrity in accordance with EPA approved Groundwater Monitoring Work Plan. This SWMU will require a permit modification to select a final remedy with cleanup goals or to propose No Further Action.</p> <p>Management-Based: Inspect and maintain integrity of soil cap. Prohibit excavation or construction of buildings within this SWMU.</p> <p>Annual monitoring for dissolved lead was eliminated in 2004 and annual monitoring for total lead continues.</p>
CONT_RISK	<p>The results of the human health screening analysis revealed that SWMU No. 6 slightly exceeded an ILCR of 1×10^{-6} for a potential residential receptor (1.8×10^{-6}) at maximum detected concentrations. However, as summarized in the human health baseline risk assessment, SWMTJ No. 6 is not expected to become residential. Under an occupational land use scenario, the site did not exceed a cumulative ILCR of 1×10^{-6}. SWMU No. 6 did not exceed a cumulative HI of 1.0 for either of the potential receptors considered (residential or occupational). Under these conditions the site as a whole does not pose potentially significant carcinogenic or noncarcinogenic risk for any potential land use.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES	<p>OHM Remediation Services Corp. 2000. <i>Draft Comprehensive Corrective Measures Study For RCRA Part B Permit No. TT9 570 090 002 Johnsonton Atoll</i>. January. (CCMS 2000)</p> <p>USEPA Region IX. 2004. <i>Modification No. 1 to Hazardous Waste Corrective Action Permit, June</i>. (Mod No. 1 RCRA Permit)</p> <p>CH2M HILL. 2003. <i>Final Groundwater Monitoring Report, 02, SWMU-06 (LF-09), SWMU-15 (SS-01), SWMU-16 (SS-08)</i>. February.</p> <p>CH2M HILL. 2004. <i>Final Groundwater Monitoring Report, 03, SWMU-06 (LF-09), SWMU-15 (SS-01), SWMU-16 (SS-08)</i>. March.</p> <p>CH2M HILL. 2004. <i>Final Groundwater Monitoring Report, 04, SWMU-06 (LF-09), SWMU-15 (SS-01), SWMU-16 (SS-08)</i>. September.</p> <p>CH2M HILL. 2007. <i>Final Groundwater Monitoring Report, 06, SWMU-06 (LF-09), SWMU-15 (SS-01), SWMU-16 (SS-08) and AOC-1, 2, 3</i>. January.</p> <p>CH2M HILL. 2009. <i>Final Groundwater Monitoring Report, 08, SWMU-06 (LF-09), SWMU-15 (SS-01), SWMU-16 (SS-08) and AOC-1, 2, 3</i>. March.</p>
STATUS	

Johnsonton_Atoll_Site-SS005.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	Unknown
SITIRP_ID	SS005
SITE_STATUS	Unknown
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	EPA
RISK	
ALIAS	SS05, SWMU-02
SITE_NAME	Former Herbicide Orange Storage Site
SITE_DESCRIPTION	SS005 is a former herbicide orange storage area located on the northwest point of the island
MEDIA_ID	SS005
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1972 to 1977
CATEGORY	ERP
AREA_ACRES	approximately 10.3 acres
ACTIVITY	Unknown
LUC_RESTRICTION	Perimeter fence. Warning signs for fish consumption.
POC	Steve Krause (AFCEC/CZOP); 10471 20th St, Ste 301, JBER, AK 99506-2201
PHONE	907-552-1526
CHEMICALS_OF_CONCERN	Total dioxin/furan TEQs and total PCBs in fish tissues
MODIFIED_DATE	20140926
CONTAMINATION_SOURCE	Spills and leaks
SITEID	SS005
INSTLN_ID	JT
MAINTENANCE	Maintain perimeter fence. Warning signs will be inspected for wear or damage and either repaired or replaced, as required, during each of the follow-on biomonitoring events. The warning signs will be removed when the completion criteria for fish tissue have been met and No Further Action status has been approved. Sediment and fish tissue monitoring.
RESTRICTIONS	Physical access to the facility is restricted by a perimeter fence. Fishing prohibited until criteria identified in EPA approved Monitored Natural Recovery (Biomonitoring) Work Plan are met.

Johnsonton Atoll Site-SS005.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS005
SITE_NAME	Former Herbicide Orange Storage Site
DATE_SUMM	9/26/2014
CURRENT_STATUS	Unknown
SITE STATUS	Unknown
POCID	Steve Krause (AFCEC/CZOP); 10471 20th St, Ste 301, JBER, AK 99506-2201
DESC_USE	SS008 and the MOGAS site AOC are adjacent units located in the northeast portion of the island. The combined area includes a power generating plant
GEO_HYDRO	SS005 is bordered by the lagoon to the northwest and northeast. The site is unsurfaced, and the exposed soil consists of crushed coral that has been hydraulically dredged from the surrounding lagoon. Approximately 400 feet south of the HO site, a surface runoff drainage ditch drains water from the road and adjacent areas. The site slopes gently towards the lagoon. The shoreline adjacent to this site is protected with a seawall. In 1991, a portion of the seawall referred to as Reach U was completed. In 1995, a soil containment berm was constructed inside the seawall to prevent the potential for surface sediment to be transported into the lagoon.
COC	Total dioxin/furan TEQs and total PCBs in fish tissues
INVESTIGATION_ACTIONS	Airborne Particulate, Dust, Soil, Sediment, Marine Biota, 1977 to 1986 (Four-Phase Study), U.S. Air Force Phase I (August 1977 to September 1984) Phase II (1985) Phase III (April 1984 to April 1986) Phase IV (September 1985) Marine Sediment, June to October 1991, WHOI/BUMP Soil Samples, March 1993, RSN (RFI Program) Groundwater Samples, May 1994, RSN (RFI Program) Background Samples, May 1994, RSN (RFI Program) Soil Samples, May 1994, RSN (RFI Program) Soil Samples, November 1995, RSN Soil Samples, June 1997, OHM (Interim Corrective Measure) Interim Corrective Measure, 1995, OHM Interim Corrective Measure, 1997, OHM Corrective Measures Study, 2000, OHM Thermal Desorption of Dioxin-Contaminated Soil, March 2004
FINAL_REM_ACTION	Treatment-Based: Excavate, stockpile, and treat dioxin-contaminated soil according to EPA approved CMI Plan. Complete within two (2) years of initiating treatment, or according to schedule approved by the Division Director. CMI Final Report prepared and submitted to the Division Director in accordance with Table III.1.x Monitoring-Based: Conduct sediment and fish tissue monitoring in the adjacent lagoon to demonstrate compliance with criteria presented in the EPA approved Monitored Natural Recovery Work Plan prepared and submitted in accordance with Table 111.1. Monitored Natural Recovery Work Plan includes a plan for maintaining warning signs, a schedule for biomonitoring and reporting, a sampling plan, criteria for removing the fishing prohibition and warning signs, and criteria for successful completion of monitored natural recovery. Management-Based: Maintain existing fishing prohibition with posted warning signs until criteria identified in EPA approved Monitored Natural Recovery (Biomonitoring) Work Plan are met.
CONT_RISK	In summary, the recreational fishing pathway was the dominant human health risk driver at SWMU No. 16. The fishing pathway ILCR was above 1×10^{-4} based on both the 95th percentile and the average fish recreational ingestion rates, for both current and future land uses. However, fishing from the lagoon at SWMU No. 16 is currently prohibited, and is expected to remain so in the future. Therefore, under these conditions, recreational fishing is not a complete pathway, and there is no current and/or future human health risk associated with this pathway. For human exposure to soil at SWMU No. 16, the site as a whole did not pose significant carcinogenic risk to any of the potential receptors based on the 95% UCL of the mean. However, based on maximum concentrations, the site poses potential carcinogenic risk (i.e., greater than 1×10^{-4}) for all of the potential receptors and land uses. The majority of the risk was due to contact with soil for total PCBs detected at the site. PCBs were the only COPC to exceed an ILCR of 1×10^{-6} .

Johnsonton Atoll Site-SS005.ENV_SITE_SUMMARY_IRP

In summary, SWMU No. 16 does appear to pose a potential threat to human health for surface soils, and further action may be necessary. The remaining media do not pose a potential threat to human health and is expected to be low for both the terrestrial and aquatic receptors. Additional biomonitoring is recommended to verify actual site conditions in the adjacent lagoon environment and the efficacy of the existing bioslurper system.

RATIONALE

RECOMMENDATIONS

REFERENCES_

OHM Remediation Serviced Corp. 2000. Draft Comprehensive Corrective Measures Study For RCRA Part B Permit No. TT9 570 090 002 Johnston Atoll. January. (CCMS 2000)
USEPA Region IX. 2004. Modification No. 1 to Hazardous Waste Corrective Action Permit, June. USAF.
2011. Final 2008 Biomonitoring Report and Risk Assessment SWMU No. 1, 2, and 16 and AOC No.1 Johnston Island. March.
CH2M HILL. 2003. Final Groundwater Monitoring Report, 02, SWMU-06 (LF_09), SWMU-15 (SS-01), SWMU-16 (SS-08). February.
Earth Tech Inc. 2005. Final Phase II Environmental Baseline Survey Report Johnston Atoll. April. (Phase II ESRB 2005)

STATUS

Johnsonton Atoll Site-SS008.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	Unknown
SITIRP_ID	SS008
SITE_STATUS	Unknown
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	EPA
RISK	cancer risk>1 x 10 ⁻⁴ and HI>1
ALIAS	SS08, SWMU-16
SITE_NAME	Power Plant Spill Site
SITE_DESCRIPTION	SS008 and the MOGAS site (AOC No. 1) are adjacent units located in the northeast portion of the island. The combined area includes a power generating plant (Building 48), a 567,000-gallon AST designated as Tank 49, and a motor pool refueling site. Several surface structures exist within the area, and general work activities occur daily within the area.
MEDIA_ID	SS008
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	approximately 1946 to unknown
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Unknown
LUC_RESTRICTION	Fish and shellfish consumption advisory
POC	Steve Krause (AFCEC/CZOP); 10471 20th St, Ste 301, JBER, AK 99506-2201
PHONE	907-552-1526
CHEMICALS_OF_CONCERN	Total PCBs and TPH in soil; total PCBs, TPH, BTEX, and PAHs in groundwater
MODIFIED_DATE	20140926
CONTAMINATION_SOURCE	Spills and leaks
SITEID	SS008
INSTLN_ID	JT
MAINTENANCE	Maintain fish prohibition warning signs; groundwater, fish tissue and sediment monitoring.
RESTRICTIONS	Fish and shellfish consumption advisory

Johnsonton Atoll Site-SS008.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS008
SITE_NAME	Power Plant Spill Site
DATE_SUMM	9/26/2014
CURRENT_STATUS	Unknown
SITE_STATUS	Unknown
POCID	Steve Krause (AFCEC/CZOP); 10471 20th St, Ste 301, JBER, AK 99506-2201
DESC_USE	<p>SS008 and the MOGAS site (AOC No. 1) are adjacent units located in the northeast portion of the island. The combined area includes a power generating plant (Building 48), a 567,000-gallon AST designated as Tank 49, and a motor pool refueling site. Several surface structures exist within the area, and general work activities occur daily within the area.</p> <p>Tank 49 was constructed in 1964 and provides fuel for the power plant. The tank contained diesel fuel No. 2 until November 1991, when the contents were changed to W-5. Tank 49 is 50 feet in diameter and 40 feet high, surrounded by a 3-sided berm. An 8-inch fuel line runs from the pier and reduces to 6 inches as it leads to the tank.</p> <p>One UST is located beneath the power plant. The 5,000-gallon UST was formerly used to store waste oil. It was abandoned in place and filled with an inert material in 1990.</p> <p>Four ASTs were previously located where Building 100 is now located. The tank contents and capacities were as follows (Ogden, 1999):</p> <ul style="list-style-type: none"> -2,500-barrel AST for rain water -1,000-barrel AST containing diesel oil -10,000-barrel AST containing diesel oil -6,600-barrel AST containing fuel oil <p>The location of the ASTs has been approximated based upon a map of the island dated 1946. It is not known when the tanks were removed; however, Building 100 was constructed in 1955.</p> <p>Six 25,000-gallon ASTs located just southeast of Tank 49 are used for refueling vehicles on the island. Four tanks contain W-5, while two contain unleaded gasoline. The area had been used as an active refueling site since 1951.</p> <p>The materials managed at the SWMU were diesel, W-5, waste oil, and unleaded gasoline. The 5WMIJ was used to store these materials in both ASTs and USTs.</p> <p>In September 1993, Tank 49 developed a leak in a 2-inch delivery line. The maximum volume of the leak was 20,000 gallons, and the leak has since been repaired. No spills from the MOGAS tanks have been documented. However, personnel on the island have indicated that a large spill occurred in 1969, when a valve was left open overnight. There are visible indications of minor surface spills from refueling operations. No documented history exists of any other releases occurring from any of the tanks.</p>
GEO_HYDRO	The SWMU, which has sparse vegetation, is adjacent to the lagoon. A seawall constructed of concrete slabs protects the shoreline, which extends to a depth of 15 feet bgs. There is no surface water on the island or within the area of the SWMU. The R/O intake wells, which provide brackish water for treatment by the R/O units, are located 1,400 feet east of Tank 49.
COC	Total PCBs and TPH in soil; total PCBs, TPH, BTEX, and PAHs in groundwater
INVESTIGATION_ACTIONS	<p>Soil Samples, May 1988, Holmes & Narver (RFA)</p> <p>Groundwater Samples, March 1989, RFA</p> <p>Groundwater Samples, July 1991, RFA</p> <p>Soil Gas Samples, January 1992, RFA</p> <p>Soil Gas Samples, June 1992, Tracer Research Corporation</p> <p>Soil Samples, June 1992 to July 1994, RSN (RFI Program)</p> <p>Groundwater Samples, April 1992 through July 1994, RSN (RFI)</p> <p>Intrinsic Remediation, June 1992 to July 1994, RSN (RFJ Program)</p> <p>Free Product Sample, June 1992, RSN</p> <p>Free Product Samples, September 1993, RSN</p> <p>Groundwater Samples, June 1997, OHM (Annual O&M)</p> <p>Surface Soil Samples, March 1998, Ogden (ER/FTS)</p> <p>Groundwater Samples, June 1998, OHM (Annual O&M)</p> <p>Free Product, Groundwater, Discharge Water, and Soil Samples, November 1998, OHM</p> <p>Free-Product, Groundwater, Sediment, and Soil Samples, June 1999, OHM</p> <p>Background Samples, June 1999, OHM</p> <p>Groundwater Samples, June 1999, OHM (Annual O&M)</p>

Johnsonton Atoll Site-SS008.ENV_SITE_SUMMARY_IRP

	<p>PCB Risk Assessment, 2000, OHM SWMU-Spec(flc Risk Assessment, 2000, OHM Soil Samples, 2001 Groundwater monitoring samples, 2003, 2004, 2005, 2007, 2009, CH2M HILL A total of 21 product recovery wells were initially installed at the site as of 2000. As of September 1995, 9,899 gallons of product had been recovered by pumping, skimming, and using oil-absorbing pads. Some wells that originally yielded recoverable product have since been depleted. In May 1996, OHM installed a bioslurper system and has since recovered an additional 4,986 gallons of petroleum product. The total volume of recovered petroleum product, as of January 2000, is approximately 14,885 gallons. Currently, a measurable layer of petroleum product is still present in the Tank 49 area, with the most recent maximum apparent product thickness of 0.43 feet observed in one well in January 2000. The bioslurper system is still in operation at this SWMU and AOC.</p>
FINAL_REM_ACTION	<p>Treatment-Based: Excavate, stockpile, and ship PCB-contaminated soil off-island for treatment and/or disposal according to CMI Plan Addendum. Excavate, stockpile, and treat soil contaminated by petroleum on-island using land-farming according to EPA approved CMI Plan Addendum. Cleanup Goals for COCs in soil are listed in Table III. 4. Excavation wall (e.g. vertical face of horizontal limit of excavation) and treated soil to achieve Cleanup Goals unless surface structures scheduled to remain in place or subsurface physical barriers such as old seawall, piers, heavy equipment, large concrete slabs or other unforeseen subsurface obstructions prevent access to contaminated areas. If such surface structures scheduled to remain in place or subsurface physical barriers prevent access to contaminated areas, the Permittee shall obtain written acknowledgment from the Division Director that access to contamination is technically infeasible. Return effectively treated soil to excavated areas (with compaction for subsurface sods) or other locations on Johnston Island as described in EPA approved CMI Plan Addendum. Complete selected remedy within two (2) years of initiating treatment or according to schedule approved by the Division Director.</p>
	<p>Monitoring-Based: Points of Compliance for groundwater monitoring are wells: T49 MWO2, T49 MWO3, T49 MWO6, T49 MWO7, T49 MW11, T49 MW11D, T49 MW12, T49 MW15, MG MWO3, MG MWO3D, MG MWO4, and MG MWAll hazardous waste and hazardous waste residues removed from treatment units, excavation and other equipment, devices, structures, and areas associated with the corrective measure. CMI Final Report prepared and submitted to the Division Director in accordance with Table 111.1. O4D. Should any of these wells be damaged, new wells will be installed at or near the original location to ensure comprehensive monitoring of the groundwater. COCs in groundwater are total PCBs, TPH, BTEX and PAHs. Continue groundwater monitoring in accordance with EPA approved Groundwater Monitoring Work Plan prepared and submitted in accordance with Table 111.1. Upon completion of three consecutive sampling events where concentrations of each analyte are below groundwater Cleanup Goals, groundwater monitoring may be reduced or terminated in accordance with EPA approved Groundwater Monitoring Work Plan. Cleanup Goals for groundwater are listed in Table 111.5. Conduct sediment and fish tissue monitoring in the adjacent lagoon to demonstrate compliance with criteria presented in the EPA approved Monitored Natural Recovery (Biomonitoring) Work Plan prepared and submitted in accordance with Table 111.1. Monitored Natural Recovery (Biomonitoring) Work Plan will include a plan for maintaining warning signs, a schedule for biomonitoring and reporting, a sampling plan, criteria for removing the fishing prohibition and warning signs, and criteria for successful completion of monitored natural recovery. As some fish concentrations remain above the completion criteria, the 2008 biomonitoring report recommended a follow-on biomonitoring event in 5 years (2013) for PCB congeners in the lagoon adjacent to SWMU No. 16/AOC No. 1.</p>
CONT_RISK	<p>In summary, the recreational fishing pathway was the dominant human health risk driver at SWMU No. 16. The fishing pathway ILCR was above 1×10^{-4} based on both the 95th percentile and the average fish recreational ingestion rates, for both current and future land uses. However, fishing from the lagoon at SWMU No. 16 is currently prohibited, and is expected to remain so in the future. Therefore, under these conditions, recreational fishing is not a complete pathway, and there is no current and/or future human health risk associated with this pathway. For human exposure to soil at SWMU No. 16, the site as a whole did not pose significant carcinogenic risk to any of the potential receptors based on the 95% UCL of the mean. However, based on maximum concentrations, the site poses potential carcinogenic risk (i.e., greater than 1×10^{-4}) for all of the potential receptors and land uses. The majority of the risk was due to contact with soil for total PCBs detected at the site. PCBs were the only COPC to exceed an ILCR of 1×10^{-6}.</p>

Johnsonton Atoll Site-SS008.ENV_SITE_SUMMARY_IRP

In summary, SWMU No. 16 does appear to pose a potential threat to human health for surface soils, and further action may be necessary. The remaining media do not pose a potential threat to human health and is expected to be low for both the terrestrial and aquatic receptors. Additional biomonitoring is recommended to verify actual site conditions in the adjacent lagoon environment and to verify the efficacy of the existing bioslurper system.

The ELCR estimate using the higher ingestion rate for goatfish is 9×10^{-3} ; the ELCR for the average ingestion rate for goatfish is 2×10^{-3} . These estimated risks both exceed the EPA target risk range of 1×10^{-6} to 1×10^{-4} , and are slightly higher than estimated ELCRs using 2003 data, which were 5.5×10^{-3} for the higher ingestion rate and 1.2×10^{-3} using the average ingestion rate.

The ELCR for the average ingestion rate for damselfish (7×10^{-5}) is below the target risk range, while the higher ingestion rate (3×10^{-4}) slightly exceeds the target risk range. These estimated ELCRs are less than the estimates using 2003 data which were 1.5×10^{-3} (average ingestion rate) and 7.0×10^{-3} (higher ingestion rate).

HI estimates for average and higher ingestion rates are above the EPA threshold value of 1 for both damselfish and goatfish. These results are similar to HIs estimated using the 2003 biomonitoring data.

RATIONALE

RECOMMENDATIONS

REFERENCES

OHM Remediation Serviced Corp. 2000. Draft Comprehensive Corrective Measures Study For RCRA Part B Permit No. TT9 570 090 002 Johnston Atoll. January. (CCMS 2000)

OHM Remediation Services Corp. 2002. Site Characterization Report Estimated Extent of PCB Contamination Power Plant Spill Site (Solid Waste Management Unit No. 16) and MOGAS Site (Area of Concern No. 1) Johnston Island. March. (OHM 2002)

USEPA Region IX. 2004. Modification No. 1 to Hazardous Waste Corrective Action Permit, June.

USAF. 2011. 2008 Biomonitoring Report and Risk Assessment SWMU No. 1, 2, and 16 and AOC No.1 Johnston Island. March.

CH2M HILL. 2003. Final Groundwater Monitoring Report, 02, SWMU-06 (LF-09), SWMU-15 (SS-01), SWMU-16 (SS-08). February.

CH2M HILL. 2004. Final Groundwater Monitoring Report, 03, SWMU-06 (LF-09), SWMU-15 (SS-01), SWMU-16 (SS-08). March.

CH2M HILL. 2004. Final Groundwater Monitoring Report, 04, SWMU-06 (LF-09), SWMU-15 (SS-01), SWMU-16 (SS-08). September.

CH2M HILL. 2007. Final Groundwater Monitoring Report, 06, SWMU-06 (LF-09), SWMU-15 (SS-01), SWMU-16 (SS-08) and AOC-1. October.

CH2M HILL. 2009. Final Groundwater Monitoring Report, 08, SWMU-06 (LF-09), SWMU-15 (SS-01), SWMU-16 (SS-08) and AOC-1., 2, 3 March.

Earth Tech Inc. 2005. Final Phase II Environmental Baseline Survey Report Johnston Atoll. April.

STATUS

Kalakaket-LF002_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	4676 and 4677
SITIRP_ID	LF002
SITE_STATUS	Open
BOUNDARY_STATUS	Surveyed
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	cancer <1X10 ⁻⁵ ; HI<1
ALIAS	Subsites LF1 and LF2
SITE_NAME	Landfills
SITE_DESCRIPTION	IRP Site LF002 is composed of two subareas (Landfill No. 1 and Landfill No. 2), each consists of two burial pits that were excavated in 1984 by the Air Force for one time use to dispose of miscellaneous debris and crushed drums generated from past site activities.
MEDIA_ID	LF002
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1984-1986
CATEGORY	IRP
AREA_ACRES	Total area of contaminated soil and groundwater < 0.5 acre
ACTIVITY	Active
LUC_RESTRICTION	The selected remedy for soil with petroleum concentrations above State of Alaska cleanup levels at subarea LF1 of IRP Site LF002 is ICs to restrict access and limit exposure to and use of the petroleum-contaminated subsurface soil. ICs will also be applied to subarea LF2 to protect against potential future exposure to unknown contamination emanating from the landfill. Under their existing landfill permit, LF1 and LF2 are still subject to the requirements of 18 AAC 60, which address inherent risk associated with landfills. Under the selected soil remedy, petroleum-contaminated subsurface soil in LF1 will be allowed to remain in place with exposure to subsurface soil at LF1 and potential exposure to subsurface soil at LF2 limited through ICs. The selected remedy for groundwater at subarea LF1 of IRP Site LF002 with petroleum concentrations above State of Alaska cleanup levels is LTM and ICs. The selected remedy does not apply to LF2.
POC	Charley Peyton (AFCEC/CZOP) 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	DRO, GRO, RRO
MODIFIED_DATE	20110316
CONTAMINATION_SOURCE	Landfills
SITEID	LF002
INSTLN_ID	KA
MAINTENANCE	Visual monitoring; Landfill cap inspections and repair; Groundwater monitoring
RESTRICTIONS	No landfill cap/liner disturbance; No unauthorized construction; No unauthorized digging/excavation; No unauthorized transport or disposal of soil; No unauthorized groundwater removal; Property records/Base Plan documentation

Kalakaket-LF002_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF002
SITE_NAME	Landfills
DATE_SUMM	3/16/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP) 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	IRP Site LF002 is composed of two subareas, each consisting of a landfill under a solid waste disposal permit (8631-BA008) from ADEC. The closed solid waste landfills are identified as LF1 and LF2. LF1 is northeast of the east end of the Kalakaket RRS airstrip and consists of two burial pits that were excavated in 1984 by the AF for one time use to dispose of miscellaneous debris and crushed drums generated from past site activities. LF2 is north of the Upper Camp and was also constructed for one-time use by the AF in 1984 to dispose of miscellaneous debris and vehicles from the RRS. The landfills were originally granted permit 8431-BA004 in 1984. In 1986 ADEC granted permit 8631-BA008 as a renewal of 8431-BA004. Post-closure inspections of LF1 and LF2 occurred in 2000.
GEO_HYDRO	Groundwater data for the Kalakaket RRS area are limited to data from the 2007 SSI/RI. However, some general assumptions can be made on the basis of the nature of the soils and geology of the area. Shallow groundwater at the RRS occurs within the silt- to cobble- sized overburden material overlying the bedrock, within the limited fracture system of the bedrock, or both. The presence of groundwater above bedrock appears to be seasonal and occurring during periods of snowmelt and significant rainfall, but absent during winter and dry periods. It is thought that, where groundwater is present, the shallow groundwater flow follows the bedrock topography. The shallow groundwater at the summit plateau, when present, is interpreted to flow radially away from the hilltop. In the airstrip vicinity, groundwater flow is interpreted to travel to the northeast and southwest, generally following the topography that slopes away from the airstrip. No water supply wells are known to have been installed in the RRS vicinity. However, a water intake gallery was constructed and used as the water supply source for the RRS. The intake gallery was not in working condition, and the facility that housed the equipment, the water pump house, was demolished in 2010.
COC	DRO, GRO, RRO
INVESTIGATION_ACTIONS	Five environmental investigations or cleanup actions have occurred at Kalakaket RRS since 1984: * Limited cleanup action in 1984 * Two PAs, one in 1988 and one in 1993, that were based on records reviews and did not include fieldwork * PA/SI completed in 1994 that consisted of a field investigation with sampling * SSI/RI in 2007 * A Clean Sweep action in 2010 to remove buildings and unsafe debris and conduct environmental cleanup
FINAL_REM_ACTION	The Supplemental Site Investigation and Remedial Investigation determined that IRP Site LF002 requires no further action under CERCLA. The SSI/RI of IRP Site LF002 determined that the LF2 subarea requires no further remedial action under State of Alaska regulations. However, the SSI/RI did determine that past practices at subarea LF1 of IRP Site LF002 have led to petroleum contamination in soil and groundwater, which will require remedial action under State of Alaska regulations. Soil: The selected remedy for soil with petroleum concentrations above State of Alaska cleanup levels at subarea LF1 of IRP Site LF002 is institutional controls (ICs) to restrict access and limit exposure to and use of the petroleum-contaminated subsurface soil. ICs will also be applied to subarea LF2 to protect against potential future exposure to unknown contamination emanating from the landfill. Under their existing landfill permit, LF1 and LF2 are still subject to the requirements of 18 AAC 60, which address inherent risk associated with landfills. Under the selected soil remedy, petroleum-contaminated subsurface soil in LF1 will be allowed to remain in place with exposure to subsurface soil at LF1 and potential exposure to subsurface soil at LF2 limited through ICs. The major components of the selected remedy for soil are as follows: * Visual monitoring of the top cover at each landfill for signs of settlement, subsidence, erosion, or other such events once every 5 years or until ADEC approves discontinuation of visual monitoring. * Maintaining the integrity of the final top cover of each landfill to limit exposure to landfill contents and subsurface soils. Maintaining integrity includes making repairs and preventing run-on or run-off from eroding or otherwise damaging the cover material and specific ICs including: - Restricting excavation or disturbance of the final top cover at LF1 and LF2 - Restricting construction on top of LF1 or LF2 without prior concurrence from ADEC

Kalakaket-LF002_ENV_SITE_SUMMARY_IRP

	<ul style="list-style-type: none"> - Restrict access to and limit exposure from contaminated soil at LF1 and potentially contaminated soil at LF2 through additional ICs including: <ul style="list-style-type: none"> - Restricting excavation or disturbance of contaminated soil to prevent further groundwater contamination or placement of contaminated soil in environmentally sensitive areas - Restricting movement of contaminated soil without prior ADEC approval (pursuant to 18 AAC 75.325[1]) - Inclusion and documentation of all ICs in AF Real Property Records, Kalakaket RRS General Plan, and 611th CES IRP Records, including information about the following: <ul style="list-style-type: none"> - Current land uses and allowed uses of IRP Site LF002 - Geographic extent of the IC boundaries (shown in Figure 1-2) - Maintaining existing administrative controls such as reviews under the National Environmental Policy Act (NEPA), performed during project scoping and approval - Submittal of a Performance Report on ICs to ADEC once every 5 years after implementation of the remedial action <ul style="list-style-type: none"> - ICs and the requirements of 18 AAC 60 to remain as long as buried waste remains onsite Groundwater: The selected remedy for groundwater at subarea LF1 of IRP Site LF002 with petroleum concentrations above State of Alaska cleanup levels is long-term monitoring (LTM) and ICs. The selected remedy does not apply to LF2. The major components of the selected remedy for groundwater at subarea LF1 of IRP Site LF002 include: <ul style="list-style-type: none"> - LTM of petroleum-contaminated groundwater as follows: <ul style="list-style-type: none"> - Sample groundwater monitoring wells at LF1 for GRO, DRO, RRO, volatile organic compounds (VOCs), and polynuclear aromatic compounds (PAHs) at a frequency of not less than annually after implementation of the remedial action. The monitoring frequency may be revised after 5 years by agreement with ADEC. - Providing a sampling report annually to ADEC with results of the current groundwater sampling event compared to historical results. - Specific ICs implemented by the AF to restrict access and limit human and ecological exposure to and use of petroleum-contaminated groundwater in LF1 and to prevent discharge and spread of petroleum contamination, includes the following: <ul style="list-style-type: none"> - Limiting excavation or drilling in areas containing petroleum-contaminated groundwater. - If petroleum-contaminated groundwater is used or removed from the site, the groundwater will be characterized and managed by following regulations applicable at the time. - Obtaining ADEC approval before removing or disposing of petroleum-contaminated groundwater at the site. - Inclusion and documentation of ICs in the AF Real Property Records, Kalakaket RRS General Plan, and 611th CES IRP Records including information about the following: <ul style="list-style-type: none"> - Current land uses and allowed uses of IRP Site LF002 - Geographic boundaries of the ICs - Maintaining existing administrative controls such as reviews under NEPA, performed during project scoping and approval processes - An inspection of the site and submittal of a Performance Report on ICs to ADEC once every 5 years after implementation of the remedial action LTM will proceed until the groundwater contaminant plume is shown to be stable or shrinking and contaminant concentrations are decreasing.
CONT_RISK	<p>The overall conclusions from the risk assessment are as follows:</p> <ul style="list-style-type: none"> * On the basis of current conditions, calculated cumulative human health risk for LF1 soil and groundwater is not greater than cumulative carcinogenic risk standard of 1 in 100,000 (1 x 10⁻⁵) across all exposure pathways and a cumulative noncarcinogenic risk standard at a hazard index (HI) of 1 across all exposure pathways. * On the basis of current conditions, calculated cumulative human health risk for LF2 soil is not greater than cumulative carcinogenic risk standard of 1 in 100,000 (1 x 10⁻⁵) across all exposure pathways and a cumulative noncarcinogenic risk standard at an HI of 1 across all exposure pathways. * None of the indicator compounds for petroleum identified in the ADEC Cumulative Risk Guidance contributes to an unacceptable level of risk in subareas LF1 or LF2. * Exposure pathways at IRP Site LF002 for ecological receptors are considered incomplete.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites database (accessed 3/16/2011) United States Air Force (USAF). 2010. Decision Document and CERCLA Record of Decision for IRP Site LF002-Landfills, Kalakaket Creek Radio Relay Station, Alaska. Final. February (2010 DD)</p>
STATUS	

Kalakaket-OT001_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	769
SITIRP_ID	OT001
SITE_STATUS	Open
BOUNDARY_STATUS	Surveyed
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Pre-removal action risk calculations: EQB - cancer (soil) 4x10 ⁻³ ; HI - 0.1 EQT - cancer (soil) 2x10 ⁻² ; HI - 0.2 STO - cancer (soil) 3x10 ⁻³ ; HI - 3 AWH - cancer (soil) 1x10 ⁻⁴ ; HI - 0.003 DS2 - cancer (soil) 3x10 ⁻² ; HI - 1
ALIAS	None
SITE_NAME	White Alice Sites
SITE_DESCRIPTION	Past activities at Kalakaket RRS, such as chemical storage, building and mechanical equipment maintenance, use of transformers, sewage disposal, and application of herbicides and pesticides, may have generated hazardous substances and releases into the environment during facility operation. The past practices have led to contamination of the soil with the COCs PCBs, dieldrin, and 1,2,3-TCP above State of Alaska cleanup levels protective of unrestricted use.
MEDIA_ID	OT001
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1950s-1973
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	Specific ICs required to comply with state law and implemented by the AF to restrict access and limit exposure to and use of petroleum-contaminated soil in IRP Site OT001, including the following: <input type="checkbox"/> Restricting excavation or disturbance of petroleum-contaminated soil to prevent additional groundwater contamination or placement of petroleum-contaminated soil in environmentally sensitive areas <input type="checkbox"/> Restricting movement of petroleum-contaminated soil without prior ADEC approval (pursuant to 18 AAC 75.325[j]) <input type="checkbox"/> Inclusion and documentation of ICs in the AF Real Property Records, Kalakaket RRS General Plan, and 611th IRP Records, including information about the following: <input type="checkbox"/> Current land uses and allowed uses of IRP Site OT001 <input type="checkbox"/> Geographic boundaries of the ICs, as shown in Figure 1-3
POC	Charley Peyton (AFCEC/CZOP) 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	PCBs, Dieldrin, 1,2,3-TCP
MODIFIED_DATE	20110315
CONTAMINATION_SOURCE	various leaks/spills, disposal practices
SITEID	OT001
INSTLN_ID	KA
MAINTENANCE	LUC inspections; Groundwater monitoring
RESTRICTIONS	No unauthorized digging/excavation; No unauthorized transport or disposal of soil; No unauthorized groundwater removal; Property records/Base Plan documentation

Kalakaket-OT001_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	OT001
SITE_NAME	White Alice Sites
DATE_SUMM	3/15/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP) 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	Past activities at Kalakaket RRS, such as chemical storage, building and mechanical equipment maintenance, use of transformers, sewage disposal, and application of herbicides and pesticides, may have generated hazardous substances and releases into the environment during facility operation. The past practices have led to contamination of the soil with the COCs PCBs, dieldrin, and 1,2,3-TCP above State of Alaska cleanup levels protective of unrestricted use.
GEO_HYDRO	Groundwater data for the Kalakaket RRS area are limited to data from the 2007 SSI/RI. However, some general assumptions can be made on the basis of the nature of the soils and geology of the area. Shallow groundwater at the RRS occurs within the silt- to cobble- sized overburden material overlying the bedrock, within the limited fracture system of the bedrock, or both. The presence of groundwater above bedrock appears to be seasonal and occurring during periods of snowmelt and significant rainfall, but absent during winter and dry periods. It is thought that, where groundwater is present, the shallow groundwater flow follows the bedrock topography. The shallow groundwater at the summit plateau, when present, is interpreted to flow radially away from the hilltop. In the airstrip vicinity, groundwater flow is interpreted to travel to the northeast and southwest, generally following the topography that slopes away from the airstrip. No water supply wells are known to have been installed in the RRS vicinity. However, a water intake gallery was constructed and used as the water supply source for the RRS. The intake gallery was not in working condition, and the facility that housed the equipment, the water pump house, was demolished in 2010.
COC	PCBs, Dieldrin, 1,2,3-TCP
INVESTIGATION_ACTIONS	Remedial alternatives for IRP Site OT001 were developed and evaluated in an FS. IRP Site OT001 consists of sixteen subareas grouped into three larger, geographic areas: Upper Camp, Airstrip, and Miscellaneous. Five of the sixteen subareas contain CERCLA hazardous substances in soil at concentrations above State of Alaska cleanup levels. Eleven of the remaining subareas did not have concentrations of CERCLA hazardous substances above State of Alaska cleanup levels for unrestricted use (18 AAC 75.341, Table B1) and were determined to require no further action under CERCLA. However, five of the eleven subareas requiring no further action under CERCLA do contain petroleum hydrocarbon contamination above State of Alaska cleanup levels (18 AAC 75.341, Table B2) and will be addressed in a separate decision document. The five subareas in IRP Site OT001 that require remedial action under CERCLA are: <ul style="list-style-type: none"> • Equipment Building • Equipment Building Transformer • Septic Tank Outfall • Airstrip Warehouse • Drum Storage Area No. 2
FINAL_REM_ACTION	The selected remedy is Alternative 2 for soil contaminated with PCBs, dieldrin, and 1,2,3-TCP at concentrations above State of Alaska cleanup levels (18 AAC 75.341, Table B1) protective of unrestricted use. Under this alternative, the contaminated soil will be excavated, staged, manifested, and transported to a CERCLA-approved disposal site certified for the permanent disposal of solid RCRA hazardous, industrial, and TSCA regulated wastes. The remedial action is anticipated to progress until soil attains clean-up levels. The selected remedy is also consistent with several of the goals identified in the EPA Draft Framework for Green Cleanup Standards at Contaminated Sites. Because of the remote location of IRP Site OT001 and its lack of human habitation, the selected remedy minimizes energy consumption that would otherwise be needed for transportation, operations, and waste handling. The selected remedy also minimizes unnecessary soil and ecological habitat disturbances. The cleanup selected for IRP Site OT001 protects human health and the environment and meets applicable regulatory requirements while optimizing sustainable management practices during the AF's stewardship of the Kalakaket RRS.

Kalakaket-OT001_ENV_SITE_SUMMARY_IRP

CONT_RISK	<p>The cumulative risk calculated from the current conditions is greater than cumulative carcinogenic risk standard of 1 in 100,000 (1 x 10⁻⁵) across all exposure pathways and a cumulative noncarcinogenic risk standard at a HI of 1 across all exposure pathways. The risk calculation results are briefly discussed for the five subareas of IRP Site OT001 addressed in this ROD.</p> <ul style="list-style-type: none"> • EQB – Three COPCs: 4, 4'-DDT ; dieldrin; and total PCBs were identified in EQB soil. Individual carcinogenic risks and noncarcinogenic hazard estimations for 4,4'-DDT and dieldrin were each below the risk standard and are not COCs in this subarea. The individual and cumulative carcinogenic risks for PCBs exceed the risk standard of 1 x 10⁻⁵ and represent a potential for unacceptable human health risk if not remediated. PCB is a COC in this subarea. Groundwater risk was not calculated because there is no complete groundwater pathway. • EQT – Two COPCs: dieldrin and total PCBs, were identified in EQT soil and determined to pose individual carcinogenic risks for direct contact; therefore, both are considered COCs. The individual carcinogenic risk estimate for total PCBs for the inhalation pathway also exceeds the risk standard of 1 x 10⁻⁵. As a result, the estimated cumulative carcinogenic risk is three orders of magnitude greater than the estimated ILCR standard of 1 x 10⁻⁵. These concentrations represent a potential for unacceptable human health risk if not remediated. Groundwater risk was not calculated because there is no complete groundwater pathway. • STO – Six COPCs: 4,4'-DDT; benzo(a)pyrene; benzo(b)fluoranthene; dieldrin; heptachlor epoxide; and total PCBs were detected in STO soil. Only dieldrin and total PCBs represent COCs. For dieldrin, both the estimated individual noncarcinogenic hazard and carcinogenic risk from direct contact exceed ADEC risk standards. For total PCBs, the estimated individual carcinogenic risk from both direct contact and inhalation exceed ADEC risk standards. Cumulative carcinogenic risk and noncarcinogenic hazard estimations also exceed the ADEC risk values. Groundwater risk was not calculated because there is no complete groundwater pathway at STO. <ul style="list-style-type: none"> • AWH – 1,2,3-TCP; benzo(a)anthracene; benzo(a)pyrene; benzo(b)-fluoranthene; dibenzo(a,h)anthracene; and total PCBs were identified as COPCs in AWH soil. The multi-incremental sample results adjusted for the 95 percent upper confidence level were used in identification of COPCs and the cumulative risk calculation for benzo(a) anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene. Only 1,2,3-TCP and total PCBs are considered COCs for this subarea. Individual and cumulative carcinogenic risks estimates for 1,2,3-TCP and total PCBs exceed the ADEC risk standard of 1 x 10⁻⁵. Benzo(a)pyrene was detected above the ADEC Method 2 cleanup level in an MI sample collected from the surface soil at AWH; however, the individual carcinogenic risk estimation for this benzo(a)pyrene detection did not exceed the risk standard of 1 x 10⁻⁵. Therefore, it was agreed by all parties that no further action is required for this constituent in the AWH surface soil. Groundwater risk was not calculated because there is no complete groundwater pathway. • DS2 – 1,2,4-trichlorobenzene, benzo(a)anthracene, and total PCBs were identified as COPCs in DS2 soil. The individual carcinogenic risk estimation for benzo(a)anthracene concentrations in existing soil is below the ADEC risk standard. However, the individual noncarcinogenic hazard estimation for the soil inhalation pathway for 1,2,4-trichlorobenzene and the carcinogenic risk estimation for both direct contact and inhalation pathways for total PCBs exceed ADEC risk standards. Because the cumulative HI for DS2 is not greater than the risk standard of 1, 1,2,4-trichlorobenzene is not considered a COC; the only COC in DS2 is PCBs. Cumulative carcinogenic risk and noncarcinogenic hazard estimations are also above ADEC risk standards. Groundwater risk was not calculated because COCs were not detected.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites database (accessed 3/15/2011) United States Air Force (USAF). 2010. Decision Document-Petroleum Contamination IRP Site OT001/White Alice Site, Kalakaket Creek Radio Relay Station, Alaska. Final. February (2010 DD)</p>
STATUS	

Kalakaket-OT001_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	769
SITIRP_ID	OT001
SITE_STATUS	Open
BOUNDARY_STATUS	Surveyed
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	<p>A summary of the assessment of cumulative human health risk at the five subareas containing petroleum hydrocarbons in IRP Site OT001 includes:</p> <p>DS2 - cancer - 3X10⁻²; HI - 1 DS3 - cancer - 5X10⁻⁶; HI - 0.2 PT1 - cancer - 1X10⁻³; HI - 2 VMG - cancer - 2X10⁻⁶; HI - Not calculated WPH - not calculated</p> <p>The total area of petroleum-contaminated soil and groundwater at OT001 is less than 0.5 acre, therefore an ecological risk assessment was not completed for the site.</p>
ALIAS	None
SITE_NAME	White Alice Sites
SITE_DESCRIPTION	<p>Past activities at Kalakaket RRS, such as petroleum and chemical storage, building and mechanical equipment maintenance, use of transformers, sewage disposal, application of herbicides and pesticides, and burial and disposal of garbage and debris, may have generated hazardous substances and releases into the environment during facility operation. IRP Site OT001 consists of 16 subareas grouped into 3 larger, geographic areas: Upper Camp Area, Airstrip Area, and Miscellaneous Area.</p>
MEDIA_ID	OT001
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1950s-1973
CATEGORY	IRP
AREA_ACRES	Total area of contaminated soil and groundwater < 0.5 acre
ACTIVITY	Active
LUC_RESTRICTION	<p>Specific ICs required to comply with state law and implemented by the AF to restrict access and limit exposure to and use of petroleum-contaminated soil and groundwater in IRP Site OT001, including the following:</p> <ul style="list-style-type: none"> * Restricting excavation, drilling, or disturbance of petroleum-contaminated soil and groundwater to prevent additional groundwater contamination or placement of petroleum-contaminated soil in environmentally sensitive areas. * Restricting movement of petroleum-contaminated soil without prior ADEC approval (pursuant to 18 AAC 75.325[i]) * If petroleum-contaminated groundwater is used or removed from the site, characterizing and managing the groundwater by following regulations applicable at the time. Obtaining ADEC approval before removing or disposing of petroleum-contaminated groundwater at the site (pursuant to 18 AAC 75.325[i]). * Inclusion and documentation of ICs in the AF Real Property Records, Kalakaket RRS General Plan, and 611th IRP Records, including information about the following: * Current land uses and allowed uses of IRP Site OT001

Kalakaket-OT001_ENV_REST_SITE_SUMMARY

	<ul style="list-style-type: none">* Geographic boundaries of the ICs* Maintaining existing administrative controls such as reviews under the National Environmental Policy Act (NEPA), performed during project scoping and approval processes* An inspection of the site and submittal of a Performance Report on ICs to ADEC once every 5 years after implementation of the remedial action. LTM will proceed until the groundwater contaminant plume is shown to be stable or shrinking and contaminant concentrations are decreasing.* Submittal of a sampling plan and sampling report to ADEC for approval prior to removal of ICs When cleanup levels are achieved in soil and groundwater, ICs may be terminated with ADEC agreement.
POC	Charley Peyton (AFCEC/CZOP) 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	GRO, DRO, and RRO
MODIFIED_DATE	20110315
CONTAMINATION_SOURCE	various leaks/spills
SITEID	OT001
INSTLN_ID	KA
MAINTENANCE	LUC inspections; Groundwater monitoring
RESTRICTIONS	No unauthorized digging/excavation; No unauthorized transport or disposal of soil; No unauthorized groundwater removal; Property records/Base Plan documentation

Kalakaket-OT001_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	OT001
SITE_NAME	White Alice Sites
DATE_SUMM	3/15/2011
CURRENT_STATUS	Open
SITE STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP) 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	<p>Past activities at Kalakaket RRS, such as petroleum and chemical storage, building and mechanical equipment maintenance, use of transformers, sewage disposal, application of herbicides and pesticides, and burial and disposal of garbage and debris, may have generated hazardous substances and releases into the environment during facility operation. IRP Site OT001 consists of 16 subareas grouped into 3 larger, geographic areas: Upper Camp Area, Airstrip Area, and Miscellaneous Area. Five of the 16 subareas contained CERCLA hazardous substances in soil at concentrations above State of Alaska cleanup levels for unrestricted use (18 AAC 75.341, Table B1) and are addressed in a separate ROD completed for IRP Site OT001 CERCLA compounds. The 11 remaining subareas did not have concentrations of CERCLA hazardous substances above State of Alaska cleanup levels for unrestricted use and were determined to require no further action under CERCLA.</p> <p>Petroleum is addressed under Alaska law. The source of the cleanup levels for soil is the State of Alaska cleanup levels for DRO, RRO, and GRO (18 AAC 75.341, Table B2). The "applicable Method 2 cleanup level" is subarea-specific. The only subareas of OT001 where groundwater was identified, and where the migration-to-groundwater pathway is complete and the migration-to-groundwater cleanup level applies, are the Water Pump House; POL Tank 1; and Drum Storage Area 2.</p> <p>Site Location: Sections 22, 23, 26, and 27, of Township 12 South, Range 10 East, Kateel Meridian. Latitude and Longitude: 64°25'38.14" North, 156°50'9.29" West (NAD83; projected coordinate system for map figures: NAD83, Alaska State Plane Zone 6, US Foot).</p>
GEO_HYDRO	<p>Groundwater data for the Kalakaket RRS area are limited to data from the 2007 SSI/RI. However, some general assumptions can be made on the basis of the nature of the soils and geology of the area. Shallow groundwater at the RRS occurs within the silt- to cobble- sized overburden material overlying the bedrock, within the limited fracture system of the bedrock, or both. The presence of groundwater above bedrock appears to be seasonal and occurring during periods of snowmelt and significant rainfall, but absent during winter and dry periods. It is thought that, where groundwater is present, the shallow groundwater flow follows the bedrock topography. The shallow groundwater at the summit plateau, when present, is interpreted to flow radially away from the hilltop. In the airstrip vicinity, groundwater flow is interpreted to travel to the northeast and southwest, generally following the topography that slopes away from the airstrip.</p> <p>No water supply wells are known to have been installed in the RRS vicinity. However, a water intake gallery was constructed and used as the water supply source for the RRS. The intake gallery was not in working condition, and the facility that housed the equipment, the water pump house, was demolished in 2010.</p>
COC	GRO in soil; DRO and RRO in soil and groundwater
INVESTIGATION_ACTIONS	<p>Sixteen subareas were investigated. Fourteen subareas exceeded the most stringent ADEC Method 2 petroleum cleanup levels. However, at nine of the subareas the migration to groundwater pathway was determined to be incomplete. Five subareas also exceeded the applicable Method 2 petroleum cleanup levels for ingestion and/or migration to groundwater. Remedial action is required at these five subareas.</p> <p>The five subareas requiring remedial action and the media affected by the petroleum contamination are identified below:</p> <ul style="list-style-type: none"> • Upper Camp Area • VMG – soil • Airstrip Area • DS2 – soil • DS3 – soil • Petroleum, Oil, and Lubricant (POL) Tank No. 1 (PT1) – soil and groundwater • Miscellaneous Areas • Water Pump House (WPH) – soil <p>The additional nine subareas identified as containing residual petroleum contamination concentrations in soil above State of Alaska cleanup levels for migration to groundwater. These sites do not require remedial action because the migration to groundwater pathway was determined to be incomplete. These nine subareas identified below:</p> <ul style="list-style-type: none"> • Upper Camp Area • Antenna Fuel System (AFS) – soil • Drum Storage Area No. 1 (DS1) – soil • Equipment Building (EQB) – soil • Equipment Building Transformer (EQT) – soil • Paint Storage Building (PSB) – soil • POL Tanks 2 and 3 (P23) – soil • Septic Tank Outfall (STO) – soil • Airstrip Area

Kalakaket-OT001_ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION

- AWH – soil
- Miscellaneous Areas
- RDC – soil

The remedy selected for petroleum-contaminated soil at these five subareas at IRP Site OT001 with concentrations above applicable State of Alaska Method 2 cleanup levels is source removal and ICs. The major components of the selected remedy for petroleum-contaminated soil are as follows:

- * Excavation of petroleum-contaminated surface soil with concentrations greater than ADEC Method 2 ingestion cleanup levels, which are 10,250 mg/kg for DRO; 10,000 mg/kg for RRO; and 1,400 mg/kg for GRO
- * Landspreading of the excavated soil from subareas PT1, DS3, DS2, and WPH to reduce the petroleum concentrations to below ADEC Method 2 ingestion cleanup levels, and reuse of the excavated soil as cover for the landfill construction in 2010 at the Upper Camp
- * Shipment of the excavated soil offsite from the VMG subarea because of presence of lead above ADEC Method 2 cleanup level (400 mg/kg), co-located with petroleum-contaminated soil above ADEC Method 2 ingestion cleanup levels
- * Specific ICs required to comply with state law and implemented by the AF to restrict access and limit exposure to and use of petroleum-contaminated soil in IRP Site OT001, including the following:
 - * Restricting excavation or disturbance of petroleum-contaminated soil to prevent additional groundwater contamination or placement of petroleum-contaminated soil in environmentally sensitive areas
 - * Restricting movement of petroleum-contaminated soil without prior ADEC approval (pursuant to 18 AAC 75.325(i))
- * Inclusion and documentation of ICs in the AF Real Property Records, Kalakaket RRS General Plan, and 611th IRP Records, including information about the following:
 - * Current land uses and allowed uses of IRP Site OT001
 - * Geographic boundaries of the ICs
 - * Maintaining existing administrative controls such as reviews under the NEPA, performed during project scoping and approval processes

* An inspection of the site and submittal of a Performance Report on ICs to ADEC once every 5 years after implementation of the remedial action

* Submittal of a sampling plan and sampling report to ADEC for approval prior to removal of ICs

When cleanup levels are achieved in soil, ICs may be terminated with ADEC agreement.

Soil within the nine subareas where residual petroleum contamination exceeds a Method 2 migration-to-groundwater cleanup level but where that pathway was determined to be incomplete need to be managed in accordance with applicable regulations; however, no further cleanup or formal ICs are required. Residual petroleum-contaminated soil should not be placed in an environmentally sensitive area and may not be moved offsite without prior ADEC approval (18 AAC 75.325(i)).

Petroleum-contaminated Groundwater

The remedy selected for petroleum-contaminated groundwater at IRP Site OT001 with concentrations above State of Alaska cleanup levels (18 AAC 75.345, Table C) is LTM with ICs. The major components of the selected remedy for petroleum-contaminated groundwater are as follows:

- * LTM of DRO- and RRO-contaminated groundwater to include:
 - * Sampling of groundwater monitoring wells at PT1 annually for volatile organic compounds, polynuclear aromatic hydrocarbons, DRO, and RRO after implementation of the remedial action. The monitoring frequency may be revised after 5 years by agreement with ADEC.
 - * Providing a sampling report annually to ADEC with results of the current groundwater sampling event compared to historical results.
- * Specific ICs required to comply with state law and implemented by the AF to restrict access and limit human and ecological exposure to and use of petroleum-contaminated groundwater in IRP Site OT001 and to prevent discharge and spread of petroleum contamination, including the following:
 - * Limiting excavation or drilling in areas containing petroleum-contaminated groundwater.

* If petroleum-contaminated groundwater is used or removed from the site, characterizing and managing the groundwater by following regulations applicable at the time.

* Obtaining ADEC approval before removing or disposing of petroleum-contaminated groundwater at the site (pursuant to 18 AAC 75.325(i)).

* Inclusion and documentation of ICs in the AF Real Property Records, Kalakaket RRS General Plan, and 611th IRP Records, including information about the following:

- * Current land uses and allowed uses of IRP Site OT001.
- * Geographic boundaries of the ICs
- * Maintaining existing administrative controls such as reviews under NEPA.
- * Inspecting the site and submittal of a Performance Report on ICs to ADEC once every 5 years after implementation of the remedial action.

LTM will proceed until the groundwater contaminant plume is shown to be stable or shrinking and contaminant concentrations are decreasing. When cleanup levels are achieved in the groundwater, ICs may be terminated with ADEC agreement.

Kalakaket-OT001_ENV_SITE_SUMMARY_IRP

CONT_RISK	A summary of the assessment of cumulative human health risk at the five subareas containing petroleum hydrocarbons in IRP Site OT001 includes: DS2 - cancer - 3X10 ⁻² ; HI - 1 DS3 - cancer - 5X10 ⁻⁶ ; HI - 0.2 PT1 - cancer - 1X10 ⁻³ ; HI - 2 VMG - cancer - 2X10 ⁻⁶ ; HI - Not calculated WPH - not calculated The total area of petroleum-contaminated soil and groundwater at OT001 is less than 0.5 acre, therefore an ecological risk assessment was not completed for the site.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites database (accessed 3/15/2011) United States Air Force (USAF). 2010. Decision Document-Petroleum Contamination IRP Site OT001/White Alice Site, Kalakaket Creek Radio Relay Station, Alaska. Final. February (2010 DD)
STATUS	

King_Salmon-DP023_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2836
SITIRP_ID	DP023
SITE_STATUS	Cleanup Complete
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	Not analyzed
ALIAS	DP23
SITE_NAME	Dry Well Located Within ST015
SITE_DESCRIPTION	The former dry well site is located on Cantonment Avenue east of the POL storage tanks. The dry well was a vertically buried culvert used for disposal of petroleum and liquid waste products from the late 1950s until the mid-1970s.
MEDIA_ID	DP023
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Late 1950s to mid 1970s
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete
LUC_RESTRICTION	Groundwater use controls through OT027-Groundwater Zone 1 ROD.
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS OF CONCERN	None specified
MODIFIED_DATE	20110317
CONTAMINATION_SOURCE	disposal practices
SITEID	DP023
INSTLN_ID	KS
MAINTENANCE	Groundwater monitoring
RESTRICTIONS	Drinking water well restrictions

King_Salmon-DP023_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	DP023
SITE_NAME	Dry Well Located Within ST015
DATE_SUMM	3/17/2011
CURRENT_STATUS	Cleanup Complete
SITE_STATUS	Cleanup Complete
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
DESC_USE	The former dry well site is located on Cantonment Avenue east of the POL storage tanks. The dry well was a vertically buried culvert used for disposal of petroleum and liquid waste products from the late 1950s until the mid-1970s.
GEO_HYDRO	Three aquifers have been encountered during drilling at KSA. The aquifers consist of horizontally bedded silty sands separated by clayey silt aquitard units. The uppermost aquifer is designated the A-Aquifer. The A-Aquifer overlies the A-Aquitard, which overlies alternating aquitard and aquifer units designated as B- and C- aquifers and Aquitards. The competence of the A-Aquitard has not been determined. The A-Aquifer is unconfined and extends to between 20 and 40 feet bgs. The saturated surface of the A-Aquifer varies from the water level at river margins and muskeg to about 30 feet bgs. Groundwater flow generally follows the surface topography, with some local variability. Most of the local water supply wells are completed in the B-Aquifer, many of them are considered to be hydraulically downgradient from KSA. KSA draws its water from the C-Aquifer. At DP013 the water table is approximately between 15 to 20 feet bgs. Groundwater flow in the A-Aquifer is to the east, towards Eskimo Creek.
COC	None specified
INVESTIGATION_ACTIONS	Seven A-aquifer and 6 B-Aquifer groundwater monitoring wells were installed and sampled in the vicinity of DP023. Soil samples were collected at 5-foot intervals from 4 of the monitoring well boreholes installed in the vicinity of the dry well. Soil sample results indicated that soils in the vicinity of the dry well were impacted by petroleum hydrocarbons at concentrations exceeding current ADEC soil cleanup levels at the top of the aquifer and within the overlying smear zone at depths of 20 feet to 26 feet bgs. GRO were not detected in soil samples collected from ground surface to 20 feet bgs, and the highest detected concentrations of DRO and total 3 BTEX from this interval were 150 mg/kg and 164 mg/kg, respectively. Following this investigation, the dry well and contaminated soil above the smear zone were excavated and removed by the 611 CES, and the excavation was backfilled with clean fill. Prior to backfilling eight confirmation grab samples were collected from soils excavated from the northeast and southwest sidewalls of the excavation (within 5 feet of the former culvert). Two grab samples were collected each at depths of 1 foot, 10 feet, 20 feet, and 25 feet bgs; one sample from the northeast sidewall, and one sample from the southwest sidewall. Laboratory results indicated that contaminants of concern were not detected above cleanup levels in confirmation samples from the 1 foot and 10 feet bgs intervals. Confirmation samples collected from within the smear zone and below were impacted by petroleum hydrocarbons at levels which exceed cleanup criteria. Confirmation and soil boring data indicated that contaminated soil above the smear zone was effectively removed during the dry well excavation (611 CES, 1994).
FINAL_REM_ACTION	Site administratively closed, groundwater beneath site addressed in OT027-GW Zone 1.
CONT_RISK	Not analyzed
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	United States Air Force (USAF). 2000. Record of Decision for Interim Remedial Action, Site: Groundwater Zone OT027 (Zone 1), King Salmon Air Station, King Salmon, Alaska. November.(2000 GW Zone 1 , OT027 ROD) Paug-Vik Development Corporation. 2001. Management Action Plan for King Salmon Air Station, Alaska. Final. October (2001 MAP) Contaminated Sites database (accessed 3/17/2011)
STATUS	

King_Salmon-LF005_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	1060
SITIRP_ID	LF005
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA/non-CERCLA
RISK	cancer <1X10-5; HI<1
ALIAS	LF05
SITE_NAME	South Barrel Bluff
SITE_DESCRIPTION	The South Barrel Bluff site is located approximately 2,000 feet northwest of the KSA installation, and south of the North Barrel Bluff site along King Salmon Creek. The site is bordered to the west-northwest by King Salmon Creek
MEDIA_ID	LF005
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1950s-1970s
CATEGORY	IRP
AREA_ACRES	27
ACTIVITY	Active
LUC_RESTRICTION	The USAF will modify the General Plan, 611th ASG, Remote Alaska (hereafter referred to as the General Plan) and appropriate land records (i.e. deeds) to include approved institutional controls, which restrict future installation of drinking water wells and soil excavation at both sites. Land-use restrictions and land surveys will be included in the General Plan, which is scheduled for completion by October 2000. Additionally, the wooden barrier fencing constructed at the bluffs to prevent unauthorized site access will be inspected monthly for damage or vandalism, and maintained/repared as necessary.
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	none identified
MODIFIED_DATE	20110412
CONTAMINATION_SOURCE	drum disposal area
SITEID	LF005
INSTLN_ID	KS
MAINTENANCE	Groundwater monitoring; Surface water monitoring; Soil monitoring; Landfill cap inspections and repair; treatment wetland system; Sign maintenance and repairs; Fence maintenance and repairs
RESTRICTIONS	No unauthorized site access; No potable groundwater use; No unauthorized digging/excavation

King_Salmon-LF005_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF005
SITE_NAME	South Barrel Bluff
DATE_SUMM	4/12/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
DESC_USE	The South Barrel Bluff site is located approximately 2,000 feet northwest of the KSA installation, and south of the North Barrel Bluff site along King Salmon Creek. The site is bordered to the west-northwest by King Salmon Creek. The site occupies approximately 27 acres under private ownership. The site was reportedly used primarily as a barrel dump, similar to that of North Barrel Bluff. Barrels were disposed in the area from the early 1940s until the mid-1960s. Geophysical surveys conducted in 1987 and 1989 along South Barrel Bluff indicated that the primary disposal area was located along the face of the bluff; beginning at a point approximately 1,400 feet north of the highway connecting King Salmon and Naknek, and extending approximately 1,800 feet northeastward along the bluff.
GEO_HYDRO	<p>At least three aquifer units are known to exist in the King Salmon area. The aquifers consist of unconsolidated, well-sorted to poorly sorted silty and gravely sands separated by aquitard units consisting of silty sands, silts, and clays. The shallowest aquifer, the A-Aquifer, is unconfined and is exposed in many areas within KSA. The total depth to the A-Aquifer ranges from the surface at the Naknek River to 45 l feet bgs along the northern margin of KSA. The saturated thickness of the A-Aquifer ranges from zero to 15 feet. Groundwater movement in the A-Aquifer generally is toward local topographic lows and surface drainages such as 3 wetlands, rivers, creeks, and ditches. The A-Aquifer likely is recharged by precipitation and influent stream flow.</p> <p>The A-Aquitard is between 7 and 22 feet thick and underlies the A-Aquifer. The surface of the aquitard is not horizontal, and the relief may affect local groundwater flow direction and contaminant distribution. Eskimo Creek, King Salmon Creek, and the Naknek River have eroded through the A-Aquifer.</p> <p>Underlying the A-Aquitard, the top of the B-Aquifer has been encountered at depths ranging from 50 to 80 feet bgs. The known thickness of the aquifer ranges from 15 to 40 feet. Groundwater in the B-Aquifer probably is in equilibrium with the A-Aquifer; a similar piezometric surface has been measured in adjacent A-Aquifer and B-Aquifer monitoring wells. Numerous residential drinking-water supply wells are screened in the B-Aquifer. Residential areas near the north bank of the Naknek River are downgradient of potential KSA contamination sources. The B-Aquitard underlies the B-Aquifer. The thickness of this aquitard may vary from 10 to 120 feet; only two KSA supply wells are known to have penetrated the B-Aquitard.</p> <p>A third aquifer, the C-Aquifer, underlies the B-Aquitard at a depth of approximately 200 feet bgs. KSA's water-supply wells are reported to terminate in the C-Aquifer, which probably is confined. Aquifer thickness and direction of groundwater movement are unknown.</p>
COC	none identified
INVESTIGATION_ACTIONS	1984, 1991, 1992 drum removal; 1986 geophysical survey; 1992 soil gas survey (South Bluff) and field investigation; RI (1995); FS (1997); IRA (1996 and 1998); IRA ROD (1996); IRA 1996-1998; 1997 - 1998 wetland studies, biota studies, water treatment system operation, and groundwater monitoring; and 1996-1999 post closure monitoring (surface, groundwater, and sediment).

King_Salmon-LF005_ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Based on current site conditions and the successful implementation of interim remedial action, USAF, ADEC, and USEPA have selected a plan of institutional controls (site access and land-use restrictions), bluff inspection and maintenance, continued operation of the water-treatment system, and continued monitoring, with no further remedial action planned, as the final action for the North and South Bluff.</p> <p>The selected remedy is deemed sufficient to protect human health and the environment from risks associated with exposure to contaminated soil, sediment, groundwater, and surface water. Soil is not a media of concern at the Bluff sites because the only known contaminated soil present is associated with solid waste within the landfills, which is contained by the caps. The selected remedy includes the following components-</p> <ul style="list-style-type: none"> *The USAF will modify the General Plan, 611th ASG, Remote Alaska (hereafter referred to as the General Plan) and appropriate land records (i.e. deeds) to include approved institutional controls, which restrict future installation of drinking-water wells and soil excavation at both sites. Land-use restrictions and land surveys will be included in the General Plan, which is scheduled for completion by October 2000. Additionally, the wooden barrier fencing constructed at the bluffs to prevent unauthorized site access will be inspected monthly for damage or vandalism, and maintained/repaired as necessary. *An inspection and maintenance program has been developed and implemented for the bluff caps. This program will continue at both sites following plans outlined in the Draft Operation, Monitoring, and Maintenance Manual, North and South Barrel Bluffs, King Salmon, Alaska.
	<ul style="list-style-type: none"> * Operation and maintenance of the water-treatment system at South Bluff (LF014) will continue according to plans outlined in the monitoring and maintenance manual. The objective of the treatment system is to intercept seep water leaching from the banks adjacent to King Salmon Creek and remove petroleum hydrocarbons and other organic chemicals that may be present. Following treatment, the water is discharged into a leach field adjacent to the South Bluff. *Residential wells near the bluffs have been sampled for potential contaminants several times since 1994. No contaminants have been detected, consequently, residential wells will no longer be sampled. Instead a more comprehensive system of sentry wells has been installed and will be sampled as delineated in the revised monitoring plan. * Groundwater and surface-water monitoring at the bluffs will continue on an annual basis following procedures outlined in the revised monitoring plan. *With the IRA in place, contamination remaining at the bluff sites does not pose an unacceptable threat to human health or the environment; however, some contamination remains in the bluffs disposal area beneath the cap. The remedy summarized above and detailed in this ROD will be reviewed by USAF, ADEC, and USEPA at a frequency of not less than once every five years to evaluate if the remedy continues to be effective and appropriate. The first review will be conducted by 2005. Input from the Naknek/South Naknek Native Village Council, King Salmon Village Council, Federal and State trustees, and the King Salmon RAB will be solicited prior to implementing any changes.
CONT_RISK	<p>The original noncancer hazard indices for the North and South Bluff sites calculated in 1995 were all less than 1.0, indicating that there were no significant adverse noncarcinogenic health effects associated with the bluff sites. The exposure pathways driving noncarcinogenic risks at the site were ingestion of groundwater and incidental ingestion of surface water. These pathways have essentially been eliminated through monitoring of public drinking-water wells and limiting access to the bluffs; therefore, it is reasonable to assume noncarcinogenic risks are even lower than those calculated in 1995.</p> <p>The original cumulative upper bound excess cancer risks for the South Bluff sites exceeded ADEC's acceptable cumulative carcinogenic risk level of 1×10^{-5}. The exposure pathways largely driving the cancer risk at the bluff sites were ingestion of groundwater, incidental ingestion of surface water, dermal contact with sediment, and incidental ingestion of sediment. Again, these pathways have essentially been eliminated through implementation of institutional controls and monitoring public drinking water wells. Without these pathways, carcinogenic risks for the RME residential scenario at the North and South Bluff are estimated to be 6×10^{-6} for each site, which are within acceptable ADEC limits.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites database (accessed 4/12/2011) United States Air Force (USAF). 2000. Record of Decision for Final Remedial Action for North Bluff (LF005) and South Bluff (LF014), Groundwater Zone 3 (OT029), King Salmon Air Station, King Salmon, Alaska. Final . April (2000 ROD-FRA) United States Air Force (USAF). 1996. Addendum Interim Remedial Action Final Record of Decision for North and South Barrel Bluffs, King Salmon Airport, King Salmon, Alaska. Final. March. (1996 ROD Addendum)</p>
STATUS	

King_Salmon-LF008_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	529
SITIRP_ID	LF008
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA/non-CERCLA
RISK	non carcinogenic HI >1 (on site residents/workers); carcinogenic within or below 1X10-4 to 10-6 for on site residents; upper bound excess cancer 1X10-5 to 2X10-4; Ecological HI >1.
ALIAS	LF08
SITE_NAME	Landfill #5
SITE_DESCRIPTION	A capped landfill, Landfill No. 5 (LF008), is located west of and adjacent to the Upper Naknek River Storage Site. The landfill wastes reportedly consisted of empty POL drums.
MEDIA_ID	LF008
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	The institutional control program implemented by the USAF to prohibit the construction of wells for purposes other than groundwater monitoring in Zone 4 will also include the prohibition of soil excavations within Zone 4.
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	benzene, toluene, TCE, GRO, DRO (groundwater); TAH, TAqH, DRO (surface water); benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, DRO (soil)
MODIFIED_DATE	201100113
CONTAMINATION_SOURCE	landfill - drums
SITEID	LF008
INSTLN_ID	KS
MAINTENANCE	Groundwater monitoring; Surface water monitoring; Soil monitoring; Landfill cap inspections and repair
RESTRICTIONS	None specified

King_Salmon-LF008_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF008
SITE_NAME	Landfill #5
DATE_SUMM	1/13/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
DESC_USE	A capped landfill, Landfill No 5 (LF008), is located in Zone 4 LF008 is located west of and adjacent to the Upper Naknek River Storage Site The dates of operation for the landfill are unknown The landfill wastes reportedly consisted of empty POL drums, which were laid on their sides and covered with sand. A 2-foot thick vegetative cap was placed over LF008 in 1995.
GEO_HYDRO	Three aquifers have been encountered during drilling at KSA. The aquifers consist of horizontally bedded silty sands separated by clayey silt aquitard units. The uppermost aquifer is designated the A-Aquifer. The A-Aquifer overlies the A-Aquitard, which overlies alternating aquitard and aquifer units designated as B- and C- aquifers and Aquitards. The competence of the A-Aquitard has not been determined. The A-Aquifer is unconfined and extends to between 20 and 40 feet bgs. The saturated surface of the A-Aquifer varies from the water level at river margins and muskeg to about 30 feet bgs. Groundwater flow generally follows the surface topography, with some local variability. Most of the local water supply wells are completed in the B-Aquifer, many of them are considered to be hydraulically downgradient from KSA. KSA draws its water from the C-Aquifer.
COC	benzene, toluene, TCE, GRO, DRO (groundwater); TAH, TAqH, DRO (surface water); benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, DRO (soil)
INVESTIGATION_ACTIONS	LF008 was evaluated as part of the LFI completed by EMCON in 1994. Contaminants were not detected in the soil at LF008 at concentrations exceeding the cleanup levels established in this document. The former landfill was covered with a 2-foot thick vegetative cap in 1995 as an interim remedial action.

King_Salmon-LF008_ENV_SITE_SUMMARY_IRP

<p>FINAL_REM_ACTION</p>	<p>GROUNDWATER AND SURFACE WATER</p> <p>* Groundwater and surface water will be monitored annually to evaluate reduction of the contaminant concentrations by intrinsic remediation. Once contaminant levels in a sampling location are below cleanup levels, the location will be sampled two more times. If no additional contamination is detected above cleanup levels, the monitoring will be discontinued. The cleanup level for both benzene and TCE in groundwater is 5 µg/L, the cleanup level for toluene is 1,000 µg/L, the cleanup level for DRO is 1,500 µg/L, and the cleanup level for GRO is 1,300 µg/L. The A-Aquifer groundwater at the site is not considered a drinking water source, pursuant to 18 AAC 75.350. The groundwater is not currently used for a private or public drinking water system, it is not a reasonably expected potential future source of drinking water, and it will not be transported to groundwater that is a source of drinking water in concentrations that exceed the groundwater cleanup levels.</p> <p>Groundwater use restrictions will be used to prevent installation of groundwater supply wells within designated plumes within Zone 4. Upon acceptance of this DD, an order will be issued by the Commander, 61 1th Air Support Group, prohibiting the construction of wells for any purposes other than groundwater monitoring within Zone 4 until three consecutive monitoring events indicate that cleanup levels have been achieved.</p> <p>Recoverable quantities of free product found to be migrating along the top of the groundwater table toward a surface water seep will be intercepted before discharge to the wetlands. Existing product recovery systems will be operated and maintained to remove the free product until no free product is detected by the monitoring program. The free product will be collected and removed using a passive system such as absorbent booms. Recovered product will be utilized for energy recovery or otherwise disposed of consistent with State and Federal regulations.</p>
	<p>SOIL</p> <p>Soil with DRO contamination above the cleanup level of 2,500 mg/kg will be left in-situ (in-place). Groundwater, surface water, and sediments will be monitored annually to evaluate reduction of the contaminant concentrations in soil by intrinsic remediation. Annual monitoring will be discontinued if contaminant levels are below cleanup levels during three consecutive monitoring results. In-situ bioventing of contaminated soils will be implemented after year five if monitoring data indicate that intrinsic remediation will not achieve cleanup levels in site soil and groundwater.</p> <p>*The landfill cap has already been contoured and vegetated. The cap will be inspected in the spring and fall of each year for evidence of erosion. Existing monitoring wells are downgradient from the landfill. The primary purpose of these wells is documentation of intrinsic remediation process. The wells will also provide a secondary function of monitoring for landfill leachate.</p> <p>*The institutional control program implemented by the USAF to prohibit the construction of wells for purposes other than groundwater monitoring in Zone 4 will also include the prohibition of soil excavations within Zone 4.</p> <p>*In situ bioventing may be implemented in areas where significant concentrations of petroleum are present. Bioventing would be started only if the monitoring data indicate that RAOs are not likely to be reached within 25 years. Five years of monitoring data will be collected before evaluating the need for bioventing</p>
<p>CONT_RISK</p>	<p>Based on the information gathered and evaluated in the RI/FS, the USAF concludes that contaminated soil and water at the site present an unacceptable risk to ecological receptors and potential human users of the groundwater, although no human risk is currently present. The majority of the risk is associated with petroleum hydrocarbon constituents. Based on current and anticipated land use patterns, achievement of cleanup standards within 25 years does not pose an unacceptable risk. The Air Force plans to retain control of the property and use in the area is not likely to change significantly.</p>
<p>RATIONALE</p>	
<p>RECOMMENDATIONS</p>	

King_Salmon-LF008_ENV_SITE_SUMMARY_IRP

REFERENCES_

Contaminated Sites Database (accessed 1/13/2011) United States Air Force (USAF). 1999. Record of Decision for Naknek River Storage Sites, Landfill No. 5, and Zone 4 Groundwater, King Salmon Airport, Alaska. April. (1999 ROD)
United States Air Force (USAF). 2000. Record of Decision for Interim Remedial Action, Site: Groundwater Zone OT027 (Zone 1), King Salmon Air Station, King Salmon, Alaska. November. (2000 GW Zone 1 , OT027 ROD)

STATUS

King_Salmon-LF014_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	1059
SITIRP_ID	LF014
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA/non-CERCLA
RISK	cancer <1X10 ⁻⁵ ; HI<1
ALIAS	LF014
SITE_NAME	North Barrel Bluff
SITE_DESCRIPTION	The North Barrel Bluff site is a landfill located approximately 3,000 feet north of the KSA installation. The northern boundary of the disposal area is the bluff that descends into the wetland of King Salmon Creek, adjacent to and west of the White Alice Communications site
MEDIA_ID	LF014
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1940s-mid 1960
CATEGORY	IRP
AREA_ACRES	65
ACTIVITY	Active
LUC_RESTRICTION	The USAF will modify the General Plan, 611th ASG, Remote Alaska (hereafter referred to as the General Plan) and appropriate land records (i.e. deeds) to include approved institutional controls, which restrict future installation of drinking water wells and soil excavation at both sites. Land-use restrictions and land surveys will be included in the General Plan, which is scheduled for completion by October 2000. Additionally, the wooden barrier fencing constructed at the bluffs to prevent unauthorized site access will be inspected monthly for damage or vandalism, and maintained/repared as necessary.
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	none identified
MODIFIED_DATE	20110412
CONTAMINATION_SOURCE	drum disposal area
SITEID	LF014
INSTLN_ID	KS
MAINTENANCE	Groundwater monitoring; Surface water monitoring; Soil monitoring; Landfill cap inspections and repair; treatment wetland system; Sign maintenance and repairs; Fence maintenance and repairs
RESTRICTIONS	No unauthorized site access; No potable groundwater use; No unauthorized digging/excavation

King_Salmon-LF014_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF014
SITE_NAME	North Barrel Bluff
DATE_SUMM	4/12/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
DESC_USE	The North Barrel Bluff site is a landfill located approximately 3,000 feet north of the KSA installation. The northern boundary of the disposal area is the bluff that descends into the wetland of King Salmon Creek, adjacent to and west of the White Alice Communications site. The site occupies approximately 65 acres consisting of public (Alaska Family Housing), private, federal (USAF), and native corporation land. The site was reportedly a barrel, metal, and wood debris disposal area from the 1950s until the 1970s. Geophysical survey data collected in 1987 indicated that buried and partially buried debris are concentrated in an area approximately 50 to 100 feet wide and 3,000 feet long along the face of the bluff. The nearest private house is located approximately 400 feet south of the east end of the bluff.
GEO_HYDRO	At least three aquifer units are known to exist in the King Salmon area. The aquifers consist of unconsolidated, well sorted to poorly sorted silty and gravely sands separated by aquitard units consisting of silty sands, silts, and clays. The shallowest aquifer, the A-Aquifer, is unconfined and is exposed in many areas within KSA. The total depth to the A-Aquifer ranges from the surface at the Naknek River to 45 feet below ground surface (bgs) along the northern margin of KSA. The saturated thickness of the A-Aquifer ranges from zero to 15 feet. Groundwater movement in the A-Aquifer generally is toward local topographic lows and surface drainages such as 3 wetlands, rivers, creeks, and ditches. The A-Aquifer likely is recharged by precipitation and influent stream flow. The A-Aquitard is between 7 and 22 feet thick and underlies the A-Aquifer. The surface of the aquitard is not horizontal, and the relief may affect local groundwater flow direction and contaminant distribution. Eskimo Creek, King Salmon Creek, and the Naknek River have eroded through the A-Aquifer. Underlying the A-Aquitard, the top of the B-Aquifer has been encountered at depths ranging from 50 to 80 feet bgs. The known thickness of the aquifer ranges from 15 to 40 feet. Groundwater in the B-Aquifer probably is in equilibrium with the A-Aquifer; a similar piezometric surface has been measured in adjacent A-Aquifer and B-Aquifer monitoring wells. Numerous residential drinking-water supply wells are screened in the B-Aquifer. Residential areas near the north bank of the Naknek River are downgradient of potential KSA contamination sources. The B-Aquitard underlies the B-Aquifer. The thickness of this aquitard may vary from 10 to 120 feet; only two KSA supply wells are known to have penetrated the B-Aquitard. A third aquifer, the C-Aquifer, underlies the B-Aquitard at a depth of approximately 200 feet bgs. KSA's water-supply wells are reported to terminate in the C-Aquifer, which probably is confined. Aquifer thickness and direction of groundwater movement are unknown.
COC	none identified
INVESTIGATION_ACTIONS	1984, 1991, 1992 drum removal; 1986 geophysical survey; 1992 soil gas survey (South Bluff) and field investigation; RI (1995); a FS (1997); IRA (1996 and 1998); IRA ROD (1996); IRA 1996-1998; 1997 - 1998 wetland studies, biota studies, water treatment system operation, and groundwater monitoring; and 1996-1999 post closure monitoring (surface, groundwater, and sediment).

King_Salmon-LF014_ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Based on current site conditions and the successful implementation of interim remedial action, USAF, ADEC, and USEPA have selected a plan of institutional controls (site access and land-use restrictions), bluff inspection and maintenance, continued operation of the water-treatment system, and continued monitoring, with no further remedial action planned, as the final action for the North and South Bluff.</p> <p>The selected remedy is deemed sufficient to protect human health and the environment from risks associated with exposure to contaminated soil, sediment, groundwater, and surface water. Soil is not a media of concern at the Bluff sites because the only known contaminated soil present is associated with solid waste within the landfills, which is contained by the caps. The selected remedy includes the following components-</p> <p>*The USAF will modify the General Plan, 611th ASG, Remote Alaska (hereafter referred to as the General Plan) and appropriate land records (i.e. deeds) to include approved institutional controls, which restrict future installation of drinking- water wells and soil excavation at both sites. Land-use restrictions and land surveys will be included in the General Plan, which is scheduled for completion by October 2000. Additionally, the wooden barrier fencing constructed at the bluffs to prevent unauthorized site access will be inspected monthly for damage or vandalism, and maintained/repaired as necessary.</p> <p>*An inspection and maintenance program has been developed and implemented for the bluff caps. This program will continue at both sites following plans outlined in the Draft Operation, Monitoring, and Maintenance Manual, North and South Barrel Bluffs, King Salmon, Alaska.</p> <p>* Operation and maintenance of the water-treatment system at South Bluff (LF014) will continue according to plans outlined in the monitoring and maintenance manual. The objective of the treatment system is to intercept seep water leaching from the banks adjacent to King Salmon Creek and remove petroleum hydrocarbons and other organic chemicals that may be present. Following treatment, the water is discharged into a leach field adjacent to the South Bluff.</p>
	<p>*Residential wells near the bluffs have been sampled for potential contaminants several times since 1994 No contaminants have been detected, consequently, residential wells will no longer be sampled. Instead a more comprehensive system of sentry wells has been installed and will be sampled as delineated in the revised monitoring plan.</p> <p>* Groundwater and surface-water monitoring at the bluffs will continue on an annual basis following procedures outlined in the revised monitoring plan.</p> <p>*With the IRA in place, contamination remaining at the bluff sites does not pose an unacceptable threat to human health or the environment; however, some contamination remains in the bluffs disposal area beneath the cap. The remedy summarized above and detailed in this ROD will be reviewed by USAF, ADEC, and USEPA at a frequency of not less than once every five years to evaluate if the remedy continues to be effective and appropriate The first review will be conducted by 2005. Input from the Naknek/South Naknek Native Village Council, King Salmon Village Council, Federal and State trustees, and the King Salmon RAB will be solicited prior to implementing any changes.</p>
CONT_RISK	<p>The original noncancer hazard indices for the North and South Bluff sites calculated in 1995 were all less than 1.0, indicating that there were no significant adverse noncarcinogenic health effects associated with the bluff sites. The exposure pathways driving noncarcinogenic risks at the site were ingestion of groundwater and incidental ingestion of surface water. These pathways have essentially been eliminated through monitoring of public drinking-water wells and limiting access to the bluffs; therefore, it is reasonable to assume noncarcinogenic risks are even lower than those calculated in 1995.</p> <p>The original cumulative upper bound excess cancer risks for the North and South Bluff sites exceeded ADEC's acceptable cumulative carcinogenic risk level of 1×10^{-5}. The exposure pathways largely driving the cancer risk at the bluff sites were ingestion of groundwater, incidental ingestion of surface water, dermal contact with sediment, and incidental ingestion of sediment. Again, these pathways have essentially been eliminated through implementation of institutional controls and monitoring public drinking water wells. Without these pathways, carcinogenic risks for the RME residential scenario at the North Bluff are estimated to be 6×10^{-6} for each site, which are within acceptable ADEC limits.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites database - last accessed 4/12/2011 United States Air Force (USAF). 2000. Record of Decision for Final Remedial Action for North Bluff (LF005) and South Bluff (LF014), Groundwater Zone 3 (OT029), King Salmon Air Station, King Salmon, Alaska. Final . April (2000 ROD-FRA) United States Air Force (USAF). 1996. Addendum Interim Remedial Action Final Record of Decision for North and South Barrel Bluffs, King Salmon Airport, King Salmon, Alaska. Final. March. (1996 ROD Addendum)</p>
STATUS	

King_Salmon-OT027_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2628
SITIRP_ID	OT027
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	carcinogenic residential scenario 3 X 10 ⁻⁶ ; carcinogenic risk levels for all outdoor future use scenarios of 1X10 ⁻⁹ to 1X10 ⁻¹⁰ ; HI of 0.0001 to 0.001
ALIAS	OT27
SITE_NAME	Groundwater Zone 1
SITE_DESCRIPTION	Groundwater Zone OT027 (known as Zone 1), is located at King Salmon Air Station, Alaska. Four source areas have potentially contributed to the contamination at Zone 1: Dry Well Site (DP023), Eskimo Creek (SS011); POL Tanks (SS015); and the MOGAS Station (SS019).
MEDIA_ID	OT027
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1941-present
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	Only water from the C-Aquifer, the current source of water for KSA, will be used for drinking. Drinking water wells will not be installed in the A- and B-Aquifers.
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	TCE; cis-1,2-DCE; trans-1,2-DCE, 1,1-DCE, Vinyl Chloride (groundwater, surface water, sediment)
MODIFIED_DATE	20110322
CONTAMINATION_SOURCE	various leaks/spills/disposal practices
SITEID	OT027
INSTLN_ID	KS
MAINTENANCE	Groundwater monitoring; Surface water monitoring; Soil monitoring
RESTRICTIONS	Drinking water well restrictions

King_Salmon-OT027_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	OT027
SITE_NAME	Groundwater Zone 1
DATE_SUMM	3/22/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
DESC_USE	Historical spills and operational practices at Zone 1 have led to contamination of the water table with petroleum-based products, specifically petroleum product floating on the groundwater, DRO dissolved in the groundwater, and VOCs including TCE dissolved in the groundwater. Four source areas have potentially contributed to the contamination at Zone 1: Dry Well Site (DP023); Eskimo Creek (SS011); POL Tanks (SS015); and the MOGAS Station (SS019).
GEO_HYDRO	Three aquifers have been encountered during drilling at KSA. The aquifers consist of horizontally bedded silty sands separated by clayey silt aquitard units. The uppermost aquifer is designated the A-Aquifer. The A-Aquifer overlies the A-Aquitard, which overlies alternating aquitard and aquifer units designated as B- and C- aquifers and Aquitards. The competence of the A-Aquitard has not been determined. The A-Aquifer is unconfined and extends to between 20 and 40 feet bgs. The saturated surface of the A-Aquifer varies from the water level at river margins and muskeg to about 30 feet bgs. Groundwater flow generally follows the surface topography, with some local variability. Most of the local water supply wells are completed in the B-Aquifer, many of them are considered to be hydraulically downgradient from KSA. KSA draws its water from the C-Aquifer. At DP013 the water table is approximately between 15 to 20 feet bgs. Groundwater flow in the A-Aquifer is to the east, towards Eskimo Creek.
COC	TCE; cis-1,2-DCE; trans-1,2-DCE, 1,1-DCE, Vinyl Chloride (groundwater, surface water, sediment)
INVESTIGATION_ACTIONS	This decision is based on information contained in the Administrative Record, including but not limited to the results of an IRP Records Search, SIs (1987 through 1993), a RI (1995), a FS (1997), a natural attenuation study (1997-1998), and a focused FS (1999) RAs have been implemented at a number of the sources of contamination: SS011 (Eskimo Creek) - Two French drains were installed and all ground water collected is treated by activated carbon; SS015 (POL Tanks) - Three of the four POL tanks have been taken out of service, and the one remaining tank has been reconditioned in accordance with ASTM standards; SSO19 (MOGAS Station) - The site currently is being biovented and has been administratively closed as an IRP site and ADEC contaminated site. SSO19 currently is being managed by the Compliance Section under regulatory oversight from ADEC's Storage Tank Program; and DP023 (Dry Well Site) - The dry well was excavated, contaminated soil was removed from ground surface to the top of the groundwater smear zone and placed into a bioremediation cell, and the site was backfilled with clean fill. This Interim Record of Decision (ROD) presents the selected interim remedial action for Zone 1 groundwater contamination and administrative site closure for DP023 and SS01 9 within Zone 1. Remaining contamination in other site media (e.g., soil) will be addressed in the Final ROD at a later date. This document has been developed in accordance with the Defense Environmental Restoration Program, 10 USC 2701, consistent with ADEC Oil and Hazardous Substances Pollution Control Regulations [18 AAC 75], the CERCLA, 42 USC 9601 and Executive Order 12580 (52 Federal Register 2923), and with the National Oil and Hazardous Substances Pollution Contingency Plan [40 CFR 300].

King_Salmon-OT027_ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION

The selected interim remedy for Zone 1 addresses the risk to human health and the environment caused by hypothetical exposure to petroleum product floating on groundwater and TCE-contaminated groundwater, surface water, and sediment. Other contaminants of concern I include the TCE degradation products cis- and trans-1,2-DCE, 1,1-DCE, and VC. RAOs for these media and contaminants of concern are presented in the following table Other contamination present in Zone 1 (e.g., dissolved DRO and VOCs in groundwater and site soil) will be addressed in the Final ROD at a later date.

The selected interim remedy includes the following components, Floating Petroleum Product Recovery. An estimated 14,000 to 54,000 cubic feet (105,000 to 404,000 gallons) of floating petroleum product (measured in 1998) is present on the water table Zone 1. The contamination encompasses an area of approximately 410,000 square feet. DPE techniques will be used to actively recover floating petroleum I product to the extent practicable. The estimated timeframe for removal is 10 years. The vacuum applied by the DPE system will enhance monitored natural attenuation in the smear zone and dissolved-phase plume. Groundwater monitoring will occur during and after DPE system remediation. Following removal of floating petroleum product, the progress of monitored natural attenuation of the remaining dissolved-phase hydrocarbons will be evaluated.

TCE in Groundwater. TCE is present in A-Aquifer groundwater within four localized plumes at Zone 1. A previously defined fifth area of contamination no longer exists. TCE has also been documented in one B-Aquifer well. Only the A-Aquifer plume at Eskimo Creek Seep No. 2 currently poses a significant risk. Cleanup levels have been established for TCE and its degradation products in A- and B-Aquifer groundwater (see table below). Additionally, action I levels have been set for A-Aquifer POC, which are the sentry wells established for Seep No. 2 adjacent to Eskimo Creek Action levels in these wells are the ecological surface water quality criteria which must be met in Eskimo Creek and adjacent wetlands. Groundwater data collected in 1999 indicate that TCE is present at a concentration exceeding the site action level of 0.35 mg/L in one sentry well (GP-1). If the actions level continues to be exceeded in GP-1 and other POC wells during the year 2001 and subsequent sampling events, the TCE plume will be remediated by installing a permeable reactive treatment wall downgradient of the suspected source area. The wall would be in place for the entire remediation timeframe of 25 years. If POC TCE concentrations remain below the action level, 3 the plume will be remediated through monitored natural attenuation. Groundwater, surface water, and sediment monitoring will be conducted annually for 25 years to document the remediation progress. Groundwater contamination will be modeled every five years to assess TCE fate and transport.

Modeling based on the most recent analytical data indicates that the source will attenuate to RAO levels in approximately 3 years. The entire plume will attenuate to RAO levels in an estimated 10 to 11 years.

Eskimo Creek Water Treatment System. Operation and maintenance of the water-treatment system at Eskimo Creek (SS011) will continue. The objective of the treatment system is to intercept seep water leaching from the banks of Eskimo Creek and remove petroleum hydrocarbons and other organic chemicals that may be present. Following treatment, the water is discharged into the wetlands adjacent to Eskimo Creek. The treatment system is operated under ADEC oversight.

Groundwater Use Restriction. Only water from the C-Aquifer, the current source of water for KSA, will be used for drinking. Drinking water wells will not be installed in the A- and B-Aquifers.

King_Salmon-OT027_ENV_SITE_SUMMARY_IRP

CONT_RISK	<p>The current human health risks attributed to the Zone 1 sites are significantly smaller than those reported by EMCON in the original risk assessment. Risks have been reduced primarily through IRA activities (i.e., source/tank removal, bioventing, etc.), which eliminate exposure pathways. Additionally, sampling activities and data analysis performed since completion of the risk assessment indicate generally lower levels of contamination than were reported in 1995. For example, concentrations of TCE in groundwater generally have been declining since 1994. The original noncancer hazard index for Zone 1 calculated in 1995 was less than 1.0, indicating that there were no significant adverse noncarcinogenic health effects associated with the site. The exposure pathways driving noncarcinogenic risk were ingestion of groundwater and inhalation of groundwater volatiles. Private wells are not completed in the A-Aquifer and no contaminants have been detected in B-Aquifer private drinking-water wells during several years of monitoring, therefore, there are no known risks associated with the groundwater ingestion pathway. Additionally, recent indoor and outdoor air modeling indicated little risk associated with the inhalation of volatiles from groundwater (discussed below). Based on these data, it is reasonable to assume that current noncarcinogenic risks at Zone 1 are even lower than those calculated in 1995.</p>
	<p>The original cumulative upper bound excess cancer risk for Zone 1 exceeded ADEC's acceptable cumulative carcinogenic risk level of 1×10^{-5} (ADEC, 1998a). The exposure pathways largely driving the cancer risk at the site were ingestion of groundwater and inhalation of groundwater volatiles (EMCON, 1995b). Again, there are no known risks associated with these pathways. Without these pathways, carcinogenic risk for the RME residential scenario at Zone 1 is estimated to be 3×10^{-6}, which is within acceptable ADEC limits.</p> <p>A limited human health risk assessment also was performed based on potential TCE contamination in indoor and outdoor air in the vicinity of Buildings #647 and #649 at Zone 1. The potential exposure scenarios assumed for Buildings #647 and #649 involved a vocational center for teenagers and a Boys and Girls club, respectively. The exposure period for students was 24 hours per day for one year. Teachers at the vocational school were assumed to be on the site for 10 years (a conservative assumption given the average teacher tenure of 3 years for the Lake and Peninsula School District). The exposure time, exposure frequency, and exposure duration for children at the Boys and Girls Club were 4 hours per day, 260 days per year, and 8 years, respectively. An ED of 10 years was used for adults.</p> <p>Exposure scenarios were assessed for indoor and outdoor air. Both scenarios were run for normal diffusion of TCE vapors from the plume beneath the buildings, and for enhanced volatility resulting from the potential failure of the vapor recovery portion of a remediation system utilizing air sparging.</p> <p>Carcinogenic risk levels of 10^{-9} to 10^{-10} and noncarcinogenic hazard indices of 0.0001 to 0.001 indicate risk below ADEC and USEPA criteria for all outdoor future use scenarios.</p> <p>The selected remedy does not involve implementing an air sparging system; therefore, assessing the risks associated with the failure of such a system is unnecessary. With the exception of slightly elevated noncarcinogenic risk levels for Building #647, risk attributed strictly to the diffusion of TCE vapors into the buildings (i.e., indoor air) are within ADEC and USEPA permissible limits.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites database (accessed 3/22/2011) United States Air Force (USAF). 2000. Record of Decision for Interim Remedial Action, Site: Groundwater Zone OT027 (Zone 1), King Salmon Air Station, King Salmon, Alaska. November. (2000 GW Zone 1 , OT027 ROD)</p>
STATUS	

King_Salmon-OT028_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2629
SITIRP_ID	OT028
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Not analyzed
ALIAS	
SITE_NAME	Groundwater Zone 2
SITE_DESCRIPTION	Groundwater Zone 2 (OT028) coincides with the base industrial area. Groundwater contamination associated with all of the IRP sites in the base industrial area is considered to be part of Groundwater Zone 2
MEDIA_ID	OT028
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	*Excavations and other subsurface activities will be restricted from sites SS020 (Old Power Plant Building), SS021 (Refueler Shop), and SS022 (Eskimo Creek Dump) * The installation of A-Aquifer drinking water wells will be restricted from OT028 (Groundwater Zone 2) and Eskimo Creek Dump (SS022). The institutional controls will be documented in the base master plan and state land records
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	TCE, cis-1,2-DCE, benzene, ethylbenzene, toluene, GRO, DRO
MODIFIED_DATE	20110113
CONTAMINATION_SOURCE	Historical spills and operational practices at the base industrial area
SITEID	OT028
INSTLN_ID	KS
MAINTENANCE	Groundwater monitoring; Surface water monitoring; 5-year reviews;
RESTRICTIONS	Drinking water well restrictions; Property records/Base Plan documentation

King_Salmon-OT028_ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	OT028
SITE_NAME	Groundwater Zone 2
DATE_SUMM	1/5/2011
CURRENT_STATUS	Open
SITE STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
DESC_USE	Groundwater Zone 2 (OT028) coincides with the base industrial area. Groundwater contamination associated with all of the IRP sites in the base industrial area is considered to be part of Groundwater Zone 2
GEO_HYDRO	Three aquifers have been encountered during drilling at KSA. The aquifers consist of horizontally bedded silty sands separated by clayey silt aquitard units. The uppermost aquifer is designated the A-Aquifer. The A-Aquifer overlies the A-Aquitard, which overlies alternating aquitard and aquifer units designated as B- and C- aquifers and Aquitards. The competence of the A-Aquitard has not been determined. The A-Aquifer is unconfined and extends to between 20 and 40 feet bgs. The saturated surface of the A-Aquifer varies from the water level at river margins and muskeg to about 30 feet bgs. Groundwater flow generally follows the surface topography, with some local variability. Most of the local water supply wells are completed in the B-Aquifer, many of them are considered to be hydraulically downgradient from KSA. KSA draws its water from the C-Aquifer.
COC	TCE, cis-1,2-DCE, benzene, ethylbenzene, toluene, GRO, DRO
INVESTIGATION_ACTIONS	<p>Historical spills and operational practices at the base industrial area have led to contamination of the soil and groundwater with petroleum-based products, specifically DRO, GRO, and VOCs, including TCE and BTEX. Numerous environmental investigations have been performed to evaluate contamination at the KSA Base Industrial Area. RIs were completed between 1989 and 1995 to evaluate the nature and extent of contamination in the soils and groundwater at the KSA Base Industrial Area. Surface water and sediment sampling was performed every year from 1996 through 2000, in addition, aquatic biota and human food chain samples were collected during 1996, 1997, and 1999. A comprehensive FS was completed for all KSA sites in 1997. A 1997 monitored natural attenuation study in the base industrial area indicated that additional data were needed to assess whether monitored natural attenuation was adequate to address the dissolved TCE plume. A soil and groundwater investigation and focused FS was completed in August 2001 to fill in data gaps in the site characterization and to augment the KSA FS. The focused FS was limited to evaluating remedial alternatives for OT028 groundwater. A Proposed Plan for Final Remedial Action was prepared and distributed in March 2002. Remedial actions implemented within the Base Industrial Area are listed below:</p> <ul style="list-style-type: none"> *USTs were removed from eight buildings in the base industrial area (Buildings 150, 154, 157, 159, 162, 305, 306, and 307) *Bioventing systems are currently operating at four separate sites in the base industrial area (near Buildings 154, 157/1 59 (remediated as one site), 306, and 307). * Two other IRP sites located within the base industrial area (DPO13 and OT018) were addressed in a NFRAP decision document that was signed in 1995.

King_Salmon-OT028_ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>The final remedy for this site is MNA of the TCE, BTEX, and GRO plumes. MNA is the most cost-effective groundwater remedy evaluated and meet RAGs for the site as long as the following two conditions are met.</p> <ul style="list-style-type: none"> * Contaminant levels show a decreasing trend with a predicted end point of reaching cleanup levels within 25 years; and * Contaminants (specifically TCE) detected at the points of compliance may not exceed action levels. Points of compliance refer to one or more of the groundwater monitoring wells or well points adjacent to Eskimo Creek. Use of the action levels at the points of compliance is considered protective of ecological receptors in Eskimo Creek by the state of Alaska. If long-term monitoring does not indicate that cleanup levels will be met within 25 years, or if action levels are exceeded, then the USAF may need to implement an active remediation technique. Compliance with these two conditions will be evaluated by annual groundwater and surface water monitoring results and the results of groundwater modeling every five years. If active remediation necessary, potential remedial techniques would be evaluated at that time. <p>MNA includes the following components:</p> <ul style="list-style-type: none"> * Institutional controls (documented in the base master plan and state land records) to restrict installation of drinking water wells or other intrusive activities that would not be appropriate during remediation, * Installing new monitoring wells, if necessary, * Annual groundwater and surface water monitoring with a five year review consistent with a comprehensive monitoring plan to be developed by the agencies, and * Groundwater modeling every 5 years. <p>It is anticipated that groundwater monitoring will include sampling for VOCs, GRO, DRO, and MNA parameters for the first five years. Surface water monitoring will likely include VOCs, there is no need to sample surface water for GRO and DRO since trends have already been established and there are no regulatory criteria for these parameters. After the site MNA conditions have been established and during the five-year review, sampling for MNA parameters may be performed on a less frequent basis.</p>
CONT_RISK	<p>The final remedies documented in this ROD are protective of human health and the environment. The remedies are cost-effective and comply with all applicable or relevant and appropriate federal and state requirements The remedies also satisfy the statutory preference for treatment as a principal element of the remedy. Because the remedies will result in hazardous substances remaining on-site above risk-based levels, they will be reviewed by USAF and ADEC at a frequency of not less than once every five years after implementation to evaluate if the remedies continue to be effective and appropriate.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 1/5/2011) United States Air Force (USAF). 2000. Record of Decision for Final Remedial Action Naknek Recreation Camp 1 (Rapids Camp/Site OT032) King Salmon Air Station, King Salmon, Alaska. April. (2000 ROD - OT032)</p> <p>United States Air Force (USAF). 2002. Record of Decision for Final Remedial Action Sites: Groundwater Zone OT028 (Zone2), Waste Accumulation Area 3 (SS017), Eskimo Creek Dump (SS022), Refueler Shop (SS021), and Old Power Plant Building (SS020), King Salmon Air Station, King Salmon, Alaska. December. (2002 ROD)</p>
STATUS	

King_Salmon-OT029_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2630
SITIRP_ID	OT029
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA/non-CERCLA
RISK	cancer <1X10-5; HI<1
ALIAS	None
SITE_NAME	Groundwater Zone 3
SITE_DESCRIPTION	North and South Bluffs (LF005 and LF014) were combined to form GWZ 3, also known as IRP Site OT029.
MEDIA_ID	OT029
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1940's to 1970s (North and South Bluff landfill operations)
CATEGORY	IRP
AREA_ACRES	92 acres (North and South Bluff landfill combined area)
ACTIVITY	Active
LUC_RESTRICTION	The USAF will modify the General Plan, 611th ASG, Remote Alaska (hereafter referred to as the General Plan) and appropriate land records (i.e. deeds) to include approved institutional controls, which restrict future installation of drinking- water wells and soil excavation at both sites. Land-use restrictions and land surveys will be included in the General Plan, which is scheduled for completion by October 2000. Additionally, the wooden barrier fencing constructed at the bluffs to prevent unauthorized site access will be inspected monthly for damage or vandalism, and maintained/repared as necessary.
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506- 8884
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	none identified
MODIFIED_DATE	20110421
CONTAMINATION_SOURCE	drum disposal areas (LF005 and LF014)
SITEID	OT029
INSTLN_ID	KS
MAINTENANCE	Fence maintenance and repairs; Soil cap inspections and repair; Water treatment system maintenance; Ground water monitoring; Surface water monitoring; 5-year reviews
RESTRICTIONS	No unauthorized site access; No inappropriate land use; Property records/Base Plan documentation

King_Salmon-OT029_ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	OT029
SITE_NAME	Groundwater Zone 3
DATE_SUMM	4/21/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
DESC_USE	North and South Bluffs (LF005 and LF014) were combined to form GWZ 3, also known as IRP Site OT029.
GEO_HYDRO	<p>At least three aquifer units are known to exist in the King Salmon area. The aquifers consist of unconsolidated, well-sorted to poorly sorted silty and gravely sands separated by aquitard units consisting of silty sands, silts, and clays.</p> <p>The shallowest aquifer, the A-Aquifer, is unconfined and is exposed in many areas within KSA. The total depth to the A-Aquifer ranges from the surface at the Naknek River to 45 feet below ground surface (bgs) along the northern margin of KSA. The saturated thickness of the A-Aquifer ranges from zero to 15 feet. Groundwater movement in the A-Aquifer generally is toward local topographic lows and surface drainages such as 3 wetlands, rivers, creeks, and ditches. The A-Aquifer likely is recharged by precipitation influent stream flow.</p> <p>The A-Aquitard is between 7 and 22 feet thick and underlies the A-Aquifer. The surface of the aquitard is not horizontal, and the relief may affect local groundwater flow direction and contaminant distribution. Eskimo Creek, King Salmon Creek, and the Naknek River have eroded through the A-Aquitard 3</p> <p>Underlying the A-Aquitard, the top of the B-Aquifer has been encountered at depths ranging from 50 to 80 feet bgs. The known thickness of the aquifer ranges from 15 to 40 feet. Groundwater in the B-Aquifer probably is in equilibrium with the A-Aquifer; a similar piezometric surface has been measured in adjacent A-Aquifer and B-Aquifer monitoring wells. Numerous residential drinking-water supply wells are screened in the B-Aquifer. Residential areas near the north bank of the Naknek River are downgradient of potential KSA contamination sources. The B-Aquitard underlies the B-Aquifer. The thickness of this aquitard may vary from 10 to 120 feet; only two KSA supply wells are known to have penetrated the B-Aquitard.</p> <p>A third aquifer, the C-Aquifer, underlies the B-Aquitard at a depth of approximately 200 feet bgs. KSA's water-supply wells are reported to terminate in the C-Aquifer, which probably is confined. Aquifer thickness and direction of groundwater movement are unknown.</p>
COC	none identified
INVESTIGATION_ACTIONS	This decision is based on information contained in the Administrative Record, including but not limited to the results of an IRP Records Search, Site Investigations (1990 and 1991), Remedial Investigation (1995), a Feasibility Study (1997), Interim Remedial Action (IRA) (1996 and 1998), Interim Remedial Action Record of Decision (1996), and post-closure monitoring (1996 through 1999).
FINAL_REM_ACTION	<p>Based on current site conditions and the successful implementation of interim remedial action, USAF, ADEC, and USEPA have selected a plan of institutional controls (site access and land-use restrictions), bluff inspection and maintenance, continued operation of the water-treatment system, and continued monitoring, with no further remedial action planned, as the final action for the North and South Bluff.</p> <p>The selected remedy is deemed sufficient to protect human health and the environment from risks associated with exposure to contaminated soil, sediment, groundwater, and surface water. Soil is not a media of concern at the Bluff sites because the only known contaminated soil present is associated with solid waste within the landfills, which is contained by the caps. The selected remedy includes the following components-</p> <p>*The USAF will modify the General Plan, 611th ASG, Remote Alaska (hereafter referred to as the General Plan) and appropriate land records (i.e. deeds) to include approved institutional controls, which restrict future installation of drinking-water wells and soil excavation at both sites. Land-use restrictions and land surveys will be included in the General Plan, which is scheduled for completion by October 2000. Additionally, the wooden barrier fencing constructed at the bluffs to prevent unauthorized site access will be inspected monthly for damage or vandalism, and maintained/repared as necessary.</p>

King_Salmon-OT029_ENV_SITE_SUMMARY_IRP

	<p>*An inspection and maintenance program has been developed and implemented for the bluff caps. This program will continue at both sites following plans outlined in the Draft Operation, Monitoring, and Maintenance Manual, North and South Barrel Bluffs, King Salmon, Alaska.</p> <p>* Operation and maintenance of the water-treatment system at South Bluff (LF014) will continue according to plans outlined in the monitoring and maintenance manual. The objective of the treatment system is to intercept seep water leaching from the banks adjacent to King Salmon Creek and remove petroleum hydrocarbons and other organic chemicals that may be present. Following treatment, the water is discharged into a leach field adjacent to the South Bluff.</p> <p>*Residential wells near the bluffs have been sampled for potential contaminants several times since 1994. No contaminants have been detected, consequently, residential wells will no longer be sampled. Instead a more comprehensive system of sentry wells has been installed and will be sampled as delineated in the revised monitoring plan.</p> <p>* Groundwater and surface-water monitoring at the bluffs will continue on an annual basis following procedures outlined in the revised monitoring plan.</p> <p>*With the IRA in place, contamination remaining at the bluff sites does not pose an unacceptable threat to human health or the environment; however, some contamination remains in the bluffs disposal area beneath the cap. The remedy summarized above and detailed in this ROD will be reviewed by USAF, ADEC, and USEPA at a frequency of not less than once every five years to evaluate if the remedy continues to be effective and appropriate. The first review will be conducted by 2005. Input from the Naknek/South Naknek Native Village Council, King Salmon Village Council, Federal and State trustees, and the King Salmon RAB will be solicited prior to implementing any changes.</p>
CONT_RISK	<p>The original noncancer hazard indices for the North and South Bluff sites calculated in 1995 were all less than 1.0, indicating that there were no significant adverse noncarcinogenic health effects associated with the bluff sites. The exposure pathways driving noncarcinogenic risks at the site were ingestion of groundwater and incidental ingestion of surface water. These pathways have essentially been eliminated through monitoring of public drinking-water wells and limiting access to the bluffs; therefore, it is reasonable to assume noncarcinogenic risks are even lower than those calculated in 1995.</p> <p>The original cumulative upper bound excess cancer risks for the North and South Bluff sites exceeded ADEC's acceptable cumulative carcinogenic risk level of 1×10^{-5}. The exposure pathways largely driving the cancer risk at the bluff sites were ingestion of groundwater, incidental ingestion of surface water, dermal contact with sediment, and incidental ingestion of sediment. Again, these pathways have essentially been eliminated through implementation of institutional controls and monitoring public drinking water wells. Without these pathways, carcinogenic risks for the RME residential scenario at the North and South Bluff are estimated to be 6×10^{-6} for each site, which are within acceptable ADEC limits.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 4/21/2011)</p> <p>United States Air Force (USAF). 2000. Record of Decision for Final Remedial Action for North Bluff (LF005) and South Bluff (LF014), Groundwater Zone 3 (OT029), King Salmon Air Station, King Salmon, Alaska. Final . April (2000 ROD) United States Air Force (USAF). 2002. Record of Decision for Final Remedial Action Sites: Groundwater Zone OT028 (Zone2), Waste Accumulation Area 3 (SS017), Eskimo Creek Dump (SS022), Refueler Shop (SS021), and Old Power Plant Building (SS020), King Salmon Air Station, King Salmon, Alaska. December. (2002 ROD)</p>
STATUS	

King_Salmon-OT030_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2631
SITIRP_ID	OT030
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	non carcinogenic HI >1 (on site residents/workers); carcinogenic within or below 1X10-4 to 10-6 for on site residents; upper bound excess cancer 1X10-5 to 2X10-4; Ecological HI >1.
ALIAS	NA
SITE_NAME	Groundwater Zone 4
SITE_DESCRIPTION	Contaminated Zone 4 groundwater encompasses an area of approximately 10 acres in three plumes located between King Salmon Creek and Eskimo Creek, southwest of the main King Salmon Base, and the Naknek River
MEDIA_ID	OT030
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	NA
CATEGORY	IRP
AREA_ACRES	~10 acres
ACTIVITY	Active
LUC_RESTRICTION	The institutional control program implemented by the USAF to prohibit the construction of wells for purposes other than groundwater monitoring in Zone 4 will also include the prohibition of soil excavations within Zone 4.
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	benzene, toluene, TCE, GRO, DRO (groundwater); TAH, TAqH, DRO (surface water); benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, DRO (soil)
MODIFIED_DATE	201100113
CONTAMINATION_SOURCE	Various-SS012, LF008
SITEID	OT030
INSTLN_ID	KS
MAINTENANCE	Groundwater monitoring; Surface water monitoring; Soil monitoring; Landfill cap inspections and repair
RESTRICTIONS	Water well restrictions; No unauthorized digging/excavation

King_Salmon-OT030_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	OT030
SITE_NAME	Groundwater Zone 4
DATE_SUMM	1/13/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
DESC_USE	Contaminated Zone 4 groundwater encompasses an area of approximately 10 acres in three plumes located between King Salmon Creek and Eskimo Creek, southwest of the main King Salmon Base, and the Naknek River
GEO_HYDRO	Three aquifers have been encountered during drilling at KSA. The aquifers consist of horizontally bedded silty sands separated by clayey silt aquitard units. The uppermost aquifer is designated the A-Aquifer. The A-Aquifer overlies the A-Aquitard, which overlies alternating aquitard and aquifer units designated as B- and C- aquifers and Aquitards. The competence of the A-Aquitard has not been determined. The A-Aquifer is unconfined and extends to between 20 and 40 feet bgs. The saturated surface of the A-Aquifer varies from the water level at river margins and muskeg to about 30 feet bgs. Groundwater flow generally follows the surface topography, with some local variability. Most of the local water supply wells are completed in the B-Aquifer, many of them are considered to be hydraulically downgradient from KSA. KSA draws its water from the C-Aquifer.
COC	benzene, toluene, TCE, GRO, DRO (groundwater); TAH, TAqH, DRO (surface water); benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, DRO (soil)
INVESTIGATION_ACTIONS	1985 Environmental Assessment, 1990 Site Investigations, 1993 Source Investigation/Removal Action, 1993-1994 Remedial Investigation, 1994 pipeline removal/investigation, 1994 Treatability Study, 1995 sampling event, and 1996-1997 wetland, food contamination investigation

King_Salmon-OT030_ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION

GROUNDWATER AND SURFACE WATER

* Groundwater and surface water will be monitored annually to evaluate reduction of the contaminant concentrations by intrinsic remediation. Once contaminant levels in a sampling location are below cleanup levels, the location will be sampled two more times. If no additional contamination is detected above cleanup levels, the monitoring will be discontinued. The cleanup level for both benzene and TCE in groundwater is 5 µg/L, the cleanup level for toluene is 1,000 µg/L, the cleanup level for DRO is 1,500 µg/L, and the cleanup level for GRO is 1,300 µg/L. The A-Aquifer groundwater at the site is not considered a drinking water source, pursuant to 18 AAC 75.350. The groundwater is not currently used for a private or public drinking water system, it is not a reasonably expected potential future source of drinking water, and it will not be transported to groundwater that is a source of drinking water in concentrations that exceed the groundwater cleanup levels. Groundwater use restrictions will be used to prevent installation of groundwater supply wells within designated plumes within Zone 4. Upon acceptance of this DD, an order will be issued by the Commander, 61 1th Air Support Group, prohibiting the construction of wells for any purposes other than groundwater monitoring within Zone 4 until three consecutive monitoring events indicate that cleanup levels have been achieved.

Recoverable quantities of free product found to be migrating along the top of the groundwater table toward a surface water seep will be intercepted before discharge to the wetlands. Existing product recovery systems will be operated and maintained to remove the free product until no free product is detected by the monitoring program. The free product will be collected and removed using a passive system such as absorbent booms. Recovered product will be utilized for energy recovery or otherwise disposed of consistent with State and Federal regulations.

SOIL

Soil with DRO contamination above the cleanup level of 2,500 milligrams per kilogram (mg/kg) will be left in-situ (in-place). Groundwater, surface water, and sediments will be monitored annually to evaluate reduction of the contaminant concentrations in soil by intrinsic remediation. Annual monitoring will be discontinued if contaminant levels are below cleanup levels during three consecutive monitoring results. In-situ bioventing of contaminated soils will be implemented after year five if monitoring data indicate that intrinsic remediation will not achieve cleanup levels in site soil and groundwater.

*The landfill cap has already been contoured and vegetated. The cap will be inspected in the spring and fall of each year for evidence of erosion. Existing monitoring wells are downgradient from the landfill. The primary purpose of these wells is documentation of intrinsic remediation process. The wells will also provide a secondary function of monitoring for landfill leachate.

*The institutional control program implemented by the USAF to prohibit the construction of wells for purposes other than groundwater monitoring in Zone 4 will also include the prohibition of soil excavations within Zone 4.

*In situ bioventing may be implemented in areas where significant concentrations of petroleum are present. Bioventing would be started only if the monitoring data indicate that RAOs are not likely to be reached within 25 years. Five years of monitoring data will be collected before evaluating the need for bioventing.

King_Salmon-OT030_ENV_SITE_SUMMARY_IRP

CONT_RISK	Based on the information gathered and evaluated in the RI/FS, the USAF concludes that contaminated soil and water at the site present an unacceptable risk to ecological receptors and potential human users of the groundwater, although no human risk is currently present. The majority of the risk is associated with petroleum hydrocarbon constituents. Based on current and anticipated land use patterns, achievement of cleanup standards within 25 years does not pose an unacceptable risk. The Air Force plans to retain control of the property and use in the area is not likely to change significantly.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 1/13/2011) United States Air Force (USAF). 1999. Record of Decision for Final Remedial Action Naknek River Storage Sites, Landfill No.5, and Zone 4 Groundwater, King Salmon Airport, Alaska. April. (1999 ROD) United States Air Force (USAF). 2000. Record of Decision for Interim Remedial Action, Site: Groundwater Zone OT027 (Zone 1), King Salmon Air Station, King Salmon, Alaska. November. (2000 GW Zone 1 , OT027 ROD)
STATUS	

King_Salmon-SS011_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	532
SITIRP_ID	SS011
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Not Analyzed
ALIAS	SS11
SITE_NAME	Fuel Seepage - Eskimo Creek
SITE_DESCRIPTION	In the mid-1970s, two petroleum seeps observed at Eskimo Creek were reported to be discharging at rates of up to ten gallons per day.
MEDIA_ID	SS011
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Seeps observed mid 1970's, treatment started in 1981
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	For OT027 - groundwater zone 1 including area beneath Eskimo Creek) Only water from the C-Aquifer, the current source of water for KSA, will be used for drinking. Drinking water wells will not be installed in the A- and B-Aquifers.
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	None specified
MODIFIED_DATE	20110323
CONTAMINATION_SOURCE	leaks/spills
SITEID	SS011
INSTLN_ID	KS
MAINTENANCE	Groundwater monitoring
RESTRICTIONS	Drinking water well restrictions

King_Salmon-SS011_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS011
SITE_NAME	Fuel Seepage - Eskimo Creek
DATE_SUMM	3/23/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
DESC_USE	In the mid-1970s, two petroleum seeps observed at Eskimo Creek were reported to be discharging at rates of up to ten gallons per day. The exact source of the contamination is not known, but probably includes past releases from the POL Storage Tank area and/or associated pipelines and delivery systems, releases from the dry well (DP023), and releases from Building 649 (former bowling alley). In 1981, floating product recovery pumps and a French drain were installed along the west bank of Eskimo Creek to intercept the floating fuel from Seep 1 before it reached the creek. The French drain was replaced in 1990 and a second French drain was installed upgradient of Seep 2 in 1994. A permanent groundwater treatment system was installed in the early 1990s to treat the petroleum-contaminated water.
GEO_HYDRO	Three aquifers have been encountered during drilling at KSA. The aquifers consist of horizontally bedded silty sands separated by clayey silt aquitard units. The uppermost aquifer is designated the A-Aquifer. The A-Aquifer overlies the A-Aquitard, which overlies alternating aquitard and aquifer units designated as B- and C- aquifers and Aquitards. The competence of the A-Aquitard has not been determined. The A-Aquifer is unconfined and extends to between 20 and 40 feet bgs. The saturated surface of the A-Aquifer varies from the water level at river margins and muskeg to about 30 feet bgs. Groundwater flow generally follows the surface topography, with some local variability. Most of the local water supply wells are completed in the B-Aquifer, many of them are considered to be hydraulically downgradient from KSA. KSA draws its water from the C-Aquifer. At DP013 the water table is approximately between 15 to 20 feet bgs. Groundwater flow in the A-Aquifer is to the east, towards Eskimo Creek.
COC	None specified
INVESTIGATION_ACTIONS	Potential areas of environmental contamination at KSA have been evaluated by multiple contractors working for the 611th Civil Engineer Squadron (611 CES) since 1985. Site specific investigations that have occurred at Eskimo Creek include the following: * Phase I: Record Search. AAC-Southern Region: King Salmon (USAF, 1985). * Phase 11 - Task I Presurvey Report. Shemya Air Force Base and King Salmon Air Force Base (USAF, 1986). * Installation Restoration Plan, King Salmon Airport. Stage 1, Final Technical Report (USAF, 1989). * Installation Restoration Plan, Stage 2, Final Draft Technical Report (USAF, 1990). * Report of Groundwater Monitoring Well Sampling and Analysis, King Salmon Airport, Alaska (USAF, 1992). * Groundwater Monitoring Performed October 1992, King Salmon Airport, Alaska (USAF, 1993c). * Treatability/Feasibility Study: Eskimo Creek Site (SS11), King Salmon Airport, King Salmon, Alaska (USAF, 1993b) * Historical Investigation of contaminant Sources, King Salmon Airport, King Salmon, Alaska (USAF, 1993a).

King_Salmon-SS011_ENV_SITE_SUMMARY_IRP

	<p>*Installation Restoration Program Remedial Investigation Report, Final (USAF, 1995). *Final Feasibility Study, Eskimo Creek Product Recovery System, King Salmon Airport, King Salmon, Alaska (USAF, 1998a). *Human Food Chain, Aquatic Biota, and Wetlands Evaluations, King Salmon Airport, Alaska, Final Technical Report (USAF, 1998b). I * Final Intrinsic Remediation Study CG-027 (GroundwaterZ one 1), 1997 Results, King Salmon Air Station, Alaska ,(USAF, 1999a). *Draft Intrinsic Remediation Study Groundwater Zone 1, 1998 Results (USAF, 1999b). *Draft Groundwater Monitoring Report Groundwater Zone 1, 1998 (USAF, 1999c). *Record of Decision for Interim Remedial Action, Site: Groundwater Zone OT027 (Zone 1). Nov 2000 (USAF, 2000a). *Focused Aquatic Biota Sampling, King Salmon Air Station, Technical Report (USAF, 2000b). * Final Work Plan, Eskimo Creek Impact Study, King Salmon Air Station, Alaska (USAF, 2000c).</p>
FINAL_REM_ACTION	<p>Two French drains were installed and all ground water collected is treated by activated carbon. Operation and maintenance of the water-treatment system at Eskimo Creek (SS011) will continue. The objective of the treatment system is to I intercept seep water leaching from the banks of Eskimo Creek and remove petroleum hydrocarbons and other organic chemicals that may be present. Following treatment, the water is discharged into the wetlands adjacent to Eskimo Creek. The treatment system is operated under ADEC oversight.</p>
CONT_RISK	<p>Not analyzed</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 3/23/2011) United States Air Force (USAF). 2000. Record of Decision for Interim Remedial Action, Site: Groundwater Zone OT027 (Zone 1), King Salmon Air Station, King Salmon, Alaska. November. (2000 GW Zone 1 , OT027 ROD) United States Air Force (USAF). 2001. 2000 Limited Field Investigation at Eskimo Creek Treatment System Seeps, King Salmon Air Station, Alaska. Final. August. (2001 LFI Report - SS011)</p>
STATUS	

King_Salmon-SS012_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	503 - Upper/504 - Lower
SITIRP_ID	SS012
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA/non-CERCLA
RISK	non carcinogenic HI >1 (on-site residents/workers); carcinogenic within or below 1X10 ⁻⁴ to 10 ⁻⁶ for on-site residents; upper bound excess cancer 1X10 ⁻⁵ to 2X10 ⁻⁴ ; Ecological HI >1.
ALIAS	Upper and Lower Naknek Storage
SITE_NAME	Naknek River Storage
SITE_DESCRIPTION	The Naknek River Storage Sites are located on the north bank of the Naknek River, approximately 0.7 miles west of the community of King Salmon. The sites were formerly a tank farm containing underground storage tanks and aboveground storage tanks, used for storage of petroleum, oil, and lubricants.
MEDIA_ID	SS012
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1950s to present
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	The institutional control program implemented by the USAF to prohibit the construction of wells for purposes other than groundwater monitoring in Zone 4 will also include the prohibition of soil excavations within Zone 4.
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	benzene, toluene, TCE, GRO, DRO (groundwater); TAH, TAqH, DRO (surface water); benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, DRO (soil)
MODIFIED_DATE	201100113
CONTAMINATION_SOURCE	USTs, ASTs, pipeline leaks/spills
SITEID	SS012
INSTLN_ID	KS
MAINTENANCE	Groundwater monitoring; Surface water monitoring; Soil monitoring; Landfill cap inspections and repair
RESTRICTIONS	None specified

King_Salmon-SS012_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS012
SITE_NAME	Naknek River Storage
DATE_SUMM	1/13/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
DESC_USE	The Naknek River Storage Sites (SS012) (Upper and Lower Naknek) are the only active sites in Zone 4. The Naknek River Storage Sites are located on the north bank of the Naknek River, approximately 0.7 miles west of the community of King Salmon. The sites were formerly a tank farm containing underground storage tanks and aboveground storage tanks, used for storage of POL. POL were delivered to the site by barge on the Naknek River, unloaded via pipeline to the tanks, and stored until needed.
GEO_HYDRO	Three aquifers have been encountered during drilling at KSA. The aquifers consist of horizontally bedded silty sands separated by clayey silt aquitard units. The uppermost aquifer is designated the A-Aquifer. The A-Aquifer overlies the A-Aquitard, which overlies alternating aquitard and aquifer units designated as B- and C- aquifers and Aquitards. The competence of the A-Aquitard has not been determined. The A-Aquifer is unconfined and extends to between 20 and 40 feet bgs. The saturated surface of the A-Aquifer varies from the water level at river margins and muskeg to about 30 feet bgs. Groundwater flow generally follows the surface topography, with some local variability. Most of the local water supply wells are completed in the B-Aquifer, many of them are considered to be hydraulically downgradient from KSA. KSA draws its water from the C-Aquifer.
COC	benzene, toluene, TCE, GRO, DRO (groundwater); TAH, TAqH, DRO (surface water); benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, DRO (soil)
INVESTIGATION_ACTIONS	1985 Environmental Assessment, 1990 Site Investigations, 1993 Source Investigation/Removal Action, 1993-1994 Remedial Investigation, 1994 pipeline removal/investigation, 1994 Treatability Study, 1995 sampling event, 1996-1997 wetland, food contamination investigation

King_Salmon-SS012_ENV_SITE_SUMMARY_IRP

<p>FINAL_REM_ACTION</p>	<p>GROUNDWATER AND SURFACE WATER</p> <p>* Groundwater and surface water will be monitored annually to evaluate reduction of the contaminant concentrations by intrinsic remediation. Once contaminant levels in a sampling location are below cleanup levels, the location will be sampled two more times. If no additional contamination is detected above cleanup levels, the monitoring will be discontinued. The cleanup level for both benzene and TCE in groundwater is 5 µg/L, the cleanup level for toluene is 1,000 µg/L, the cleanup level for DRO is 1,500 µg/L, and the cleanup level for GRO is 1,300 µg/L. The A-Aquifer groundwater at the site is not considered a drinking water source, pursuant to 18 AAC 75.350. The groundwater is not currently used for a private or public drinking water system, it is not a reasonably expected potential future source of drinking water, and it will not be transported to groundwater that is a source of drinking water in concentrations that exceed the groundwater cleanup levels.</p> <p>Groundwater use restrictions will be used to prevent installation of groundwater supply wells within designated plumes within Zone 4. Upon acceptance of this DD, an order will be issued by the Commander, 61 1th Air Support Group, prohibiting the construction of wells for any purposes other than groundwater monitoring within Zone 4 until three consecutive monitoring events indicate that cleanup levels have been achieved. Recoverable quantities of free product found to be migrating along the top of the groundwater table toward a surface water seep will be intercepted before discharge to the wetlands. Existing product recovery systems will be operated and maintained to remove the free product until no free product is detected by the monitoring program. The free product will be collected and removed using a passive system such as absorbent booms. Recovered product will be utilized for energy recovery or otherwise disposed of consistent with State and Federal regulations.</p>
	<p>SOIL</p> <p>Soil with DRO contamination above the cleanup level of 2,500 mg/kg will be left in-situ (in-place). Groundwater, surface water, and sediments will be monitored annually to evaluate reduction of the contaminant concentrations in soil by intrinsic remediation. Annual monitoring will be discontinued if contaminant levels are below cleanup levels during three consecutive monitoring results. In-situ bioventing of contaminated soils will be implemented after year five if monitoring data indicate that intrinsic remediation will not achieve cleanup levels in site soil and groundwater.</p> <p>*The landfill cap has already been contoured and vegetated. The cap will be inspected in the spring and fall of each year for evidence of erosion. Existing monitoring wells are downgradient from the landfill. The primary purpose of these wells is documentation of intrinsic remediation process. The wells will also provide a secondary function of monitoring for landfill leachate.</p> <p>*The institutional control program implemented by the USAF to prohibit the construction of wells for purposes other than groundwater monitoring in Zone 4 will also include the prohibition of soil excavations within Zone 4.</p> <p>*In situ bioventing may be implemented in areas where significant concentrations of petroleum are present. Bioventing would be started only if the monitoring data indicate that RAOs are not likely to be reached within 25 years. Five years of monitoring data will be collected before evaluating the need for bioventing.</p>
<p>CONT_RISK</p>	<p>Based on the information gathered and evaluated in the RI/FS, the USAF concludes that contaminated soil and water at the site present an unacceptable risk to ecological receptors and potential human users of the groundwater, although no human risk is currently present. The majority of the risk is associated with petroleum hydrocarbon constituents.</p> <p>Based on current and anticipated land use patterns, achievement of cleanup standards within 25 years does not pose an unacceptable risk. The Air Force plans to retain control of the property and use in the area is not likely to change significantly.</p>
<p>RATIONALE</p>	
<p>RECOMMENDATIONS</p>	

King_Salmon-SS012_ENV_SITE_SUMMARY_IRP

REFERENCES_

Contaminated Sites Database (accessed 1/5/11) United States Air Force (USAF). 1999. Record of Decision for Final Remedial Action Naknek River Storage Sites, Landfill No.5, and Zone 4 Groundwater, King Salmon Airport, Alaska. April. (1999 ROD)
United States Air Force (USAF). 2000. Record of Decision for Interim Remedial Action, Site: Groundwater Zone OT027 (Zone 1), King Salmon Air Station, King Salmon, Alaska. November. (2000 GW Zone 1 , OT027 ROD)

STATUS

King_Salmon-SS015_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	511
SITIRP_ID	SS015
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	<1X10-4; HI<1
ALIAS	SS15
SITE_NAME	POL Tanks
SITE_DESCRIPTION	The POL storage tanks area contains four ASTs designated AST 11 (214,000 gallons), AST 12 (214,000 gallons), AST 13 (516,000 gallons), and AST 14 (105,000 gallons). Former tank contents included jet fuel (JP-4), diesel fuels, and possibly gasoline.
MEDIA_ID	SS015
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Installation 1941-Present
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	Groundwater use controls through OT027-Groundwater Zone 1 ROD. Groundwater zone 1 including area beneath Eskimo Creek) Only water from the C-Aquifer, the current source of water for KSA, will be used for drinking. Drinking water wells will not be installed in the A- and B-Aquifers until RAOs are met.
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	DRO, GRO, Benzene, BTEX
MODIFIED_DATE	20110323
CONTAMINATION_SOURCE	spills/leaks associate with storage tanks
SITEID	SS015
INSTLN_ID	KS
MAINTENANCE	Groundwater monitoring
RESTRICTIONS	Drinking water well restrictions

King_Salmon-SS015_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS015
SITE_NAME	POL Tanks
DATE_SUMM	3/23/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
DESC_USE	The POL storage area site is located north of the intersection of Storage Road and Silver Street. The POL area contains four ASTs, designated AST I11, AST 12, AST 13, and AST 14, with secondary containment for individual and multiple tanks. ASTs 11 and 12 each have a 214,000-gallon capacity; AST 13 has a 516,000-gallon capacity; and AST 14 can hold 105,000 gallons. Past and present tank contents include JP-4, diesel fuel, and possibly gasoline. Three of the tanks have been taken out of service and one remaining tank has been reconditioned in accordance with American Standards for Testing and Materials standards.
GEO_HYDRO	Three aquifers have been encountered during drilling at KSA. The aquifers consist of horizontally bedded silty sands separated by clayey silt aquitard units. The uppermost aquifer is designated the A-Aquifer. The A-Aquifer overlies the A-Aquitard, which overlies alternating aquitard and aquifer units designated as B- and C- aquifers and Aquitards. The competence of the A-Aquitard has not been determined. The A-Aquifer is unconfined and extends to between 20 and 40 feet bgs. The saturated surface of the A-Aquifer varies from the water level at river margins and muskeg to about 30 feet bgs. Groundwater flow generally follows the surface topography, with some local variability. Most of the local water supply wells are completed in the B-Aquifer, many of them are considered to be hydraulically downgradient from KSA. KSA draws its water from the C-Aquifer. At DP013 the water table is approximately between 15 to 20 feet bgs. Groundwater flow in the A-Aquifer is to the east, towards Eskimo Creek.
COC	DRO, GRO, Benzene, BTEX
INVESTIGATION_ACTIONS	Site investigations have identified surface releases of petroleum within the POL storage tanks area and from associated buried pipelines. Investigations conducted at the POL storage tanks detected petroleum hydrocarbons at concentrations above ARARs in soil samples from just below the ground surface down to the surface soil zone between the high and low groundwater table levels. TCE (a degreasing agent), which has no ARARs that apply to soil, was also detected at the POL site.
FINAL_REM_ACTION	Three of the POL tanks were taken out of service and one remaining tank has been reconditioned in accordance with ASTM standards. A- aquifer product recovery wells installed near the POL Tanks in 1992 were never operated because insufficient product accumulated within the wells.
CONT_RISK	SS015 is not expected to pose unacceptable risks to human health or the environment.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 3/23/2011) United States Air Force (USAF). 1996. Proposed Plan for Remedial Action, Zone 1 Eskimo Creek (SS011), POL Storage Tanks (SS015)/Dry Well (DP023), King Salmon Airport. May (1996 Proposed Plan Zone 1 -SS011 SS015 DP023) United States Air Force (USAF). 2000. Record of Decision for Interim Remedial Action, Site: Groundwater Zone OT027 (Zone 1), King Salmon Air Station, King Salmon, Alaska. November. (2000 GW Zone 1 , OT027 ROD)
STATUS	

King_Salmon-SS020_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2839
SITIRP_ID	SS020
SITE_STATUS	Cleanup Complete
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	Not analyzed - site transferred to ADEC storage tank program
ALIAS	SS20
SITE_NAME	Old Power Plant Building
SITE_DESCRIPTION	The Old Power Plant Building is located on the north corner of Operations Avenue and Security Road, immediately south of the Roads and Grounds Building 155. The contamination at SS020 is associated with an UST, and the cleanup is being implemented through the 61th Civil Engineering Squadron Compliance Section under regulatory oversight by ADEC's Storage Tank Program.
MEDIA_ID	SS020
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown, Installation 1940-present
CATEGORY	ADEC Storage Tanks
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	Excavations and other subsurface activities will be restricted from this site The institutional controls will be documented in the base master plan and state land records
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	None specified
MODIFIED_DATE	20110114
CONTAMINATION_SOURCE	Storage tanks
SITEID	SS020
INSTLN_ID	KS
MAINTENANCE	Soil monitoring; Groundwater monitoring; Surface water monitoring; 5-year reviews; Soil cap inspections and repair
RESTRICTIONS	Drinking water well restrictions; No unauthorized digging/excavation; Property records/Base Plan documentation

King_Salmon-SS020_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS020
SITE_NAME	Old Power Plant Building
DATE_SUMM	1/14/2011
CURRENT_STATUS	Cleanup Complete
SITE_STATUS	Cleanup Complete
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
DESC_USE	The Old Power Plant Building is located on the north corner of Operations Avenue and Security Road, immediately south of the Roads and Grounds Building 155. The contamination at SS020 is associated with an UST, and the cleanup is being implemented through the 61th Civil Engineering Squadron Compliance Section under regulatory oversight by ADEC's Storage Tank Program.
GEO_HYDRO	Three aquifers have been encountered during drilling at KSA. The aquifers consist of horizontally bedded silty sands separated by clayey silt aquitard units. The uppermost aquifer is designated the A-Aquifer. The A-Aquifer overlies the A-Aquitard, which overlies alternating aquitard and aquifer units designated as B- and C- aquifers and aquitards. The competence of the A-Aquitard has not been determined. The A-Aquifer is unconfined and extends to between 20 and 40 feet bgs. The saturated surface of the A-Aquifer varies from the water level at river margins and muskeg to about 30 feet bgs. Groundwater flow generally follows the surface topography, with some local variability. Most of the local water supply wells are completed in the B-Aquifer, many of them are considered to be hydraulically downgradient from KSA. KSA draws its water from the C-Aquifer.
COC	None specified
INVESTIGATION_ACTIONS	<p>Historical spills and operational practices at the base industrial area have led to contamination of the soil and groundwater with petroleum-based products, specifically DRO, GRO, and VOCs, including TCE and BTEX. Numerous environmental investigations have been performed to evaluate contamination at the KSA Base Industrial Area. RIs were completed between 1989 and 1995 to evaluate the nature and extent of contamination in the soils and groundwater at the KSA Base Industrial Area. Surface water and sediment sampling was performed every year from 1996 through 2000, in addition, aquatic biota and human food chain samples were collected during 1996, 1997, and 1999. A comprehensive FS was completed for all KSA sites in 1997 (EMCON, 1997a). A 1997 monitored natural attenuation study in the base industrial area indicated that additional data were needed to assess whether monitored natural attenuation was adequate to address the dissolved TCE plume. A soil and groundwater investigation and focused FS was completed in August 2001 to fill in data gaps in the site characterization and to augment the KSA FS. The focused FS was limited to evaluating remedial alternatives for OT028 groundwater. A Proposed Plan for Final Remedial Action was prepared and distributed in March 2002. Remedial actions implemented within the Base Industrial Area are listed below:</p> <p>*USTs were removed from eight buildings in the base industrial area (Buildings 150, 154, 157, 159, 162, 305, 306, and 307) Bioventing systems are currently operating at four separate sites in the base industrial area (near Buildings 154, 157/1 59 (remediated as one site), 306, and 307).</p> <p>* Two other IRP sites located within the base industrial area (DPO13 and OT018) were addressed in a NFRAP decision document that was signed in 1995.</p>

King_Salmon-SS020_ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>These two sites (SS020 and SS021) will be transferred to the UST compliance program for continued remediation, because site contamination is associated with state- regulated USTs. Bioventing has already been implemented at selected locations (Buildings 154, 157/159, 306, and 307) within these sites under the UST compliance program. Although the completion of site remediation will occur under the control of the UST compliance program, and not the IRP program, the components of the final remedy are listed below for information purposes:</p> <ul style="list-style-type: none"> * Continuation of the in situ bioventing currently underway at selected locations until RAOs are met as determined by performance testing and subsurface soil confirmation sampling, * Intrinsic remediation of contaminated soil located outside of the bioventing systems' area of influence, * Institutional controls (documented in the base master plan and state land records) to minimize human contact with contaminated soil (e g , institutional controls will restrict excavations and other subsurface activities at the site), * Annual long-term groundwater monitoring with a five year review, and * Soil sampling to confirm that cleanup levels have been achieved.
CONT_RISK	<p>The current risks attributed to the KSA base industrial area sites are significantly smaller than those reported by EMCON in the original risk assessments. Risks have been reduced primarily through IRA activities (i e., source/tank removal, bioventing, etc.), which eliminate exposure pathways. Additionally, sampling activities and data analysis performed since completion of the risk assessments indicate generally lower levels of contamination than were reported in 1995. For example, concentrations of TCE in groundwater generally have been declining since 1994. Biota sampling conducted subsequent to the risk assessments indicates that actual contaminant concentrations in site biota and in Eskimo Creek do not exceed human health or ecological risk criteria.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 1/14/2011) United States Air Force (USAF). 2000. Record of Decision for Interim Remedial Action, Site: Groundwater Zone OT027 (Zone 1), King Salmon Air Station, King Salmon, Alaska. November. (2000 GW Zone 1 , OT027 ROD) United States Air Force (USAF). 2002. Record of Decision for Final Remedial Action Sites: Groundwater Zone OT028 (Zone2), Waste Accumulation Area 3 (SS017), Eskimo Creek Dump (SS022), Refueler Shop (SS021), and Old Power Plant Building (SS020), King Salmon Air Station, King Salmon, Alaska. December. (2002 ROD)</p>
STATUS	

King_Salmon-SS021_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	506
SITIRP_ID	SS021
SITE_STATUS	Cleanup Complete
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	cancer <1X10-5 and non-cancer HI <1
ALIAS	SS21
SITE_NAME	Refueler Shop
SITE_DESCRIPTION	The Refueler Shop site is located approximately 2,000 feet north of Runway 29 and adjacent to the KSA flight line. The area was used for the storage and maintenance of tanker trucks used to fuel aircraft. The contamination at SS021 is associated with USTs at Buildings 157/159, and the cleanup is being implemented by the 611th Civil Engineering Squadron Compliance Section under regulatory oversight by ADEC's Storage Tank Program.
MEDIA_ID	SS021
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown, Installation 1940-present
CATEGORY	ADEC Storage Tanks
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete
LUC_RESTRICTION	Excavations and other subsurface activities will be restricted from the site. The institutional controls will be documented in the base master plan and state land records
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	None specified
MODIFIED_DATE	20110114
CONTAMINATION_SOURCE	Storage tanks
SITEID	SS021
INSTLN_ID	KS
MAINTENANCE	Soil monitoring; Groundwater monitoring; Surface water monitoring; 5-year reviews; Soil cap inspections and repair;
RESTRICTIONS	No unauthorized digging/excavation; Property records/Base Plan documentation

King_Salmon-SS021_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS021
SITE_NAME	Refueler Shop
DATE_SUMM	1/14/2011
CURRENT_STATUS	Cleanup Complete
SITE_STATUS	Cleanup Complete
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
DESC_USE	The Refueler Shop site is located approximately 2,000 feet north of Runway 29 and adjacent to the KSA flight line. The area was used for the storage and maintenance of tanker trucks used to fuel aircraft. The contamination at SS021 is associated with USTs at Buildings 157/159, and the cleanup is being implemented by the 611th Civil Engineering Squadron Compliance Section under regulatory oversight by ADEC's Storage Tank Program.
GEO_HYDRO	Three aquifers have been encountered during drilling at KSA. The aquifers consist of horizontally bedded silty sands separated by clayey silt aquitard units. The uppermost aquifer is designated the A-Aquifer. The A-Aquifer overlies the A-Aquitard, which overlies alternating aquitard and aquifer units designated as B- and C- aquifers and aquitards. The competence of the A-Aquitard has not been determined. The A-Aquifer is unconfined and extends to between 20 and 40 feet bgs. The saturated surface of the A-Aquifer varies from the water level at river margins and muskeg to about 30 feet bgs. Groundwater flow generally follows the surface topography, with some local variability. Most of the local water supply wells are completed in the B-Aquifer, many of them are considered to be hydraulically downgradient from KSA. KSA draws its water from the C-Aquifer.
COC	None specified
INVESTIGATION_ACTIONS	<p>Historical spills and operational practices at the base industrial area have led to contamination of the soil and groundwater with petroleum-based products, specifically DRO, GRO, and VOCs, including TCE and BTEX. Numerous environmental investigations have been performed to evaluate contamination at the KSA Base Industrial Area. RIs were completed between 1989 and 1995 to evaluate the nature and extent of contamination in the soils and groundwater at the KSA Base Industrial Area. Surface water and sediment sampling was performed every year from 1996 through 2000, in addition, aquatic biota and human food chain samples were collected during 1996, 1997, and 1999. A comprehensive FS was completed for all KSA sites in 1997 (EMCON, 1997a). A 1997 monitored natural attenuation study in the base industrial area indicated that additional data were needed to assess whether monitored natural attenuation was adequate to address the dissolved TCE plume. A soil and groundwater investigation and focused FS was completed in August 2001 to fill in data gaps in the site characterization and to augment the KSA FS. The focused FS was limited to evaluating remedial alternatives for OT028 groundwater. A Proposed Plan for Final Remedial Action was prepared and distributed in March 2002. Remedial actions implemented within the Base Industrial Area are listed below:</p> <p>*USTs were removed from eight buildings in the base industrial area (Buildings 150, 154, 157, 159, 162, 305, 306, and 307) Bioventing systems are currently operating at four separate sites in the base industrial area (near Buildings 154, 157/159 (remediated as one site), 306, and 307).</p> <p>* Two other IRP sites located within the base industrial area (DPO13 and OT018) were addressed in a NFRAP decision document that was signed in 1995.</p>

King_Salmon-SS021_ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>These two sites (SS020 and SS021) will be transferred to the UST compliance program for continued remediation, because site contamination is associated with state- regulated USTs. Bioventing has already been implemented at selected locations (Buildings 154, 157/159, 306, and 307) within these sites under the UST compliance program. Although the completion of site remediation will occur under the control of the UST compliance program, and not the IRP program, the components of the final remedy are listed below for information purposes:</p> <ul style="list-style-type: none"> * Continuation of the in situ bioventing currently underway at selected locations until RAOs are met as determined by performance testing and subsurface soil confirmation sampling, * Intrinsic remediation of contaminated soil located outside of the bioventing systems' area of influence, * Institutional controls (documented in the base master plan and state land records) to minimize human contact with contaminated soil (e g , institutional controls will restrict excavations and other subsurface activities at the site), * Annual long-term groundwater monitoring with a five year review, and * Soil sampling to confirm that cleanup levels have been achieved.
CONT_RISK	<p>The calculated noncancer hazard index for the Refueler Shop was between 0.15 and 0.23 for the average and RME scenarios for site residents. Because these hazard indices were less than 1.0, the risk assessment concluded that there were no significant, adverse noncarcinogenic health effects associated with the Refueler Shop. The cumulative upper-bound excess cancer risks for the Refueler Shop ranged from approximately 2×10^{-6} to 1×10^{-5} for the average and RME scenarios for site residents. The risk assessment concluded that the risks from potential exposure to carcinogenic chemicals at the sites did not exceed the acceptable ADEC level of 1×10^{-5} (ADEC, 2000) and were within USEPA risk range of 10^{-4} to 10^{-6}.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 1/14/2011) United States Air Force (USAF). 2000. Record of Decision for Interim Remedial Action, Site: Groundwater Zone OT027 (Zone 1), King Salmon Air Station, King Salmon, Alaska. November. (2000 GW Zone 1 , OT027 ROD) United States Air Force (USAF). 2002. Record of Decision for Final Remedial Action Sites: Groundwater Zone OT028 (Zone2), Waste Accumulation Area 3 (SS017), Eskimo Creek Dump (SS022), Refueler Shop (SS021), and Old Power Plant Building (SS020), King Salmon Air Station, King Salmon, Alaska. December. (2002 ROD)</p>
STATUS	

King_Salmon-SS022_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2837
SITIRP_ID	SS022
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Not Analyzed
ALIAS	SS22, LF022
SITE_NAME	Eskimo Creek Dump
SITE_DESCRIPTION	The Eskimo Creek Dump site is located west of Commercial Drive along a bluff overlooking Eskimo Creek. The dump area is located on both sides of Eskimo Creek and extends northeast from the intersection of Eskimo Creek and the Naknek Road for approximately 1,800 feet. Aerial photographs and visual observations indicate drums and other metallic debris were randomly scattered along the bluff at one time, although very little debris is currently visible.
MEDIA_ID	SS022
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown, Installation 1940-present
CATEGORY	IRP
AREA_ACRES	Unknown-see map
ACTIVITY	Active
LUC_RESTRICTION	*Excavations and other subsurface activities will be restricted from this site. * The installation of A-Aquifer drinking water wells will be restricted from Eskimo Creek Dump (SS022). The institutional controls will be documented in the base master plan and state land records
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	None specified
MODIFIED_DATE	20110114
CONTAMINATION_SOURCE	
SITEID	SS022
INSTLN_ID	KS
MAINTENANCE	Soil monitoring; Groundwater monitoring; Surface water monitoring; 5-year reviews; Soil cap inspections and repair;
RESTRICTIONS	No unauthorized digging/excavation

King_Salmon-SS022_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS022
SITE_NAME	Eskimo Creek Dump
DATE_SUMM	1/14/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 30, JBER, AK 99506-2201
DESC_USE	The Eskimo Creek Dump site is located west of Commercial Drive along a bluff overlooking Eskimo Creek. The dump area is located on both sides of Eskimo Creek and extends northeast from the intersection of Eskimo Creek and the Naknek Road for approximately 1,800 feet. Aerial photographs and visual observations indicate drums and other metallic debris were randomly scattered along the bluff at one time, although very little debris is currently visible.
GEO_HYDRO	Three aquifers have been encountered during drilling at KSA. The aquifers consist of horizontally bedded silty sands separated by clayey silt aquitard units. The uppermost aquifer is designated the A-Aquifer. The A-Aquifer overlies the A-Aquitard, which overlies alternating aquitard and aquifer units designated as B- and C- aquifers and aquitards. The competence of the A-Aquitard has not been determined. The A-Aquifer is unconfined and extends to between 20 and 40 feet bgs. The saturated surface of the A-Aquifer varies from the water level at river margins and muskeg to about 30 feet bgs. Groundwater flow generally follows the surface topography, with some local variability. Most of the local water supply wells are completed in the B-Aquifer, many of them are considered to be hydraulically downgradient from KSA. KSA draws its water from the C-Aquifer.
COC	None specified
INVESTIGATION_ACTIONS	<p>Historical spills and operational practices at the base industrial area have led to contamination of the soil and groundwater with petroleum-based products, specifically DRO, GRO, and VOCs, including TCE and BTEX. Numerous environmental investigations have been performed to evaluate contamination at the KSA Base Industrial Area. RIs were completed between 1989 and 1995 to evaluate the nature and extent of contamination in the soils and groundwater at the KSA Base Industrial Area. Surface water and sediment sampling was performed every year from 1996 through 2000, in addition, aquatic biota and human food chain samples were collected during 1996, 1997, and 1999. A comprehensive FS was completed for all KSA sites in 1997 (EMCON, 1997a). A 1997 monitored natural attenuation study in the base industrial area indicated that additional data were needed to assess whether monitored natural attenuation was adequate to address the dissolved TCE plume. A soil and groundwater investigation and focused FS was completed in August 2001 to fill in data gaps in the site characterization and to augment the KSA FS. The focused FS was limited to evaluating remedial alternatives for OT028 groundwater. A Proposed Plan for Final Remedial Action was prepared and distributed in March 2002. Remedial actions implemented within the Base Industrial Area are listed below:</p> <p>*USTs were removed from eight buildings in the base industrial area (Buildings 150, 154, 157, 159, 162, 305, 306, and 307) Bioventing systems are currently operating at four separate sites in the base industrial area (near Buildings 154, 157/1 59 (remediated as one site), 306, and 307).</p> <p>* Two other IRP sites located within the base industrial area (DPO13 and OT018) were addressed in a NFRAP decision document that was signed in 1995.</p>

King_Salmon-SS022_ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>The Eskimo Creek Dump will be addressed by a vegetated soil cap with long-term monitoring. The final remedy for this site includes the following components</p> <ul style="list-style-type: none"> * Removing surface debris as needed; * Filling in surface depressions to facilitate surface water drainage and minimize ponding, * Revegetating the cap surface where needed; * Using institutional controls (documented in the base master plan and state land records) to restrict excavations and other subsurface activities at the landfill; * Installing new monitoring wells, and * Annual long-term groundwater and surface water monitoring with a five-year review consistent with a comprehensive monitoring plan to be developed by the agencies.
CONT_RISK	<p>The current risks attributed to the KSA base industrial area sites are significantly smaller than those reported by EMCON in the original risk assessments (EMCON, 1995c and 1995d). Risks have been reduced primarily through IRA activities (i e., source/tank removal, bioventing, etc.), which eliminate exposure pathways. Additionally, sampling activities and data analysis performed since completion of the risk assessments indicate generally lower levels of contamination than were reported in 1995. For example, concentrations of TCE in groundwater generally have been declining since 1994. Biota sampling conducted subsequent to the risk assessments indicates that actual contaminant concentrations in site biota and in Eskimo Creek do not exceed human health or ecological risk criteria. Low levels of TCE and several other contaminants have been detected in Eskimo Creek Dump monitoring. No contamination exceeding cleanup levels has been identified.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 1/14/2011) United States Air Force (USAF). 2000. Record of Decision for Interim Remedial Action, Site: Groundwater Zone OT027 (Zone 1), King Salmon Air Station, King Salmon, Alaska. November. (2000 GW Zone 1 , OT027 ROD) United States Air Force (USAF). 2002. Record of Decision for Final Remedial Action Sites: Groundwater Zone OT028 (Zone2), Waste Accumulation Area 3 (SS017), Eskimo Creek Dump (SS022), Refueler Shop (SS021), and Old Power Plant Building (SS020), King Salmon Air Station, King Salmon, Alaska. December. (2002 ROD)</p>
STATUS	

Kotzebue-SD003_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	840
SITIRP_ID	SD003
SITE_STATUS	Cleanup Complete
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Not analyzed - indicated no analytes detected above cleanup levels
ALIAS	SD03
SITE_NAME	KOT-3 Road Oiling
SITE_DESCRIPTION	Waste oils, spent solvents, ethylene glycol and other shop wastes were applied to the installation's road system, and the area immediately adjacent to it for dust control until 1984.
MEDIA_ID	SD003
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Up to 1984 (station activated in 1950s)
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete
LUC_RESTRICTION	Soil containing residual contamination at SD003 may not be placed in surface water or other environmentally sensitive areas. Please note, per 18 AAC 75.325(i), ADEC approval is required prior to disposing of soil or water from a site that is, or has been, subject to the site cleanup rules.
POC	
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	None
MODIFIED_DATE	20110308
CONTAMINATION_SOURCE	road oiling
SITEID	SD003
INSTLN_ID	KO
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil

Kotzebue-SD003_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SD003
SITE_NAME	KOT-3 Road Oiling
DATE_SUMM	3/8/2011
CURRENT_STATUS	Cleanup Complete
SITE_STATUS	Cleanup Complete
POCID	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	Waste oils, spent solvents, ethylene glycol and other shop wastes were applied to the installation's road system, and the area immediately adjacent to it for dust control until 1984.
GEO_HYDRO	<p>No groundwater is present on the bluff at the main portion of the installation. Groundwater does occur in shallow aquifers along the beach and within deeper thawed zones in the frozen ground. Groundwater is generally not utilized as a public drinking water source due to salinity and insufficient quantities. There have been no seeps documented from the bluff. Groundwater associated with the beach area is restricted to a narrow zone adjacent to Kotzebue Sound that is less susceptible to permafrost. The near-beach groundwater at Kotzebue LRRS is saline (brackish) in nature, tidally influenced, and non-potable. Recharge of the near-beach aquifer system is probably controlled by the highly seasonal nature of the active zone (supra-permafrost water) inputs that recharge the beach area from the tundra uplands. Permafrost is depressed by marine influence, which allows the near-beach aquifer to remain saturated in the subsurface to a depth of 7 to 9 feet bgs, and is underlain by a competent silty-clay confining layer. The relatively shallow confining layer encountered is a 60-foot-thick marine, blue clay deposit.</p> <p>The average linear velocity range for groundwater is approximately 0.6 to 6.4 feet per year, assuming that groundwater flow is non-existent for four months of the year (winter).</p>
COC	None
INVESTIGATION_ACTIONS	Three samples were collected from soil borings at approximately 1.5 feet depth and analyzed for TPH, Pesticide/PCB, VOCs, and Metal contamination. The highest TPH level was found to be 97 ppm. The Air Force subsequently submitted in July 1991 a: Stage I Final No Further Action Decision and Technical Document to Support No Further Action for Five Sites on Kotzebue Air Force Station.
FINAL_REM_ACTION	ADEC concurred in November 1991 [with the Stage I Final NFA], that due to these low levels of petroleum hydrocarbon contamination, and to the slow rate of surface and groundwater flow estimated for the area, the site is a No Further Action site. Soil containing residual contamination at SD003 may not be placed in surface water or other environmentally sensitive areas. Per 18 AAC 75.325(i), ADEC approval is required prior to disposing of soil or water from a site that is, or has been, subject to the site cleanup rules.
CONT_RISK	KOT-3 Road Oiling was recommended for no further action on the basis that contaminant levels are below recommended cleanup levels, the threat of migration of the contaminants to sensitive receptors is minimal, or that any potential remedial action carries a risk of significant harm to the environment beyond any possible benefits derived from the remedial action.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 3/8/2011)</p> <p>United States Air Force (USAF). 1991. Installation Restoration Program (IRP) Remedial Investigation/Feasibility Study Stage 1, Final No Further Action Decision and Final Technical Document to Support No Further Action for Kotzebue Air Force Station, Alaska. Final. July. (1991 NFA-AR-00010001)</p> <p>United States Air Force (USAF). 2007. Record of Decision for No Further Action, SS007 (Former Water Supply Lake), SS015 (Former Power Plant/Garage), SS016 (Buildings101 and 102), SS017 (PCB Spill at Building 102), SS019 (PCB Spill South Fence), and SS020 (Septic Holding Tank/Outfall Line), Kotzebue LRRS, Alaska. Final. April. (2007 ROD -AR125-1)</p> <p>ADEC. 2007. November 7, 2001 Air Force Request for No Further Remedial Action at: SS001 Waste Accumulation Area 1, SD003 Road Oiling, ST004 White Alice Tanks, SS006 Spill/Leak No 1, SS008 Barracks Area, SS009 PCB Spill, SS010 Solvent Spill, SS011 Fuel Spill and AOC 8 White Alice Garage (renamed as SS009 PCB Spill), Kotzebue LRRS, Alaska. (2007 NFA ADEC concurrence letter - AR127-1)</p>
STATUS	

Kotzebue-SS001_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	838
SITIRP_ID	SS001
SITE_STATUS	Cleanup Complete
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	not analyzed quantitatively
ALIAS	None
SITE_NAME	KOT-4 Waste Oil No. 1
SITE_DESCRIPTION	This waste accumulation site is located on a gravel pad situated 200 feet south of the Composite Facility and immediately west of the gravel road. The gravel pad overlies disturbed tundra and covers an area of approximately 80 by 160 ft. Waste oils and solvents were previously stored here in drums and containers that have since been removed. Dark oil stains were evident on the gravel pad in the area.
MEDIA_ID	SS001
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Unknown
CATEGORY	IRP
AREA_ACRES	0.29
ACTIVITY	Cleanup Complete
LUC_RESTRICTION	Soil containing residual contamination at SS001 may not be placed in surface water or other environmentally sensitive areas. Please note, per 18 AAC 75.325(i), ADEC approval is required prior to disposing of soil or water from a site that is, or has been, subject to the site cleanup rules.
POC	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	None
MODIFIED_DATE	20110307
CONTAMINATION_SOURCE	spills/leaks
SITEID	SS001
INSTLN_ID	KO
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil

Kotzebue-SS001_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS001
SITE_NAME	KOT-4 Waste Oil No. 1
DATE_SUMM	3/7/2011
CURRENT_STATUS	Cleanup Complete
SITE_STATUS	Cleanup Complete
POCID	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	KOT-4 Waste Oil No.1. This waste accumulation site is located on a gravel pad situated 200 feet south of the Composite Facility and immediately west of the gravel road. The gravel pad overlies disturbed tundra and covers an area of approximately 80 by 160 ft. Waste oils and solvents were previously stored here in drums and containers that have since been removed. Dark oil stains were evident on the gravel pad in the area.
GEO_HYDRO	No groundwater is present on the bluff at the main portion of the installation. Groundwater does occur in shallow aquifers along the beach and within deeper thawed zones in the frozen ground. Groundwater is generally not utilized as a public drinking water source due to salinity and insufficient quantities. There have been no seeps documented from the bluff. Groundwater associated with the beach area is restricted to a narrow zone adjacent to Kotzebue Sound that is less susceptible to permafrost. The near-beach groundwater at Kotzebue LRRS is saline (brackish) in nature, tidally influenced, and non-potable. Recharge of the near-beach aquifer system is probably controlled by the highly seasonal nature of the active zone (supra-permafrost water) inputs that recharge the beach area from the tundra uplands. Permafrost is depressed by marine influence, which allows the near-beach aquifer to remain saturated in the subsurface to a depth of 7 to 9 feet bgs, and is underlain by a competent silty-clay confining layer. The relatively shallow confining layer encountered is a 60-foot-thick marine, blue clay deposit. The average linear velocity range for groundwater is approximately 0.6 to 6.4 feet per year, assuming that groundwater flow is non-existent for four months of the year (winter).
COC	None
INVESTIGATION_ACTIONS	Previous excavation activities and removal of petroleum hydrocarbon contaminated fill material from SS001 to the nearby landfarm cell for treatment was considered by the Air Force to be successful in addressing the contaminated soil. The determination was made based on results of field screening with a PID during the remedial action.
FINAL_REM_ACTION	The Air Force issued a Final No Further Action Decision Document in July 1991 and ADEC concurred that this site does not require any further action in December 1991
CONT_RISK	Site designated Category 1: Stations/operable units where no further IRP action is required. Existing data are sufficient to assess that conditions at the site have no significant impact on human health or the environment.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 3/7/2011) United States Air Force (USAF). 1991. Installation Restoration Program (IRP) Remedial Investigation/Feasibility Study Stage 2, Final No Further Action Decision and Final Technical Document to Support No Further Action for Kotzebue Air Force Station, Alaska. Final. July. (1991 NFA-AR-00010002) United States Air Force (USAF). 2007. Record of Decision for No Further Action, SS007 (Former Water Supply Lake), SS015 (Former Power Plant/Garage), SS016 (Buildings101 and 102), SS017 (PCB Spill at Building 102), SS019 (PCB Spill South Fence), and SS020 (Septic Holding Tank/Outfall Line), Kotzebue LRRS, Alaska. Final. April. (2007 ROD -AR125-1) ADEC. 2007. November 7, 2001 Air Force Request for No Further Remedial Action at: SS001 Waste Accumulation Area 1, SD003 Road Oiling, ST004 White Alice Tanks, SS006 Spill/Leak No 1, SS008 Barracks Area, SS009 PCB Spill, SS010 Solvent Spill, SS011 Fuel Spill and AOC 8 White Alice Garage (renamed as SS009 PCB Spill), Kotzebue LRRS, Alaska. November. (2007 NFA ADEC concurrence letter - AR127-1)
STATUS	

Kotzebue-SS002_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	850
SITIRP_ID	SS002
SITE_STATUS	Cleanup Complete-Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	Cancer <1X10 ⁻⁵ ; non-Cancer HI <1
ALIAS	SS02
SITE_NAME	Waste Accumulation Area #2/ Landfill
SITE_DESCRIPTION	SS002 (Waste Accumulation Area No. 2/Landfill) is located along the beach of Kotzebue Sound and northwesrof-ST005 (Former Beach Tanks) and-of the POL Pump House. SS002 is comprised of a former waste accumulation area and facility landfill, formerly used to store and dispose of wastes at Kotzebue LRRS from 1950 to 1974.
MEDIA_ID	SS002
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	landfill-1950-1974 Clean Sweep removal 1998-1999
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete-Institutional Controls
LUC_RESTRICTION	LUCs (also known as institutional controls under 18 AAC 75.375) will be implemented and maintained as long as undocumented wastes (POL contamination) remains buried at SS002. Notice in Air Force land records to prohibit disturbance within SS002 of surface or sub-surface soil without ADEC concurrence to prevent possible exposure of landfill contents at SS002.
POC	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	None
MODIFIED_DATE	20110310
CONTAMINATION_SOURCE	landfill
SITEID	SS002
INSTLN_ID	KO
MAINTENANCE	Groundwater monitoring; Surface water monitoring;
RESTRICTIONS	No unauthorized digging/excavation; Property records/Base Plan documentation

Kotzebue-SS002_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS002
SITE_NAME	Waste Accumulation Area #2/ Landfill
DATE_SUMM	3/10/2011
CURRENT_STATUS	Cleanup Complete-Institutional Controls
SITE_STATUS	Cleanup Complete-Institutional Controls
POCID	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	SS002 (Waste Accumulation Area No. 2/Landfill) is located along the beach of Kotzebue Sound and northwesrof-ST005 (Former Beach Tanks) and of the POL Pump House. SS002 is comprised of a former waste accumulation area and facility landfill, formerly used to store and dispose of wastes at Kotzebue LRRS from 1950 to 1974. The current land use at SS002 is unrestricted access for recreation, and subsistence hunting and fishing.
GEO_HYDRO	<p>No groundwater is present on the bluff at the main portion of the installation. Groundwater does occur in shallow aquifers along the beach and within deeper thawed zones in the frozen ground. Groundwater is generally not utilized as a public drinking water source due to salinity and insufficient quantities. There have been no seeps documented from the bluff. Groundwater associated with the beach area is restricted to a narrow zone adjacent to Kotzebue Sound that is less susceptible to permafrost. The near-beach groundwater at Kotzebue LRRS is saline (brackish) in nature, tidally influenced, and non-potable. Recharge of the near-beach aquifer system is probably controlled by the highly seasonal nature of the active zone (supra-permafrost water) inputs that recharge the beach area from the tundra uplands. Permafrost is depressed by marine influence, which allows the near-beach aquifer to remain saturated in the subsurface to a depth of 7 to 9 feet bgs, and is underlain by a competent silty-clay confining layer. The relatively shallow confining layer encountered is a 60-foot-thick marine, blue clay deposit.</p> <p>The average linear velocity range for groundwater is approximately 0.6 to 6.4 feet per year, assuming that groundwater flow is non-existent for four months of the year (winter).</p>
COC	None
INVESTIGATION_ACTIONS	The Air Force cleaned and graded the site in 1975. In 1994, however, a trench containing tar and tar-soaked soil was uncovered. This waste was excavated and removed from the site. The former landfill site was also found to exhibit intermittent areas of mounding that included landfill debris (e.g., metal wastes, such as crushed drums and containers, and other metallic debris protruding through the surface). Summary of Investigations: 1985 Preliminary Investigation; 1988-1990 Stage 1/Stage 2 RI/F'S; 1994 RI/FS; 1995 Baseline Human Health and Ecological Risk Assessment; groundwater, surface water, and sediment sampling in 1999, 2000, and 2003; 2003 RI/FS; 2004 Risk Assessment.
FINAL_REM_ACTION	The overall cleanup strategies for SS002 are to 1) reduce the potential for risk of landfill contents to human health; and 2) demonstrate non-degradation of surface water due to off-site migration of TAH and TAqH-contaminated groundwater. The principal components of the selected remedies are LUCs to include notice in the Air Force land records to prohibit disturbance of surface or sub-surface soil at the site without ADEC approval.
CONT_RISK	A human health and ecological risk assessment was finalized in 2004 using data from the 2003 RI/FS. No significant human health or ecological risk was identified for SS002.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 3/10/2011) United States Air Force (USAF). 2007. Record of Decision for No Further Action, SS007 (Former Water Supply Lake), SS015 (Former Power Plant/Garage), SS016 (Buildings101 and 102), SS017 (PCB Spill at Building 102), SS019 (PCB Spill South Fence), and SS020 (Septic Holding Tank/Outfall Line), Kotzebue LRRS, Alaska. Final. April. (2007 ROD -AR125-1)
STATUS	

Kotzebue-SS006_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	839
SITIRP_ID	SS006
SITE_STATUS	Cleanup Complete
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	not analyzed - no evidence of contamination during site inspection
ALIAS	SS06
SITE_NAME	Spill/Leak #1
SITE_DESCRIPTION	This is the site of a diesel fuel leak of unknown amount in the mid-1970s. It is located near the Officer's wing of Building 103.
MEDIA_ID	SS006
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	spill occurred mid-1970s
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete
LUC_RESTRICTION	Soil containing residual contamination at SS006 may not be placed in surface water or other environmentally sensitive areas. Please note, per 18 AAC 75.325(i), ADEC approval is required prior to disposing of soil or water from a site that is, or has been, subject to the site cleanup rules.
POC	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	None
MODIFIED_DATE	20110308
CONTAMINATION_SOURCE	spill
SITEID	SS006
INSTLN_ID	KO
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil

Kotzebue-SS006_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS006
SITE_NAME	Spill/Leak #1
DATE_SUMM	3/8/2011
CURRENT STATUS	Cleanup Complete
SITE STATUS	Cleanup Complete
POCID	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	A diesel fuel leak occurred in a fuel pipeline in the mid-1970s. A coupling near the officer's wing of Building 103 (northernmost wing) failed, resulting in the release of an unknown volume of diesel fuel to the ground.
GEO_HYDRO	<p>No groundwater is present on the bluff at the main portion of the installation. Groundwater does occur in shallow aquifers along the beach and within deeper thawed zones in the frozen ground.</p> <p>Groundwater is generally not utilized as a public drinking water source due to salinity and insufficient quantities (United States Geological Survey, 1995). There have been no seeps documented from the bluff (USAF, 2004). Groundwater associated with the beach area is restricted to a narrow zone adjacent to Kotzebue Sound that is less susceptible to permafrost. The near-beach groundwater at Kotzebue LRRS is saline (brackish) in nature, tidally influenced, and non-potable. Recharge of the near-beach aquifer system is probably controlled by the highly seasonal nature of the active zone (supra-permafrost water) inputs that recharge the beach area from the tundra uplands (USAF, 1995a). Permafrost is depressed by marine influence, which allows the near-beach aquifer to remain saturated in the subsurface to a depth of 7 to 9 feet bgs, and is underlain by a competent silty-clay confining layer (USAF, 1995a). The relatively shallow confining layer encountered is a 60-foot-thick marine, blue clay deposit (USAF, 1995a).</p> <p>The average linear velocity range for groundwater is approximately 0.6 to 6.4 feet per year, assuming that groundwater flow is non-existent for four months of the year (winter) (USAF, 2004).</p>
COC	None
INVESTIGATION_ACTIONS	During the 1987 Woodward-Clyde Consultants Field Reconnaissance, it was determined that this site did not exhibit any odor or staining and the site was considered to pose no threat to humans or the environment. Due to the fact that the site does not exhibit any signs of contamination it was probable that the diesel spill at this site has weathered and no longer poses a significant threat to the environment.
FINAL_REM_ACTION	The Air Force subsequently submitted in July 1991 a: Stage 1 Final No Further Action Decision and Technical Document to Support No Further Action for Five Sites on Kotzebue Air Force Station. ADEC concurred with the No Further Action alternative for this site in November 1991. Soil containing residual contamination at SS006 may not be placed in surface water or other environmentally sensitive areas. Per 18 AAC 75.3 25(i), ADEC approval is required prior to disposing of soil or water from a site that is, or has been, subject to the site cleanup rules.
CONT_RISK	It was determined that this site did not exhibit any odor or staining and the site was considered to pose no threat to humans or the environment. Due to the fact that the site does not exhibit any signs of contamination it was probable that the diesel spill at this site has weathered and no longer poses a significant threat to the environment.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 3/8/2011)</p> <p>United States Air Force (USAF). 1991. Installation Restoration Program (IRP) Remedial Investigation/Feasibility Study Stage 1, Final No Further Action Decision and Final Technical Document to Support No Further Action for Kotzebue Air Force Station, Alaska. Final. July. (1991 NFA AR-00010001)</p> <p>United States Air Force (USAF). 2007. Record of Decision for No Further Action, SS007 (Former Water Supply Lake), SS015 (Former Power Plant/Garage), SS016 (Buildings 101 and 102), SS017 (PCB Spill at Building 102), SS019 (PCB Spill South Fence), and SS020 (Septic Holding Tank/Outfall Line), Kotzebue LRRS, Alaska. Final. April. (2007 ROD -AR125-1)</p> <p>ADEC. 2007. November 7, 2001 Air Force Request for No Further Remedial Action at: SS001 Waste Accumulation Area 1, SD003 Road Oiling, ST004 White Alice Tanks, SS006 Spill/Leak No 1, SS008 Barracks Area, SS009 PCB Spill, SS010 Solvent Spill, SS011 Fuel Spill and AOC 8 White Alice Garage (renamed as SS009 PCB Spill), Kotzebue LRRS, Alaska. November. (2007 NFA ADEC concurrence letter - AR127-1)</p>
STATUS	

Kotzebue-SS008_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	834
SITIRP_ID	SS008
SITE_STATUS	Cleanup Complete
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	not analyzed quantitatively-low concentrations DRO indicate minimal risk.
ALIAS	SS08
SITE_NAME	KOT-6 Barracks/Barracks Area
SITE_DESCRIPTION	This site is located adjacent to the Composite Facility between two building wings and was used for storage of various hazardous materials.
MEDIA_ID	SS008
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	late 1950s-1985
CATEGORY	IRP
AREA_ACRES	0.02
ACTIVITY	Cleanup Complete
LUC_RESTRICTION	Soil containing residual contamination at SS008 may not be placed in surface water or other environmentally sensitive areas. Please note, per 18 AAC 75.325(i), ADEC approval is required prior to disposing of soil or water from a site that is, or has been, subject to the site cleanup rules.
POC	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	DRO
MODIFIED_DATE	20110308
CONTAMINATION_SOURCE	improper storage, overfilled tanks, leaks/spills
SITEID	SS008
INSTLN_ID	KO
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil

Kotzebue-SS008_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS008
SITE_NAME	KOT-6 Barracks/Barracks Area
DATE_SUMM	3/8/2011
CURRENT_STATUS	Cleanup Complete
SITE STATUS	Cleanup Complete
POCID	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	This site is located adjacent to the Composite Facility between two building wings and was used for storage of various hazardous materials, including lime, asphalt roofing material, hypochlorite, and deicing agents, which were stored on pallets. Also, adjacent diesel fuel tanks were apparently overfilled, as evidenced by staining on tanks and odor present in the underlying soils. Fuel spill(s) most likely occurred prior to 1985 when the barracks area was deactivated. The site covers an area approximately 25 feet by 40 feet and on a sand-and-gravel pad overdisturbed tundra.
GEO_HYDRO	No groundwater is present on the bluff at the main portion of the installation. Groundwater does occur in shallow aquifers along the beach and within deeper thawed zones in the frozen ground. Groundwater is generally not utilized as a public drinking water source due to salinity and insufficient quantities. There have been no seeps documented from the bluff. Groundwater associated with the beach area is restricted to a narrow zone adjacent to Kotzebue Sound that is less susceptible to permafrost. The near-beach groundwater at Kotzebue LRRS is saline (brackish) in nature, tidally influenced, and non-potable. Recharge of the near-beach aquifer system is probably controlled by the highly seasonal nature of the active zone (supra-permafrost water) inputs that recharge the beach area from the tundra uplands. Permafrost is depressed by marine influence, which allows the near-beach aquifer to remain saturated in the subsurface to a depth of 7 to 9 feet bgs, and is underlain by a competent silty-clay confining layer. The relatively shallow confining layer encountered is a 60-foot-thick marine, blue clay deposit. The average linear velocity range for groundwater is approximately 0.6 to 6.4 feet per year, assuming that groundwater flow is non-existent for four months of the year (winter) (USAF, 2004).
COC	DRO
INVESTIGATION_ACTIONS	Summary of investigations: 1985 Phase I; 1987 field reconnaissance and work plan development; 1988-1989 Stage 1 Installation Restoration Program study and Remedial Investigation/Feasibility Study
FINAL_REM_ACTION	2004 Final RI/FS showed DRO at 500 mg/kg. This suggests that the cleanup activities performed at SS008 were effective at reducing the DRO concentrations in soil. Site was recommended for closure. Soil containing residual contamination at SS006 may not be placed in surface water or other environmentally sensitive areas. Per 18 AAC 75.3 25(i), ADEC approval is required prior to disposing of soil or water from a site that is, or has been, subject to the site cleanup rules.
CONT_RISK	Not addressed in 2007 letter; 1991 NFA indicated risk "of significant adverse effects to human health and the environment is negligible, acceptably low, or offset by other considerations." Cleanup activities performed at the site after this time further reduced risk.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 3/8/2011) United States Air Force (USAF). 1991. Installation Restoration Program (IRP) Remedial Investigation/Feasibility Study Stage 1, Final No Further Action Decision and Final Technical Document to Support No Further Action for Kotzebue Air Force Station, Alaska. Final. July. (1991 NFA-AR-00010001) United States Air Force (USAF). 2007. Record of Decision for No Further Action, SS007 (Former Water Supply Lake), SS015 (Former Power Plant/Garage), SS016 (Buildings101 and 102), SS017 (PCB Spill at Building 102), SS019 (PCB Spill South Fence), and SS020 (Septic Holding Tank/Outfall Line), Kotzebue LRRS, Alaska. Final. April. (2007 ROD -AR125-1) ADEC. 2007. November 7, 2001 Air Force Request for No Further Remedial Action at: SS001 Waste Accumulation Area 1, SD003 Road Oiling, ST004 White Alice Tanks, SS006 Spill/Leak No 1, SS008 Barracks Area, SS009 PCB Spill, SS010 Solvent Spill, SS011 Fuel Spill and AOC 8 White Alice Garage (renamed as SS009 PCB Spill), Kotzebue LRRS, Alaska. November. (2007 NFA ADEC concurrence letter - AR127-1)
STATUS	

Kotzebue-SS009_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	855
SITIRP_ID	SS009
SITE_STATUS	Cleanup Complete
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	not analyzed quantitatively
ALIAS	None
SITE_NAME	KOT-5 PCB Spill
SITE_DESCRIPTION	KOT-5 PCB Spill. This site is located at White Alice Station on a gravel pad immediately south of the armory building. A small PCB spill took place here; contaminated gravel reportedly was excavated, removed and replaced by clean fill.
MEDIA_ID	SS009
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Unknown
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete
LUC_RESTRICTION	Soil containing residual contamination at SS009 may not be placed in surface water or other environmentally sensitive areas. Please note, per 18 AAC 75.325(i), ADEC approval is required prior to disposing of soil or water from a site that is, or has been, subject to the site cleanup rules.
POC	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	None
MODIFIED_DATE	20110307
CONTAMINATION_SOURCE	spill
SITEID	SS009
INSTLN_ID	KO
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil

Kotzebue-SS009_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS009
SITE_NAME	KOT-5 PCB Spill
DATE_SUMM	3/7/2011
CURRENT_STATUS	Cleanup Complete
SITE_STATUS	Cleanup Complete
POCID	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	This site is located at White Alice Station on a gravel pad immediately south of the armory building. A small PCB spill took place here; contaminated gravel reportedly was excavated, removed and replaced by clean fill.
GEO_HYDRO	No groundwater is present on the bluff at the main portion of the installation. Groundwater does occur in shallow aquifers along the beach and within deeper thawed zones in the frozen ground. Groundwater is generally not utilized as a public drinking water source due to salinity and insufficient quantities. There have been no seeps documented from the bluff. Groundwater associated with the beach area is restricted to a narrow zone adjacent to Kotzebue Sound that is less susceptible to permafrost. The near-beach groundwater at Kotzebue LRRS is saline (brackish) in nature, tidally influenced, and non-potable. Recharge of the near-beach aquifer system is probably controlled by the highly seasonal nature of the active zone (supra-permafrost water) inputs that recharge the beach area from the tundra uplands. Permafrost is depressed by marine influence, which allows the near-beach aquifer to remain saturated in the subsurface to a depth of 7 to 9 feet bgs, and is underlain by a competent silty-clay confining layer. The relatively shallow confining layer encountered is a 60-foot-thick marine, blue clay deposit. The average linear velocity range for groundwater is approximately 0.6 to 6.4 feet per year, assuming that groundwater flow is non-existent for four months of the year (winter).
COC	None
INVESTIGATION_ACTIONS	Nine cubic yards of PCB-contaminated (defined as less than 10 mg/kg discrete soil samples or 1.1 mg/kg for composite samples) fill material was removed and sent to an off-site disposal site from the Solvent Spill site which effectively remediated soil contaminants from the site. In 1991, the Air Force submitted a: "Stage 2 Final No Further Action Decision and Final Technical Document to Support No Further Action for Three Sites at Kotzebue Air Force Station, July 1991."
FINAL_REM_ACTION	ADEC concurred in December 1991 no further remedial action was required. Soil containing residual contamination at SS009 may not be placed in surface water or other environmentally sensitive areas. Per 18 AAC 75.325(i), ADEC approval is required prior to disposing of soil or water from a site that is, or has been, subject to the site cleanup rules.
CONT_RISK	Site designated Category 1: Stations/operable units where no further IRP action is required. Existing data are sufficient to assess that conditions at the site have no significant impact on human health or the environment.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 3/7/2011) United States Air Force (USAF). 1991. Installation Restoration Program (IRP) Remedial Investigation/Feasibility Study Stage 2, Final No Further Action Decision and Final Technical Document to Support No Further Action for Kotzebue Air Force Station, Alaska. Final. July. (1991 NFA-AR-00010002) United States Air Force (USAF). 2007. Record of Decision for No Further Action, SS007 (Former Water Supply Lake), SS015 (Former Power Plant/Garage), SS016 (Buildings101 and 102), SS017 (PCB Spill at Building 102), SS019 (PCB Spill South Fence), and SS020 (Septic Holding Tank/Outfall Line), Kotzebue LRRS, Alaska. Final. April. (2007 ROD -AR125-1) ADEC. 2007. November 7, 2001 Air Force Request for No Further Remedial Action at: SS001 Waste Accumulation Area 1, SD003 Road Oiling, ST004 White Alice Tanks, SS006 Spill/Leak No 1, SS008 Barracks Area, SS009 PCB Spill, SS010 Solvent Spill, SS011 Fuel Spill and AOC 8 White Alice Garage (renamed as SS009 PCB Spill), Kotzebue LRRS, Alaska. November. (2007 NFA ADEC concurrence letter - AR127-1)
STATUS	

Kotzebue-SS010_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	856
SITIRP_ID	SS010
SITE_STATUS	Cleanup Complete
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	not analyzed quantitatively
ALIAS	None
SITE_NAME	KOT-5 Solvent Spill
SITE_DESCRIPTION	KOT-5 Solvent Spill. This site is located at the White Alice Station, northwest of the Composite Facility. The contaminated area measured approximately 10 by 20 feet, and was situated north of the armory at the edge of a gravel pad that tapered onto tundra. PCB contaminated solvents reportedly were dumped at an area of yellow surface stains on the gravel pad.
MEDIA_ID	SS010
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Unknown
CATEGORY	CERCLA
AREA_ACRES	0.005
ACTIVITY	Cleanup Complete
LUC_RESTRICTION	Soil containing residual contamination at SS010 may not be placed in surface water or other environmentally sensitive areas. Please note, per 18 AAC 75.325(i), ADEC approval is required prior to disposing of soil or water from a site that is, or has been, subject to the site cleanup rules.
POC	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	None
MODIFIED_DATE	20110307
CONTAMINATION_SOURCE	improper disposal
SITEID	SS010
INSTLN_ID	KO
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil

Kotzebue-SS010_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS010
SITE_NAME	KOT-5 Solvent Spill
DATE_SUMM	3/7/2011
CURRENT_STATUS	Cleanup Complete-Institutional controls
SITE_STATUS	Cleanup Complete-Institutional controls
POCID	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	KOT-5 Solvent Spill. This site is located at the White Alice Station, northwest of the Composite Facility. The contaminated area measured approximately 10 by 20 feet, and was situated north of the armory at the edge of a gravel pad that tapered onto tundra. PCB contaminated solvents reportedly were dumped at an area of yellow surface stains on the gravel pad.
GEO_HYDRO	No groundwater is present on the bluff at the main portion of the installation. Groundwater does occur in shallow aquifers along the beach and within deeper thawed zones in the frozen ground. Groundwater is generally not utilized as a public drinking water source due to salinity and insufficient quantities. There have been no seeps documented from the bluff. Groundwater associated with the beach area is restricted to a narrow zone adjacent to Kotzebue Sound that is less susceptible to permafrost. The near-beach groundwater at Kotzebue LRRS is saline (brackish) in nature, tidally influenced, and non-potable. Recharge of the near-beach aquifer system is probably controlled by the highly seasonal nature of the active zone (supra-permafrost water) inputs that recharge the beach area from the tundra uplands. Permafrost is depressed by marine influence, which allows the near-beach aquifer to remain saturated in the subsurface to a depth of 7 to 9 feet bgs, and is underlain by a competent silty-clay confining layer. The relatively shallow confining layer encountered is a 60-foot-thick marine, blue clay deposit. The average linear velocity range for groundwater is approximately 0.6 to 6.4 feet per year, assuming that groundwater flow is non-existent for four months of the year (winter).
COC	None
INVESTIGATION_ACTIONS	Nine cubic yards of PCB-contaminated (defined as less than 10 mg/kg discrete soil samples or 1.1 mg/kg for composite samples) fill material was removed and sent to an off-site disposal site from the Solvent Spill site which effectively remediated soil contaminants from the site. In 1991, the Air Force submitted a: "Stage 2 Final No Further Action Decision and Final Technical Document to Support No Further Action for Three Sites at Kotzebue Air Force Station, July 1991."
FINAL_REM_ACTION	ADEC concurred in December 1991 no further remedial action was required. Soil containing residual contamination at SS010 may not be placed in surface water or other environmentally sensitive areas. Per 18 AAC 75.325(i), ADEC approval is required prior to disposing of soil or water from a site that is, or has been, subject to the site cleanup rules.
CONT_RISK	Site designated Category 1: Stations/operable units where no further IRP action is required. Existing data are sufficient to assess that conditions at the site have no significant impact on human health or the environment.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 3/7/2011) United States Air Force (USAF). 1991. Installation Restoration Program (IRP) Remedial Investigation/Feasibility Study Stage 2, Final No Further Action Decision and Final Technical Document to Support No Further Action for Kotzebue Air Force Station, Alaska. Final. July. (1991 NFA-AR-00010002) United States Air Force (USAF). 2007. Record of Decision for No Further Action, SS007 (Former Water Supply Lake), SS015 (Former Power Plant/Garage), SS016 (Buildings101 and 102), SS017 (PCB Spill at Building 102), SS019 (PCB Spill South Fence), and SS020 (Septic Holding Tank/Outfall Line), Kotzebue LRRS, Alaska. Final. April. (2007 ROD -AR125-1) ADEC. 2007. November 7, 2001 Air Force Request for No Further Remedial Action at: SS001 Waste Accumulation Area 1, SD003 Road Oiling, ST004 White Alice Tanks, SS006 Spill/Leak No 1, SS008 Barracks Area, SS009 PCB Spill, SS010 Solvent Spill, SS011 Fuel Spill and AOC 8 White Alice Garage (renamed as SS009 PCB Spill), Kotzebue LRRS, Alaska. November. (2007 NFA ADEC concurrence letter - AR127-1)
STATUS	

Kotzebue-SS011_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	833
SITIRP_ID	SS011
SITE_STATUS	Cleanup Complete
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	Not analyzed
ALIAS	KOT-5 Jet Fuel Spill
SITE_NAME	Fuel Spill
SITE_DESCRIPTION	A jet fuel spill (diesel range organics) occurred near the White Alice Building reportedly in the mid-70s or early 80s. The impacted area was approximately 50 by 60 feet in the tundra.
MEDIA_ID	SS011
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Spill occurred in mid 1970s or early 1980s
CATEGORY	IRP
AREA_ACRES	0.07
ACTIVITY	Cleanup Complete
LUC_RESTRICTION	ADEC approval required for disposal of soil or water from site
POC	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	None
MODIFIED_DATE	20110307
CONTAMINATION_SOURCE	fuel spill
SITEID	SS011
INSTLN_ID	KO
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil

Kotzebue-SS011_ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS011
SITE_NAME	Fuel Spill
DATE_SUMM	3/7/2011
CURRENT_STATUS	Cleanup Complete
SITE_STATUS	Cleanup Complete
POCID	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	A jet fuel spill (diesel range organics) occurred near the White Alice Building reportedly in the mid-70s or early 80s. The impacted area was approximately 50 by 60 feet in the tundra.
GEO_HYDRO	<p>No groundwater is present on the bluff at the main portion of the installation. Groundwater does occur in shallow aquifers along the beach and within deeper thawed zones in the frozen ground. Groundwater is generally not utilized as a public drinking water source due to salinity and insufficient quantities (United States Geological Survey, 1995). There have been no seeps documented from the bluff (USAF, 2004). Groundwater associated with the beach area is restricted to a narrow zone adjacent to Kotzebue Sound that is less susceptible to permafrost. The near-beach groundwater at Kotzebue LRRS is saline (brackish) in nature, tidally influenced, and non-potable. Recharge of the near-beach aquifer system is probably controlled by the highly seasonal nature of the active zone (supra-permafrost water) inputs that recharge the beach area from the tundra uplands (USAF, 1995a). Permafrost is depressed by marine influence, which allows the near-beach aquifer to remain saturated in the subsurface to a depth of 7 to 9 feet bgs, and is underlain by a competent silty-clay confining layer (USAF, 1995a). The relatively shallow confining layer encountered is a 60-foot-thick marine, blue clay deposit (USAF, 1995a).</p> <p>The average linear velocity range for groundwater is approximately 0.6 to 6.4 feet per year, assuming that groundwater flow is non-existent for four months of the year (winter) (USAF, 2004).</p>
COC	None
INVESTIGATION_ACTIONS	Remedial action occurred in 1988 and continued through 1990. Target cleanup level was achieved by 1994 and the 1995 Remedial Investigation/Feasibility Study recommended that no further remedial action is needed at Site SS011 Fuel Spill.
FINAL_REM_ACTION	1995 Remedial Investigation/Feasibility Study recommended that no further remedial action is needed at Site SS011 Fuel Spill. ADEC concurs with the recommendation for SS011 and the action will be reflected as such in our contaminated sites database as "Site Closure Approved."
CONT_RISK	Not analyzed
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 3/7/2011)</p> <p>United States Air Force (USAF). 2007. Record of Decision for No Further Action, SS007 (Former Water Supply Lake), SS015 (Former Power Plant/Garage), SS016 (Buildings 101 and 102), SS017 (PCB Spill at Building 102), SS019 (PCB Spill South Fence), and SS020 (Septic Holding Tank/Outfall Line), Kotzebue LRRS, Alaska. Final. April. (2007 ROD - AR125-1)</p> <p>ADEC. 2007. November 7, 2001 Air Force Request for No Further Remedial Action at: SS001 Waste Accumulation Area 1, SD003 Road Oiling, ST004 White Alice Tanks, SS006 Spill/Leak No 1, SS008 Barracks Area, SS009 PCB Spill, SS010 Solvent Spill, SS011 Fuel Spill and AOC 8 White Alice Garage (renamed as SS009 PCB Spill), Kotzebue LRRS, Alaska. November. (2007 NFA ADEC concurrence letter - AR127-1)</p>
STATUS	

Kotzebue-SS012_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	826
SITIRP_ID	SS012
SITE_STATUS	Cleanup Complete-Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	Not analyzed quantitatively. The screening level risk assessment concluded that there is limited potential for exposure to elevated concentrations of DRO in soil.
ALIAS	SS12
SITE_NAME	SPILLS #2 AND #3
SITE_DESCRIPTION	SS012 (Spill Nos. 2 and 3) is located southwest of the former Power plant/Garage and south of the former Composite Building. This site consists of two diesel fuel spills that were combined into one ERP site.
MEDIA_ID	SS012
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Spills occurred between 1979 and 1984
CATEGORY	ERP
AREA_ACRES	Spill No. 2 - .08 acres; Spill number 3 - 1.5 acres (including 1 acre tundra)
ACTIVITY	Cleanup Complete-Institutional Controls
LUC_RESTRICTION	<p>* LUCs (also known as institutional controls under 18 AAC 75.375) will be implemented and maintained as long as DRO in soil remains above 12,500 mg/kg. Inspections will be conducted every five years.</p> <p>* LUCs will consist of notice in the BGP to inform site workers that DRO contaminated soil is not to be moved or disturbed without notifying ADEC.</p>
POC	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	DRO
MODIFIED_DATE	20110310
CONTAMINATION_SOURCE	fuel spills/leaks
SITEID	SS012
INSTLN_ID	KO
MAINTENANCE	Groundwater monitoring; LUC inspections
RESTRICTIONS	No unauthorized transport or disposal of soil; Property records/Base Plan documentation

Kotzebue-SS012_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS012
SITE_NAME	SPILLS #2 AND #3
DATE_SUMM	3/10/2011
CURRENT_STATUS	Cleanup Complete-Institutional Controls
SITE_STATUS	Cleanup Complete-Institutional Controls
POCID	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	SS012 (Spill Nos. 2 and 3) is located southwest of the former Power plant/Garage and south of the former Composite Building. This site consists of two diesel fuel spills that were combined into one ERP site. The Spill No. 2 occurred between 1979 and 1980 when a day tank behind the power plant. The spill area consisted of a 40-foot by 80-foot area of gravel fill. Spill No. 3 was the result of a leaking fuel line. The exact amount of fuel released is not known. The leak was discovered in 1984 and affected a 1 .5-acre area that included a 1 -acre section of tundra. The primary concern at SS012 is diesel fuel from the two spills that commingled in the gravel fill and tundra.
GEO_HYDRO	No groundwater aquifer exists beneath SS012 due to the existence of shallow permafrost. No year-round surface water bodies exist at SS012 or SS018. No groundwater is present on the bluff at the main portion of the installation. Groundwater does occur in shallow aquifers along the beach and within deeper thawed zones in the frozen ground. Groundwater is generally not utilized as a public drinking water source due to salinity and insufficient quantities. There have been no seeps documented from the bluff. Groundwater associated with the beach area is restricted to a narrow zone adjacent to Kotzebue Sound that is less susceptible to permafrost. The near-beach groundwater at Kotzebue LRRS is saline (brackish) in nature, tidally influenced, and non-potable. Recharge of the near-beach aquifer system is probably controlled by the highly seasonal nature of the active zone (supra-permafrost water) inputs that recharge the beach area from the tundra uplands. Permafrost is depressed by marine influence, which allows the near-beach aquifer to remain saturated in the subsurface to a depth of 7 to 9 feet bgs, and is underlain by a competent silty-clay confining layer. The relatively shallow confining layer encountered is a 60-foot-thick marine, blue clay deposit. The average linear velocity range for groundwater is approximately 0.6 to 6.4 feet per year, assuming that groundwater flow is non-existent for four months of the year (winter).
COC	DRO
INVESTIGATION_ACTIONS	Summary of Investigations: 1985 Preliminary Assessment/Site Investigation; 1988-1990 Stage 1/Stage 2 RI/F'S and bioremediation pilot study; 1992 ADEC site inspection; 1994 RI/FS ; 1995 Baseline Human Health and Ecological Risk Assessment; 1995-1996 soil washing; 1998-1999 Clean Sweep; 2004 RI/FS; 2004 Risk Assessment.
FINAL_REM_ACTION	The overall cleanup strategies for SS012 are to 1) reduce the potential for risk to human health associated with ingestion or inhalation of DRO contaminated soil; and 2) control off-site migration of contaminants to surface or groundwater. The principal components of the selected remedy are monitored natural attenuation and LUCs. Major components of the selected remedy include: * Monitoring for natural attenuation parameters and contaminant levels every five years. * Visual inspection for presence of a sheen at seasonal surface water ponds located at the downgradient edge of the sites every five years. * Long-term monitoring for potential migration of DRO off-site and into downgradient groundwater will be addressed by monitoring groundwater at ST005 located on the beach adjacent to Kotzebue Sound for five years. * LUCs (also known as institutional controls under 18 AAC 75.375) will be implemented and maintained as long as DRO in soil remains above 12,500 milligrams per kilogram (mg/kg). Inspections will be conducted every five years. * LUCs will consist of notice in the Base General Plan (BGP) to inform site workers that DRO contaminated soil is not to be moved or disturbed without notifying ADEC.
CONT_RISK	Fuel-related chemicals primarily associated with diesel (and not regulated under CERCLA) use at the Kotzebue LRRS had some exceedances of health-based screening-levels and State of Alaska regulatory criteria in soil at SS012 and SS018. Only very limited areas of soil might represent a health concern due to DRO if exposure to surface and subsurface soil occurred on a very frequent basis. This scenario is unlikely given what is understood about current and future land use in the area. Therefore, the risk assessment concluded that there is limited potential for exposure to elevated concentrations of DRO in soil at SS012.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 3/10/2011) United States Air Force (USAF). 2007. Record of Decision for No Further Action, SS007 (Former Water Supply Lake), SS015 (Former Power Plant/Garage), SS016 (Buildings 101 and 102), SS017 (PCB Spill at Building 102), SS019 (PCB Spill South Fence), and SS020 (Septic Holding Tank/Outfall Line), Kotzebue LRRS, Alaska. Final. April. (2007 ROD -AR125-1)
STATUS	

Kotzebue-SS018_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	829
SITIRP_ID	SS018
SITE_STATUS	Cleanup Complete-Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	Not analyzed quantitatively. The screening level risk assessment concluded that there is limited potential for exposure to elevated concentrations of DRO in soil.
ALIAS	SS18
SITE_NAME	Former Truck Fill Stand
SITE_DESCRIPTION	SS018 (Former Truck Fill Stand) is located northwest of the former Composite Building and next to the main facility access road, approximately 100 feet north of the entrance to the LRRS. SS018 consists of a 10-foot by 8-foot gravel pad, averaging 3 feet in thickness and extending into the adjacent tundra.
MEDIA_ID	SS018
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	1950s to 1976
CATEGORY	ERP
AREA_ACRES	80 square feet
ACTIVITY	Cleanup Complete-Institutional Controls
LUC_RESTRICTION	* LUCs (also known as institutional controls under 18 AAC 75.375) will be implemented and maintained as long as DRO in soil remains above 12,500 milligrams per kilogram (mg/kg). Inspections will be conducted every five years. * LUCs will consist of notice in the BGP to inform site workers that DRO contaminated soil is not to be moved or disturbed without notifying ADEC.
POC	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	DRO
MODIFIED_DATE	20110310
CONTAMINATION_SOURCE	incidental fuel spills from operation of the former truck fill stand
SITEID	SS018
INSTLN_ID	KO
MAINTENANCE	Groundwater monitoring; LUC inspections
RESTRICTIONS	No unauthorized transport or disposal of soil; Property records/Base Plan

Kotzebue-SS018_ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS018
SITE_NAME	Former TRUCK FILL STAND
DATE_SUMM	3/10/2011
CURRENT_STATUS	Cleanup Complete-Institutional Controls
SITE_STATUS	Cleanup Complete-Institutional Controls
POCID	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	SS018 (Former Truck Fill Stand) is located northwest of the former Composite Building and next to the main facility access road, approximately 100 feet north of the entrance to the LRRS. SS018 consists of a 10-foot by 8-foot gravel pad, averaging 3 feet in thickness and extending into the adjacent tundra. The primary concern at SS018 is diesel-affected tundra and gravel, related to incidental fuel spills from operation of the former truck fill stand. The exact amount of fuel released is not known.
GEO_HYDRO	No groundwater aquifer exists beneath SS018 due to the existence of shallow permafrost. No year-round surface water bodies exist at SS018. No groundwater is present on the bluff at the main portion of the installation. Groundwater does occur in shallow aquifers along the beach and within deeper thawed zones in the frozen ground. Groundwater is generally not utilized as a public drinking water source due to salinity and insufficient quantities. There have been no seeps documented from the bluff. Groundwater associated with the beach area is restricted to a narrow zone adjacent to Kotzebue Sound that is less susceptible to permafrost. The near-beach groundwater at Kotzebue LRRS is saline (brackish) in nature, tidally influenced, and non-potable. Recharge of the near-beach aquifer system is probably controlled by the highly seasonal nature of the active zone (supra-permafrost water) inputs that recharge the beach area from the tundra uplands. Permafrost is depressed by marine influence, which allows the near-beach aquifer to remain saturated in the subsurface to a depth of 7 to 9 feet bgs, and is underlain by a competent silty-clay confining layer. The relatively shallow confining layer encountered is a 60-foot-thick marine, blue clay deposit. The average linear velocity range for groundwater is approximately 0.6 to 6.4 feet per year, assuming that groundwater flow is non-existent for four months of the year (winter).
COC	DRO
INVESTIGATION_ACTIONS	Summary of Investigations: 1994 RI/FS; 1995 Baseline Human Health and Ecological Risk Assessment; 1998-1999 Clean Sweep; 2004 RI/FS; 2004 Risk Assessment.
FINAL_REM_ACTION	The overall cleanup strategies for SS018 are to 1) reduce the potential for risk to human health associated with ingestion or inhalation of DRO contaminated soil; and 2) control off-site migration of contaminants to surface or groundwater. The principal components of the selected remedy are monitored natural attenuation and LUCs. Major components of the selected remedy include: * Monitoring for natural attenuation parameters and contaminant levels every five years. * Visual inspection for presence of a sheen at seasonal surface water ponds located at the downgradient edge of the sites every five years. * Long-term monitoring for potential migration of DRO off-site and into downgradient groundwater will be addressed by monitoring groundwater at ST005 located on the beach adjacent to Kotzebue Sound for five years. - * LUCs (also known as institutional controls under 18 AAC 75.375) will be implemented and maintained as long as DRO in soil remains above 12,500 milligrams per kilogram (mg/kg). Inspections will be conducted every five years. * LUCs will consist of notice in the Base General Plan (BGP) to inform site workers that DRO contaminated soil is not to be moved or disturbed without notifying ADEC.
CONT_RISK	Fuel-related chemicals primarily associated with diesel (and not regulated under CERCLA) use at the Kotzebue LRRS had some exceedances of health-based screening-levels and State of Alaska regulatory criteria in soil at SS018. Only very limited areas of soil might represent a health concern due to DRO if exposure to surface and subsurface soil occurred on a very frequent basis. This scenario is unlikely given what is understood about current and future land use in the area. Therefore, the risk assessment concluded that there is limited potential for exposure to elevated concentrations of DRO in soil at SS018.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 3/10/2011) United States Air Force (USAF). 2007. Record of Decision for No Further Action, SS007 (Former Water Supply Lake), SS015 (Former Power Plant/Garage), SS016 (Buildings 101 and 102), SS017 (PCB Spill at Building 102), SS019 (PCB Spill South Fence), and SS020 (Septic Holding Tank/Outfall Line), Kotzebue LRRS, Alaska. Final. April. (2007 ROD -AR125-1)
STATUS	

Kotzebue-ST004_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	830
SITIRP_ID	ST004
SITE_STATUS	Cleanup Complete
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	not evaluated
ALIAS	AOC 9
SITE_NAME	WHITE ALICE TANKS
SITE_DESCRIPTION	Diesel range organics were resent from overflow valve or pipe leaks from the two ASTs White Alice fuel tanks.
MEDIA_ID	ST004
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Unknown
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete
LUC_RESTRICTION	Soil containing residual contamination at ST004 may not be placed in surface water or other environmentally sensitive areas. Please note, per 18 AAC 75.325(i), ADEC approval is required prior to disposing of soil or water from a site that is, or has been, subject to the site cleanup rules.
POC	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	none specified
MODIFIED_DATE	20110307
CONTAMINATION_SOURCE	fuel valve/pipe leaks
SITEID	ST004
INSTLN_ID	KO
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil

Kotzebue-ST004_ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	ST004
SITE_NAME	WHITE ALICE TANKS
DATE_SUMM	3/7/2011
CURRENT_STATUS	Cleanup Complete
SITE_STATUS	Cleanup Complete
POCID	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	Diesel range organics were resent from overfill valve or pipe leaks from the two ASTs White Alice fuel tanks.
GEO_HYDRO	No groundwater is present on the bluff at the main portion of the installation. Groundwater does occur in shallow aquifers along the beach and within deeper thawed zones in the frozen ground. Groundwater is generally not utilized as a public drinking water source due to salinity and insufficient quantities. There have been no seeps documented from the bluff. Groundwater associated with the beach area is restricted to a narrow zone adjacent to Kotzebue Sound that is less susceptible to permafrost. The near-beach groundwater at Kotzebue LRRS is saline (brackish) in nature, tidally influenced, and non-potable. Recharge of the near-beach aquifer system is probably controlled by the highly seasonal nature of the active zone (supra-permafrost water) inputs that recharge the beach area from the tundra uplands. Permafrost is depressed by marine influence, which allows the near-beach aquifer to remain saturated in the subsurface to a depth of 7 to 9 feet bgs, and is underlain by a competent silty-clay confining layer. The relatively shallow confining layer encountered is a 60-foot-thick marine, blue clay deposit. The average linear velocity range for groundwater is approximately 0.6 to 6.4 feet per year, assuming that groundwater flow is non-existent for four months of the year (winter).
COC	none specified
INVESTIGATION_ACTIONS	1997 Field Activities Remediation Report of 1995 and 1996 Field Activities January 1997 states " Approximately 250 yds ³ of contaminated soil was excavated at this site and treated by the soil washing operation. Treated soil was returned to the site, spread, and graded. Field sampling and analysis and laboratory confirmation testing of the soils at the site confirm that DRO concentration in soils is less than 1 000 ppm (mg/kg).
FINAL_REM_ACTION	Based on the data provided, ADEC concurs no further remedial action is warranted at ST004 and the action will be reflected as such in our contaminated sites database as "Site Closure Approved." Soil containing residual contamination at ST004 may not be placed in surface water or other environmentally sensitive areas. Per 18 AAC 75.325(i), ADEC approval is required prior to disposing of soil or water from a site that is, or has been, subject to the site cleanup rules. Furthermore, these decisions may be reviewed and modified in the future if new information becomes available that indicates contaminants at ST004 may cause unacceptable and/or significant risk to human health, safety, or welfare, or the environment.
CONT_RISK	not analyzed
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 3/7/2011) United States Air Force (USAF). 2007. Record of Decision for No Further Action, SS007 (Former Water Supply Lake), SS015 (Former Power Plant/Garage), SS016 (Buildings 101 and 102), SS017 (PCB Spill at Building 102), SS019 (PCB Spill South Fence), and SS020 (Septic Holding Tank/Outfall Line), Kotzebue LRRS, Alaska. Final. April. (2007 ROD-AR125-1) ADEC. 2007. November 7, 2001 Air Force Request for No Further Remedial Action at: SS001 Waste Accumulation Area 1, SD003 Road Oiling, ST004 White Alice Tanks, SS006 Spill/Leak No 1, SS008 Barracks Area, SS009 PCB Spill, SS010 Solvent Spill, SS011 Fuel Spill and AOC 8 White Alice Garage (renamed as SS009 PCB Spill), Kotzebue LRRS, Alaska. November. (2007 NFA ADEC concurrence letter - AR127-1)
STATUS	

Kotzebue-ST005_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	831
SITIRP_ID	ST005
SITE_STATUS	Cleanup Complete-Institutional controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	Cancer <1X10 ⁻⁵ ; non-Cancer HI <1
ALIAS	ST05
SITE_NAME	KOT-8 Site/Beach Tanks
SITE_DESCRIPTION	ST005 (Former Beach Tanks) is located along the beach of Kotzebue Sound and on both the northwest and southeast sides of the POL Pump House. ST005 was the location of three large fuel ASTs and one large water AST located along the beach adjacent to Kotzebue Sound.
MEDIA_ID	ST005
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	1950s-1976; Clean Sweep removal 1998-1999
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete-Institutional controls
LUC_RESTRICTION	LUCs will be implemented and maintained as long as near-beach groundwater TAH and TAqH concentrations indicate possible groundwater migration from ST005 and contribution to surface water contaminant levels nearby. Notice in Air Force land records to prohibit disturbance within ST005 of surface or sub-surface soil without ADEC concurrence to prevent possible exposure to fuel contaminants. LUCs will continue until TAR and TAqH- concentrations reach the cleanup criteria in this ROD. The areas of LUCs for ST005 are shown in the shaded areas of Figure 1.*Provide for a survey and document LUC boundaries in the Kotzebue LRRS Base General Plan and Air Force Land Records.
POC	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	TAH, TAqH
MODIFIED_DATE	20110310
CONTAMINATION_SOURCE	leaks/spills associated with storage tanks
SITEID	ST005
INSTLN_ID	KO
MAINTENANCE	Groundwater monitoring; Surface water monitoring;
RESTRICTIONS	No unauthorized digging/excavation; Property records/Base Plan documentation

Kotzebue-ST005_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST005
SITE_NAME	KOT-8 Site/Beach Tanks
DATE_SUMM	3/10/2011
CURRENT_STATUS	Cleanup Complete-Institutional controls
SITE_STATUS	Cleanup Complete-Institutional controls
POCID	Robert Johnston (AFCEC, CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	ST005 (Former Beach Tanks) is located along the beach of Kotzebue Sound and on both the northwest and southeast sides of the POL Pump House. ST005 was the location of three large fuel aboveground storage tanks (ASTs) and one large water AST located along the beach adjacent to Kotzebue Sound. The fuel storage tanks were used to store arctic-grade diesel fuel to heat and power the LRRS. The water tank stored potable water for operational use at the facility. The current land use at SS002 and ST005 is unrestricted access for recreation, and subsistence hunting and fishing.
GEO_HYDRO	No groundwater is present on the bluff at the main portion of the installation. Groundwater does occur in shallow aquifers along the beach and within deeper thawed zones in the frozen ground. Groundwater is generally not utilized as a public drinking water source due to salinity and insufficient quantities. There have been no seeps documented from the bluff. Groundwater associated with the beach area is restricted to a narrow zone adjacent to Kotzebue Sound that is less susceptible to permafrost. The near-beach groundwater at Kotzebue LRRS is saline (brackish) in nature, tidally influenced, and non-potable. Recharge of the near-beach aquifer system is probably controlled by the highly seasonal nature of the active zone (supra-permafrost water) inputs that recharge the beach area from the tundra uplands. Permafrost is depressed by marine influence, which allows the near-beach aquifer to remain saturated in the subsurface to a depth of 7 to 9 feet bgs, and is underlain by a competent silty-clay confining layer. The relatively shallow confining layer encountered is a 60-foot-thick marine, blue clay deposit. The average linear velocity range for groundwater is approximately 0.6 to 6.4 feet per year, assuming that groundwater flow is non-existent for four months of the year (winter).
COC	TAH, TAqH
INVESTIGATION_ACTIONS	In 1992, the Air Force removed the three fuel storage tanks from the site. The Air Force removed the water storage tank in 1998 as part of Clean Sweep. Fuel contamination linked to past installation operations and activities is the primary environmental concern at ST005. There were no documented spills or leaks at ST005. It is suspected that incidental spills of unknown quantities occurred during the more than 20 years (1950s to 1976) of fuel handling at the site. Due to the proximity of Kotzebue Sound to ST005 and the shallow nature of the near beach groundwater, the surface water adjacent to the site has been shown to have a definite mixing effect with the groundwater at ST005. Because of the mixing of surface water and groundwater, the nondegradation provision under the surface water cleanup criteria (18 AAC 70) is applicable to this site. The non-degradation provision requires demonstration that the surface water will not be degraded to a point of non-compliance with the surface water cleanup criteria provided in 18 AAC 70 by this groundwater/ surface water interchange. As part of the selected remedy, the Air Force will monitor and model analytical results to demonstrate that degradation of surface water is not occurring. Summary of Investigations: 1985 Preliminary Investigation; 1988-1990 Stage 1/Stage 2 RI/FS; 1992 Remedial Action; 1994 RI/FS; 1995 Baseline Human Health and Ecological Risk Assessment; 1998 Clean Sweep; groundwater, surface water, and sediment sampling in 1999, 2000, and 2003; 2001 Soil Removal and Treatment; 2003 RI/FS; 2004 Risk Assessment.
FINAL_REM_ACTION	LUCs will be implemented and maintained as long as near-beach groundwater TAH and TAqH concentrations indicate possible groundwater migration from ST005 and contribution to surface water contaminant levels nearby. Notice in Air Force land records to prohibit disturbance within ST005 of surface or sub-surface soil without ADEC concurrence to prevent possible exposure to fuel contaminants. LUCs will continue until TAH and TAqH- concentrations reach the cleanup criteria in the ROD.
CONT_RISK	Fuel-related chemicals primarily associated with diesel (and not regulated under CERCLA) used at the Kotzebue LRRS had some exceedances of health-based screening levels and State of Alaska regulatory criteria in groundwater at ST005. Only very limited areas of groundwater might represent a health concern due to TAH and TAqH if exposure to groundwater occurred on a very frequent basis. This scenario is unlikely given the saline content in the groundwater and what is understood about current and future land use in the area. Therefore, the risk assessment concluded that there is limited potential for exposure to concentrations of TAH and TAqH in groundwater at ST005.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 3/10/2011) United States Air Force (USAF). 2007. Record of Decision for No Further Action, SS007 (Former Water Supply Lake), SS015 (Former Power Plant/Garage), SS016 (Buildings101 and 102), SS017 (PCB Spill at Building 102), SS019 (PCB Spill South Fence), and SS020 (Septic Holding Tank/Outfall Line), Kotzebue LRRS, Alaska. Final. April. (2007 ROD -AR125-1)
STATUS	

Lake Louise-OT001.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	1818
SITIRP_ID	OT001
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA/non-CERCLA
RISK	<p>Carcinogenic risk (soil) = 7×10^{-2} (residential use) HI (soil) = 1.1 (residential use) HI (groundwater) = 1.3 (residential use) No site specific ecological risk assessment has been conducted for OT001. The regulatory criteria used to evaluate risk to human health were considered protective of ecological receptors. For soil, it was assumed that ADEC cleanup levels would be protective of the environment, including ecological receptors.</p>
ALIAS	Former AF Rec Camp
SITE_NAME	LLRC)
SITE_DESCRIPTION	<p>The LLRC is comprised of approximately 25 acres of land along the western shoreline of Lake Louise. The USAF operated the LLRC as a recreational fishing and boating facility from 1955 to 1965. The camp consisted of a lodge, dining hall, airmen's dormitory, boat house and fueling point, power plant, freshwater intake pump house, shower house, small sleeping cabins, and a picnic area. A gravel pit (quarry) was also located on the property west of the camp area. Buildings at the site were demolished or relocated in 1971 and only the foundations currently remain. Debris was either removed or buried onsite. There is no documentation of where solid waste from the building demolition and related cleanup was disposed but it is believed most, if not all, was disposed off the LLRC property. In the fall of 2010 additional solid waste was removed as part of building demolition and debris removal activities conducted under the USAF Clean Sweep Program. Miscellaneous surface debris (drums, small cans, cables, and piping) and USTs used for septic systems were removed and disposed offsite. Inert concrete was buried onsite in the former gravel pit.</p>
MEDIA_ID	OT001
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1955 to 1965
CATEGORY	ERP
AREA_ACRES	approximately 25 acres
ACTIVITY	Active

Lake Louise-OT001.ENV REST SITE SUMMARY

LUC_RESTRICTION	<p>The USAF selected Source Removal and Offsite Disposal in the Lower 48 for CERCLA COCs in soil. For the petroleum (DRO)-contaminated soil, the USAF selected Excavation and Offsite Thermal Treatment. For the petroleum (DRO) in the groundwater, the USAF selected Natural Attenuation with Monitoring and LUCs.</p> <p>Remedy under CERCLA: Contaminated soil will be shipped from the LLRC to treatment or disposal facilities, likely in the contiguous United States.</p> <p>PCB-contaminated soils with concentrations above 1 mg/Kg will be transported off the LLRC property and disposed of in accordance with the Off-Site Rule (40 CFR 300.440). Following the removal activities, cleanup will be complete under CERCLA.</p> <p>Remedy for petroleum hydrocarbons under Alaska State Regulation: DRO-contaminated soil will be excavated, transported, and thermally treated off site at a permitted facility.</p> <p>For soil, an LUC in the form of a notation in the LLRC land records management plan will be put in place indicating that environmental contamination remains at the site above ADEC cleanup levels. Because soil will remain onsite with DRO between 250 mg/Kg and 10,250 mg/Kg, there will still be restrictions to the movement of this soil until the DRO naturally attenuates to below 250 mg/Kg.</p> <p>Concentrations of petroleum hydrocarbons (DRO) in the groundwater will be allowed to degrade through natural attenuation. To prevent the possibility of exposure to DRO in the groundwater during the period of natural attenuation (to at or below the groundwater cleanup level of 1.5 mg/L), an LUC in the form of a deed notation will be put in place preventing the shallow groundwater from being used as a drinking water source.</p>
	<p>LUCs will apply to the entire OT001 site. The USAF will be responsible for the implementation of LUCs (notations in LLRC land records management plan), along with any associated activities including monitoring, enforcement, and reporting. The USAF will ensure, as appropriate that any contractor or other authorized occupant of the property subject to LUCs is informed of the LUCs and is made subject to the requirements of the LUCs. The USAF will obtain ADEC concurrence for any changes to activities or restrictions and will provide prompt notification to ADEC of an LUC failure, along with a description of any corrective measures taken or planned. The USAF will provide prior notification to ADEC for the transfer of property associated with LUCs. The USAF may transfer procedural responsibilities to another party by contract, property transfer agreement, or through other means; however, the USAF shall retain ultimate responsibility for remedy integrity.</p>
POC	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907-552-7697
CHEMICALS_OF_CONCERN	PCBs, Lead, Benzo(a)pyrene, Naphthalene, DRO, 1-Methylnaphthalene, 2-Methylnaphthalene
MODIFIED_DATE	20140724
CONTAMINATION_SOURCE	<p>Some sources of contamination are unknown. Potential sources include:</p> <ul style="list-style-type: none"> - paint applied to the concrete slab may have contained PCBs - benzo(p)pyrene at the Dining Hall and Leach Field and Shower Areas was attributed to residual sewage sludge. - potential source of the lead could be lead containing materials discharged through the septic system at the lodge, leaching from piping, or flaking lead based paint from tanks.
SITEID	OT001
INSTLN_ID	Lake Louise Recreation Camp (LLRC)
MAINTENANCE	<p>DRO soil sampling will initially occur annually. The USAF will report the results of monitoring activities to the ADEC. At the first five year point, and each successive five year interval, a review will be conducted to evaluate the data.</p> <p>Long term groundwater monitoring will be conducted to assess groundwater concentrations and to determine when the LUCs are no longer needed.</p>
RESTRICTIONS	The installation of drinking water wells will be prohibited. No unauthorized digging/excavation.

Lake Louise-OT001.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	OT001
SITE_NAME	LLRC
DATE_SUMM	7/24/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	The LLRC comprises approximately 25 acres of land along the western shoreline of Lake Louise. The USAF operated the LLRC as a recreational fishing and boating facility from 1955 to 1965. The camp consisted of a lodge, dining hall, airmen's dormitory, boat house and fueling point, power plant, freshwater intake pump house, shower house, small sleeping cabins, and a picnic area. A gravel pit (quarry) was also located on the property west of the camp area. Buildings at the site were demolished or relocated in 1971 and only the foundations currently remain. Debris was either removed or buried onsite. There is no documentation of where solid waste from the building demolition and related cleanup was disposed but it is believed most, if not all, was disposed off the LLRC property. In the fall of 2010 additional solid waste was removed as part of building demolition and debris removal activities conducted under the USAF Clean Sweep Program. Miscellaneous surface debris (drums, small cans, cables, and piping) and USTs used for septic systems were removed and disposed offsite. Inert concrete was buried onsite in the former gravel pit.
GEO_HYDRO	The geology of the Copper River Valley is dominated by glacial deposits formed during the Pleistocene Era. The nearly level to rolling plain has many lakes and wetlands. Overall, the drainage patterns are poorly defined, although the lower reaches of larger rivers in the valley typically flow through deeply incised, narrow valleys. Three borings drilled in the Copper River Valley region had an average depth to the base of permafrost of about 99 feet (USGS 1965). The drilling log for an Army recreation camp well indicated 16 feet of permafrost (ADNR 2009). Other observations that suggest the presence of permafrost in the area immediately surrounding the LLRC include massive ice exposed in the gravel pit located a few hundred feet west of the site and rapid subsidence during construction of a nearby air strip in 2008. During drilling at LLRC in 2009 and 2010, permafrost was encountered in borings ranging from about 0.5 to 20 feet bgs. At the LLRC, drilling and monitoring well installation has indicated that groundwater is intermittent and, where it occurs, is typically a shallow thin layer located above the permafrost (i.e., less than 5 feet bgs and less than 5 feet thick). Therefore, it is considered a "supra-permafrost" aquifer (i.e., aquifer that resides above the permafrost). However, the majority of the site was found to have very little or no supra permafrost groundwater. Many borings encountered permafrost but no groundwater. The ADEC has made the determination that the groundwater is not a suitable drinking water source under ADEC regulatory criteria.
COC	PCBs, Lead, Benzo(a)pyrene, Naphthalene, DRO, 1-Methylnaphthalene, 2-Methylnaphthalene
INVESTIGATION_ACTIONS	Environmental investigations have been conducted at the LLRC from 1993 to the present. Eight areas were investigated. Most areas were sampled for a wide variety of potential contaminants, including fuel related compounds, metals, pesticides, PCBs, VOCs, and PAHs. Preliminary Assessment/Site Investigation, 1993 Management Action Plan, 1997 Site Investigation, Final 2000 2000 Clean Sweep Environmental Survey Final Report, 2001 Management Action Plan, 2001 Phase I Site Investigation Report, 2008 2009 Site Investigation and Remedial Investigation/Feasibility (RI/FS) Report, 2010 2010 Final Report for Debris Cleanup at LLRC, 2011 2010 Focused Feasibility Study, 2011 Supplemental Feasibility Study Report for Three CERCLA COCs, 2012 2011 Groundwater Monitoring Report, 2012 Proposed Plan for ERP Activities at Lake Louise Recreation Camp, 2012
FINAL_REM_ACTION	The USAF selected Source Removal and Offsite Disposal in the Lower 48 for CERCLA COCs in soil. For the petroleum (DRO)-contaminated soil, the USAF selected Excavation and Offsite Thermal Treatment. For the petroleum (DRO) in the groundwater, the USAF selected Natural Attenuation with Monitoring and LUCs.
CONT_RISK	Carcinogenic risk (soil) = 7×10^{-5} (residential use) HI (soil) = 1.1 (residential use) HI (groundwater) = 1.3 (residential use) No site specific ecological risk assessment has been conducted for OT001. The regulatory criteria used to evaluate risk to human health were considered protective of ecological receptors. For soil, it was assumed that ADEC cleanup levels would be protective of the environment, including ecological receptors.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database, last accessed 7/24/2014 United States Air Force (USAF). 2012. Record of Decision for Lake Louise Recreation Camp (OT001). LLRC, Alaska. Final. August. (2012 ROD)
STATUS	

Naknek1-LF003_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	707
SITIRP_ID	LF003
SITE_STATUS	Cleanup Complete-Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	cancer <1X10 ⁻⁵ ; non-cancer HI <1
ALIAS	LF03
SITE_NAME	Rapids Camp Landfill
SITE_DESCRIPTION	Rapids Camp was established in 1952 as a recreational facility for troops stationed at KSA. LF003 simply described as "a small landfill" that was found during investigations at the camp.
MEDIA_ID	LF003
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	(Camp) 1952-1977
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete-Institutional Controls
LUC_RESTRICTION	<p>The USAF will implement institutional controls restricting future land use to ensure that no exposure pathways exist to the contamination remaining on-site at Rapids Camp.</p> <p>* The exact areas where the institutional controls apply are specified in the site survey data. The institutional controls agreed to by the USAF, and ADEC are specified below.</p> <p>* Installation of drinking water wells is prohibited within 100 feet of the boundaries of the former generator pad and landfill.</p> <p>* Excavation of soils deeper than five feet bgs is prohibited in the area of the former generator pad.</p> <p>* No excavation or construction will be permitted in the area of the landfill.</p> <p>* Any future recipient of the property must allow the Air Force right of entry to the property for the purpose of sampling monitoring wells or replacing or adding monitoring wells as needed to ensure protection of human health and the environment.</p> <p>*It is possible that additional contamination will be identified at the site in the future. Any future recipient of the property must allow the Air Force right of entry to the property for the purpose of investigating the extent and remediating the additional area of contamination as needed to ensure protection of human health and the environment.</p> <p>The institutional controls will be enforced through the General Plan, 611th ASG Remote Alaska Sites and through orders, as necessary, from the Commander of the King Salmon Air Station. The General Plan will be completed by October 2000.</p>
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	petroleum hydrocarbons, including diesel-range organics (DRO), ethylbenzene, and toluene, and the chlorinated solvent, TCE
MODIFIED_DATE	20110422
CONTAMINATION_SOURCE	Landfill
SITEID	LF003
INSTLN_ID	N1
MAINTENANCE	Groundwater monitoring; Landfill cap inspection and repairs; 5-year reviews
RESTRICTIONS	Drinking water well restrictions; No unauthorized digging/excavation; No unauthorized construction

Naknek1-LF003_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF003
SITE_NAME	Rapids Camp Disposal Site
DATE_SUMM	4/22/2011
CURRENT_STATUS	Cleanup Complete-Institutional Controls
SITE_STATUS	Cleanup Complete-Institutional Controls
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	Rapids Camp was established in 1952 as a recreational facility for troops stationed at KSA. The facility included boat docks, fish camps, lodging, and a fuel storage area. Waste oils, fuels, and PCBs were used and stored at the site. The camp was permanently closed in 1977. The facility included boat docks, fish camps, lodging, and a fuel storage area. Waste oils, fuels, and PCBs were used and stored at the site. The camp was permanently closed in 1977. LF003 simply described as "a small landfill" that was found during investigations at the camp.
GEO_HYDRO	Based on the soil borings and well log data collected for the 1995 RI, a single aquifer unit was identified at Rapids Camp. The aquifer is likely recharged by precipitation and influent stream flow. At Rapids Camp monitoring wells MW-011 and MW-06, an aquitard consisting of clay was encountered at a depth of approximately 98 feet bgs. In addition, an isolated lens of inorganic silt was encountered MW-014, but the lens did not appear to extend into the saturated zone or serve as a barrier to groundwater flow. The water table depth at Rapids Camp varies from the surface at the Naknek River to 83 feet below the top of the well casing at MW-016. The saturated thickness of the aquifer is at least 15 feet based on the aquitard depth of 98 feet bgs at MW-011 and MW-016. Groundwater flow is southwest toward the Naknek River. The groundwater velocity was estimated at 0.00037 to 0.00078 centimeters per second.
COC	petroleum hydrocarbons, including diesel-range organics (DRO), ethylbenzene, and toluene, and the chlorinated solvent, TCE
INVESTIGATION_ACTIONS	A PA of the site in June 1988 revealed approximately thirty 55-gallon drums, ground surface staining, and steel construction debris. Site investigation activities performed at Rapids Camp in 1990 and 1991 revealed buried tanks and debris, and the potential presence of petroleum hydrocarbons and solvents in site soils. A 1994 RI identified two main areas of contamination: the generator pad (SS004) and the beach/dock areas (SS005). Additional investigations and evaluations, including a baseline human and ecological risk assessment, fate and transport modeling, an FS to evaluate remedial alternatives, and site monitoring, were performed from 1996 through 1998 at Rapids Camp. Resulting COCs were identified as petroleum hydrocarbons, including DRO, ethylbenzene, and toluene, and the chlorinated solvent, TCE. A PP for IRA at Rapids Camp was prepared in March 1998. The preferred remedial alternative (general debris cleanup, excavation and remediation of contaminated surface soils, and continued groundwater monitoring) was selected and implemented in July 1998. A landfill (LF003) identified on the Rapids Camp site was capped with 12-inches of soil and vegetative material in 1998. In June 1999, additional excavation of surface soils contaminated above ADEC cleanup levels was completed at five isolated areas. This additional excavation eliminated the need for continued monitoring of these areas.

Naknek1-LF003_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Based on current site conditions at Rapids Camp and the successful implementation of interim remedial actions in 1998 and 1999, the USAF and ADEC have selected a plan of institutional controls (land-use restrictions), inspection and maintenance of the landfill cap, and continued groundwater monitoring, with no further remedial action planned, as the final action for Rapids Camp. The selected remedy is deemed sufficient to protect human health and the environment from risks associated with exposure to contaminated soil and groundwater at the site. The selected remedy includes the following components:</p> <ul style="list-style-type: none"> * The USAF will modify the General Plan, 611th ASG, Remote Alaska (hereafter referred to as the General Plan deeds and/or notices) to include approved institutional controls, which restrict future installation of drinking-water wells and soil excavation within 100 feet of the generator pad and the landfill. Construction also will be prohibited at the landfill site. Land-use restrictions and land surveys will be included in the General Plan, which is scheduled for completion by October 2000. * An inspection and maintenance program has been developed for the landfill cap in which the cap will be inspected on a biannual basis. This program will be implemented following plans similar to those designed for the North and South Bluff sites (IRP Site 0T029), as detailed in the Draft Operation, Monitoring, and Maintenance Manual, North and South Barrel Bluffs, King Salmon, Alaska. * Annual groundwater monitoring will continue at the landfill site until the field and analytical data support the conclusion that contaminant levels remain below ADEC 18 AAC 75, Table C Groundwater Cleanup Levels. Monitoring may be discontinued after the five-year review and only with agency and community approval.
CONT_RISK	<p>Sampling activities completed recently indicate significantly lower levels of groundwater contamination than were reported in 1994. In addition, near-surface soils contaminated above cleanup levels were removed and treated as part of the IRA. With the implementation of institutional controls, the Rapids Camp site is acceptable for all current and future uses.</p> <p>A current evaluation of site risks indicates that there are no complete exposure pathways to the remaining soil contamination on-site. The only remaining site contamination is DR0-contaminated soil located between 15 and 35 feet bgs. Due to its burial depth, there is no inhalation or ingestion pathway to this contamination, and modeling indicates that this contamination will not leach to groundwater.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites database (accessed 4/22/2011) United States Air Force (USAF). 2000. Record of Decision for Final Remedial Action Naknek Recreation Camp 1 (Rapids Camp/Site OT032), King Salmon Air Station, King Salmon, Alaska. April. (2000 OT032 ROD AR36-1)</p>
STATUS	

Naknek1-OT032_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2633
SITIRP_ID	OT032
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA/non-CERCLA
RISK	cancer <1X10 ⁻⁵ ; non-cancer HI <1
ALIAS	NA
SITE_NAME	Groundwater Zone 6
SITE_DESCRIPTION	Rapids Camp was established in 1952 as a recreational facility for troops stationed at KSA.
MEDIA_ID	OT032
BOUNDARY_DETAILS	Estimated
DATES OPERATION	(Installation) 1952-1977
CATEGORY	IRP
AREA_ACRES	(Camp) 12.5 acres
ACTIVITY	Active
LUC_RESTRICTION	<p>The USAF will implement institutional controls restricting future land use to ensure that no exposure pathways exist to the contamination remaining on-site at Rapids Camp.</p> <p>* The exact areas where the institutional controls apply are specified in the site survey data as generally depicted in Figure 4. The institutional controls agreed to by the USAF, and ADEC are specified below.</p> <p>* Installation of drinking water wells is prohibited within 100 feet of the boundaries of the former generator pad and landfill.</p> <p>* Excavation of soils deeper than five feet bgs is prohibited in the area of the former generator pad.</p> <p>* No excavation or construction will be permitted in the area of the landfill.</p> <p>* Any future recipient of the property must allow the Air Force right of entry to the property for the purpose of sampling monitoring wells or replacing or adding monitoring wells as needed to ensure protection of human health and the environment.</p> <p>*It is possible that additional contamination will be identified at the site in the future. Any future recipient of the property must allow the Air Force right of entry to the property for the purpose of investigating the extent and remediating the additional area of contamination as needed to ensure protection of human health and the environment.</p> <p>The institutional controls will be enforced through the General Plan, 611th ASG Remote Alaska Sites and through orders, as necessary, from the Commander of the King Salmon Air Station. The General Plan will be completed by October 2000.</p>
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	DRO, GRO, TCE
MODIFIED_DATE	20110103
CONTAMINATION_SOURCE	Spills/leaks/improper storage/disposal at boat docks, landfill, and generator pad
SITEID	OT032
INSTLN_ID	N1
MAINTENANCE	Groundwater monitoring; Landfill cap inspection and repairs; 5-year reviews
RESTRICTIONS	Drinking water well restrictions; No unauthorized digging/excavation; No unauthorized construction

Naknek1-OT032_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	OT032
SITE_NAME	Groundwater Zone 6
DATE_SUMM	1/3/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	Rapids Camp was established in 1952 as a recreational facility for troops stationed at KSA. The facility included boat docks, fish camps, lodging, and a fuel storage area. Waste oils, fuels, and PCBs were used and stored at the site. The camp was permanently closed in 1977. The facility included boat docks, fish camps, lodging, and a fuel storage area. Waste oils, fuels, and PCBs were used and stored at the site. The camp was permanently closed in 1977.
GEO_HYDRO	Based on the soil borings and well log data collected for the 1995 RI, a single aquifer unit was identified at Rapids Camp. The aquifer is likely recharged by precipitation and influent stream flow. At Rapids Camp monitoring wells MW-011 and MW-06, an aquitard consisting of clay was encountered at a depth of approximately 98 feet bgs. In addition, an isolated lens of inorganic silt was encountered MW-014, but the lens did not appear to extend into the saturated zone or serve as a barrier to groundwater flow. The water table depth at Rapids Camp varies from the surface at the Naknek River to 83 feet below the top of the well casing at MW-016. The saturated thickness of the aquifer is at least 15 feet based on the aquitard depth of 98 feet bgs at MW-011 and MW-016. Groundwater flow is southwest toward the Naknek River. The groundwater velocity was estimated at 0.00037 to 0.00078 centimeters per second.
COC	DRO, GRO, TCE
INVESTIGATION_ACTIONS	A PA of the site in June 1988 revealed approximately thirty 55-gallon drums, ground surface staining, and steel construction debris. Site investigation activities performed at Rapids Camp in 1990 and 1991 revealed buried tanks and debris, and the potential presence of petroleum hydrocarbons and solvents in site soils. A 1994 RI identified two main areas of contamination: the generator pad (SS004) and the beach/dock areas (SS005). Additional investigations and evaluations, including a baseline human and ecological risk assessment, fate and transport modeling, an FS to evaluate remedial alternatives, and site monitoring, were performed from 1996 through 1998 at Rapids Camp. Resulting COCs were identified as petroleum hydrocarbons, including diesel-range organics (DRO), ethylbenzene, and toluene, and the chlorinated solvent, TCE. A PP for IRA at Rapids Camp was prepared in March 1998. The preferred remedial alternative (general debris cleanup, excavation and remediation of contaminated surface soils, and continued groundwater monitoring) was selected and implemented in July 1998. A landfill (LF003) identified on the Rapids Camp site was capped with 12-inches of soil and vegetative material in 1998. In June 1999, additional excavation of surface soils contaminated above ADEC cleanup levels was completed at five isolated areas. This additional excavation eliminated the need for continued monitoring of these areas.

Naknek1-OT032_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Based on current site conditions at Rapids Camp and the successful implementation of interim remedial actions in 1998 and 1999, the USAF and ADEC have selected a plan of institutional controls (land-use restrictions), inspection and maintenance of the landfill cap, and continued groundwater monitoring, with no further remedial action planned, as the final action for Rapids Camp. The selected remedy is deemed sufficient to protect human health and the environment from risks associated with exposure to contaminated soil and groundwater at the site. The selected remedy includes the following components:</p> <ul style="list-style-type: none"> * The USAF will modify the General Plan, 611th Air Support Group (ASG), Remote Alaska (hereafter referred to as the General Plan deeds and/or notices) to include approved institutional controls, which restrict future installation of drinking-water wells and soil excavation within 100 feet of the generator pad and the landfill. Construction also will be prohibited at the landfill site. Land-use restrictions and land surveys will be included in the General Plan, which is scheduled for completion by October 2000. * An inspection and maintenance program has been developed for the landfill cap. This program will be implemented following plans similar to those designed for the North and South Bluff sites (IRP Site OT029), as detailed in the Draft Operation, Monitoring, and Maintenance Manual, North and South Barrel Bluffs, King Salmon, Alaska. * Annual groundwater monitoring will continue at the landfill site until the field and analytical data support the conclusion that contaminant levels remain below ADEC 18 AAC 75, Table C Groundwater Cleanup Levels. Monitoring may be discontinued after the five-year review and only with agency and community approval.
CONT_RISK	<p>Sampling activities completed recently indicate significantly lower levels of groundwater contamination than were reported in 1994. In addition, near-surface soils contaminated above cleanup levels were removed and treated as part of the IRA. With the implementation of institutional controls, the Rapids Camp site is acceptable for all current and future uses.</p> <p>A current evaluation of site risks indicates that there are no complete exposure pathways to the remaining soil contamination on-site. The only remaining site contamination is DR0-contaminated soil located between 15 and 35 feet bgs. Due to its burial depth, there is no inhalation or ingestion pathway to this contamination, and modeling indicates that this contamination will not leach to groundwater.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites database (accessed 1/3/2011) United States Air Force (USAF). 2000. Record of Decision for Final Remedial Action Naknek Recreation Camp 1 (Rapids Camp/Site OT032), King Salmon Air Station, King Salmon, Alaska. April. (2000 OT032 ROD AR36-1)</p>
STATUS	

Naknek1-SS004_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	701
SITIRP_ID	SS004
SITE_STATUS	Cleanup Complete-Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	cancer <1X10 ⁻⁵ ; non-cancer HI <1
ALIAS	SS04
SITE_NAME	POL Associated with the Generators
SITE_DESCRIPTION	Rapids Camp was established in 1952 as a recreational facility for troops stationed at KSA. Surface soils at the generator pad area were contaminated with petroleum hydrocarbons. The source of the contamination is thought to have been diesel spills associated with the operation of diesel powered generators.
MEDIA_ID	WP002
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	(Camp) 1952-1977
CATEGORY	IRP
AREA_ACRES	(Camp) 12.5 acres
ACTIVITY	Cleanup Complete-Institutional Controls
LUC_RESTRICTION	<p>The USAF will implement institutional controls restricting future land use to ensure that no exposure pathways exist to the contamination remaining on-site at Rapids Camp.</p> <p>* The exact areas where the institutional controls apply are specified in the site survey data. The institutional controls agreed to by the USAF, and ADEC are specified below.</p> <p>* Installation of drinking water wells is prohibited within 100 feet of the boundaries of the former generator pad and landfill.</p> <p>* Excavation of soils deeper than five feet bgs is prohibited in the area of the former generator pad.</p> <p>* No excavation or construction will be permitted in the area of the landfill.</p> <p>* Any future recipient of the property must allow the Air Force right of entry to the property for the purpose of sampling monitoring wells or replacing or adding monitoring wells as needed to ensure protection of human health and the environment.</p> <p>*It is possible that additional contamination will be identified at the site in the future. Any future recipient of the property must allow the Air Force right of entry to the property for the purpose of investigating the extent and remediating the additional area of contamination as needed to ensure protection of human health and the environment.</p> <p>The institutional controls will be enforced through the General Plan, 611th ASG Remote Alaska Sites and through orders, as necessary, from the Commander of the King Salmon Air Station. The General Plan will be completed by October 2000.</p>
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	petroleum hydrocarbons, including DRO, ethylbenzene, and toluene, and the chlorinated solvent, TCE
MODIFIED_DATE	20110422
CONTAMINATION_SOURCE	diesel spills associated with the operation of diesel powered generators
SITEID	SS004
INSTLN_ID	N1
MAINTENANCE	Groundwater monitoring; Landfill cap inspection and repairs; 5-year reviews
RESTRICTIONS	Drinking water well restrictions; No unauthorized digging/excavation; No unauthorized construction

Naknek1-SS004_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS004
SITE_NAME	POL Associated with the Generators
DATE_SUMM	4/22/2011
CURRENT_STATUS	Cleanup Complete-Institutional Controls
SITE_STATUS	Cleanup Complete-Institutional Controls
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	Rapids Camp was established in 1952 as a recreational facility for troops stationed at KSA. Waste oils, fuels, and PCBs were used and stored at the site. The camp was permanently closed in 1977. The buildings and equipment were razed by the 611 CES in the late 1980s. Surface soils at the generator pad area were contaminated with petroleum hydrocarbons. The source of the contamination is thought to have been diesel spills associated with the operation of diesel powered generators.
GEO_HYDRO	Based on the soil borings and well log data collected for the 1995 RI, a single aquifer unit was identified at Rapids Camp. The aquifer is likely recharged by precipitation and influent stream flow. At Rapids Camp monitoring wells MW-011 and MW-06, an aquitard consisting of clay was encountered at a depth of approximately 98 feet bgs. In addition, an isolated lens of inorganic silt was encountered MW-014, but the lens did not appear to extend into the saturated zone or serve as a barrier to groundwater flow. The water table depth at Rapids Camp varies from the surface at the Naknek River to 83 feet below the top of the well casing at MW-016. The saturated thickness of the aquifer is at least 15 feet based on the aquitard depth of 98 feet bgs at MW-011 and MW-016. Groundwater flow is southwest toward the Naknek River. The groundwater velocity was estimated at 0.00037 to 0.00078 centimeters per second.
COC	petroleum hydrocarbons, including diesel-range organics (DRO), ethylbenzene, and toluene, and the chlorinated solvent, TCE
INVESTIGATION_ACTIONS	A PA of the site in June 1988 revealed approximately thirty 55-gallon drums, ground surface staining, and steel construction debris. Site investigation activities performed at Rapids Camp in 1990 and 1991 revealed buried tanks and debris, and the potential presence of petroleum hydrocarbons and solvents in site soils. A 1994 RI identified two main areas of contamination: the generator pad (SS004) and the beach/dock areas (SS005). Additional investigations and evaluations, including a baseline human and ecological risk assessment, fate and transport modeling, an FS to evaluate remedial alternatives, and site monitoring, were performed from 1996 through 1998 at Rapids Camp. Resulting COCs were identified as petroleum hydrocarbons, including DRO, ethylbenzene, and toluene, and the chlorinated solvent, TCE. A PP for IRA at Rapids Camp was prepared in March 1998. The preferred remedial alternative (general debris cleanup, excavation and remediation of contaminated surface soils, and continued groundwater monitoring) was selected and implemented in July 1998. A landfill (LF003) identified on the Rapids Camp site was capped with 12-inches of soil and vegetative material in 1998. In June 1999, additional excavation of surface soils contaminated above ADEC cleanup levels was completed at five isolated areas. This additional excavation eliminated the need for continued monitoring of these areas. During 1998 IRA, contaminated soils at SS004 were excavated to a depth of five feet in the generator pad area. Approximately 830 cubic yards of excavated soils were transported to the bioremediation treatment cell at King Salmon Air Station. Following confirmation sampling, the excavated area was capped with 12 inches of clean soil and revegetated.

Naknek1-SS004_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Generator Soil (SS004) An isolated area of subsurface soil with DRO concentrations up to 9,300 mg/kg will be left in-place in the generator pad area. This area of impacted soil is located approximately 45 feet above the groundwater table and 30 feet bgs. Based on modeling, which indicated that this contamination will not leach to the groundwater, a cleanup level of 12,500 mg/kg (the maximum allowable DRO soil concentration under 18 MAC 75) was established for the generator pad area.</p> <p>Based on current site conditions at Rapids Camp and the successful implementation of interim remedial actions in 1998 and 1999, the USAF and ADEC have selected a plan of institutional controls (land-use restrictions), inspection and maintenance of the landfill cap, and continued groundwater monitoring, with no further remedial action planned, as the final action for Rapids Camp. The selected remedy is deemed sufficient to protect human health and the environment from risks associated with exposure to contaminated soil and groundwater at the site. The selected remedy includes the following components:</p> <ul style="list-style-type: none"> * The USAF will modify the General Plan, 611th ASG, Remote Alaska (hereafter referred to as the General Plan deeds and/or notices) to include approved institutional controls, which restrict future installation of drinking-water wells and soil excavation within 100 feet of the generator pad and the landfill. Construction also will be prohibited at the landfill site. Land-use restrictions and land surveys will be included in the General Plan, which is scheduled for completion by October 2000. * An inspection and maintenance program has been developed for the landfill cap. This program will be implemented following plans similar to those designed for the North and South Bluff sites (IRP Site OT029), as detailed in the Draft Operation, Monitoring, and Maintenance Manual, North and South Barrel Bluffs, King Salmon, Alaska. * Annual groundwater monitoring will continue at the landfill site until the field and analytical data support the conclusion that contaminant levels remain below ADEC 18 AAC 75, Table C Groundwater Cleanup Levels. Monitoring may be discontinued after the five-year review and only with agency and community approval.
CONT_RISK	<p>Sampling activities completed recently indicate significantly lower levels of groundwater contamination than were reported in 1994. In addition, near-surface soils contaminated above cleanup levels were removed and treated as part of the IRA. With the implementation of institutional controls, the Rapids Camp site is acceptable for all current and future uses. A current evaluation of site risks indicates that there are no complete exposure pathways to the remaining soil contamination on-site. The only remaining site contamination is DRO-contaminated soil located between 15 and 35 feet bgs. Due to its burial depth, there is no inhalation or ingestion pathway to this contamination, and modeling indicates that this contamination will not leach to groundwater.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites database (accessed 4/22/2011) United States Air Force (USAF). 2000. Record of Decision for Final Remedial Action Naknek Recreation Camp 1 (Rapids Camp/Site OT032), King Salmon Air Station, King Salmon, Alaska. April. (2000 OT032 ROD AR36-1)</p>
STATUS	

Naknek1-ST001_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	706
SITIRP_ID	ST001
SITE_STATUS	Cleanup Complete-Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	cancer <1X10 ⁻⁵ ; non-cancer HI <1
ALIAS	ST01
SITE_NAME	A Septic Tank
SITE_DESCRIPTION	Rapids Camp was established in 1952 as a recreational facility for troops stationed at KSA. The septic tank was uncovered in 1991 within the generator pad area.
MEDIA_ID	ST001
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	(Camp) 1952-1977
CATEGORY	IRP
AREA_ACRES	(Camp) 12.5 acres
ACTIVITY	Cleanup Complete-Institutional Controls
LUC_RESTRICTION	<p>The USAF will implement institutional controls restricting future land use to ensure that no exposure pathways exist to the contamination remaining on-site at Rapids Camp.</p> <p>* The exact areas where the institutional controls apply are specified in the site survey data. The institutional controls agreed to by the USAF, and ADEC are specified below.</p> <p>* Installation of drinking water wells is prohibited within 100 feet of the boundaries of the former generator pad and landfill.</p> <p>* Excavation of soils deeper than five feet bgs is prohibited in the area of the former generator pad.</p> <p>* No excavation or construction will be permitted in the area of the landfill.</p> <p>* Any future recipient of the property must allow the Air Force right of entry to the property for the purpose of sampling monitoring wells or replacing or adding monitoring wells as needed to ensure protection of human health and the environment.</p> <p>*It is possible that additional contamination will be identified at the site in the future. Any future recipient of the property must allow the Air Force right of entry to the property for the purpose of investigating the extent and remediating the additional area of contamination as needed to ensure protection of human health and the environment.</p> <p>The institutional controls will be enforced through the General Plan, 611th ASG Remote Alaska Sites and through orders, as necessary, from the Commander of the King Salmon Air Station. The General Plan will be completed by October 2000.</p>
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	petroleum hydrocarbons, including diesel-range organics (DRO), ethylbenzene, and toluene, and the chlorinated solvent, TCE
MODIFIED_DATE	20110422
CONTAMINATION_SOURCE	septic tank
SITEID	ST001
INSTLN_ID	N1
MAINTENANCE	Groundwater monitoring; Landfill cap inspection and repairs; 5-year reviews
RESTRICTIONS	Drinking water well restrictions; No unauthorized digging/excavation; No unauthorized construction

Naknek1-ST001_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST001
SITE_NAME	A Septic Tank
DATE_SUMM	4/22/2011
CURRENT_STATUS	Cleanup Complete-Institutional Controls
SITE_STATUS	Cleanup Complete-Institutional Controls
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	Rapids Camp was established in 1952 as a recreational facility for troops stationed at KSA. The facility included boat docks, fish camps, lodging, and a fuel storage area. Waste oils, fuels, and polychlorinated biphenyls (PCBs) were used and stored at the site. The camp was permanently closed in 1977. The facility included boat docks, fish camps, lodging, and a fuel storage area. Waste oils, fuels, and PCBs were used and stored at the site. The camp was permanently closed in 1977. The septic tank was uncovered in 1991 within the generator pad area.
GEO_HYDRO	Based on the soil borings and well log data collected for the 1995 RI, a single aquifer unit was identified at Rapids Camp. The aquifer is likely recharged by precipitation and influent stream flow. At Rapids Camp monitoring wells MW-011 and MW-06, an aquitard consisting of clay was encountered at a depth of approximately 98 feet bgs. In addition, an isolated lens of inorganic silt was encountered MW-014, but the lens did not appear to extend into the saturated zone or serve as a barrier to groundwater flow. The water table depth at Rapids Camp varies from the surface at the Naknek River to 83 feet below the top of the well casing at MW-016. The saturated thickness of the aquifer is at least 15 feet based on the aquitard depth of 98 feet bgs at MW-011 and MW-016. Groundwater flow is southwest toward the Naknek River. The groundwater velocity was estimated at 0.00037 to 0.00078 centimeters per second.
COC	petroleum hydrocarbons, including diesel-range organics (DRO), ethylbenzene, and toluene, and the chlorinated solvent, TCE
INVESTIGATION_ACTIONS	A PA of the site in June 1988 revealed approximately thirty 55-gallon drums, ground surface staining, and steel construction debris. Site investigation activities performed at Rapids Camp in 1990 and 1991 revealed buried tanks and debris, and the potential presence of petroleum hydrocarbons and solvents in site soils. A 1994 RI identified two main areas of contamination: the generator pad (SS004) and the beach/dock areas (SS005). Additional investigations and evaluations, including a baseline human and ecological risk assessment, fate and transport modeling, an FS to evaluate remedial alternatives, and site monitoring, were performed from 1996 through 1998 at Rapids Camp. Resulting COCs were identified as petroleum hydrocarbons, including diesel-range organics (DRO), ethylbenzene, and toluene, and the chlorinated solvent, TCE. A PP for IRA at Rapids Camp was prepared in March 1998. The preferred remedial alternative (general debris cleanup, excavation and remediation of contaminated surface soils, and continued groundwater monitoring) was selected and implemented in July 1998. A landfill (LF003) identified on the Rapids Camp site was capped with 12-inches of soil and vegetative material in 1998. In June 1999, additional excavation of surface soils contaminated above ADEC cleanup levels was completed at five isolated areas. This additional excavation eliminated the need for continued monitoring of these areas. During the 1998 IRA two septic tanks, one formerly known as an underground storage tank, were removed from an area south of the former generator pad.

Naknek1-ST001_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Based on current site conditions at Rapids Camp and the successful implementation of interim remedial actions in 1998 and 1999, the USAF and ADEC have selected a plan of institutional controls (land-use restrictions), inspection and maintenance of the landfill cap, and continued groundwater monitoring, with no further remedial action planned, as the final action for Rapids Camp. The selected remedy is deemed sufficient to protect human health and the environment from risks associated with exposure to contaminated soil and groundwater at the site. The selected remedy includes the following components:</p> <ul style="list-style-type: none"> * The USAF will modify the General Plan, 611th ASG, Remote Alaska (hereafter referred to as the General Plan deeds and/or notices) to include approved institutional controls, which restrict future installation of drinking-water wells and soil excavation within 100 feet of the generator pad and the landfill. Construction also will be prohibited at the landfill site. Land-use restrictions and land surveys will be included in the General Plan, which is scheduled for completion by October 2000. * An inspection and maintenance program has been developed for the landfill cap. This program will be implemented following plans similar to those designed for the North and South Bluff sites (IRP Site OT029), as detailed in the Draft Operation, Monitoring, and Maintenance Manual, North and South Barrel Bluffs, King Salmon, Alaska. * Annual groundwater monitoring will continue at the landfill site until the field and analytical data support the conclusion that contaminant levels remain below ADEC 18 AAC 75, Table C Groundwater Cleanup Levels. Monitoring may be discontinued after the five-year review and only with agency and community approval.
CONT_RISK	<p>Sampling activities completed recently indicate significantly lower levels of groundwater contamination than were reported in 1994. In addition, near-surface soils contaminated above cleanup levels were removed and treated as part of the IRA. With the implementation of institutional controls, the Rapids Camp site is acceptable for all current and future uses.</p> <p>A current evaluation of site risks indicates that there are no complete exposure pathways to the remaining soil contamination on-site. The only remaining site contamination is DR0-contaminated soil located between 15 and 35 feet bgs. Due to its burial depth, there is no inhalation or ingestion pathway to this contamination, and modeling indicates that this contamination will not leach to groundwater.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites database (accessed 4/22/2011) United States Air Force (USAF). 2000. Record of Decision for Final Remedial Action Naknek Recreation Camp 1 (Rapids Camp/Site OT032), King Salmon Air Station, King Salmon, Alaska. April. (2000 OT032 ROD AR36-1)</p>
STATUS	

Naknek2-LF001_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	703
SITIRP_ID	LF001
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	(Installation) cancer < 1X10-5; HI = 6.9 or HI = 4.1 if excluding naturally-occurring levels of metals
ALIAS	LF01
SITE_NAME	Drum Landfill
SITE_DESCRIPTION	Landfill northwest of main Naknek 2 property, included buried drums and construction debris
MEDIA_ID	LF001
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	(Installation) 1956-1977
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	<p>The LUCs will consist of the following controls on land use within the site boundaries:</p> <ul style="list-style-type: none"> * A prohibition on the installation of water supply wells as long as the aquifer fails ADEC Table C cleanup levels, * A restriction on excavations without a proper soil and waste management plan, * A notice that soil exceeds ADEC Method Two cleanup levels protective of unrestricted use.
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	DRO
MODIFIED_DATE	20110101
CONTAMINATION_SOURCE	buried drums and debris
SITEID	LF001
INSTLN_ID	N2
MAINTENANCE	LUC inspections
RESTRICTIONS	Water well restrictions; No unauthorized digging/excavation; Property records/Base Plan documentation

Naknek2-LF001_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF001
SITE_NAME	Drum Landfill
DATE_SUMM	1/1/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	The Drum Landfill is located southwest of the Former Generator Pad (SS005) across a gravel road. Electromagnetic surveys performed in 1990 and 1994 detected anomalies and buried drums. Waste disposal practices at the Drum Landfill were not documented, but appear to have included 55-gallon drums (some likely containing residual liquids) and construction debris. Partially or nearly completely buried drums were observed at the site. A few drums are on the ground surface. Part of this site is off USAF controlled property.
GEO_HYDRO	A driller's log of a drinking water well installed in 1957 at Lake Camp indicated a deep aquifer was encountered at approximately 147 to 154 feet bgs. The driller's log described a blue clay that separated the upper and lower aquifer, with a thickness of more than 60 feet. A single shallow aquifer unit was identified at Lake Camp from the soil borings and well log data collected during the 1994 RI. Aquifer materials consist of poorly-graded sands with gravel and silty sands with gravel. A clay layer was encountered in borings 045, 046, and 047 at a depth of 4.5 feet bgs and in boring LF003 at 16 feet bgs. The aquifer is likely recharged by snowmelt, precipitation, and influent stream flow. The saturated thickness of the shallow aquifer was 2- to 6- feet, with the depth to water varying from 2 to 11 feet bgs (in August, 1994). Local groundwater flow, in general, is to the southeast towards the Naknek River; however, near the Drum Landfill (LF001), groundwater flow appears to radiate out from the southeast (towards the Naknek River) to the southwest (towards the wetland area southwest of the Drum Landfill).
COC	DRO
INVESTIGATION_ACTIONS	1988 Preliminary Assessment; 1990-1991 Partial Site Assessment (electromagnetic conductivity survey, soil gas survey, shallow soil borings); 1995 Remedial Investigation (site reconnaissance, soil, groundwater, surface water, and sediment investigation-hydrocarbon releases evident; geophysical investigation); 1996 HHRA, ERA; 1999 Feasibility Study; 1998 Intrinsic Remediation Study; 2006 Implementation of Remedial Process Optimization Recommendations (sampling surface water and sediment in wetlands downgradient of LF001-no contamination detected).
FINAL_REM_ACTION	Remedial action is necessary under State of Alaska Regulations to address petroleum-based products (DRO) in the soil and groundwater at the Drum Landfill (LF001). Selected remedy involves soil treatment, drum removal, monitored natural attenuation for groundwater, and land use controls. *Removal actions occurred in 2009 and 2010.

Naknek2-LF001_ENV_SITE_SUMMARY_IRP

CONT_RISK	<p>Specific risk assessment for LF001 is not available. The HRA for Lake Camp concluded that exposure to DRO contamination at Lake Camp could pose adverse health effects to a hypothetical future resident (HI=6.9 or HI=4.1 if excluding exposure to naturally-occurring levels of metals). The most sensitive receptor was found to be a child resident living on the site while his or her parents work seasonally from May through September.</p> <p>Although potential carcinogenic and noncarcinogenic risk greater than ADEC target levels was also attributed to arsenic (and to a lesser extent to manganese and barium), arsenic, barium, and manganese are considered to be naturally-occurring metals at the Naknek Recreation Camps. Furthermore, all arsenic concentrations detected in groundwater were below the drinking water MCL. It is not appropriate to base cleanup decisions on naturally-occurring metals. Therefore, no remedial action is recommended to address arsenic, manganese, or barium, and exposure to these naturally-occurring metals. Adverse health effects were attributed to dermal contact with and incidental ingestion of DRO in surface soil, ingestion of DRO in groundwater, and ingestion of DRO in berries. A RBCL of 4,900 mg/Kg was developed for DRO in soil. The RBCL represents the DRO concentration in soil corresponding to an HI equal to the ADEC and EPA goal of one (1). RBCLs were not developed for DRO in groundwater or for naturally-occurring metals, arsenic and manganese. The HRA recommended soil cleanup to the RBCL to reduce potential risk and further recommended that water from the contaminated shallow water table aquifer should not be used as a drinking water source until groundwater is cleaned up to drinking water standards.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES	<p>Contaminated Sites database (accessed 1/1/2011) United States Air Force (USAF). 2007. Final Record of Decision for Drum Landfill (LF001), Construction Debris Landfill (FL002), Former Lodge and Disposal Pit (DP003), Former Vehicle Maintenance Facility (SS004), and Former Generator Pad (SS005), Naknek Recreation Camp II (Lake Camp), King Salmon Air Station. Final. August. (2007 ROD - AR29-1)</p>
STATUS	

Naknek2-SS004_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	690
SITIRP_ID	SS004
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	(Installation) cancer < 1X10 ⁻⁵ ; HI = 6.9 or HI = 4.1 if excluding naturally-occurring levels of metals
ALIAS	SS04
SITE_NAME	Former Vehicle Maintenance Facility
SITE_DESCRIPTION	Vehicle maintenance facility
MEDIA_ID	SS004
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	(Installation) 1956-1977
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	The LUCs will consist of the following controls on land use within the site boundaries: * A prohibition on the installation of water supply wells as long as the aquifer fails ADEC Table C cleanup levels, * A restriction on excavations without a proper soil and waste management plan, * A notice that soil exceeds ADEC Method Two cleanup levels protective of unrestricted use.
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	DRO
MODIFIED_DATE	20110103
CONTAMINATION_SOURCE	Spills/leaks during vehicle maintenance
SITEID	SS004
INSTLN_ID	N2
MAINTENANCE	LUC inspections
RESTRICTIONS	Water well restrictions; No unauthorized digging/excavation; Property records/Base Plan documentation

Naknek2-SS004_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS004
SITE_NAME	Former Vehicle Maintenance Facility
DATE_SUMM	1/3/2011
CURRENT_STATUS	Open
SITE STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	The Former Vehicle Maintenance Facility is located across the gravel road directly south of the Former Lodge and Disposal Pit (DP003) and approximately 60 feet east of the Former Generator Pad (SS005). The use and practices at this site are not well documented, but POL contamination is most often associated with vehicle maintenance facilities.
GEO_HYDRO	A driller's log of a drinking water well installed in 1957 at Lake Camp indicated a deep aquifer was encountered at approximately 147 to 154 feet bgs. The driller's log described a blue clay that separated the upper and lower aquifer, with a thickness of more than 60 feet. A single shallow aquifer unit was identified at Lake Camp from the soil borings and well log data collected during the 1994 RI. Aquifer materials consist of poorly-graded sands with gravel and silty sands with gravel. A clay layer was encountered in borings 045, 046, and 047 at a depth of 4.5 feet bgs and in boring LF003 at 16 feet bgs. The aquifer is likely recharged by snowmelt, precipitation, and influent stream flow. The saturated thickness of the shallow aquifer was 2- to 6- feet, with the depth to water varying from 2 to 11 feet bgs (in August, 1994). Local groundwater flow, in general, is to the southeast towards the Naknek River.
COC	DRO
INVESTIGATION_ACTIONS	1988 Preliminary Assessment; 1990-1991 Partial Site Assessment (electromagnetic conductivity survey, soil gas survey, shallow soil borings); 1995 Remedial Investigation (site reconnaissance, soil, groundwater, surface water, and sediment investigation-hydrocarbon releases evident; geophysical investigation); 1996 HHRA, ERA; 1999 Feasibility Study; 1998 Intrinsic Remediation Study; 2006 Implementation of Remedial Process Optimization Recommendations (sampling surface water and sediment in wetlands downgradient of LF001-no contamination detected).
FINAL_REM_ACTION	Remedial action is necessary under State of Alaska Regulations to address petroleum-based products (DRO) in the soil and groundwater at the Former Vehicle Maintenance Facility (SS004). Selected remedy involves soil treatment, drum removal, monitored natural attenuation for groundwater, and land use controls.

Naknek2-SS004_ENV_SITE_SUMMARY_IRP

CONT_RISK	<p>Specific risk assessment for SS004 is not available. The HRA for Lake Camp concluded that exposure to DRO contamination at Lake Camp could pose adverse health effects to a hypothetical future resident (HI=6.9 or HI=4.1 if excluding exposure to naturally-occurring levels of metals). The most sensitive receptor was found to be a child resident living on the site while his or her parents work seasonally from May through September. Although potential carcinogenic and noncarcinogenic risk greater than ADEC target levels was also attributed to arsenic (and to a lesser extent to manganese and barium), arsenic, barium, and manganese are considered to be naturally-occurring metals at the Naknek Recreation Camps. Furthermore, all arsenic concentrations detected in groundwater were below the drinking water MCL. It is not appropriate to base cleanup decisions on naturally-occurring metals. Therefore, no remedial action is recommended to address arsenic, manganese, or barium, and exposure to these naturally-occurring metals.</p> <p>Adverse health effects were attributed to dermal contact with and incidental ingestion of DRO in surface soil, ingestion of DRO in groundwater, and ingestion of DRO in berries. A RBCL of 4,900 mg/Kg was developed for DRO in soil. The RBCL represents the DRO concentration in soil corresponding to an HI equal to the ADEC and EPA goal of one (1). RBCLs were not developed for DRO in groundwater or for naturally-occurring metals, arsenic and manganese. The HRA recommended soil cleanup to the RBCL to reduce potential risk and further recommended that water from the contaminated shallow water table aquifer should not be used as a drinking water source until groundwater is cleaned up to drinking water standards.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites database (accessed 1/3/2011) United States Air Force (USAF). 2007. Final Record of Decision for Drum Landfill (LF001), Construction Debris Landfill (FL002), Former Lodge and Disposal Pit (DP003), Former Vehicle Maintenance Facility (SS004), and Former Generator Pad (SS005), Naknek Recreation Camp II (Lake Camp), King Salmon Air Station. Final. August. (2007 ROD - AR29-1)</p>
STATUS	

Naknek2-SS005_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	705
SITIRP_ID	SS005
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	(Installation) cancer < 1X10-5; HI = 6.9 or HI = 4.1 if excluding naturally-occurring levels of metals
ALIAS	SS05
SITE_NAME	Former Generator Pad
SITE_DESCRIPTION	Currently empty gravel pad; former location of generator and diesel fuel tank.
MEDIA_ID	SS005
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	(Installation) 1956-1977
CATEGORY	ERP
AREA_ACRES	0.33
ACTIVITY	Active
LUC_RESTRICTION	<p>The LUCs will consist of the following controls on land use within the site boundaries:</p> <ul style="list-style-type: none"> * A prohibition on the installation of water supply wells as long as the aquifer fails ADEC Table C cleanup levels, * A restriction on excavations without a proper soil and waste management plan, * A notice that soil exceeds ADEC Method Two cleanup levels protective of unrestricted use.
POC	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907-552-9765
CHEMICALS_OF_CONCERN	DRO
MODIFIED_DATE	21110103
CONTAMINATION_SOURCE	Diesel tank, generator spills/leaks
SITEID	SS005
INSTLN_ID	N2
MAINTENANCE	LUC inspections
RESTRICTIONS	Water well restrictions; No unauthorized digging/excavation; Property records/Base Plan documentation

Naknek2-SS005_ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS005
SITE_NAME	Former Generator Pad
DATE_SUMM	1/3/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Charley Peyton (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	The Former Generator Pad is located immediately southeast of the intersection of the two gravel roads at Lake Camp. A fuel storage tank was located at the site to supply diesel fuel to the generator for power. The Former Generator Pad is currently a vegetation-free area measuring approximately 120 feet by 120 feet.
GEO_HYDRO	A driller's log of a drinking water well installed in 1957 at Lake Camp indicated a deep aquifer was encountered at approximately 147 to 154 feet bgs. The driller's log described a blue clay that separated the upper and lower aquifer, with a thickness of more than 60 feet. A single shallow aquifer unit was identified at Lake Camp from the soil borings and well log data collected during the 1994 RI. Aquifer materials consist of poorly-graded sands with gravel and silty sands with gravel. A clay layer was encountered in borings 045, 046, and 047 at a depth of 4.5 feet bgs and in boring LF003 at 16 feet bgs. The aquifer is likely recharged by snowmelt, precipitation, and influent stream flow. The saturated thickness of the shallow aquifer was 2- to 6- feet, with the depth to water varying from 2 to 11 feet bgs (in August, 1994). Local groundwater flow, in general, is to the southeast towards the Naknek River; however, near the Former Generator Pad (SS005), groundwater flow appears to radiate out from the southeast (towards the Naknek River) to the southwest (towards the wetland area southwest of the Drum Landfill).
COC	DRO
INVESTIGATION_ACTIONS	1988 Preliminary Assessment; 1990-1991 Partial Site Assessment (electromagnetic conductivity survey, soil gas survey, shallow soil borings); 1995 Remedial Investigation (site reconnaissance, soil, groundwater, surface water, and sediment investigation-hydrocarbon releases evident; geophysical investigation); 1996 HHRA, ERA; 1999 Feasibility Study; 1998 Intrinsic Remediation Study; 2006 Implementation of Remedial Process Optimization Recommendations
FINAL_REM_ACTION	Remedial action is necessary under State of Alaska Regulations to address petroleum-based products (DRO) in the soil and groundwater at the Former Generator Pad (SS005). Selected remedy involves soil treatment, drum removal, monitored natural attenuation for groundwater, and land use controls.
CONT_RISK	Specific risk assessment for SS005 is not available. The HRA for Lake Camp concluded that exposure to DRO contamination at Lake Camp could pose adverse health effects to a hypothetical future resident (HI=6.9 or HI=4.1 if excluding exposure to naturally-occurring levels of metals). The most sensitive receptor was found to be a child resident living on the site while his or her parents work seasonally from May through September. Although potential carcinogenic and noncarcinogenic risk greater than ADEC target levels was also attributed to arsenic (and to a lesser extent to manganese and barium), arsenic, barium, and manganese are considered to be naturally-occurring metals at the Naknek Recreation Camps. Furthermore, all arsenic concentrations detected in groundwater were below the drinking water MCL. It is not appropriate to base cleanup decisions on naturally-occurring metals. Therefore, no remedial action is recommended to address arsenic, manganese, or barium, and exposure to these naturally-occurring metals. Adverse health effects were attributed to dermal contact with and incidental ingestion of DRO in surface soil, ingestion of DRO in groundwater, and ingestion of DRO in berries. A RBCL of 4,900 mg/Kg was developed for DRO in soil. The RBCL represents the DRO concentration in soil corresponding to an HI equal to the ADEC and EPA goal of one (1). RBCLs were not developed for DRO in groundwater or for naturally-occurring metals, arsenic and manganese. The HRA recommended soil cleanup to the RBCL to reduce potential risk and further recommended that water from the contaminated shallow water table aquifer should not be used as a drinking water source until groundwater is cleaned up to drinking water standards.
RATIONALE	
RECOMMENDATIONS	
REFERENCES	Contaminated Sites database (accessed 1/3/2011) United States Air Force (USAF). 2007. Final Record of Decision for Drum Landfill (LF001), Construction Debris Landfill (FL002), Former Lodge and Disposal Pit (DP003), Former Vehicle Maintenance Facility (SS004), and Former Generator Pad (SS005), Naknek Recreation Camp II (Lake Camp), King Salmon Air Station. Final. August. (2007 ROD - AR29-1)
STATUS	

Nikolski-OT001.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	133
SITIRP_ID	OT001
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	<1X10 ⁻⁵ cancer; HI <1
ALIAS	AOC-09
SITE_NAME	Former Composite Building and White Alice Arrays
SITE_DESCRIPTION	Site OT-001 is located on a flat, graded section at the top of High Hill. The site consisted of the Former Composite Building, two 1,311-gallon AST for fuel storage, one 60-gallon mogas AST for the emergency fire pump, and a 24,000-gallon AST for water storage. Site OT-001 also includes the adjacent Two 20,000-Gallon USTs (Site TU-019, formerly AOC-09) which were closed and removed in 2007 and 2009. Two White Alice Arrays were located north of the Composite Building.
MEDIA_ID	OT001
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1958 - 1977 (Installation)
CATEGORY	ERP
AREA_ACRES	0.2 acre
ACTIVITY	Active
LUC_RESTRICTION	<p>Institutional controls include:</p> <ul style="list-style-type: none"> • ICs to prevent residential use and restrict surface excavation activities at the site. The ICs will be developed to encompass an area described as Tract 37C covering approximately 29.64 acres (Figure B-1 in Appendix B). • The requirement that all surface excavation or digging activities within Tract 37C be subject to ADEC approval as may be required by State of Alaska regulations [e.g., 18 AAC 75.325(i)]. • USAF will conduct five-year reviews of the remedy since substances will remain onsite at levels above applicable State of Alaska cleanup levels specified in 18 AAC 75. These five-year reviews will also report on the effectiveness of the ICs. Reviews may become more frequent if conditions change.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907.552.7193
CHEMICALS_OF_CONCERN	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, and Dibenzo(a,h)anthracene and RRO in soil
MODIFIED_DATE	20120105
CONTAMINATION_SOURCE	Historic diesel fuel spill and leaks associated with the nearby 20,000-gallon USTs at TU-019
SITEID	OT001
INSTLN_ID	NK
MAINTENANCE	5-year reviews
RESTRICTIONS	No unauthorized digging/excavation; No residential use

Nikolski-OT001.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	OT001
SITE_NAME	Former Composite Building and White Alice Arrays
DATE_SUMM	1/5/2012
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	Site OT-001 is located on a flat, graded section at the top of High Hill. The site consisted of the Former Composite Building, two 1,311-gallon AST for fuel storage, one 60-gallon MoGas AST for the emergency fire pump, and a 24,000-gallon AST for water storage. Site OT-001 also includes the adjacent Two 20,000-Gallon USTs (Site TU-019, formerly AOC-09) which were closed and removed in 2007 and 2009. Two White Alice Arrays were located north of the Composite Building.
GEO_HYDRO	The localized geology at each site controls the distribution of subsurface water. For the sites located on High Hill, the grain-size distribution of the fill material is large enough that vertical migration of precipitation is quite significant on top of the bedrock surface. Shallow groundwater (two inches to three inches in depth) travels downgradient, along the bedrock surface, until it encounters a topographical low area. Therefore, in areas where a depression exists on the bedrock surface, as was created when the pad for the 20,000-gallon USTs was constructed, isolated volumes of groundwater (or perched water) are typically encountered.
COC	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, and Dibenzo(a,h)anthracene and RRO in soil
INVESTIGATION_ACTIONS	1995 PA & SI; 2000 Site Investigation; 2001 Remedial Investigation; 2004 BRA & HRA; 2007 and 2009 UST Closures at TU-019
FINAL_REM_ACTION	The preferred alternative for OT001 is Institutional Controls that limit the use of areas that have contamination remaining in place.
CONT_RISK	7.27x10 ⁻⁶ ; HI=7.79x10 ⁻³ (without DRO)
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 1/5/2012) Unites States Air Force (USAF). 2011. CERCLA Records of Decision for OT-001 Former Composite Building, ST-018 Composite Building, Septic Tank, and Outfall, WP-007 Composite Building POL Outfall, Nikolski Radio Relay Station, Nikolski, Alaska. Final. September. (2011 ROD)
STATUS	

Nikolski-SS006.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	135 (on USAF property) 3936 (off USAF property)
SITIRP_ID	SS006
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	The analytical results for the investigations and studies conducted from 1995 to 2001 were compared to ADEC Method Two soil cleanup levels specified in 18 AAC 75.341. Results indicated that TCE, DRO, and RRO contamination exceeded applicable ADEC Method Two soil cleanup levels, warranting further evaluation.
ALIAS	None
SITE_NAME	Former Drum Storage Area
SITE_DESCRIPTION	SS006 is the designation for the environmental site located near the beach on Nikolski Bay, west of the airstrip, known as the Former Drum Storage Area. During the 1995 PA/SI, approximately 200 drums were located in the site vicinity, mostly on their sides directly on the ground about 200 feet from the shoreline. Some drums were full and had unbroken seals on the bungs. Other drums had leaked into surface soil and water. Container markings indicated that possible drum contents were: antifreeze, diesel fuel, jet fuel, lube oil, aviation gasoline, unleaded gasoline, and petroleum naphtha.
MEDIA_ID	SS006
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown
CATEGORY	ERP
AREA_ACRES	2.44
ACTIVITY	Active
LUC_RESTRICTION	ICs will be used to prevent residential use and restrict surface excavation activities in Tract 39A, which covers approximately 2.44 acres. The Air Force will require all surface excavation or digging activities within Tract 39A to be subject to ADEC approval, per State of Alaska regulations (18 AAC 75.325(i), 2008).
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	Soil - DRO, RRO, TCE Groundwater - TCE
MODIFIED_DATE	20140729
CONTAMINATION_SOURCE	drums - leaks and spills, varied contents
SITEID	SS006
INSTLN_ID	NK
MAINTENANCE	Annual monitoring until TCE and breakdown products are in steady state or decreasing for three consecutive monitoring events. Conduct 5-year reviews. Maintain fence.
RESTRICTIONS	No residential use. No excavation without prior ADEC approval.

Nikolski-SS006.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS006
SITE_NAME	Former Drum Storage Area
DATE_SUMM	7/29/2014
CURRENT_STATUS	Open (under both Hazard IDs)
SITE_STATUS	Active (under both Hazard IDs)
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	SS006 is the designation for the environmental site located near the beach on Nikolski Bay, west of the airstrip, known as the Former Drum Storage Area. During the 1995 PA/SI, approximately 200 drums were located in the site vicinity, mostly on their sides directly on the ground about 200 feet from the shoreline. Some drums were full and had unbroken seals on the bungs. Other drums had leaked into surface soil and water. Container markings indicated that possible drum contents were: antifreeze, diesel fuel, jet fuel, lube oil, aviation gasoline, unleaded gasoline, and petroleum naphtha.
GEO_HYDRO	Out of the 10 soil borings constructed at SS006 during the 2002 RI, only two locations had sufficient groundwater to enable construction of monitoring wells. Bedrock is present at depths of 1.5 to 5 feet below ground surface. The immediate area of the two wells is a slight depression in the bedrock surface that collects local groundwater when it is present. Available data indicates that site groundwater flows toward the bay. There are no private or public drinking water systems at SS006, and the public water supply for the village is located 1 mile away from the site.
COC	Soil - DRO, RRO, TCE Groundwater - TCE
INVESTIGATION_ACTIONS	Environmental investigations and studies were conducted at SS006 between 1995 and 2001. Remediation work began in 1995 with compilation of existing historical information for Nikolski RRS. During investigations completed as part of the 1995 PA/SI, approximately 200 drums were observed in the vicinity of the Drum Storage Area. While some of the drums had evidence of surface soil staining, this area was not sampled in 1995. Most of the 200 drums were on their sides directly on the ground, about 200 feet from the shoreline. Some drums were full and had unbroken seals on the bungs. Other drums had leaked onto surface soil and water. Container markings indicated that possible drum contents were: antifreeze, diesel fuel, jet fuel, lube oil, aviation gasoline, unleaded gasoline, and petroleum naphtha. In 1996, three soil samples were collected from areas of stained surface soil at SS006. In 1997, drum contents were sampled, characterized, and removed, and hazardous and nonhazardous wastes were shipped offsite for disposal and recycling. In 1997, surface soil and water samples were collected during drum removal activity. Soil samples collected for these studies were analyzed for a variety of chemical compounds potentially associated with POL discharges, including: gasoline range organics (GRO), DRO, RRO, volatile organic compounds (VOCs), PCBs, polycyclic aromatic hydrocarbons (PAHs), and metals.
FINAL_REM_ACTION	After the 1997 drum removal action, a fence was constructed around the area previously containing the drums.
CONT_RISK	The analytical results for the investigations and studies conducted from 1995 to 2001 were compared to ADEC Method Two soil cleanup levels specified in 18 AAC 75.341. Results indicated that TCE, DRO, and RRO contamination exceeded applicable ADEC Method Two soil cleanup levels, warranting further evaluation.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 7/29/2014) United States Air Force (USAF). 2013. Nikolski Radio Relay Station, Nikolski, Alaska CERCLA Record of Decision, SS006 (Former Drum Storage Area). Final. April. (2013 ROD)
STATUS	

Nikolski-ST017.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	126
SITIRP_ID	ST017
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	>1X10-5
ALIAS	AOC-07
SITE_NAME	Construction Camp Septic Tank
SITE_DESCRIPTION	The ST017 site is located approximately two miles from the village of Nikolski. The former septic tank was located just off an unmaintained gravel road. This area is located in steep terrain and not accessible by vehicles. Thus, the site is difficult for visitors to reach.
MEDIA_ID	ST017
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1961 - 1977
CATEGORY	ERP
AREA_ACRES	0.35
ACTIVITY	Active
LUC_RESTRICTION	Institutional Controls (signage) that will limit the use of and exposure to surface water downslope from ST017, long term surface water monitoring, five year reviews & reporting.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-
PHONE	907.552.7193
CHEMICALS_OF_CONCERN	TCE (surface water)
MODIFIED_DATE	20110729
CONTAMINATION_SOURCE	Septic tank and pipe seepage
SITEID	ST017
INSTLN_ID	NK
MAINTENANCE	Surface water monitoring; 5-year reviews; Sign maintenance and repairs
RESTRICTIONS	Surface water use restrictions

Nikolski-ST017.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	ST017
SITE_NAME	Construction Camp Septic Tank
DATE_SUMM	7/29/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	ST-017 is on the north slope of High Hill. During construction of the Nikolski RRS facility, the septic tank at ST-017 served the Construction Camp. Its use was discontinued when construction of the RRS was completed. Current use of the site by people is limited to occasional recreational activities. Future residential use is not anticipated at site ST-017.
GEO_HYDRO	The geologic material at ST-017 is characterized by a layer of peat overlying a thin layer of weathered bedrock rubble and' andesite bedrock. No groundwater is likely to exist in a zone of saturation. Groundwater at the site is not currently and will not be used in the future as a water supply. The major surface water feature in the immediate vicinity of ST-017 is the unnamed lake downhill from the seep. This lake is not currently used for water supply, and there are no plans to use it in the future.
COC	TCE (surface water)
INVESTIGATION_ACTIONS	1995 Preliminary Assessment/ Site Investigation, 2000 Follow up SI, 2001 RI, 2002 supplemental RI, 2007 Remedial Action Fieldwork, 2008 Remedial Action Report, 2009 Sampling Event.
FINAL_REM_ACTION	Institutional Controls (signage) with long-term monitoring
CONT_RISK	Current contaminant concentrations at the ST-017 site pose a potential risk to human health due to potential ingestion of TCE-contaminated surface water.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 7/29/2011) United States Air Force (USAF). 2010. CERCLA Record of Decision for ST-017 (Formerly AOC-07) Construction Camp Septic Tank, Nikolski Radio Relay Station, Nikolski, Alaska. March (2010 ROD) 2010 DD
STATUS	

Nikolski-WP007.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	136
SITIRP_ID	WP007
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	<1X10 ⁻⁵ cancer; HI =1.22
ALIAS	AOC 10
SITE_NAME	Composite Building POL Outfall
SITE_DESCRIPTION	Site WP-007 is the outfall for the POL discharge pipeline originating at the Former Composite Building. The available data indicate the outfall area was the discharge point for liquid wastes disposed of in floor drains and industrial sinks in the Composite Building.
MEDIA_ID	WP007
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1958 - 1977 (Installation)
CATEGORY	ERP
AREA_ACRES	NA
ACTIVITY	Active
LUC_RESTRICTION	<p>Institutional Controls include:</p> <p>ICs to prevent residential use and restrict surface excavation activities at the site. The ICs will be developed to encompass an area described as Tract 37C covering approximately 29.64 acres (Figure B-1 in 2011 ROD).</p> <ul style="list-style-type: none"> • Prohibiting residential use and occupancy within Tract 37C in excess of 33 days per year by any one individual (40 CFR 761.3). • The requirement that all surface excavation or digging activities within Tract 37C be subject to ADEC approval as required by State of Alaska regulations [e.g., 18 AAC 75.325(i)]. • USAF will conduct five-year reviews of the remedy as required by CERCLA Section 121(c) since hazardous substances will remain onsite at levels above applicable State of Alaska cleanup levels in 18 AAC 75. These five-year reviews will also report on the effectiveness of the ICs. Reviews may become more frequent if conditions change.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907.552.7193
CHEMICALS_OF_CONCERN	PCBs, DRO, and RRO in soil
MODIFIED_DATE	20120105
CONTAMINATION_SOURCE	Historical diesel fuel spills at the site
SITEID	WP007
INSTLN_ID	NK
MAINTENANCE	5-year reviews
RESTRICTIONS	No unauthorized digging/excavation; No residential use

Nikolski-WP007.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	WP007
SITE_NAME	Composite Building POL Outfall
DATE_SUMM	1/5/2012
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	Site WP-007 is the outfall for the POL discharge pipeline originating at the Former Composite Building. The available data indicate the outfall area was the discharge point for liquid wastes disposed of in floor drains and industrial sinks in the Composite Building. WP-007 is located near the top of High Hill on a steep, rocky slope.
GEO_HYDRO	The localized geology at each site controls the distribution of subsurface water. For the sites located on High Hill, the grain-size distribution of the fill material is large enough that vertical migration of precipitation is quite significant on top of the bedrock surface. Shallow groundwater (two inches to three inches in depth) travels downgradient, along the bedrock surface, until it encounters a topographical low area. Therefore, in areas where a depression exists on the bedrock surface, as was created when the pad for the 20,000-gallon USTs was constructed, isolated volumes of groundwater (or perched water) are typically encountered.
COC	PCBs, DRO, and RRO in soil
INVESTIGATION_ACTIONS	1995 PA & SI; 2001 Remedial Investigation; 2004 BRA & HRA
FINAL_REM_ACTION	The preferred alternative for WP-007 is Institutional Controls
CONT_RISK	4.71 x 10 ⁻⁷ ; HI=1.22
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 1/5/2012) United States Air Force (USAF). 2011. CERCLA Records of Decision for OT-001 Former Composite Building, ST-018 Composite Building, Septic Tank, and Outfall, and WP-007 Composite Building POL Outfall, Nikolski Radio Relay Station, Nikolski, Alaska. Final. September. (2011 ROD)
STATUS	

North_River-OT001.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	845
SITIRP_ID	OT001
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	not analyzed quantitatively
ALIAS	None
SITE_NAME	White Alice Communication Site
SITE_DESCRIPTION	Site OT001, the Former WACS, consisted of a generator/equipment building, vehicle garage, barracks building, ASTs, fuel lines, water tank, radio antennae, sewer outfall, and pump houses. All buildings have been demolished.
MEDIA_ID	OT001
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Installation 1957-1978
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	In accordance with State Law, IC will also be implemented at the permitted demolition debris landfill with an asbestos cell within Site OT001 WACS. Implementation of ICs at these landfills would restrict access to, and limit human and ecological exposure to and use of asbestos and landfill contents. This alternative would include the following: <ul style="list-style-type: none"> • Restricting excavation or disturbance of the landfill cover and contents to prevent exposure to asbestos and to maintain the integrity of the cap. • Inclusion and documentation of ICs in the AF Real Property Records and North River RRS General Plan, including information about the following: <ul style="list-style-type: none"> - Current land uses and allowed uses of the landfills. - Geographic boundaries of the ICs.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907.552.7193
CHEMICALS_OF_CONCERN	PCBs
MODIFIED_DATE	20110925
CONTAMINATION_SOURCE	various leaks/spills
SITEID	OT001
INSTLN_ID	NR
MAINTENANCE	Landfill cap maintenance
RESTRICTIONS	No unauthorized site access

North_River-OT001.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	OT001
SITE_NAME	White Alice Communication Site
DATE_SUMM	9/25/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	Site OT001, the Former WACS, consisted of a generator/equipment building, vehicle garage, barracks building, ASTs, fuel lines, water tank, radio antennae, sewer outfall, and pump houses. All buildings have been demolished. Razed building foundations are still evident at the site but have been overgrown with alders.
GEO_HYDRO	Groundwater is not used as a drinking water source in the area of the North River RRS. Groundwater was not encountered at any of the source area sites considered in this ROD. The infiltration gallery that supplied the former Air Force Station from near a tributary of the Unalakleet River has been removed and decommissioned. The water source for the village of Unalakleet is located outside the Unalakleet River Basin and is unlikely to be affected by any contamination originating at the North River RRS. There are, however, cabins between Unalakleet and the North River RRS that may use well water.
COC	PCBs
INVESTIGATION_ACTIONS	<ul style="list-style-type: none"> • Between 1985 and 1993, numerous investigations included soil sampling, partial structure demolition (sewer vault, above ground storage tanks, pipeline, and lower pump house), and excavation and offsite disposal of approximately 40 cubic yards of PCB-contaminated soil. • In 1994, a preliminary assessment was conducted to review historical data and information related to the installation. • In 1995, the remaining site structures were demolished and buried in an onsite, permitted landfill (ADEC Permit Number 9432-BA001). Asbestos abatement was also conducted; this material was disposed of in the asbestos cell within the landfill. Approximately 3,100 cubic yards of diesel-range organics (DRO) contaminated soil was excavated and disposed of offsite. • In 2004, 52 soil samples were collected at 0.5 feet below ground surface (bgs) and analyzed for PCBs. Nine of the 52 samples had PCB concentrations exceeding the ADEC Method Two cleanup criterion with a maximum concentration of 37.3 mg/kg. • In 2004, eight soil samples were collected from various depths within three test pits and evaluated for DRO, gasoline-range organics (GRO), residual-range organics (RRO), volatile organic compounds (VOC), semivolatile organic compounds (SVOC), PCBs, pesticides, and Resource Conservation and Recovery Act (RCRA) metals. Two of the eight samples had DRO concentrations exceeding the ADEC Method Two cleanup criterion of 250 mg/kg, with a maximum concentration of 5,110 mg/kg. Arsenic and chromium concentrations also exceeded ADEC Method Two cleanup criteria; however, the background levels of these metals are high, so these levels were assumed to be naturally occurring and not a result of AF activities. • In 2005 and 2006, a background metals study was conducted by U.S. Army Engineer District, Alaska (USAED) in an effort to determine the naturally occurring concentrations of arsenic, total chromium, and selenium in the Unalakleet area (USAED 2007). This report supports the presumption that current arsenic and chromium levels are not attributable to activities related to the North River RRS; these analytes were not investigated during the 2007 field effort. • In 2007, borings were advanced in an effort to collect groundwater grab samples; however, refusal was encountered in all borings prior to encountering groundwater. (USAF 2008). Soil samples were analyzed for fuel compounds and PCBs. Fuel compounds were detected below the ADEC Method Two ingestion cleanup criteria. PCBs were detected in soil samples above the ADEC cleanup criterion of 1.0 mg/kg, with a maximum concentration of 4.7 mg/kg.

North_River-OT001.ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Remedial alternatives for the North River RRS were developed and evaluated through the North River RRS Feasibility Study. Based on the results of the FS, the AF selected Offsite Disposal of PCB-Contaminated Soil Exceeding the ADEC Method Two Cleanup Criteria as the preferred alternative for North River RRS. PCB-contaminated soil is located at OT001. The major components of the selected response action are as follows: contaminated soil above cleanup levels shall be excavated, staged, segregated into Toxic Substances Control Act (TSCA) and non-TSCA waste streams, and contained in stockpile(s). Analytical sampling will aid in soil segregation and waste stream characterization. TSCA soil containing PCBs greater than 50 mg/kg will be shipped to a permitted Subtitle C landfill. Non-TSCA/low level PCB- and fuel-contaminated soil containing PCBs between 50 mg/kg and 1 mg/kg will be shipped to a permitted, approved Subtitle D landfill. Confirmation site samples will be collected and analyzed to ensure cleanup levels have been met. Once contaminated soil in excess of ADEC clean up criteria is removed from the site, the excavations will be backfilled with locally available clean soil.</p> <p>In accordance with State Law, institutional controls (IC) will also be implemented at the permitted demolition debris landfill with an asbestos cell within Site OT001 WACS. Implementation of ICs at these landfills would restrict access to, and limit human and ecological exposure to and use of asbestos and landfill contents. This alternative would include the following:</p> <ul style="list-style-type: none"> • Restricting excavation or disturbance of the landfill cover and contents to prevent exposure to asbestos and to maintain the integrity of the cap. • Inclusion and documentation of ICs in the AF Real Property Records and North River RRS General Plan, including information about the following: <ul style="list-style-type: none"> - Current land uses and allowed uses of the landfills. - Geographic boundaries of the ICs.
CONT_RISK	<p>PCB concentrations in site soils exceed the ADEC Method Two cleanup criteria of 1 mg/kg. Therefore, action is required under CERCLA and state regulations to protect human health and the environment. No Further Action is recommended at the OT001 Southeast Corner, the OT001 POL Source Area, and the Potential Drum Dump sites because any contaminated soil was either below the ADEC cleanup levels or did not exist at these sites.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 9/25/2011) United States Air Force (USAF). 2010. Proposed Plan for North River Radio Relay Station, Unalakleet, Alaska. March. (2010 Proposed Plan)</p> <p>United States Air Force (USAF). 2010. Record of Decision, North River Radio Relay Station, Alaska. Final. July. (2010 ROD)</p>
STATUS	

North_River-SO001.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	4367
SITIRP_ID	SO001
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	not analyzed quantitatively
ALIAS	Vehicle Maintenance Facility
SITE_NAME	Vehicle Maintenance Building UST
SITE_DESCRIPTION	Site SO001 (VMF), is located approximately 1/4-mile west of Site OT001. Historically, the site consisted of a temporary dormitory, a maintenance building, a 500-gallon underground storage tank (used to heat the maintenance building) and a 4-inch floor drain and outfall.
MEDIA_ID	SO001
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Installation 1957-1978
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Site will receive Cleanup Complete Status in 2015
LUC_RESTRICTION	This alternative also includes implementing IC at SO001 until groundwater cleanup levels have been achieved. Implementation of ICs at SO001 would restrict access to, and limit human and ecological exposure to and use of contaminated groundwater at the site.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907.552.7193
CHEMICALS_OF_CONCERN	DRO, GRO, methylene chloride, benzene, naphthalene, tetrachloroethene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1-methylnaphthalene, 2-methylnaphthalene, 4-chloroaniline, and ethylbenzene
MODIFIED_DATE	20110925
CONTAMINATION_SOURCE	storage tanks and drain, other misc.
SITEID	SO001
INSTLN_ID	NR
MAINTENANCE	None specified
RESTRICTIONS	None specified

North_River-SO001.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SO001
SITE_NAME	Vehicle Maintenance Building UST
DATE_SUMM	9/25/2011
CURRENT_STATUS	Open
SITE_STATUS	Site will receive Cleanup Complete Status in 2015
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	Site SO001 (VMF), is located approximately 1/4-mile west of Site OT001. Historically, the site consisted of a temporary dormitory, a maintenance building, a 500-gallon underground storage tank (used to heat the maintenance building) and a 4-inch floor drain and outfall. No structures currently remain onsite.
GEO_HYDRO	Groundwater is not used as a drinking water source in the area of the North River RRS. The infiltration gallery that supplied the former Air Force Station from near a tributary of the Unalakleet River has been removed and decommissioned. The water source for the village of Unalakleet is located outside the Unalakleet River Basin and is unlikely to be affected by any contamination originating at the North River RRS. There are, however, cabins between Unalakleet and the North River RRS that may use well water. Groundwater was encountered at SO001 between approximately 6 and 8 feet bgs. No seeps or surface water were observed onsite; thus, site contamination is not likely to be migrating to streams, rivers, or water bodies located outside the perimeter of the North River RRS site boundaries.
COC	DRO, GRO, methylene chloride, benzene, naphthalene, tetrachloroethene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1-methylnaphthalene, 2-methylnaphthalene, 4-chloroaniline, and ethylbenzene
INVESTIGATION_ACTIONS	<p>In 1995, the 500-gallon underground storage tank, associated piping, and approximately 125 cy of DRO-contaminated soil were removed. The maximum recorded DRO concentration was 11,900 mg/kg at 7 feet bgs. In 2004, seven primary soil samples were collected from various depths within four test pits and evaluated for DRO, GRO, RRO, VOCs, SVOCs, PCBs, pesticides, and RCRA metals. Four of the seven samples had DRO concentrations exceeding the ADEC Method Two cleanup criterion of 250 mg/kg, with a maximum concentration of 7,010 mg/kg. Sheen was observed on the groundwater interface between 6 and 8 feet bgs. GRO, benzene, ethylbenzene, bis(2-chloroethyl)ether, arsenic, and chromium concentrations also exceeded ADEC Method Two criteria. Arsenic and chromium, at the levels detected, are likely naturally occurring and not a result of USAF activities. A soil sample collected from a test pit (0.5 feet) near the floor drain and outfall area had 2,6-dinitrotoluene and n-nitroso-n-propylamine concentrations (ordnance compounds) exceeding ADEC Method Two criteria. Based on the Systematic Project Planning meeting (USAF 2007), no further action is necessary at the floor drain and outfall area. Although the ordnance compounds exceeded ADEC Method Two Migration to Groundwater cleanup criteria, samples collected at depth at this location were not detected for these compounds.</p> <p>In 2007, Jacobs Engineering Group Inc. conducted an SC/RI to define the nature and extent of soil contamination at the North River RRS (USAF 2008). A total of 43 analytical soil samples were collected, including 5 duplicate soil samples. Soil samples from this area were submitted for DRO, RRO, GRO, and BTEX analyses. Additionally, VOC and SVOC analyses were performed on 10-percent of the total number of soil samples collected at this site. GRO, DRO, various VOCs, and SVOCs exceeded cleanup criteria. Four groundwater samples (and one duplicate) were collected from the perimeter of the site and analyzed for GRO, DRO, RRO, VOCs, and SVOCs. One groundwater sample exceeded the ADEC Method Two groundwater cleanup criterion for DRO (1.5 mg/L) with a concentration of 4.6 mg/L.</p>

North_River-SO001.ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>The chosen remedy for the petroleum contaminated soil and groundwater at the North River RRS is Onsite Landfarming of Fuel Contaminated Soil Exceeding the ADEC Method Two Cleanup Criteria with Long-Term Monitoring of Groundwater at SO001. The AF is committed to implementing, monitoring, maintaining, and enforcing all components of the selected remedy to ensure that it remains protective of human health and the environment.</p> <p>The major components of the selected response action are as follows: contaminated soil above cleanup levels shall be excavated and spread in a layer on a liner. The aerobic microbial activity within the soil will be stimulated through the addition of minerals, nutrients, and moisture. The enhanced microbial activity results in degradation of adsorbed fuel products through microbial respiration. Confirmation soil samples will be collected and analyzed to ensure cleanup levels have been met. Once cleanup levels have been met, the clean soil will be used as backfill at the sites.</p> <p>A network of groundwater monitoring wells will be installed at SO001. Long-term monitoring of the groundwater will occur until cleanup levels have been achieved.</p> <p>This alternative also includes implementing IC at SO001 until groundwater cleanup levels have been achieved. Implementation of ICs at SO001 would restrict access to, and limit human and ecological exposure to and use of contaminated groundwater at the site.</p>
CONT_RISK	<p>Concentrations of contaminants in site soils exceed the 18 AAC 75.341 Table B1 and B2 cleanup levels at Sites SO001 and SS004. Action is therefore required under state regulations to protect human health and the environment.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 9/25/2011) United States Air Force (USAF). 2010. Decision Document for North River Radio Relay Station, Alaska. Final. July. (2010 DD)</p>
STATUS	

Oliktok-LF001.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	747
SITIRP_ID	LF001
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Carcinogenic risk = 8×10^{-6} (industrial use) HI = 2 There is no current potential ecological risks at LF001.
ALIAS	None
SITE_NAME	Old Landfill
SITE_DESCRIPTION	LF001 (Old Landfill) is located approximately 1/4 miles west of the Module Train, near the shore of the Beaufort Sea. LF001 received wastes from the installation from approximately 1956 to 1978. The landfill was never permitted and is best classified as a dump site. The surface of the landfill was cleaned, covered, and reseeded between 1978 and 1980, after which it did not accept any more waste or debris.
MEDIA_ID	LF001
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1956 to 1978
CATEGORY	LF
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	The Selected Remedial Alternative is Remedial Alternative 3: Land Use Controls. The major components of the remedy include: <ul style="list-style-type: none"> - Visual monitoring of the top cover or clean backfill - Five-year reviews will be conducted to ensure the remedy remains protective as long as contaminants levels do not allow for unrestricted land use - Maintaining the integrity of the cover of LF001, restricting construction or demolition disturbance on top of LF001 without prior concurrence from ADEC. - Inclusion and documentation of all ICs in the 611th CES IRP Records, Base Master Plan and appropriate real estate files - Geographic extent of the IC boundaries - Record a Notice of Environmental Contamination in the state land records at the appropriate Department of Natural Resources recording district - Submittal of a Performance Report/Annual Inspection report on ICs to ADEC annually - Prompt notification of ADEC of LUC deficiency/failure along with corrective measures taken or planned - ADEC concurrence for significant changes to use and activity restrictions and LUCs and for significant changes. - Prior notification to ADEC for transfer of property subject to ICs. Restricting construction or demolition disturbance on top of LF001 without prior concurrence from ADEC.
POC	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907.552.7697
CHEMICALS_OF_CONCERN	DRO, RRO, PCBs, Lead, Chromium
MODIFIED_DATE	20140723
CONTAMINATION_SOURCE	Disposal of wastes and debris into the dump site.
SITEID	LF001
INSTLN_ID	Oliktok
MAINTENANCE	Monitoring, maintenance, and annual inspection of the top cover currently in place at LF001.
RESTRICTIONS	Restricting construction or demolition disturbance on top of LF001 without prior concurrence from ADEC. Restricting access and excavation or disturbance of contaminated soil.

Oliktok-LF001.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF001
SITE_NAME	Old Landfill
DATE_SUMM	7/23/2014
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	LF001 (Old Landfill) is located approximately 1/4 miles west of the Module Train, near the shore of the Beaufort Sea. LF001 received wastes from the installation from approximately 1956 to 1978. The landfill was never permitted and is best classified as a dump site. The surface of the landfill was cleaned, covered, and reseeded between 1978 and 1980, after which it did not accept any more waste or debris.
GEO_HYDRO	At the Oliktok LRRS, the unconsolidated surficial sediments consist of shallow-water marine materials deposited during periods of higher sea levels. Marine deposits are primarily sandy silts containing scattered pebbles and beds or lenses of clay, and fine gravel. Although surficial sediments are unconsolidated, they are perennially bounded by frozen interstitial pore water (i.e., permafrost). The Oliktok LRRS is located on an area of continuous permafrost up to 2,000 feet deep. The permafrost remains frozen year-round. Potable groundwater is not present beneath the continuous permafrost. Perched groundwater above the permafrost, called the active zone because it freezes and thaws seasonally, is present at approximately 3.5 to 5.5 feet bgs. Groundwater is not presently used as a drinking water source due to continuous permafrost.
COC	DRO, RRO, PCBs, Lead, Chromium
INVESTIGATION_ACTIONS	Between 1981 and 2007, investigations have been conducted at the Oliktok LRRS facility. During previous investigations at LF001, PCBs, DRO, and RRO were detected at concentrations greater than cleanup levels. However, the risks to human health were deemed low because of the low concentrations and locations of contaminants. In 2000, a storm event eroded the area and exposure some of the debris in the landfill. A NTCRA was conducted and all exposure debris and contamination was excavated. In 2003, it was determined that the landfill would very likely erode into the Beaufort Sea within 50 years. Impacted soil was excavated vertically to permafrost. Confirmation samples indicated PCB contamination remains at the bottom of the excavation but was determined to be below seal level. The site was completely covered/secured by approximately 4,400 cy of clean backfill.
FINAL_REM_ACTION	The Selected Remedial Alternative is Remedial Alternative 3: Land Use Controls. The USAF will monitor, maintain, and annually inspect the cover of LF001 in accordance with Remedial Alternative 3: LUCs.
CONT_RISK	Carcinogenic risk = 8×10^{-6} (industrial use) HI = 2 There is no current potential ecological risks at LF001.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 7/23/2014) United States Air Force (USAF). 2012. Record of Decision for LF001, LF002, SS010, LF001a, ST006, SS009a, and SS009b. Oliktok Long Range Radar Site, Alaska. Final. November. (2012 ROD)
STATUS	

Oliktok-LF002.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	799
SITIRP_ID	LF002
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	PCBs were the only COC identified for LF002. Carcinogenic risk = 5×10^{-6} (industrial use) HI = 1 There is no current potential ecological risks at LF002.
ALIAS	Old Dump LF02
SITE_NAME	Dump Site
SITE_DESCRIPTION	The Dump Site (LF002) consists of a gravel-covered area (pad) west of the main station and east of ST03. The Dump Site was active from the late 1970s to the 1980s. It was reportedly cleaned up in 1987 because the site was being eroded along its seaward site. The debris was hauled to the "New Landfill", located on the road between the installation and the runway.
MEDIA_ID	LF002
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	late 1970s to 1980s
CATEGORY	LF
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	The Selected Remedial Alternative is Remedial Alternative 3: Land Use Controls. The major components of the remedy include: <ul style="list-style-type: none"> - Visual monitoring of the top cover or clean backfill - Five-year reviews will be conducted to ensure the remedy remains protective as long as contaminants levels do not allow for unrestricted land use - Maintaining the integrity of the cover of LF002. Restricting construction or demolition disturbance on top of LF002 without prior concurrence from ADEC. - Inclusion and documentation of all ICs in the 611th CES IRP Records, Base Master Plan and appropriate real estate files - Geographic extent of the IC boundaries - Record a Notice of Environmental Contamination in the state land records at the appropriate Department of Natural Resources recording district - Submittal of a Performance Report/Annual Inspection report on ICs to ADEC annually - Prompt notification of ADEC of LUC deficiency/failure along with corrective measures taken or planned - ADEC concurrence for significant changes to use and activity restrictions and LUCs and for significant changes. - Prior notification to ADEC for transfer of property subject to ICs.
POC	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907.552.7697
CHEMICALS_OF_CONCERN	PCBs
MODIFIED_DATE	20140723
CONTAMINATION_SOURCE	Disposal of hazardous materials into the dump site.
SITEID	LF002
INSTLN_ID	Oliktok
MAINTENANCE	Monitoring, maintenance, and annual inspection of the top cover currently in place at LF002.
RESTRICTIONS	Restricting construction or demolition disturbance on top of LF002 without prior concurrence from ADEC. Restricting access and excavation or disturbance of contaminated soil.

Oliktok-LF002.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF002
SITE_NAME	Dump Site
DATE_SUMM	7/23/2014
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	The Dump Site (LF002) consists of a gravel-covered area (pad) west of the main station and east of ST03. The Dump Site was active from the late 1970s to the 1980s. It was reportedly cleaned up in 1987 because the site was being eroded along its seaward side. The debris was hauled to the "New Landfill", located on the road between the installation and the runway.
GEO_HYDRO	At the Oliktok LRRS, the unconsolidated surficial sediments consist of shallow-water marine materials deposited during periods of higher sea levels. Marine deposits are primarily sandy silts containing scattered pebbles and beds or lenses of clay, and fine gravel. Although surficial sediments are unconsolidated, they are perennially bounded by frozen interstitial pore water (i.e., permafrost). The Oliktok LRRS is located on an area of continuous permafrost up to 2,000 feet deep. The permafrost remains frozen year-round. Potable groundwater is not present beneath the continuous permafrost. Perched groundwater above the permafrost, called the active zone because it freezes and thaws seasonally, is present at approximately 3.5 to 5.5 feet bgs. Groundwater is not presently used as a drinking water source due to continuous permafrost.
COC	PCBs
INVESTIGATION_ACTIONS	Between 1981 and 2007, investigations have been conducted at the Oliktok LRRS facility. During previous investigations at LF002, no significant contamination was identified in soil, sediment, and water samples collected from the site and analyzed for DRO, GRO, RRO, VOCs, BTEX, PCBs, pesticides, and metals. Erosion of the seaward side of the site exposure buried metallic debris. In 2007 during excavation of inert debris, a buried gravel disposal pit was discovered in the south central portion of LF002, which contained one liquid-filled drum, asbestos, and PCB impacted soil. These wastes were removed from the LF002 area. Confirmation samples showed PCB contamination remained in place at LF002. The site was backfilled with clean gravel material.
FINAL_REM_ACTION	The Selected Remedial Alternative is Remedial Alternative 3: Land Use Controls. The USAF will monitor, maintain, and annually inspect the cover of LF002 in accordance with Remedial Alternative 3: LUCs.
CONT_RISK	PCBs were the only COC identified for LF002. Carcinogenic risk = 5×10^{-6} (industrial use) HI = 1 There is no current potential ecological risks at LF002.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 7/23/2014) United States Air Force (USAF). 2012. Record of Decision for LF001, LF002, SS010, LF001a, ST006, SS009a, and SS009b. Oliktok Long Range Radar Site, Alaska. Final. November. (2012 ROD)
STATUS	

Oliktok-SS005_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	748
SITIRP_ID	SS005
SITE_STATUS	Open
BOUNDARY_STATUS	NA
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	<1X10-5; HI<1
ALIAS	Site 20; SS05
SITE_NAME	Diesel Fuel Spill Area
SITE_DESCRIPTION	The primary feature of SS005 is a gravel pad and the site is the reported location of a diesel fuel spill that occurred in 1978. Approximately 300 gallons of fuel was reported to have spilled when a diesel day tank located near the northeast corner of the hangar was overfilled. There are no tanks remaining on the gravel pad.
MEDIA_ID	SS005
BOUNDARY_DETAILS	NA
DATES_OPERATION	single incident occurred in 1978
CATEGORY	ERP
AREA_ACRES	NA
ACTIVITY	Active
LUC_RESTRICTION	The site is listed as "conditional closure", where the landowner of the site granted conditional closure shall obtain approval from ADEC prior to disposing (or transporting) soil from the site. In addition, soil may not be disposed in surface water or other environmentally sensitive areas.
POC	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907.552.7697
CHEMICALS_OF_CONCERN	None
MODIFIED_DATE	20110217
CONTAMINATION_SOURCE	Site SS005 is the reported location of a diesel fuel spill that occurred in 1978. Approximately 300 gallons of fuel was reported to have spilled when a diesel day tank located near the northeast corner of the hangar was overfilled.
SITEID	SS005
INSTLN_ID	OL
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil; Property records/Base Plan documentation

Oliktok-SS005_ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS005
SITE_NAME	Diesel Fuel Spill Area
DATE_SUMM	2/17/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	The primary feature of SS005 is a gravel pad constructed over relatively flat tundra. The adjacent hanger building is located on the gravel pad. Site SS005 is the reported location of a diesel fuel spill that occurred in 1978. Approximately 300 gallons of fuel was reported to have spilled when a diesel day tank located near the northeast corner of the hangar was overfilled. There are no tanks remaining on the gravel pad.
GEO_HYDRO	Active zone water is assumed to be hydrologically connected to nearby surface waterbodies (i.e. the ocean, creek, and large ponds). Changes in the surface water elevations, especially the ocean tides, may cause changes in the direction subsurface water flows.
COC	None reported
INVESTIGATION_ACTIONS	In 1993, DRO was detected above the ADEC Method Two soil cleanup level for the Arctic Zone at 17,300 mg/kg in one of 11 samples collected from the tundra, approximately 175 feet from the reported spill location. Additional investigation was performed during the 2004 RI and no contaminants, including DRO, exceed Method Two soil cleanup levels at SS005. Results from the human health and ecological risk assessments and sampling conducted during the 2004 RI indicated no current risks to human health or the environment, including surface water. The site was therefore recommended for closure.
FINAL_REM_ACTION	The selected remedy for site SS005 under state law is as follows: - Site boundaries will be surveyed to provide a description of the locations where soil has concentrations of GRO above 260 mg/Kg, DRO above 230 mg/Kg or benzene above 0.020 mg/Kg; - The Base Master Plan for Oliktok LRRS will include a statement that ADEC approval is required prior to off-site transportation or disposal of site SS005 soil containing GRO above 260 mg/Kg, DRO above 230 mg/Kg or benzene above 0.020 mg/Kg; - If the site is transferred, the statement that ADEC approval is required prior to off-site transportation or disposal of site SS005 soil containing GRO above 260 mg/Kg, DRO above 230 mg/Kg or benzene above 0.020 mg/Kg will be included in the property transfer documents.
CONT_RISK	Findings in the human health and ecological risk assessments and sampling conducted during the 2004 RI indicated that there are no current risks to human health or the environment, including surface water.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 2/17/2011) United States Air Force (USAF). 1988. Installation Restoration Program Technical Support Document for Record of Decision POW-2 (Oliktok Point) Dew Line Site. Final. (1988 ROD). United States Air Force (USAF). 2008. Decision Documents for CERCLA Site ST003, and Non-CERCLA Sites ST004, SS005, SS007, and ST008 at Oliktok Long Range Radar Station, Alaska. Final. April. (2008 DD)
STATUS	

Oliktok-SS007_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2655
SITIRP_ID	SS007
SITE_STATUS	Open
BOUNDARY_STATUS	NA
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	<1X10-5; HI<1
ALIAS	Site 22; SS07
SITE_NAME	Diesel Fuel Storage Area
SITE_DESCRIPTION	The primary site features at SS007 consist of gravel pad containing six active water tanks, a gravel access road, and adjacent tundra. The site is comprised mostly of tundra with shallow ponds and wetlands.
MEDIA_ID	SS007
BOUNDARY_DETAILS	NA
DATES_OPERATION	Period of operation for SS007 is not available. The Oliktok LRRS was originally constructed between 1954 and 1955, and Clean Sweep activities were completed in Summer 2007.
CATEGORY	ERP
AREA_ACRES	NA
ACTIVITY	Active
LUC_RESTRICTION	The site is listed as "conditional closure" and the landowner of a site granted conditional closure shall obtain approval from ADEC prior to disposing (or transporting) soil from the site. In addition, soil may not be disposed in surface water or other environmentally sensitive areas.
POC	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907.552.7697
CHEMICALS_OF_CONCERN	None identified
MODIFIED_DATE	20110217
CONTAMINATION_SOURCE	Spill during the transfer of fuels in and out of storage tanks; leaks from fuel lines, tanks, and drums; spills or leaks of fuel, lubricants, or solvents during vehicle and equipment maintenance activities; spills or leaks from transformers or other electrical equipment containing polychlorinated biphenyls; and disposal of wastes and other discarded material containing hazardous substances.
SITEID	SS007
INSTLN_ID	OL
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil; Property records/Base Plan documentation

Oliktok-SS007_ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS007
SITE_NAME	Diesel Fuel Storage Area
DATE_SUMM	2/17/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	The primary site features at SS007 consist of gravel pad containing six active water tanks, a gravel access road, and adjacent tundra. The site is comprised mostly of tundra with shallow ponds and wetlands.
GEO_HYDRO	Active zone water is assumed to be hydrologically connected to nearby surface waterbodies (i.e. the ocean, creek, and large ponds). Changes in the surface water elevations, especially the ocean tides, may cause changes in the direction subsurface water flows.
COC	None identified
INVESTIGATION_ACTIONS	SS007 was investigated in 1993 and 2004. Based on the 1993 sampling results, the tundra and associated tundra ponds at site SS007 were impacted by contaminants associated with petroleum-related compounds. The 1993 risk assessment concluded that the affected areas appear to be localized, and migration of contaminants from the site appears to be minimal. However, a risk assessment recommended the site for remedial action because fuel-related compounds and BIE levels exceeded existing ADEC cleanup levels. The recommended remedial alternative for the site was enhanced bioremediation. Sediment and water contamination have decreased since the 1993 sampling event. During the 2004 investigation, DRO and RRO levels were below Method Two cleanup levels for soils and the overall risk posed by petroleum contamination at the site to human health or the environment is considered low.
FINAL_REM_ACTION	The following is the selected remedy for site SS007 under state law: - Site boundaries will be surveyed to provide a description of the locations where soil has concentration is DRO above 230 mg/Kg; - The Base Master Plan for Oliktok LRRS will include a statement that ADEC approval is required prior to off-site transport or disposal of site SS007 soil containing DRO above 230 mg/Kg; - If the site is transferred, the statement that ADEC approval is required prior to off-site transportation or disposal of site SS007 soil containing DRO above 203 mg/Kg will be included in the property transfer documents.
CONT_RISK	During the 2004 investigation, the overall risk posed by petroleum contamination at the site to human health or the environment is considered low. No contaminations of concern have been identified at SS007 and, as a result, no risk assessment calculations have been developed for the site.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 2/17/2011) United States Air Force (USAF). 1988. Installation Restoration Program Technical Support Document for Record of Decision POW-2 (Oliktok Point) Dew Line Site. Final. (1988 ROD). United States Air Force (USAF). 2008. Decision Documents for CERCLA Site ST003, and Non-CERCLA Sites ST004, SS005, SS007, and ST008 at Oliktok Long Range Radar Station, Alaska. Final. April. (2008 DD)
STATUS	

Oliktok-SS010.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	767
SITIRP_ID	SS010
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Carcinogenic risk = 3×10^{-5} (industrial use) HI = 8 There is no current potential ecological risks at SS010.
ALIAS	None.
SITE_NAME	Garage Site
SITE_DESCRIPTION	The Garage Site (SS010) consists of a gravel pad surrounding an active vehicle maintenance and storage building (garage). The garage is currently an active facility used for vehicle maintenance and is not scheduled for demolition. The gravel pad around the building serves as a parking lot for site personnel. This site is located approximately 200 feet east of the module train. The garage is a 90-foot by 40-foot building, elevated on wooden pilings approximately 4 feet above the ground surface.
MEDIA_ID	SS010
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1953 to present
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	The Selected Remedial Alternative is Remedial Alternative 3: Land Use Controls and Future Source Removal and Offsite Disposal. In 2007, a fence and warning signs were installed at the garage. Once the garage is demolished, contaminated soil underneath the garage will be removed and treated or disposed of properly. The specific monitoring and ICs for SS010 include: <ul style="list-style-type: none"> - Annual inspections will be conducted to ensure the signs and fencing remain in place - Five-year reviews will be conducted to ensure the remedy remains protective as long as contaminants levels do not allow for unrestricted land use - Maintaining the integrity of the site by restricting construction or demolition or any other ground disturbance of SS010 without prior concurrence from the Air Force and ADEC. - Maintaining engineering controls to include the chain link fence around the Garage Building. - Inclusion and documentation of all ICs in the 611th CES IRP Records, Base Master Plan and appropriate real estate files - Geographic extent of the IC boundaries - Record a Notice of Environmental Contamination in the state land records at the appropriate Department of Natural Resources recording district - Submittal of a Performance Report/Annual Inspection report on ICs to ADEC annually - Prompt notification to ADEC of LUC deficiency/failure along with corrective measures taken or planned - Prior notification to ADEC for transfer of property subject to LUCs.
POC	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907.552.7697
CHEMICALS_OF_CONCERN	DRO, RRO, PCBs, Lead, Arsenic
MODIFIED_DATE	20140721
CONTAMINATION_SOURCE	Spills and leaks from the floor drains inside the Garage Building.
SITEID	SS010
INSTLN_ID	Oliktok
MAINTENANCE	Monitoring and maintenance of the fence and signs currently in place at SS010. Annual inspections and five-year reviews will be conducted.
RESTRICTIONS	Restricting construction or demolition disturbance on top of SS010 without prior concurrence from ADEC. Restricting access and excavation or disturbance of contaminated soil.

Oliktok-SS010.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS010
SITE_NAME	Garage Building
DATE_SUMM	7/21/2014
CURRENT_STATUS	Cleanup Complete with Institutional Controls
SITE_STATUS	Cleanup Complete with Institutional Controls
POCID	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	The Garage Site (SS010) consists of a gravel pad surrounding an active vehicle maintenance and storage building (garage). The garage is currently an active facility used for vehicle maintenance and not scheduled for demolition. The gravel pad around the building serves as a parking lot for site personnel. This site is located approximately 200 feet east of the module train. The garage is a 90-foot by 40-foot building, elevated on wooden pilings approximately 4 feet above the ground surface.
GEO_HYDRO	At the Oliktok LRRS, the unconsolidated surficial sediments consist of shallow-water marine materials deposited during periods of higher sea levels. Marine deposits are primarily sandy silts containing scattered pebbles and beds or lenses of clay, and fine gravel. Although surficial sediments are unconsolidated, they are perennially bounded by frozen interstitial pore water (i.e., permafrost). The Oliktok LRRS is located on an area of continuous permafrost up to 2,000 feet deep. The permafrost remains frozen year-round. Potable groundwater is not present beneath the continuous permafrost. Perched groundwater above the permafrost, called the active zone because it freezes and thaws seasonally, is present at approximately 3.5 to 5.5 feet bgs. Groundwater is not presently used as a drinking water source due to continuous permafrost.
COC	DRO, RRO, PCBs, Lead, Arsenic
INVESTIGATION_ACTIONS	Between 1981 and 2007, investigations have been conducted at the Oliktok LRRS. During the 1993 RI and the 2004 RI/FS, DRO, GRO, RRO, BTEX, PCBs, low levels of VOCs, arsenic, and lead were detected in soil and sediment samples. The highest concentrations of contaminants were detected beneath the Garage Building. In June 2007, PCB contaminated soils were excavated from the tundra located south of the gravel pad to concentrations less than cleanup levels. The garage is still in use as a storage and vehicle repair area and would have to be demolished to access remaining contamination. In June 2007, the Air Force installed warning notification signs and constructed a fence around the bottom of the Garage Building to prevent exposure.
FINAL_REM_ACTION	The Selected Remedial Alternative is Remedial Alternative 3: Land Use Controls and Future Source Removal and Offsite Disposal. In 2007, a fence and warning signs were installed at the garage. Once the garage is demolished, contaminated soil underneath the garage will be removed and treated or disposed of properly.
CONT_RISK	Carcinogenic risk = 3×10^{-5} (industrial use) HI = 8 There are no current potential ecological risks at SS010.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 7/21/2014) United States Air Force (USAF). 2012. Record of Decision for LF001, LF002, SS010, LF001a, ST006, SS009a, and SS009b. Oliktok Long Range Radar Site, Alaska. Final. November. (2012 ROD)
STATUS	

Oliktok-ST008_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	
SITIRP_ID	ST008
SITE_STATUS	Open
BOUNDARY_STATUS	NA
OU	NA
ECP	NA
REGULATORY	Non-CERCLA
RISK	low risk
ALIAS	Site 23
SITE_NAME	Gasoline and Materials Storage Area
SITE_DESCRIPTION	The primary site features of ST008 are two gravel pads (north and south). Two ASTs containing diesel fuel formerly occupied the northwest corner of the southern pad where an active gasoline AST is currently located. The northern pad contained a number of temporary structures in the 1970s that were removed prior to the 1990s. The edges of the gravel pads have not been well maintained in recent years and appeared to be sloughing into the tundra in August 2004.
MEDIA_ID	ST008
BOUNDARY_DETAILS	NA
DATES_OPERATION	1956 to the present
CATEGORY	ERP
AREA_ACRES	NA
ACTIVITY	Active
LUC_RESTRICTION	The site is listed as "conditional closure" and the landowner of a site granted conditional closure shall obtain approval from ADEC prior to disposing (or transporting) soil from the site. In addition, soil may not be disposed in surface water or other environmentally sensitive areas.
POC	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7697
CHEMICALS_OF_CONCERN	None
MODIFIED_DATE	20110220
CONTAMINATION_SOURCE	Investigation in 1993 and 2004 concluded that ST008 was impacted from past releases of petroleum contamination, predominantly diesel fuel. Potential sources of petroleum contamination may include: spill during the transfer of fuels in and out of storage tanks; leaks from fuel lines, tanks, and drums; spills or leaks of fuel during vehicle and equipment maintenance activities; and disposal of wastes and other discarded material containing hazardous substances.
SITEID	ST008
INSTLN_ID	OL
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil; Property records/Base Plan documentation

Oliktok-ST008_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST008
SITE_NAME	Gasoline and Materials Storage Area
DATE_SUMM	2/20/2011
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	The primary site features of ST008 are two gravel pads (north and south). Two ASTs containing diesel fuel formerly occupied the northwest corner of the southern pad where an active gasoline AST is currently located. The northern pad contained a number of temporary structures in the 1970s that were removed prior to the 1990s. The edges of the gravel pads have not been well maintained in recent years and appeared to be sloughing into the tundra in August 2004.
GEO_HYDRO	Active zone water is assumed to be hydrologically connected to nearby surface waterbodies (i.e. the ocean, creek, and large ponds). Changes in the surface water elevations, especially the ocean tides, may cause changes in the direction subsurface water flows.
COC	The primary COC is DRO in the soil (gravel pad).
INVESTIGATION_ACTIONS	ST008 was investigated in 1993 and 2004. These investigations concluded that ST008 was impacted from past releases of petroleum contamination, predominantly diesel fuel. The highest concentration of DRO is located in the subsurface gravels. In 2004, no contaminants exceeded the ADEC Method Two soil cleanup levels for the Arctic Zone.
FINAL_REM_ACTION	The following is the selected remedy for site ST008 under state law: -Site boundaries will be surveyed to provide a description of the locations where soil has concentration is DRO above 230 mg/Kg, RRO above 8,300 mg/Kg or benzene above 0.020 mg/Kg; -The Base Master Plan for Oliktok LRRS will include a statement that ADEC approval is required prior to off-site transport or disposal of site ST008 soil containing GRO 260 mg/Kg, DRO above 230 mg/Kg, RRO above 8,300 mg/Kg or benzene above 0.020 mg/Kg; and -If the site is transferred, the statement that ADEC approval is required prior to off-site transportation or disposal of site ST008 soil containing GRO above 260 mg/Kg, DRO above 230 mg/Kg, RRO above 8,300 mg/Kg or benzene above 0.020 mg/Kg will be included in the property transfer documents.
CONT_RISK	The 2004 risk assessment indicates that cumulative risk calculations resulted in a cumulative human cancer risk of zero (xylenes are not known to be cancerous) and a HI of 0.41. The risk calculations did not exceed ADEC risk management standards (18 AAC 75.325/hi), and indicate that the contaminants in the soils do not pose a risk to human health even in a residential scenario. Under current site conditions, all or the majority of contaminants adheres to fine grained material in the pad (primarily organic carbon) and are trapped as immobile residual hydrocarbon. In addition, there is little likelihood that the fuels will leach from the pad as the gradient at the site is flat and there is little precipitation in the region to leach fuels into the active zone. Sediment samples were analyzed for BTEX and PAHs. Surface water samples were analyzed for PAHs. Although petroleum-contaminated soils may erode into the adjacent wetlands, the impact will be localized with negligible effects to human or ecological receptors. In addition, contaminant levels in the soil and in the I downgradient wetland areas will decrease through natural attenuation. Therefore, the overall posed by this site to human health or the environment is considered low.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 2/20/2011) United States Air Force (USAF). 1988. Installation Restoration Program Technical Support Document for Record of Decision POW-2 (Oliktok Point) Dew Line Site. Final. (1988 ROD). United States Air Force (USAF). 2008. Decision Documents for CERCLA Site ST003, and Non-CERCLA Sites ST004, SS005, SS007, and ST008 at Oliktok Long Range Radar Station, Alaska. Final. April. (2008 DD)
STATUS	

Pillar_Mountain-OT001_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2843
SITIRP_ID	OT001
SITE_STATUS	Cleanup Complete-ICs
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	cancer < 1X10-5, non-cancer HI < 1
ALIAS	OT01
SITE_NAME	PILLAR MOUNTAIN RADIO RELAY STATION
SITE_DESCRIPTION	The Pillar Mountain RRS was used by the USAF as a WACS facility from 1957 to 1978. The WACS was part of the defense communications network and aircraft warning system across Alaska.
MEDIA_ID	OT001
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	USAF 1957-1978
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Ownership transferred to BLM and City of Kodiak
LUC_RESTRICTION	The USAF will prepare and file a notice as approved by the ADEC with the land record office describing the locations and concentrations of contaminants remaining below ground surface at bedrock and the location of the on-site landfill containing demolition debris resulting from the Clean Sweep program. In addition, the USAF will notify the ADEC of pending transfer of the real property from Air Force control. ICs established in Base General Plan, dated 15 Sept 2005, to restrict digging in capped areas at POI #5, #10, #11, and #13 where residual PCBs in soil remain.
POC	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907.552.7697
CHEMICALS_OF_CONCERN	DRO, PCBs
MODIFIED_DATE	20101230
CONTAMINATION_SOURCE	Various-spills leaks sitewide
SITEID	OT001
INSTLN_ID	PM
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized digging/excavation; Property records/Base Plan documentation

Pillar_Mountain-OT001_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	OT001
SITE_NAME	PILLAR MOUNTAIN RADIO RELAY STATION
DATE_SUMM	12/30/2010
CURRENT_STATUS	Cleanup Complete-Institutional Controls
SITE_STATUS	Property transferred - Active antenna site present
POCID	Lori Roy (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	The Pillar Mountain RRS was used by the USAF as a WACS facility from 1957 to 1978. The WACS was part of the defense communications network and aircraft warning system across Alaska. The Pillar Mountain RRS consisted of an electronic equipment building, which contained office and storage space and equipment for standby power generation; two billboard (tropospheric) antennas and feed horns (White Alice arrays); two additional antenna foundations (antennas were never built), POL storage and distribution facilities; and a vehicle maintenance building. Other facilities on-site included a water storage tank and fire pump house, a sewer system with a leach field, and a cistern used as a drinking water source.
GEO_HYDRO	Geologic factors exert the major control on the occurrence and availability of groundwater in the Kodiak region. The intrusive, volcanic, and metamorphosed sedimentary rocks that underlie most of the region are dense and nearly impermeable. The occurrence of groundwater in such rocks is irregular and unpredictable, and water is generally obtained from secondary openings such as fractures and bedding planes. Groundwater beneath the Pillar Mountain RRS emerges as seeps along the hillside below the facility. No active drinking water wells are known to be located near the site.
COC	DRO, PCBs
INVESTIGATION_ACTIONS	The USAF removed PCBs and hazardous waste in 1983. In 1985, HMTC conducted a site visit to assess the quantity of hazardous waste for the design of a budding demolition and asbestos abatement project. (This information is presented in the 1993 preliminary assessment. Actual documentation regarding the type and disposition of these hazardous wastes could not be found.) In 1993, CH2M HILL performed a PA to determine potential sources of contamination. The results of the PA indicated that contamination could be assumed to occur through routine spills, leaks, discharges to the sewer system, road oiling, and discharges from the drains in the vehicle maintenance shop. In 1995, Woodward-Clyde conducted a SI to determine potential contaminants of concern, areas of contamination, extent and magnitude of contamination, and to determine if contaminant migration occurred. The results of this SI indicated the presence of DRO at concentrations up to 7,300 mg/kg in surface soils. PCBs were also detected in soils at concentrations up to 9.3 mg/kg. In 1997, the 611th CES conducted building demolition and environmental remediation activities at the Pillar Mountain RRS under the Clean Sweep Program. This program allows for investigation, demolition, and cleanup of a site in one field season. Demolition of all structures on-site occurred to include the billboard antennas, associated feed horns, buildings, and foundations, except one antenna foundation, which remained at the request of the City of Kodiak. prior to the demolition of the buildings, asbestos and lead-based paint abatement was conducted. Closure and removal of fuel storage tanks also occurred. Debris generated from demolition activities were disposed in an on site landfill. Abated asbestos and lead-based paint was disposed in the Kodiak Island Landfill. Soils at the site were sampled and analyzed for contaminants of concern, namely petroleum hydrocarbons and PCBs. Where contaminant concentrations exceeded approved cleanup levels, the soils were excavated and removed off-site for disposal. However, contamination exceeding cleanup levels does remain at four locations on site with two locations at the bedrock depth.

Pillar_Mountain-OT001_ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	At IRP Site OT01, there is presently no unacceptable risk or threat to public health or the environment. Therefore, the selected remedy for the Pillar mountain RRS, IRP Site)T01 is no further action under CERCLA, as amended. However, site conditions could change. Therefore, institutional controls will be implemented to inform future land users of the locations and concentrations of remaining contamination. The institutional controls are as follows. The United States Air Force (USAF) will prepare and file a notice as approved by the Alaska Department of Environmental Conservation (ADEC) with the land record office describing the locations and concentrations of contaminants remaining below ground surface at bedrock and the location of the on-site landfill containing demolition debris resulting from the Clean Sweep program. In addition, the USAF will notify the ADEC of pending transfer of the real property from Air Force control.
CONT_RISK	Based on the 1997 Environmental Remediation that occurred at IRP Site OT01, there is no unacceptable risk or threat to public health or the environment. However, contamination exceeding regulatory levels remains at locations below the ground surface in bedrock. Although the contamination at these locations exceeds regulatory levels, no further excavation could take place due to the 'bedrock encountered. To be protective, all excavations were filled with clean material. An additional eighteen inches minimum of clean material was placed on top at some locations.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 12/30/2010) United States Air Force (USAF). 2000. Technical Document to Support Installation Restoration Decision, Installation Restoration Program Site OT01 at Pillar Mountain Radio Relay Station (RRS), Kodiak, Alaska. (2000 ROD)
STATUS	

Point Barrow-SS002.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	25764
SITIRP_ID	SS002
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Vehicle Fueling Station Area: 7 x 10 ⁻⁶ ; HI = 0.6 Radome Area: 8x10 ⁻⁶ ; HI=0 Transformer Stand Area: 1x10 ⁻⁶ ; HI=0 Vehicle Maintenance Facility Area: calculated excess cancer risk for this site was not calculated but is likely to exceed 1x10 ⁻⁵ .
ALIAS	NA
SITE_NAME	Vehicle Fueling Station Area
SITE_DESCRIPTION	SS002 is consisted of four source areas: Vehicle Fueling Station Area, Radome Area, Transformer Stand Area, and Vehicle Maintenance Facility Area.
MEDIA_ID	SS002
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Installation - 1957-1979
CATEGORY	ERP
AREA_ACRES	NA
ACTIVITY	Active
LUC_RESTRICTION	Vehicle Fueling Station Area, Radome Area, Transformer Stand Area: Minimal LUCs required Vehicle Maintenance Facility Area: Institutional controls including warning signs indicating PCBs are present at the facility are already in place, and will continue to be maintained to notify users of the facility. The location of contaminated soils remaining beneath the facility will be surveyed and filed with the Air Force Real Property Department and the GIS maintained by the 611th CES to document the locations and restrictions associated with contaminated soil beneath the facility. Restrictions on soil beneath the Vehicle Maintenance Facility will include the need for notification and approval from ADEC prior to excavation activities or any soil use. These ICs will be entered into the Base Master Plan for the facility, the Management Action Plan for the facility to ensure that this site is managed in accordance with applicable regulations and requirements and PCB soils beneath the Vehicle Maintenance Facility are remediated at such time as the Vehicle Maintenance Facility is demolished. Periodic inspections of the site will be required to verify that signage is maintained, and identify any evidence of use of these soils. Five Year Reviews will be required to ensure the remedy remains protective of human health and the environment.
POC	Lori Roy (AFCEC/CZOP) 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907.552.7697
CHEMICALS_OF_CONCERN	Vehicle Fueling Station Area: Petroleum hydrocarbons in the soil (i.e., gasoline constituents, specifically xylenes) Radome Area, Transformer Stand Area, and Vehicle Maintenance Facility Area: PCBs in soil
MODIFIED_DATE	20120105
CONTAMINATION_SOURCE	Spills and potential leaks from the source areas
SITEID	SS002
INSTLN_ID	PB
MAINTENANCE	Sign maintenance and repairs; 5-year reviews
RESTRICTIONS	No unauthorized digging/excavation; Property records/Base Plan documentation

Point Barrow-SS002.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS002
SITE_NAME	Vehicle Fueling Stations Area
DATE_SUMM	1/5/2012
CURRENT_STATUS	Open
SITE STATUS	Active
POCID	Lori Roy; 611th CES/CEV 10471 20th Street, Elmendorf AFB, AK 99506-2270
DESC_USE	<p>SS002 is consisted of four source areas:</p> <p>1) The Vehicle Fueling Station Area is a former gasoline fueling station located northeast of the garage and on the eastern edge of the gravel access road. The area previously contained two 6,000-gallon ASTs labeled as containing motor gasoline. The tanks were used from 1957 to 1980s and have since been removed. The gravel berm surrounding the tanks is approximately 3 feet high on the north, south, and east sides and grades into the adjacent gravel pad to the west. The containment area is lined at approximately 0.25-0.5 feet bgs.</p> <p>2) The Radome Area encompasses the gravel pad in the vicinity of the stair leading from the west end of the radome. Based on previous assessments at other DEW Line Stations, it was suspected that used transformer oil containing PCBs was spilled outside the module train near the doorways closest to the radome during past site operations.</p> <p>3) The Transformer Stand Area is located adjacent to the south side of Module Train B, west of the catwalk connecting the two module trains. Two transformers are situated on a raised wooden platform. The upper transformer is currently active and powers portions of the Main Camp Area. The lower transformer is inactive and formerly powered the Hangar and Air Terminal Area. There is a thin gravel pad present beneath the transformer stand.</p> <p>4) The Vehicle Maintenance Facility Area is located west of Module Train A at the main camp area. Constructed in 1953, the building remains active as a vehicle maintenance and storage facility.</p>
GEO_HYDRO	The Point Barrow LRRS area is underlain by continuous permafrost. Thaw bulbs may exist near large bodies of water. Groundwater has been found beneath continuous permafrost, but little is known of these aquifer systems. Shallow groundwater sources are present in river channels and in thaw bulbs beneath deep lakes. Perched groundwater is found during the summer months when the relatively thin, active zone layer melts. This water is not potable due to its high mineral content.
COC	<p>Vehicle Fueling Station Area: Petroleum hydrocarbons in the soil (i.e., gasoline constituents, specifically xylenes)</p> <p>Radome Area, Transformer Stand Area, and Vehicle Maintenance Facility Area: PCBs in soil</p>
INVESTIGATION_ACTIONS	<p>A number of environmental investigations have been performed at the Point Barrow LRRS and are summarized below.</p> <ul style="list-style-type: none"> -CH2M Hill conducted Phase I Installation Assessment/Records Search activities at Point Barrow LRRS and six other DEW Line Stations in 1980 and 1981. -In January 1987, Hart Crowser, Inc. released the System (Alaska). -CH2M Hill conducted a Preliminary Assessment of the Point Barrow DEW Line Station in the summer of 1993. -Starting in 1993, ICF conducted RI/FS activities at the Point Barrow LRRS. PCBs and petroleum contamination in the soil were first detected under and west of the Garage during the 1993 RI. -In 1996, ICF completed a HHRA and ERA -In 1997, Hart Crower, Inc. developed a MAP for Point Barrow LRRS. -In 2000, Montgomery Watson produced a Clean Sweep Environmental Survey Report for the Point Barrow LRRS. -Additional characterization samples were collected at site SS002 (the Garage) in 2005 to further delineate the extent of previously detected petroleum (predominantly DRO and PCB contamination -A removal action was conducted in 2006 underneath and near the western end of the garage. In addition, a sediment berm was installed near the edge of the building to prevent the future migration of contaminants from under the building to adjacent tundra. -The 2007 IRA report concluded that the levels of PCBs at the Garage were higher and more widespread than previously indicated by the 2005 investigation.

Point Barrow-SS002.ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Vehicle Fueling Station Area, Radome Area, and Transformer Stand Area: Excavation and removal of soil with COCs above ADEC Method Two cleanup levels and transportation of contaminated soils to an offsite disposal facility.</p> <p>Vehicle Maintenance Facility Area: Excavation and removal of soil with COCs above ADEC Method Two cleanup levels, transportation of contaminated soils to an off-site disposal facility, and institutional controls.</p>
CONT_RISK	<p>Vehicle Fueling Station Area: 7×10^{-6}; HI = 0.6</p> <p>Radome Area: 8×10^{-6}; HI=0</p> <p>Transformer Stand Area: 1×10^{-6}; HI=0</p> <p>Vehicle Maintenance Facility Area: cumulative risk was not calculated for this source area. PCB concentrations in soil at this area exceed the 18 AAC 75 Method Two cleanup level of 1 mg/kg. An ADEC-approved risk assessment performed for the USAF North Slope radar stations determined a PCB concentration of 17.9 mg/kg would correspond to an excess cancer risk of 1×10^{-5} for a typical site worker or resident. The maximum PCB concentration detected at this source area (370 mg/kg) is significantly more than this risk based concentration. It is therefore likely that the calculated excess cancer risk for this source area would exceed 1×10^{-5}.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 1/5/2012)</p> <p>United States Air Force (USAF). 2011. Record of Decision for Air Terminal Area Vehicle Fueling Station Area, Radome Area, Transformer Stand Area, and Vehicle Maintenance Facility Area, Point Barrow Long Range Radar Site, Alaska. Final. July. (2011 ROD)</p>
STATUS	

Point_Barrow-SS003.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	25762
SITIRP_ID	SS003
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	<1x10-5; HI=0.1
ALIAS	NA
SITE_NAME	Air Terminal Area
SITE_DESCRIPTION	SS003 is located north of the main installation on the western shore of the North Salt Lagoon.
MEDIA_ID	SS003
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown
CATEGORY	ERP
AREA_ACRES	NA
ACTIVITY	Active
LUC_RESTRICTION	Institutional Controls - Warning signs will be erected at the location where dissolved TAH contaminated surface water exceeds AWQS 18 AAC 70 cleanup levels. The location of contaminated water will be surveyed and filed with the Air Force Real Property Department and entered into the GIS maintained by the 611th CES to document the locations and restrictions associated with contaminated water. Restrictions on water will include limiting the use of this water body for drinking water purposes or any type of dewatering and will include the need for notification and approval from ADEC prior to any activities or use of this water body. These ICs will be entered into the Base Master Plan for the facility, the Management Action Plan for the facility to ensure that this site is managed in accordance with applicable regulations and requirements. Periodic inspections of the site will be required to verify that signage is maintained, and identify any evidence of use of this water body.
POC	Lori Roy (AFCEC/CZOP) 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907.552.7697
CHEMICALS_OF_CONCERN	Total BTEX (also referred to as TAH) in surface water
MODIFIED_DATE	20120105
CONTAMINATION_SOURCE	fuel spills on the adjacent up-gradient United States Navy parcel
SITEID	SS003
INSTLN_ID	PB
MAINTENANCE	Sign maintenance and repairs; Surface water monitoring; Groundwater monitoring;
RESTRICTIONS	Surface water use restrictions; Drinking water well restrictions; Property records/Base Plan documentation

Point Barrow-SS003.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS003
SITE_NAME	Air Terminal Area
DATE_SUMM	1/5/2012
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Lori Roy (AFCEC/CZOP) 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	The Air Terminal Area is located north of the main installation on the western shore of the North Salt Lagoon. The area consists of gravel pads and access roads, and several wet tundra areas. The source of contamination is believed to be few of the large, historic fuel spills (between 1976 and 1986) located up-gradient (to the west of SS003) on the adjacent United State Navy parcel. The three spills that occurred within 100 yards of the western boundary of SS003 included MOGAS and JP-5 (jet fuel).
GEO_HYDRO	The Point Barrow LRRS area is underlain by continuous permafrost. Thaw bulbs may exist near large bodies of water. Groundwater has been found beneath continuous permafrost, but little is known of these aquifer systems. Shallow groundwater sources are present in river channels and in thaw bulbs beneath deep lakes. Perched groundwater is found during the summer months when the relatively thin, active zone layer melts. This water is not potable due to its high mineral content. Active layer water in this area flows west to east from the property boundary with the USN toward the North Salt Lagoon.
COC	Total BTEX (also referred to as TAH) in surface water
INVESTIGATION_ACTIONS	A number of environmental investigations have been performed at the Point Barrow LRRS and are summarized below. -CH2M Hill conducted Phase I Installation Assessment/Records Search activities at Point Barrow LRRS and six other DEW Line Stations in 1980 and 1981. -In January 1987, Hart Crowser, Inc. released the System (Alaska). -CH2M Hill conducted a Preliminary Assessment of the Point Barrow DEW Line Station in the summer of 1993. -Starting in 1993, ICF conducted RI/FS activities at the Point Barrow LRRS. -In 1996, ICF completed a HHRA and ERA -In 1997, Hart Crower, Inc. developed a MAP for Point Barrow LRRS. -In 2000, Montgomery Watson produced a Clean Sweep Environmental Survey Report for the Point Barrow LRRS. -2007 RI
FINAL_REM_ACTION	The selected remedy for SS003 is Institutional Controls, Engineering Controls, Natural Attenuation, and LTM (Monitoring will take place annually for the first five years, then once every five years or as agreed upon by DEC and the Air Force, in order to track natural degradation and migration of contamination. A biological survey will be conducted to assess potential use of contaminated surface water by waterfowl or wildlife.)
CONT_RISK	cancer risk-none; HI=0.1
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 1/5/2012) United States Air Force (USAF). 2011. Record of Decision for Air Terminal Area Vehicle Fueling Station Area, Radome Area, Transformer Stand Area, and Vehicle Maintenance Facility Area, Point Barrow Long Range Radar Site, Alaska. Final. July. (2011 ROD)
STATUS	

Point_Lay-SS008.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	4532
SITIRP_ID	SS008
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	cancer < 1X10 ⁻⁵ ; non-cancer HI = 2
ALIAS	SS08
SITE_NAME	Crushed Drum Area
SITE_DESCRIPTION	2 areas - drum crushing site and building module/radome demolition site
MEDIA_ID	SS008
BOUNDARY_DETAILS	remaining fuel-contaminated soil boundaries;(NAD 83 ASP Zone 7, feet): * NE corner E= 1511627.056 N =5753764.364 * SE corner E = 1511644.576 N=5753733.691 * SW corner E =1511565.577 N 5753691.199 * NW=corner E=1511548.445 N=5753726.715
DATES_OPERATION	1955-1998
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	For remaining area of contaminated soil, ADEC approval required for offsite transfer/disposal
POC	Lori Roy (AFCEC/CZOP) 10471 20th St., Ste 301., JBER, AK 99506-2201
PHONE	907.552.7697
CHEMICALS_OF_CONCERN	DRO, PCBs, metals
MODIFIED_DATE	20101230
CONTAMINATION_SOURCE	spills/leaks from drum crushing, demolition debris
SITEID	SS008
INSTLN_ID	Pla
MAINTENANCE	None specified
RESTRICTIONS	No unauthorized transport or disposal of soil; Property records/Base Plan documentation

Point_Lay-SS008.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS008
SITE_NAME	Crushed Drum Area
DATE_SUMM	12/30/2010
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Lori Roy (AFCEC/CZOP) 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	The Crushed Drum Area (SS08) site includes two individual areas located on the east side of the Point Lay LRRS installation: an area where drums were historically crushed end-to-end using a hydraulic device and then buried on-site; and an area where building modules and a radome were demolished and containerized for shipping. The drum crushing area consisted of a gravel pad located approximately 150 feet northeast of the building modules, next to a drainage pathway that runs from below the east end of the modules towards the drum crushing area.
GEO_HYDRO	Groundwater has been found beneath continuous permafrost, but little is known about these aquifers. Shallow groundwater sources are present in river gravel and in thaw bulbs beneath deep lakes. Perched groundwater is found during the summer months when the relatively thin active layer melts (Hart Crowser 1997). The continuous permafrost layer greatly influences the hydrology of the area. Permafrost acts as an impermeable barrier to the vertical movement of groundwater because pore spaces are ice-filled in the zone of saturation. The downward percolation of water is restricted because of the permafrost; therefore, there is increased surface water runoff, resulting in the formation of lakes and wet sedge meadows.
COC	DRO, GRO, PCBs, metals
INVESTIGATION_ACTIONS	At the Crushed Drum Area, 11 soil and three sediment samples were collected in 1993. DRPH, GRPH and benzene were identified as COPCs for the soil matrix and corrective action was recommended. In 2005, corrective action activities were performed at the Crushed Drum Area. Seven soil samples were then collected to determine if contaminants remained. Subsequent to corrective action and analytical sampling, no COC was identified for the soil/sediment matrix at the Crushed Drum Area. Two surface water samples were collected at the Crushed Drum Area in 1993. Benzene, barium, and manganese were identified as COPCs for the surface water at the site, but the 1996 Risk Assessment concluded that these COPCs pose little, if any, threat to human health. The metals, in particular, were attributed to natural origins and not due to the operation or activities at the radar installation.
FINAL_REM_ACTION	Residual levels of petroleum contaminants remain at SS08 above the most stringent Method Two soil cleanup levels (18 AAC 75.34 1, Table B2, Over 40-inch Zone, Migration to Groundwater); therefore, the site is appropriate for conditional closure. In accordance with 18 AAC 75.325(i), the landowner of a site granted conditional closure shall obtain approval from ADEC prior to disposing (or transporting) soil from the site. In addition, soil may not be disposed in surface water or other environmentally sensitive areas. The following is the selected remedy for site SS08 under state law:

Point_Lay-SS008.ENV_SITE_SUMMARY_IRP

	<ul style="list-style-type: none"> • Site boundaries will be geo-referenced to provide a description of the location where soil has a concentration of diesel range organics above 230 mg/kg at site SS08. The general area of DRO contamination above 230 mg/kg is approximately a 3,300 square feet. area encompassing sampling locations SPL52, 53, 54, and 55/56 on Figure 2-3; coordinates for the four corners of the area are (NAD 83 ASP Zone 7, feet): <ul style="list-style-type: none"> * NE corner E= 1511627.056 N =5753764.364 * SE corner E = 1511644.576 N=5753733.691 * SW corner E =1511565.577 N 5753691.199 *NW corner E=1511548.445 N=5753726.715 * Air Force Real Property records for Point Lay LRRS will include a statement that ADEC approval is required prior to off-site transportation or disposal of site SS08 soil containing diesel range organics above 230 mg/kg; • If the site is transferred, the statement that ADEC approval is required prior to off-site transportation or disposal of site SS08 soil containing diesel range organics above 230 mg/kg will be included in the property transfer documents; <p>The site status will be listed as "conditional closure" in the ADEC contaminated sites database. The site will be granted closure without conditions when diesel range organics concentrations in the soil degrade below 230 mg/kg.</p>
CONT_RISK	No risk to human health or environment. DRO remains above migration to groundwater cleanup level for one area
RATIONALE	NA
RECOMMENDATIONS	NA
REFERENCES_	Contaminated Sites Database (updated 12/30/2010) United States Air Force (USAF). 2007. Record of Decision Document for Sites SS07 (Drainage Pathway), SS08 (Crushed Drum Area), and SS10 (Barge Beach Area), Point Lay Long Range Radar Site, Alaska. Final. October. (2007 ROD)
STATUS	

Point_Lonely-SS004.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2928
SITIRP_ID	SS004
SITE_STATUS	Open
BOUNDARY_STATUS	NA
OU	NA
ECP	Unknown
REGULATORY	CERCLA
RISK	HI = 14 and 1 for native adult and DEW Line worker, respectively, lifetime cancer (ingestion of surface water) 2X10 ⁻³ for native adult and 2X10 ⁻⁶ for DEW Line worker
ALIAS	SS04
SITE_NAME	POL Storage Area
SITE_DESCRIPTION	The POL Storage Area (SS004) is located southwest of the main installation pad and includes a gravel pad that was reportedly used to store POL products. It is located north of SS005 and is adjacent to the road leading to the Beaufort Sea. The coordinates of 70°54'38.03"N latitude, 153°15'30.72"W longitude represent the location of sample SS4SDO3, which is near the geographic center of the site.
MEDIA_ID	SS004
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	1955-1989
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	Restrictions against the use of surface water at SS004 (Pond A) as a drinking water source. Notations regarding the restriction of water usage will be recorded in the appropriate Point Lonely land records, including the base master plan.
POC	Lori Roy (AFCEC/CZOP) 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907.552.7697
CHEMICALS_OF_CONCERN	TAH, TAqH, VOCs
MODIFIED_DATE	20101129
CONTAMINATION_SOURCE	Spills/leaks, improper disposal
SITEID	SS004
INSTLN_ID	PL
MAINTENANCE	Surface water monitoring; 5-year reviews
RESTRICTIONS	Surface water use restrictions; Property records/Base Plan documentation

Point_Lonely-SS004.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS004
SITE_NAME	POL Storage Area
DATE_SUMM	11/19/2010
CURRENT_STATUS	Active
SITE_STATUS	Open
POCID	Lori Roy (AFCEC/CZOP) 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	The POL Storage Area site (SS004) is located southwest of the main installation pad at 70°54'38.03"N latitude, 153°15'30.72"W longitude, the approximate location of sample SS4SD03. The site consists of a gravel pad reportedly used to store POL products; the pad is bordered to the west by tundra with small surface water bodies. In 1993, a 3,000-gallon jet fuel (JP-4) tank was located on the pad. In addition, several 55-gallon drums, which appeared to contain products, were located on the adjacent tundra. The JP-4 tank was not present in 2005, but a large wooden pallet was located where the tank was identified in 1993. A small drainage (gully) leads from the wooden pallet west to the tundra. Tundra wetlands, typical of the region, border the west side of the site. A diesel fuel pipe from the Beach Diesel Tanks (SS003) formerly ran along the edge of the gravel pad and tundra on the northwestern edge of the site.
GEO_HYDRO	The gravel pad at SS004 is generally flat with an elevation of 21 feet AMSL. There is a slight slope towards the edge of the pad (west). A small drainage (small depression) leads from the reported former storage area (wooden pallet) west to the tundra. A small area of surface water (Pond A) is present at the base of the drainage. During the 2005 RI, soil borings in the pad encountered sand and gravel. Pore water was encountered at a depth of between 1.25 and 2.7 feet bgs in the soil borings. Permafrost was not encountered but was likely present directly below the active zone. Soils in the adjacent tundra consisted of silt with peat. Permafrost was present at a depth of 1 foot bgs in the tundra. The 2007 investigation found the active zone layer in the pad to be less than 0.5 feet thick.
COC	TAH, TAqH, VOCs
INVESTIGATION_ACTIONS	Investigations were conducted at SS004 in 1993, 2005, 2006 and 2007.
FINAL_REM_ACTION	Remedial alternatives for SS004 were developed and evaluated through the Revised FS Report (HCG 2007b). The USAF has selected Natural Attenuation and Limited Institutional Controls as the preferred alternative for S5004. In this DD, the major components of the selected remedy are presented below: <ul style="list-style-type: none"> * Natural attenuation of VOCs at SS004 until contaminant concentrations in surface water are below AWQS; and * Restrictions against the use of surface water at SS004 (Pond A) as a drinking water source. Notations regarding the restriction of water usage will be recorded in the appropriate Point Lonely land records, including the base master plan.
CONT_RISK	Cumulative risk calculations from the 1993 RI resulted in a noncancer hazard index of 14 associated with the ingestion of surface water for a hypothetical native adult, and 1.0 for a DEW Line worker. The excess lifetime cancer risk associated with the ingestion of surface water was 2 x 10 ⁻³ , for the hypothetical native adult and 2 x 10 ⁻⁶ for the DEW Line worker. These calculated values are likely conservative for current conditions at SS004, since subsequent sampling conducted at the site has indicated that the concentrations of COCs are decreasing over time.
RATIONALE	NA
RECOMMENDATIONS	NA
REFERENCES_	Contaminated Sites Database (accessed 11/19/2010) United States Air Force (USAF), 2008. Decision Documents for CERCLA Sites SS004, SS009, SS012, and SS013, And for Non-CERCLA Sites SS001, SS002, SS003, SS005, and SS010 at Point Lonely Short Range Radar Station. Final. August (2008 DD)
STATUS	

Port_Heiden-LF007.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	181
SITIRP_ID	LF007
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA / Non-CERCLA
RISK	>1x10 ⁻⁴ Cancer soil & groundwater; HI>1
ALIAS	Port Heiden AOC07 Landfill A (FUDS); LF07
SITE_NAME	Radio Relay Station Landfill
SITE_DESCRIPTION	The Radio Relay Station Landfill is located approximately 1,000 feet to the north of the Port Heiden RRS. No previous investigations were conducted on the Radio Relay Station Landfill prior to the 2004 remedial investigation work.
MEDIA_ID	LF007
BOUNDARY_DETAILS	The specific geographical boundaries of the RACM waste management areas were as follows: Located within the boundaries of NAD83 GPS coordinates: N56° 58' 35.2", W158° 39' 3.7" and N56° 58' 37", W158° 39' 8.5" and N56° 58' 38.2", W158° 39' 7" and N56° 58' 36.6", W158° 39' 1.3"
DATES_OPERATION	1961 - 1978 (installation)
CATEGORY	ERP
AREA_ACRES	2.40000000
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	At the RRS landfill, IC will be established to provide notice that the remaining buried wastes may contain contaminants of concern, that the cover should be maintained, and excavation into or development over the Port Heiden RRS Landfill should be restricted to maintain the integrity of cap and to prevent migration of contaminants.
POC	Keith Barnack (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907.552.5160
CHEMICALS_OF_CONCERN	PAHs, PCBs, Pesticides - soil; VOCs - groundwater
MODIFIED_DATE	20110916
CONTAMINATION_SOURCE	Landfilled Debris
SITEID	LF007
INSTLN_ID	PH
MAINTENANCE	Landfill cap inspections and repair
RESTRICTIONS	No unauthorized digging/excavation; No landfill cap/liner disturbance; Groundwater use restrictions

Port_Heiden-LF007.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF007 or AOC-07
SITE_NAME	Radio Relay Station Landfill
DATE_SUMM	9/16/2011
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Keith Barnack (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	The Radio Relay Station Landfill is located approximately 1,000 feet to the north of the Port Heiden RRS. The thickness of the cover soil averages approximately 3.5 feet. The aerial extent of buried debris in the landfill is approximately 300 feet by 400 feet.
GEO_HYDRO	<p>The major geologic deposits in the area where Port Heiden is located include volcanic, glacial, lake and swamp, and marine terrace deposits. The Port Heiden RRS was constructed on a glacial moraine at an elevation of approximately 95 feet above MSL. Near the Port Heiden RRS, soils appear to be composed of glacial till. Well drilling data from the community of Port Heiden indicate that surface soil is comprised of sand and pumice deposits that extend to approximately 15 to 25 feet bgs. This is apparently underlain by a layer of silty clay to silty gravel, which extends to a depth of approximately 50 to 90 feet. Beneath these strata is a layer of saturated coarse sand and gravel.</p> <p>Wetlands are abundant in the southern third of the site. Water from the wetlands may flow into Bristol Bay through multiple pathways, including local creeks and groundwater. No major rivers or creeks flow through any of the areas included in this investigation; however, approximately 3/4 of a mile north of the site is a tributary of Reindeer Creek (locally referred to as the North River), a subsistence use area for Port Heiden residents. Little data was available concerning groundwater conditions at the Port Heiden RRS. Previous studies of residential wells to the south of the site determined that groundwater existed in a confined aquifer at a depth of approximately 60 feet.</p>
COC	PAHs, PCBs, Pesticides - soil; VOCs - groundwater
INVESTIGATION_ACTIONS	1986 soil samples collected, 1986, 1987, 1988, & 1989 Site Investigations throughout the Installation; 1995 Preliminary Assessment, 2000 Site Investigation, 2004 RI field work.
FINAL_REM_ACTION	Prevent excavation into or development over buried solid waste and potentially hazardous materials in the former RRS landfill, and maintain that current land use designation.
CONT_RISK	>1x10 ⁻⁴ Cancer soil & groundwater; HI>1 ; The pathway of exposure contributing the greatest to total risks and hazards is the use of groundwater as a drinking water source. Groundwater at these sites are not currently being used as a drinking water source, and is not likely to be so used in the future.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 9/16/2011) United States Air Force (USAF). 2009. Record of Decision for Port Heiden Radio Relay Station, Port Heiden, AK. February. 2009 (2009 ROD)
STATUS	

Port_Heiden-OT001.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	185
SITIRP_ID	OT001
SITE_STATUS	Open
BOUNDARY_STATUS	NA
OU	NA
ECP	Unknown
REGULATORY	CERCLA
RISK	Cancer Risk >10 E-4, Hazard Quotient >1; Eco risk present
ALIAS	NA
SITE_NAME	Former Composite Building
SITE_DESCRIPTION	The former composite building is located near the center of the former Port Heiden RSS. The structure was constructed on reinforced concrete slabs and included offices, dormitories, storage space, a generator room, and a garage.
MEDIA_ID	OT001
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	1955-1981 (Installation)
CATEGORY	ERP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	A notice type of institutional control will be implemented (with the land owners consent) to control the use of soil containing residual concentrations of dieldrin above 0.0076 mg/kg. This notice will make the Land Owner aware that ADEC approval is required for any disturbance of soil (the goal of this institutional control is to prevent the constant contact of this media with water which could impact groundwater or surface water quality).
POC	Keith Barnack (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907.552.5160
CHEMICALS_OF_CONCERN	PCBs, HVOCs, PAHs
MODIFIED_DATE	20101129
CONTAMINATION_SOURCE	Leaks/spills, improper disposal
SITEID	OT001
INSTLN_ID	PH
MAINTENANCE	Landfill cap inspections and repair
RESTRICTIONS	No unauthorized digging/excavation; No landfill cap/liner disturbance; Groundwater use restrictions

Port_Heiden-OT001.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	OT001
SITE_NAME	Former Composite Building Foundation
DATE_SUMM	11/29/2010
CURRENT_STATUS	Active
SITE_STATUS	Open
POCID	Keith Barnack (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	The former composite building is located near the center of the former Port Heiden RSS. The structure was constructed on reinforced concrete slabs and included offices, dormitories, storage space, a generator room, and a garage.
GEO_HYDRO	Little data was available concerning groundwater conditions at the Port Heiden RRS. Previous studies of residential wells to the south of the site determined that groundwater existed in a confined aquifer at a depth of approximately 60 feet.
COC	PCBs, HVOCS, PAHs
INVESTIGATION_ACTIONS	<p>In 1986, soil samples were collected throughout the Port Heiden RRS. Selected samples were tested for PCBs, metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver), SVOCs, and halogenated volatile organic compounds. At the composite building, results indicated the presence of PCBs up to 15 ppm in the vicinity of the auto shop, and HVOCS (trichlorofluoromethane) up to 84.2 parts per billion outside the generator room.</p> <p>During 1987 and 1988, 80 soil samples were collected on the north end of the composite building and analyzed for PCBs. PCB-impacted soil was found along the entire northern wall of the composite building at concentrations up to 190 mg/kg. The highest concentrations were found generally at the east edge of the concrete slab in front of the large garage doors. The north end of the composite building was the focus for soil excavation and removal during the 1990 investigation and restoration activities (USAF, 1996). As part of the 2004 RI field work, Aroclor 1260 (PCB) was detected in excess of the screening criteria in four of the initial nine surface soil samples. A PAH compound, benzo(a)pyrene was also found slightly above the screening criteria in one sample and its duplicate. Based on initial analytical data, an additional six "step-out" samples were collected for PCBs. Of these, 8 had PCBs above the screening criteria.</p>
FINAL_REM_ACTION	The State of Alaska concurs with the selected soil remedy (Excavation, Soil Washing and Off-site Disposal in a Permitted Landfill) and the selected groundwater remedy (Monitored Natural Attenuation and Long Term Monitoring).
CONT_RISK	<p>Carcinogenic Risks: Cancer risks were found to exceed 1x10⁴ for both future and current scenarios. For almost all scenarios, carcinogenic risks were primarily due to soil ingestion and to a lesser extent dermal contact. Aroclor 1260 and benzo(a)pyrene contributed over 92% of the total cancer risk across all medium. Several PAHs, and pesticides also slightly exceeded the carcinogenic point of departure of 1E-06.</p> <p>Groundwater risks exceeded 1E-04. Groundwater cancer risks were primarily due to TCE Non-cancer Risks: Hazard Indices also exceeded 1.0 for future and current scenarios. Noncancer risks from soil were primarily due to soil ingestion and to a lesser extent dermal contact. Aroclor 1260 concentrations in soil contributed the vast majority (up to 85%) of the total non-cancer risk. Groundwater Hazard Indices exceeded 1.0. Groundwater risks were primarily due to ICE via groundwater ingestion. More than 76% of the total noncancer HI for the child subsistence resident was from TCE. Ecological: Initial HQ calculations for risk from soil using exposure parameters with a large factor of safety (site use factor, aerial use factor, dietary composition factor, NOAEL-based TRV) indicated the potential for risk from PCBs, pesticides, and PAHs to at least one of the representative target receptors in at least one of the source areas. The HQs were recalculated using the LOAEL-based TRVs. After application of the LOAEL-based TRVs, the potential for risk only remained for PCBs, pesticides, and one SVOC in two of the exposure areas. A qualitative assessment of the conservative factors applied to the risk analyses found that is was unlikely that significant risk is present for wildlife species.</p>
RATIONALE	NA
RECOMMENDATIONS	NA
REFERENCES_	Contaminated Sites Database (accessed 11/29/2010) United States Air Force (USAF). 2009. Record of Decision for Port Heiden Radio Relay Station, Port Heiden, AK. February (2009 ROD)
STATUS	

Port_Heiden-SS004.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	188
SITIRP_ID	SS004
SITE_STATUS	Open
BOUNDARY_STATUS	NA
OU	NA
ECP	Unknown
REGULATORY	CERCLA
RISK	Cancer Risk >10 E-4, Hazard Quotient >1; Eco risk present
ALIAS	AOC4; RCRA EPA ID#AK0210890091
SITE_NAME	Septic Tank and Septic System Outfall
SITE_DESCRIPTION	The septic system was generally located in the southwestern portion of the Port Heiden RSS. Piping from the former composite building ran west to the septic tank, which was approximately 200 feet in length. Piping from the septic tank branched off to the northwest, continued under a manmade dirt ridge for approximately 250 feet, and turned west into an outfall area. The septic tank may have been abandoned in place during DERP activities conducted in 1990.
MEDIA_ID	SS004
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Unknown
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Active
LUC_RESTRICTION	A notice type of institutional control will be implemented (with the land owners consent) to control the use of soil containing residual concentrations of dieldrin above 0.0076 mg/kg. This notice will make the Land Owner aware that ADEC approval is required for any disturbance of soil (the goal of this institutional control is to prevent the constant contact of this media with water which could impact groundwater or surface water quality).
POC	Keith Barnack (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907.552.5160
CHEMICALS_OF_CONCERN	PCBs
MODIFIED_DATE	20101129
CONTAMINATION_SOURCE	Septic Tank and Septic System Overflow
SITEID	SS004
INSTLN_ID	PH
MAINTENANCE	Landfill cap inspections and repair
RESTRICTIONS	No unauthorized digging/excavation; No landfill cap/liner disturbance; Groundwater use restrictions

Port Heiden_SS004.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS004
SITE_NAME	Septic Tank and Septic System Overflow
DATE_SUMM	11/29/2010
CURRENT_STATUS	Active
SITE_STATUS	Open
POCID	Keith Barnack (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	The septic system was generally located in the southwestern portion of the Port Heiden RSS. Piping from the former composite building ran west to the septic tank, which was approximately 200 feet in length. Piping from the septic tank branched off to the northwest, continued under a manmade dirt ridge for approximately 250 feet, and turned west into an outfall area. The septic tank may have been abandoned in place during DERP activities conducted in 1990.
GEO_HYDRO	Little data was available concerning groundwater conditions at the Port Heiden RRS. Previous studies of residential wells to the south of the site determined that groundwater existed in a confined aquifer at a depth of approximately 60 feet.
COC	PCBs
INVESTIGATION_ACTIONS	In 1999, five soil samples were collected as part of a site inspection at the septic tank location and analyzed for VOCs, SVOCs, priority pollutant metals, PCBs, and pesticides. One sample collected at the southwest corner of the septic tank area reportedly contained Aroclor 1260 at a concentration of 13,100 mg/kg. During the RI, PCBs were detected in several samples with a maximum concentration of 440 mg/kg.
FINAL_REM_ACTION	The State of Alaska concurs with the selected soil remedy (Excavation, Soil Washing and Off-site Disposal in a Permitted Landfill) and the selected groundwater remedy (Monitored Natural Attenuation and Long Term Monitoring).
CONT_RISK	<p>Carcinogenic Risks: Cancer risks were found to exceed 1x10⁴ for both future and current scenarios. For almost all scenarios, carcinogenic risks were primarily due to soil ingestion and to a lesser extent dermal contact. Aroclor 1260 and benzo(a)pyrene contributed over 92% of the total cancer risk across all medium. Several PAHs, and pesticides also slightly exceeded the carcinogenic point of departure of 11E-06. Groundwater risks exceeded 1E-04. Groundwater cancer risks were primarily due to TCE</p> <p>Non-cancer Risks: Hazard Indices also exceeded 1.0 for future and current scenarios. Noncancer risks from soil were primarily due to soil ingestion and to a lesser extent dermal contact. Aroclor 1260 concentrations in soil contributed the vast majority (up to 85%) of the total non-cancer risk. Groundwater Hazard Indices exceeded 1.0. Groundwater risks were primarily due to TCE via groundwater ingestion. More than 76% of the total noncancer HI for the child subsistence resident was from TCE. Ecological: Initial HQ calculations for risk from soil using exposure parameters with a large factor of safety (site use factor, aerial use factor, dietary composition factor, NOAEL-based TRV) indicated the potential for risk from PCBs, pesticides, and PAHs to at least one of the representative target receptors in at least one of the source areas. The HQs were recalculated using the LOAEL-based TRVs. After application of the LOAEL-based TRVs, the potential for risk only remained for PCBs, pesticides, and one SVOC in two of the exposure areas. A qualitative assessment of the conservative factors applied to the risk analyses found that it was unlikely that significant risk is present for wildlife species.</p>
RATIONALE	NA
RECOMMENDATIONS	NA
REFERENCES_	Contaminated Sites Database (accessed 11/29/2010) United States Air Force (USAF). 2009. Record of Decision for Port Heiden Radio Relay Station, Port Heiden, AK. February (2009 ROD)
STATUS	

Sparrevohn-OT004_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	694
SITIRP_ID	OT004
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Estimated
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	Carcinogenic Risk Results Soil in the Upper Camp Exposure Area - 7.53×10^{-6} for the subsistence hunter receptor, 2.11×10^{-7} for the recreational receptor, and 4.16×10^{-6} for the worker resident; Upper Camp noncarcinogenic HIs for the subsistence hunter receptor is 0.0006, for the recreational receptor, the HI is 0.00009, and for the worker resident, the HI is 0.07.
ALIAS	None
SITE_NAME	White Alice Communication System (OT004)
SITE_DESCRIPTION	The White Alice Communication System was constructed at the Upper Camp in 1957 and consisted of fuel and water storage tanks, radio relay antennas, an equipment building and garage, and living quarters. Dismantling of the WACS began in 1980. The WACS site appears to have been covered with about 2 feet of rocky fill following demolition.
MEDIA_ID	OT004
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1957-1979 completely demolished by 1985
CATEGORY	ERP
AREA_ACRES	10.0
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	Institutional controls will include: * Installation of signs warning of the presence of soil contamination exceeding ADEC residential cleanup levels; * Restriction on residential land use; * Restrictions on digging that could disturb soil acting as a cover to PCB contaminated areas; and * Requirement for all operators to utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives.
POC	Keith Barnack (AFCEC/CZOP) 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907.552.5160
CHEMICALS_OF_CONCERN	PCBs
MODIFIED_DATE	20110117
CONTAMINATION_SOURCE	improper disposal of PCB oil
SITEID	OT004
INSTLN_ID	SP
MAINTENANCE	Sign maintenance and repairs
RESTRICTIONS	No residential use; No unauthorized digging/excavation; Property records/Base Plan documentation

Sparrevohn-OT004_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	OT004
SITE_NAME	WACS
DATE_SUMM	1/17/2011
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Keith Barnack (AFCEC/CZOP) 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	<p>The White Alice Communication System was constructed at the Upper Camp in 1957 and consisted of fuel and water storage tanks, radio relay antennas, an equipment building and garage, and living quarters. Dismantling of the WACS began in 1980. The WACS site appears to have been covered with about 2 feet of rocky fill following demolition. Current land use at the facility consists primarily of industrial use, with occasional recreational or subsistence activities by site contractors and visiting USAF personnel. Future land use is anticipated to be similar, as the USAF intends to maintain the installation indefinitely. Fuel storage tanks were present at each WACS (OT004) tropospheric antenna and adjacent to industrial buildings. When the buildings were demolished, the majority of debris was buried on site and as a result, the original ground surface is no longer exposed. The WACS had high power requirements, and most electrical equipment used at the time contained PCB-laden insulating oil. While active, it was not an uncommon practice to dispose of waste oil on the ground outside the buildings. Because this site is located on the ridge top and there is no groundwater on the ridge top, there is no potential for site activities to impact groundwater.</p>
GEO_HYDRO	<p>Sparrevohn LRRS is underlain by folded and faulted Cretaceous sedimentary rocks of the Kuskokwim Group. On the ridge top and at the WACS (OT004), bedrock is covered by a thin layer of gravel consisting of broken and weathered bedrock. Groundwater is only encountered beneath the Lower Camp. Groundwater does not occur in the bedrock beneath the ridges and Upper Camp area where the WACS (OT004) is located.</p>
COC	PCBs
INVESTIGATION_ACTIONS	<p>The WACS (OT004) was originally identified as a site of potential contamination as part of a Phase I records search in 1985. As a result, the site was included as part of the 1992 SI. The SI identified PCBs present in the soil. The WACS (OT004) was then included in the Sparrevohn LRRS RI in order to characterize the nature and extent of contamination. The only COPC identified for the WACS (OT004) was PCBs in soil.</p>
FINAL_REM_ACTION	<p>Remedial alternatives for the WACS (OT004) were developed from information presented in the RI (Shannon and Wilson 1999), risk assessments and the FS. The selected remedy for the WACS (OT004) will protect human health and the environment, and allow for continued site use. The USAF has selected Institutional Controls as the remedy for the WACS (OT004), with the following components: Implementation of institutional controls to identify areas of contamination and restrict land use at the White Alice Communication System site to achieve remedial action objectives.</p> <p>Institutional controls in the Institutional Control Area will include:</p> <ul style="list-style-type: none"> * Installation of signs warning of the presence of soil contamination exceeding ADEC residential cleanup levels; * Restriction on residential land use;

Sparrevohn-OT004_ENV_SITE_SUMMARY_IRP

	<p>* Restrictions on digging that could disturb soil acting as a cover to PCB-contaminated areas; and</p> <p>* Requirement for all operators to utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives.</p> <p>- Notations regarding residual contamination and land use restrictions will be recorded in the appropriate Sparrevohn LRRS land records, including the base general plan. As part of the accessed to the base general plan, the USAF will produce maps showing locations of residual contamination, and will provide these maps to ADEC.</p> <p>- Institutional controls will remain in effect for as long as the contaminated media exceeds ADEC unrestricted residential use criteria. The USAF is responsible for enforcing institutional controls and the USAF will monitor the effectiveness of the institutional controls. The USAF will provide an annual report regarding institutional control monitoring to ADEC, with copies filed in the administrative record and information repository.</p> <p>- The USAF will provide prompt notification to the ADEC of institutional control deficiency/failure, along with corrective measures taken. The USAF will obtain regulatory concurrence of significant changes to use and activity restrictions. The USAF will provide prior notification to ADEC for transfer of property subject to institutional controls.</p>
CONT_RISK	<p>Carcinogenic Risk Results</p> <p>For soil in the Upper Camp Exposure Area, the lifetime cumulative risk for the Upper Camp was calculated to be 7.53×10^{-6} for the subsistence hunter receptor, 2.11×10^{-7} for the recreational receptor, and 4.16×10^{-6} for the worker resident. The subsistence hunter and recreational receptor risks are based on consumption of caribou, and PCBs in soil were the primary risk driver. Analytical data from the RI were included in the noncarcinogenic risk calculations for the Upper Camp exposure area. The Upper Camp noncarcinogenic HIs were calculated for the same receptors. For the subsistence hunter receptor, the HI is 0.0006, for the recreational receptor, the HI is 0.00009, and for the worker resident, the HI is 0.07. The subsistence hunter and recreational receptor risks are based on consumption of caribou.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sits Database (accessed 1/17/2011)</p> <p>United States Air Force (USAF). 2009. Record of Decision White Alice Communication System, Sparrevohn LRRS, Alaska. Final. May (2009 ROD)</p>
STATUS	

Sparrevohn-SD003_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	693
SITIRP_ID	SD003
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	[cancer-Hunter, PCBs direct contact in soil-7X10-6; Recreational User, PCBs direct contact soil 2.11X10-7; Worker Resident, PCBs direct contact soil-4.2X10-6] [non-cancer-Hunter, PCBs direct contact in soil-0.0006; Recreational User, PCBs direct contact soil 0.0009; Worker Resident, PCBs direct contact soil-0.07]
ALIAS	SD03
SITE_NAME	Transmitter Pad/Opportunity Site
SITE_DESCRIPTION	The ERP site SD003 consists of two areas known as the Transmitter Pad and the Opportunity Site. The Transmitter Pad is located approximately 500 feet northeast of Upper Camp and consists of a gravel pad with steeply sloping sides to the north, south, and east. An antenna array and two buildings were known to have occupied the Transmitter Pad site. The Opportunity Site is located approximately 1 mile east of the Transmitter Pad, and was used for VHF radio communications in the 1950s. No buildings or structures are presently located at either location.
MEDIA_ID	SD003
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1952-present (installation); all structures removed from Transmitter Site prior to 1976, all structures removed from Opportunity Site by 1986
CATEGORY	ERP
AREA_ACRES	7.4
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	* Installation of signs warning of the presence of soil contamination exceeding ADEC residential cleanup levels; * Restriction on residential land use; * Restrictions on digging that could disturb soil acting as a cover to PCB-contaminated areas; and` * Requirement for all operators to utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives.
POC	Keith Barnack (AFCEC/CZOP) 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907.552.5160
CHEMICALS_OF_CONCERN	PCBs
MODIFIED_DATE	20110117
CONTAMINATION_SOURCE	
SITEID	SD003
INSTLN_ID	
MAINTENANCE	Sign maintenance and repairs
RESTRICTIONS	No residential use; No unauthorized digging/excavation; Property records/Base Plan documentation

Sparrevohn-SD003_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SD003
SITE_NAME	Transmitter Pad
DATE_SUMM	1/17/2011
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Keith Barnack (AFCEC/CZOP) 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	<p>The ERP site SD003 consists of two areas known as the Transmitter Pad and the Opportunity Site. The Transmitter Pad is located approximately 500 feet northeast of Upper Camp and consists of a gravel pad with steeply sloping sides to the north, south, and east. An antenna array and two buildings were known to have occupied the Transmitter Pad site. The Opportunity Site is located approximately 1 mile east of the Transmitter Pad, and was used for VHF radio communications in the 1950s. No buildings or structures are presently located at either location. Antenna arrays and two buildings are known to have previously occupied the Transmitter Pad site. The Opportunity Site was believed to have been used for VHF radio communication in the 1950s. By 1976, all the buildings and structures at the Transmitter Pad had been removed. Two structures present at the Opportunity Site in 1976 were removed sometime before 1986. Current land use at the facility consists primarily of industrial use, with occasional recreational or subsistence activities by site contractors and visiting USAF personnel. Future land use is anticipated to be similar, as the USAF intends to maintain the installation indefinitely.</p>
GEO_HYDRO	<p>Sparrevohn LRRS is underlain by folded and faulted Cretaceous sedimentary rocks of the Kuskokwim Group. On the ridge-top and at SD003, bedrock is covered by a thin layer of gravel consisting of broken and weathered bedrock. At the SD003 site, a man-made gravel fill pad consisting of crushed silty sandy gravel overlies bedrock. Groundwater is only encountered beneath the Lower Camp. Groundwater does not occur in the bedrock beneath the ridges and Upper Camp area where SD003 is located.</p>
COC	PCBs
INVESTIGATION_ACTIONS	<p>1985 records search, 1989 soil removal action, 1992 Site Investigation, 1996 PCB soil treatment, 1999 Remedial Investigation, 2006 Site Visit. A total of 21 soil samples were collected for the RI at the Opportunity Site. Of these, 15 were surface samples collected from the hillside below the pad, and six were collected from the top of the Opportunity Site pad. PCBs were non-detect with a reporting limit less than 1 mg/Kg in all 21 samples collected from Opportunity Site (Shannon and Wilson 1999). Twenty of 21 Opportunity Site soil samples contained detectable concentrations of RRO. Three samples, collected from the hillsides below the Opportunity Site, contained RRO concentrations exceeding the ADEC Method Two soil cleanup standard of 10,000 mg/Kg, with a maximum concentration of 100,000 mg/Kg. These three samples were collected from locations where stained soil was observed. Samples collected outside the stained areas had a maximum concentration of 2,700 mg/Kg. A site visit was conducted in 2006. No samples were collected, and no stained soil was observed at either the Transmitter Pad or the Opportunity Site. In addition, native tundra and grasses had reclaimed the site, rendering backfilled areas indistinguishable from undisturbed areas.</p>

Sparrevohn-SD003_ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>Remedial alternatives for SD003 were developed from information presented in the Sparrevohn RI (Shannon and Wilson 1999), risk assessments (Shannon and Wilson 2000a; USAF 2002a) and FS (USAF 2002b). The selected remedy for SD003 will protect human health and the environment, and allow for continued site use. The USAF selects the following remedy for SD003:</p> <p>* Implementation of institutional controls to identify areas of contamination and restrict land use at the SD003 to achieve remedial action objectives listed on page 2 28. The institutional control area is shown on Figure 1-2. Institutional controls will include:</p> <ul style="list-style-type: none"> - Installation of signs warning of the presence of soil contamination exceeding ADEC residential cleanup levels; Restriction on residential land use and - Restrictions on digging that could disturb soil acting as a cover to PCB-contaminated areas; and Requirement for all operators to utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives. <p>* Notations regarding residual contamination and land use restrictions will be recorded in the appropriate Sparrevohn LRRS land records, including the base general plan. As part of the accessed to the base general plan, the USAF will produce maps showing locations of residual contamination, and will provide these maps to ADEC.</p> <p>* Institutional controls will remain in effect for as long as the contaminated media exceeds ADEC unrestricted residential use criteria. The USAF is responsible for enforcing institutional controls and the USAF will monitor the effectiveness of the institutional controls. The USAF will provide an annual report regarding institutional control monitoring to ADEC, with copies filed in the administrative record and information repository. Reports will be submitted to ADEC for the first five years and its frequency evaluated with the Five-Year Review under 42 U.S.C. 9621 (c).</p> <p>* The USAF will provide prompt notification to the ADEC of institutional control deficiency/failure, along with corrective measures taken. The USAF will obtain regulatory concurrence of significant changes to use and activity restrictions. The USAF will provide prior notification to ADEC for transfer of property subject to institutional controls.</p>
CONT_RISK	<p>Carcinogenic Risk Results-The lifetime cumulative risk for the Upper Camp was calculated to be 7.53×10^{-6} for the subsistence hunter receptor, 2.11×10^{-7} for the recreational receptor, and 4.16×10^{-6} for the worker resident. The subsistence hunter and recreational receptor risks are based on consumption of caribou. Camp exposure area. The Upper Camp non-carcinogenic HIs were also calculated for the worker resident, recreational, and subsistence hunter receptors. For the subsistence hunter receptor, the HI is 0.0006, for the recreational receptor, the HI is 0.00009, and for the worker resident, the HI is 0.07. None of the HIs for SD003 exceeded the ADEC risk management standard of 1.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 1/17/2011) United States Air Force (USAF). 2009. Record of Decision Transmitter Pad/Opportunity Site (SD003), Sparrevohn LRRS, Alaska. Final. June. (2009 ROD)</p>
STATUS	

Sparrevohn-SS007_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	697
SITIRP_ID	SS007
SITE_STATUS	Cleanup Complete -Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	carcinogenic-current and future worker resident, the carcinogenic risk from Lower Camp (on-site) exposure area for soil is 1.16×10^{-6} ; resident, carcinogenic risk from soil is 6.5×10^{-4} via direct contact and inhalation noncarcinogenic HIs-current and future worker resident, HIs 0.02 and 0.14, respectively; residential receptor exposed to soil via incidental ingestion and dermal contact-2.0. For exposure via indoor air-3.2
ALIAS	Waste Accumulation Area/Spill-Leak #3
SITE_NAME	Waste Accumulation Area
SITE_DESCRIPTION	The Waste Accumulation Area (SS007) consists of the parking apron at the northeast corner of the runway and the undeveloped area east of the runway in the Lower Camp.
MEDIA_ID	SS007
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1950s - present
CATEGORY	ERP
AREA_ACRES	7.40000000
ACTIVITY	Cleanup Complete -Institutional Controls
LUC_RESTRICTION	Institutional controls for the Institutional Control Area will include: * Installation of signs warning of the presence of soil contamination exceeding ADEC residential cleanup levels; * Restriction on residential land use; * Restrictions on digging that could disturb soil acting as a cover to PCB-contaminated areas; and * Requirement for all operators to utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives.
POC	Keith Barnack (AFCEC/CZOP) 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	CERCLA-PCBs/non-CERCLA-DRO
MODIFIED_DATE	20110120
CONTAMINATION_SOURCE	fuel storage tanks, staging of transformers, a drum storage area, and disposal of building debris on site
SITEID	SS007
INSTLN_ID	SP
MAINTENANCE	Sign maintenance and repairs
RESTRICTIONS	No residential use; No unauthorized digging/excavation; Property records/Base Plan documentation

Sparrevohn-SS007_ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS007
SITE_NAME	Waste Accumulation Area
DATE_SUMM	1/20/2011
CURRENT_STATUS	Cleanup Complete -Institutional Controls
SITE_STATUS	Cleanup Complete -Institutional Controls
POCID	Keith Barnack (AFCEC/CZOP) 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	The Waste Accumulation Area (SS007) consists of the parking apron at the northeast corner of the runway and the undeveloped area east of the runway in the Lower Camp. The site has been used since the 1950s as a staging area for drums and waste to be transported off site for disposal. In 1984, a 1,500-gallon fuel spill occurred on the apron when a fuel bladder burst. At the time, no fuel was reported recovered. During the site visit in 1985, staining was observed on the gravel pad. Current land use at the facility consists primarily of industrial use, with occasional recreational or subsistence activities by site contractors and visiting USAF personnel. Future land use is anticipated to be similar, as the USAF intends to maintain the installation indefinitely.
GEO_HYDRO	In the valley, bedrock is overlain by alluvial valley fill material consisting of silty, sandy gravel with trace clay. The alluvial fill material is typically about 15 feet thick in the Lower Camp area and tends to become thicker to the south. Talus of variable thickness, consisting of broken bedrock, is found covering the slope areas. The Waste Accumulation Area (SS007) is located in the valley, where groundwater occurs as a shallow water table aquifer within the alluvial cover, and as a deeper aquifer within fractured bedrock. Groundwater in the valley discharges to seeps and streams. Drinking water at Sparrevohn LRRS is supplied from a gallery that collects water from the gravels underneath a stream on the west side of the valley.
COC	CERCLA-PCBs/non-CERCLA-DRO
INVESTIGATION_ACTIONS	1985 - site visit, 1992 Site Investigation, 1999 Remedial Investigation. The Waste Accumulation Area (SS007) was included as part of the Sparrevohn LRRS RI. The objective of the RI was to characterize the nature and extent of contamination at each of the ERP sites. As part of the RI, soil samples were collected from the gravel pad and vegetated area south of the gravel pad. Seven borings and one test pit were dug on the parking apron, three evenly spaced test pits were dug at the south end of the runway, and four surface samples were collected 200 to 400 feet south of the parking apron. One monitoring well was drilled on the parking apron, but the well was dry. A total of 36 soil samples were collected from SS007. Twenty-one samples were collected from soil borings, 11 samples were collected from test pits, and four samples were collected from surface soil. Test pit samples were collected at multiple depths ranging from 0.5 feet bgs to 16 feet bgs. RI samples were analyzed for DRO, RRO, VOCs, SVOCs, PCBs, pesticides, and metals. Because of laboratory control problems with the RI data collected in 1997, many samples were recollected and analyzed in 1998. Finally, a site visit was conducted in 2006 during which no soil staining or hydrocarbon odor was evident at the gravel pad. Additionally, petroleum sheens were not visible on the surface water observed at the gravel pad.
FINAL_REM_ACTION	Remedial alternatives for the Waste Accumulation Area (SS007) were developed from information presented in the RI (Shannon and Wilson 1999), risk assessments (Shannon and Wilson 2000a; USAF 2002a) and the feasibility study (FS) (USAF 2002b). The selected remedy for the Waste Accumulation Area (SS007) will protect human health and the environment, and allow for continued site use. The USAF has selected Institutional Controls as the remedy for the Waste Accumulation Area (SS007), with the following components: <input type="checkbox"/> Implement institutional controls to identify areas of contamination and restrict land use at the Waste Accumulation Area (SS007) to achieve remedial action objectives. Institutional controls for the Institutional Control Area will include: * Installation of signs warning of the presence of soil contamination exceeding ADEC residential cleanup levels; * Restriction on residential land use; * Restrictions on digging that could disturb soil acting as a cover to PCB-contaminated areas; and * Requirement for all operators to utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives.

Sparrevohn-SS007_ENV_SITE_SUMMARY_IRP

	<p>- Notations regarding residual contamination and land use restrictions will be recorded in the appropriate Sparrevohn LRRS land records, including the base general plan. As part of the update to the base general plan, the USAF will produce maps showing locations of residual contamination, and will provide these maps to ADEC.</p> <p>- Institutional controls will remain in effect for as long as the contaminated media exceeds ADEC unrestricted residential use criteria. The USAF is responsible for enforcing institutional controls and the USAF will monitor the effectiveness of the institutional controls. The USAF will provide an annual report regarding institutional control monitoring to ADEC, with copies filed in the administrative record and information repository.</p> <p>- The USAF will provide prompt notification to the ADEC of institutional control deficiency/failure, along with corrective measures taken. The USAF will obtain regulatory concurrence of significant changes to use and activity restrictions. The USAF will provide prior notification to ADEC for transfer of property subject to institutional controls.</p>
CONT_RISK	<p>Soil was the only contaminated media identified at SS007. Because the site is adjacent to the facility runway, it is unlikely to be used for subsistence or recreational purposes, and therefore only the worker resident or resident were considered as receptors. For a current and future worker resident, the carcinogenic risk from Lower Camp (on-site) exposure area for soil is 1.16×10^{-6}. For a resident, the cumulative carcinogenic risk from soil is 6.5×10^{-4} via direct contact and inhalation. The worker resident risk value does not exceed the ADEC risk management standards under 18 AAC 75.325(g); however, the resident risk value does. PCBs are the primary carcinogenic risk driver for soil in the Lower Camp (on-site) exposure area. Because the risk for the Lower Camp (on-site) exposure area is based on a PCB exposure point concentration of 210 mg/Kg, it is reasonable to assume that the risk associated with SS007 would be less because the maximum PCB concentration at SS007 is 1.7 mg/Kg. The Lower Camp (on-site) exposure area noncarcinogenic HIs were calculated for the current and future worker resident and resident receptors. For the current and future worker resident, the HIs were 0.02 and 0.14, respectively (Shannon and Wilson 2000a), which were below the ADEC risk management standards.</p>
	<p>For the residential receptor exposed to soil via incidental ingestion and dermal contact, the calculated HI is 2.0. For exposure via indoor air, the calculated HI is 3.2. However, these HI values were based on the maximum concentrations of PCE and chloroform detected in the Lower Camp (on-site) exposure area. At SS007, the maximum PCE and chloroform concentrations were 0.016 mg/Kg and 0.024 mg/Kg, respectively. These concentrations are below the ADEC soil cleanup levels (18 AAC 75.341 (b) Table B1) of 0.024 mg/Kg for PCE and 0.46 mg/Kg for chloroform. Because vapor intrusion risk for the Lower Camp (on-site) exposure area is based on a PCE and chloroform exposure point concentration greater than that detected at SS007, it is reasonable to assume that the risk associated with these compounds at SS007 would be less than the risk calculated for overall Lower Camp (on-site) exposure area.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 1/20/2011) United States Air Force (USAF). 2009. Record of Decision Transmitter Pad/Opportunity Site (SD003), Sparrevohn LRRS, Alaska. Final. June. (2009 ROD)</p>
STATUS	

Sparrevohn-ST005_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	689
SITIRP_ID	ST005
SITE_STATUS	Cleanup Complete - Institutional Control
BOUNDARY_STATUS	Unknown-see map
OU	NA
ECP	NA
REGULATORY	CERCLA/non-CERCLA
RISK	carcinogenic risk-the residential risk was calculated to be 6×10^{-3} ; recreational user- 2×10^{-6} , and subsistence hunter- 2.7×10^{-7} . the noncarcinogenic HI - residential risk was 25.4, recreational user-2.2, subsistence hunter - 21.2.
ALIAS	none
SITE_NAME	Spill/Leak No. 1 and Lower Camp Area (ST005)
SITE_DESCRIPTION	The Spill/Leak No.1 and Lower Camp Area (ST005) encompasses the POL tank farm, the former power house on the lower hillside of Sparrevohn Mountain, the former Lower Camp facility, and the valley south of Lower Camp
MEDIA_ID	ST005
BOUNDARY_DETAILS	SPILL/LEAK No. 1 and LOWER CAMP AREA
DATES_OPERATION	1952-present (installation)- known release in 1980
CATEGORY	ERP
AREA_ACRES	150
ACTIVITY	Cleanup Complete - Institutional Control
LUC_RESTRICTION	<ul style="list-style-type: none"> -Administrative restrictions on construction of structures at the Lower Camp in areas where chemical concentrations in soil exceed cleanup levels based on the future land use scenarios. -Administrative restrictions on excavation of soils within contaminated areas at the Lower Camp, where exposure to those soils could result in increased risk to human health. -Administrative restrictions on groundwater use at the Lower Camp in areas where chemical concentrations exceed cleanup levels based on the future residential exposure scenario. -Placement of warning signs as a precautionary measure to alert site visitors to areas where chemical contamination is present in exceedance of ADEC cleanup levels. -Notations regarding residual contamination and land use restrictions will be recorded in the appropriate Sparrevohn LRRS land records, including the base general plan.
POC	Keith Barnack (AFCEC/CZOP) 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	CERCLA-PCBs and TCE/non-CERCLA-DRO
MODIFIED_DATE	20110114
CONTAMINATION_SOURCE	Spills/leaks from tank farm and power house
SITEID	ST005
INSTLN_ID	SP
MAINTENANCE	Groundwater monitoring; Sign maintenance and repairs
RESTRICTIONS	No unauthorized construction; No unauthorized digging/excavation; Groundwater use restrictions; Property records/Base Plan documentation

Sparrevohn-ST005_ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	ST005
SITE_NAME	SPILL/LEAK No. 1 and LOWER CAMP AREA
DATE_SUMM	1/14/2011
CURRENT_STATUS	Cleanup Complete - Institutional Control
SITE STATUS	Cleanup Complete - Institutional Control
POCID	Keith Barnack (AFCEC/CZOP) 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	The Spill/Leak No.1 and Lower Camp Area (ST005) encompasses the POL tank farm, the former power house on the lower hillside of Sparrevohn Mountain, the former Lower Camp facility, and the valley south of Lower Camp. ST005 was originally defined as an area contaminated by a January 1980 release of diesel fuel from the pipeline between the POL tank farm and the power house fuel tank. There is also evidence that fuel spills occurred prior to the 1980 release, as site records indicate that the original water gallery had to be replaced in the 1960s when the water became contaminated by an undocumented release of fuel from the pipeline connecting the Power House and Upper Camp. Other potential sources of contamination in the area are two floor drains in the vehicle maintenance building that discharged directly to the ground surface.
GEO_HYDRO	In the valley, bedrock is overlain by alluvial valley fill material consisting of silty, sandy gravel with trace clay. The alluvial fill material is typically about 15 feet thick in the Lower Camp area and tends to become thicker to the south. Talus of variable thickness, consisting of broken bedrock, is found covering the slope areas. ST005 is located in the valley, where groundwater occurs as a shallow water table aquifer within the alluvial cover, and as a deeper aquifer within fractured bedrock. Groundwater in the valley discharges to seeps and streams.
COC	CERCLA-PCBs and TCE/non-CERCLA-DRO
INVESTIGATION_ACTIONS	1970-1981 fuel recovery, 1985 records search, 1986-1993 ERP studies, 1992 Preliminary Assessment, 1995 Site Investigation, 1997-1998 Remedial Investigation. ST005 was included as part of the 1995 site investigation (SI). The SI identified several contaminants in soil, sediment, groundwater, and surface water. ST005 was then included in the Sparrevohn LRRS RI in order to characterize the nature and extent of contamination. COPCs identified for ST005 included PCBs, petroleum fuel compounds, pesticides, and VOCs. In 2006, groundwater, surface water, and sediment samples were collected, some from the same locations sampled in 2000. Groundwater samples were analyzed for DRO and VOCs, while surface water and sediment samples were analyzed for VOCs and PAHs. Groundwater in one well, MW5, exceeded the ADEC Method Two Table C cleanup levels for DRO (1,500 µg/L) and TCE (5 µg/L), with concentrations of 1,700 and 7.15 µg/L, respectively. An evaluation of historical trends at MW5 indicated that DRO concentrations have been decreasing since sampling began in 1996. However, the TCE concentrations at MW5 have increased over the same time period. Well MW5 is located directly downgradient of the vehicle maintenance shop, where floor drains originally discharged to the ground surface, and the TCE observed at this location may be attributed to that practice. No surface water or sediment samples contained VOCs or PAHs at concentrations exceeding 18 AAC 70 AWQS or NOAA SQuiRT CCC or PEL.
FINAL_REM_ACTION	The USAF has selected Natural Attenuation, as per EPA OWSER Directive 9200.4- 7P (EPA 1999b) and Institutional Controls as the preferred alternative for ST005. The major components of the selected remedy are presented below: Soil Specific Institutional Controls (PCB and DRO) <input type="checkbox"/> structures at the Lower Camp in areas where chemical concentrations in soil exceed cleanup levels based on the future land use scenarios. Occupation of structures located within these areas could result in exposure to chemicals in excess of risk management standards via (1) incidental ingestion and dermal contact, and (2) vapor intrusion from soil to indoor air (VOCs). Areas of construction restrictions via institutional controls are shown on Figures 1-3 and 1-5. - Administrative restrictions on excavation of soils within contaminated areas at the Lower Camp, where exposure to those soils could result in increased risk to human health. While not prohibiting such excavation, any work involving contaminated soil would be conducted in accordance with 18 AAC 75.360, Cleanup Operation Requirements. Areas of excavation restrictions via institutional controls are shown on Figures 1-3 and 1-5. Groundwater Specific Institutional Controls (TCE and DRO)

Sparrevohn-ST005_ENV_SITE_SUMMARY_IRP

	<p>- Administrative restrictions on groundwater use at the Lower Camp in areas where chemical concentrations exceed cleanup levels based on the future residential exposure scenario. Residential use of the Lower Camp groundwater would result in exposure to chemicals in excess of risk management standards. Therefore, changes in site use must be preceded by a review of the impacts of those changes on risks posed to human health and ecological receptors. Areas of groundwater use restrictions are shown on Figure 1-4. Soil and Groundwater Institutional Controls</p> <p>- Placement of warning signs as a precautionary measure to alert site visitors to areas where chemical contamination is present in exceedance of ADEC cleanup levels, regardless of whether or not risks associated with these chemicals exceed risk management standards. These signs could be placed at conspicuous access points to the ERP sites, or at a central location such as near the runway, intended to convey a warning regarding a general area rather than specific sample locations.</p> <p>- Notations regarding residual contamination and land use restrictions will be recorded in the appropriate Sparrevohn LRRS land records, including the base general plan. As part of the update to the base general plan, the USAF will produce maps showing locations of residual contamination, and will provide these maps to ADEC.</p> <p>- Institutional controls will remain in effect for as long as the contaminated media exceeds ADEC unrestricted residential use criteria. The USAF is responsible for enforcing institutional controls and the USAF will monitor the effectiveness of the institutional controls. The USAF will provide an annual report regarding institutional control monitoring to ADEC, with copies filed in the administrative record and information repository. A Five-Year Review is required under 42 U.S.C. 9621(c), since hazardous substances will remain at the site; the frequency of the annual report will be evaluated at the time of the first Five-Year Review.</p> <p>- The USAF will provide prompt notification to the ADEC of institutional control deficiency/failure, along with corrective measures taken. The USAF will obtain regulatory concurrence of significant changes to use and activity restrictions. The USAF will provide prior notification to ADEC for transfer of property subject to institutional controls. Groundwater Specific Remediation (TCE and DRO)</p> <p>- Implementation of a long-term monitoring program in accordance with EPA guidance 600/R-98/128, Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents to evaluate naturally occurring degradation of TCE in groundwater at the Lower Camp, and evaluate water quality changes over time.</p> <p>- Sampling events will occur no less that once per five years and will continue until concentrations decrease to below ADEC cleanup levels.</p>
CONT_RISK	<p>carcinogenic risk-the residential risk was calculated to be 6×10^{-3}. For a recreational user, the risk was calculated to be 2×10^{-6}, and for a subsistence hunter, the risk was calculated to be 2.7×10^{-7}. Only the residential risk calculated under these scenarios exceeds the ADEC risk management standard of 1×10^{-5}. the noncarcinogenic residential risk was 25.4. For a recreational user, the HI was calculated to be 2.2. For a subsistence hunter, the HI was calculated to be 21.2.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 1/14/2011) United States Air Force (USAF). 2009. Record of Decision Transmitter Pad/Opportunity Site (SD003), Sparrevohn LRRS, Alaska. Final. June. (2009 ROD)</p>
STATUS	

Sparrevohn-ST006_ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	688
SITIRP_ID	ST006
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA/non-CERCLA
RISK	carcinogenic- subsistence hunter receptor- 7.53×10^{-6} , recreational receptor and the worker resident - 2.11×10^{-7} and 4.16×10^{-6} , respectively. noncarcinogenic risk HI- subsistence hunter receptor- 0.0006, worker resident- 0.07.
ALIAS	ST06
SITE_NAME	SPILL/LEAK No. 2
SITE_DESCRIPTION	The Spill/Leak No. 2 (ST006) site is the location of a 1983 diesel fuel release estimated at 375 to 2,175 gallons. The site is located at the Upper Camp complex in the vicinity of former Building 204
MEDIA_ID	ST006
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1952-present (installation)- known release in 1983
CATEGORY	ERP
AREA_ACRES	approximately 4
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	Institutional controls in the institutional control area will include: <ul style="list-style-type: none"> * Installation of signs warning of the presence of soil contamination exceeding ADEC residential cleanup levels; * Restriction on residential land use; * Restrictions on digging that could disturb soil acting as a cover to PCB-contaminated areas; and * Requirement for all operators to utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives.
POC	Keith Barnack (AFCEC/CZOP) 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907-552-5160
CHEMICALS_OF_CONCERN	CERCLA-PCBs, non-CERCLA-DRO
MODIFIED_DATE	20110118
CONTAMINATION_SOURCE	fuel spill
SITEID	ST006
INSTLN_ID	SP
MAINTENANCE	Sign maintenance and repairs
RESTRICTIONS	No residential use; No unauthorized digging/excavation; Property records/Base Plan documentation

Sparrevohn-ST006_ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	ST006
SITE_NAME	SPILL/LEAK No. 2
DATE_SUMM	1/18/2011
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Keith Barnack (AFCEC/CZOP) 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	The Spill/Leak No. 2 (ST006) site is the location of a 1983 diesel fuel release estimated at 375 to 2,175 gallons. The site is located at the Upper Camp complex in the vicinity of former Building 204. The buildings and tanks in the vicinity of the spill are no longer present at the Upper Camp. The area consists of fractured bedrock overlain by tundra lichens and grasses and is surrounded by steep slopes to the north and south. The radome is the only building left at Upper Camp. Site ST006 was designated an ERP site based on the possibility that diesel contamination might still be present in the site soils. The fuel release was described in the SI as a leak in the feeder line from Tanks 20 and 21, believed to be located on the west side of the powerhouse, to Building No. 219 in the middle of the Upper Camp complex. The leak presumably occurred in the vicinity of the Old Tram Building. The released fuel reportedly soaked into snow and the ground, and may have been disposed of in Landfill No. 1.
GEO_HYDRO	Sparrevohn LRRS is underlain by folded and faulted Cretaceous sedimentary rocks of the Kuskokwim Group. On the ridge top and at Spill/Leak No. 2 (ST006), bedrock is covered by a thin layer of gravel consisting of broken and weathered bedrock. Groundwater is only encountered beneath the Lower Camp, and does not occur in the bedrock beneath the ridges and the Upper Camp area where ST006 is located.
COC	CERCLA-PCBs, non-CERCLA-DRO
INVESTIGATION_ACTIONS	1985 Records search, 1999 Remedial Investigation
FINAL_REM_ACTION	The USAF has selected Institutional Controls as the remedy for ST006, with the following components: Implementation of institutional controls to identify areas of contamination and restrict land use at the Spill/Leak No. 2 site to achieve the remedial action objectives. Institutional controls in the institutional control area will include: * Installation of signs warning of the presence of soil contamination exceeding ADEC residential cleanup levels; * Restriction on residential land use; * Restrictions on digging that could disturb soil acting as a cover to PCB-contaminated areas; and * Requirement for all operators to utilize USAF construction review and dig permit systems or similar systems to prevent uses or activities inconsistent with the remedial action objectives.
	Notations regarding residual contamination and land use restrictions will be recorded in the appropriate Sparrevohn LRRS land records, including the base general plan. As part of the accessed to the base general plan, the USAF will produce maps showing locations of residual contamination, and will provide these maps to ADEC. Institutional controls will remain in effect for as long as the contaminated media exceeds ADEC residential use criteria. The USAF is responsible for enforcing institutional controls and the USAF will monitor the effectiveness of the institutional controls. The USAF will provide an annual report regarding institutional control monitoring to ADEC, with copies filed in the administrative record and information repository. The USAF will provide prompt notification to the ADEC of institutional control deficiency/failure, along with corrective measures taken. The USAF will obtain regulatory concurrence of significant changes to use and activity restrictions. The USAF will provide prior notification to ADEC for transfer of property subject to institutional controls.

Sparrevohn-ST006_ENV_SITE_SUMMARY_IRP

CONT_RISK	Based on the CSM and the fact that soil is the only contaminated media in the Upper Camp exposure area, there is no human health risk associated with any receptor evaluated (i.e., worker resident, recreational, and subsistence hunter). The highest risk for the Upper Camp exposure area was for the subsistence hunter receptor, which was calculated to be 7.53×10^{-6} . For the recreational receptor and the worker resident, the carcinogenic risks were 2.11×10^{-7} and 4.16×10^{-6} , respectively. The subsistence hunter and recreational receptor risks are based on consumption of caribou. Analytical data from the RI were included in the noncarcinogenic risk calculations for the Upper Camp exposure area. The Upper Camp noncarcinogenic HIs were calculated for the same receptors. For the subsistence hunter receptor, the HI is 0.0006. For the recreational receptor, the HI is 0.00009, and for the worker resident, the HI is 0.07. The subsistence hunter and recreational receptor risks are based on consumption of caribou.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 1/18/2011) United States Air Force (USAF). 2009. Record of Decision Transmitter Pad/Opportunity Site (SD003), Sparrevohn LRRS, Alaska. Final. June. (2009 ROD)
STATUS	

Tatalina-DP005.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2852
SITIRP_ID	DP005
SITE_STATUS	Cleanup Complete-Institutional Controls
BOUNDARY_STATUS	NA
OU	NA
ECP	Unknown
REGULATORY	CERCLA
RISK	HHRA cancer<1/100,000, non cancer<1, ERA-none
ALIAS	Source Area 13 (IRP records search, 1985)
SITE_NAME	Hardfill #2, MK Debris Area, Northeast Landfill
SITE_DESCRIPTION	Site DP005 is located on top of Takotna Mountain at Upper Camp and consists of three separate former landfill areas situated north of the existing MAR building. The landfills have been designated as Hardfill No. 2, MK Debris area, and the Northeast Landfill and are shown in Figures 2 and 3. The three former landfills at DP005 received construction and demolition debris from the WACS and MAR site in the 1970s and 1980s.
MEDIA_ID	DP005
BOUNDARY_DETAILS	NA
DATES_OPERATION	1970s and 1980s
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete-Institutional Controls
LUC_RESTRICTION	Institutional control in the form of notice in land records will be developed by the Air Force, with ADEC concurrence, for waste left in place and within a base master plan. The State of Alaska supports and concurs with the selected remedy of no further action. Visual inspections of cover material will be conducted and documented over a 5-year period (the first, third, and fifth years) to check that healthy vegetation exists and no erosion of the cover is occurring. After the last inspection, a 5-year review will be conducted to review the results of the inspections. If the cover material has remained in good condition, no further inspections will be required. The ICs that are in place include restrictions on excavating and surface grading at the site.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	None identified
MODIFIED_DATE	20101124
CONTAMINATION_SOURCE	Landfills
SITEID	DP005
INSTLN_ID	T
MAINTENANCE	LUC inspections; 5-year reviews; Landfill cap inspections and repair
RESTRICTIONS	No unauthorized digging/excavation; Property records/Base Plan documentation

Tatalina-DP005.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	DP005
SITE_NAME	Hardfill #2, MK Debris Area, Northeast Landfill
DATE_SUMM	11/24/2010
CURRENT_STATUS	Cleanup Complete-Institutional Controls
SITE_STATUS	Cleanup Complete-Institutional Controls
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	Hardfill No. 2 received demolition debris from the WACS and MAR sites in 1984. The MK Debris area was a former disposal site for debris associated with the MK construction camp that existed during the early years of Upper Camp construction and operation. The Northeast Landfill also was used during the early days of Upper Camp operations for disposal of non-hazardous debris from the WACS and MAR sites. The USAF has conducted partial cleanups of material that had been disposed of in the past at these two landfill areas. The cleanup included removal of buried asbestos waste and disposal in permitted landfills at Lower Camp. The estimated depth of cover is approximately 2 to 6 feet.
GEO_HYDRO	No groundwater aquifer was encountered during the RI at Upper Camp, where bedrock was encountered at an average 4-foot depth at all but one sampling location. The Upper Camp is located at the top of Takotna Mountain, which is the top of a granite-diorite pluton. The area is rocky and exposed. A locally absent, thin gravelly residuum overlies the shallow bedrock. Outcrops of bedrock are common.
COC	None identified
INVESTIGATION_ACTIONS	The three former landfills at DP-005 received construction and demolition debris from the WACS and MAR site in the 1970s and 1980s. Hardfill No. 2 received demolition debris from the WACS and MAR sites in 1984. The MK Debris area was a former disposal site for debris associated with the MK construction camp that existed during the early years of Upper Camp construction and operation. The Northeast Landfill also was used during the early days of Upper Camp operations for disposal of non-hazardous debris from the WACS and MAR sites. The USAF has conducted partial cleanups of material that had been disposed of in the past at these two landfill areas. The cleanup included removal of buried asbestos waste and disposal in permitted landfills at Lower Camp. The estimated depth of cover is approximately 2 to 6 feet. The Hardfill No. 2 area was first identified as Installation Restoration Program source area 13 during a Phase Records Search (1985). A Technical Support Document for Record of Decision in 1988 recommended no further action for the site. Hardfill No. 2 was also evaluated during the Preliminary Assessment in 1991 and received a no further action recommendation. Two additional former construction debris disposal sites, the MK Debris area and Northeast Landfill, were added to DP-005 along with the Hardfill No. 2 site for a 1997 RI.
FINAL_REM_ACTION	Based upon investigations conducted at IRP Site DP-005 to date, there is presently no unacceptable risk or threat to public health or the environment. Therefore, the selected remedy for IRP Site DP-005 is no further action under CERCLA. Institutional control in the form of notice in land records will be developed by the Air Force, with ADEC concurrence, for waste left in place and within a base master plan. The State of Alaska supports and concurs with the selected remedy of no further action. Visual inspections of cover material will be conducted and documented over a 5 year period (the first, third, and fifth years) to check that no erosion of the cover is occurring. After the last inspection, a 5-year review will be conducted to review the results of the inspections. If the cover material has remained in good condition, no further inspections will be required.

Tatalina-DP005.ENV_SITE_SUMMARY_IRP

CONT_RISK	The baseline risk assessment included screening of contaminants for both human health and ecological risks. The screening levels used for the human health risk assessment represented cancer risks of 1×10^{-5} for an individual chemical, 5×10^{-5} for all chemicals for an exposure route, and 1×10^{-4} for all chemicals across all exposure routes. Hazard indexes of 1.0 for individual chemicals and 10.0 cumulative per exposure pathway were used to screen noncarcinogens. In the ecological risk assessment, concentrations of detected chemicals were compared to critical toxicity values for representative species. Hazard quotients of less than or greater than 1 were calculated for toxicity and risk screening. The RI and risk assessments were completed for ADEC review and approval. On the basis of the results of the RI and risk assessments, it has been determined that no unacceptable risk or threat to public health or the environment exists.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 11/24/10) United States Air Force (USAF). 2001. <i>Technical Document to Support Installation Restoration Decision for Installation Restoration Program Site DP-005</i> . (2001 DD)
STATUS	

Tatalina-LF004.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2848
SITIRP_ID	LF004
SITE_STATUS	Cleanup Complete with Institutional Controls
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	No human health risk identified 4,4'-DDE, 4,4'-DDE, and 4,4'-DDT Ecological Risk Drivers
ALIAS	LF04
SITE_NAME	Lower Landfill No. 2
SITE_DESCRIPTION	This landfill was used to bury wastes from the mid-1960s to around 2000. A new landfill was constructed in 2002, covering approximately 80 percent of the former landfill. The remaining 20 percent is being visually inspected by the Tatalina LRRS Base Operations Contractor on a regular basis.
MEDIA_ID	LF004
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1960's-2000 (new landfill constructed in 2002 overlaps)
CATEGORY	ERP
AREA_ACRES	4.00
ACTIVITY	Cleanup Complete with Institutional Controls
LUC_RESTRICTION	a) The site well permitting system will prevent any use of groundwater for drinking water. b) The site construction review process will prevent damage to existing monitoring wells. c) All ROD use limitations and exposure restrictions will be entered in the Base Master Plan and the Geographical Information System. d) The site construction review process will be used to avoid ground-disturbing construction activities and to ensure safe soil management procedures in areas with residual contamination. e) The site digging permit system will be used to avoid activities that could breach the landfill cover. f) The site Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	None identified (ROD refers to 1997 RI)
MODIFIED_DATE	20140711
CONTAMINATION_SOURCE	Landfill
SITEID	LF004
INSTLN_ID	TA
MAINTENANCE	Biennial cover inspections 5-year inspections for 20 years Groundwater monitoring
RESTRICTIONS	No digging or other activities that could breach landfill cover No use of groundwater for drinking water

Tatalina-LF004.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF004
SITE_NAME	Lower Landfill No. 2
DATE_SUMM	7/11/2014
CURRENT_STATUS	Cleanup Complete with Institutional Controls
SITE_STATUS	Cleanup Complete with Institutional Controls
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-
DESC_USE	This landfill was used to bury wastes from the mid-1960s to around 2000. A new landfill was constructed in 2002, covering approximately 80 percent of the former landfill. The remaining 20 percent is being visually inspected by the Tatalina LRRS Base Operations Contractor on a regular basis.
GEO_HYDRO	Groundwater at Lower Camp is found primarily in the more permeable sediments at depths that range from 8 to 28 feet bgs. Because of the relatively steep terrain, ravines that define surface drainage patterns also contain the unconsolidated material through which groundwater flows. Soil is generally too thin for saturated conditions in the subsurface along the ridges. During the 1997 RI at Tatalina LRRS, the following observations were recorded: * Groundwater was encountered at Lower Camp at minimum depth of 10 feet bgs. * The saturated soil depth varied from 0 to 15 feet bgs. * Groundwater flow was interpreted to follow the contours of the top of a low-permeability clay horizon and bedrock, with localized gradients. The magnitude of seasonal groundwater fluctuations, potential changes in gradient and aquifer thickness are not known
COC	None identified except for ecological (ROD refers to 1997 RI)
INVESTIGATION_ACTIONS	Between 1992 and 1999, three RIs were conducted at LF004. No contaminants of concern were detected above ADEC cleanup levels for surface soil, subsurface soil, groundwater, or downgradient surface water and sediment samples. The 1997 RI did not investigate the active portions of the landfill. One soil boring was drilled and converted to a monitoring well, and then sampled for subsurface soil, and groundwater. In 1999, test holes were excavated into the cover of the landfill to verify that it was at least 2 feet thick. A new landfill was constructed in 2002, covering approximately 80 percent of the former landfill. The remaining 20 percent is being visually inspected by the Tatalina LRRS Base Operations Contractor on a regular basis. In 2003, a small area of exposed debris was covered.
FINAL_REM_ACTION	None
CONT_RISK	No human health risk identified 4,4'-DDE, 4,4'-DDE, and 4,4'-DDT Ecological Risk Drivers
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 7/11/14) United States Air Force (USAF). 2012. <i>Proposed Plan for Remedial Action, Tatalina Long Range Radar Station</i> . May. United States Air Force (USAF). 2013. <i>Record of Decision, SS003 (POL Tank Farm), SS008 (WAA No. 4), SS011 (WAA No. 1 and Downslope of Hardfill No. 1), LF004 (Lower Landfill No. 2), Tatalina Long Range Radar Site, Alaska</i> . Final. January.
STATUS	

Tatalina-LF010.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2849
SITIRP_ID	LF010
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	NA
OU	NA
ECP	Unknown
REGULATORY	CERCLA
RISK	HHRA cancer<1/100,000, non cancer<1, ERA-none
ALIAS	
SITE_NAME	Waste Accumulation Area #2 and Upper Landfill #1
SITE_DESCRIPTION	Site LF010 consists of Waste Accumulation Area (WAA) No. 2 and Upper Landfill No. 1. WAA No. 2 has both an upper and a lower area. The Upper WAA No. 2 site is an open area about 1/4 mile southeast of Lower Camp. The Lower WAA No. 2 site is located approximately mid-way between Upper WAA No. 2 and the Airstrip. Upper Landfill No. 1 is adjacent to Upper WAA No. 2.
MEDIA_ID	LF010
BOUNDARY_DETAILS	NA
DATES_OPERATION	WAA No. 2 operated from the 1950s to 1977. Upper Landfill No. 1 is adjacent to Upper WAA No. 2, and operated from the 1950s to the mid-1960s.
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	*Institutional control in the form of notice in land records will be developed by the Air Force, with ADEC concurrence, for waste left in place and within a base master plan. *Visual inspections of cover material will be conducted and documented over a 5 year period (the first, third, and fifth years) to check that healthy vegetation exists and no erosion of the cover is occurring. After the last inspection, a 5-year review will be conducted to review the results of the inspections. If the cover material has remained in good condition, no further inspections will be required. The institutional controls that are in place include restrictions on excavating and surface grading at the site.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	None
MODIFIED_DATE	20111103
CONTAMINATION_SOURCE	Landfills
SITEID	LF010
INSTLN_ID	T
MAINTENANCE	LUC inspections; 5-year reviews; Landfill cap inspections and repair
RESTRICTIONS	No unauthorized digging/excavation; Property records/Base Plan documentation

Tatalina-LF010.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	LF010
SITE_NAME	Waste Accumulation Area #2 and Upper Landfill #1
DATE_SUMM	11/3/2011
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	Site LF010 consists of WAA No. 2 and Upper Landfill No. 1. WAA No. 2 operated from the 1950s to 1977. In 1973, between 80 and 100 drums were removed from the Lower WAA No. 2 area. Some drums were empty, and others were reported to have been filled with waste oil and other liquids. During a removal action in 1997, the USAF excavated and removed additional buried drums from the Lower WAA No. 2. The Upper WAA No. 2 site is an open area about 1/4 mile southeast of Lower Camp, behind the active landfill. Upper Landfill No. 1 is adjacent to Upper WAA No. 2, and operated from the 1950s to the mid-1960s. From the mid-1960s to early 1980s, this area was used as a baseball field. The 2- to 3-acre landfill is up to 12 feet deep, and received wood, garbage, metal, construction debris and shop wastes. The estimated depth of cover is approximately 2 to 4 feet.
GEO_HYDRO	Groundwater at this location (downgradient of upper landfill #1) was 10.2 feet below ground surface (bgs).
COC	none
INVESTIGATION_ACTIONS	IRP Site LF010 was first identified as source area 10 during a Phase I Records Search (1985). A Technical Support Document for Record of Decision in 1988 recommended no further action for the site. LF010 also was evaluated during the Preliminary Assessment in 1991 and a SI was recommended at that time. During the 1992 SI, three surface and three co-located subsurface samples were collected in this combined source area. The deepest subsurface sample was collected at 4.1 feet. Surface soil staining was reported in one sample location. No SVOCs were detected, with the exception of 2,4-dimethylphenol reported as an estimated value at 92 µg/kg. Very low levels of BTEX, at estimated values less than 10 µg/kg, were reported. The maximum levels of pesticides reported included 4,4-DDT at 72 µg/kg in a surface soil sample. The maximum detected Aroclor 1260 (PCB) level was reported at an estimated value of 250 µg/kg in a surface soil sample. The level reported at the 3- to 4-foot depth at the same location decreased to 76 µg/kg. Analytical results for metals were reported at or below background levels. The 1997 RI was conducted to determine if contamination exists at the Tatalina LRRS that could pose a risk to the environment and public health.

Tatalina-LF010.ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	<p>On the basis of the 1997 RI and risk assessments conducted at LF010, no COCs or COECs exist at this site and there is no need for further remedial action. This determination is protective of human health and the environment and complies with ARARs for the site. Before site closure at LF010, the USAF will remove a collection of approximately fifty 55-gallon drums currently at this site. The drums are not considered part of the original LF010 source area. USAF and ADEC representatives observed the drums during a site visit to the Tatalina LRRS in June 1998. The ADEC representative inspected the drums during the site visit and determined that most of the drums appeared empty. Some drums contained what appeared to be rainwater and native soil, and all the observed drums were suspected not to contain any hazardous or petroleum materials. In FY 2001, the USAF will collect the drums, rinse them if necessary, properly dispose of rinsate, de-head the drums, and either recycle the drums or bury them as non-hazardous solid waste. The drum disposal activities will follow requirements in appropriate regulations, including 18 AAC 60 and the federal Resource Conservation and Recovery Act. Disposal locations for the drums and rinsate will be determined with input from the local community and ADEC. The State of Alaska supports and concurs with the selected remedy of no further action for LF010, following the drum removal. Institutional control in the form of notice in land records will be developed by the Air Force, with ADEC concurrence, for waste left in place and within a base master plan.</p>
	<p>The State of Alaska supports and concurs with the selected remedy of no further action. Visual inspections of cover material will be conducted and documented over a 5 year period (the first, third, and fifth years) to check that healthy vegetation exists and no erosion of the cover is occurring. After the last inspection, a 5-year review will be conducted to review the results of the inspections. If the cover material has remained in good condition, no further inspections will be required. 2001 Letter documents intent to clean up drums per 1999 DD in September (2001).</p>
CONT_RISK	<p>The baseline risk assessment included screening of contaminants for both human health and ecological risks. The screening levels used for the human health risk assessment represented cancer risks of 1×10^{-5} for an individual chemical, 5×10^{-5} for all chemicals for an exposure route, and 1×10^{-4} for all chemicals across all exposure routes. Hazard indexes of 1.0 for individual chemicals and 10.0 cumulative per exposure pathway were used to screen noncarcinogens. In the ecological risk assessment, concentrations of detected chemicals were compared to critical toxicity values for representative species. Hazard quotients of less than or greater than 1 were calculated for toxicity and risk screening. On the basis of the results of the RI and risk assessments, it has been determined that no unacceptable risk or threat to public health or the environment exists. Therefore, there is no need for remedial action under CERCLA.</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 11/3/11) United States Air Force (USAF). 1999. Technical Document to Support Installation Restoration Decision for Installation Restoration Program Site LF-010. (1999 DD) 2001 Letter to Takotna Village Council regarding planned drum cleanup</p>
STATUS	

Tatalina-OT012.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2904
SITIRP_ID	OT012
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	NA
OU	NA
ECP	Unknown
REGULATORY	CERCLA
RISK	HHRA cancer<1 x 10-5, HI<1, ERA-none
ALIAS	IRP source 12
SITE_NAME	Former White Alice Communications Facility
SITE_DESCRIPTION	Site OT-012 is located on top of Takotna Mountain and consists of the former location of the WACS facility.
MEDIA_ID	OT012
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	1957 to 1979
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	Institutional control in the form of notice in land records will be developed by the Air Force, with ADEC concurrence, for waste left in place and within a base master plan. The State of Alaska supports and concurs with the selected remedy of no further action. Visual inspections of cover material will be conducted and documented over a 5-year period (the first, third, and fifth years) to check that healthy vegetation exists and no erosion of the cover is occurring. After the last inspection, a 5-year review will be conducted to review the results of the inspections. If the cover material has remained in good condition, no further inspections will be required. The ICs that are in place include restrictions on excavating and surface grading at the site.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	None identified
MODIFIED_DATE	20101124
CONTAMINATION_SOURCE	Spills-waste oil, fuels
SITEID	OT012
INSTLN_ID	T
MAINTENANCE	LUC inspections; 5-year reviews; Landfill cap inspections and repair
RESTRICTIONS	No unauthorized digging/excavation; Property records/Base Plan documentation

Tatalina-OT012.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	OT012
SITE_NAME	Former White Alice Communications Facility
DATE_SUMM	11/24/2010
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	Site OT-012 is located on top of Takotna Mountain and consists of the former location of the WACS facility. The WACS site was activated in 1957 and operated continuously from 1957 to 1979. It was deactivated and replaced with an Alascom-owned satellite earth terminal in 1979. During past operations, PCB-containing transformer oils were discarded along the north side of the WACS area. Demolition records indicate soil samples from this area were tested for PCBs during 1984 and 1987 demolition activities. PCB concentrations in soil ranged from 36 to more than 6,000 mg/kg in 8 of 24 samples analyzed during the 1980s removal activities. Contaminated soils (those with PCB concentrations above 50 ppm) were packed in drums and removed to the Elmendorf Air Force Base Defense Reutilization and Marketing Office. Historical records for the removal and offsite shipment of the PCB-contaminated material are on file at USAF 611th CES/CEVR. Other historical records indicate drums of waste oils were staged at the WACS site before shipment to Elmendorf Air Force Base. A former station worker also reported a diesel fuel spill in February or March 1974 at the WACS day tank. The amount of fuel spilled is unknown. Sorbents were used to contain the spilled fuel. The sorbents and stained snow were containerized and removed from the site. The WACS site received demolition debris during the WACS site facility demolition. The estimated depth of cover is approximately 2 to 4 feet.
GEO_HYDRO	No groundwater aquifer was encountered during the RI at Upper Camp, where bedrock was encountered at an average 4-foot depth at all but one sampling location. The Upper Camp is located at the top of Takotna Mountain, which is the top of a granite-diorite pluton. The area is rocky and exposed. A locally absent, thin gravelly residuum overlies the shallow bedrock. Outcrops of bedrock are common.
COC	None identified
INVESTIGATION_ACTIONS	Site OT-012 is located on top of Takotna Mountain and consists of the former location of the WACS facility. Site OT-012 received demolition debris during the WACS demolition. The WACS site was first identified as IRP Source Area 12 during a Phase I Records Search in 1985 and received a recommendation for NFA. It was later evaluated during a Preliminary Assessment in 1991, which recommended a SI be completed. The 1992 SI identified low levels of contaminants including PCBs. A release investigation conducted for Site OT- 012 in 1997 also identified petroleum and PCB contaminants; however, the follow-up risk assessment did not identify any of the detected chemicals as contaminants of concern or contaminants of ecological concern for this source area. A Proposed Plan was released to the public and copies delivered to Takotna residents on February 18, 1999. The public was encouraged to provide feedback during a public comment period from February 18 to April 15, 1999. The ROD document for Site OT-012 was completed and signed on January 17, 2001.

Tatalina-OT012.ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	The analytical results for PCBs in soil at Site OT-012 indicate that the previous remedial activities for PCB-contaminated soils were successful. The Baseline Risk Assessment did not identify any chemicals as contaminants of concern or contaminants of ecological concern for3 this source area. In addition, the levels of organic and inorganic contamination detected at the WACS site test pits were below cleanup standards for ingestion, because of the lack of groundwater migration pathway in State of Alaska (18 AAC 75) regulations. Therefore, no further remedial action, other than maintaining the soil material cover over the buried debris, was deemed required. This determination was found to be protective of human health and the environment and was in compliance with ARARs established for Site OT-012.
CONT_RISK	The baseline risk assessment included screening of contaminants for both human health and ecological risks. The screening levels used for the human health risk assessment represented cancer risks of 1×10^{-5} for an individual chemical, 5×10^{-5} for all chemicals for an exposure route, and 1×10^{-4} for all chemicals across all exposure routes. Hazard indexes of 1.0 for individual chemicals and 10.0 cumulative per exposure pathway were used to screen noncarcinogens. In the ecological risk assessment, concentrations of detected chemicals were compared to critical toxicity values for representative species. Hazard quotients of less than or greater than 1 were calculated for toxicity and risk screening. Based upon investigations conducted at IRP Site OT-012 to date, there is presently no unacceptable risk or threat to public health or the environment at this time. Therefore, the selected remedy for IRP Site OT-012 is no further action under CERCLA, as amended. Institutional control in the form of notice in land records will be developed by the Air Force, with ADEC concurrence, for waste left in place and within a base master plan. The State of Alaska supports and concurs with the selected remedy of no further action.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database, (accessed 11/24/10) United States Air Force (USAF). 2001. <i>Technical Document to Support Installation Restoration Decision for Installation Restoration Program Site OT-012.</i> (2001 DD) United States Air Force (USAF). 2005. <i>Five-Year Review Installation Restoration Program Sites DP-005, LF-010, OT-012, SS-001, SS-007, and SS-009, Tatalina Long Range Radar Station.</i> November. (2005-5-Year Review)
STATUS	

Tatalina-SS001.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2856
SITIRP_ID	SS001
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	NA
OU	NA
ECP	Unknown
REGULATORY	CERCLA
RISK	HHRA cancer<1x10-5, HI<1, ERA-none
ALIAS	Site 1
SITE_NAME	Minimally Attended Radar Site
SITE_DESCRIPTION	Site SS-001 is located on top of Takotna Mountain at Upper Camp and consists of the current dome structure and the area around this dome where additional MAR structures 3 were formally located.
MEDIA_ID	SS001
BOUNDARY_DETAILS	NA
DATES_OPERATION	The present MAR facility was installed at Upper Camp in 1985.
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	Institutional control in the form of notice in land records will be developed by the Air Force, with ADEC concurrence, for waste left in place and within a base master plan. The State of Alaska supports and concurs with the selected remedy of no further action, with the extent of subsurface contamination to be assessed when the MAR facility is decommissioned and removed in the future. The institutional controls that are in place include restrictions on excavating and surface grading at the site.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	None identified
MODIFIED_DATE	20101124
CONTAMINATION_SOURCE	Leaking storage tanks (2), abandoned septic tank, transformer storage area
SITEID	SS001
INSTLN_ID	T
MAINTENANCE	LUC inspections; 5-year reviews; Landfill cap inspections and repair
RESTRICTIONS	No unauthorized digging/excavation; Property records/Base Plan documentation

Tatalina-SS001.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS001
SITE_NAME	Minimally Attended Radar Site
DATE_SUMM	11/24/2010
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	<p>Site SS-001 is located on top of Takotna Mountain at Upper Camp and consists of the current dome structure and the area around this dome where additional MAR structures 3 were formally located. The present MAR facility was installed at Upper Camp in 1985. Four areas of potential contamination within the MAR source area were investigated during the RI as shown on Figure 3: two fuel releases from aboveground diesel fuel storage tanks that occurred in the 1980s; an abandoned, buried, septic tank; and a former electrical transformer storage area where transformer oils containing PCBs may have been released onto the pad during routine operations. Contamination in these four areas resulted from past operations and from the present facility. The fuel releases were reported as follows:</p> <ul style="list-style-type: none"> • Spill No. 6: 500 gallons of diesel fuel spilled from the piping system near the new MAR tower in 1985. The fuel reportedly drained onto the bedrock. File document information did not include the specific date, location, or cleanup action. • Spill No. 7: A diesel spill larger than the 1985 release occurred in the early 1980s. File document information did not include the specific date, tank location, amount of fuel released, or cleanup action. <p>During removal of the diesel tanks and former buildings at the MAR site and during demolition activities, several feet of fill material were added to the MAR site area. The slope below the estimated location of the abandoned septic tank is covered by about 1 foot of fill mixed with construction debris.</p>
GEO_HYDRO	Groundwater aquifer was encountered during the RI at Upper Camp, where bedrock was encountered at an average 4-foot depth at all but one sampling location. The Upper Camp is located at the top of Takotna Mountain, which is the top of a granite-diorite pluton. The area is rocky and exposed. A locally absent, thin gravelly residuum overlies the shallow bedrock. Outcrops of bedrock are common.
COC	None identified
INVESTIGATION_ACTIONS	Site SS-001 is located on top of Takotna Mountain at Upper Camp and consists of the current dome structure and the area around this dome where additional MAR structures were formally located. The MAR site was first identified as IRFP Source Area I during a Phase I Records Search in 1985 and follow-up action was recommended. The site was later included in a 1988 technical support document for the ROD and recommended for NFA. The site was later evaluated during a Preliminary Assessment in 1991, which resulted in a NFA recommendation. This source area was not included in the 1992 SI completed at Tatalina LRRS. Because of the absence of analytical data to support a NFA decision, Site SS-001 was included in the 1997 RI and Risk3 Assessment at Tatalina LRRS. A Proposed Plan was released to the public and copies delivered to Takotna residents on February 18, 1999. The public was encouraged to provide feedback during a public comment period from February 18 to April 15, 1999. The RODU document for Site SS-001 was completed and signed on January 17, 1999.

Tatalina-SS001.ENV_SITE_SUMMARY_IRP

FINAL_REM_ACTION	The analytical results from the RI indicated low level concentrations of PCBs and elevated petroleum hydrocarbon concentrations in the subsurface soil at Site 53-001. However, because of the location of the current MAR structure, excavation and complete removal of the petroleum-contaminated soil would risk structural integrity. The Baseline Risk Assessment did not identify any chemicals detected at Site SS-001 as contaminants of concern or contaminants of ecological concern for this source area. Therefore, no further remedial action was deemed required until such time as the MAR building is removed from the site. This determination was found to be protective of human health and the environment and complied with ARARs established for Site 53-001.3
CONT_RISK	Baseline risk assessment included screening of contaminants for both human health and ecological risks. The screening levels used for the human health risk assessment represented cancer risks of 1×10^{-5} for an individual chemical, 5×10^{-5} for all chemicals for an exposure route, and 1×10^{-4} for all chemicals across all exposure routes. Hazard indexes of 1.0 for individual chemicals and 10.0 cumulative per exposure pathway were used to screen noncarcinogens. In the ecological risk assessment, concentrations of detected chemicals were compared to critical toxicity values for representative species. Haz Based upon investigations conducted at IRP Site SS-001 to date, there's presently no unacceptable risk or threat to public health or the environment. Therefore, the selected remedy for Site SS-001 is no further action under CERCLA. However, petroleum contaminated soil adjacent to the MAR facility has not been fully delineated due to the risk of compromising the structural integrity of the MAR facility. When the current MAR facility is decommissioned and removed in the future, the extent of subsurface contamination remaining beneath the building will be assessed to determine if remedial action is necessary.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 11/24/10) United States Air Force (USAF). 1999. <i>Technical Document to Support Installation Restoration Decision for Installation Restoration Program Site SS-001</i> . (1999 DD) United States Air Force (USAF). 2005. <i>Five-Year Review Installation Restoration Program Sites DP-005, LF-010, OT-012, SS-001, SS-007, and SS-009, Tatalina Long Range Radar Station</i> . November. (2005-5-Year Review)
STATUS	

Tatalina-SS002.ENV_REST_SITE_SUMMARY	
OBJECTID	
HAZSITE_ID	2854
SITIRP_ID	SS002
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	non-CERCLA
RISK	not analyzed quantitatively
ALIAS	SS02
SITE_NAME	Sterling Landing
SITE_DESCRIPTION	SS002 is consists of a barge landing and fuel storage and transfer facility located approximately 15 miles downstream of McGrath, Alaska on the Kuskokwim River.
MEDIA_ID	SS002
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1952 to 1995
CATEGORY	IRP
AREA_ACRES	1.7
ACTIVITY	Active
LUC_RESTRICTION	<p>Institutional controls include:</p> <p><u>Soil</u></p> <ul style="list-style-type: none"> - Implementation of ICs to restrict access to and limit exposure to and use of petroleum contaminated soil at Site SS002, including the following: <ol style="list-style-type: none"> 1) Restricting excavation or disturbance of petroleum-contaminated soil to prevent additional groundwater contamination or placement of petroleum-contaminated soil in environmentally sensitive areas. 2) Restricting movement of petroleum-contaminated soil without prior ADEC approval (pursuant to 18 AAC 75.325[i]) - Inclusion and documentation of ICs in the USAF Real Property Records, Tatalina LRRS General Plan, and 611th IRP Records. - An inspection of the site and submittal of a Performance Report on ICs to ADEC at least once every five years after the date of the signed decision document. - Submittal of a sampling plan and sampling report to ADEC for approval prior to removal of ICs. <p><u>Groundwater</u></p> <ul style="list-style-type: none"> - Implementation of specific ICs to restrict access and limit exposure to and use of petroleum contaminated groundwater in Site SS002 and to prevent discharge and spread of petroleum contamination, including the following ICs: <ol style="list-style-type: none"> 1) Limiting excavation or drilling in areas containing petroleum-contaminated groundwater. 2) If petroleum-contaminated groundwater is used or removed from the site, characterizing and managing the groundwater by following regulations applicable at the time. 3) Obtaining ADEC approval before removing or disposing of petroleum-contaminated groundwater at the site (pursuant to 18 AAC 75.325[j]). - Inclusion and documentation of ICs in the USAF Real Property Records, Tatalina LRRS General Plan, and 611th IRP Records. - Inspecting the site and submittal of a Performance Report on ICs to ADEC once every five years after the date of the signed decision document.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	DRO, GRO, benzene, and naphthalene in soil; DRO, TAH (BTEX) and TAqH (BTEX + PAH) in groundwater
MODIFIED_DATE	20120106
CONTAMINATION_SOURCE	Fuel Releases
SITEID	SS002
INSTLN_ID	T
MAINTENANCE	Sign maintenance and repairs; Groundwater monitoring; 5-year reviews
RESTRICTIONS	No unauthorized digging/excavation; No unauthorized transport or disposal of soil; No unauthorized groundwater removal; Property records/Base Plan documentation

Tatalina-SS002.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS002
SITE_NAME	Sterling Landing
DATE_SUMM	1/6/2012
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	Sterling Landing has historically been used as a Barge Landing Area for loading, unloading and storage of supplies/equipment for mining operations within the Takotna Mountains. From 1952 until 1995, the USAF used Sterling Landing for off-loading fuel oil, diesel, gasoline and other supplies for the Tatalina LRRS. Diesel fuel and gasoline were transferred from Barges to a tank area with two ASTs at the site. The ASTs consisted of one 225,540-gallon diesel AST and one 11,900-gallon gasoline (MOGAS) AST. As needed, fuel was then piped from the ASTs to a truck stand where it was loaded into fuel trucks for transport to the radar station. The ASTs, truck stand, and piping were removed from service in 1993 and 1994 and the USAF subsequently vacated the property. Ownership of the tanks was transferred to the TCA and the ASTs were removed from the site in 1996 and 1997.
GEO_HYDRO	Groundwater is present at the site at depths ranging from approximately 12 to 37 feet bgs, depending on the topographic elevation. Groundwater flow gradients from the Former Tank Area are typically toward the Kuskokwim River, however hydraulic gradient reversals may occur during high river flow stages.
COC	DRO, GRO, benzene, and naphthalene in soil; DRO, TAH (BTEX) and TAqH (BTEX + PAH) in groundwater
INVESTIGATION_ACTIONS	Environmental assessments of the SS002 site were conducted between 1997 and 2004 to characterize and delineate the extent of petroleum contamination resulting from known historical releases. The following is a list of these studies: 1993 Site Assessment; 1996 Environmental Baseline Survey; 1997 RI & RA; 1999 Site Characterization and FS; 1999 Follow-on RI; 2002 Focused FS; 2002 Remedial Action and Monitoring Report; 2004 Groundwater Monitoring Report, 2009 Supplemental Characterization Report and Revised Cleanup Plan
FINAL_REM_ACTION	The chosen remedy for Site SS002 is LTM with institutional controls for soil and groundwater. LTM include the following: 1) Installation of two groundwater monitoring wells near the Kuskokwim River. 2) Sampling all groundwater monitoring wells at Site SS002 annually for volatile organic compounds, polynuclear aromatic hydrocarbons, and DRO for a minimum of five years. The monitoring frequency may be revised after five years by agreement between the Air Force and ADEC. 3) Providing a sampling report annually to ADEC with results of the current groundwater sampling event compared to historical results, beginning in 2012.
CONT_RISK	Comparison of soil and groundwater data from site SS002 to the State of Alaska risk-based cleanup levels indicated that DRO, GRO, benzene and naphthalene concentrations in the soil and groundwater at Site SS002 exceeded the cleanup criterion (18 AAC 75.341, Tables B1 & B2; 18 AAC 75.345, Table C).
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 1/6/12) United States Air Force (USAF). 2011. <i>Decision Document Installation Restoration Program for Non-CERCLA Site SS002: Sterling Landing, Tatalina Long Range Radar Station, Alaska</i> . Final. September. (2011 DD) United States Air Force (USAF). 2007. <i>Cleanup Plan for SS-002: Sterling Landing</i> . September. (2007 Cleanup Plan)
STATUS	

Tatalina-SS003.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2855
SITIRP_ID	SS003
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	ILCR/HI (highest of current/future scenarios) Site worker - 2E-5/8 Site Worker/Recreational Hunter - 3E-5/9 Trench worker - 8E-06/9 Site visitor - 8E-06/0.4
ALIAS	Spill/Leaks No. 1-4
SITE_NAME	POL Tank Farm
SITE_DESCRIPTION	SS003 consists of eight tanks that comprised the former POL Tank Farm and is located near the southwestern portion of Lower Camp. This area was used for aboveground diesel and motor vehicle gas fuel storage and dispensing from the 1950s to 1997. Four fuel spills are cited in site records: 1,000 gallons in 1980, 500 gallons in 1981, 500 gallons in 1992, and several hundred gallons in the 1970s (USAF, 2004). Records indicate that a liner was installed in the bermed POL Tank Farm area in 1983.
MEDIA_ID	SS003
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1950s to 1997
CATEGORY	ERP
AREA_ACRES	0.46
ACTIVITY	Active
LUC_RESTRICTION	a) The site well permitting system will prevent any use of groundwater for drinking water. b) The site construction review process will prevent damage to existing monitoring wells. c) All ROD use limitations and exposure restrictions will be entered in the Base Master Plan and the Geographical Information System. d) The site construction review process will be used to avoid ground-disturbing construction activities and to ensure safe soil management procedures in areas with residual contamination. e) The site digging permit system will be used to avoid activities that could breach the landfill cover. f) The site Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	Surface soil - naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene Groundwater - benzene, ethylbenzene, 3,3'-dichlorobenzidine, bis(2-chloroethyl)ether, hexachlorobutadiene, DRO, GRO, RRO
MODIFIED_DATE	20140714
CONTAMINATION_SOURCE	Tank farm - multiple leaks/spills
SITEID	SS003
INSTLN_ID	TA
MAINTENANCE	Landfarming activities
RESTRICTIONS	No use of groundwater for drinking water No unauthorized soil disturbance

Tatalina-SS003.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS003
SITE_NAME	POL Tank Farm
DATE_SUMM	7/14/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	<p>SS003 consists of eight tanks that comprised the former POL Tank Farm and is located near the southwestern portion of Lower Camp. This area was used for aboveground diesel and motor vehicle gas fuel storage and dispensing from the 1950s to 1997. Prior to the 1997 field investigation, the 611th Civil Engineering Squadron cleaned and removed three bulk diesel and two bulk MOGAS out-of-service storage tanks from the area. The tank removal project did not investigate or remove soil or the liner within the storage tank bermed areas. Site records indicate that the POL Tank Farm bermed area was previously drained. Water was released into the top of the drainage area that begins just below the POL Tank Farm pad. The drainage system might have released PHCs into the drainage. Four fuel spills are cited in site records: 1,000 gallons in 1980, 500 gallons in 1981, 500 gallons in 1992, and several hundred gallons in the 1970s (USAF, 2004). Records indicate that a liner was installed in the bermed POL Tank Farm area in 1983.</p>
GEO_HYDRO	<p>Groundwater at Lower Camp is found primarily in the more permeable sediments at depths that range from 8 to 28 feet bgs. Because of the relatively steep terrain, ravines that define surface drainage patterns also contain the unconsolidated material through which groundwater flows. Soil is generally too thin for saturated conditions in the subsurface along the ridges.</p> <p>During the 1997 RI at Tatalina LRRS, the following observations were recorded:</p> <ul style="list-style-type: none"> * Groundwater was encountered at Lower Camp at minimum depth of 10 feet bgs. * The saturated soil depth varied from 0 to 15 feet bgs. * Groundwater flow was interpreted to follow the contours of the top of a low-permeability clay horizon and bedrock, with localized gradients. <p>The magnitude of seasonal groundwater fluctuations, potential changes in gradient, and aquifer thickness are not known.</p>
COC	<p>Surface soil - naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene Groundwater - benzene, ethylbenzene, 3,3'-dichlorobenzidine, bis(2-chloroethyl)ether, hexachlorobutadiene, DRO, GRO, RRO</p>

Tatalina-SS003.ENV_SITE_SUMMARY_IRP

INVESTIGATION_ACTIONS	<p>Preliminary Site Investigation Activities at SS003 Prior to the 1997 RI, the 611th Civil Engineering Squadron cleaned and removed out-of-service aboveground storage tanks from the POL Tank Farm. Three bulk diesel storage tanks and two bulk MOGAS storage tanks were removed. Three remaining aboveground storage tanks are currently used for diesel and MOGAS storage and dispensing at Tatalina LRRS.</p> <p>1997 RI. During the 1997 RI, one seep and sediment location, two surface soil locations, and three soil boring/monitoring wells were sampled to investigate the potential release of contaminants from the POL Tank Farm. The 1997 RI report concluded that groundwater had been impacted.</p> <p>2002 Follow-on RI. In 2002, 12 shallow borings were drilled inside the bermed POL Tank Farm. Petroleum hydrocarbon contamination was highest in soil within the berm, moderate downgradient.</p> <p>2003 Follow-on RI. Five surface soil samples were collected from within the POL Tank Farm bermed area. Groundwater samples were collected from the existing monitoring wells supported findings of the previous investigations that contaminated soil in the POL Tank Farm was a continuing source of contamination of groundwater downgradient of the tank farm.</p>
	<p>2004 Follow-on RI. Based on the recommendations of the 2003 Follow-on RI, monitoring activities during the 2004 Follow-on RI (USAF, 2005) included removing the liner material from Tank Pit 1 and Tank Pit 2/3. Soil samples were collected from 10 test pits to evaluate contaminant source and migration. Monitoring data collected during the 2004 Follow-on RI indicated the presence of POL contaminants in soil immediately below the tank pits and in an area downgradient of Tank Pit 1. Groundwater located downgradient from the POL Tank Farm contained POL contamination.</p>
FINAL_REM_ACTION	<p>At SS003, surface soil will undergo Bioremediation through In-situ Landfarming (down to 2 feet bgs). This will be accomplished over a 2-year period, including application of nutrients and routine tilling and sampling. Long-term monitoring will be conducted for groundwater every 5 years until contaminants are below ADEC Table C cleanup levels for two consecutive sampling events.</p>
CONT_RISK	<p>ILCR/HI (highest of current/future scenarios) Site worker - 2E-5/8 Site Worker/Recreational Hunter - 3E-5/9 Trench worker - 8E-06/9 Site visitor - 8E-06/0.4</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 7/14/2014) United States Air Force (USAF). 2013. Record of Decision, SS003 (POL Tank Farm), SS008 (WAA No. 4), SS011 (WAA No. 1 and Downslope of Hardfill No. 1), LF004 (Lower Landfill No. 2), Tatalina Long Range Radar Site, Alaska. Final. January. United States Air Force (USAF). 2012. Proposed Plan for Remedial Action, Tatalina Long Range Radar Station. May. United States Air Force (USAF). 2004. 2003 Final Follow-On Remedial Investigation at SS003, SS008, and SS011 Report. Tatalina Long Range Radar Station, Alaska. January.</p>
STATUS	

Tatalina-SS007.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2850
SITIRP_ID	SS007
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	NA
OU	NA
ECP	Unknown
REGULATORY	CERCLA
RISK	HHRA cancer<1x10-5, HI<1, ERA-none
ALIAS	None
SITE_NAME	Waste Accumulation Area #3
SITE_DESCRIPTION	Site SS007 is located on the southern side of the Lower Camp pad and is the former location of a paint and oil storage building. This site is referred to as WAA No. 3.
MEDIA_ID	SS007
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	1950s through mid 1980s
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	Institutional control in the form of notice in land records will be developed by the Air Force, with ADEC concurrence, for waste left in place and within a base master plan. The State of Alaska supports and concurs with the selected remedy of no further action. Visual inspections of cover material will be conducted and documented over a 5 year period (the first, third, and fifth years) to check that healthy vegetation exists and no erosion of the cover is occurring. After the last inspection, a 5-year review will be conducted to review the results of the inspections. If the cover material has remained in good condition, no further inspections will be required. The institutional controls that are in place include restrictions on excavating and surface grading at the site.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	None identified
MODIFIED_DATE	20101124
CONTAMINATION_SOURCE	Waste Accumulation Area
SITEID	SS007
INSTLN_ID	T
MAINTENANCE	LUC inspections; 5-year reviews; Landfill cap inspections and repair
RESTRICTIONS	No unauthorized digging/excavation; Property records/Base Plan documentation

Tatalina-SS007.ENV_SITE_SUMMARY_IRP	
SITEID	
OBJECTID	
SITIRP_ID	SS007
SITE_NAME	Waste Accumulation Area #3
DATE_SUMM	11/24/2010
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	Site SS007 is the former location of a paint and oil storage building. Waste oils and other liquids, as well as unused chemical products, have been stored at the site since the 1950s. The site was used as a WAA for drums beginning in 1977. The building, along with the rest of the Lower Camp structures, was demolished in the mid-1980s. Some of the demolition debris was removed from the site area and some of the debris was disposed within the site area. The estimated depth of cover is approximately 5 to 15 feet.
GEO_HYDRO	Ground surface to a depth of 8 feet was fill material; residual soil, talus, and very weathered bedrock occurred from 8 feet to 25 feet; and moderately weathered bedrock was present from 25 feet to 35 feet, the bottom of the borehole. Groundwater was not encountered.
COC	None identified
INVESTIGATION_ACTIONS	Site SS007 is located on the southern side of the Lower Camp pad and is the former location of a paint and oil storage building. This site is referred to as WAA No. 3. WAA No. 3 was first identified as IRP Source Area 2 during a Phase I Records Search (1985). A technical support document for the ROD in 1988 recommended NFA for the site. WAA No. 3 was also evaluated during the Preliminary Assessment in 1991 and a SI was recommended. An SI was conducted at Site SS007 in 1992 followed by a RI and risk assessment in 1997. A Proposed Plan was released to the public and copies delivered to Takotna residents on February 18, 1999. The public was encouraged to provide feedback during a public3 comment period from February 18, 1999, to April 15, 1999. The ROD document for Site SS- 007 was completed and signed on January 17, 2001.
FINAL_REM_ACTION	<p>Analytical results from the 1992 SI and the 1997 RI indicate that very low residual levels of3 organic contaminants were detected in soils beneath this site. The levels detected were all below human health and ecological risk-based levels presented in the Baseline Risk Assessments; however, no contaminants of concern or contaminants of ecological concern were identified in the risk assessment for this location. In addition, levels of contaminants were below ADEC cleanup standards in 18 AAC 75 regulations.</p> <p>Because no contaminants of concern were found to exist at Site SS007, it was determined that no further remedial action was required. This determination was found to be protective of human health and the environment and complied with ARARs established for Site SS007. To ensure the existing cover material remained intact, visual inspections were scheduled to be conducted and documented at Site SS007 every other year for 5 years. The inspections were to verify that healthy vegetation existed and no erosion of the cover was occurring. If at the end of five years the cover material remained in good shape at Site SS007, no further inspections would be required.</p>

Tatalina-SS007.ENV_SITE_SUMMARY_IRP

CONT_RISK
Based upon investigations conducted at IRP Site SS007 to date, there is presently no unacceptable risk or threat to public health or the environment. Therefore, the selected remedy for IRP Site SS-007 is no further action under CERCLA. Institutional control in the form of notice in land records will be developed by the Air Force, with ADEC concurrence, for waste left in place and within a base master plan. The State of Alaska supports and concurs with the selected remedy of no further action. The institutional controls that are in place include restrictions on excavating and surface grading at the site.

RATIONALE

RECOMMENDATIONS

REFERENCES_

Contaminated Sites Database (accessed 11/24/11)
United States Air Force (USAF). 2001. *Technical Document to Support Installation Restoration Decision for Installation Restoration Program Site SS-007*. (2001 DD)
United States Air Force (USAF). 2005. *Five-Year Review Installation Restoration Program Sites DP-005, LF-010, OT-012, SS-001, SS-007, and SS-009, Tatalina Long Range Radar Station*. November. (2005-5-Year Review)

STATUS

Tatalina-SS008.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2851
SITIRP_ID	SS008
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	ILCR; HI (highest of current/future scenarios) Site worker - 1E-3; 61 Site Worker/Recreational Hunter - 1E-3; 61 Trench worker - 5E-5; 61 Site visitor -5E-5; 2
ALIAS	WAA Number 4, Old Sanitary Sewer Systems, Former Sewage Lagoon, and Former Paint Shop
SITE_NAME	WAA No. 4
SITE_DESCRIPTION	WAA No. 4 was used to store waste oil drums from the former motor pool. It was located on the eastern side of the Lower Camp gravel pad near the former garage and vehicle storage building. These structures, were demolished and removed in the mid-1980s. Some debris was removed from the site, and some debris was buried on site in cells adjacent to the structures' former location. This source area also includes the old septic tank. During the years of operation, all drains from the Lower Camp facility were connected to this system.
MEDIA_ID	SS008
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	1950s-1984
CATEGORY	ERP
AREA_ACRES	0.23
ACTIVITY	Active
LUC_RESTRICTION	a) The site well permitting system will prevent any use of groundwater for drinking water. b) The site construction review process will prevent damage to existing monitoring wells. c) All ROD use limitations and exposure restrictions will be entered in the Base Master Plan and the Geographical Information System. d) The site construction review process will be used to avoid ground-disturbing construction activities and to ensure safe soil management procedures in areas with residual contamination. e) The site digging permit system will be used to avoid activities that could breach the landfill cover. f) The site Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	Surface soil - Aroclor 1260 Groundwater - 1,2-dibromomethane, 2-methylnaphthalene, DRO, lead
MODIFIED_DATE	20140715
CONTAMINATION_SOURCE	Waste accumulation area - waste oil drums, septic tank, floor drains
SITEID	SS008
INSTLN_ID	TA
MAINTENANCE	Long-term monitoring will be conducted for groundwater every 5 years until contaminants are below ADEC Table C cleanup levels for two consecutive sampling events
RESTRICTIONS	No use of groundwater for drinking water No unauthorized soil disturbance/removal

Tatalina-SS008.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS008
SITE_NAME	WAA No. 4
DATE_SUMM	7/15/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	WAA No. 4 was used from the 1950s to 1984 to store waste oil drums from the former motor pool. It was located on the eastern side of a large flat gravel pad near the former garage and vehicle storage building. The former Lower Camp structures were built on this pad. These structures, including the garage and vehicle storage building, were demolished and removed in the mid-1980s. Some debris was removed from the site, and some debris was buried on site in cells adjacent to the structures' former location. This source area also includes the old septic tank. During the years of operation, all drains from the Lower Camp facility were connected to this system.
GEO_HYDRO	Groundwater at Lower Camp is found primarily in the more permeable sediments at depths that range from 8 to 28 feet bgs. Because of the relatively steep terrain, ravines that define surface drainage patterns also contain the unconsolidated material through which groundwater flows. Soil is generally too thin for saturated conditions in the subsurface along the ridges. During the 1997 RI at Tatalina LRRS, the following observations were recorded: * Groundwater was encountered at Lower Camp at minimum depth of 10 feet bgs. * The saturated soil depth varied from 0 to 15 feet bgs. * Groundwater flow was interpreted to follow the contours of the top of a low-permeability clay horizon and bedrock, with localized gradients. The magnitude of seasonal groundwater fluctuations, potential changes in gradient, and aquifer thickness are not known.
COC	Surface soil - Aroclor 1260 Groundwater - 1,2-dibromomethane, 2-methylnaphthalene, DRO, lead
INVESTIGATION_ACTIONS	1992 Site Investigation - three surface and three collocated subsurface soil samples were collected and analyzed for VOCs, SVOCs, pesticides/PCBs, and metals. Compounds detected in these samples included: toluene, ethylbenzene, xylenes, 1,2,4-trichlorobenzene, pesticides/PCBs, and metals 1997 RI - an area including the sampling locations from the 1992 site investigation was excavated. Conducted to estimate the extent of potential contamination at SS008 and assess the impact of historical releases on lower pad drainage, confirm the absence or presence of groundwater, and define the nature of groundwater contamination and flow characteristics. Included six soil borings located on the eastern periphery of Lower Camp next to support facilities. 2 borings were completed as monitoring wells. Two test pits were dug near the old truck fill stand. One seep and sediment sample was collected along the creek from a location downgradient of Lower Camp. 1999 UST Closure Activities. During the 1987 demolition activities at Lower Camp, five ADEC-registered USTs in the vicinity of SS008 were removed. This removal did not include submittal of an application for tank closure with ADEC. In 1999, the former footprints of the USTs were re-located, excavated, and field screened to determine if contamination existed. Closure reports for all five USTs were submitted to ADEC in December 1999. The Air Force concluded that PHC contamination was present in soil around the former footprints of ADEC USTs 769-2, 769-5, and 769-6, located next to the truck fill stand. 1999 Follow-on RI. The 1999 RI was intended to document the extent of DRO contamination around a boring location near the truck fill stand at SS008. Sampling activities were conducted at three borings. One was completed as a monitoring well. This was the same location compared to the 1997 RI. Sampling results indicated the presence of DRO in surface soil. One PCB (Aroclor 1260) was also detected in the soil samples above ADEC cleanup levels. A layer of floating product was found on top of the groundwater. DRO, beryllium, cadmium, chromium, lead, nickel, and zinc were detected. 2002 Follow-on RI. Additional groundwater monitoring was conducted during 2002 to determine the extent of floating product. Six monitoring wells were installed, along with one new borehole.

Tatalina-SS008.ENV_SITE_SUMMARY_IRP

	<p>The 2002 RI report indicated that the fuel plume appears to be confined to the site or toe of the slope of the hill that housed the old power plant and the new and existing monitoring wells. The stream north of the well adequately defined the contaminant plume and would provide an excellent method of monitoring any migration or attenuation of the fuel plume.</p> <p>2003 Follow-on RI. Monitoring for migration and attenuation of contaminants at SS008 was conducted in 2003. A groundwater sample was collected from the nine existing monitoring wells. Similar to the findings of the 2002 RI, approximately 0.4 inches of free product was found in one monitoring well. However, based on the monitoring results of surrounding wells, it was concluded that the free product may be isolated in this area. The 2003 RI recommended further monitoring in 2004, along with passive free product recovery.</p> <p>2004 Follow-on RI. Groundwater samples were collected from the nine existing monitoring wells. Results indicated migration downgradient from the monitoring well where free product was discovered.</p>
FINAL_REM_ACTION	<p>At SS008, an estimated 25 cubic yards of PCB and PCE contaminated soil will be excavated and disposed of off-site in drums or Super Sacks®. Confirmation sampling will be conducted and clean fill (soil) from a local source will be used to backfill the excavated areas. A detailed delineation will be performed near the sediment sample that contained PCE, including installation of a new monitoring well. Long-term monitoring will be conducted for groundwater every 5 years until contaminants are below ADEC Table C cleanup levels for two consecutive sampling events.</p>
CONT_RISK	<p>ILCR; HI (highest of current/future scenarios) Site worker - 1E-3; 61 Site Worker/Recreational Hunter - 1E-3; 61 Trench worker - 5E-5; 61 Site visitor -5E-5; 2</p>
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	<p>Contaminated Sites Database (accessed 7/15/2014) United States Air Force (USAF). 2013. Record of Decision, SS003 (POL Tank Farm), SS0008 (WAA No. 4), SS011 (WAA No. 1 and Downslope of Hardfill No. 1), LF004 (Lower Landfill No. 2), Tatalina Long Range Radar Site, Alaska. Final. January. Unites States Air Force (USAF). 2012. Proposed Plan for Remedial Action, Tatalina Long Range Radar Station. May. United States Air Force (USAF). 2004. 2003 Final Follow-On Remedial Investigation at SS003, SS008, and SS011 Report. Tatalina Long Range Radar Station, Alaska. January.</p>
STATUS	

Tatalina-SS009.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2857
SITIRP_ID	SS009
SITE_STATUS	Cleanup Complete - Institutional Controls
BOUNDARY_STATUS	NA
OU	NA
ECP	Unknown
REGULATORY	CERCLA
RISK	HHRA cancer<1X10-5, HI<1, ERA-none
ALIAS	IRP Source Area 7
SITE_NAME	Former Truck Fill Station
SITE_DESCRIPTION	Site SS009 is the former Truck Fill Stand location on the eastern side of the large flat gravel pad along the former road east of the former garage. The former Lower Camp structures were built on this pad. Filling and grading of the pad was conducted in this area during the building removal activities.
MEDIA_ID	SS009
BOUNDARY_DETAILS	Unknown
DATES_OPERATION	Used until mid-1980s
CATEGORY	IRP
AREA_ACRES	Unknown
ACTIVITY	Cleanup Complete - Institutional Controls
LUC_RESTRICTION	Institutional control in the form of notice in land records will be developed by the Air Force, with ADEC concurrence, for waste left in place and within a base master plan. The State of Alaska supports and concurs with the selected remedy of no further action. Visual inspections of cover material will be conducted and documented over a 5 year period (the first, third, and fifth years) to check that healthy vegetation exists and no erosion of the cover is occurring. After the last inspection, a 5-year review will be conducted to review the results of the inspections. If the cover material has remained in good condition, no further inspections will be required. The institutional controls that are in place include restrictions on excavating and surface grading at the site.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	None identified
MODIFIED_DATE	20101124
CONTAMINATION_SOURCE	Truck fill stand
SITEID	SS009
INSTLN_ID	T
MAINTENANCE	LUC inspections; 5-year reviews; Landfill cap inspections and repair
RESTRICTIONS	No unauthorized digging/excavation; Property records/Base Plan documentation

Tatalina-SS009.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS009
SITE_NAME	Former Truck Fill Station
DATE_SUMM	11/24/2010
CURRENT_STATUS	Cleanup Complete - Institutional Controls
SITE_STATUS	Cleanup Complete - Institutional Controls
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	SS-009 (Truck Fill Stand) was used until the mid-1980s to supply fuel. A release of mogas from storage tanks at this location was reported in 1983 and routine spills during activities at the fill stand may also have occurred in the past. The spilled fuel may have migrated into some of the surface drainage systems. The truck fill stand was located on the eastern side of the large flat gravel pad along the former road east of the former garage. The former Lower Camp structures were built on this pad. These structures, along with the rest of the Lower Camp buildings, were demolished in the mid-1980s. Some of the demolition debris was removed from the site area and some of the debris was disposed within the site area. The pad has been regraded, and is overgrown with alders. The estimated depth of cover is approximately 5 to 15 feet.
GEO_HYDRO	Groundwater downgradient of gravel pad encountered 7.5-11.5 feet bgs. Beneath the gravel pad itself, no groundwater was encountered before bedrock at 15-20 feet.
COC	None identified
INVESTIGATION_ACTIONS	Site SS-009 is the former Truck Fill Stand location on the eastern side of the large flat gravel pad along the former road east of the former garage. The former Lower Camp structures were also built on this pad. The former Truck Fill Stand was first identified as IRP Source Area 7 during a Phase I Records Search in 1985. A technical support document for the ROD in 1988 recommended NFA for the site. The Truck Fill Stand was also evaluated during a Preliminary Assessment in 1991. No evidence of contamination was observed and no sampling was conducted at Site SS-009 during the 1992 SI.
FINAL_REM_ACTION	A RI and RA was conducted in 1997 to investigate the potential releases along the eastern side of the Lower Camp pad that may have resulted from Site SS009. Because of the proximity of Site SS-009 to Source Area SS-008, the same sampling locations were used for both source areas. A Proposed Plan concerning Site SS-009 was released to the public and copies delivered to Takotna residents on February 18, 1999. The public was encouraged to provide feedback during a public comment period from February 18, 1999, to April 15, 1999. The ROD document for Site SS-009 was completed and signed on January 17, 1999.
CONT_RISK	No contaminants of concern or contaminants of ecological concern were identified in the subsurface soil samples evaluated in the Baseline Risk Assessments for Site SS-009. Analytical data from groundwater and from seep and sediment samples downgradient of Site SS-009 confirm that petroleum contamination has not migrated through the pad to groundwater or to surface water pathways in the area. Pesticides were detected in the one sediment sample at elevated concentrations, and they were retained as contaminants of ecological concern. The source of these contaminants is likely historical usage of pesticides in the drainage area upgradient to the sampling point. The Ecological Risk Assessment concluded that the pesticides retained as contaminants of ecological concern are not expected to adversely affect the ecosystem and do not warrant remedial action. On the basis of the 1997 RI and Risk Assessments conducted at Site SS-009, there is no need for further remedial action at Site SS-009. This determination was found to be protective of human health and the environment and in compliance with ARARs established for Site SS-009. To ensure the existing cover material remained intact, visual inspections were scheduled to be conducted and documented at Site SS-009 every other year for 5 years. The inspections were to verify that healthy vegetation existed and no erosion of the cover was occurring. If at the end of five years the cover material remained in good shape at Site SS-009, no further inspections would be required.
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database, last accessed 11/24/10 United States Air Force (USAF). 1999. Technical Document to Support Installation Restoration Decision for Installation Restoration Program Site SS-009. (1999 DD) United States Air Force (USAF). 2005. Five-Year Review Installation Restoration Program Sites DP-005, LF-010, OT-012, SS-001, SS-007, and SS-009, Tatalina Long Range Radar Station. November. (2005-5-Year Review)
STATUS	

Tatalina-SS011.ENV_REST_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	2853
SITIRP_ID	SS011
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	NA
ECP	NA
REGULATORY	CERCLA
RISK	ILCR; HI (highest of current/future scenarios) Site worker - 2E-3;14 Site Worker/Recreational Hunter - 5E-5; 15 Trench worker - 1E-4; 15 Site visitor 1E-4; 0.8
ALIAS	None
SITE_NAME	WAA No. 1 and Downslope of Hardfill No. 1
SITE_DESCRIPTION	SS011 includes two collocated historical disposal areas: Hardfill No. 1 and WAA No. 1 (Figures 2-5 and 2-6). Construction and demolition debris was disposed of in Hardfill No. 1, and approximately 150 drums were disposed of in WAA No. 1. Precise location, condition, and content of the drums were unknown.
MEDIA_ID	SS011
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Unknown
CATEGORY	ERP
AREA_ACRES	0.06
ACTIVITY	Active
LUC_RESTRICTION	a) The site well permitting system will prevent any use of groundwater for drinking water. b) The site construction review process will prevent damage to existing monitoring wells. c) All ROD use limitations and exposure restrictions will be entered in the Base Master Plan and the Geographical Information System. d) The site construction review process will be used to avoid ground-disturbing construction activities and to ensure safe soil management procedures in areas with residual contamination. e) The site digging permit system will be used to avoid activities that could breach the landfill cover. f) The site Environmental Impact Analysis Process will be used to assess the potential environmental impact of any action proposed at the site.
POC	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
PHONE	907-552-7193
CHEMICALS_OF_CONCERN	Surface soil - benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, alpha-BHC, 2-methylnaphthalene, naphthalene, DRO, RRO
MODIFIED_DATE	20140717
CONTAMINATION_SOURCE	Drums
SITEID	SS011
INSTLN_ID	TA
MAINTENANCE	None
RESTRICTIONS	No use of groundwater for drinking water No unauthorized soil disturbance/removal

Tatalina-SS011.ENV_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	SS011
SITE_NAME	WAA No. 1 and Downslope of Hardfill No. 1
DATE_SUMM	7/17/2014
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Robert Johnston (AFCEC/CZOP), 10471 20th St., Ste 301, JBER, AK 99506-2201
DESC_USE	SS011 includes two collocated historical disposal areas: Hardfill No. 1 and WAA No. 1 (Figures 2-5 and 2-6). Construction and demolition debris was disposed of in Hardfill No. 1, and approximately 150 drums were disposed of in WAA No. 1. Precise location, condition, and content of the drums were unknown.
GEO_HYDRO	Groundwater at Lower Camp is found primarily in the more permeable sediments at depths that range from 8 to 28 feet bgs. Because of the relatively steep terrain, ravines that define surface drainage patterns also contain the unconsolidated material through which groundwater flows. Soil is generally too thin for saturated conditions in the subsurface along the ridges. During the 1997 RI at Tatalina LRRS, the following observations were recorded: * Groundwater was encountered at Lower Camp at minimum depth of 10 feet bgs. * The saturated soil depth varied from 0 to 15 feet bgs. * Groundwater flow was interpreted to follow the contours of the top of a low-permeability clay horizon and bedrock, with localized gradients. The magnitude of seasonal groundwater fluctuations, potential changes in gradient, and aquifer thickness are not known.
COC	Surface soil - benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, alpha-BHC, 2-methylnaphthalene, naphthalene, DRO, RRO
INVESTIGATION_ACTIONS	1992 Preliminary Site Investigation - 3 surface and 3 collocated subsurface soil samples were collected and analyzed for VOCs, SVOCs, pesticides/PCBs, and metals. Compounds detected in these samples included trichloroethene, polynuclear aromatic hydrocarbons (PAHs), pesticides/PCBs, and metals. 1997 RI and Removal Action. As part of the removal action, most of the waste drums located at WAA No. 1 were removed. Confirmation sampling indicated that neither PCBs nor total petroleum hydrocarbons were present above ADEC soil cleanup levels. Soil samples were collected from two test pits located downgradient of Hardfill No. 1 and WAA No. 1. Results indicated the presence of VOC and pesticide contaminant residues in soils at trace levels. 5 to 10 additional drums were found. Soil samples, one surface and one subsurface, were collected directly under one of the drums. 2002 Follow-on RI. Three collocated sediment and surface water samples were collected downgradient of the slope at SS011. 2003 Follow-on RI. Three additional sediment and surface water samples were collected from the drainage water seeps downgradient of the slope. There was no evidence of PHC contamination in surface water or sediment downgradient from the buried waste drums. 10 to 20 partially-buried drums were observed in this area. 2004 Follow-on RI. Activities consisted of soil sampling, waste drum removal, and exploration for further locations of buried waste drums. Results determined that locating the remaining drums, quantifying the area extent of buried materials, and mapping them would be necessary to properly characterize SS011. 2007 Follow-on RI. Activities involved mapping the area of potentially-buried drums using a magnetometer coupled with a high accuracy global positioning system (GPS). The extent of potentially-buried debris registering a magnetic signal was approximately 2,500 square feet. Ten surface soil samples were collected from beneath exposed drums that showed signs that they had leaked their contents in the past. Based on the laboratory results, it is likely that the buried drums contained diesel fuel, used oil, solvents, pesticides, and herbicides.
FINAL_REM_ACTION	Exposed debris and excavated stained soils and sediments will be disposed of at an off-site landfill.

Tatalina-SS011.ENV_SITE_SUMMARY_IRP

CONT_RISK	ILCR; HI (highest of current/future scenarios) Site worker - 2E-3;14 Site Worker/Recreational Hunter - 5E-5; 15 Trench worker - 1E-4; 15 Site visitor 1E-4; 0.8
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	Contaminated Sites Database (accessed 7/17/2014) United States Air Force (USAF). 2013. Record of Decision, SS003 (POL Tank Farm), SS008 (WAA No. 4), SS011 (WAA No. 1 and Downslope of Hardfill No. 1), LF004 (Lower Landfill No. 2), Tatalina Long Range Radar Site, Alaska. Final. January. United States Air Force (USAF). 2012. Proposed Plan for Remedial Action, Tatalina Long Range Radar Station. May. United States Air Force (USAF). 2004. 2003 Final Follow-On Remedial Investigation at SS003, SS008, and SS011 Report. Tatalina Long Range Radar Station, Alaska. January.
STATUS	

Wake Island Airfield Site OT013_SITE_SUMMARY

OBJECTID	
HAZSITE_ID	
SITIRP_ID	OT013
SITE_STATUS	Open
BOUNDARY_STATUS	Unknown
OU	Southern Wake Island IRP Operable Unit 3
ECP	NA
REGULATORY	CERCLA
RISK	Occupational Workers cancer risk: 9×10^{-7} to 6×10^{-5} ; HI < 1 <u>Hypothetical Future Residents</u> cancer risk: 3×10^{-6} to 2×10^{-4} ; HI=0.05 to 2.0
ALIAS	Site OT13
SITE_NAME	Scrap Metal Pile No. 2 and Burn Area
SITE_DESCRIPTION	Site OT13 is located in the southeastern portion of Wake Atoll. The site has been used as a scrap metal disposal and staging area.
MEDIA_ID	OT013
BOUNDARY_DETAILS	Estimated
DATES_OPERATION	Late 1950s to Current
CATEGORY	IRP
AREA_ACRES	Approximately 20
ACTIVITY	Active
LUC_RESTRICTION	<p>The USAF is responsible for implementing LUCs including the following:</p> <ul style="list-style-type: none"> • Preventing residential use of areas within Site OT13 that contain COC concentrations above residential RACGs for soil (see Section 2.8 for details on the areas to be restricted) • Enforcing land use restrictions through the digging permit process for excavation and construction projects • Preventing removal of site soil for uncontrolled use elsewhere • Incorporating land use restrictions into the Wake Island General Plan • Delineating areas that are subject to land use restrictions on the master planning maps • Communicating land use restrictions with appropriate offices at the installation • Conducting periodic inspections to verify the effectiveness of LUCs and reporting results of inspections to EPA • Providing prompt notification to EPA of any remedy deficiency or failure that presents or could imminently lead to actual risk to human health and the environment, along with corrective actions taken or planned to address such deficiency or failure • Considering LUCs in future land use designations • Consulting with the USFWS and EPA before any LUC modification/termination, major land use changes, anticipated actions that may disrupt LUC effectiveness, or actions altering and negating LUC need.
POC	Keith Barnack (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
PHONE	907.552.5160
CHEMICALS_OF_CONCERN	Benzo[a]pyrene, lead, and PCBs in surface soil and lead and PCBs in subsurface soil
MODIFIED_DATE	20120106
CONTAMINATION_SOURCE	The potential materials used, stored, and disposed of include fuel oil, waste oil, paints, solvents, sulfuric acid, lead acid batteries, and potentially perchloroethylene and trichloroethylene.
SITEID	OT013
INSTLN_ID	WA
MAINTENANCE	LUC inspections; 5-year reviews
RESTRICTIONS	No residential use; No unauthorized transport or disposal of soil

Wake Island Airfield Site OT013_SITE_SUMMARY_IRP

SITEID	
OBJECTID	
SITIRP_ID	OT013
SITE_NAME	Scrap Metal Pile No. 2 and Burn Area
DATE_SUMM	1/6/2012
CURRENT_STATUS	Open
SITE_STATUS	Active
POCID	Keith Barnack (AFCEC/CZOP), 10471 20th St., Ste. 301, JBER, AK 99506-2201
DESC_USE	<p>Site OT13 is located south of the airfield on Wake Atoll. Site OT13 has been used as a scrap metal disposal and staging area since the late 1950s. Wastes and materials historically found at the site include abandoned vehicles, equipment, storage tanks, aircraft parts, batteries, demolition debris, electrical transformers, and 55-gallon drums containing asphalt, waste oils, solvents, and paint thinners. In 1984, an estimated 25,000 drums were stored at the site. Of these, approximately 18,000 drums contained asphalt that was used for a runway repair project. Reportedly, a small portion of the remaining 7,000 drums contained solvents, paint thinners, and waste oils. According to Installation personnel, some waste fluids were poured on the ground at the site, and the empty drums were either taken back to industrial shops or left at the disposal site. No disposal documentation exists for the site. In 1992, approximately 140 transformers and 300 lead-acid batteries were removed from Site OT13. In January 2009, non-hazardous soil containing elevated levels of COCs including lead and PCBs were excavated from other IRP sites at WIA, and placed in plastic-lined and covered containment cells at Site OT13 for consolidation and eventual final disposal pending completion of remedial actions at remaining WIA IRP sites. In January 2010, the existing containment cells in the soil consolidation area were re-constructed inside containment berms, lined with heavier plastic, covered with geo-textile fabric and plastic, and covered with approximately 1 foot of clean soil to promote vegetative growth. Non-hazardous soil and waste from remedial actions at more IRP sites were also placed in containment cells. A portion of Site OT13 is also currently being used as a soil consolidation area for management of wastes from various WIA IRP sites in one central location for temporary, on-island storage, pending final disposal of the wastes.</p>
GEO_HYDRO	<p>Shallow groundwater occurs beneath Site OT13 within sands and gravels and lithified limestone, which constitute the main water-bearing units for the atoll.</p> <p>Depth-to-groundwater at the site ranges from 8 to 19 feet bgs. In the area near Site OT13, groundwater generally flows south and southwest toward the ocean. A groundwater study conducted at the site indicates that the average hydraulic gradient was estimated to be 0.001 foot per foot and that groundwater seepage velocity at the site was estimated to be 43 feet per day. It is not anticipated that groundwater in this area will be developed as a potable drinking water source because of its limited extent and high salinity.</p>
COC	<p>Benzo[a]pyrene, lead, and PCBs in surface soil and lead and PCBs in subsurface soil at Decision Units B, C, and E for the hypothetical future residential exposure land use scenario. No COCs in site soil were identified for the occupational worker land use scenario.</p>

Wake Island Airfield Site OT013_SITE_SUMMARY_IRP

INVESTIGATION_ACTIONS	Environmental investigations have been performed at Site OT13 since 1984. These include an Installation Restoration Program (IRP) Phase 1 Records Search in 1984; an IRP Phase 2 pre-survey in 1986; a Remedial Investigation/Feasibility Study (RI/FS) Stage 1 investigation in 1991; a transformer removal action in 1992; a Preliminary Assessment (PA) in 1995; an Engineering Evaluation/Cost Analysis (EE/CA) investigation in 2003; and a supplemental EE/CA investigation between 2007 and 2008. Soil, groundwater, and sediment samples were collected and analyzed for a variety of possible contaminants including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH), polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), pesticides, herbicides, and metals. The investigation results indicated that PAHs, lead, and PCBs are present in site soil at concentrations that pose unacceptable risks to human health.
FINAL_REM_ACTION	The selected final remedy for the contaminated soil areas at Site OT013 is land use controls in the form of nonengineered mechanisms such as administrative and legal controls.
CONT_RISK	A supplemental human health risk assessment was conducted as part of the 2007-2008 EE/CA investigation to further characterize the potential risks to human health. The results indicate that elevated concentrations of benzo[a]pyrene, lead, and PCBs in surface soil and elevated concentrations of lead and PCBs in subsurface soil at Site OT13 pose potential unacceptable risks to hypothetical future residents. A summary of risks are as follows: <u>Occupational Workers</u> cancer risk: 9×10^{-7} to 6×10^{-5} ; HI = 0.05 to 0.7 <u>Hypothetical Future Residents</u> cancer risk: 3×10^{-6} to 2×10^{-4} ; HI=0.05 to 2.0
RATIONALE	
RECOMMENDATIONS	
REFERENCES_	United States Air Force (USAF). 2011. <i>Record of Decision for Site OT13 (Scrap Metal Pile No. 2 and Burn Area), Wake Island Airfield, Wake Atoll</i> . September. (2011 ROD)
STATUS	

Appendix C
Pacific Regional Support Center Operating
Instruction 32-7001
Land Use Control Management

PRSCOI32-7001

BY ORDER OF THE COMMANDER, PACIFIC AIR FORCES (PACAF) REGIONAL
SUPPORT CENTER (PRSC)
PACIFIC AIR FORCES REGIONAL SUPPORT CENTER OPERATING INSTRUCTION
32-7001

27 FEBRUARY 2014

Civil Engineering

LAND USE CONTROL MANAGEMENT

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publication and forms are available upon request at the PRSC

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: AFCEC/OLAR

Certified By: PRSC/CD (Lt Col Robert S. Neiper)

Pages: 1-8

This operating instruction (OI) implements Air Force Policy Directive (AFPD) 32-70, *Environmental Quality*, and is used in conjunction with AFIs (Air Force Instruction) 32-7020, *The Environmental Restoration Program*, 32-7064, *Integrated Natural Resources Management*, and 32-7066, *Environmental Baseline Surveys in Real Estate Transactions*. It prescribes the processes and responsibilities for the management of and compliance with land use controls (LUC) on all Pacific Air Forces Regional Support Center (PRSC) installations and is written to complete implementation of all LUCs for which the PRSC has responsibility. These LUCs result primarily from environmental restoration activities by PRSC and predecessor AF units, which are documented in the Records of Decision (ROD) and Decision Documents (DD) recorded in the Environmental Restoration Program (ERP) Administrative Record at Joint Base Elmendorf Richardson (JBER). It applies to all military and civilian organizations that occupy facilities, or conduct activities on any PRSC installations. It does not apply to Guard and Reserve Units (unless they occupy or use PRSC installations). Refer recommended changes and questions about this publication to the office of primary responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*. Route the AF Form 847 through the appropriate chain of command. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Information Management System (AFRIMS), Records Disposition Schedule (RDS). See **Attachment 1** for Glossary of References and Supporting Information. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

1. General:

1.1. LUCs, often used interchangeably with institutional controls (IC), are administrative, procedural, and regulatory measures to control human access to and use of property. LUCs are supplementary to engineering controls for short-term and long-term management to prevent or limit human and environmental exposure to hazardous substances, pollutants, or contaminants. Examples of LUCs include mandatory signage and other communication requirements, limitations on the depth or location of excavations, prohibition of or restrictions on well drilling and use of ground water, management of excavated soils, and prohibition of certain land uses.

1.2. LUCs were established at active and inactive PRSC (formerly 611 ASG) sites through agreements between the AF and the US Environmental Protection Agency (USEPA) and/or the Alaska Department of Environmental Conservation (ADEC). The LUCs were implemented at numerous ERP sites at Alaska and Pacific remote installations through RODs for Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) sites, or DDs for petroleum-contaminated sites. LUCs are also implemented on landfills, historic/archaeological sites or wetlands as a result of other regulatory or managerial requirements. Interim LUCs may be administratively imposed at appropriate sites to prevent exposures. LUCs must be in place as long as a property is not available for unrestricted use or unlimited exposure. They may include temporary or permanent restrictions or requirements. When all cleanup goals have been achieved for a given site, LUCs may be removed with regulatory approval.

2. Responsibilities:

2.1. When conducting any project or activity on a PRSC installation, all PRSC personnel, tenants and contractors will comply with all LUCs and applicable Air Force instructions. PRSC supervisors, chiefs, and managers will provide training in LUC implementation and management to all affected personnel. Base contractors and tenant organizations will have LUC compliance requirements incorporated into their contracts and interagency agreements, as necessary. Failure to comply with LUCs will be grounds for penalty, in accordance with provisions specified in applicable contract documents. At project completion, the PRSC unit, tenant or contractor will sign a certification of LUC compliance and return the document to the AFCEC/OLAR LUC manager.

2.2 Organizations:

2.2.1. Environmental Restoration (AFCEC/OLAR):

2.2.1.1. Will provide site-specific LUC requirements for all installations, active and inactive, and identify any known contaminated soil or groundwater sites and monitoring wells for the area of any proposed project.

2.2.1.2. Will manage ERP sites and projects to obtain site closure when practical according to regulation and Air Force policy.

2.2.1.3. Will conduct 5-year reviews and other monitoring activities as required by RODs and DDs, as well as interim measures.

2.2.1.4. AFCEC/OLAR will insure that contracting service centers, will program projects as necessary to conduct monitoring activities and long-term management of sites.

2.2.1.5. Will maintain and periodically update the administrative record of environmental remediation documents, and will provide all in-house, contractor and community members with Administrative Record access information as needed.

2.2.1.6. Will prepare annual LUC compliance reports and submit reports to ADEC and/or US Environmental Protection Agency (USEPA) in accordance with ROD/DD requirements and regulations.

2.2.1.7. Will disseminate LUC information to personnel involved in LUC management, including 611 CES/CEIA for Real Estate issues, 611 ASUS/QA for quality assurance (QA) checklist items, and 611 CES/CEN for inclusion/input in the Geospatial Information System (GIS).

2.2.1.8. Will operate an active community relations program that includes updated fact sheets with LUC information, notices through the installation network and group periodical publications, and LUC management briefs at project kick-off meetings or Restoration Advisory Board (RAB) meetings.

2.2.1.9. Will maintain copies of signed certifications of compliance, documenting adherence to LUCs during project execution.

2.2.1.10. Through the LUC manager, will maintain the overall LUC Management Plan, and will coordinate revisions as necessary of the Plan and this instruction.

2.2.1.11. Will make recommendations to the PRSC commander for reassignment of responsibilities bulleted in this instruction during any reorganization of the PRSC and/or AFCEC.

2.2.2. Natural and Cultural Resources (611 CES/CEIE):

2.2.2.1. Will conduct site visits and documentation reviews as needed to ensure compliance with LUCs not otherwise described in a ROD or DD, including permitted landfills, historic properties, wetlands and wildlife areas.

2.2.2.2. Will provide site-specific LUC requirements for all installations to PRSC personnel, tenants and contractors as needed for activities and project management.

2.2.2.3. Will provide reviews, analyses and consultation for all Categorical Exclusions, Environmental Assessments or Environmental Impact Statements to ensure compliance with AFIs 32-7064, Integrated Natural Resources Management, AFI 32-7065, Cultural Resources Management Program, the National Historic Preservation Act, Archaeological Resources Protection Act, the Native American Graves Protection and Repatriation Act and the Threatened and Endangered Species Act.

2.2.2.4. Will conduct 5-year reviews and other monitoring activities as necessary to verify compliance with the laws and instructions given above.

2.2.3. The 611 CES/CEN and 611 CES/CEI:

2.2.3.1. Will incorporate LUCs into the Base General Plan(s) (BGP), which will be available to all PRSC personnel, contractors, and site tenants to aid in the installation planning processes and management. The BGP will be consulted prior to installation projects or proposals for changes in land use or ownership.

2.2.3.2. Will coordinate on any activities or projects which could affect LUCs, to ensure regulatory compliance is maintained.

2.2.3.3. Will require an AF Form 332, *Base Civil Engineer Work Request*, at the initial planning phase of all projects, including those initiated by tenant organizations. If the project is in an area with LUCs, AFCEC/OLAR will coordinate with 611 CEIA to include specific information about the LUCs in the project location. The 611 CES/CEIA will ensure a project siting review is conducted and that AFCEC/OLAR (formerly 611 CES/CEAR) coordinates on the review.

2.2.3.4. Real Estate will ensure LUCs are incorporated into all appropriate real estate instruments. In accordance with AFI 32-7066 land use and groundwater use restrictions identified in Environmental Baseline Surveys (EBS) will be incorporated into real estate instruments. The EBS will be included in the real estate transaction administrative record.

2.2.3.5. Real Estate will notify AFCEC/OLAR at least 12 months prior to any lease, transfer, or sale of Air Force land to coordinate environmental regulatory compliance in the lease, transfer, or sale terms. USEPA and ADEC will be provided review and comment opportunities regarding federal-to-federal transfers. LUCs will be included in any EBS or Findings of Suitability for Transfer.

2.2.4. Programs Flight (611 CES/CEN):

2.2.4.1. Will ensure compliance with LUCs by incorporating general LUC language, provided by now AFCEC/OLAR (formerly 611 CES/CEAR), in technical provisions and environmental constraints/ protection measures of construction contract documents.

2.2.4.2. Will maintain and revise the PRSC Base General Plan, in accordance with AFI 32-7062, Air Force Comprehensive Planning, to include all available and applicable LUC information as required by RODs, DDs, regulation and Air Force policy.

2.2.4.3. Will inspect and ensure contractors are complying with this OI as the Contracting Officer's Technical Representative.

2.2.5. Technical Support AFCEC/OLAR:

2.2.5.1. Will post a LUC map layer to an interactive map on the installation network, allowing all installation organizations access to LUC data on their desktop computers. LUC data will include boundaries and depths as well as links to details of limitations and controls.

2.2.5.2. As necessary, will incorporate LUCs into installation or site maps to be provided to PRSC or contractor personnel for project planning/execution.

2.2.6. Operations Flight (611 CES/CEO):

2.2.6.1. Will ensure compliance with LUCs by obtaining the appropriate signatures and concurrences are completed on an AF IMT 103, *Base Civil Engineer Work Clearance Request*, or local equivalent, and submit the AF IMT 103 to the 611 CES Customer Service office for 611 CES/CEO approval and final signature authority.

2.2.6.2. Will maintain approved and completed AF IMT 103 documents, log and file in 611 CES/CEOS and make available these work requests and supporting documents for duplication as needed.

2.2.6.3. Will coordinate use of permits and work requests, modified as necessary, for use as dig permit to include communication of LUCs and limitations on excavation and other operations/activities.

2.2.7. Infrastructure Systems (611 CES/CEO):

2.2.7.1. Will ensure compliance by preparing and coordinating AT IMT 103 or equivalent for all appropriate activities.

2.2.7.2. Will revise and coordinate Form AF IMT 103 for uniform use on all projects executed at installations in which mechanized equipment penetrates or disturbs the ground, or hand digging that penetrates more than 4 inches below the ground surface.

2.2.8. The 611th Air Support Squadron (611 ASUS):

2.2.8.1. Quality Assurance Flight (611 ASUS/QA):

2.2.8.1.1 Will include qualified personnel on all applicable QA teams to verify contractor compliance with LUCs.

2.2.8.1.2. Will include QA checklist items (to be coordinated with AFCEC/OLAR formerly 611 CES/CEAR) specifically verifying LUC compliance at all installations and sites, as part of the overall Environmental checklist.

2.2.8.1.3. Will conduct LUC compliance verification as part of the regular QA inspection schedule for all PRSC installations and sites, and will conduct special LUC compliance verification visits as directed by the PRSC commander.

2.2.8.1.4. Will report to AFCEC/OLAR LUC manager results of QA inspections with respect to LUCs, including compliance, deficiencies and recommended updates.

2.2.8.1.5 Will include LUC requirements and scope on contracts sufficient to require the contractor(s) to comply and assist in implementation of LUCs, as tasked.

2.3. Contracting service centers, such as the US Army Corps of Engineers (COE) and the Air Force Civil Engineer Center (AFCEC), will ensure compliance with LUCs by incorporating general LUC language, provided by AFCEC/OLAR (formerly 611 CES/CEAR), in technical provisions and environmental constraints/protection measures of construction contract documents. These agencies will ensure contractors are complying with this Instruction.

3. Termination of LUCs at PRSC Installations:

3.1. The LUCs will be terminated as specified in the ROD/DD or applicable documentation, when the sites have met required cleanup goals. The PRSC will seek prior concurrence from USEPA and/or ADEC to terminate LUCs or modify current land uses. In addition, PRSC will seek prior concurrence before any anticipated action that may disrupt the effectiveness of the LUCs, or any action that may alter or be inconsistent with the land use assumptions or land uses described in the respective ROD/DD.

3.2. AFCEC/OLAR LUC manager will initiate termination of LUCs when a site meets requirements. The LUC manager will coordinate PRSC efforts for termination. The LUC manager will provide updates to the ERP Administrative Record, as necessary.

3.3. The LUC manager will communicate any changes in LUCs, including efforts to terminate, to all necessary PRSC flights and sections, including CES/CEIA Real Estate for update of the real estate transaction administrative record.

4. Information Collections. No information collections are required by this publication.

ROBYN M. BURK, Colonel, USAF
Commander

Attachment:
Glossary of References and Supporting Information

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION****References**

AFPD 32-70, *Environmental Quality*, 20 July 1994

AFI 32-7020, *The Environmental Restoration Program*, 7 February 2001

AFI 32-7062, *Air Force Comprehensive Planning*, 1 October 1997

AFI 32-7064, *Integrated Natural Resources Management*, 17 September 2004

AFI 32-7065, *Cultural Resources Management Program*, 1 June 2004

AFI 32-7066, *Environmental Baseline Surveys in Real Estate Transactions*, 1 June 2004

AFMAN 33-363, *Management of Records*, 8 March 2008

Adopted Forms

AF Form 332, *Base Civil Engineer Work Request*

AF Form 847, *Recommendation for Change of Publication*

AF IMT 103, *Base Civil Engineer Work Clearance Request*

Prescribed Forms

No forms were prescribed by this publication.

Abbreviations and Acronyms

ADEC — Alaska Department of Environmental Conservation

AFCEC — Air Force Civil Engineer Center

AFI — Air Force Instruction

AFMAN — Air Force Manual

AFPD — Air Force Policy Directive

ASG — Air Support Group

BGP — Base General Plan

CERCLA — Comprehensive Environmental Response, Compensation and Liability Act

COE — Corps of Engineers

DD — Decision Document

EBS — Environmental Baseline Survey

ERP — Environmental Restoration Program

GIS — Geospatial Information System

IC — Institutional Control

JBER — Joint Base Elmendorf-Richardson

LUC — Land Use Control

OPR — Office of Primary Responsibility

QA — Quality Assurance

RAB — Restoration Advisory Board

ROD — Record of Decision

USEPA — US Environmental Protection Agency

Appendix D
U.S. Air Force and
U.S. Department of Defense Forms

BASE CIVIL ENGINEERING WORK CLEARANCE REQUEST <i>(See Instructions on Reverse)</i>		DATE PREPARED
1. Clearance is requested to proceed with work at _____ on Work Order No. _____, Contract No. _____, involving excavation or utility disturbance per attached sketch. This area <input type="checkbox"/> has <input type="checkbox"/> has not been staked or clearly marked.		
2. TYPE OF FACILITY/WORK INVOLVED <input type="checkbox"/> A. PAVEMENTS <input type="checkbox"/> D. FIRE DETECTION & PROTECTION SYSTEMS <input type="checkbox"/> G. AIRCRAFT OR VEHICULAR TRAFFIC FLOW <input type="checkbox"/> B. DRAINAGE SYSTEMS <input type="checkbox"/> E. UTILITY <input type="checkbox"/> OVERHEAD <input type="checkbox"/> UNDERGROUND <input type="checkbox"/> H. SECURITY <input type="checkbox"/> C. RAILROAD TRACKS <input type="checkbox"/> F. COMM <input type="checkbox"/> OVERHEAD <input type="checkbox"/> UNDERGROUND <input type="checkbox"/> I. OTHER		
3. DATE CLEARANCE REQUIRED		4. DATE OF CLEARANCE
5. SIGNATURE OF REQUESTING OFFICIAL		6. TELEPHONE NO.
		7. ORGANIZATION
ORGANIZATION	REMARKS <i>(Use Reverse for additional)</i>	REVIEWER'S NAME AND INITIALS
8. B A S E C I V I L E N G I N E E R I N G	A. ELECTRICAL DISTRIBUTION	
	B. STEAM DISTRIBUTION	
	C. WATER DISTRIBUTION	
	D. POL DISTRIBUTION	
	E. SEWER DISTRIBUTION	
	F. ENVIRONMENTAL	
	G. PAVEMENTS/ GROUNDS	
	H. FIRE PROTECTION	
	I. ZONE _____	
	J. OTHER <i>(Specify)</i>	
9. SECURITY POLICE		
10. SAFETY		
11. COMMUNICATIONS		
12. BASE OPERATIONS		
13. CABLE TV		
14. COMMERCIAL UTILITY COMPANY <input type="checkbox"/> TELEPHONE <input type="checkbox"/> GAS <input type="checkbox"/> ELECTRIC		
15. OTHER <i>(Specify)</i> _____		
16. REQUESTED CLEARANCE <input type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED		
17. TYPED NAME AND SIGNATURE OF APPROVING OFFICER <i>(Chief of Operations Flight or Chief of Engineering Flight)</i>		17a. DATE SIGNED

INSTRUCTIONS

The BCE work clearance request is used for any work (contract or in-house) that may disrupt aircraft or vehicular traffic flow, base utility services, protection provided by fire and intrusion alarm system, or routine activities of the installation. This form is used to coordinate the required work with key base activities and keep customer inconvenience to a minimum. It is also used to identify potentially hazardous work conditions in an attempt to prevent accidents. The work clearance request is processed just prior to the start of work. If delays are encountered and the conditions at the job site change (or may have changed) this work clearance request must be reprocessed.

18. REMARKS. *(This section must describe specific precautionary measure to be taken before and during work accomplishment. Specific comments concerning the approved method of excavation, hand or powered equipment, should be included.)*

BASE CIVIL ENGINEER WORK REQUEST
(See Reverse for Instructions)

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average .3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to the Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project 0704-0188, Washington DC 20503. Please DO NOT RETURN your form to either of these addresses. Send your completed form to HQ AFESC/DEMG.

SECTION I - TO BE COMPLETED BY REQUESTER

1. FROM (Organization)	2. OFFICE SYMBOL	3. DATE OF REQUEST	4. WORK REQUEST NO. (For BCE Use)
5. NAME AND PHONE NO. OF REQUESTER		6. REQUIRED COMPLETION DATE	7. BUILDING, FACILITY OR STREET ADDRESS WHERE WORK IS TO BE ACCOMPLISHED
8. DESCRIPTION OF WORK TO BE ACCOMPLISHED (Include Sketch or Plan, when appropriate)			
9. BRIEF JUSTIFICATION FOR WORK TO BE ACCOMPLISHED (Not required for maintenance and repair)			
10. DONATED RESOURCES			
	FUNDS	LABOR	MATERIAL
			CONTRACT BY REQUESTER
			NONE
11. NAME OF REQUESTER		12. GRADE OF REQUESTER	13. SIGNATURE OF REQUESTER (See Reverse of Form)
14. COORDINATION			

SECTION II - FOR BASE CIVIL ENGINEER USE

15. WORK ORDER (Place an "X" in the appropriate box.)			
	IN-SERVICE	SELF-HELP	CONTRACT
			SABER
16. DIRECT SCHEDULED WORK (Place an "X" in the appropriate box.)			
	EMERGENCY	URGENT	ROUTINE
			SELF-HELP
			M/C
17. SELF-HELP (Place an "X" in the appropriate box.)			
	BRIEFING REQUIRED	ADEQUATE COORDINATION	INSPECTION REQUIRED

SECTION III - COMPLETE ONLY IF WORK IS TO BE ACCOMPLISHED BY WORK ORDER

18. WORK CLASS	19. PRIORITY	20. ESTIMATED HOURS	21. ESTIMATED FUNDED COST	22. ESTIMATED TOTAL COST
23. THERE IS NO NEED FOR AN ENVIRONMENTAL ASSESSMENT (AFR 19-2)		24. A WRITTEN ASSESSMENT IS BEING/HAS BEEN PROCESSED	25. APPROVED	26. DISAPPROVED
27. REMARKS				

SECTION IV - APPROVING AUTHORITY

28. NAME AND GRADE (Please Type or Print)	29. SIGNATURE	30. DATE
---	---------------	----------

1. COMPONENT	FY _____ MILITARY CONSTRUCTION PROJECT DATA	2. DATE <i>(YYYYMMDD)</i>	REPORT CONTROL SYMBOL DD-A&T(A)1610	
3. INSTALLATION AND LOCATION		4. PROJECT TITLE		
5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST (\$000)	
9. COST ESTIMATES				
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
				0.00
10. DESCRIPTION OF PROPOSED CONSTRUCTION				

Appendix E

Generic Land Use Control Inspection Checklists

LAND USE CONTROL GENERIC SITE INSPECTION CHECKLISTS

The following checklists are intended to assist in the development of checklists specific to the individual PRSC site with LUCs in effect.

SITE INFORMATION	
Site Name/Site ID:	Date of Inspection:
Location and Region:	EPA ID:
Lead Agency Contact Information (Air Force RPM): Name: Department: Address: Phone Number:	Weather/temperature:
Regulatory Agency Contact Information: Name: Agency: Department: Address: Phone Number:	LUC Remedies Includes: (Check all that apply) <input type="checkbox"/> Landfill cover/containment <input type="checkbox"/> Access controls <input type="checkbox"/> Engineering controls <input type="checkbox"/> Institutional controls <input type="checkbox"/> Other -
Attachments: <input type="checkbox"/> Inspection team roster attached Inspection Team Members: <div style="text-align: right;"><input type="checkbox"/> Site map attached</div>	

GENERAL SITE CONDITIONS			
A. Roads	<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A	
1. Roads damaged Remarks:	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Roads adequate	<input type="checkbox"/> N/A
B. Other Site Conditions			
Remarks:			

INSTITUTIONAL CONTROLS

1. Implementation and enforcement

Site conditions imply ICs not properly implemented Yes No N/A
Site conditions imply ICs not being fully enforced Yes No N/A

Type of monitoring (e.g., self-reporting, drive by):

Frequency:

Responsible party/agency:

Reporting is up-to-date Yes No N/A
Reports are verified by the lead agency Yes No N/A

Specific requirements in deed or decision documents have been met Yes No N/A

Violations have been reported Yes No N/A

Other problems or suggestions: Report attached

2. Adequacy ICs are adequate ICs are inadequate N/A

Remarks:

D. General

1. Vandalism/trespassing Location shown on site map No vandalism evident

Remarks:

2. Land use changes on site Yes No

Remarks:

3. Land use changes off site N/A

Remarks:

ACCESS CONTROLS			
A. Fencing			
1. Fencing damaged Remarks:	<input type="checkbox"/> Location shown on map	<input type="checkbox"/> Gates secure	<input type="checkbox"/> N/A
B. Other Access Restrictions			
1. Signs and other security measures Remarks:	<input type="checkbox"/> Location shown on map		<input type="checkbox"/> N/A

LANDFILL COVERS		<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A
A. Landfill Surface			
1. Settlement (Low spots) Aerial extent Depth Remarks:	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Settlement not evident	
2. Cracks Lengths Widths Remarks:	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Cracking not evident	
3. Erosion Aerial extent Depth Remarks:	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Erosion not evident	
4. Holes Aerial extent Depth Remarks:	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Holes not evident	
5. Vegetative Cover <input type="checkbox"/> Trees/Shrubs (indicate size and locations on a diagram) Remarks:	<input type="checkbox"/> Grass	<input type="checkbox"/> Cover properly established	<input type="checkbox"/> No signs of stress
6. Alternative Cover (armored rock, concrete, etc.) Remarks:			<input type="checkbox"/> N/A

<p>7. Bulges Arial extent Depth Remarks:</p>	<p><input type="checkbox"/> Location shown on site map <input type="checkbox"/> Depth</p>	<p><input type="checkbox"/> Bulges not evident</p>
<p>8. Wet Areas/Water Damage <input type="checkbox"/> Wet areas <input type="checkbox"/> Ponding <input type="checkbox"/> Seeps <input type="checkbox"/> Soft subgrade <input type="checkbox"/> N/A Remarks:</p>	<p><input type="checkbox"/> Wet areas/water damage not evident <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map</p>	<p><input type="checkbox"/> Arial extent <input type="checkbox"/> Arial extent <input type="checkbox"/> Arial extent <input type="checkbox"/> Arial extent</p>
<p>9. Slope Instability Arial extent Remarks:</p>	<p><input type="checkbox"/> Slides <input type="checkbox"/> Location shown on site map</p>	<p><input type="checkbox"/> No evidence of slope instability</p>
<p>B. Benches</p>	<p><input type="checkbox"/> Applicable</p>	<p><input type="checkbox"/> N/A</p>
<p>1. Flows Bypass Bench Remarks:</p>	<p><input type="checkbox"/> Location shown on site map</p>	<p><input type="checkbox"/> N/A</p>
<p>2. Bench Breached Remarks:</p>	<p><input type="checkbox"/> Location shown on site map</p>	<p><input type="checkbox"/> N/A</p>
<p>3. Bench Overtopped Remarks:</p>	<p><input type="checkbox"/> Location shown on site map</p>	<p><input type="checkbox"/> N/A</p>
<p>C. Letdown Channels Remarks:</p>	<p><input type="checkbox"/> Applicable</p>	<p><input type="checkbox"/> N/A</p>

1. Settlement Arial extent Depth Remarks:	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of settlement	<input type="checkbox"/> No evidence of settlement	
2. Material Degradation Material type Remarks:	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of degradation	<input type="checkbox"/> No evidence of degradation	
3. Erosion Arial extent Depth Remarks:	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of erosion	<input type="checkbox"/> No evidence of erosion	
4. Undercutting Arial extent Depth Remarks:	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of undercutting	<input type="checkbox"/> No evidence of undercutting	
5. Obstructions Type Size Remarks:	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> No obstructions	<input type="checkbox"/> No obstructions	
6. Excessive Vegetative Growth Type <input type="checkbox"/> No evidence of excessive growth <input type="checkbox"/> Vegetation in channels does not obstruct flow <input type="checkbox"/> Location shown on site map Arial extent Remarks:			
D. Cover Penetrations		<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A
1. Gas Vents <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Evidence of leakage at penetration Remarks:	<input type="checkbox"/> Active <input type="checkbox"/> Functioning	<input type="checkbox"/> Passive <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Needs maintenance	<input type="checkbox"/> Good condition <input type="checkbox"/> N/A
2. Gas Monitoring Probes <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Evidence of leakage at penetration Remarks:	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled <input type="checkbox"/> Needs O&M	<input type="checkbox"/> Good condition <input type="checkbox"/> N/A

3. Monitoring Wells (within surface area of landfill)			
<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled	<input type="checkbox"/> Good condition
<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> Needs O&M	<input type="checkbox"/> N/A
Remarks:			
4. Leachate Extraction Wells			
<input type="checkbox"/> Properly secured/locked	<input type="checkbox"/> Functioning	<input type="checkbox"/> Routinely sampled	<input type="checkbox"/> Good condition
<input type="checkbox"/> Evidence of leakage at penetration		<input type="checkbox"/> Needs O&M	<input type="checkbox"/> N/A
Remarks:			
5. Settlement Monuments			
	<input type="checkbox"/> Located	<input type="checkbox"/> Routinely surveyed	<input type="checkbox"/> N/A
Remarks:			
F. Cover Drainage Layer		<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A
1. Outlet Pipes Inspected		<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
Remarks:			
2. Outlet Rock Inspected		<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
Remarks:			
G. Detention/Sedimentation Ponds		<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A
1. Siltation		Arial extent Depth	<input type="checkbox"/> N/A
Remarks:			
2. Erosion		Arial extent Depth	<input type="checkbox"/> N/A
Remarks:			
3. Outlet Works		<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
Remarks:			
4. Dam		<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
Remarks:			

H. Retaining Walls	<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A
1. Deformations Horizontal displacement Rotational displacement <input type="checkbox"/> N/A Remarks:	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Deformation not evident Vertical displacement
2. Degradation <input type="checkbox"/> N/A Remarks:	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Degradation not evident
I. Perimeter Ditches/Off-Site Discharge	<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A
1. Siltation Aerial extent Remarks:	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Siltation not evident Depth
2. Vegetative Growth <input type="checkbox"/> Vegetation does not impede flow Aerial extent Remarks:	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A Type
3. Erosion Aerial extent Remarks:	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Erosion not evident Depth
4. Discharge Structure Remarks:	<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A

VERTICAL BARRIER WALLS		<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A
1. Settlement	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Settlement not evident	
Arial extent	<input type="checkbox"/> Depth		
Remarks:			
2. Performance Monitoring	Type of monitoring		
<input type="checkbox"/> Performance not monitored		<input type="checkbox"/> Evidence of breaching	
Frequency			
Head differential			
Remarks:			

OTHER LUC COMPONENTS IN PLACE
<i>If there are other LUC components applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the LUC.</i>

XI. OVERALL OBSERVATIONS
Implementation of the LUC
<i>Describe issues and observations relating to whether the LUC is effective and functioning as designed.</i>
Early Indicators of Potential LUC Failure
<i>Describe issues and observations such as unexpected changes to land use or unexpected activities that suggest that the protectiveness of the LUC may be compromised in the future.</i>

ANNUAL LAND USE CONTROL INSPECTION CHECKLIST FOR SITE **AB###**, AFCEC CZOP, JBER, ALASKA

Note: Highlighted information must be completed prior to fieldwork.

Site ID:	Name of Site:	RPT# XXX
Date (start/finish):	Date of Inspection:	
Inspection Team/Affiliation:	Date of Next Inspection:	
<p><i>This form is to facilitate full reporting of land use control (LUC) effectiveness and compliance with restrictions and reporting requirements defined in the site Record of Decision (ROD), Decision Document (DD), applicable cleanup plan, or other remedial action agreement. Consult the site ROD, DD, applicable cleanup plan, or other applicable remedial action agreement in addition to the Land Use Controls Management Plan (LUCMP) for the specific installation for any additional requirements beyond those included in this form. Any boxes with grey highlighting that are checked must be explained in the Comments section for that row or further in the Notes section. Reports of any interviews conducted during the inspection will be attached at the end of the checklist. Close coordination between the Remedial Project Manager and contractor will be required throughout the LUC inspection process.</i></p>		
Date of Applicable Decision Document:		
Media and chemicals of concern:		
Primary restrictions/description of site remedy:		
Land use documented in applicable Decision Document:		
Land use at time of previous inspection:		

**ANNUAL LAND USE CONTROL INSPECTION CHECKLIST
FOR SITE AB###, AFCEC CZOP, JBER, ALASKA**

Land use at time of last inspection (check with Installation Planning through RPM):

Is the site currently active or inactive? (If active, provide information on current use) Information on site status can be obtained from the site specific AFCEC CZOP Remedial Project Manager at 907-XXX-XXXX.

Has use/mission of the site changed since the approval of the applicable Decision Document? (If yes, explain in notes):

Date of last five year review and brief description of findings:

Installation Office, contact/phone # responsible for buildings maintenance at the site:

Installation Office, contact/phone # responsible for grounds maintenance at the site:

Contracting Office, person/phone # responsible for contracting any potential actions impacting the site (e.g. AFCEC):

Installation contact/phone # responsible for reviewing potential actions impacting the site:

ANNUAL LAND USE CONTROL INSPECTION CHECKLIST FOR SITE AB###, AFCEC CZOP, JBER, ALASKA

Please note: Any boxes with grey highlighting that are checked must be explained in the Comments/Notes sections.

Land Use Control		Inspection	Yes	No	N/A	Comments
SITE LAND USE AND REAL PROPERTY INFORMATION						
1	LUC implementation and compliance will be monitored by periodic review in accordance with the applicable Decision Document for the site.	a. Was an inspection completed during the previous year (if required per the applicable Decision Document)?				
		b. Has the prior year inspection report been prepared, provided to the appropriate regulatory agency and included in the Admin Record per the site's applicable Decision Document?				
2	Current land use will be maintained to reduce the possibility of exposure to COCs under other land use scenarios. The Installation will consult with and seek concurrence from the applicable regulatory agency before (1) terminating LUCs; (2) modifying current land uses (3) initiating any anticipated action that may affect the effectiveness of the LUCs; or, (4) undertaking any action that may be inconsistent with the future land use assumptions or current land uses described in the Decision Document.	a. Has land use changed since the approval of the applicable Decision Document? Has land use changed since the last LUC inspection? (Check with Installation planning via RPM). If yes to either question, explain in notes.				
		b. If yes, was concurrence obtained from the applicable regulatory agency prior to terminating LUCs or modifying current land uses?				
3	LUCs typically restrict excavation, digging, and drilling within the restricted area without an approved Health and Safety Plan (HSP), use of proper Personal Protective Equipment (PPE), and other necessary precautions. If excavated contaminated soils, groundwater, and/or debris cannot be contained within the site, they must be properly transported to or disposed of at a facility that is acceptable for disposal of CERCLA waste under the Off-site Disposal Rule (40 CFR 300.440).	a. Has any excavation and/or construction work occurred in restricted media within the LUC boundaries since the last inspection? If yes, describe in notes.				
		b. If yes to (a), was an approved HSP completed, proper PPE used, and other necessary precautions taken? If no, describe detail in notes.				
		c. If yes to (a), was soil from within an area protected by LUCs removed from the site? If yes explain in notes the disposition of the site media (attach documentation of compliance with the				

ANNUAL LAND USE CONTROL INSPECTION CHECKLIST FOR SITE **AB###**, AFCEC CZOP, JBER, ALASKA

Land Use Control		Inspection	Yes	No	N/A	Comments
		Off-site Rule, if applicable).				
		d. If yes to (a), did the applicable state regulatory agency provide approval of the off-site disposal for contaminated soil or groundwater?				
4	<p>It is recommended that the applicable state regulatory agency (e.g., ADEC) be notified prior to performing significant construction and/or maintenance activities at sites with LUCs.</p> <p>The determination of whether a project is considered "significant" will be made by the RPM based on professional judgment considering factors including length of exposure, area of intrusive work, and impacts to long term effectiveness of the site remedy.</p>	a. Were any significant construction/maintenance activities performed at this site since the last inspection?				
		b. If yes to (a) was the applicable state regulatory agency notified? If no, describe detail in notes.				
5	<p>The Installation client will provide notice to the applicable state regulatory agency, consistent with CERCLA Section 120(h), at least six months before any transfer or sale of real property containing the site, including transfers to private, state, or local entities, so that the applicable state regulatory agency can be involved in discussions to verify that appropriate provisions are included in the transfer terms or conveyance documents to maintain effective LUCs.</p>	Has property transfer been requested, initiated, or, authorized? (Check with Installation planners via RPM).				
6	<p>The LUCMP shall be updated to include current information on all sites with LUCs.</p> <p>The Installation will notify the applicable state regulatory agency when any substantive changes are made to the land use at the sites.</p>	a. Does the LUCMP have current information on this site's LUCs? If no, provide information in notes on what updates are required and note whether substantive changes have been made that affect land use and require notification to the applicable state regulatory agency.				

ANNUAL LAND USE CONTROL INSPECTION CHECKLIST FOR SITE AB###, AFCEC CZOP, JBER, ALASKA

Land Use Control		Inspection	Yes	No	N/A	Comments
		b. If substantive changes have been (or will be) made to the LUCMP that affect land use, has the applicable state regulatory agency been notified? (Use N/A if no substantive changes have occurred).				
7	The Base General Plan (BGP) is to contain information on the specific controls, allowed uses, legal description of the LUC boundaries (where applicable as defined in the applicable Decision Document), and a precise map showing locations of LUCs. The Installation must notify the applicable state regulatory agency 30 days before any substantive changes to the land use.	a. Does the BGP contain the required information for this site?				
		b. Have substantive changes been made to the BGP that affect this site's land use designation?				
		c. If yes to (b), has the applicable state regulatory agency been notified? Note whether land use was modified or effectiveness of LUCs was affected.				
8	Coordination and approval by Installation Environmental personnel is required of any projects in LUC area to ensure procedures are complied with for any soil disturbing activities. In addition, dig permits must be coordinated through the appropriate Installation departments.	a. Does Installation Planning (through RPM) have record of any projects either planned within the LUC area(s) or currently underway? If yes, explain what the project is and timing of construction and advanced planning.				
		b. If yes to (a) have LUC requirements been communicated to the construction project lead?				
		c. If yes to (a) have project activities been properly coordinated with Installation personnel?				
		d. If a dig permit has been completed, was it approved prior to conducting the work?				
		e. If yes to (a) and the project has been completed, has an approved Certification of Compliance been obtained?				
9	LUC requirements will be communicated to Installation offices that are responsible for buildings and ground maintenance, construction, and contracting. <i>Note: These</i>	a. Have these requirements been provided to the appropriate Installation offices specified in the applicable Decision Document by the RPM (see				

ANNUAL LAND USE CONTROL INSPECTION CHECKLIST FOR SITE **AB###**, AFCEC CZOP, JBER, ALASKA

Land Use Control		Inspection	Yes	No	N/A	Comments
	<i>items are to be coordinated through the site RPM. Contractors are to contact the RPM to answer these questions. Where notification of appropriate Installation offices has not been completed or requires update, the contractor is to prepare a memo detailing the information to be distributed by the RPM for coordination with Installation offices.</i>	bldg, grounds and contractor POC info on front of this questionnaire)?				
		b. If yes to (a), are supervisors of these Installation offices aware of the requirements? Provide names and specifics.				
10	LUC training is provided annually to appropriate personnel on the Installation.	Has site specific training been provided?				
11	Perform periodic inspection of site to determine if any LUC violations have occurred as well as indicators of tampering, trespass, and unauthorized uses.	a. Is there any indication of tampering, trespassing, or unauthorized use?				
		b. Have other performance monitoring checklists developed for the site been completed?				
12	Perform visual inspection and review monitoring data (if applicable).	Is there any indication based on monitoring and/or release reports that any new releases have occurred at the site? If yes, provide details in notes.				
13	Site access (for environmental site inspection/maintenance operations or site-related construction projects) within controlled or restricted areas must be coordinated through the appropriate Installation offices.	Verify with site RPM that environmental contractor site access has been appropriately coordinated.				
14	For sites subject to community or corporate restrictions, access must be coordinated with the appropriate village or native entity.	Verify with site RPM that site access has been appropriately coordinated.				
15	If access has the potential to impact denning or nesting wildlife, appropriate safeguards and permits must be used.	Are safeguards in place and appropriate permits obtained? If no, explain in notes.				
16	Where engineering controls such as fences are included in the site remedy, inspect these controls to ensure they are functioning as intended and identify any required	Are engineering controls in place? If yes, Inspect controls and report in notes section on functionality and any required maintenance. If no, explain in notes.				

ANNUAL LAND USE CONTROL INSPECTION CHECKLIST FOR SITE AB###, AFCEC CZOP, JBER, ALASKA

Land Use Control		Inspection	Yes	No	N/A	Comments
	maintenance.					
17	LUC boundaries may need to be modified over time. Monitoring data may facilitate this evaluation. This item is applicable only where monitoring or additional sampling data subsequent to the applicable Decision Document have been collected.	Based on latest available monitoring data, is the LUC boundary still adequate?				
Notes:						
Attachments: (attach any completed site-specific inspection checklists; attach records of communication and/or list of referenced documents; note if engineering controls are functioning as intended; note if any maintenance is recommended before the next scheduled inspection is conducted, etc.)						