

AKIAK FEDERAL SCOUT ARMORY

Army Cleanup Program

Installation Action Plan

2023

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ACRONYMS

Acronym	Definition
AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AEDB-R	Army Environmental Database - Restoration
AKARNG	Alaska Army National Guard
AOC	Area of Concern
AST	Aboveground Storage Tank
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DGA	Data Gap Analysis
DRO	Diesel Range Organics
ENV	Environmental
FSCR	Federal Scout Readiness Center
FS	Feasibility Study
GRO	Gasoline Range Organics
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
mg/kg	Milligrams Per Kilogram
mg/L	Milligrams Per Liter
MR	Munitions Response
MRSP	Munitions Response Site Prioritization Protocol
PA	Preliminary Assessment
RA	Remedial Action
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)

Acronym	Definition
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRO	Residual Range Organics
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SPLP	Synthetic Precipitation Leaching Procedure
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
UST	Underground Storage Tank
WBS	Work Breakdown Structure

PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
2610A.1002	CCAK010940_AKIAK SPILL REMEDIATION	AK01094001

AKIAK FEDERAL SCOUT ARMORY

COMPLIANCE CLEANUP SITES

CCAK010940_AKIAK SPILL REMEDIATION

HQAES ID: 2610A.1002

Alias: AK01094001

Regulatory Driver: Other

RRSE: Not assigned

MRSP: Not assigned

RIP Date: 3/15/2016

RC Date: 10/15/2023

RC Reason: Not assigned

Program: Compliance Cleanup

Subprogram: CC

Phases	Start	End
PA	9/30/1994	1/31/1996
SI	9/30/1994	1/31/1996
R/FS	5/31/1998	6/30/2013
RD	--	--
IRA	--	--
RA(C)	3/15/2014	3/15/2016
RA(O)	3/15/2016	10/15/2023
LTM	--	--

Site Narrative

The Akiak Federal Scout Readiness Center (FSRC) site is located approximately 300 feet west of the Kuskokwim River. The Akiak FSRC is within city limits along Mukluk Street, a gravel-fill road that cuts through the southern boundary of the FSRC property. Access to the FSRC property is unrestricted. The FSRC site layout consists of a 20-foot by 60-foot prefabricated Butler building, an existing 1,500-gallon heating oil aboveground storage tank (AST) located at the southeast corner of the armory, and a container express storage unit located northeast of the armory.

In 1995, the Alaska Army National Guard (AKARNG) conducted a Site Inspection (SI). In 1998, the AKARNG conducted a Remedial Investigation (RI) that consisted of advancing 11 soil borings in Area of Concern (AOC) 1 and AOC 2. In addition, 15 soil gas probes were driven around the borings and four well points were installed. Soil sampling indicated diesel range organics (DRO) contamination in an area concentrated around the former and current ASTs. DRO were detected in soil as high as 44,000 milligrams per kilogram (mg/kg). Residual range organics (RRO) were detected at concentrations up to 1,100 mg/kg and gasoline range organics (GRO) were detected at concentrations up to 1,200 mg/kg. In groundwater, benzene was detected at 0.012 milligrams per liter (mg/L), which is above the 18 Alaska Administrative Code (AAC) 75.345 Table C groundwater cleanup levels.

In 2004, the AKARNG conducted an Interim Remedial Action (IRA) that removed, treated and disposed of off-site approximately 115 cubic yards of soil. Post-closure soil samples indicated that DRO contamination remained at the site as high as 20,000 mg/kg. A soil sample collected from an area with high soil contamination was used to assess the potential for leaching to groundwater using Synthetic Precipitation Leaching Procedure (SPLP) analysis. Results of the analysis indicated DRO (13 mg/L), ethylbenzene (0.079 mg/L), and xylenes (0.26 mg/L) leachate concentrations were greater than 18 AAC 75 Table C cleanup levels for groundwater.

In 2012, the AKARNG conducted a Data Gap Analysis (DGA) that fully delineated the horizontal and vertical extent of the contamination. The DGA estimated that approximately 130 cubic yards of petroleum-contaminated soil needed removal. In 2013, the AKARNG and the Alaska Department of Environmental Conservation (ADEC) signed a Record of Decision (ROD). Remedial alternatives were

selected for soil and groundwater to protect human health: Excavation of petroleum-contaminated soil and long term monitoring with institutional controls for groundwater.

In 2015, the AKARNG conducted a Remedial Action (RA). A total of 132 cubic yards of soil with DRO, GRO, and benzene contamination were removed, treated, and disposed of off-site.

Annual groundwater monitoring began in 2015. However, groundwater has not been encountered at the depth of the wells. Deeper monitoring wells were drilled during 2019 to the depth of groundwater. All constituent levels came back below ADEC cleanup levels in 2019. In 2021, all constituents levels came back below ADEC cleanup levels. The monitoring wells were abandoned. This site was remediated under Oil and Other Hazardous Substance Pollution Control, 18 AAC 75 and Water Quality Standards 18 AAC 70.

Cleanup Strategy: Final closure documentation will be received from ADEC.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
2610A.1001	CCAK010940_Akiak Spill Remediation	3/22/2018	ENV Restoration, Army

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	January 2015
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	N/A
Administrative Record is located at:	Camp Carroll 57040 Roosevelt Road Joint Base Elmendorf-Richardson, AK 99505 907-428-6760
Information Repository is located at:	City of Akiak PO Box 52028 Akiak, AK 99552 Akiak Native Community PO Box 52127 Akiak, AK 99552
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None

BETHEL ARMY AVIATION OPERATING FACILITY (AAOF)

Army Cleanup Program

Installation Action Plan

2023

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ACRONYMS

Acronym	Definition
AAOF	Army Aviation Operating Facility
AEDB-R	Army Environmental Database - Restoration
AFFF	Aqueous Film-Forming Foam
AKARNG	Alaska Army National Guard
AOI	Area of Interest
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
ENV	Environmental
FS	Feasibility Study
FY	Fiscal Year
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MR	Munitions Response
MRSP	Munitions Response Site Prioritization Protocol
ng/L	Nanograms Per Liter
PA	Preliminary Assessment
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete

Acronym	Definition
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SL	Screening Level
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
UST	Underground Storage Tank
WBS	Work Breakdown Structure

PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
2629A.1003	AK2020-01-P_BETHEL AAOF PFAS	--

BETHEL AAOF

INSTALLATION RESTORATION PROGRAM SITES

AK2020-01-P_BETHEL AAOF PFAS

HQAES ID: 2629A.1003

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 9/15/2036

RC Date: 9/15/2036

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: IR

Phases	Start	End
PA	6/18/2018	08/14/2020
SI	8/17/2020	4/30/2023
RI/FS	9/15/2029	9/15/2036
RD	--	--
IRA	--	--
RA(C)	--	--
RA(O)	--	--
LTM	--	--

Site Narrative

The Bethel AAOF and Armory, which consists of two blocks within Lot 1, is operated by the Alaska Army National Guard (AKARNG) as an aviation operating facility and a reserve readiness center, respectively. The AAOF is in Block 50 and the Armory in Block 60. The AAOF is comprised of two buildings, asphalt and concrete pavement, water and fuel/oil storage tanks, gates, and fences, and is connected by taxiway to the Bethel Airport runways. Together, the two facilities occupy 15 acres. The Bethel AAOF is on the west side of Bethel Airport, approximately 3 miles from downtown Bethel, the largest community in Alaska's Unorganized Borough with a population of a little over 6,000. The AAOF is on the western bank of the Kuskokwim River, approximately 65 miles inland from the Bering Sea. The Bethel Census Area contains just over 17,000 inhabitants in an area of some 45,500 square miles. The AAOF was leased for 55 years in 1996 until 2051, and the current 25-year lease for the Armory will expire in 2024. AKARNG began using aqueous film-forming foam (AFFF) in the mid-1990s, well after AFFF came into wide-spread use by the Department of Defense (DoD) began in 1970.

A Preliminary Assessment (PA) was completed at Bethel AAOF in 2018 to assess potential per- and polyfluoroalkyl substances (PFAS) release areas and exposure pathways to receptors. During the PA, it was determined AFFF was stored at this site. One potential PFAS release area was identified at the facility, Area of Interest (AOI) 1: Bethel AAOF Hangar.

A Site Inspection (SI) was performed in September 2021 and field activities included the collection of soil and groundwater samples. Perfluorooctanoic acid (PFOA) results exceeded the screening level (SL) in groundwater in two of the seven temporary wells that were installed at AOI 1, with a maximum concentration of 77 nanograms per liter (ng/L). Based on the results of the SI, further evaluation of AOI 1 was warranted in a Remedial Investigation (RI).

The subject site was tracked as 2629A.1002 under the Compliance-related Cleanup (CC) program. In June 2022, the site became Defense Environmental Restoration Program (DERP)-eligible.

Cleanup Strategy: A RI/Feasibility Study (FS) is needed at this site and RI/FS costs will require future funding. Further actions cannot be determined until after the RI/FS is complete.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
2629A.1001	CCAKA65011_Bethel AAOF	9/30/2012	Compliance Cleanup
2629A.1002	CCAK2020-01-P_BETHEL AAOF PFAS	6/17/2022	Compliance Cleanup

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	TBD
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	Community Involvement Plan, Administrative Record and Information Repository will all be developed as the project progresses
Administrative Record is located at:	TBD
Information Repository is located at:	TBD
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None

NATIONAL GUARD (NG) BRYANT AIRFIELD

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ACRONYMS

Acronym	Definition
AEDB-R	Army Environmental Database - Restoration
AFB	Air Force Base
AFFF	Aqueous Film-Forming Foam
AKARNG	Alaska Army National Guard
AOI	Area of Interest
BAAF	Bryant Army Airfield
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
ENV	Environmental
FS	Feasibility Study
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
JBER	Joint Base Elmendorf-Richardson
LTM	Long-Term Management
LUC	Land Use Control
MRSPP	Munitions Response Site Prioritization Protocol
NG	National Guard
PA	Preliminary Assessment
PFAS	Per- and Polyfluoroalkyl Substances
PFHxS	Perfluorohexanesulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)

Acronym	Definition
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SL	Screening Level
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
UST	Underground Storage Tank
WBS	Work Breakdown Structure

PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
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.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
02A70.1002	AK2020-02-P_BRYANT AIRFIELD PFAS CONT	--

NG BRYANT AIRFIELD

INSTALLATION RESTORATION PROGRAM SITES

AK2020-02-P_BRYANT AIRFIELD PFAS CONT

HQAES ID: 02A70.1002

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 9/15/2035

RC Date: 9/15/2035

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: IR

Phases	Start	End
PA	6/18/2018	10/21/2019
SI	12/6/2019	4/29/2023
R/FS	9/15/2028	9/15/2035
RD	--	--
IRA	--	--
RA(C)	--	--
RA(O)	--	--
LTM	--	--

Site Narrative

Bryant Army Airfield (BAAF) is located at 47430 Westbrook Ave, approximately 8 miles northeast of downtown Anchorage, Alaska. The facility is located on the Fort Richardson side of Joint Base Elmendorf–Richardson (JBER). Fort Richardson and Elmendorf Air Force Base (AFB), which is contiguous to Fort Richardson to the west, were merged in 2010 based on the recommendation of the 2005 Department of Defense (DoD) Base Realignment and Closure Commission. JBER is located north and east of Anchorage, Alaska, and is bound by the Knik Arm of Cook Inlet to the north and the Chugach Mountains to the east. The facility is within the Municipality of Anchorage, which encompasses the City of Anchorage, BAAF (within JBER), and nearby small towns such as Girdwood and Eagle River.

BAAF first appears in aerial photographs in 1953 and was used by the Army for short take-off and landing exercises. The Alaska Army National Guard (AKARNG) has been present on the airfield alongside the Army since 1972. Since 1997, BAAF has been operated solely by the AKARNG under a lease from the Army. BAAF occupies approximately 491 acres and includes a north/south runway, an east/west taxiway with a helicopter crosswind runway, multiple hangars with associated flight ramps and taxiways, and other associated ground-support structures. Large portions of the ground within the operational area of BAAF are unpaved and much of the surrounding area on BAAF is undeveloped forested land, particularly in the northern part of the facility.

A Preliminary Assessment (PA) was completed at Bryant Army Airfield to assess potential per- and poly-fluoroalkyl substances (PFAS) release areas and exposure pathways to receptors. Two areas of interest (AOIs) related to PFAS releases and aqueous film-forming foam (AFFF) storage were identified at the site based on PA data. There is potential for exposure to PFAS contamination in surface soil to site workers, construction workers, and trespassers via ingestion, and inhalation; subsurface soil and shallow groundwater to construction workers via accidental ingestion; and intermittent surface water and sediments to site workers, construction workers, trespassers, off-facility residents and off-facility recreational users.

The AKARNG leases three subdivisions on the Fort Richardson side of JBER: Camp Carroll, Camp Denali, and BAAF. Because the Preliminary Assessment (PA) identified that there was no known use of

aqueous film-forming foam (AFFF) by the AKARNG at Camp Carroll or at Camp Denali, the SI focused on BAAF, which has a history of AFFF use.

Site Inspection (SI) field activities were conducted in May 2022, with other related site visits occurring in November 2021, April 2022 and November 2022. Sampling activities included water source sampling, utility clearance, sonic boring drilling, soil sample collection, permanent monitoring well installation, groundwater sample collection and land surveying. Based on the results of the SI, further evaluation under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) was warranted in a Remedial Investigation (RI) for two of the three AOIs. At AOI 1, perfluorooctanesulfonic acid (PFOS) was detected in soil with concentrations above screening levels (SLs), and perfluorooctanoic acid (PFOA), PFOS and perfluorohexanesulfonic acid (PFHxS) were detected in groundwater with concentrations above the SLs. At AOI 2, PFOS was detected in the surface soil at concentrations above the SL. No further evaluation is warranted for AOI 3.

The subject site was tracked as 02A70.1001 under the Compliance-related Cleanup (CC) program. In March 2023, the site became Defense Environmental Restoration Program (DERP)-eligible.

Cleanup Strategy: A SI is underway at the site and will be completed in FY23. A RI/FS will be required. Further actions cannot be determined until completion of the RI/FS.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
02A70.1001	CCAK2020-02-P_BRYANT AIRFIELD PFAS CONT	4/29/2023	Compliance Cleanup

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	TBD
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	Community Involvement Plan, Administrative Record and Information Repository will all be developed as the project progresses
Administrative Record is located at:	TBD
Information Repository is located at:	TBD
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None

NATIONAL GUARD (NG) ELIM ARMORY

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Acronym	Definition
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ADEC	Alaska Department of Environmental Conservation
AEDB-R	Army Environmental Database - Restoration
AST	Aboveground Storage Tank
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DRO	Diesel Range Organic
EBS	Environmental Baseline Survey
ECMS	Elim City Maintenance Shop
ENV	Environmental
FS	Feasibility Study
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MR	Munitions Response
NG	National Guard
PA	Preliminary Assessment
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
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RIP	Remedy-In-Place

Acronym	Definition
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
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PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
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.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
2488A.1006	CCAK2019-01_ELIM SPILL REMEDIATION	--

NG ELIM ARMORY

COMPLIANCE CLEANUP SITES

CCAK2019-01_ELIM SPILL REMEDIATION

HQAES ID: 2488A.1006

Alias: None

Regulatory Driver: State Law/Statute

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 1/01/2027

RC Date: 1/01/2027

RC Reason: Not assigned

Program: Compliance Cleanup

Subprogram: CC

Phases	Start	End
PA	8/7/2017	8/17/2020
SI	4/30/2019	5/30/2021
RI/FS	1/01/2025	1/01/2027
RD	--	--
IRA	--	--
RA(C)	--	--
RA(O)	--	--
LTM	--	--

Site Narrative

The city of Elim (population 330) is located in the Cape Nome Recording District, on the northwest coast of Norton Sound, 96 miles east of Nome, Alaska. An Environmental Baseline Survey (EBS) was prepared to terminate a lease on 0.23 acres on which the Elim Readiness Center is located. The original Readiness Center building is 20-foot by 60-foot, was constructed in 1959, and was moved onto the property in 1988. The newer Readiness Center building is 30-foot by 40-foot and constructed in 1988. Three 1,500-gallon aboveground storage tanks (ASTs), a hazardous materials storage locker, and a conex box are also located on the property. There is an adjacent and upgradient Elim City Maintenance Shop (ECMS) in the Alaska Department of Environmental Conservation (ADEC) contaminated sites database. The property is a former city municipal waste disposal site and the northern portion of the site is a former tank farm.

A 2010 Property Assessment and Cleanup Plan noted the property was a storage and disposal site for used oil, lead-acid batteries, vehicles, equipment, and construction debris. In 2010, ADEC recommended environmental actions to include removal of solid and hazardous waste: development of a comprehensive plan to manage, store, and dispose of waste, and; a site characterization to determine the extent of contamination in groundwater, surface water, and soil. Approximately 80 to 100 rusted 55-gallon drums with no secondary containment were observed immediately upgradient of the property during the site visit for this EBS. Spills and stained soils were observed near the drums. This site was remediated under Oil and Other Hazardous Substance Pollution Control, 18 Alaska Administrative Code (AAC) 75 and Water Quality Standards 18 AAC 70.

A Site Inspection (SI) was performed in September 2020. Soil sampling was performed, and Diesel Range Organic (DRO) was found to exceed ADEC's applicable soil cleanup levels in one sample. Additional investigation was recommended to delineate the horizontal and vertical extent of soil contamination at this soil location, initiating the requirement for a Remedial Investigation (RI).

Cleanup Strategy: A Remedial Investigation (RI)/Feasibility Study (FS) will be performed to determine the nature and extent of the contamination. At this time there isn't sufficient documentation to plan for future actions.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
2488A.1001	ELIMA-003-R-01_SMALL ARMS RANGE A	8/31/2009	ENV Restoration, Army
2488A.1002	ELIMA-004-R-01_SMALL ARMS RANGE B	8/31/2009	ENV Restoration, Army
2488A.1003	ELIMA-002-R-01_MANEUVER AREA B	8/31/2009	ENV Restoration, Army
2488A.1004	ELIMA-001-R-01_MANEUVER AREA A	8/31/2009	ENV Restoration, Army
2488A.1005	ELIMA-005-R-01_RIFLE RANGE	8/31/2009	ENV Restoration, Army

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	TBD
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	Community Involvement Plan, Administrative Record and Information Repository will all be developed as the project progresses
Administrative Record is located at:	TBD
Information Repository is located at:	TBD
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None

NATIONAL GUARD (NG) KWETHLUK ARMORY

Army Cleanup Program

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ACRONYMS

Acronym	Definition
AAC	Alaska Administrative Code
ACL	Alternate Cleanup Level
ADEC	Alaska Department of Environmental Conservation
AEDB-R	Army Environmental Database - Restoration
AKARNG	Alaska Army National Guard
AOC	Area of Concern
AST	Aboveground Storage Tank
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DGA	Data Gap Analysis
DRO	Diesel Range Organics
ENV	Environmental
FS	Feasibility Study
FSRC	Federal Scout Readiness Center
ft	Foot/Feet
GRO	Gasoline Range Organics
HQAES	Headquarters Army Environmental System
IC	Institutional Control
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
mg/kg	Milligrams Per Kilogram
mg/L	Milligrams Per Liter
MR	Munitions Response
MRSP	Munitions Response Site Prioritization Protocol
NG	National Guard

Acronym	Definition
PA	Preliminary Assessment
RA	Remedial Action
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRO	Residual Range Organics
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SPLP	Synthetic Precipitation Leaching Procedure
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
UST	Underground Storage Tank
WBS	Work Breakdown Structure

PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
2499A.1009	CCAK210941_KWETHLUK SPILL REMEDIATION	AK21094001

NG KWETHLUK ARMORY

COMPLIANCE CLEANUP SITES

CCAK210941_KWETHLUK SPILL REMEDIATION

HQAES ID: 2499A.1009

Alias: AK21094001

Regulatory Driver: Other

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 3/15/2016

RC Date: 10/31/2023

RC Reason: Not assigned

Program: Compliance Cleanup

Subprogram: CC

Phases	Start	End
PA	8/31/1995	6/30/1996
SI	8/31/1995	6/30/1996
RI/FS	9/30/1997	6/15/2013
RD	--	--
IRA	9/30/1999	12/31/2001
RA(C)	10/31/2012	3/15/2016
RA(O)	3/15/2016	10/31/2023
LTM	--	--

Site Narrative

The Kwethluk Federal Scout Readiness Center (FSRC) is situated on the south bank of the Kwethluk River roughly half a mile east of its confluence with the Kuskokwim River. The village and armory are both subject to frequent seasonal flooding during breakup when ice jams the river, and during late summer/early fall rainstorms. The FSRC is unpaved and poorly drained. It consists of a 20- by 60-foot (ft) Butler-style prefabricated building founded on wooden piles. This building is referred to as the old armory. A 3,000-gallon single-walled heating oil aboveground storage tank (AST) was installed along the east side of the old armory. A 30- by 40-ft prefabricated building was constructed southeast of the old armory. This building is referred to as the new armory. The two buildings are connected with an enclosed walkway.

In 1995, the Alaska Army National Guard (AKARNG) conducted a Site Inspection (SI). A Remedial Investigation (RI) was conducted in 1998. Three main Areas of Concern (AOCs) were identified with the highest Diesel Range Organics (DRO) concentrations from these areas ranging from 2,000 to 19,000 milligrams/kilogram (mg/kg). Groundwater (active layer) samples collected from the two drive points installed during the investigation were analyzed for DRO, Residual Range Organics (RRO), Gasoline Range Organics (GRO), benzene, toluene, ethylbenzene, and xylenes. A DRO concentration of 3.8 milligrams/liter (mg/L) was found that exceeds the 18 Alaska Administrative Code (AAC) 75.345 Table C groundwater cleanup levels of 1.5 mg/L.

In 2000, the AKARNG performed an Interim Remedial Action (IRA). The IRA removed approximately 25 cubic yards of contaminated soil from the three AOCs. Confirmation samples were collected from the sidewalls and floor of the excavations to determine if the approved Alaska Department of Environmental Conservation (ADEC) Method 1 cleanup levels for migration to groundwater had been attained. One sample collected from the south wall of the excavation closest to the walkway had a DRO concentration of 25,400 mg/kg. ADEC approved a cleanup level of 2,000 mg/kg for DRO.

In 2005, the AKARNG conducted an Alternate Cleanup Level (ACL) demonstration. One soil sample contained concentrations of DRO (11,500 mg/kg), ethylbenzene (1.25 mg/kg), and xylenes (13.91 mg/kg) greater than 18 AAC 75 Table B Soil Cleanup Levels. In groundwater, DRO concentrations ranged from

2.37 mg/L – 5.27 mg/L, which are greater than 18 AAC 75 Table C groundwater cleanup levels. Five soil samples were collected from an area with high soil contamination to assess the potential for leaching to groundwater using Synthetic Precipitation Leaching Procedure (SPLP) analysis. One sample contained DRO (2.88 mg/L) leachate concentrations, which was greater than 18 AAC 75 Table C groundwater cleanup levels.

In 2012, the AKARNG conducted a Data Gap Analysis (DGA) that fully delineated the horizontal and vertical extent of the contamination. DRO was detected above screening levels in four soil samples ranging from (890 mg/kg – 14,000 mg/kg). A Record of Decision (ROD) was signed in 2013, which stated petroleum-contaminated soil would be remedied by excavation and shipment of excavated soil off-site. Petroleum-contaminated groundwater would be remedied by long term monitoring with institutional controls (ICs).

A Remedial Action (RA) was performed in 2015. A total of 13 cubic yards of DRO- and GRO-contaminated soil was excavated, treated, and disposed of off-site. Annual groundwater monitoring has occurred since 2015. DRO concentrations remained higher than ADEC cleanup levels in 2015 and 2018, but were below ADEC cleanup levels in 2016, 2017, 2019, and 2021. All constituents were below ADEC cleanup levels in FY22. Having had three consecutive years of samples below cleanup levels meets the criteria for a Cleanup Complete Determination. This site was remediated under Oil and Other Hazardous Substance Pollution Control, 18 AAC 75 and Water Quality Standards 18 AAC 70.

Cleanup Strategy: Annual groundwater monitoring began in 2015. The site has reached cleanup goals, and a request for closure has been initiated with ADEC as of August 2022. Site is undergoing closure review and it is not expected that anything more than well decommissioning to occur (funded).

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
2499A.1001	KWETH-005-R-01_KWETHLUK TRAINING AREA 3	7/31/2009	ENV Restoration, Army
2499A.1002	KWETH-004-R-01_KWETHLUK TRAINING AREA 2	7/31/2009	ENV Restoration, Army
2499A.1003	KWETH-002-R-01_KWETHLUK QUALIFICATION RA	7/31/2009	ENV Restoration, Army
2499A.1004	KWETH-003-R-01_KWETHLUK TRAINING AREA 1	7/31/2009	ENV Restoration, Army
2499A.1005	KWETH-001-R-01_KWETHLUK QUALIFICATION RA	7/31/2009	ENV Restoration, Army
2499A.1006	KWETH-006-R-01_BIRCH HILL WEAPONS QUALIF	7/31/2009	ENV Restoration, Army
2499A.1007	KWETH-007-R-01_KWETHLUK QUALIFICATION RA	7/31/2009	ENV Restoration, Army
2499A.1008	CCAK210941_Kwethluk Spill Remediation	3/22/2018	ENV Restoration, Army

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	N/A
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	N/A
Administrative Record is located at:	Camp Carroll 57040 Roosevelt Road Joint Base Elmendorf-Richardson 907-428-6760
Information Repository is located at:	Kwethluk City of Kwethluk PO Box 50 Kwethluk, AK 99621 Kwethluk Incorporated P.O. Box 110 Kwethluk, AK 99621
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None

NOME ARMY AVIATION OPERATING FACILITY (AAOF)

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ACRONYMS

Acronym	Definition
AAOF	Army Aviation Operating Facility
AEDB-R	Army Environmental Database - Restoration
AFFF	Aqueous Film-Forming Foam
AOI	Area of Interest
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DERP	Defense Environmental Restoration Program
ENV	Environmental
FS	Feasibility Study
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
ng/L	Nanograms Per Liter
PA	Preliminary Assessment
PFAS	Per- and Polyfluoroalkyl Substances
PFOS	Perfluorooctanesulfonic acid
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation

Acronym	Definition
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SL	Screening Level
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
UST	Underground Storage Tank
WBS	Work Breakdown Structure

PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
2648A.1002	AK2020-04-P_NOME PFAS CONTAMINATION	--

NOME AAOF

INSTALLATION RESTORATION PROGRAM SITES

AK2020-04-P_NOME PFAS CONTAMINATION

HQAES ID: 2648A.1002

Alias: None

Regulatory Driver: CERCLA

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 9/15/2036

RC Date: 9/15/2038

RC Reason: Not assigned

Program: ENV Restoration, Army

Subprogram: IR

Phases	Start	End
PA	6/18/2018	8/14/2020
SI	8/17/2020	4/30/2023
RI/FS	9/15/2029	9/15/2036
RD	--	--
IRA	--	--
RA(C)	--	--
RA(O)	--	--
LTM	--	--

Site Narrative

The Nome AAOF is in Nome, Alaska, on the southern coast of the Seward Peninsula, the middle of Alaska's three western lobes, approximately 130 miles from the Bering Strait. The AAOF is comprised of a single hangar where Prospect Street meets New Center Creek Road, across from Runway 12 near the northeastern end of the airfield. The 1.07-acre lot consists of the AAOF hangar, a section of asphalt pavement, a concrete pad, water and fuel/oil storage tanks, underground piping, and a wash water recycling system. The AAOF lies on a gently sloping coastal plain approximately a quarter mile inland from Norton Sound, an embayment of the Bering Sea. The coastal plain consists mainly of unconsolidated glacial deposits grading into colluvium at the foothills of the mountains to the northeast and worked into beach deposits along the coast. Loess deposits, along with silty gravel, silt, and peat are present over much of the plain, ranging in thickness from 1 to 36 feet.

A Preliminary Assessment (PA) site visit was completed at Nome AAOF in August 2018 to assess potential per- and polyfluoroalkyl substances (PFAS) release areas and exposure pathways to receptors. During the PA it was determined aqueous film forming foam (AFFF) was stored at this site, and one Area of Interest (AOI) was identified (AOI 1 – AAOF Hangar).

A Site Inspection (SI) was performed in September 2021 and field activities included collection of soil and groundwater samples. Perfluorooctanesulfonic acid (PFOS) was found to exceed the screening level (SL) in groundwater in three of the six temporary wells that were installed at AOI 1, with a maximum concentration of 89 nanograms per liter (ng/L). Based on the results of the SI, further evaluation of AOI 1 was warranted in a Remedial Investigation (RI).

The subject site was tracked as 2648A.1001 under the Compliance-related Cleanup (CC) program. In June 2022, the site became Defense Environmental Restoration Program (DERP)-eligible.

Cleanup Strategy: A RI/Feasibility Study (FS) will be required at this site. Further actions cannot be determined until after the RI/FS is complete.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
2648A.1001	CCAK2020-04-P_NOME PFAS CONTAMINATION	6/17/2022	Compliance Cleanup

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	TBD
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	Community Involvement Plan, Administrative Record and Information Repository will all be developed as the project progresses
Administrative Record is located at:	TBD
Information Repository is located at:	TBD
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None

NATIONAL GUARD (NG) NUNAPITCHUK ARMORY

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ACRONYMS

Acronym	Definition
AAC	Alaska Administrative Code
ACL	Alternate Cleanup Level
ADEC	Alaska Department of Environmental Conservation
AEDB-R	Army Environmental Database - Restoration
AKARNG	Alaska Army National Guard
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DGA	Data Gap Analysis
DRO	Diesel Range Organics
ENV	Environmental
FS	Feasibility Study
FSRC	Federal Scout Readiness Center
HQAES	Headquarters Army Environmental System
IC	Institutional Control
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
mg/kg	Milligrams Per Kilogram
mg/L	Milligrams/Liter
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
PA	Preliminary Assessment
RA	Remedial Action
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)

Acronym	Definition
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRO	Residual Range Organics
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
TAH	Total Aromatic Hydrocarbons
TAPP	Technical Assistance for Public Participation
TAqH	Total Aqueous Hydrocarbons
TRC	Technical Review Committee
UST	Underground Storage Tank
WBS	Work Breakdown Structure

PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
2509A.1005	CCAK270931_NUNAPITCHUK SPILL REMEDIATION	AK270931

NG NUNAPITCHUK ARMORY

COMPLIANCE CLEANUP SITES

CCAK270931_NUNAPITCHUK SPILL REMEDIATION

HQAES ID: 2509A.1005

Alias: AK270931

Regulatory Driver: Other

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 11/15/2016

RC Date: 5/15/2053

RC Reason: Not assigned

Program: Compliance Cleanup

Subprogram: CC

Phases	Start	End
PA	1/31/1993	8/31/1993
SI	6/30/1994	2/28/1995
RI/FS	7/31/1997	6/15/2013
RD	--	--
IRA	9/30/1999	12/31/2001
RA(C)	3/15/2014	11/15/2016
RA(O)	11/15/2016	5/15/2053
LTM	--	--

Site Narrative

Nunapitchuk is located on both banks of the Johnson River, 22 miles northwest of Bethel, in the Yukon-Kuskokwim Delta. The Nunapitchuk Federal Scout Readiness Center (FSRC) is 500 feet east of the Johnson River. This area is relatively flat topographic relief with numerous large and small lakes connected by slow streams and channels. Two FSRC buildings were located here until 2005. The original armory building, the Old Armory, was constructed in 1960. A second building, the New Armory, was constructed in 1988 and moved to its current location in 2006. As of October 2007, only the New Armory remained. A 1992 compliance inspection noted two releases, although the quantity of fuel released and the extent of contamination were unknown.

In 1995, the Alaska Army National Guard (AKARNG) completed a site assessment. Diesel Range Organic (DRO) concentrations ranged from 130 milligrams per kilogram (mg/kg) to 51,000 mg/kg. Benzene concentrations ranged from 0.3 mg/kg to 0.86 mg/kg. Removal and treatment of approximately 20 – 25 cubic yards of contaminated soil was recommended in addition to surface water sampling.

In 1998, the AKARNG conducted a remedial investigation (RI). DRO concentrations in soil ranged from 210 to 160,000 mg/kg. Groundwater contamination was not found. Soil sampling results indicated that Alaska Department of Environmental Conservation (ADEC) Method 2 cleanup levels should be used and that 60 – 120 cubic yards of DRO-contaminated soil be excavated.

In April 2000, the AKARNG performed an Interim Remedial Action (IRA) with the goal of removing contaminated soil to an ADEC Matrix Level D cleanup goal, thus eliminating the threat to public health and the environment. A total of 10 cubic yards of DRO-contaminated soil was removed from two areas and sent to an off-site thermal treatment facility. After the IRA, four confirmation samples exceeded 2,000 mg/kg DRO.

In 2005, an Alternate Cleanup Level (ACL) Demonstration was conducted to develop potentially applicable contaminant ACLs based on regulation and guidance for soil and groundwater. DRO concentrations in soil ranged from 173 mg/kg – 54,200 mg/kg. DRO concentrations in groundwater ranged from 1.06 milligrams per liter (mg/L) – 23,600 mg/L.

In 2007, a Compliance-related Cleanup Site Characterization was conducted to assess the lateral and vertical extent of hydrocarbon-impacted soil. DRO concentrations in the soil ranged from 133 mg/kg to 34,200 mg/kg. Laboratory results suggested biogenic interference.

A Data Gap Analysis (DGA) was conducted in 2012 and the horizontal and vertical extent of the contamination was fully delineated. DRO, benzene, toluene, 1-Methylnaphthalene, and 2-Methylnaphthalene were detected in concentrations above screening levels in soil. Additional groundwater contamination was not discovered.

A Record of Decision (ROD) was signed in 2013, which stated petroleum-contaminated soil would be remedied by excavation and shipment of excavated soil offsite. Petroleum-contaminated groundwater would be remedied by long term monitoring with institutional controls (ICs).

In 2015, the AKARNG performed a Remedial Action (RA). A total of 27 cubic yards of contaminated soil were excavated, treated, and disposed of off-site.

Annual groundwater monitoring has occurred since 2015. The October 2022 well sampling detected Residual Range Organics (RRO) at levels above the site-specific cleanup levels in three of the four monitoring wells. The 2022 surface water sampling also detected levels of Total Aromatic Hydrocarbons (TAH) above site-specific Cleanup levels at three locations and Total Aqueous Hydrocarbons (TAQH) above site-specific Cleanup levels at two locations.

This site was remediated under Oil and Other Hazardous Substance Pollution Control, 18 Alaska Administrative Code (AAC) 75 and Water Quality Standards 18 AAC 70.

Cleanup Strategy: Annual groundwater monitoring began in 2015. Monitoring will continue until contamination is below cleanup levels.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
2509A.1001	NUNAP-001-R-01_NUNAPITCHUK NUNAVAKANUKAK	3/31/2010	ENV Restoration, Army
2509A.1002	NUNAP-002-R-01_NUNAPITCHUK SOUTH SMALL A	3/31/2010	ENV Restoration, Army
2509A.1003	NUNAP-003-R-01_NUNAVAKPAK LAKE RANGE	3/31/2010	ENV Restoration, Army
2509A.1004	CCAK270931_Nunapitchuk Spill Remediation	11/15/2016	ENV Restoration, Army

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	N/A
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	N/A
Administrative Record is located at:	Camp Carroll 57040 Roosevelt Road Joint Base Elemdorf-Richardson, AK 99505
Information Repository is located at:	Nunapitchuk Native Village of Nunapitchuk PO Box 130 Nunapitchuk, AK 99641 City of Nunapitchuk 103 Johnsons Loop Nunapitchuk, AK 99641 Nunapitchuk LTD PO Box 129 Nunapitchuk, AK 99641
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None

NATIONAL GUARD (NG) SAVOONGA ARMORY

Army Cleanup Program

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ACRONYMS

Acronym	Definition
AAC	Alaska Administrative Code
ACL	Alternate Cleanup Level
ADEC	Alaska Department of Environmental Conservation
AEDB-R	Army Environmental Database - Restoration
AKARNG	Alaska Army National Guard
AST	Aboveground Storage Tank
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
DD	Decision Document
DGA	Data Gap Analysis
DGI	Data Gap Investigation
DRO	Diesel Range Organics
ENV	Environmental
FS	Feasibility Study
FSRC	Federal Scout Readiness Center
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
mg/kg	Milligrams Per Kilogram
mg/L	Milligrams Per Liter
MR	Munitions Response
MRSP	Munitions Response Site Prioritization Protocol
NG	National Guard
PA	Preliminary Assessment
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)

Acronym	Definition
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRO	Residual Range Organics
RRSE	Relative Risk Site Evaluation
SC	Site Characterization
SI	Site Inspection
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
UST	Underground Storage Tank
WBS	Work Breakdown Structure

PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
2512A.1009	CCAK290941_SAVOONGA SPILL REMEDIATION	AK29094001

NG SAVOONGA ARMORY

COMPLIANCE CLEANUP SITES

CCAK290941_SAVOONGA SPILL REMEDIATION

HQAES ID: 2512A.1009

Alias: AK29094001

Regulatory Driver: Other

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 12/15/2024

RC Date: 12/15/2054

RC Reason: Not assigned

Program: Compliance Cleanup

Subprogram: CC

Phases	Start	End
PA	1/1/1996	1/30/1998
SI	1/1/1996	1/30/1998
R/FS	5/1/1998	5/31/2021
RD	5/15/2021	5/15/2022
IRA	--	--
RA(C)	5/15/2021	12/15/2024
RA(O)	12/15/2024	12/15/2054
LTM	--	--

Site Narrative

Savoonga is located on the northern coast of St. Lawrence Island in the Bering Sea, 164 miles west of Nome. The Savoonga Federal Scout Readiness Center (FSRC) is located on an approximately one-acre lot near the west side of the village of Savoonga. Surrounding properties include a village store to the north, houses to the east, two Alaska Department of Transportation buildings to the south, and an undeveloped tract of tundra to the west. The FSRC yard area is fairly flat, and the buildings are constructed on a gravel pad. To the north of the FSRC the land begins to slope more steeply toward the Bering Sea. On-site there are two buildings connected by a breezeway: a 30-foot by 40-foot new armory and a 20-foot by 60-foot old armory. Exterior features include a container express storage van, two buildings, and three aboveground storage tanks (ASTs).

A heating oil release occurred during the winter of 1984/1985. An Alaska Army National Guard (AKARNG) report regarding the release dated June 17, 1985, estimated that 500 gallons spilled from the fuel line of the original 3,000-gallon AST located at the entrance to the old armory. Due to heavy snow cover, the extent of contamination was difficult to accurately determine. A visual observation estimated the fuel had spread under the armory building, 30 feet to the main road (south), 150 feet to a neighboring store (north), and 75 feet to a house (east). A final spill report dated July 3, 1985, indicated that in addition to the AST spill, holes in eight drums had resulted in the release of approximately 200 gallons of Jet A fuel. Contaminated snow and sorbents were collected and disposed of or burned at the city dump.

In 1992, the AKARNG reported a second release. The discharge was a heating oil release of unknown quantity originating from an AST fuel line to the old armory building.

In 1998, the AKARNG conducted a preliminary assessment (PA)/site inspection (SI). All samples submitted for analytical testing were taken at a depth of 0.5 feet below ground surface and had diesel range organics (DRO) concentrations ranging from 12 milligrams per kilogram (mg/kg) to 160 mg/kg. The PA/SI found no petroleum hydrocarbons at concentrations exceeding Alaska Department of Environmental Conservation (ADEC) cleanup levels.

In 1999, the AKARNG conducted a remedial investigation (RI). Five borings were located near the new armory AST with DRO concentrations ranging from non-detectable to 1,500 mg/kg. The maximum surface and subsurface DRO concentrations were 17,000 mg/kg and 11,000 mg/kg, respectively. Both samples were located near the southwest corner of the old armory and the associated AST. Due to insufficient groundwater volume and slow recovery in the wells, groundwater samples could not be collected.

In 2012, AKARNG conducted a Data Gap Analysis (DGA) to further delineate the horizontal and vertical extent of contamination. Maximum DRO concentration at the site is 30.2 milligrams per liter (mg/L). Based on the proposed soil Alternate Cleanup Levels (ACLs), the DGA estimated excavation of 6.5 cubic yards of contaminated soil.

In 2016, AKARNG conducted a site characterization (SC) to define the nature and extent of groundwater contamination. Groundwater concentrations of DRO, residual range organics (RRO), benzene, and toluene exceeded ADEC groundwater cleanup levels. A Record of Decision (ROD) was finalized in 2017 and a Decision Document (DD) was prepared in 2020. In 2022, the remedial action to remove the contaminated soil took place. However, an unknown amount of additional contaminated soil was found and could not be removed under the constraints of the current contract. Further investigation will be required to complete site characterization [Data Gap Investigation (DGI)].

This site will be remediated under Oil and Other Hazardous Substance Pollution Control, 18 Alaska Administrative Code (AAC) 75 and Water Quality Standards 18 AAC 70.

Cleanup Strategy: A soil removal is underway and a DGI will be performed. Annual groundwater monitoring will be completed until contamination is below cleanup levels.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
2512A.1001	SAVOO-006-R-01_SAVOONGA TRAINING AREA	8/31/2009	ENV Restoration, Army
2512A.1002	SAVOO-005-R-01_SAVOONGA SMALL ARMS RANGE	8/31/2009	ENV Restoration, Army
2512A.1003	SAVOO-004-R-01_SAVOONGA QUALIFICATION RA	8/31/2009	ENV Restoration, Army
2512A.1004	SAVOO-003-R-01_SAVOONGA FIRING RANGE 2	8/31/2009	ENV Restoration, Army
2512A.1005	SAVOO-002-R-01_SAVOONGA FIRING RANGE 1	8/31/2009	ENV Restoration, Army
2512A.1006	SAVOO-001-R-01_SAVOONGA DEMOLITION TRAIN	8/31/2009	ENV Restoration, Army
2512A.1007	SAVOO-007-R-01_SAVOONGA FIRING RANGE 3	8/31/2009	ENV Restoration, Army
2512A.1008	CCAK290941_Savoonga Spill Remediation	9/15/2018	ENV Restoration, Army

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	N/A
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	N/A
Administrative Record is located at:	Camp Carroll 57040 Roosevelt Road Joint Base Elmendorf-Richardson, AK 99505 907-428-6760
Information Repository is located at:	City of Savoonga PO Box 40 Savoonga, AK 99769 Native Village of Savoonga P.O. Box 120 Savoonga, AK 99769
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None

NATIONAL GUARD (NG) TUNUNAK ARMORY

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ACRONYMS

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ADEC	Alaska Department of Environmental Conservation
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AST	Aboveground Storage Tank
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
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DGA	Data Gap Analysis
DRO	Diesel Range Organics
ENV	Environmental
FS	Feasibility Study
FSRC	Federal Scout Readiness Center
HQAES	Headquarters Army Environmental System
IR	Installation Restoration
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
mg/kg	Milligrams Per Kilogram
mg/L	Milligrams Per Liter
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
NG	National Guard
PA	Preliminary Assessment
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)

Acronym	Definition
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SPLP	Synthetic Precipitation Leaching Procedure
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WBS	Work Breakdown Structure

PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
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.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operation) (RA(O))	Corrective Measures Implementation (Operation) (CMI(O))	Implementation (Operation) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

SITE ALIAS LIST

HQAES ID	AEDB-R Reference	Site Alias
2524A.1007	CCAK370981_TUNUNAK SPILL REMEDIATION	AK37098001

NG TUNUNAK ARMORY

COMPLIANCE CLEANUP SITES

CCAK370981_TUNUNAK SPILL REMEDIATION

HQAES ID: 2524A.1007

Alias: AK37098001

Regulatory Driver: Other

RRSE: Not assigned

MRSPP: Not assigned

RIP Date: 3/15/2016

RC Date: 3/15/2053

RC Reason: Not assigned

Program: Compliance Cleanup

Subprogram: CC

Phases	Start	End
PA	5/31/1998	7/31/1998
SI	5/31/1998	8/31/1999
RI/FS	9/30/2003	6/30/2013
RD	--	--
IRA	--	--
RA(C)	3/15/2014	3/15/2016
RA(O)	3/15/2016	3/15/2053
LTM	--	--

Site Narrative

Tununak is located in a small bay on the northeast coast of Nelson Island. The community is 115 miles northwest of Bethel and 519 miles northwest of Anchorage. The Tununak Federal Scout Readiness Center (FSRC) is located on approximately 0.69 acres near the northwest edge of the community, 200 feet west of the shoreline of Tununak Bay. The Tununak River is located 300 feet southwest of the FSRC. The community tank farm is situated east of the FSRC, and the local airport is located south of the community. Structures on the FSRC consist of a 20-foot by 60-foot Butler building (Old Armory), a 30 foot by 50-foot Butler building (New Armory), a raised walkway connecting the two, three 1,500-gallon double-walled aboveground storage tanks (ASTs), a 20-foot conex storage van, and a hazardous material storage locker.

In 1998, the Alaska Army National Guard (AKARNG) conducted a preliminary assessment (PA). No samples were taken; however, several minor spills or leaks were identified, along with one larger spill. The larger spill consisted of a release of approximately 150 gallons of heating oil in the old armory. The other areas of noted concern include a 1986 drum storage area, a 1986 snow machine storage area near the old armory, and two oil stains identified in 1984.

In 1998, the AKARNG also conducted a Site Inspection (SI). Analytical results indicated that diesel range organics (DRO) were present above 250 milligrams per kilogram (mg/kg) at three locations: two locations near the older AST and one location near a heating oil day tank in the old armory. Insufficient water was present in the well to collect a groundwater sample. One soil sample was collected from an area with high soil contamination to assess the potential for leaching to groundwater using Synthetic Precipitation Leaching Procedure (SPLP) analysis. Results indicated DRO (1.3 milligrams/Liter (mg/L)) leachate concentrations which is less than 18 AAC 75 Table C groundwater cleanup levels.

In 2004, AKARNG conducted an alternate cleanup level (ACL) demonstration in an effort to develop risk based site-specific cleanup criteria for the site. DRO concentrations in the soil ranged from 30.5 mg/kg to 1,820 mg/kg. Four soil samples were collected to assess the potential for leaching to groundwater using

SPLP analysis. Results indicated DRO concentrations ranging from non-detect – 2.22 mg/L. DRO leachate concentrations were greater than 18 Alaska Administrative Code (AAC) 75 Table C groundwater cleanup levels in two samples. Groundwater samples were not collected due to the subsurface composition.

In 2012, AKARNG conducted a Data Gap Analysis (DGA) that fully delineated the horizontal and vertical extent of the contamination. DRO was detected at concentrations greater than the Alaska Department of Environmental Conservation (ADEC) Method Two cleanup level in 11 of 54 soil samples. DRO concentrations in these 11 samples ranged from 610 mg/kg – 9,300 mg/kg. Groundwater samples were collected from four monitoring wells. Only one well contained DRO above 18 AAC 75 Table C groundwater cleanup levels.

In 2013, the AKARNG and ADEC signed a record of decision (ROD) that stated that no further action was warranted for soil cleanup; however, long term monitoring with institutional controls for petroleum-contaminated groundwater is needed. Groundwater monitoring has occurred annually since 2015. Two of the three wells have been below ADEC groundwater cleanup levels for DRO. In 2021, monitoring well MW3 was found to be damaged beyond repair; it was replaced in August 2023. During the 2022 sampling, one monitoring well yielded values above the site-specific cleanup levels for DRO. Additional volatile organic compound (VOC) samples were taken during the 2023 sampling event at ADEC's behest. This site was remediated under Oil and Other Hazardous Substance Pollution Control, 18 AAC 75 and Water Quality Standards 18 AAC 70.

Cleanup Strategy: Annual groundwater monitoring began in 2015. Monitoring will continue until contamination is below cleanup levels.

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date	Program Code
2524A.1001	TUNUN-005-R-01_WEAPONS QUALIFICATION ARE	3/31/2010	ENV Restoration, Army
2524A.1002	TUNUN-004-R-01_WEAPONS QUALIFICATION ARE	3/31/2010	ENV Restoration, Army
2524A.1003	TUNUN-001-R-01_MANEUVER AREA 1	3/31/2010	ENV Restoration, Army
2524A.1004	TUNUN-003-R-01_WEAPONS QUALIFICATION ARE	3/31/2010	ENV Restoration, Army
2524A.1005	TUNUN-002-R-01_WEAPONS QUALIFICATION ARE	3/31/2010	ENV Restoration, Army
2524A.1006	CCAK370981_Tununak Spill Remediation	3/22/2018	ENV Restoration, Army

COMMUNITY INVOLVEMENT

Technical Review Committee (TRC) Establishment Date:	N/A
Community Involvement Plan (Date Published):	N/A
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Additional Community Involvement:	N/A
Administrative Record is located at:	Camp Carroll 57040 Roosevelt Road Joint Base Elmendorf-Richardson, AK 99505 907-428-6760
Information Repository is located at:	Tununak Tununarmuit Corporation PO Box 89 Tununak, AK 99681 Naticve Village of Tununak PO Box 77 Tununak, AK 99681
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Review Summary Table

None

ROD/DDs associated with the last Five-Year/Periodic Review

None

Results, Actions & Plans

None

LAND USE CONTROLS (LUC) SUMMARY

None