Final
Record of Decision

September 2021

OB/OD Range (MRS OD001)
and Suspected Former Rocket Range (MRS AL908)

FORMER CAMPION AIR FORCE STATION, ALASKA

Military Munitions Response Program
United States Army Corps of Engineers
Omaha District
Pacific Air Forces

Final
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ACRONYMS AND ABBREVIATIONS

%.....percent
°F .....degrees Fahrenheit
AAC.....Alaska Administrative Code
AC&WS.....Aircraft Control and Warning System
ADEC .....Alaska Department of Environmental Conservation
Air Force .....U.S. Air Force
AR .....Administrative Record
ARAR .....applicable or relevant and appropriate requirement
ATV .....all-terrain vehicle
bgs .....below ground surface
BLM.....Bureau of Land Management
CAFS .....Campion Air Force Station
CERCLA .....Comprehensive Environmental Response, Compensation, and Liability Act
CFR.....Code of Federal Regulations
cm .....centimeter(s)
COPC.....chemical of potential concern
CSE.....comprehensive site evaluation
CSM .....conceptual site model
DERP .....Defense Environmental Restoration Program
DGM.....digital geophysical mapping
DoD.....Department of Defense
ERP.....Environmental Restoration Program
ESS.....Explosives Safety Submission
FS .....feasibility study
ft.....feet or foot
GPS .....global positioning system
HHRA.....human health risk assessment
HRR .....historical record review
IRP .....Installation Restoration Program
lb .....pound(s)
LFO .....least favorable orientation
LUC.....land use control
MC .....munitions constituents
MD .....munitions debris
MDAS.....material documented as safe
MDL .....method detection limit
MEC .....munitions and explosives of concern
MHAT ..... munitions and explosives of concern hazard assessment tool
mm ..... millimeter(s)
MMRP ..... Military Munitions Response Program
MPPEH ..... material potentially presenting an explosive hazard
MRS ..... munitions response site
MRSPP ..... munitions response site prioritization protocol
mV..... millivolt(s)
NCP..... National Oil and Hazardous Substances Pollution Contingency Plan
NFA..... no further action
NMRD ..... non-munitions related debris
NPL ..... National Priorities List
O&M..... operation and maintenance
OB/OD..... open burn/open detonation
PAH..... polycyclic aromatic hydrocarbon
PP ..... Proposed Plan
PRG ..... preliminary remediation goal
QA..... quality assurance
QC..... quality control
RAC..... Risk Assessment Code
RAO ..... remedial action objective
RCRA..... Resource Conservation and Recovery Act
RI..... remedial investigation
ROD ..... Record of Decision
RTK..... real-time kinematic
SAA..... small arms ammunition
SARA ..... Superfund Amendments and Reauthorization Act
SLERA ..... screening level ecological risk assessment
SSFR..... Site-Specific Final Report
SUXOS..... senior unexploded ordnance supervisor
TCRA ..... time-critical removal action
TMV..... toxicity, mobility, or volume
U.S. ..... United States
UCL..... upper confidence limit
USACE..... U.S. Army Corps of Engineers
USAF..... U.S. Air Force
USC..... U.S. Code

USEPA ..... U.S. Environmental Protection Agency
UU/UE ..... unlimited use and unrestricted exposure
UXO ..... unexploded ordnance
VSP ..... Visual Sample Plan
WACS ..... White Alice Communication System
WRCC ..... Western Regional Climate Center

1.0 DECLARATION

1.1 Site Name and Location

This Record of Decision (ROD) addresses remedial actions at the Open Burn/Open Detonation (OB/OD) Range (Munitions Response Site [MRS] OD001) and Suspected Former Rocket Range (MRS AL908) within the Former Campion Air Force Station (CAFS), Alaska. The Former CAFS is in Yukon-Koyukuk Census Area on the northeastern bank of the Yukon River, approximately 350 miles northwest of Anchorage and 280 miles west of Fairbanks.

The Former CAFS is withdrawn public lands reserved for the Air Force, although the land is currently unused by the military, the surface estate surrounding the MRSs was transferred from the Bureau of Land Management (BLM) to Gana-A 'Yoo as part of the Alaska Native Claims Settlement Act of December 18, 1971 under patents F-14858-A and F-14858-B.

The Former CAFS is not listed on the National Priorities List (NPL). It has not been assigned a United States (U.S.) Environmental Protection Agency (USEPA) site-wide identification number. Based on information from the Administrative Record (AR) file for the Former CAFS, OB/OD Range (MRS OD001) occupies 15.00 acres and the Suspected Former Rocket Range (MRS AL908) occupies 12.8 acres.

1.2 Statement of Basis and Purpose

This ROD presents the selected remedies for OB/OD Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908). The selected remedies were chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and to the extent practicable with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and Executive Order 12580. These decisions are based on the AR file for the Former CAFS.

This document is issued by the U.S. Air Force (Air Force), the lead agency for Military Munitions Response Program (MMRP) activities. The selected remedies have been coordinated with the Alaska Department of Environmental Conservation (ADEC), the lead regulatory agency. Both the Air Force and ADEC are in concurrence regarding the selected remedies for MRS OD001 and MRS AL908. A letter of concurrence is provided as **Attachment 1**.

1.3 Assessment of the Site

The response action selected in this ROD is necessary to protect public health and welfare from actual or threatened releases of hazardous substances, specifically munitions and explosives of concern (MEC), into the environment.

1.4 Description of Selected Remedy

The selected remedy for the OB/OD Range (MRS OD001) is Surface and Subsurface Removal to Achieve Unlimited Use and Unrestricted Exposure (UU/UE). The selected remedy for the Suspected Former Rocket Range (MRS AL908) is Land Use Controls (LUCs).

Consistent with the NCP and in consideration of munitions response guidelines, MEC are not a principal threat waste as described in the NCP (see **Section 2.11**) and not a primary threat at the MRS. There are no principal threat wastes at either MRS.

The major components of the selected remedy for the OB/OD Range (MRS OD001) are:

- MEC identification on the surface using visual means enhanced with analog sensors;

- MEC identification in the subsurface using a combination of digital and analog techniques;
- MEC removal from the surface and subsurface through hand excavation or mechanically assisted excavation (e.g., excavator [remote/armored as needed]);
- Removal of soil in lifts/sieving within the demolition pits, mapping and resolution of targeted anomalies, if needed; and
- MEC treatment and subsequent disposal through detonation.

Once the physical remedy is complete, the Air Force will assess whether the RAO has been achieved.

The major components of the selected remedy for the Suspected Former Rocket Range (MRS AL908) are:

- The Air Force will update the existing LUC Management Plan, which was developed for the Pacific Air Forces Regional Support Center program and already includes the Former Campion Air Force Station sites, with the updated LUCs for the Suspected Former Rocket Range (MRS AL908);
- The Air Force will prepare an Environmental Covenant for signature for the private property owned by Gana-A 'Yoo in the appropriate Alaska recording district;
- The Air Force will install signage at access points to the area and provide educational outreach (e.g., fact sheets/flyers, public radio announcements, possible newspaper ads) every two years at a minimum to manage and reduce community exposure to hazards;
- The Air Force will monitor the effectiveness of the LUCs and verify that they have been implemented and maintained via annual inspections and evaluate if additional actions are required; and
- The Air Force will provide construction support for future development performed within the MRS as necessary.

The selected remedy for the OB/OD Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908) is intended as the final remedy for the MRSs and the remedy is limited to those portions of the Former CAFS, and that portion of the property owned by the Gana-A'Yoo, Limited Native Cooperative, which includes the Suspected Former Rocket Range (MRS AL908). The selected remedy for the Suspected Former Rocket Range (MRS AL908) will be re-evaluated in accordance with CERCLA five-year reviews every five years and during annual inspections to determine if the selected remedy is still appropriate for the MRS at that time.

1.5 Statutory Determinations

1.5.1 Part 1: Statutory Requirements

The selected remedies for the OB/OD Range (MRS OD001) and the Suspected Former Rocket Range (MRS AL908) are protective of human health and the environment, comply with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, are cost-effective, and utilize permanent solutions and alternative treatment technologies to the maximum extent practicable.

1.5.2 Part 2: Statutory Preference for Treatment

The NCP establishes the expectation that treatment will be used to address the principal threats posed by a site whenever practicable (40 *Code of Federal Regulations* [CFR] 300.430[a][1][iii][A]). Principal threat wastes are those source materials considered highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur.

MEC are neither a principal threat waste nor a primary threat at the OB/OD Range (MRS OD001) or Suspected Former Rocket Range (MRS AL908), resulting in no soil, groundwater, or other media contamination concerns.

The selected remedy for the OB/OD Range (MRS OD001) satisfies the statutory preference for treatment as a principal element of the remedy because MEC present on and below the ground surface are permanently destroyed through detonation.

The selected remedy for the Suspected Former Rocket Range (MRS AL908) does not satisfy the statutory preference for treatment as a principal element of the remedy because it does not permanently and significantly reduce the toxicity or volume of residual MEC in the subsurface soils. However, the selected remedy provides the best balance of trade-offs in terms of balancing criteria while also considering regulatory and community acceptance. Treatment (destruction through detonation) will occur on an on-call basis in response to future munitions discoveries or during construction activities.

1.5.3 Part 3: Five-Year Review Requirement

Because the selected remedy for the OB/OD Range (MRS OD001) permanently removes all identified MEC from the surface and subsurface and will allow for UU/UE, five-year reviews will not be required.

Because the selected remedy for the Suspected Former Rocket Range (MRS AL908) will result in potential hazardous substances, pollutants, or contaminants remaining at the MRS above levels that allow for UU/UE, a statutory review will be conducted every 5 years after initiation of the remedial action to ensure the remedy is, or will be, protective of human health and the environment. Recurring reviews will continue every 5 years until risk management is no longer required.

1.6 ROD Data Certification Checklist

The key remedy selection information pertaining to the OB/OD Range (MRS OD001) and the Suspected Former Rocket Range (MRS AL908) shown in **Table 1-1** is included in the Decision Summary section of this ROD (**Section 2.0**). Additional details are included in the AR file for the OB/OD Range (MRS OD001) and the Suspected Former Rocket Range (MRS AL908), maintained at the Alaska Resource Library and Information Services Library Building, Suite 111, 3211 Providence Drive, Anchorage, Alaska.

Table 1-1 ROD Data Certification Checklist

Data	ROD Section
Chemicals of Concern (i.e., MEC) and their respective concentrations	**Section 2.5.8**
Baseline risks represented by MEC	**Section 2.7**
Cleanup levels for chemicals of concern and the basis for these levels	Not applicable
How source materials constituting principal threats are addressed	Not applicable; no principal threat wastes
Current and reasonably anticipated future land use assumptions	**Section 2.6**
Potential land and groundwater use that will be available at the MRSs because of the selected remedy	**Section 2.6** and **2.12.3**
Estimated capital, annual O&M, total present-worth costs, discount rate, and the number of years over which the remedy cost estimates are projected	**Section 2.12.2**
Key factor(s) that led to selecting the remedy	**Section 2.12.1**

1.7 Authorizing Signatures

This ROD presents the selected response action of "Surface and Subsurface Removal to Achieve Unlimited Use/Unrestricted Exposure" for the OB/OD Range (MRS OD001) and "Land Use Controls" for the Suspected Former Rocket Range (MRS AL908) at the Former Campion Air Force Station, Alaska. The role of the remedial action selected for the OB/OD Range (MRS OD001) is to remove all identified MEC from the surface and subsurface and allow for UU/UE. The role of the remedial action selected for the Suspected Former Rocket Range (MRS AL908) is to control access to MEC potentially remaining in the subsurface (e.g., under the landfill cover which is anticipated to be a minimum of 4 feet [ft] thick).

The Air Force is the lead agency under the Defense Environmental Restoration Program (DERP) at the Former Campion Air Force Station and has developed this ROD consistent with the CERCLA, as amended by the SARA, and the NCP. These actions are conducted by the Air Force with the concurrence of the ADEC, the lead regulatory agency.

This ROD will be incorporated into the AR file for the Former Campion Air Force Station, available for public viewing at the location described in **Section 1.6**. This document, which presents selected remedies, is approved by the undersigned, pursuant to Air Force Instruction 32-7020, 7 November 2014, The Environmental Restoration Program.

LOPEZ.JUDY.M.1291747988 Digitally signed by LOPEZ.JUDY.M.1291747988 Date: 2021.12.08 14:22:10 -06'00'

JUDY M. LOPEZ, GS-15, P.E.
Director, Environmental Management
Air Force Civil Engineer Center

Date

ADEC's signature indicates concurrence that the selected remedy, when properly implemented, will comply with State law. If information becomes available that indicates the selected remedy is not effective or does not provide adequate protection of human health, safety, or welfare of the environment, the remedy may need to be revised.

10 DEC 2021

MELINDA BRUNNER
DSMOA Manager
Federal Facilities Section
Contaminated Sites Program
Alaska Department of Environmental Conservation

Date

2.0 DECISION SUMMARY

This Decision Summary provides an overview of the OB/OD Range (MRS OD001) and the Suspected Former Rocket Range (MRS AL908) location, history and enforcement activities, community participation, response-action scope, characteristics, uses, and risks. Remedial alternatives evaluated, and an analysis of those alternatives are also presented. The selected remedies are identified and explanations of how the remedies fulfill statutory and regulatory requirements are provided. Although some information presented here is similar to that in the Declaration, this section discusses the topics in detail and provides the rationale for the summary declarations presented in **Section 1.5**.

While this document provides a consolidated summary of information about the MRSs and their selected remedies, it is only one part of the AR file. The AR file contains the full details of characterization, investigation, response actions, alternatives evaluation, and remedy selection or no further action (NFA) decisions at the MRSs.

This ROD was prepared in accordance with USEPA guidance 540-R-98-031 (USEPA, 1999) and the USEPA Toolkit for Preparing CERCLA RODs (USEPA, 2011). It is based primarily on the Site-Specific Final Report (SSFR) for the Suspected Former Rocket Range (USAF, 2016), Remedial Investigation (RI) report (USAF, 2015), the final Feasibility Study (FS) report (USAF, 2017), and other earlier source documents as cited in the text.

2.1 Site Name, Location, and Brief Description

The Former CAFS was constructed from 1951 to 1952 and became operational in April 1952. The base once covered 2,395 acres on a river terrace above the Yukon River floodplain. It served as a long-range, ground control, intercept radar station, and was one of 10 original Aircraft Control and Warning System (AC&WS) sites.

The Former CAFS was active from 1952 until October 1984, when it was deactivated and replaced by a minimally attended, long-range radar facility at the Galena Airport (USAF, 2004). There is no active mission and there are no military structures remaining at the Former CAFS.

The Air Force relinquished approximately 69 acres to the City of Galena for use as a municipal landfill (USAF, 2001). The City of Galena landfill operates across from the Former White Alice Communication System (WACS) site. The rest of the Former CAFS acreage is withdrawn public lands reserved for the Air Force, although the land is currently not in use by the military. The site is approximately 6 miles east-southeast of the town of Galena and is accessible via a gravel road.

The Former CAFS is in the Yukon-Koyukuk Census Area on the northeastern bank of the Yukon River, approximately 350 miles northwest of Anchorage and 280 miles west of Fairbanks (**Figure 2-1**). The area consists of lowlands, plains, and interior highlands drained by the Yukon River and its tributaries. The terrain is generally flat to gently rolling with some gullies. The area is modified by seasonal flooding of the Yukon River. Elevations range from 100 to 350 ft above mean sea level.

The Former CAFS is withdrawn public lands reserved for the Air Force, although the land is currently unused by the military, the surface estate surrounding the MRSs was transferred from the Bureau of Land Management (BLM) to Gana-A ‘Yoo as part of the Alaska Native Claims Settlement Act of December 18, 1971 under patents F-14858-A and F-14858-B.. Anecdotal evidence suggests the area is used for subsistence hunting and berry picking by Galena residents (USAF, 2004). The approximate boundaries of the property owned by the Air Force are shown on **Figure 2-2**.

596000 598000 600000 602000 604000 606000 608000 610000 612000 614000

7184000 7182000 7180000 7178000 7176000 7174000 7172000

Galena

Edward G. Pitka Sr. Airport

Yukon River

Former Campion Air Force Station

Figure 2-1
Site Location
Former Campion Air Force Station
Alaska

Legend

- Former Campion Air Force Station
- Roads
- Major Transportation Route
- Former Campion Air Force Station

Note: Primary form of transportation to the site is either by plane or barge.

TN
GN
MN
13°

Magnetic Declination 2019
13° 18' E ± 0° 28'
changing by 0° 23' W per year

Scale: 1:60,000
Datum: WGS 1984
Coordinate System: UTM Zone 4N
Map Units: Meters

0 0.5 1 2 3 Kilometers

0 0.5 1 2 Miles

U.S. AIR FORCE

Layer Credits: USACE, Esri, DigitalGlobe, August 26, 2013

Drawn By: lfischer

Revised: 6/8/2021

606000 607000 608000 609000 610000 611000

7180000 7179000 7178000 7177000 7176000

Yukon River

FORMER CAMPION AIR FORCE STATION

OB/OD Range (MRS OD001)

Suspected Former Rocket Range (MRS AL908)

Figure 2-2
MRS Location Map
Former Campion Air Force Station
Alaska

Legend

- OB/OD Range (MRS OD001)
- Suspected Former Rocket Range (MRS AL908) (i.e.Range Fan)
- Former Campion Air Force Station

Land surrounding the Former Campion AFS boundary is owned by Gana-A 'Yoo.

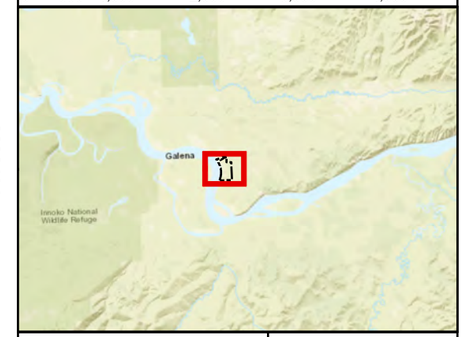
TN
GN MN
13°

Scale: 1:20,000
Magnetic Declination 2019
13° 18' E ± 0° 28'
changing by 0° 23' W per year

Scale:
Datum: WGS 1984
Coordinate System: UTM Zone 4N
Map Units: Meters

0 250 500 1,000 Meters

0 500 1,000 2,000 3,000 4,000 Feet



U.S. AIR FORCE

Layer Credits: USACE, Esri, DigitalGlobe, August 26, 2013

Drawn By: lfischer

Revised: 6/8/2021

Note the Suspected Former Rocket Range and the landfill that is partially within the Suspected Former Rocket Range boundary are not on Air Force property.

2.1.1 OB/OD Range (MRS OD001)

OB/OD Range (MRS OD001) is approximately 1 mile from the former landing area near a bend in the road leading southeast from the former installation (**Figure 2-2**). OB/OD Range (MRS OD001) encompasses approximately 15.00 acres (USAF, 2007a). A small jeep trail runs through the northern portion of the site from the main road out the east end of the site. North of the road, most of the area is undisturbed tundra and forest. In addition, most of the eastern part of the site and the area on the west side of the road also do not appear disturbed.

Vegetation ranges from sparse trees in the areas dominated by tundra to very thick in areas that were previously disturbed. Features of the site include a small berm trending primarily north-south, which appears to have been some type of boundary berm; two small mounds (one approximately 30 ft by 10 ft by 2 ft high and the second approximately 15 ft by 8 ft by 3 ft high).

2.1.2 Suspected Former Rocket Range (AL908)

The Suspected Rocket Range (MRS AL908) consists of 12.8 acres located to the south of the current installation boundary (**Figure 2-2**). The MRS boundary was defined as the vicinity of the 1954 unexploded ordnance (UXO) incident. All the current MRS (i.e., range fan) is located on land that was withdrawn for military use at the time but was subsequently deeded under the Native Claims Settlement Act to the Gana-A'Yoo, Limited Native Cooperative in 1983.

A gravel road from the installation down to the Yukon River runs immediately to the north of the site. Approximately 3 to 4 acres of the site nearest to the road (on former Air Force property) is occupied by a former Air Force landfill. Based on aerial photographs, the landfill was constructed between 1954 and 1965. The Former CAFS was decommissioned in 1985, and the Air Force performed an RI at the landfill (Site LF-004) in 1986. The landfill site was recommended for NFA in 1989, and ADEC approved the site closure in 1994. A privately-owned radio tower and building now sit on the former landfill.

The Suspected Rocket Range (MRS AL908) site is located at the head of an east-west ravine. The landfill area is generally a clear and grassy area. Southeast of the landfill the conditions include tundra with areas of low brush. Southeast of this, the terrain rises slightly into a forested area.

2.2 Site History and Enforcement Activities

No enforcement activities have occurred at the OB/OD Range (MRS OD001) or Suspected Rocket Range (MRS AL908). A summary of the history of activities and findings from previous investigations at the MRSs is presented in the following subsections.

2.2.1 Site History

2.2.1.1 OB/OD Range (MRS OD001)

Historical records indicate the OB/OD Range was used for OB/OD activities. A complete inventory of items disposed of at the site was not found; however, the 1993 Risk Assessment Code (RAC) site survey report states that the site was used to dispose of bulk explosives prior to 1985. Potential OB/OD detonation areas, expended engine starter cartridges, and a non-explosive ejection seat component have been found in the MRS confirming that OB/OD operations were conducted at this location. Based on the findings of the visual survey, it appears that various aircraft components were also disposed of at the site.

2.2.1.2 Suspected Former Rocket Range (AL908)

Local resident interviews during the Comprehensive Site Evaluation (CSE) Phase I produced a newspaper article that described two incidents where one person was killed, and several people were injured by detonation of UXO in 1954. The newspaper article reported the UXO in both incidents was a rocket. According to the article, three children from Galena found a rocket near a facility the article described as an abandoned firing range. The children threw the rocket against other objects and it eventually exploded, injuring all three children.

The next day, three airmen sent to post additional warning signs in the area found another rocket and took it with them in their vehicle. During the trip back to the Former CAFS, the rocket exploded, killing one and injuring two airmen (Fairbanks Daily News Miner, 1954). This information was corroborated during the 2008 CSE Phase II investigation when one of the then-children who found the first rocket accompanied the field team to the site, explained the series of events and pointed out the location where they found the item.

No documentation found during the CSE Phase I, Supplemental CSE Phase I, or CSE Phase II confirmed MRS AL908 was a former rocket range. Review of historical aerial photographs also did not provide evidence of an official range. The original 12.41-acre MRS boundary was therefore based on the location of the rockets that were found in 1954, plus a buffer area. However, after the CSE Phase II, ADEC provided an interpretation of the historical aerial photography in a letter dated 7 November 2012 that identified firing positions and target areas. The USAF concurred and agreed to conduct an investigation.

Based on the rocket description, it is identified as a 2.36-inch M6A3 Anti-Tank Rocket (commonly known as the Bazooka). ADEC indicates that the maximum range of the M6A3 rocket is 1,200 ft, and proposed targets located 450 ft and 1,200 ft from the suspected firing point. However, standard layout for a 2.36-inch rocket range would have targets at 300, 600, and 900 ft, with a maximum range target at 1,950 ft, and the boundary extended to the actual maximum rocket range (approximately 2,100 ft).

No targets like these are shown in the historical aerial photographs so it can reasonably be concluded that an official range was not established. Therefore, the investigation at MRS AL908 was focused on the target areas ADEC identified, which was established as a fan-shaped range with a 200-ft base across the firing points, extending to 1,200 ft, with a 20-degree angle of fire established by adding 10 degrees to each side of the target area.

The location of the inferred 12.8-acre range fan, based on the previous investigation results, is shown on **Figure 2-2**.

2.2.2 Previous Investigations

A series of preliminary assessments, site investigations, RI, FS, remedial action reports, and other data collection activities required under CERCLA and the DERP have occurred at the Former CAFS since 1985.

Reports documenting investigations of environmental impacts not related to historical munitions use at the Former CAFS are in the AR file accessible at https://ar.afcec-cloud.af.mil/.

A summary of MMRP-related investigations and actions performed at the Former CAFS addressing potential MEC and munitions constituents (MC) are summarized in **Table 2-1** and presented in the following subsections.

Table 2-1 MMRP Activity Timeline

Date	Activity
2006	CSE Phase I – Potential MRSs identified at the Former Campion AFS through interviews, archive research, and field surveys
2007	Supplemental CSE Phase I – additional records review for Former Campion AFS
2008	CSE Phase II – Field surveys and MC sampling completed at both MRSs
2014	RI – digital geophysical mapping (DGM), intrusive MEC investigations, surface MEC clearance, and MC sampling completed for the MRSs
2015	Action Memorandum to document the selected removal alternative for Suspected Former Rocket Range (MRS AL908)
2015	Time-critical removal action (TCRA) completed at Suspected Former Rocket Range (MRS AL908)
2016	SSFR completed to document the TCRA activities and findings at Suspected Former Rocket Range (MRS AL908)
2017	FS to evaluate remedial alternatives for both MRSs
2017	PP to identify the preferred alternative for both MRSs
2018	PP finalized and released to the public for comment

2.2.2.1 Environmental Restoration Program Phase I Records Search

An Environmental Restoration Program (ERP) Phase I Records Search performed in 1985 considered the OB/OD site for inclusion in the Installation Restoration Program (IRP). The report concluded the munitions residues present were solid and migration was expected to be minimal. No soil or water testing was performed, and the site was removed from future consideration in the IRP (USAF, 1985).

2.2.2.2 Risk Assessment Code Site Survey, 1993

The U.S. Army Corps of Engineers (USACE) Huntsville Division performed a survey to determine a RAC for the OB/OD area in September 1993. Interviews with Galena and Former CAFS personnel revealed the OB/OD site was used once or twice per year to detonate bulk explosives.

A pit in the center of the site and several near-surface magnetic anomalies were located and exposed. However, no comprehensive subsurface investigation was conducted, and soil types were not logged. No ordnance and explosive waste or evidence of high explosive ordnance detonation was reported. NFA was recommended, although the report does state that if development is planned for the site, a UXO specialist should investigate areas of intrusion prior to digging (USACE, 1993).

The “Reported Ordnance Burial Site,” identified in the 1993 RAC site survey report, was later identified as the “Suspected Former Rocket Range” (USAF, 2007a).

2.2.2.3 CSE Phase I

While the 1993 RAC recommended NFA for the OB/OD Range, the Air Force included all the Former CAFS in the CSE program to ensure due diligence and for consistency across the Air Force. Therefore, a CSE Phase I was performed in 2006 to characterize potential MEC/MC sources and evaluate potential for MC release(s) to migration/exposure pathways. Information sources were archival records at the Former CAFS, interviews with former Air Force personnel and residents, additional archival information collected from public sources, and observations made during a site visit.

Potential hazards at the Former CAFS were assessed from the information compiled. The CSE identified the OD001 and provided additional anecdotal evidence of a suspected rocket range.

However, a limited site inspection conducted near the Suspected Former Rocket Range did not identify any MEC or munitions debris (MD) (USAF, 2007a).

MRS OD001 was evaluated with the Munitions Response Site Prioritization Protocol (MRSPP) to prioritize the site for further munitions response actions based on relative risk. The interim priority for MRS OD001 was "evaluation pending" because the information available was not sufficient to establish a potential hazard.

2.2.2.4 Supplemental CSE Phase I

A Supplemental CSE Phase I in 2007/2008 (USAF, 2008) included more extensive munitions response historical record review (HRR) and former site worker interviews. The HRR included records review at 24 information repositories in the continental U.S. and seven information repositories in Alaska. This effort included contacting over 500 former military and civilian personnel who had worked at the Former CAFS facilities to obtain anecdotal information regarding historical military munitions activities. Historical aerial photographs, where available, were also analyzed.

2.2.2.5 CSE Phase II

The 2008 CSE Phase II resulted in the collection, evaluation, and synthesis of information regarding past ordnance-related activities, the then current conditions with respect to the presence of MEC and MC, the physical land setting, and plans for future use of the property.

No MEC was observed at the OB/OD Range (MRS OD001); however, two potential OB/OD detonation areas were observed, and a small concentrated debris area containing 10 expended MXU-4 engine starter cartridges confirmed this site was used as an OB/OD Range.

Three areas with the highest potential MC concentration were sampled to evaluate potential MC impact on soils. None of the metals analyzed exceeded human health screening criteria. One explosive compound (2,4-dinitrotoluene) was detected slightly above the method detection limit (MDL) in one sample but was not confirmed in a duplicate of this sample. No other explosives were detected in any sample (USAF, 2011).

No MEC, MD, or evidence of a rocket range was found during a visual survey of Suspected Former Rocket Range (MRS AL908). Because there was no evidence of MEC or MD, no analytical samples were collected. Additionally, a large portion of the current MRS boundary was found covered by a landfill.

2.2.2.6 Remedial Investigation

An RI was conducted in 2014 to determine the nature and extent of MEC/MC contamination and to evaluate if unacceptable risks and hazards exist at the OB/OD Range and Suspected Former Rocket Range. The RI included site characterization and baseline risk assessment activities. The investigation and results are presented in the Final MMRP RI Report for the OB/OD Range and Suspected Former Rocket Range (USAF, 2015).

2.2.2.6.1 OB/OD Range

A MEC surface clearance was first performed across 3.90 acres of the MRS to support the geophysical investigation. The MRS appeared to have been leveled in the past and overburden piles around the perimeter were noted. Other features observed included a small berm trending primarily north-south, which appears to be some type of boundary berm; two small mounds (one approximately 30 ft by10 ft by 2 ft high and the second approximately 15 x 8 x 3 ft high) with non-munitions related debris (NMRD) (primarily wire with other construction debris) and an inert fire

extinguisher. MD consisted of 20 millimeter (mm) casings, a 30mm casing, empty rocket motors, fragments, AIM-7 fins, and rocket debris.

A non-explosive component of an ejection seat was found just north of the pit near the main road. The aircraft egress component may have been part of a propellant or cartridge actuated device was found near the small pit. Because this device may have contained explosives at one point, it is a type of item that would have been destroyed at an OB/OD.

Steel 55-gallon drums, telephone poles, and wire rope guy-lines were also noted around the perimeter. A shallow, steep-sided pit rimmed with new growth of small trees was visible near the center of the site.

An initial DGM survey was then completed using an EM61-MK2 on transects spaced 100 ft apart over the OB/OD Range. The transect data were then analyzed in Visual Sample Plan (VSP) and additional 100 percent (%) coverage grids selected for DGM survey and intrusive investigation, bringing the total coverage to approximately 3.90 acres at the OB/OD Range equating to approximately 26% coverage over the MRS.

The 2.36-inch rocket was identified as the most likely item to be encountered so it was used as the selection criteria for anomalies. The Project Team proposed an initial minimum anomaly selection threshold of 8 millivolts (mV) using the sum of channels 2, 3, and 4. The 8-mV threshold is equal to 7 times background standard deviations above the mean (rounded to the nearest whole number) and provided a theoretical detection depth for a 2.36-inch rocket in the least favorable orientation (LFO) of 21 inches below ground surface (bgs), which is greater than the anticipated maximum depth of penetration. After selecting all anomalies greater than 8 mV, anomalies greater than 16 mV were selected as dig targets. Additionally, approximately 25% of the anomalies between 8 and 16 mV were investigated for quality control (QC) purposes.

A total of 1,223 target anomalies were intrusively investigated at the OB/OD Range, and one MEC item was found. The MEC item was an unidentifiable booster with exposed residual explosive. The UXO Team confirmed the presence of explosives using an Expray® explosives detection kit. In addition, 134 MD items were found in addition to small arms ammunition (SAA) debris. A total of 916.4 pounds (lb) of MD, 0.5 lb of SAA, and approximately 4,038 lb of NMRD, including one airplane ejection seat component, were removed from the OB/OD Range. No other evidence of airplane components was observed.

Table 2-2 lists a general description and quantity of MEC, MD, expended small arms casings, and NMRD recovered from the MRS during the surface clearance and intrusive investigation. A summary of the results from the MEC investigation is provided on **Figure 2-3**.

Table 2-2 OB/OD Range (MRS OD001) MEC Investigation Results

Location	MEC	MD	SAA Debris	NMRD
OB/OD Range	**Total: 1 Item** Unidentifiable Booster	**Total: 915.4 lb** Includes: 20mm casings, 30mm casing, empty rocket motors, fragments, AIM-7 fins, and rocket debris.	**Total: 0.1 lb** Includes: expended casings.	**Total: 4,038 lb** Includes: cables, pipes, wire, nails, bolts, scrap metal, cans, household trash, spikes, one aircraft ejection seat component, and miscellaneous debris.

The quality assurance (QA) inspection noted approximately 40 target anomalies at the OB/OD Range were in areas that were frozen or had standing water and, therefore, were not investigated.

609050 609100 609150 609200 609250 609300 609350

7176350 7176300 7176250 7176200 7176150

Figure 2-3
OB/OD Range
MRS OD001)
Former Campion Air Force Station
Alaska

Legend

- MEC Location (2014)
- MD Location (2008)
- MD Location (2014)
- Full Coverage DGM
- OB/OD Range (MRS OD001)
- Former Campion Air Force Station

TN
GN MN
13°

Magnetic Declination 2019
13° 18' E ± 0° 28'
changing by 0° 23' W per year

Scale: 1:150,000
Datum: WGS 1984
Coordinate System: UTM Zone 4N
Map Units: Meters

0 5 10 20 30 40 50 Meters

0 50 100 200 Feet

U.S. AIR FORCE

Layer Credits: USACE, Esri, DigitalGlobe, August 26, 2013

Drawn By: lfischer

Revised: 6/3/2021

A total of 41 targets from the DGM data were not investigated due to site conditions, mainly frozen soil or shallow groundwater at the anomaly location. In these conditions, the anomaly may not be removed safely in all cases, as the item could be improperly disturbed during the excavation. The decision not to excavate anomalies under these conditions was at the discretion of the UXO team.

The sole MEC item, the booster, was found in the large 100% coverage area of the site. The item was found in the top 1 ft of mineral soil. Based on the size of the MRS and the number of acres investigated, the average MEC density for the MRS is 0.413 UXO/acre (calculations performed using UXO Estimator, Version 2.2).

Lastly, five MC samples were collected from soil in the OB/OD Range. Discrete surface soil samples were collected and analyzed for explosives, polycyclic aromatic hydrocarbons (PAHs), and select metals (aluminum, antimony, chromium, copper, iron, lead, manganese, and zinc). Sample locations were at the recovered MEC item and from the OB/OD pit walls.

The MC sample results detected aluminum, chromium, copper, iron, lead, and zinc above background concentrations (95% upper confidence limit [UCL] of the mean). Nitroglycerin and 2,4-dinitrotoluene were the only explosives constituents above detection levels among explosives analytes. The metals and explosives analytes were detected in only one of the four analytical surface soil samples collected adjacent to each other from the historical burn pit, and were well below human health residential and ecological screening levels.

Nine PAH analytes were found above detection levels in one or more of the four samples collected from the burn pit, but were below human health residential and ecological screening levels.

The human health risk screening evaluation concluded soil at the OB/OD Range does not contain MC at concentrations that would pose an unacceptable risk to short-term workers, long-term workers, subsistence users/site visitors/trespassers, and hypothetical residents. Further, no migration to groundwater risk is posed by soil contaminants at the OB/OD Range. The ecological risk screening evaluation also concluded that soil poses no unacceptable risk to ecological receptors. Therefore, further evaluation of MC in the FS was not required.

2.2.2.6.2 Suspected Former Rocket Range

During the RI, a MEC surface clearance was performed across 10.58 acres of the 12.8-acre RI area, which was based on the range fan (see **Figure 2-4**). Following this, DGM surveys were conducted on transects covering approximately 4.40 acres of the investigation area, equating to approximately 34% coverage over the MRS area.

Transects were traversed using a man-towed EM61-MK2 coupled with a real-time kinematic (RTK) Global Positioning System (GPS). The EM61-MK2 was configured in standard wheel mode, 42 centimeters (cm) above the ground surface. The transmit and receive coils are coincident in the bottom coil, and measure 0.5 meters by 1.0 meter. The survey was performed with the 1.0-meter edge perpendicular to the direction of travel.

Mag and dig surveys were performed in areas inaccessible to the DGM to fill data gaps for a total of 0.97 acres of mag and dig (5.37 total acres of analog and digital geophysical investigations).

Anomaly selection was performed on the DGM data as described in **Section 1.10.7.1**. A total of 134 anomalies were selected and intrusively investigated. Two live (i.e., items that were fired, but did not function as designed) 2.36-inch M6A3 rockets were recovered along with nine expended rocket motors and other rocket debris (e.g., tail fins and fragments). **Table 2-3** lists a general description and quantity of MEC, MD, SAA, and NMRD recovered from the MRS during the surface clearance and intrusive investigation.

Table 2-3 Suspected Former Rocket Range (MRS AL908) MEC Investigation Results

Location	MEC	MD	SAA Debris	NMRD
Suspected Former Rocket Range	**Total: 2 Items** 2.36-inch M6A3 rockets	**Total: 26.1 lb** Includes: rocket motors, rocket fragments, rocket fins	**Total: 2.8 lb** Includes: 0.50 caliber bullets	**Total: 4.7 lb** Includes: beer cans, a knife, a pin, and nails

Since rocket motors are indicators of individual rockets, the nine motors found along with the two live rockets provide evidence of 11 rockets within the investigation area. Combined with the two rockets found in 1954, there is evidence of at least 13 rockets on the site.

All MEC and MD was found between 100 ft and 700 ft southeast of the toe of the landfill, within the suspected range boundary. The two MEC items were in the suspected range fan and in the top 1 ft of mineral soil immediately under the vegetation mat. For safety reasons, MEC was destroyed on the day encountered.

Based on the size of the MRS and the number of acres investigated, the average MEC density for the MRS is 0.446 UXO/acre (calculations performed using UXO Estimator, Version 2.2). The distribution of MEC and MD on the MRS are provided on **Figure 2-4**. In addition, a total of 26.1 lb of MD, 2.8 lb of SAA, and approximately 4.7 lb of NMRD were removed from the Suspected Former Rocket Range (MRS AL908).

During the RI, two analytical surface soil samples and one duplicate were collected adjacent to the MD and MEC found at the MRS. Sampling was conducted approximately 20 ft to the east and west of the southernmost MEC item approximately two weeks after the demolition activities occurred. This area was selected as it contained the most significant amount of MD and was close to the MEC items. Analysis resulted in copper, lead, and zinc slightly above background concentrations (95% UCL of the mean) but were below human health residential and ecological screening levels. Further, the samples did not contain detectable concentrations of explosives or PAHs.

As no MC was measured in soil at the Suspected Former Rocket Range at concentrations above direct contact and migration to groundwater human health screening levels, the human health risk assessment (HHRA) concluded no direct contact human health risk or migration to groundwater risk is posed by soil contaminants at the Suspected Former Rocket Range (MRS AL908). The ecological screening results also concluded that soil poses no unacceptable risk to ecological receptors. Therefore, further evaluation of MC in the FS was not required.

2.2.2.7 TCRA

Due to the uncontrolled nature of the site and that intact rockets were discovered during the RI, a TCRA was performed in 2015. The TCRA purpose was to identify and remove potential human health explosives safety hazards associated with historical MEC present in the Suspected Former Rocket Range (MRS AL908).

The TCRA area was delineated based on the RI results and included all the MEC/MD identified during the RI plus a minimum 50-ft buffer area around the items. The TCRA area was to be expanded should items be found within the 50-ft of the boundary of the clearance area to ensure the entire range was addressed and prevent explosive hazards from remaining after the TCRA.

For the TCRA, UXO Technicians conducted an analog detector-aided surface clearance and removed trees, brush, and other debris that would interfere with a DGM investigation. The field team also removed trees from a 55-ft buffer area around the MRS perimeter to gain better satellite access for GPS receivers. The team performed a visual reconnaissance survey over

approximately 2.50 acres between the access roadway and the MRS boundary. This area is noted as the "Reconnaissance Complete" area shaded in orange on **Figure 2-4**.

DGM was then performed over 4.52 acres. The DGM surveys used an EM61-MK2 with an RTK GPS for positioning. The Suspected Former Rocket Range (MRS AL908) was divided into 19 grids, each grid being 100 ft by 100 ft. DGM area surveyed totaled 4.52 acres, accounting for the expanded area at the boundaries where the cart was carried slightly over the boundary line to ensure full coverage.

Targets were selected from the DGM data for the intrusive investigation. The anomaly selection threshold was a conservative site-specific response characteristic based on the 2.36-inch rocket at a 12-inch depth. A total of 97 anomalies were selected from the EM-61 dataset. Of the total anomaly population, 55 anomalies are in the landfill and a consensus was reached with ADEC not to intrusively investigate the anomalies in the landfill area. This was based on the finding that the landfill materials were approximately 4 ft thick so the anomalies in the landfill were concluded to be representative of landfilled materials and not potential MEC.

A total of 42 anomalies were recommended for intrusive investigation. A total of approximately 0.41 lb of MD and 0.39 lb of NMRD were recovered from the subsurface. Most of the MD was expended small arms ammunition casings; only one piece of M6A3 A/T rocket fragment (~0.1 lb) was recovered and at a depth of only 1-inch bgs. The MD items found during the TCRA are shown on **Figure 2-4**.

Areas inaccessible to the DGM equipment due to terrain were minimal but the locations were provided to the senior unexploded ordnance supervisor (SUXOS) when encountered. In turn, the intrusive investigation teams conducted mag and dig operations to ensure full area coverage. Data collection covered approximately 0.97 acres using analog detectors (e.g., Schonstedt Cx-52) around the base of trees and in areas where navigating the cart proved difficult (e.g., across small pond areas). A total of 17.06 lb of NMRD and approximately 8.33 lb of MD was recovered, including four fin assemblies, three rocket nose cones, one expended rocket motor and miscellaneous small pieces of fragments.

A visual reconnaissance was also conducted over an approximately 2.5-acre area between the access roadway and the MRS boundary encompassing the most probable firing points; however, no evidence of MEC or MD was found in these areas. The MD and NMRD were transported off-site for proper disposal.

Based on the results from the TCRA, it was concluded that the most probable target area was investigated but no MEC was found either on the surface or subsurface. However, a small quantity of MD was recovered, verifying that the TCRA covered the area where historical munitions activity occurred. Additionally, the team expanded the investigation area and completed a visual reconnaissance ranging from the adjacent roadway to the TCRA area and encompassing most probable firing points but no evidence of any MEC or MD was found in these areas.

The relatively minimal amount of MD recovered during the TCRA and the location of the few MD items found indicate that the 2014 RI fieldwork effectively cleared the primary potential MEC source area. DGM and subsequent intrusive investigation during the TCRA found only one rocket-related fragment; located at only 1-inch bgs. The absence of rocket-related MD in the subsurface confirmed the lack of subsurface penetration by the 2.36-inch rocket as was anticipated based on the potential MEC item characteristics.

608300 608400 608500 608600 608700 608800 608900 609000

7175800 7175700 7175600 7175500 7175400 7175300 7175200

Former Campion Air Force Station

Land Surrounding AL908 MRS owned by Gana-A 'Yoo

Land Ownership Boundary

64.687937,
-156.723136

64.687723,
-156.724537

K2 K3
J2 J3 J4
I2 I3 I4 I5
H3 H4 H5
G3 G4 G5
F4 F5
E4 E5

LUC Boundary

64.684788,
-156.718997

64.684214,
-156.722757

Figure 2-4
Suspected Former Rocket Range (MRS AL908)
RI and TCRA MEC/MD Results
Former Campion Air Force Station
Alaska

Legend

- Sign Location
- Significant MD Item (2015 TCRA)
- MD Location (2014)
- MEC Location (2014)
- 1954 M6A3 Rocket*
- Landfill Area within Investigation Area
- Landfill
- Grid (100 x 100 ft) DGM/Analog Investigation Area
- Vegetation Removal Buffer (55 ft)
- Reconnaissance Completed
- Suspected Former Rocket Range (MRS AL908) (i.e.,Range Fan)
- Former Campion Air Force Station

* Two other M6A3 Rockets were found in the vicinity of this location

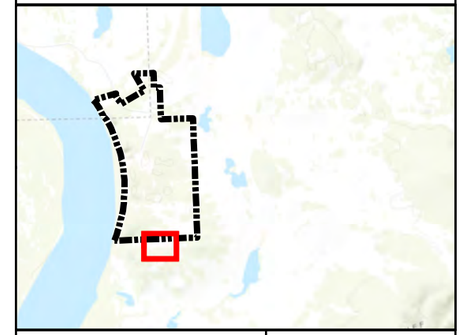
TN GN MN 13°

Magnetic Declination 2019
13° 18' E ± 0° 28'
changing by 0° 23' W per year

Scale: 1:150,000
Datum: WGS 1984
Coordinate System: UTM Zone 4N
Map Units: Meters

0 25 50 100 150 Meters

0 125 250 500 Feet



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Drawn By: lfischer

Revised: 6/8/2021

2.3 Community Participation

NCP Section 300.430(f)(3) establishes several public participation activities that the lead agency must conduct during the remedy selection process. Components of these activities and documentation of how each component was satisfied for each MRS are described in this section.

A Notice of Document Availability was published for the Proposed Plan (PP) on December 9th, 2018, providing an opportunity for public comment on the preferred remedy for the OB/OD Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908). No public comments were received during the public comment period (see **Section 3.0**, the Responsiveness Summary). Documentation of the Public Notification of Document Availability process for the OB/OD Range (MRS OD001) and the Suspected Former Rocket Range (MRS AL908) is presented **Table 2-4** and **Table 2-5** on the following page.

2.4 Scope and Role of MRS or Response Action

In 2002, the U.S. Congress established the MMRP under the DERP to address MEC and MC located on current and former defense sites, which are identified as locations other than operational ranges. The OB/OD Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908) were determined to be eligible for action under the DERP–MMRP (10 U.S. Code [USC] 2710). A summary of the scope and role of each MRS or response action is provided in the following subsections.

Table 2-4 Public Notification of Document Availability

Requirement	Satisfied by
Notice of availability of the PP must be made in a general-circulation, major local newspaper.	Notice of availability was published on December 9th, 2018 in the *Anchorage Daily News* and at http://www.adn.com/.
Notice of availability must include a brief abstract of the PP, which describes the alternatives evaluated and identifies the preferred alternative [NCP Section 300.430(f)(3)(i)(A)].	The notice of availability included the required components (see **Attachment 2**).

Table 2-5 Public Comment Period Requirements

Requirement	Satisfied by
Lead agency should make document available to public for review on same date as newspaper notification.	The PP was made available to the public on December 9th, 2018.
Lead agency must ensure that all information that forms the basis for selecting the response action is included as part of the AR file and made available to the public during the public comment period.	The Air Force maintains the AR file for the MRSs online (https://ar.afcec-cloud.af.mil/). A copy of relevant documents is included in an Information Repository at the Charles Evans Community Library in Galena, Alaska. Data collected and CERCLA primary documents produced for the MRSs were placed therein and made available to the public at that location.

Table 2-5 Public Comment Period Requirements

Requirement	Satisfied by
CERCLA Section 117(a)(2) requires the lead agency to provide the public with a reasonable opportunity to submit written and oral comments on the PP. NCP Section 300.430(f)(3)(i)(C) requires the lead agency to allow the public a minimum of 30 days to comment on the PP and other supporting information located in the AR.	The Air Force provided a public comment period for the PP and other supporting information from December 9th, 2018 to January 11th, 2019 (34 days).
The lead agency must extend the public comment period by at least 30 additional days upon timely request.	The Air Force received no requests to extend the public comment period.
The lead agency must provide the opportunity for a public meeting to be held at or near the MRS during the public comment period.	The public notice stated that the Air Force would host a meeting to discuss the site and the proposed final remedies if a meeting was requested by the public. No requests for a public meeting were received.
The lead agency should solicit community input on reasonably anticipated future land use and potential beneficial groundwater uses at the site.	The notice of availability solicited this information and is included for reference as **Attachment 2**.

2.4.1 OB/OD Range (MRS OD001)

There are no MC contamination concerns at the OB/OD Range (MRS OD001).

Management of MEC at the MRS under the DERP MMRP is being conducted by the Air Force in accordance with CERCLA, as amended by SARA, and the NCP. Based on the information and data collected for the MRS, the Air Force anticipates the selected remedy will protect the public and environment from the hazards related to residual MEC potentially present in the soils.

The role of the remedial action selected for the OB/OD Range (MRS OD001) is to remove all identified MEC from the surface and subsurface and allow for UU/UE, permanently protecting human health and the environment. The selected remedy is intended as the final remedy for the OB/OD Range (MRS OD001) and does not impact any other areas at the Former CAFS.

2.4.2 Suspected Former Rocket Range (MRS AL908)

During the RI and TCRA at Suspected Former Rocket Range (MRS AL908), a full surface and subsurface clearance of the anticipated impact areas was performed and a 50-ft clean line was established around the boundary so the potential for MEC to remain at the MRS is very low.

However, the landfill was excluded from the investigation. The landfill was in use from 1954-1965. The historic rocket incident occurred in 1954; therefore, the informal use of the range happened sometime prior to 1954. Therefore, there is a potential for MEC to remain under the landfill cover, which is anticipated to be a minimum of 4 ft thick.

The role of the remedial action selected for the Suspected Former Rocket Range (MRS AL908) is to control access to MEC potentially remaining in the subsurface, protecting human health and the environment. The selected remedy is intended as the final remedy for the Suspected Former Rocket Range (MRS AL908) and does not impact any other areas at the Former CAFS.

2.5 Site Characteristics

This section presents a brief overview of the Former CAFS, as well as information about risk and responses at each MRS, investigations, sources and types of contamination, and potential exposure pathways for contaminants.

2.5.1 Climate

The Former CAFS lies in the continental climatic zone of Alaska, characterized by temperature extremes and low precipitation. Annual precipitation averages 13.21 inches. Average summer temperatures in the nearby city of Galena range from 48 to 68 degrees Fahrenheit (°F), while average winter temperatures range from -18 to 24°F. Winds are generally from the north at an average speed of 7.4 knots (Western Region Climate Center [WRCC], 2009).

2.5.2 Hydrology

No permanent surface water is present at the Former CAFS MRSs. Surface water in the general vicinity consists of ponding and wetlands in low areas.

2.5.3 Geology

Exposed bedrock near the MRSs consists primarily of Mesozoic and Cenozoic volcanic, lower Paleozoic metamorphic rocks, and Cretaceous to Lower Cretaceous sedimentary rocks. Mesozoic and Cenozoic intrusive and ultramafic rocks are present, but to a lesser degree (USAF, 1996).

2.5.4 Hydrogeology

Groundwater in the Former CAFS area flows in a shallow unconfined aquifer perched above the permafrost. The water table is shallow and discharges to surface seep areas, forming most of the surface runoff at the site. Springs and seeps are common northeast of the former installation area, resulting in swampy conditions (USAF, 2004).

Groundwater at the Former CAFS also exists in an unconfined alluvial aquifer consisting of interbedded sequences of sand and gravelly sand with minor silt fractions. The unconfined aquifer at the Former CAFS is greater than 200 ft deep and appears to exhibit a strong association with the Yukon River. Regional groundwater elevations and flow directions at the Former CAFS are largely influenced by seasonal Yukon River stage fluctuations.

A close correlation has been found between groundwater fluctuations in shallow monitoring wells and deep-water supply wells, suggesting unrestricted communication between these aquifer zones. Localized variations in groundwater elevation and flow direction are attributed to the highly complex depositional environment. Although the site geology influences groundwater movement and flow direction in localized areas, the extreme ranges of groundwater elevation fluctuation and flow direction are primarily attributed to hydraulic communication with the Yukon River (USAF, 2007b).

Hydraulic communication between the unconfined aquifer and the Yukon River was firmly established in previous investigations. The depth to water table varies from approximately 5 to 25 ft bgs on a seasonal cycle in response to changes in the stage of the Yukon River. The groundwater and Yukon River elevations taken from May 1993 through February 1994 demonstrate the changes in river stage and the corresponding changes in groundwater levels in monitoring wells (USAF, 2007b).

The Yukon River becomes a losing river when abrupt flooding and peak stage elevations occur in spring and early summer during breakup (May and June). Losing river conditions provide surface water recharge in the local unconfined aquifer, which is referred to as bank storage,

creating an increase in potentiometric groundwater elevations. The resulting groundwater rise also saturates the upper silty sand zone of the aquifer (USAF, 2007b).

Losing river conditions continue for a short period, until the river crests and begins its gradual decline. At that point, which is around late June, the river becomes a gaining river, meaning that groundwater flow is reversed and the groundwater discharges into the Yukon River. During the remainder of the year, as the regional precipitation, recharge rate, and Yukon River level decreases, the groundwater level declines and the water table retreats to the deeper, coarser-grained portion of the aquifer. During the winter months, the aquifer level continues to subside after the Yukon River freezes (USAF, 2007b).

During the nine to ten months that the Yukon River is a gaining river, groundwater generally flows to the southwest. A short-term reversal in groundwater flow to the north occurs during the spring breakup (May to June). This reversal is attributed to the abrupt rate at which the Yukon River rises in elevation to flood stage during breakup, causing the water table to slope away from the river. After the Yukon River reaches peak stage and resumes gaining river conditions, the direction of groundwater flow returns to the south/southwest (USAF, 2007b).

2.5.5 Soil and Vegetation Types

Soils are gravely silts, sands and silty sands, and clayey silts. Discontinuous permafrost is found between 10 and 21 ft bgs, although it has been encountered from the surface to about 380 ft bgs, which effects soil permeability (USAF, 1996).

Vegetation in marshy areas is mainly grasses, moss, and rushes. Drainage areas are up to several inches of partially decompressed moss (peat) and other vegetation overlying fine, well-sorted organic-rich silt. Elevated areas characterized by more diverse and dense vegetation border the drainages areas. Trees and shrubs in the border areas include alders, birch, and black spruce; undergrowth consists of low-bush cranberries, Labrador tea, mosses, and lichens (USAF, 1996).

2.5.6 Wildlife and Fish

Fish and wildlife in the area include salmon, arctic grayling, northern pike, migratory songbirds, raptors, caribou, moose, wolves, lynx, black bears, and grizzly bears. There are no known threatened or endangered species in the project area.

2.5.7 Cultural Resources

Subsistence hunting and gathering activities in Alaska were identified as a potential cultural resource by Native Alaskan residents (USAF, 2004). Anecdotal evidence suggests subsistence activities are conducted within or near the OB/OD Range and Suspected Former Rocket Range (USAF, 2004).

A 2000 Strategic Plan for the Former CAFS noted the potential for archaeological remains on the Former CAFS appears to be high, given the prominent landform associated with the installation and its location along the Yukon River. Archaeological and historic sites in the area include Louden, the Cassou Cache Pit, and the Ruby-Kaltag Connecting Trail. Louden was a telegraph station established in 1903; steel wire found on the OB/OD Range may be remnants of the Washington-Alaska Military Cable and Telegraph System.

2.5.8 Previous Site Characterization Activities

A summary of the investigations and actions performed at Campion Air Force Station addressing potential MEC and MC are summarized in **Section 2.2.2**.

2.5.9 Conceptual Site Model

Based on the results of historical soil sampling events, all MC metals, PAHs, and explosive compounds were eliminated as chemicals of potential concern (COPCs) at the OB/OD Range (MRS OD001) and the Suspected Former Rocket Range (MRS AL908). Therefore, MC was concluded to not have impacted the environment so no further evaluation of MC is required.

The MEC Conceptual Site Model (CSM) for the OB/OD Range is provided as **Figure 2-5** and the MEC CSM for the Suspected Former Rocket Range is provided as **Figure 2-6**.

OB/OD and unregulated rocket firing activities that occurred at the OB/OD Range and Suspected Former Rocket Range, respectively, are the primary sources of the MEC. Based on review of the archival records and available documentation, the principal sources of MEC at the OB/OD Range are munitions components, and potentially bulk explosives. The principal sources of MEC at the Suspected Former Rocket Range are 2.36-inch M6A3 rockets.

MEC was identified at the OB/OD Range and the Suspected Former Rocket Range during the RI. However, a full surface and subsurface clearance of the Suspected Former Rocket Range anticipated impact areas was performed during the TCRA and only MD was identified. Additionally, a 50-ft clean line was established around the boundary, so the potential for MEC to remain at the MRS is very low.

A variety of naturally occurring processes may alter the condition of the land at the OB/OD Range and Suspected Former Rocket Range resulting in a potentially explosive subsurface item being exposed at the surface and becoming more accessible to contact with people or the environment. These processes include erosion of the covering soil and frost heave. Both processes have occurred at the Former CAFS in the past and have caused previously buried MEC items to become exposed at the ground surface.

Flooding may also result in changes to the amount of water at the Former CAFS. Flooding may increase the water cover over some additional acreage and MEC items, but also may cause MEC items to be dislodged and transported to other locations by the flood-induced runoff flow.

A variety of intrusive activities by people also may have altered the condition of the land at the OB/OD Range and Suspected Former Rocket Range in a manner that a subsurface MEC item may become exposed at the surface. These may include construction activities that involved excavation or re-contouring land, subsistence hunting/gathering activities, timber harvesting, or recreational activities.

Several factors can affect the depth at which subsurface MEC is present. The historical activities and type of MEC used (e.g., 2.36-inch M6A3 rockets) at the MRSs have a direct effect on the depth at which MEC may be identified. In addition to the type of MEC and historical use, the soil type and presence of fill material affects the depth at which MEC is present.

To assess the potential for subsurface MEC/MD, a subsurface investigation was performed at the OB/OD Range. MEC was found in the top 12 inches of mineral soil; therefore, some activities (e.g., riding all-terrain vehicles [ATVs], conducting intrusive activities related to construction) at either MRS could result in contact with MEC at shallow depths.

During the RI/TCRA at the Suspected Former Rocket Range, MEC and MD was found from 0-5 inches bgs. However, the landfill was excluded from the investigation. The landfill was in use from 1954-1965. The historic rocket incident occurred in 1954; therefore, the informal use of the range

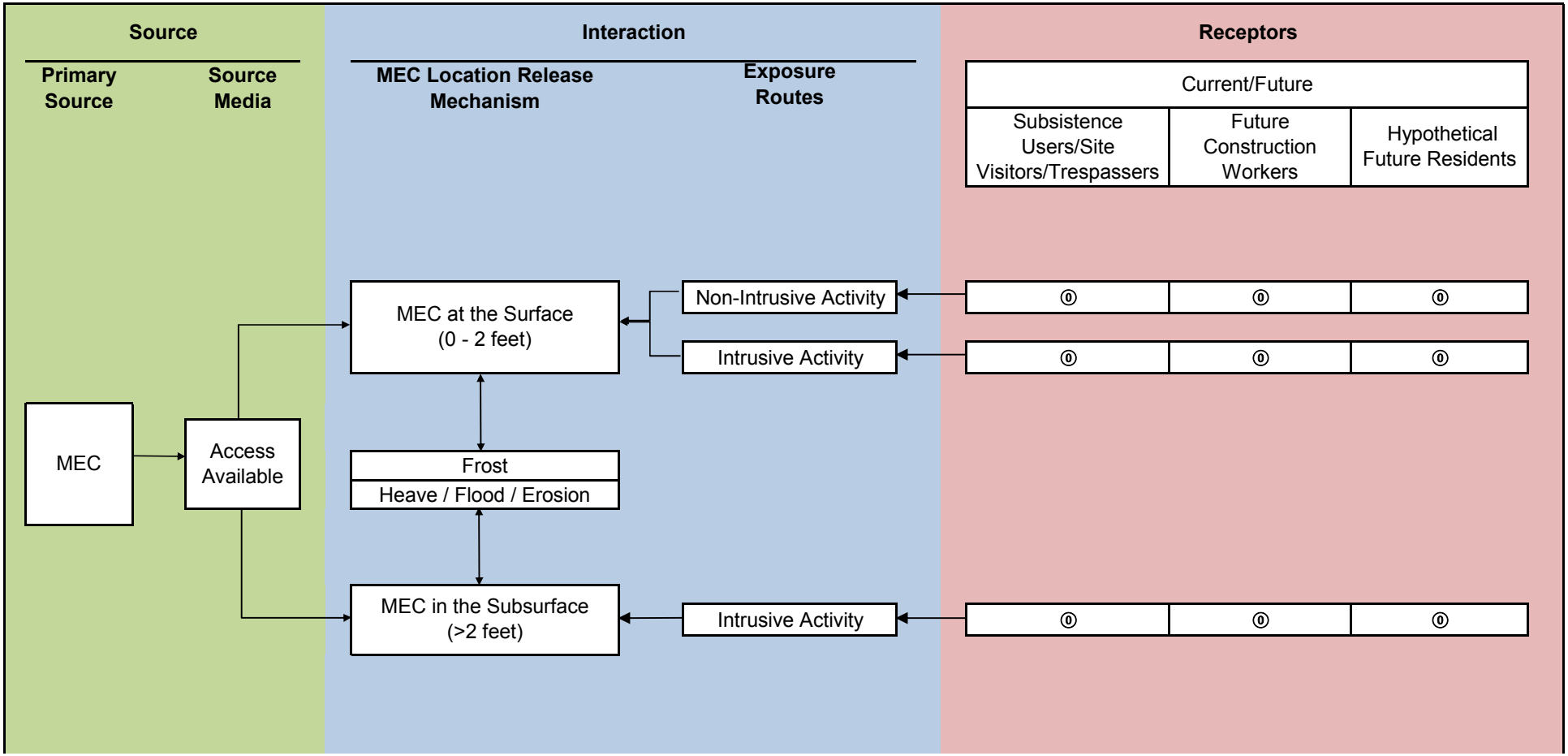

Figure 2-5
Conceptual Site Model Exposure Pathway for MEC
OB/OD Range

● Complete Pathway
ⓞ Potentially Complete
--- Incomplete Pathway

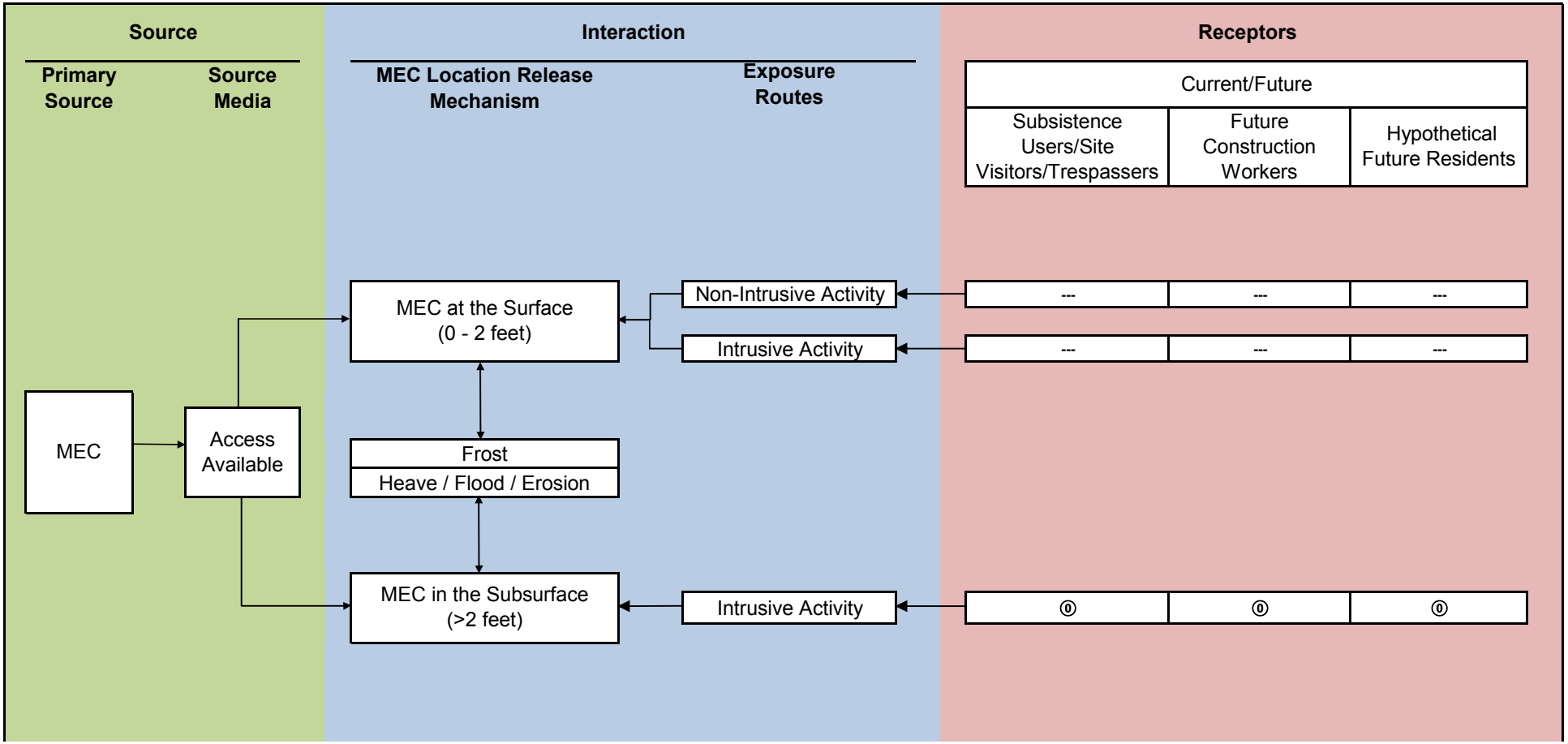

Figure 2-6
Conceptual Site Model Exposure Pathway for MEC
Suspected Former Rocket Range

●	Complete Pathway
ⓞ	Potentially Complete
---	Incomplete Pathway

happened sometime prior to 1954. Therefore, there is a potential for MEC to remain under the landfill cover, which is anticipated to be a minimum of 4 ft thick.

Transport processes appear to have a minimal effect on MEC locations at the MRS. The MRS is relatively flat, heavily vegetated, and lacks discernable surface drainage features (i.e., ditches); therefore, erosion does not appear to be a factor. Frost heaving of munitions items could act to bring items to the surface. However, the findings of the RI indicate that MEC items are not buried deeply, so items are most likely already at or near the surface of mineral soil.

2.5.9.1 Activity

Activity describes ways that receptors encounter a source. Movement of MEC is not anticipated as significant and interaction will occur only at the source area, limited by access and activity. However, there can be some movement through natural processes, such as frost heave and erosion (primarily vertical movement in the soil), human activity, or due to movement by animals. Therefore, all potentially contaminated media (exposure media) were considered at the MRS. This includes surface soil and subsurface soil.

2.5.9.2 Exposure Media and Accessibility

The majority of the OB/OD Range is undeveloped land with no access restrictions. The Gana-A'Yoo Limited Native Cooperative has owned the Suspected Former Rocket Range since 1983. There is currently a privately-owned radio tower and small building that was built on top of a former AF landfill. Anecdotal evidence suggests that both MRSs are used for subsistence hunting and berry picking by residents of Galena.

2.5.9.3 MEC Exposure Receptors

The MRSs are used by residents for recreational activities and subsistence hunting/gathering use. Future human receptors could include construction workers, trespassers, and hypothetical residents.

2.5.9.4 MEC Exposure Conclusions

At the OB/OD Range (MRS OD001), a surface clearance was performed and subsurface investigation was performed over 3.90 acres of the 15.00-acre MRS. One MEC item was found in the surface. However, due to concerns that the RI had unresolved anomalies and 20mm threshold concerns as only 25% of the anomalies between 8 and 16mV were dug, there is a potential for subsurface MEC to remain in the 3.90-acre RI areas. Additionally, 11.10 acres of the MRS was not included in the surface clearance or subsurface investigation. Therefore, there is a potential for MEC to remain on the surface and in the subsurface in the 11.10 acres not investigated during the RI. As such, both the surface and subsurface pathways are potentially complete at the MRS.

During the RI/TCRA at the Suspected Former Rocket Range (MRS AL908), MEC and MD was found from 0 to 5 inches bgs. Therefore, the technology used to locate MEC is considered capable of finding MEC at the MRS so residual MEC is not anticipated within the clearance footprint.

However, the landfill was excluded from the investigation. The landfill was in use from 1954-1965. The historic rocket incident occurred in 1954; therefore, the informal use of the range happened sometime prior to 1954. Therefore, there is a potential for MEC to remain under the landfill.

MEC exposure at the OB/OD Range and Suspected Former Rocket Range (MRS AL908) could potentially occur through recreational activity, conducting subsistence hunting or gathering activities on the sites, or by conducting intrusive activities, which would increase the likelihood of encountering or disturbing MEC.

Confirmed MEC and/or MD items were observed and removed from the ground surface and subsurface at the OB/OD Range and Suspected Former Rocket Range (MRS AL908). Transport processes appear to have a minimal effect on MEC locations at the MRS, particularly at the Suspected Former Rocket Range due to the location of the items, if present, being under the landfill. Interaction will occur only at the source area, based on the access and activity. Therefore, the surface pathways are considered incomplete and the subsurface pathways are considered as potentially complete for the Suspected Former Rocket Range (MRS AL908).

2.6 Current and Potential Future Land Use and Resource Uses

The Former CAFS is withdrawn public lands reserved for the Air Force, although the land is currently unused by the military, the surface estate surrounding the MRSs was transferred from the BLM to Gana-A 'Yoo as part of the Alaska Native Claims Settlement Act of December 18, 1971 under patents F-14858-A and F-14858-B. Anecdotal evidence suggests the area is used for subsistence hunting and berry picking by Galena residents.

The OB/OD Range (MRS OD001) is primarily undeveloped land with no access restrictions and is reported to be used for recreational activities and subsistence hunting/gathering use by residents of Galena. The OB/OD is approximately 1 mile from the former landing area near a bend in the road leading southeast from the former installation. A small jeep trail runs through the northern portion of the site from the main road out the east end of the site. North of the road, most of the area is undisturbed tundra and forest. In addition, most of the eastern part of the site and the area on the west side of the road also do not appear disturbed.

The Suspected Rocket Range (MRS AL908) is on land that was withdrawn for military use at the time but was subsequently deeded under the Native Claims Settlement Act to the Gana-A'Yoo, Limited Native Cooperative in 1983. A gravel road from the installation down to the Yukon River runs immediately to the north of the site. Approximately three to four acres of the site nearest to the road (on former Air Force property) is occupied by a former Air Force landfill. There is currently a privately-owned radio tower and small building that was built on top of a former AF landfill. The Suspected Rocket Range has no access restrictions and is reported to be used for recreational activities and subsistence hunting/gathering use by residents of Galena.

Based on aerial photographs, the landfill was constructed between 1954 and 1965. The Former CAFS was decommissioned in 1985, and the Air Force performed an RI at the landfill (Site LF-004) in 1986. The landfill site was recommended for NFA in 1989, and ADEC approved the site closure in 1994. A privately-owned radio tower and building now sit on the former landfill.

The nearest potential drinking water well is a community water system groundwater well shown as active in the ADEC Drinking Water Program Drinking Water Protection Areas geographic information system located approximately 6 miles northwest of the MRS. The water system name is identified as "AK2260272" (ADEC, 2017).

Future land and groundwater use is anticipated to be the same as the current land and groundwater use. However, future human receptors could include construction workers, trespassers, and hypothetical residents on or near the MRSs.

2.7 Summary of Site Risks

The results of human health and ecological risk characterizations for the OB/OD Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908) are summarized in the following subsections. Results from the Air Force Munitions and Explosives of Concern Hazard Assessment Tool (MHAT) analysis for the MRSs is also presented.

2.7.1 MEC Hazard Tool Assessment Results

Explosive hazard assessment was conducted using the Air Force MHAT. The Air Force MHAT addresses human health and safety concerns associated with potential exposure to MEC at the MRS. The baseline MHAT assists in understanding MEC hazards for an MRS if no action is taken and then evaluates the hazard reductions if munitions response alternatives are implemented.

Each component is assessed by adding scores assigned to each input factor for each site. The sum of the input factor scores falls within one of four defined ranges, called hazard levels. Each of the four levels reflects site attributes that describe groups of sites and site conditions ranging from the highest to the lowest hazards. The MHAT hazard levels are defined as follows:

- Hazard Level 1 — Sites with the highest hazard potential. There might be instances where an imminent threat to human health exists from MEC.
- Hazard Level 2 — Sites with a high hazard potential. A site with surface MEC or one undergoing intrusive activities such that MEC would be encountered in the subsurface would be defined as a Level 2 site. The site would also have moderate or greater accessibility by the public.
- Hazard Level 3 — Sites with a moderate hazard potential. A site that would be considered safe for the current land use without further munitions responses, although not necessarily suitable for reasonable, anticipated future use, would be defined as Level 3. Level 3 areas generally would have restricted access, a low number of contact hours, and typically contain MEC only in the subsurface.
- Hazard Level 4 — Sites with a low hazard potential. A site compatible with current and reasonably anticipated future use would be defined as Level 4. Level 4 sites typically have had a MEC cleanup performed, and contact hours are low.

Based on the results from the RI, the current and future use activities score (i.e., the baseline MHAT score) is 3 (moderate potential explosive hazard condition) and the category score (i.e., the sum of the inputs used to determine the Hazard Level) is 700 for the OB/OD Range (MRS OD001).

After the RI, the MHAT was used to evaluate the Former Suspected Rocket Range (MRS AL908) as well. Based on the results from the RI, the current and future use activities score (i.e., the baseline MHAT score) was 2 (high potential explosive hazard condition) and the category score was 795. However, this did not consider the results of the TCRA. Based on the surface and subsurface clearance that was completed for the TCRA, the MHAT for the Suspected Former Rocket Range (MRS AL908) was rescored.

The TCRA was entered as a munitions response alternative in the MHAT such that the original scores from the RI were retained and could be compared to the score post-TCRA. Based on the reduction in the amount of MEC at the site and the revised minimum depth of MEC (4 ft) relative to the maximum intrusive depth (0.5 ft), the MHAT score was reduced to a 4 (low hazard potential), which is the lowest score an MRS can receive.

2.7.2 Human Health Risk Assessment

All MC metals, PAHs, and explosive compounds were eliminated as COPCs in the OB/OD Range (MRS OD001) and the Suspected Former Rocket Range (MRS AL908). No COPCs are carried through the HHRA for further evaluation. Therefore, the remaining steps of the HHRA process (exposure assessment; toxicity assessment; risk characterization) were not completed.

2.7.3 Screening Level Ecological Risk Assessment

The RI included a screening level ecological risk assessment (SLERA) which evaluated risk to ecological receptors. The RI concluded that MC in soil at the OB/OD Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908) is not considered to pose a threat to ecological receptors (USAF, 2015).

2.7.4 Basis for Action

It is the judgment of the Air Force that the response actions selected in this ROD for the OB/OD Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908) are necessary to protect public health or welfare or the environment from actual or threatened exposure to hazardous substances, namely MEC. A summary of the alternatives evaluated in the final FS report (USAF, 2017), along with more detailed information concerning the selected alternative for implementation, is presented in **Section 2.10** and **Section 2.13**, respectively. The selected remedies support the current and reasonably anticipated future land uses discussed in **Section 2.6**.

2.8 Remedial Action Objectives

Remedial action objectives (RAOs) are developed as target goals for remediation and are used during the analysis and selection of remedial alternatives. RAOs for MEC are defined differently than for chemical compounds, as there are no established risk-based values developed for MEC.

Preliminary remediation goals (PRGs) are used as the basis for the development of RAOs. The USEPA provides the following definition for MEC PRGs (USEPA, 2005):

> "PRGs for a munitions response are the preliminary goals pertaining to the depth of that response action and are used for planning purposes. PRGs are directly related to the specific media that are identified in your CSM as potential pathways for MEC exposure (e.g., vadose zone, river bottom, wetland area). The PRGs for response depths for munitions are a function of the goal of the investigation and the reasonably anticipated land use on the range."

PRGs are a function of the investigation goal and reasonably anticipated future land use. They may change as more information becomes available (e.g., the actual depth of MEC) as well as the anticipated depth at which receptors may contact subsurface soils, environmental conditions, and the complexity and cost of the response required to meet a PRG.

Based upon USEPA guidance (USEPA, 1988 and 1989), knowledge of the affected media, contaminants of concern, and potential exposure pathways, the following PRGs were developed:

- Prevent direct human contact with MEC.
- Comply with chemical-specific, location-specific, and action-specific applicable or relevant and appropriate requirements (ARARs) and "to be considered" guidance.

The RAOs are developed for the OB/OD Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908) in the FS based on criteria outlined in Section 300.430(e)(2)(i) of the NCP. RAOs specify the item or contaminants of concern, media of concern, exposure routes and receptors, and an acceptable contaminant level or range of levels for each exposure route.

The following were used to develop RAOs for the OB/OD Range (MRS OD001):

- **MEC Items of Concern:** 20mm projectiles, 30mm projectiles, AIM-7, boosters;
- **Media of Concern:** Surface and subsurface soil;

- **Exposure Routes and Receptors:** Current and future site visitors/trespassers, current and future subsistence users, future short-term and long-term workers, and future hypothetical residents; and
- **PRGs:** Prevent humans from direct contact with MEC.

Therefore, the RAO for the OB/OD Range (MRS OD001) is to prevent direct contact with MEC potentially present in the surface and subsurface soil.

The following were used to develop RAOs for the Suspected Former Rocket Range (MRS AL908):

- **MEC Items of Concern:** 2.36-inch M6A3 Antitank Rocket;
- **Media of Concern:** Subsurface soil;
- **Exposure Routes and Receptors:** Current and future site visitors/trespassers, current and future subsistence users, future short-term and long-term workers, and future hypothetical residents; and
- **PRGs:** Prevent humans from direct contact with MEC.

Therefore, the RAO for the Suspected Former Rocket Range (MRS AL908) is to prevent direct contact with MEC potentially present in subsurface soil.

2.9 Description of Alternatives

The remedial alternatives evaluated for the OB/OD Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908), as part of the detailed analysis of alternatives, were presented in the final FS report (USAF, 2016) and are summarized in **Tables 2-6 and 2-7**.

This section summarizes the remedial action alternatives for that were analyzed in the FS. Three alternatives were developed to address MEC. These alternatives are:

- Alternative 1 – No Action;
- Alternative 2 – LUCs; and
- Alternative 3 – Surface and Subsurface Removal to Achieve UU/UE.

However, Alternative 3 was not retained for evaluation at the Suspected Former Rocket Range (MRS AL908), as all accessible areas were cleared during the TCRA. Only the area under the landfill was not cleared. The costs to clear under the landfill are extremely high (~$10M). Contact with MEC under current and future land use scenarios is not anticipated as the landfill materials are approximately 4 ft thick over any potential items.

Therefore, because the costs associated with Alternative 3 are excessive compared to its overall effectiveness and implementability, it was not evaluated for the Suspected Former Rocket Range (MRS AL908).

2.9.1 Alternative 1: No Action

The NCP requires evaluation of the No Action alternative, which provides a baseline for the comparison to other alternatives. The “No Action” alternative involves no active response or controls to locate, remove, dispose of, or limit the exposure to any MEC potentially present at the MRS. This alternative provides a baseline for comparison of other response alternatives. It assumes continued use of the MRS in its present state.

If the potential exposure and hazards associated with the MRS are compatible with current and future developments in the area, then No Action may be warranted. The government may respond to any future MEC discovery, depending on ownership of the land at the time, regardless of whether the MRS is designated for No Action.

2.9.2 Alternative 2: Land Use Controls

The LUCs alternative focuses on reducing human exposure to MEC by managing the activities occurring at the MRSs. Risks related to potential explosives hazards would be managed through the following legal controls and educational outreach.

Table 2-6 Summary of Remedial Alternatives Evaluated for the OB/OD Range (OD001)

Alternative Designation	Alternative Description/Component	Cost and Estimated Timeframe
Alternative 1 No Action	• No action	• Estimated Capital Cost: $0 • Estimated Annual Operation and Maintenance (O&M) Cost: $0 • Estimated 30-Year Present-Worth Cost (2% discount rate): $0 • Estimated to Remedy In-Place: 0 months
Alternative 2 Land Use Controls	• Access and land use restrictions • Warning sign installation • Training and education programs • MEC recognition safety training • Information flyers • Monitoring • Construction support (such as anomaly avoidance, utility clearance) when intrusive activites are performed • Visual surveys • CERCLA Five-Year Reviews	• Capital Costs: $72,940 • 30-Year O&M: $569,354 • Net Present Worth: $642,294
Alternative 3 Surface and Subsurface Removal and LUCs	• Mobilization • Vegetation clearance • Analog and digital subsurface MEC detection and anomaly selection across surface and subsurface of OB/OD Range (OD001) • MEC or MD inspection and classification • Hand dig and mechanical removal • Removal of soil in lifts/sieving for anomaly resolution (if needed) • MEC or MD disposal • Material documented as safe (MDAS) and non-MD waste-stream treatment • Site restoration • Demobilization	• Capital Costs: $1,161,865 • 30-Year O&M: $0 • Net Present Worth: $1,161,865

Yellow shading indicates the selected remedy for OB/OD Range (MRS OD001)

Table 2-7 Summary of Remedial Alternatives Evaluated for the Suspected Former Rocket Range (AL908)

Alternative Designation	Alternative Description/Component	Cost and Estimated Timeframe
Alternative 1 No Action	• No action	• Estimated Capital Cost: $0 • Estimated Annual O&M Cost: $0 • Estimated 30-Year Present-Worth Cost (2% discount rate): $0 • Estimated to Remedy In-Place: 0 months
Alternative 2 Land Use Controls	• Access and land use restrictions • Warning sign installation • Record an Environmetnal Covenant • Training and education programs • MEC recognition safety training • Information flyers • Monitoring • Construction support when intrusive activites are performed • Visual surveys • CERCLA Five-Year Reviews	• Capital Costs: $69,832 • 30-Year O&M: $88,486 • Net Present Worth: $158,318

Yellow shading indicates the selected remedy for the Suspected Former Rocket Range (MRS AL908)

Legal Controls:

- Notice of Environmental Contamination. For government-controlled properties, a Notice of Activity and Use Limitation (NAUL) will be filed. For non-government-controlled properties (i.e., Gana-A 'Yoo), an Environmental Covenant will be filed in the appropriate Alaska recording district.
- Contractor Control Policies: For government-controlled property contractors performing intrusive activities on the MRS that have the potential to contact MEC would be required to receiving training. The Department of Defense (DoD) educational message for explosive safety is referred to as "the 3Rs": Recognize, Retreat, and Report any munitions that are encountered while performing maintenance, improvement, or construction activities on their property. For non-government-controlled properties (i.e., Gana-A 'Yoo), restrictions will be placed on intrusive activities (i.e., Air Force should be notified if site conditions or land use conditions change and ADEC must also be notified and provide approval of any land use changes) and periodic training will be conducted as described in the Environmental Covenant.
- Construction Support: For government-controlled property, when activities are required that may affect the LUCs established for the MRS, UXO construction support activities would be necessary. UXO construction support would be used to ensure the safety of workers or the public if MEC items are discovered at the MRSs. In accordance with DoD 6055.09-M (2008), the level of construction support changes in relation to the location and the probability for encountering potential MEC. For non-government-controlled properties (i.e., Gana-A 'Yoo), the Air Force can provide construction support, as necessary and under specified conditions with advanced notice (i.e., a minimum of 6 months is requested). If on-site construction support is required and approved by ADEC, the Air

Force will provide Unexploded Ordnance-qualified personnel to observe ground-disturbing activities and remove munitions, if encountered, from the footprint of the planned ground-disturbing activity, however, a minimum advance notice of 6 months is required to coordinate this effort. Construction support would be provided at no cost to Gana-A'Yoo as described in the Environmental Covenant.

Education Controls:

- Public Notices: Notices would be placed in the local newspapers to notify the public of selection of a final remedy and if any changes to the remedy occur in accordance with NCP, 40 CFR §300.430. In addition, notices that updates to the MRSPP scores would be placed in the local newspapers in accordance with 32 CFR Part 179.
- Letter Notifications, Informational Pamphlets, and/or Fact Sheets: Development and distribution of informational materials would be conducted periodically (at the onset of LUC implementation and during the Five-Year Reviews which will occur every 5 years until the hazard has been addressed) to provide awareness to property owners and stakeholders of the presence of munitions.
- Signs. The Air Force would install signs to educate the community and workers to reduce potential exposure to hazards. When signs are installed to educate the community, USAF will concurrently inspect/maintain the signs at the site access point(s). Annual visual surveys/inspections will be performed to verify that signs are maintained.

The MRSs would be formally incorporated into the Former CAFS Base General Plan and review process, which includes a review of any construction plans and construction support.

Hazards remaining at the MRSs would be managed through LUCs, including a review process to provide construction support for any construction or other intrusive activities. Because subsurface MEC would remain, training and awareness programs would be implemented, CERCLA Five-Year Reviews would be conducted to assess the site condition and whether the Alternative 2 remedy is still protective to human health and the environment, and an MRSPP Annual Update would be prepared, in accordance with the requirements of the NCP.

2.9.3 Alternative 3: Surface and Subsurface Removal to Achieve UU/UE

Intrusive MEC removal would be performed across the OB/OD Range (MRS OD001). Some limited vegetation clearance to a height sufficient to allow proper operation of the heavy equipment and MEC detection equipment, and to provide the required ground visibility for the safety of the UXO-qualified team, would first be required.

The intrusive remedy would then be accomplished by MEC detection using metal detectors and a combination of hand digging and mechanically assisted excavation using a small backhoe excavator where warranted. UXO technicians would search for metallic anomalies using metal detectors. Qualified UXO personnel would investigate and identify targeted anomalies and remove metallic items.

The removal action would be performed to resolve all anomalies above site background noise to achieve UU/UE. Once the subsurface removal is complete, MEC would be confirmed as removed from the MRS and no LUCs would be required.

Material potentially presenting an explosive hazard (MPPEH) would go through the MPPEH inspection process and any MEC identified and recovered would be disposed of by detonation. This typically consists of in-place or consolidated detonations throughout the MRS, rather than establishing a fixed demolition area. Should compromised MEC be identified, discrete soil samples may be collected from the area to determine if environmental impacts have occurred. In addition, samples would be collected from detonation areas as required by the Stakeholders.

MDAS, if determined not to be culturally significant, would be collected with other debris for off-site disposal.

2.10 Comparative Analysis of Alternatives

In accordance with the NCP, the alternatives for the MRSs were evaluated using the nine criteria described in Section 121(a) and (b) of CERCLA and 40 CFR Section 300.430 (e)(9)(iii) as cited in NCP Section 300.430(f)(5)(i). These criteria are classified as threshold criteria, balancing criteria, and modifying criteria and are described below.

Threshold criteria are standards that an alternative must meet to be eligible for selection as a remedial action. There is little flexibility in meeting the threshold criteria—the alternative must meet them, or it is unacceptable. The following are classified as threshold criteria:

- Overall protection of human health and the environment; and
- Compliance with, or an applicable waiver of, ARARs.

Balancing criteria weigh the tradeoffs between alternatives. These criteria represent the standards upon which the detailed evaluation and comparative analysis of alternatives are based. In general, a high rating on one criterion can offset a low rating on another balancing criterion. Five of the nine criteria are considered balancing criteria:

- Long-term effectiveness and permanence;
- Reduction of toxicity, mobility, and volume through treatment;
- Short-term effectiveness;
- Implementability; and
- Cost.

Modifying criteria may be considered to the extent that information is available during the FS, but can be only fully considered after public and regulator comments have been received. The following are modifying criteria:

- Community acceptance; and
- State/support agency acceptance.

This section summarizes how well each alternative satisfies each evaluation criterion and indicates how it compares to the other alternatives under consideration. A relative ranking of alternatives against the nine criteria is shown in **Tables 2-8** and **2-9**.

2.10.1 Overall Protection of Human Health and the Environment

Overall protection of human health and the environment addresses whether each alternative provides adequate protection of human health and the environment and describes how risks posed through each exposure pathway are eliminated, reduced, or controlled through treatment, engineering controls, and/or institutional controls.

For the OB/OD Range (MRS OD001), Alternatives 2 and 3 would provide protection of human health and the environment. For Alternative 3, residual MEC would be eliminated from both the low and high probability areas. Alternative 2 would use LUCs to control exposure to hazards but does not eliminate subsurface MEC. However, LUCs provide protection of human health and the environment when maintained. The No Action alternative, Alternative 1, consists of leaving the site in its current state. Due to the potential hazard posed by subsurface MEC, Alternative 1 is not considered to be protective of human health because there are no mechanisms included for mitigating potential exposure to MEC.

For the Suspected Former Rocket Range (MRS AL908), Alternative 2 would use LUCs to control exposure to MEC but does not eliminate subsurface MEC. However, LUCs provide protection of human health and the environment when maintained, meeting this criterion. The No Action alternative, Alternative 1, consists of leaving the site in its current state. In the unlikely event that LF-004 is removed in the future, receptors could be exposed to MEC hazards. Due to the potential hazard posed by subsurface MEC, Alternative 1 is not considered to be protective of human health because there are no mechanisms included for mitigating potential exposure to MEC.

2.10.2 Compliance with Applicable or Relevant and Appropriate Requirements

CERCLA Section 121(d) and NCP Section 300.430(f)(1)(ii)(B) require that remedial actions at CERCLA sites attain legally applicable or relevant and appropriate federal and state requirements, standards, criteria, and limitations (collectively referred to as “ARARs”) unless such ARARs are waived under CERCLA Section 121(d)(4). Compliance with ARARs evaluates whether the alternative meets federal and state environmental statutes, regulations, and other requirements that pertain to the MRS, or whether a waiver is justified. A summary of the ARARs identified for the MRSs is provided in **Table 2-10**.

Table 2-8 Comparative Analysis of Alternatives for the OB/OD Range (MRS OD001)

Criterion Category	Screening Criterion	Alternative 1: No Action	Alternative 2: Land Use Controls	Alternative 3: Surface and Subsurface Removal to Achieve UU/UE
Threshold	Overall Protection of Human Health and the Environment	No	Yes	Yes
	MHAT Scoring (baseline: 700; Hazard Level Category 3)	700 Hazard Level Category 3	700 Hazard Level Category 3	335 Hazard Level Category 4
	Compliance with ARARs	Yes	Yes	Yes
Balancing	Long-Term Effectiveness and Permanence	○	◖ (Effective but not permanent)	●
	Reduction of Toxicity, Mobility, and Volume Through Treatment	○	○	●
	Short-Term Effectiveness	●	●	●
	Implementability	●	●	●
	Technical Feasibility	●	●	●
	Administrative Feasibility	●	●	●
	Availability of Materials and Services	NA	●	●
	Capital Cost	$0	$72,940	$1,161,865
	30-Year O&M Cost	$0	$569,354	$0
	Present Value[1]	$0	$642,294	$1,161,865
Modifying	Regulatory Acceptance	○	○	●
	Community Acceptance	NC	NC	NC

Notes:
[1] 30-year present worth costs assuming a 1.5% discount factor (Office of Management and Budget, 2015).

○ *Does not meet criterion* ◖ *Partially meets criterion* ● *Favorable*
NC = No comments were received from Stakeholders or community members.
Yellow shading indicates the selected remedy

Table 2-9 Comparative Analysis of Alternatives for the Suspected Former Rocket Range (MRS AL908)

Criterion Category	Screening Criterion	Alternative 1: No Action	Alternative 2: Land Use Controls
Threshold	Overall Protection of Human Health and the Environment	No	Yes
	MHAT Scoring (baseline: 500; Hazard Level Category 4)	500 Hazard Level Category 4	500 Hazard Level Category 4
	Compliance with ARARs	Yes	Yes
Balancing	Long-Term Effectiveness and Permanence	○	◖ (Effective but not permanent)
	Reduction of Toxicity, Mobility, and Volume Through Treatment	○	○
	Short-Term Effectiveness	●	●
	Implementability	●	◖
	Technical Feasibility	●	●
	Administrative Feasibility	●	◖
	Availability of Materials and Services	NA	●
	Capital Cost	$0	$69,832
	30-Year O&M Cost	$0	$88,486
	Present Value[1]	$0	$158,318
Modifying	Regulatory Acceptance	○	●
	Community Acceptance	NC	NC

Notes:
[1] 30-year present worth costs assuming a 1.5% discount factor (Office of Management and Budget, 2015).

○ *Does not meet criterion* ◖ *Partially meets criterion* ● *Favorable*
NC = No comments were received from Stakeholders or community members.
Yellow shading indicates the selected remedy

Table 2-10 Summary of ARARs Considered in the Alternatives Evaluation

ARAR	Citation	Description	Applicability
Chemical-Specific			
ADEC Soil Cleanup Levels	• 18 Alaska Administrative Code (AAC) 75.341 Soil Cleanup Levels • Section 75.341(c)	Soil cleanup standards, non-Arctic zone with precipitation < 40 inches.	Applicable to MC present in soils, but not to MEC. Since elevated concentrations of MC were not observed, this regulation is not applicable. However, should sampling be required during the removal action at the OB/OD Range (OD001), the results will be compared to the ADEC Soil Cleanup Levels to determine if the soil is contaminated and warrants action.
Location-Specific			
Endangered Species Act of 1973	• 16 USC § 1531 et seq	Protects critically imperiled species from extinction as a "consequence of economic growth and development untempered by adequate concern and conservation."	No known threatened or endangered species. Applicable if activities will impact these endangered species.
Migratory Bird Treaty Act	• 16 USC ss 703 et seq.	Establishes federal responsibility for the protection of the international migratory bird resource.	Applicable and vegetation removal is required to occur outside migratory bird nesting seasons, mitigating all potential impacts.
Action-Specific			
Resource Conservation and Recovery Act (RCRA)	• 40 CFR Part 264 Subpart X	Addresses recovered MEC management. Establishes requirements for treatment of explosives by OB/OD.	Relevant and appropriate for treatment of consolidated shots by detonation.
Uniform Environmental Covenants Act	• AS 46.04.300 — 46.04.390	An environmental covenant that allows land use restrictions to be placed on a piece of remediated property still containing contamination during its transfer from one owner to another.	Applicable to real estate transactions involving previously contaminated properties that have undergone remediation by a state or federal governmental agency but where contamination still exists.
Solid Waste Management	• 18 AAC 60	Establishes requirements for disposal activities.	Applicable to solid waste generated and.to be disposed of in a landfill
Water Quality Standards	• 8 AAC 70.010(a) and 18 AAC 70.010(b)	A person may not conduct an operation that causes or contributes to a violation of the water quality standards set by this chapter.	Applicable to ponding and wetlands in low-lying areas at the site which constitute waters of the State of Alaska.

Table 2-10 Summary of ARARs Considered in the Alternatives Evaluation

ARAR	Citation	Description	Applicability
		The water quality standards set by this chapter specify the degree of degradation that may not be exceeded in a waterbody as a result of human actions. The water quality standards are set by the antidegradation policy in 18 AAC 70.015, the water quality criteria in 18 AAC 70.020(b), and the limits in 18 AAC 70.030, applied in accordance with the remainder of this chapter.	

For both MRSs, there are no chemical-specific ARARs associated with MEC. However, should soil sampling be performed during the removal activities described for the OB/OD Range (OD001), the results will be compared to the ADEC Soil Cleanup Levels to determine whether the soil is contaminated and warrants action. There are no location- or action-specific ARARs associated with Alternative 1. The remaining alternatives evaluated would comply with the action-specific and location-specific ARARs.

2.10.3 Long-Term Effectiveness and Permanence

Long-term effectiveness and permanence refers to expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over time, once clean-up levels have been met. This criterion includes the consideration of residual risk that will remain on site following remediation, and the adequacy and reliability of controls.

For the OB/OD Range (MRS OD001), Alternative 3 would provide long-term effectiveness and permanence as MEC, if present, would be removed from the MRS. Alternative 2 does not provide permanence for the MRSs, but would be effective long-term if the LUCs are maintained. Alternative 1 is neither effective nor permanent as MEC is anticipated to remain and there are no controls to prevent access to it.

For the Suspected Former Rocket Range (MRS AL908), Alternative 2 does not provide permanence for the MRSs, but would be effective long-term if the LUCs are maintained.

Alternative 1 is neither effective nor permanent as MEC is anticipated to remain and there are no controls to prevent access to it.

2.10.4 Reduction of Toxicity, Mobility, or Volume through Treatment

Reduction of toxicity, mobility, or volume (TMV) through treatment refers to the anticipated performance of the treatment technologies that may be included as part of a remedy.

For the OB/OD Range (MRS OD001), surface and subsurface removal under Alternative 3, followed by detonation and disposal of recovered MEC and MD, would reduce the number (or volume) of explosives hazards. Destruction of MEC would be irreversible and would satisfy the statutory preference for treatment. MDAS would be recycled. No detectable explosives concentrations would be anticipated to remain following the detonations. This may be confirmed through detonation sampling if required by the Stakeholders.

For Alternative 2, treatment is only provided if MEC is encountered during the construction support activities, resulting in a limited reduction in TMV of MEC potentially present. The potential for MEC to be found during these activities is very unlikely, so Alternative 2 is not considered to meet this criterion.

No reduction in TMV would be provided by Alternative 1.

For the Suspected Former Rocket Range (MRS AL908), no treatment would be provided for Alternatives 1 and 2. Under Alternative 2, MEC would only be found during construction support activities for Alternative 2. Given the low probability it is present and that if it was present it would be buried under approximately 4 ft of landfilled materials, Alternative 2 is not considered to provide a reduction in TMV. No activities with a potential to result in TMV would occur under Alternative 1. Therefore, Alternatives 1 and 2 would not meet this criterion.

2.10.5 Short-Term Effectiveness

Short-term effectiveness addresses the time needed to implement the remedy and any adverse impacts that may be posed to workers, the community, and the environment during construction and operation of the remedy until cleanup levels are achieved.

For the OB/OD Range (MRS OD001), there are no remedial measures associated with Alternative 1, so it is short-term effective. Alternative 2 would entail short-term hazards during the surface inspections and during construction support activities in the event subsurface construction or other intrusive activities are planned.

For Alternative 3, a MEC removal is performed; exclusion zones and health and safety requirements would be detailed in an Explosives Safety Submission (ESS) and work planning documents. Implementing the requirements of the ESS would protect the local public and site workers during remedy completion.

For the Suspected Former Rocket Range (MRS AL908), there are no remedial measures associated with Alternative 1, so it is short-term effective. Alternative 2 would entail short-term hazards during sign placement and during construction support activities in the event subsurface construction or other intrusive activities are planned.

2.10.6 Implementability

Implementability addresses the technical and administrative feasibility of a remedy from design through construction and operation. Factors such as availability of services and materials, administrative feasibility, and coordination with other governmental entities are also considered.

For the OB/OD Range (MRS OD001), Alternatives 2 and 3 would all be feasible with respect to their technology; subsurface clearance and LUCs are standard technologies that have been applied with success at various other DoD installations.

Alternative 3 would be the most difficult to implement due to the presence of vegetation and the remote nature of the site. Alternative 2 would be more feasible regarding site logistics. No actions would be taken under Alternative 1, so it is implementable.

For the Suspected Former Rocket Range (MRS AL908), no actions would be taken under Alternative 1, so it is implementable. For Alternative 2, implementation of the land use and access controls requires support by the landowner (Gana-A'Yoo, Limited Native Cooperative). The Air Force consulted with Gana-A'Yoo, Limited Native Cooperation and presented the preferred remedy. Gana-A'Yoo provided concurrence of the preferred remedy via letter signed on 11 September 2019 (**Attachment 3**).

The proposed technologies (signs, training, and construction support) are readily available and are proven technologies at other DoD sites. This alternative would be less disruptive to the natural setting because no removal activities are included except those necessary for construction support. Maintaining a public information program would require coordination with the DoD. Therefore, LUCs would be technically and administratively feasible.

2.10.7 Cost

Estimated costs for the selected remedy are summarized in **Table 2-11**. As shown in **Table 2-11**, the Alternative 1 – No Action incurs no costs, but provides no overall protection to human health and the environment. Alternative 2 – LUCs is the least expensive at $642,294 for the OB/OD Range (MRS OD001) and $158,318 for the Suspected Former Rocket Range (MRS AL908) over 30 years at a 1.5% annual discount rate, but provides only partial long-term effectiveness and permanence. Alternative 3 – Surface and Subsurface Removal to achieve UU/UE is approximately 1.8 times more expensive than Alternative 2 at $1,161,865 for the OB/OD Range. This alternative eliminates MEC hazards from the MRS. However, this alternative was eliminated from consideration for the Suspected Former Rocket Range (MRS AL908) as only a small area under approximately 4 ft of landfilled materials was not previously cleared and the costs to remove the materials were excessive compared to the overall protection provided (i.e., more than $10M).

Table 2-11 Summary of Costs

Alternative No.	Capital Costs	30-Year O&M Costs	Net Present Worth
OB/OD Range (MRS OD001)			
1	$0	$0	$0
2	$72,940	$569,354	$642,294
3	$1,161,865	$0	$1,161,865
Suspected Former Rocket Range (MRS AL908)			
1	$0	$0	$0
2	$69,832	$88,486	$158,318

2.10.8 State/Support Agency Acceptance

ADEC approved the final FS report (USAF, 2017) on July 12th, 2017. The Comparative Analysis of Alternatives in the report forms the basis for the selected remedy presented in this decision document. ADEC has expressed its support for the selected remedies (see the ADEC letter in **Attachment 1**).

2.10.9 Community Acceptance

Community acceptance does not appear to be an issue with the implementation of the selected alternative. During the public comment period, the public did not provide comments on the PP.

2.11 Principal Threat Wastes

The NCP states a preference for using treatment that reduces the TMV of the principal threat wastes, to the extent practicable. The principal threat concept refers to source materials at a CERCLA site that are considered highly toxic or highly mobile and that generally cannot be reliably controlled in place or that present a significant risk to human health or the environment should exposure occur.

A source material is material that contains hazardous substances, pollutants, or contaminants that act as a reservoir for migration of contamination to groundwater, surface water, or air, or that acts as a source for direct exposure. MEC do not meet the definition of a principle threat waste.

If MEC is discovered during the removal activities required under Alternative 3 for the OB/OD Range (MRS OD001), it will be removed and destroyed. Therefore, all explosive hazards present at the OB/OD Range (MRS OD001) will be eliminated.

MEC may also be removed from the Suspected Former Rocket Range (MRS AL908) in the unlikely event that construction activities occur in the landfill area in the future. Consequently, a reduction in residual MEC, if present, may occur during construction support activities. Removed MEC will subsequently be destroyed.

2.12 Selected Remedy

Alternative 3 – Surface and Subsurface Removal to Achieve UU/UE, was selected as the remedy for OB/OD Range (MRS OD001) because it provides a long-term, cost-effective, implementable solution to address the potential hazards associated with MEC at the MRS. Alternative 2 – LUCs was selected at the Suspected Former Rocket Range (AL908) because it is protective of human health and the environment, complies with ARARs, implementable in a reasonable time frame, cost-effective and allows the property to be maintained as it is currently being used for the foreseeable future.

The major components of the selected remedy for the OB/OD Range (MRS OD001) are:

- MEC identification on the surface using visual means enhanced with analog sensors;
- MEC identification in the subsurface using a combination of digital and analog techniques;
- MEC removal from the surface through hand excavation or mechanically assisted excavation (e.g., excavator [remote/armored as needed]);
- Removal of soil in lifts/sieving within the demolition pits, mapping and resolution of targeted anomalies, if needed; and
- MEC treatment and subsequent disposal through detonation.

Once the physical remedy is complete, the Air Force will assess whether the RAO has been achieved.

The selected remedy for the Suspected Former Rocket Range (MRS AL908) is LUCs. AFI 32-7020, paragraph 15.3 states: "At all sites where a use restriction is part of environmental restoration activities, the use restriction shall be clearly defined, documented in a Decision Document, and enforceable." An evaluation of the LUC remedy for the Suspected Former Rocket Range (MRS AL908) per the Air Force LUC Checklist to ensure compliance with AFI 32-7020 follows:

1. Resources Uses and Risk Exposure Assumptions: Approximately three to four acres of the site nearest to the road (on former Air Force property) is occupied by a former Air Force landfill. There is currently a privately-owned radio tower and small building that was built on top of a former AF landfill. The Suspected Rocket Range has no access restrictions and is reported to be used for recreational activities and subsistence hunting/gathering use by residents of Galena.
2. Risks Necessitating the LUCs: There is a potential for MEC to be present under the former Air Force landfill cover. Access to MEC is unlikely as there is a minimum of 4 ft of fill over the area where MEC may remain. However, LUCs are required in order to ensure land use does not change or proper safety controls are in place should the landfill be removed.
3. Performance Objectives: Prevent direct contact with MEC in subsurface soils through education of the property owner and local community and by providing construction support as necessary should any future development of the property be performed.
4. Location of LUCs: LUCs will be implemented for the entire range fan area MRS shown on **Figure 2-4**.
5. Duration of LUCs: LUCs will be maintained until it is confirmed that MEC hazards no longer remain on the property and allow for UU/UE.
6. Description of Each LUC and How It Achieves a Specific LUC Performance Objective:

- The Air Force will update the existing LUC Management Plan, which was developed for the Pacific Air Forces Regional Support Center program and already includes the Former Campion Air Force Station sites, with the updated LUCs for the Suspected Former Rocket Range (MRS AL908);The Air Force will prepare an Environmental Covenant for signage for the private property owned by Gana-A 'Yoo in the appropriate Alaska recording district;
- The Air Force will install signage at access points to the area and provide educational outreach (e.g., fact sheets/flyers, public radio announcements, possible newspaper ads) every two years at minimum to manage and reduce community exposure to hazards;

- The Air Force will monitor the effectiveness of the LUCs and verify that they have been implemented and maintained via annual inspections and evaluate if additional actions are required; and
- The Air Force will provide construction support for future development performed within the MRS as necessary.

7. General Performance Responsibility: The MRS is owned and operated by Gana-A'Yoo Limited Native Cooperation and is being remediated under the DERP- MMRP. Under DERP-MMRP, the Air Force is responsible for determining what actions are required to protect human health at the Site. As the hazards at the MRS are associated with Air Force military training activities, the Air Force is responsible for funding the implementation and maintenance of the LUCs and will provide signage, training materials and other resources to support their continuing effectiveness. The Air Force will also perform monitoring of the LUCs until it is determined that they are no longer needed through the 5-year review process as required by CERCLA. However, because the property is owned and operated by Gana-A'Yoo Limited Native Cooperation, final implementation, maintenance and enforcement of the LUCs is the responsibility of the Gana-A'Yoo Limited Native Cooperation. The Air Force will exercise their responsibility in accordance with CERCLA and the NCP.
8. Specific Performance Responsibility to Bind Contractors and Tenants: The Air Force shall inform, monitor, enforce, and bind, where appropriate, authorized lessees, tenants, contractors and other authorized occupants of the site (both federal property and private property owned by Gana-A'Yoo) regarding the LUCs affecting the site.
9. Specific Performance Responsibility for Transferred Sites: As a result of BLM transferring land ownership to Gana-A'Yoo Limited Native Cooperation, Gana-A'Yoo Limited Native Cooperation will have procedural responsibilities (i.e., Gana-A'Yoo incorporate site access in its land management policies to ensure that the site is continually monitored and maintained and that the LUCs are enforced. Gana-A'Yoo should notify the Air Force as soon as possible should site conditions or land use conditions change or in the event that one of the LUCs is violated. These notices to the Air Force could include damaged or missing signs or planned construction activities. As part of any planned change to current site conditions [i.e., intrusive activities such as planting plants, constructing a building, laying utilities, or making road improvements], ADEC must be notified and provide approval.). The Air Force shall retain ultimate responsibility for remedy implementation and protectiveness.
10. Notification and Corrective Measures Requirement: The Air Force will notify ADEC as soon as practicable, but no longer than ten days after discovery, of any activity that is inconsistent with the LUC objectives or use restrictions, or any other action that may interfere with the effectiveness of the LUCs. The Air Force will take prompt measures to correct the violation or deficiency and prevent its recurrence. In this notification, the Air Force 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 Air Force shall notify ADEC when the measures are complete.
11. Notification of Transfers: Not applicable. The MRS is owned and operated by Gana-A'Yoo Limited Native Cooperation.
12. Concurrence Language: The Air Force shall not modify or terminate LUCs, modify land uses that might impact the effectiveness of the LUCs, take any anticipated action that might disrupt the effectiveness of the LUCs, or take any action that might alter or negate

the need for LUCs without 45 days prior to the change seeking and obtaining approval from ADEC of any required ROD modification. For land owned by Gana-A 'Yoo, landowner concurrence must be obtained as well (detail will be provided in the Environmental Covenant).

13. Monitoring Language: The Air Force will monitor and inspect all site areas subject to LUCs at least annually, unless less frequent inspections are approved through the 5-year review process.
14. Reporting Language: The Air Force will report annually, unless less frequent inspections/reporting are approved through the 5-year review process, to ADEC on the frequency, scope, and nature of LUC monitoring activities, the results of such monitoring, any changes to the LUCs, and any corrective measures resulting from monitoring during the time period.

This section describes the rationale for choosing the selected remedies, provides specific details and costs for the selected remedies, and describes the expected outcomes after the selected remedies are implemented.

The Air Force is responsible for implementing, maintaining, monitoring, and enforcing the remedial actions for the duration of the remedies selected in this ROD, and will exercise this responsibility in accordance with CERCLA and the NCP.

2.12.1 Summary of the Rationale for the Selected Remedy

Selection of Alternative 3 for the OB/OD Range (MRS OD001) and Alternative 2 for the Suspected Former Rocket Range (MRS AL908) as the selected remedies is based on the detailed analysis of the remedial alternatives presented in the final FS report (USAF, 2017). The Air Force and ADEC believe the selected remedies meet the threshold criteria and provides the best trade-offs among the other alternatives with respect to the balancing and modifying criteria.

The selected remedies are technically feasible, implementable, and cost-effective. The selected remedies meet the RAO to prevent direct contact with MEC potentially present in the surface (OB/OD Range [MRS OD001], only) and subsurface soil. The Air Force believes that the selected remedies can be implemented as they are technically and administratively feasible. The Selected Remedy will be compliant with ARARs.

2.12.2 Summary of Estimated Remedy Costs

A summary of the estimated costs associated with implementing and maintaining the selected remedy are presented in **Table 2-11**. The best available information regarding the anticipated scope of the selected remedies is the basis for the cost estimates. Changes in the cost elements may occur because of new information and data collected during implementation.

Any major changes will be documented in the form of a memorandum in the AR file, an Explanation of Significant Differences, or a ROD amendment, as appropriate. This is an order-of-magnitude engineering cost estimate that is expected to be within plus 50% to minus 30% of the actual project cost.

2.12.3 Expected Outcomes of Selected Remedy

The expected outcomes of the selected remedy are:

- Mitigation of potential explosive hazards through removal of MEC from the surface and subsurface at the OB/OD Range (MRS OD001) and implementation of LUCs at the Suspected Former Rocket Range (MRS AL908);

- No limits on the use of groundwater because there are no adverse impacts to groundwater associated with the military munitions use at the property; and
- Support of current and future identified uses of the MRSs.

UU/UE will be achieved by implementing surface and subsurface removal of MEC at the OB/OD Range (MRS OD001). However, UU/UE at the Suspected Former Rocket Range (MRS AL908) will not be achieved. The LUCs at the Suspected Former Rocket Range (MRS AL908) will remain in place indefinitely or until it is determined that no hazards remain. The LUCs will be administered in accordance with the requirements of this ROD.

2.13 Statutory Determinations

Under CERCLA Section 121 and NCP Section 300.430(f)(5)(ii), the lead agency must select a remedy that protects human health and the environment, complies with ARARs, is cost-effective, and uses permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In addition, CERCLA also includes: 1) a preference for remedies that employ treatment that permanently and significantly reduces the volume, toxicity, or mobility of hazardous wastes as a principal element; and 2) a bias against off-site disposal of untreated wastes.

Periodic five-year reviews are required if the remedy will result in hazardous substances remaining in place above levels allowing for UU/UE. The following sections discuss how the selected remedy meets these statutory requirements.

2.13.1 Protection of Human Health and the Environment

The selected remedy at the OB/OD Range (MRS OD001), Alternative 3 – Surface and Subsurface Removal to Achieve UU/UE, will protect human health and the environment by permanently removing MEC from the surface and subsurface of the high- and low-probability areas. Hazards will be permanently mitigated in the MEC removal areas comprising the OB/OD Range (MRS OD001).

The selected remedy at the Former Suspected Rocket Range (MRS AL908), Alternative 2 – LUCs, will protect human health and the environment by mitigating contact with potential residual subsurface MEC.

2.13.2 Compliance with ARARs

As discussed in **Section 2.10.2**, remedial actions must comply with both Federal and State ARARs. For both MRSs, there are no chemical-specific ARARs associated with MEC. However, should soil sampling be performed during the removal activities described for the OB/OD Range (OD001), the results will be compared to the ADEC Soil Cleanup Levels to determine whether the soil is contaminated and warrants action. The location-specific and action-specific ARARs in **Table 2-9** apply to the selected remedy for the OB/OD Range (OD001). These ARARs only apply to the Suspected Former Rocket Range (AL908) should MEC be identified and destroyed during construction support activities.

2.13.3 Cost Effectiveness

In the Air Force's judgment, the selected remedy is cost-effective and represents a reasonable value for the money to be spent. In making this determination, the following definition was used: "A remedy shall be cost-effective if its costs are proportional to its overall effectiveness" (40 CFR 300.430[f][1][ii][D]). Overall effectiveness was evaluated by assessing three of the five balancing criteria in combination: long-term effectiveness and permanence; reduction in toxicity, mobility,

and volume through treatment; and short-term effectiveness. Overall effectiveness was then compared to costs to determine cost-effectiveness.

The relationship of the overall effectiveness of the selected remedy was determined to be proportional to its costs and the selected remedy represents a reasonable value for the money to be spent. The estimated present-worth cost of the selected remedy in 2017 dollars is $1,320,183, of which $1,161,865 is for the OB/OD Range (MRS OD001) and $158,318 is for the Suspected Former Rocket Range (MRS AL908).

2.13.4 Utilization of Permanent Solutions and Alternative Treatment Technologies to the Maximum Extent Practicable

The Air Force determined the selected remedy represents the maximum extent which permanent solutions and treatment technologies can be utilized in a practicable manner at the MRSs. As compared to the other alternatives evaluated, the Air Force determined the selected remedies provide the best balance of trade-offs in terms of the five balancing criteria, while also considering the statutory preference for treatment as a principal element and bias against off-site treatment and disposal, and considering State and community acceptance.

While the NCP recognizes that some contamination problems will not be suitable for treatment and permanent remedies, for the OB/OD Range (MRS OD001), the surface and subsurface removal across the MRS, followed by detonation and disposal of recovered MEC and MD, would reduce the number and volume of explosives hazards. Destruction of MEC would be irreversible and would satisfy the statutory preference for treatment. For the Suspected Former Rocket Range (MRS AL908), there is no permanent treatment other than physical removal of the potential residual MEC during construction support.

The selected remedies address MEC in surface and/or subsurface soils, which is the principal risk at the MRSs. MEC are not a principal threat waste, and there are no principal threat wastes on the property.

The selected remedies satisfy the criterion for long-term effectiveness by permanently removing MEC from the entire surface and subsurface at the OB/OD Range (MRS OD001) or by maintaining LUCs that have been historically effective and reliable and are expected to remain so in future at the Suspected Former Rocket Range (MRS AL908).

The selected remedies do not present significant short-term risks. Any risks that do arise will be mitigated through use of established engineering controls. No special implementability issues are associated with the selected remedies, and alternative treatment technologies will not affect the permanence of the selected remedies.

2.13.5 Preference for Treatment as a Principal Element

The NCP (40 CFR 300.430(a)(1)(iii)(A)) establishes the expectation that treatment is used to address the principal threats posed by a site wherever practicable. The selected remedy for the OB/OD Range (MRS OD001) provides for permanent a treatment solution by removing MEC from the surface and subsurface.

Treatment technologies for MEC at the Suspected Former Rocket Range (MRS AL908) were not recommended because the low probability of MEC remaining beneath the landfilled materials makes finding and destroying the MEC prohibitively expensive. However, construction support will be conducted at the landfill area in the future and if MEC is discovered, it will be removed and destroyed. Any remaining hazards can be reliably controlled using LUCs.

2.13.6 Five-Year Review Requirements

Because MEC will be removed from the OB/OD Range (MRS OD001) once the selected remedy is implemented, no CERCLA Five-Year statutory review will be required to ensure the remedy is protective of human health and the environment.

However, residual MEC may remain in the subsurface at the Suspected Former Rocket Range (MRS AL908) once the selected remedy is implemented. As a result, UU/UE will not be attained at the MRS. Therefore, statutory review will be conducted within five years after initiation of remedial action to ensure the remedy is, or will be, protective of human health and the environment.

2.14 Documentation of Significant Changes

As required in the NCP, new information made available following publication of the PP (USAF, 2018) and prior to adoption of the selection remedy in the ROD that significantly changes the basic features of the remedy with respect to scope, performance, or cost must be identified in this section.

If the changes could have been reasonably anticipated based on the information in the PP or the AR file, then a discussion of significant changes and reasons is required of the Air Force, the lead agency. If the changes could not have been reasonably anticipated from available information, then the lead agency will seek additional public comment and issue a revised PP prior to adoption of the selected remedy in the ROD.

The PP for the Former CAFS MRSs was released for public comment on December 9th, 2018. The public did not provide comments on the PP. It was determined that no significant changes to the preferred alternative, as originally identified in the PP, were necessary or appropriate.

3.0 RESPONSIVENESS SUMMARY

This section provides a summary of the public comments received in response to the Former CAFS PP (USAF, 2018), for the remedial action at the OB/OD Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908), and the Air Force response to comments.

At the time of the public review periods, the Air Force had identified Alternative 3 – Surface and Subsurface Removal to Achieve UU/UE as the preferred alternative for the OB/OD Range (MRS OD001) and Alternative 2 – LUCs as the preferred alternative for the Suspected Former Rocket Range (MRS AL908).

3.1 Stakeholder Comments and Lead Agency Responses

This document is issued by the Air Force, the lead agency for the Former CAFS MRSs. The Air Force has consulted with ADEC, and they concur with the selected remedy at each MRS. ADEC provided comments on a draft final PP, and the comments were incorporated into the final PP and this ROD. ADEC accepted all changes and indicated that they had no further comments on the PP.

The SSFR, RI, FS, and PP for the OB/OD Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908) were made available to the public on December 9th, 2018. The availability of this document was published in the local newspaper, the *Fairbanks Daily Newsminer* on December 9th, 2018 (**Attachment 2**) with a 34-day public comment period from December 9th, 2018 through January 11th, 2019. In addition, the public notice stated that the Air Force would host a meeting to discuss the site and their proposed final remedies if a meeting was requested by the public.

The public did not request a meeting or provide oral or written comments on the selected remedy for OB/OD Range (MRS OD001) or Suspected Former Rocket Range (MRS AL908). No comments regarding the PP were received from community groups, businesses, municipalities, the general public, or other stakeholders during the public comment period.

3.2 Technical and Legal Issues

No technical or legal issues regarding the PP were identified during the public comment period.

This ROD will be added to the AR file after it is signed. A notice of the availability of the ROD will be published in the local newspaper, *Anchorage Daily News*, and at http://www.adn.com/, in accordance with NCP §300.430(f)(6):

> "After the Record of Decision is signed, the lead agency shall: (i) Publish a notice of the availability of the Record of Decision in a major local newspaper of general circulation; and (ii) Make the Record of Decision available for public inspection and copying at or near the facility at issue prior to the commencement of any remedial action."

4.0 REFERENCES

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Attachment 1

ADEC Letter of Concurrence/ Responses to Comments

THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Environmental Conservation

SPILL PREVENTION & RESPONSE
Contaminated Sites Program

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File No.: 860.38.051

September 22, 2021

Electronic Delivery Only
Jennifer Wehrmann, Remedial Project Manager
AFCEC/CZOP
10471 20th Street, Suite 343
JBER, AK 99506-2201

Subject: DEC Approval of Final Record of Decision, OB/OD Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908), Former Campion Air Force Station, Alaska (USACE Omaha, September 2021)

Dear Ms. Wehrmann,

The Alaska Department of Environmental Conservation (DEC) has received and reviewed the Final Record of Decision (ROD), Open Burn / Open Detonation (OB/OD) Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908) at the former Campion Air Force Station. Section 2.12 of the ROD describes the selected remedies for MRS OD001 and MRS AL908.

DEC understands that with this approval letter, the above-referenced ROD will be routed for signature and that a copy of the fully signed ROD will be placed on the Air Force's Administrative Record for Campion.

If you have any questions, please contact me at (907) 451-5175 or via email at jamie.mckellar@alaska.gov.

Sincerely,

Jamie McKellar

Jamie McKellar
Environmental Program Specialist

Enclosure: Comment Table for MRS OD001/AL908 ROD

cc, via email: Steve Mattson, USAF
Melinda Brunner, DEC

DOCUMENT: Draft Final Record of Decision, Former Campion Air Force Station, Alaska Military Munitions Response Program, United States Army Corps of Engineers, Omaha District GSI North America, Inc., May 2020

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1.	Site Ownership and Location Clarification	DEC requests additional clarification regarding the location and ownership of Sites AL908 and MRSOD001. 1. The ROD figures need to be updated. Updated figure(s) should include land ownership boundaries for USAF and Gana-A'Yoo, and LUC boundaries. The updated figure(s) should also identify the names and location(s) of land managed by BLM. 2. For Site AL908, it is unclear from the provided figures whether the original MRS boundary, range fan, and/or some other area(s) are covered by the ROD. 3. The ROD states that Site AL908 is 12.41 acres but that the LUCs will be implemented over a 12.80 acre area. Neither of these areas are clearly marked on the provided figures. 4. The ROD states that the approximate boundaries of the property owned by the Air Force are shown on Figure 2-2. Figure 2-2 shows all but a small corner of Site AL908 inside Tract A (Withdrawn Public Land for use of Department of the Air Force and Military Purposes). It is unclear what land is owned by Gana-A'Yoo. 5. Lacking a figure with clear boundaries, it is unclear what the term "MRS" means, specifically for Site AL908. According to Figure 2-2, approximately 2/3 of the range fan is not part of MRS AL908. 6. Throughout the document, the term "MRS boundary" appears to be used interchangeably with "LUC boundary." However, these two areas appear to be different. Please clarify throughout.	1. Concur. The area surrounding the Former Campion AFS boundary (retained as federal ownership) is owned by Gana-A 'Yoo. The deed and vicinity map are attached at the end of this RTC for reference. A note has been added to Figure 2-2 to state: "*Land surrounding the Former Campion AFS boundary is owned by Gana-A 'Yoo*." 2. Concur. The range fan is the MRS boundary which is covered by the ROD. It is noted that the official ("original") MRS boundary has not been revised to date, so the boundary developed for the CSE Phase I and Phase II investigations (orange rectangle in Figure 2-4) is still included in the figures for reference. Figure 2-4 has been revised for clarity and a note has been added to the figure for explanation. 3. Concur. The text has been clarified to state that LUCs will be implemented over the entire MRS boundary. Please refer to response to Comment 32. 4. Concur. Please refer to response to bullet 1 above. 5. Concur. Please refer to response to bullet 2 above. Figure 2-2 and 2-4 have been revised for clarity and notes have been added for explanation. 6. Concur. Please see response to 3rd bullet above.	**6/15/2020:** 1. Disagree. Figure 2-2 shows the entirety of the former Campion AFS, and not all land surrounding the Campion AFS is owned by Gana-A'Yoo. If Figure 2-2 is to remain in the ROD, please note that the land identified as Tract A is owned by Gana-A'Yoo. The ROD should contain at least figure that clearly identifies land ownership surrounding Sites AL908 and OD001. 2. Does USAF have plans to revise the MRS boundary? a. If the original MRS boundary is no longer considered to be the official MRS boundary, recommend making the original MRS boundary a dashed line. b. DEC requests that USAF provide latitude and longitude coordinates for the four corners of the range fan. c. Please add clarification to the legend of Figure 2.4 indicating that the "Tract A Boundary (Withdrawn Public Land for use of Department of the Air Force for Military Purposes) is owned by Gana-A'Yoo. 3. Clarification Request: Will LUCs be implemented over both the original MRS boundary (outlined in yellow on Figure 2-4) and the 12.80 acre range fan (outlined in red on Figure 2-4)? 4. Please see DEC's response, above. 5. DEC Accepts, with comment: See response to Comment No. 3, above. 6. DEC Accepts.	1. Concur. In Figures 2-2 and 2-4 the legend has been revised to read: "Tract A Boundary (Withdrawn Public Land for use of Department of the Air Force for Military Purposes) *is owned by Gana-A'Yoo*." 2. Concur. Yes, the USAF has plans to revise the MRS Boundary. a. Concur. In Figures 2-2 and 2-4, the original MRS boundary for Site AL908 has been changed from a solid line to a dashed line. b. Concur. The coordinates for the four corners of the range fan are as follows (Lat/Long in WGS 84): 1. 64.684788 / -156.718997 2. 64.684214 / -156.722757 3. 64.687723 / -156.724537 4. 64.687937 / -156.723136 c. Concur. Figure 2-4 legend has been revised. Please see response to #1. 3. Concur. LUCs will be implemented over the 12.80 acre range fan. 4. Concur. Please see USAF's response, above to bullet 1 5. Thank you. 6. Thank you. **8/17/2021, DEC:** All responses accepted. Comment closed.
2.	General	DEC requests that USAF reopen the public comment period for the Campion MMRP Proposed Plan. A public meeting was requested by DEC in November 2018 and to date, has	Non-concur. The required 30-day public comment period was held by USAF. The USAF also coordinated closely with the tribes, who also represent the community.	**6/15/2020, DEC:** Disagree. The final Proposed Plan states that a public meeting will be held upon request. DEC requested a public meeting	Let's discuss if needed. The formal CERCLA requirements were previously met during the PP. As requested by ADEC,

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		not been held. See comment No. 19 for more information.		on November 19, 2018, prior to the close of the public comment period. USAF has previously agreed to hold a public meeting. A public meeting is required.	an additional informal public meeting was held on April 15th, 2021 via a Zoom call facilitated by the City of Galena. **8/17/2021, DEC:** An informational public meeting was held after the original comment was provided. Comment closed.
3.	General (Added 12/31/2019)	Notwithstanding review of the updated site figure, DEC understands that the ROD covers at least some portion of landfill LF004. DEC requests that USAF coordinate with the Solid Waste program to ensure that any recommended action(s) for the landfill are in compliance with the requirements of 18 AAC 60.	Concur. Landfill LF004 is permitted under 18 AAC 60 (please see attached permit at the end of this RTC). The USAF will coordinate with the Solid Waste program during development of the LUCIP.	**6/15/2020: Disagree.** The ROD must specify how USAF is in compliance with the requirements of 18 AAC 60 or the LUCIP should be signed by DEC. A LUCIP that DEC is not required to sign, and that can be modified without DEC approval creates an unenforceable situation that DEC cannot agree to.	Concur. The Air Force is working with ADEC to complete the closure documentation requirements per 18 AAC 60 for LF004 (and two other landfills). The LUCs will be incorporated into the decision document for LF004 and also included in the LUCMP. An environmental covenant will be prepared as well. In the concurrence letter we indicated that LF004 will be handled under separate cover. Let us know if this needs further discussion given the overlap of LF004 and AL908. However, it is the Air Force's preference to discuss LF004 separately as it is a separate site. **8/17/2021:** DEC Accepts.
4.	Sec. 1.1 Sec. 2.1 Sec. 2.6	The land surrounding the former installation is bordered by two wildlife refuges managed by the Bureau of Land Management (BLM). Clarification request: Please specify the names of the two wildlife refuges. Is the former installation bordered only by land managed by BLM?	Concur. The two wildlife refuges are Innoko National Wildlife Refuge and Koyukuk National Wildlife Refuge. However, after research at the USAF real property office it was determined that the areas immediately surrounding the MRSs are owned by Gana-A 'Yoo. The text has been revised to remove the reference to the two surrounding wildlife refuges and the property ownership has been clarified to state that the Former CAS is withdrawn public lands reserved for the Air Force, although the land is currently unused by the military, the surface estate surrounding the MRSs was transferred from the BLM to Gana-A 'Yoo as part of the Alaska Native Claims Settlement Act of December 18, 1971 under patents F-14858-A and F-14858- B. In Section 1.1, text in the 2nd paragraph has been revised to read: "The Former CAFS is withdrawn public lands reserved for the Air Force, although the land is currently unused by the military, *the surface estate surrounding the MRSs was transferred from the Bureau of Land Management (BLM) to Gana-A 'Yoo as part of the Alaska Native Claims Settlement Act of December 18, 1971 under patents F- 14858-A and F-*	**6/15/2020:** Please see Comment No. 1, above. The ROD should contain at least figure that clearly identifies land ownership surrounding Sites AL908 and OD001	Concur. Figure 2-2 has been revised. Please see response to Comment No. 1. **8/17/2021:** DEC Accepts.

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			14858-B. ~~The land surrounding the former installation is bordered by two wildlife refuges managed by the Bureau of Land Management (BLM).~~" Similar edits were applied in Section 2.1, 5th paragraph and Section 2.6, 1st paragraph.		
5.	Sec. 1.4	OB/OD Range (MRS OD001), Second bullet: *MEC removal from the surface through hand excavation or mechanically assisted hand excavation; and…* What about MEC removal from the subsurface? Please clarify.	Concur. In Section 1.4, the 3rd bullet in the 3rd paragraph has been revised to read: • "MEC removal from the surface *and subsurface* through hand excavation or mechanically assisted hand excavation; and"	**6/15/2020:** DEC Accepts.	Thank you. **8/17/2021:** Comment closed.
6.	Sec. 1.4 p. 1-2	*The Air Force will develop a LUC Implementation Plan (LUCIP) that will detail the roles and responsibilities of the property owner and other government organizations required to effectively implement and maintain LUCs at the MRS;* Please clarify that the LUCIP will be site specific, require DEC approval to finalize, and will require DEC approval to modify.	Please see AFI 32-7020 Para.15.3.2.1.2. LUCIPs are internal USAF documents. They define responsibilities for implanting, maintaining, and monitoring LUCs. LUCIPs are not to be made a term, condition, or requirement of a decision document.	**6/15/2020, DEC**: If Institutional Controls or Land Use Controls are being to be used as part of the remedy they need to be described in detail in the ROD, which DEC agrees to, or the LUCIP needs to be signed by DEC so we know and agree to the specific parameters that are proposed. A LUCIP that DEC is not required to sign, and that can be modified without DEC approval creates an unenforceable situation that DEC cannot agree to.	Concur. The Campion sites are already incorporated into a LUC Management Plan, which was prepared for the PRSC program. A separate LUCIP will not be prepared for Campion. The LUCMP, which was last prepared in August 2019, is anticipated to be updated in 2021. The updated LUCs will be incorporated in to the LUCMP. In Section 1.4, the 1st bullet has been revised to read: "The Air Force will *update the existing LUC Management Plan, which was developed for the Pacific Air Forces Regional Support Center program and already includes the Former Campion Air Force Station sites,* ~~develop a LUC Implementation Plan (LUCIP) that will detail the roles and responsibilities of the property owner and other government organizations required to effectively implement and maintain LUCs at the MRS~~ *with the updated LUCs for the Suspected Former Rocket Range (MRS AL908)*; Reference to a LUCIP has been removed from the document and information on LUCs and a timeframe/schedule for completion has been included. In Section 1.4, the 3rd and 4th bullets have been revised to read: • "The Air Force will install signage *at access points to the area* and ~~develop and disseminate~~ *provide* educational

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					outreach (e.g., fact sheets/flyers, public radio announcements, possible newspaper ads) every five years ~~information~~ to manage and reduce community exposure to hazards ~~by means and frequencies detailed in the LUCIP~~; **8/17/2021, DEC:** The intent of public outreach is to inform the community of potential dangers that they may encounter in or around Site AL908. Educational materials teach community members to recognize what dangerous items may look like and inform them how to respond and report any found items. The City of Galena is the location of the Galena Interior Learning Academy (GILA) boarding school. Students from across the State of Alaska live in Galena and attend the school during the academic school year. If materials are only provided once every five years, a large number of students (and community members) will potentially never be informed about the possibility of encountering hazards/munitions debris at Site AL908. As such, DEC requests that USAF provide educational materials to the City of Galena residents more frequently than once every five years. **DEC requests that USAF commit to providing educational materials to the community at least once every 2 years, at a minimum.** **8/23/2021, USAF: Concur.** In Section 1.4, the 3rd bullet has been revised to read: **"**The Air Force will install signage at access points to the area and provide educational outreach (e.g., fact sheets/flyers, public radio announcements, possible newspaper ads) every *two* ~~five~~ years *at a minimum* to manage and reduce community exposure to hazards;" Similar edit has also been applied in Section 2.12, #6 2nd bullet.

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					9/20/2021: DEC Accepts • The Air Force will monitor the effectiveness of the LUCs and verify that they have been implemented and maintained *via annual inspections* ~~as agreed upon in the LUCIP~~ or evaluate if additional actions are required; and" **8/17/2021, DEC:** Should "or" (highlighted above) be "and"? **8/23/2021, USAF:** Concur. In Section 2.12, #6 3rd bullet has been revised to read: • "The Air Force will monitor the effectiveness of the LUCs and verify that they have been implemented and maintained via annual inspections ~~or~~ *and* evaluate if additional actions are required; and" Similar edit has also been applied in Section 1.4, 4th bullet in the 4th paragraph. **9/20/2021: DEC Accepts** Also, in Section 1.4, the last sentence in the last paragraph has been revised to read: "The selected remedy for the Suspected Former Rocket Range (MRS AL908) will be re-evaluated *in accordance with CERCLA five-year reviews every* ~~after~~ five years to determine if the selected remedy is still appropriate for the MRS at that time." **8/17/2021, DEC:** Please revise to clarify that in addition to Five Year Reviews, the selected remedy will be evaluated during annual inspections. **8/23/2021, USAF:** Section 1.4, the last sentence in the last paragraph has been revised to read: **"**The selected remedy for the Suspected Former Rocket Range (MRS AL908) will

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					be re-evaluated in accordance with CERCLA five-year reviews every five years *and during annual inspections* to determine if the selected remedy is still appropriate for the MRS at that time." **9/20/2021: DEC Accepts** Similar edits have been applied in Section 2.12, #6 bullets. In Section 2.9.2, the 2nd, 3rd, and 6th bullets has been revised to read: • Contractor Control Policies: For government-controlled property contractors ….. *For non-government-controlled properties (i.e., Gana-A 'Yoo), restrictions will be placed on intrusive activities (i.e., Air Force should be notified if site conditions or land use conditions change and ADEC must also be notified and provide approval of any land use changes) and periodic training will be conducted as described in the Environmental Covenant.* • Construction Support: For government-controlled property, when activities are required that may affect the LUCs established for the MRS, UXO construction support activities would be necessary. …. *For non-government-controlled properties (i.e., Gana-A 'Yoo), the Air Force can provide construction support, as necessary and under specified conditions with advanced notice (i.e., a minimum of 6 months is requested). If on-site construction support is required and approved by ADEC, the Air Force will provide Unexploded Ordnance-qualified personnel to observe ground-disturbing activities and remove munitions, if encountered, from the footprint of the planned ground-disturbing activity, however, a minimum advance notice of 6 months*

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					is required to coordinate this effort. Construction support would be provided at no cost to Gana-A'Yoo as described in the Environmental Covenant." • "Signs. The Air Force would install signs to educate the community and workers to reduce potential exposure to hazards. *When signs are installed to educate the community, USAF will concurrently inspect/maintain the signs at the site access point(s). Annual visual surveys/inspections will be performed to verify that signs are maintained."* **8/17/2021, DEC:** The revised text in the above three bullets is accepted. In Section 2.12.3, the last sentence has been revised to read: "The LUCs will be administered in accordance with the requirements of ~~the LUCIP~~ *this ROD."* **8/17/2021, DEC:** This revised text in the above three bullets is accepted.
7.	Sec. 1.4 p. 1-2	*The major components of the selected remedy for the Suspected Former Rocket Range (MRS AL908) are…* Assuming that the LF004 landfill is part of the area covered by this ROD, please add annual visual inspections of the landfill to assess LUC effectiveness to the remedy.	Concur. Details on LUCs and their management will be provided in the LUCIP which is currently covered under the existing 1st and 4th bullet points. No additional bullet points were added. • "The Air Force will develop a LUC Implementation Plan (LUCIP) that will detail the roles and responsibilities of the property owner and other government organizations required to effectively implement and maintain LUCs at the MRS; • … • The Air Force will monitor the effectiveness of the LUCs and verify that they have been implemented and maintained as agreed upon in the LUCIP or evaluate if additional actions are required; and …"	**6/15/2020:** Please see previous response regarding the LUCIP. The inspection schedule for the landfills needs to be specified in the ROD or DEC needs to sign the LUCIP.	Please see response to Comment 3 regarding the landfill. **8/17/2021:** DEC Accepts.
8.	Sec. 1.4 p. 1-2	2nd Bullet: *The Air Force will record a Notice of Environmental Contamination in the appropriate Alaska recording district;*	Concur. In Section 1.4, the 2nd bullet in the 4th paragraph has been revised to read:	**6/15/2020:** Prior to finalization of the ROD, USAF needs to obtain an updated letter of concurrence from Gana-A'Yoo. The letter of	In Section 2.12.3, the last sentence has been revised to read:

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		1. A Notice of Activity and Use Limitation (NAUL) must be recorded for federal property. 2. An Environmental Covenant must be recorded for private property owned by Gana-A'Yoo. The letter of concurrence from Gana-A'Yoo states that USAF will prepare the environmental covenant for signature; however, the text of the ROD does not include information about the required environmental covenant or NAUL. Please revise the text.	"The Air Force will record a Notice of *Activity and Use Limitation (NAUL) for the federal property and will prepare an* Environmental ~~Contamination~~ *Covenant for signature for the private property owned by Gana-A 'Yoo* in the appropriate Alaska recording district;"	concurrence should specify Gana-A'Yoo's concurrence to the following: • Specific details about restrictions that will be placed on Gana-A'Yoo land as a result of the ROD. • Specific location(s) of restricted area(s), including latitude and longitude coordinates. • Specific details about the responsibilities Gana-A'Yoo would assume under the ROD. • Confirmation that Gana-A'Yoo has a process in place to handle long-term land use control monitoring, reporting, and proposed construction activities. The ROD should include the specific details that are outlined in the letter of concurrence.	"The LUCs will be administered in accordance with the requirements of ~~the LUCIP~~ *this ROD."* Concur. The Environmental Covenant will be reviewed and signed by Gana-A-Yoo as the enforcement mechanism. **8/17/2021, DEC:** Clarification – the Environmental Covenant is not an "enforcement mechanism." Gana-A'Yoo's signature is an indication of concurrence with the restrictions placed on their property. **8/23/2021, USAF:** Concur. The Environmental Covenant will be reviewed and signed by Gana-A-Yoo as an indication of concurrence with the restrictions placed. **9/20/2021: DEC Accepts** Also, refer to response to Comment 6. Additionally, please note, the need for a NAUL for the Suspected Former Rocket Range (MRS AL908) is not applicable, therefore reference to NAUL in those instances have been removed. In Section 1.4, the 2nd bullet has been revised to read: "The Air Force ~~will record a Notice of *Activity and Use Limitation (NAUL) for the federal property and will*~~ *prepare an* Environmental Contamination *Covenant for signature for the private property owned by Gana-A 'Yoo* in the appropriate Alaska recording district;" Similar edit has been applied in Section 2.12 #6, 2nd bullet. In Table 2-7, the 3rd bullet has been revised to read (also refer to Comment 25):

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					"*Record an Environmental Covenant* ~~and NAUL~~" **8/17/2021, DEC:** Responses accepted with the exception of the clarification noted above. **9/20/2021: Comment Closed**
9.	Sec. 1.4 p. 1-2	3rd Bullet: The Air Force will install signage and develop and disseminate educational information to manage and reduce community exposure to hazards - Signage should be installed at access points to the area. USAF should commit to annual inspections (and reporting on inspections) of the engineering controls, such as signage, as well as looking for signs of intrusive activities. - How often will educational information be disseminated to the community and through what means?	Concur. Details on LUCs and inspections will be provided in detail in the LUCIP. Concur. In Section 1.4, the 3rd bullet in the 4th paragraph has been revised to read: "The Air Force will install signage *at access points* to the area and develop and disseminate educational information to manage and reduce community exposure to hazards *by means and frequencies detailed in the LUCIP*;"	**6/15/2020:** Details on LUCs must be specified in the ROD or DEC must sign the LUCIP. A LUCIP that DEC is not required to sign, and that can be modified without DEC approval creates an unenforceable situation that DEC cannot agree to.	Concur. Please refer to response to Comment 6 and Comment 8. Additionally, the proposed sign locations have been added to Figure 2-4. **8/17/2021:** DEC Accepts.
10.	Sec. 1.4 p. 1-2	*The selected remedy for the OB/OD Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908) is intended as the final remedy for the MRSs and does not affect* ***other areas at the Former CAFS or on the property owned by the Gana-A'Yoo,*** *Limited Native Cooperative, which includes the Suspected Former Rocket Range (MRS AL908).* DEC does not agree with the statement that the selected remedy does not affect property owned by Gana-A'Yoo. The selected remedy for land owned by Gana-A'Yoo (Suspected Former Rocket Range) is land use controls (LUCs).	Concur. The statement says that the selected remedy is limited to the MRS areas, and not other areas. For clarification, in Section 1.4, the 1st sentence of the last paragraph has been revised to read: "The selected remedy for the OB/OD Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908) is intended as the final remedy for the MRSs *and the remedy is limited to those portions of* ~~and does not affect other areas at~~ the Former CAFS, and that portion of or on the property owned by the Gana-A'Yoo, Limited Native Cooperative, which includes the Suspected Former Rocket Range (MRS AL908)."	**6/15/2020:** Please see DEC's response to Comment No. 8. USAF needs to obtain an updated letter of concurrence from Gana-A'Yoo.	Please see response to Comment 8. **8/17/2021:** DEC Accepts.
11.	Sec. 1.5.2	*However, the selected remedy provides the best balance of trade-offs in terms of balancing criteria while also considering regulatory and community acceptance.* How has community acceptance of the selected remedy been assessed? A public meeting was requested for the Proposed Plan and it has not been held.	Non-concur. Please refer to response to Comment 2.	**6/15/2020, DEC:** Please see DEC's response to Comment No. 2.	Please see response to Comment 2. **8/17/2021:** DEC Accepts.
12.	Sec. 1.7	However, the current probability for MEC to be present and in areas where contact may occur at the OB/OD Range (MRS OD001) is higher than for the Suspected Former Rocket Range, where MEC, if present, is below approximately 4 feet (ft) of landfilled materials.	Concur. In Section 1.7, the 1st paragraph has been revised to read: "This ROD presents the selected response action of "Surface and Subsurface Removal to Achieve Unlimited Use/Unrestricted Exposure" for the OB/OD Range (MRS OD001) and "Land Use Controls" for the Suspected Former	**6/15/2020:** Clarification Request: The landfill overlaps with a very small area of the MRS Range Fan. USAF's response does not address the majority of the MRS Range Fan area that is not covered by the landfill cap.	Concur. LUCs will be implemented over the entire 12.80 MRS to control access to MEC potentially remaining in the subsurface. Since previous MEC investigations were conducted over majority of the MRS, except for the landfill area, the likelihood of

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		The landfill portion may have 4' of cap on it, but the majority of the site is not the landfill. This text needs to be revised to cover the entire area where LUCs are needed.	Rocket Range (MRS AL908) at the Former Campion Air Force Station, Alaska. The role of the remedial action selected for the OB/OD Range (MRS OD001*) is to remove all identified MEC from the surface and subsurface and allow for UU/UE. The role of the remedial action selected for the Suspected Former Rocket Range (MRS AL908) is to control access to MEC potentially remaining in the subsurface (e.g., under the landfill cover which is anticipated to be a minimum of 4 feet [ft] thick).* ~~Both MRSs have the potential for MEC. However, the current probability for MEC to be present and in areas where contact may occur at the OB/OD Range (MRS OD001) is higher than for the Suspected Former Rocket Range, where MEC, if present, is below approximately 4 feet (ft) of landfilled materials."~~		encountering subsurface MEC exists mainly in the uninvestigated landfill area, however LUCs will still be applied over the entire MRS. **8/17/2021:** DEC Accepts.
13.	Sec. 1.7	The USAF signer needs to be updated.	Concur. In Section 1.7, Ms. Bilbrey has been removed and placeholder has been added for AF signatory.	**6/15/2020:** DEC Accepts	Thank you. **8/17/2021:** Comment closed.
14.	Sec. 1.7	*ADEC's signature indicates concurrence that the selected remedy, when properly implemented, will comply with ~~Federal and~~ State law.* Delete "Federal." It is USAF's responsibility as lead agency to ensure compliance with Federal law.	Concur. In Section 1.7, the 1st sentence in the last paragraph has been revised to read: "ADEC's signature indicates concurrence that the selected remedy, when properly implemented, will comply with ~~Federal and~~ State law."	**6/15/2020:** DEC Accepts	Thank you. **8/17/2021:** Comment closed.
15.	Sec. 1.7	*If ~~new~~ information becomes available that indicates the selected remedy is not effective or does not provide adequate protection of human health, safety, or welfare of the environment, the remedy may need to be revised.* Remove the word "new".	Concur. In Section 1.7, the 2nd sentence in the last paragraph has been revised to read: "If ~~new~~ information becomes available that indicates the selected remedy is not effective or does not provide adequate protection of human health, safety, or welfare of the environment, the remedy may need to be revised."	**6/15/2020:** DEC Accepts	Thank you. **8/17/2021:** Comment closed.
16.	Sec. 2.1.2 (Added 12/31/2019)	*A CERCLA No Action ROD/petroleum decision document were subsequently signed in 2017.* DEC can find no record that this document was signed in 2017.	Reference to the 2017 document has been removed. In Section 2.1.2, the following sentence has been removed from the 2nd paragraph: "~~A CERCLA No Action ROD/petroleum decision document were subsequently signed in 2017.~~"	**6/15/2020:** DEC Accepts	Thank you. **8/17/2021:** Comment closed.
17.	Sec. 2.2.1.2	The ROD discusses a November 2012 letter by ADEC in which an interpretation of historical aerial photography was provided to USAF. Section 2.2.1.2 needs to clarify that USAF, as the lead agency, concurred with the interpretation provided by ADEC.	Concur. In Section 2.2.1.2, text in the 3rd paragraph has been revised to read: "…However, after the CSE Phase II, ADEC provided an interpretation of the historical aerial photography in a letter dated 7 November 2012 that identified firing positions and target areas. *The USAF concurred and agreed to conduct an investigation.*"	**6/15/2020:** DEC Accepts	Thank you. **8/17/2021:** Comment closed.
18.	Sec. 2.2.1.2	*The location of the inferred 12.41-acre range fan, based on the previous investigation results, is shown on Figure 1-2…*	Concur. Figure callout has been corrected to Figure 2-2. In Section 2.2.1.2, the 1st sentence in the last paragraph has been revised to read:	**6/15/2020:** DEC Accepts	Thank you. **8/17/2021:** Comment closed.

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		There is no Figure 1-2 in the document.	"The location of the inferred 12.41-acre range fan, based on the previous investigation results, is shown on Figure ~~1~~2-2."		
19.	Table 2-1	The date of the finalized Proposed Plan should be added to Table 2-1. Also, note that DEC is requesting that the public comment period be reopened. New dates should be added.	Concur. In Table 2-1, date of 2018 has been added with following activity stated: *"PP finalized and released to the public for comment"*	**6/15/2020:** DEC Accepts	Thank you. **8/17/2021:** Comment closed.
20.	Table 2-5	*The Air Force maintains the AR file for the MRSs online.* Include the website address for the AR.	Concur. In Table 2-5, the 1st sentence in the 2nd row has been revised to read: "The Air Force maintains the AR file for the MRSs online (http://afcec.publicadmin-record.us.af.mil/Search.aspx)."	**6/15/2020:** DEC Accepts	Thank you. Note the AR website has been updated, therefore the link has been updated in Table 2-5 to read: "The Air Force maintains the AR file for the MRSs online (*https://ar.afcec-cloud.af.mil/* ~~http://afcec.publicadmin-record.us.af.mil/Search.aspx~~)." In Section 2.2.2, the 2nd sentence has been revised to read: "Reports documenting investigations of environmental impacts not related to historical munitions use at the Former CAFS are in the AR file accessible at *https://ar.afcec-cloud.af.mil/* ~~http://afcec.publicadmin-record.us.af.mil/~~." **8/17/2021:** Comment closed.
21.	Table 2-5	*The public notice stated that the Air Force would host a meeting to discuss the site and the proposed final remedies if a meeting was requested by the public. No requests for a public meeting were received.* **Disagree.** In a letter to USAF dated November 18, 2018, DEC stated the following: "The Proposed Plan states that a public meeting will be provided upon request. DEC requests that USAF either: 1. Schedule and hold a Public Meeting in Galena for this Proposed Plan or 2. Commit to attending and presenting at the next regional advisory board (RAB) meeting in Galena, which will be held in March or April 2019." USAF did not attend the April 2019 RAB meeting in Galena. On October 9, 2019, USAF followed up with DEC and acknowledged that a public meeting is required	Non-concur. Please refer to response to Comment 2.	**6/15/2020, DEC:** Please see DEC's response to Comment No. 2.	Please see response to Comment 2. **8/17/2021:** Comment closed.

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		for the Campion MMRP Proposed Plan. **DEC requests that the public comment period for the Campion MMRP Proposed Plan be reopened. Please coordinate with the appropriate AFCEC contact as soon as possible to arrange attendance at the next RAB meeting in April 2020.**			
22.	Figures 2-5 and 2-6	Trespassers should be listed under Receptors in Figure 2-5 and 2-6 and in related text.	Concur. Figures 2-5 and 2-6 have been revised to add trespassers as receptors. In Section 2.2.2.6.1, the 1st sentence in the last paragraph has been revised to read: "The human health risk screening evaluation concluded soil at the OB/OD Range does not contain MC at concentrations that would pose an unacceptable risk to short-term workers, long-term workers, subsistence users/site visitors/*trespassers*, and hypothetical residents." In Section 2.5.9.3, the 2nd sentence has been revised to read: "Future human receptors could include construction workers, *trespassers,* and hypothetical residents." In Section 2.6, the 2nd sentence in the last paragraph has been revised to read: "However, future human receptors could include construction workers, *trespassers,* and hypothetical residents on or near the MRSs." In Section 2.8, 6th paragraph, 3rd bullet has been revised to read: • "**Exposure Routes and Receptors:** Current and future site visitors/*trespassers*, current and future subsistence users, future short-term and long-term workers, and future hypothetical residents; and" In Section 2.8, 8th paragraph, 3rd bullet has been revised to read: • **"Exposure Routes and Receptors:** Current and future site visitors/*trespassers*, current and future subsistence users, future short-term and long-term workers, and future hypothetical residents; and"	**6/15/2020:** DEC Accepts	Thank you. **8/17/2021:** Comment closed.
23.	Sec. 2.8	*Therefore, the RAO for the Suspected Former Rocket Range (MRS AL908) is to prevent direct contact with MEC potentially present in subsurface soil.* As part of this review, DEC also reviewed the August 2016 *Final Time Critical Removal Action, Suspected Former Rocket Range MRS AL908 (August 2015).* The 2016 TCRA report states the rocket range was divided into 19 grids that were 100 ft. x 100 ft. in size. The report stated that 90	Let's discuss as needed. The 19 grids covered approximately 35% of the 12.2- acre of non-landfill portion of the 12.41-acre range fan within the Suspected Former Rocket Range (MRS AL908). From the RI (2014) and TCRA (2015) all of the munitions-related recoveries (i.e., MEC, MD) were found along the NW- SE trendline of the range fan, more or less centrally located, and at least 50 feet from any grid boundary. Additionally, no signs of MEC were reported during the vegetation removal from the buffer area (which adds an	**6/15/2020:** A RAO for surface soil at the Suspected Former Rocket Range needs to be added to the ROD.	Non-concur. According to the MEC CSM, surface soil pathways at the Suspected Former Rocket Range are incomplete, therefore a RAO to address surface soil is not necessary. **8/17/2021: DEC does not accept**. MEC is potentially still present in the surface soil in the areas that were not

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		anomalies were identified and that 48 of those 90 anomalies were located in the landfill. DEC and USAF agreed not to investigate the landfill anomalies. Therefore, 42 anomalies were recommended for intrusive investigation. It appears that only the 19 grids were investigated, and not the entire range fan area. How can USAF be sure that there is no MEC located in surface soils outside of the gridded area?	additionally 55 feet) nor the inspections of the projected firing points examined as part of the process.		previously investigated. As such, exposure to surface soil needs to be controlled. Please revise the CSM and add an RAO for surface soil to the draft ROD. **8/23/2021, USAF:** Let's discuss if needed. The RI Report stated that a MEC surface clearance was performed in 10.58 acres of the range fan MRS (Section 4.2.8.1 and Figure 3-2 of the RI). According to RI Report Figure 3-2, the portions of the range fan that were not surface cleared were the northern areas of the MRS that intersected the landfill and a small portion along the southern boundary. As shown on RI Report Figure 4-4, in areas along the southern where surface clearance had not been performed, analog mag and dig transects were performed. Due to rough terrain along the southern boundary of the range fan, DGM surveys were unable to be performed, thus analog investigations were conducted (RI Report Section 3.6). In the northern portion of the MRS where the surface clearance was not performed, the surface is now covered with landfill material. Additionally, during the TCRA, a visual reconnaissance was performed over that area (FS Report Figure 1-4), which included the location where one of the rocket warheads found during the 1954 incident and most probable firing points of the informal range. No MEC or MD items were identified during the reconnaissance (TCRA SSFR Section 1.9.10). It is also important to note that the overlapping landfill (LF004) will be managed under the IRP and associated LUCs for that site will be discussed under a separate decision document. Therefore, based on the previous RI surface clearance and analog investigations, and TCRA visual

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					reconnaissance, we believe the surface pathway is incomplete. A map showing coverage of the previous investigations can be provided at your request. RI Report Figures 3-2 and 4-4 and FS Report Figure 1-4 are attached at the end of this RTC for reference. **9/20/2021: DEC Accepts.** Please provide the figure showing the coverage of previous investigations. Comment closed.
24.	OD001 Table 2-6 p. 2-26	1. Alternative 2: The dig process for LUCs should also be included in the Alternative 2 Description/Component 2. Alternative 3: a. Include the digital detection for subsurface MEC identified in Section 1.4 b. One of the description/components listed for Alternative 3/OD001 is "Removal of landfill materials followed by subsurface MEC detections and removal." DEC is not aware of a landfill at OD001 – is this a typo?	1. Concur. In Table 2-6, Alternative 2 LUCs, the 7th bullet has been revised to read: "Construction support *when intrusive activities are performed*" Similar edits were applied in Table 2-7. 2. In Table 2-6, Alternative 3 description, the 2nd bullet has been revised and 3rd bullet removed to read: a. "Analog *and digital* subsurface MEC detection and anomaly selection across surface and subsurface of OB/OD Range (OD001) b. ~~Removal of landfill materials followed by subsurface MEC detection and removal~~	**6/15/2020:** 1. Please address the original comment. The dig process for LUCs should be included in the Alternative 2 Description/Component. 2. DEC Accepts.	1. Concur. Additional clarification has been added for procedures that apply when digging/intrusive investigation activities (such as for installation of warning signs) are performed (e.g., anomaly avoidance, utility clearance. In Table 2-6, Alternative 2 LUCs, the 7th bullet has been revised to read: "Construction support *(such as anomaly avoidance, utility clearance)* when intrusive activities are performed" 2. Thank you. **8/17/2021:** Comment closed.
25.	AL908 Table 2-7 p. 2-27	Alternative 2: - An Environmental Covenant and a NAUL need to be added to the Alternative 2 Description/Component	Concur. In Table 2-7, the following bullet has been added to the Alternative 2 description to read: • "*Record an Environmental Covenant and NAUL*"	**6/15/2020:** DEC Accepts	Thank you. **8/17/2021:** Comment closed.
26.	Sec. 2.9 p. 2-27, 2-28	Bulleted list under Table 2-7: Legal Controls: 1. *Notice of Environmental Contamination. For non-government-controlled property, the Air Force would record a Notice of Environmental Contamination in the appropriate Alaska recording district.* Please see Comment No. 8, above. For federal property, a NAUL needs to be filed. Gana-A'Yoo will need to file an environmental covenant for their land.	1. Concur. In Section 2.9.2, Legal Controls, 1st bullet has been revised to read: "Notice of Environmental Contamination. For *government- controlled properties, a NAUL will be filed. For* non-government- controlled propert~~y~~*ies (i.e., Gana-A 'Yoo), an Environmental Covenant will be filed*, ~~the Air Force would record a Notice of Environmental Contamination~~ in the appropriate Alaska recording district." 2. Concur. In Section 2.9.1.2, Legal Controls, the 2nd bullet has been revised to read: "Contractor Control Policies: For government-	1. DEC Accepts. 2. Please address the original comment. The ROD needs to describe the process for Gana-A'Yoo-owned land. Please specify how intrusive activities/construction support will be handled on non-government properties. Specifically what restrictions will be placed on non-government controlled (Gana-A'Yoo) property? 3. Disagree with statement that Five Year Reviews occur every 5 years for 30 years.	1. Thank you. **8/17/2021:** Comment closed (No. 1). 2. Concur. Please refer to response to Comment 6. **8/17/2021:** Please see DEC's response to Comment 6. **8/23/2021, USAF:** Concur. Please see USAF response to Comment 6. **9/20/2021: DEC Accepts**

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		2. *Contractor Control Policies: For government-controlled property contractors performing intrusive activities on the MRS that have the potential to contact MEC would be required to receiving training. The Department of Defense (DoD) educational message for explosive safety is referred to as "the 3Rs": Recognize, Retreat, and Report any munitions that are encountered while performing maintenance, improvement, or construction activities on their property.* These legal controls do not address how intrusive activities/ construction support would be handled on the non-government (Gana-A'Yoo) property. The ROD needs to describe this process for Gana-A'Yoo-owned land. Educational Controls 3. *Letter Notifications, Informational Pamphlets, and/or Fact Sheets: Development and distribution of informational materials would be conducted periodically (at the onset of LUC implementation and during the Five-Year Reviews) to provide awareness to property owners and stakeholders of the presence of munitions.* Please specify how often the development and distribution of informational materials will be conducted (e.g. not less than X times per Y period of years). 4. *Signs. The Air Force would install signs to educate the community and workers to reduce potential exposure to hazards.* Please specify that when signs are installed to educate the community, USAF will concurrently inspect/maintain the signs at the site access point(s).	controlled property contractors performing intrusive activities on the MRS that have the potential to contact MEC would be required to receiving training. The Department of Defense (DoD) educational message for explosive safety is referred to as "the 3Rs": Recognize, Retreat, and Report any munitions that are encountered while performing maintenance, improvement, or construction activities on their property. *For non-government-controlled properties (i.e., Gana-A'Yoo), restrictions will be placed on intrusive activities and periodic training will be conducted as described in the Environmental Covenant.*" 3. Concur. In Section 2.9.1.2, Education Controls, 2nd bullet point has been revised to read: "Letter Notifications, Informational Pamphlets, and/or Fact Sheets: Development and distribution of informational materials would be conducted periodically (at the onset of LUC implementation and during the Five-Year Reviews) *(i.e., typically every 5 years for 30 years)* to provide awareness to property owners and stakeholders of the presence of munitions." 4. Concur. In Section 2.9.1.2, Education Controls, 3rd bullet point has been revised to read: "Signs. The Air Force would install signs to educate the community and workers to reduce potential exposure to hazards. *When signs are installed to educate the community, USAF will concurrently inspect/maintain the signs at the site access point(s).*"	Please specify that Five Year Reviews will occur every 5 years until the property meets residential standards. 4. DEC Accepts.	3. Concur. In Section 2.9.1.2, Education Controls, 2nd bullet point has been revised to read: "Letter Notifications, Informational Pamphlets, and/or Fact Sheets: Development and distribution of informational materials would be conducted periodically (at the onset of LUC implementation and during the Five-Year Reviews *which will occur every 5 years until the hazard has been addressed*) ~~(i.e., typically every 5 years for 30 years)~~ to provide awareness to property owners and stakeholders of the presence of munitions" **8/17/2021:** Please see DEC's response to Comment 6. **8/23/2021, USAF:** Concur. Please see USAF response to Comment 6. **9/20/2021: DEC Accepts** 4. Thank you. **9/20/2021: DEC Accepts** Comment closed.
27.	Sec. 2.9 p. 2-28	*The MRSs would be formally incorporated into the Former CAFS Base General Plan and review process, which includes a review of any construction plans and construction support.* What process will the USAF use to ensure that construction plans from the Gana-A'Yoo property are submitted, reviewed, and approved prior to intrusive work?	Concur. Controls that will be implemented for the Gana-A'Yoo property will be detailed in the Environmental Covenant.	**6/15/2020, DEC**: If Institutional Controls or Land Use Controls are being to be used as part of the remedy they need to be described in detail in the ROD, which DEC agrees to, or the LUCIP needs to be signed by DEC so we know and agree to the specific parameters that are proposed. A LUCIP that DEC is not required to sign, and that can be modified without DEC approval	Concur. Please refer to response to Comment 6. **8/17/2021:** Please see DEC's response to Comment 6. **8/23/2021, USAF:** Concur. Please see USAF response to Comment 6. **9/20/2021: DEC Accepts**

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				creates an unenforceable situation that DEC cannot agree to.	
28.	Sec. 2.9.2 p. 2-28	*Hazards remaining at the MRSs would be managed through LUCs, including a review process to provide construction support for any construction or other intrusive activities.* Are periodic (scheduled) visual inspections part of the LUCs? Please specify.	Concur. Details on the LUCs and their management will be provided in the LUCIP.	**6/15/2020, DEC**: If Institutional Controls or Land Use Controls are being to be used as part of the remedy they need to be described in detail in the ROD, which DEC agrees to, or the LUCIP needs to be signed by DEC so we know and agree to the specific parameters that are proposed. A LUCIP that DEC is not required to sign, and that can be modified without DEC approval creates an unenforceable situation that DEC cannot agree to.	Concur. Please refer to response to Comment 6. **8/17/2021:** Please see DEC's response to Comment 6. **8/23/2021, USAF:** Concur. Please see USAF response to Comment 6. **9/20/2021: DEC Accepts**
29.	Table 2-8 p. 2-30	<table><tr><td></td><td></td><td>*Alternative 1 No Action*</td><td>*Alternative 2: Land Use Controls*</td></tr><tr><td>*Balancing*</td><td>*Reduction of Toxicity, Mobility, and Volume Through Treatment*</td><td></td><td>◖ (Partially meets criterion)</td></tr><tr><td>*Modifying*</td><td>*Community Acceptance*</td><td>NC</td><td>NC</td></tr></table> 1. Disagree with Alternative 2 "partially meets criterion" scoring for Land Use Controls. Land Use Controls is the remedy. 2. A public meeting needs to be held to discuss the proposed plan and to gauge community acceptance	1. Non-concur. The graphic applies to the OB/OD Range; not the Rocket Range. Alternative 3 – Surface and Subsurface Removal to Achieve UU/UE, was selected as the remedy for OB/OD Range (MRS OD001). 2. Please refer to response to Comment 2.	**6/15/2020:** 1. Clarification: DEC acknowledges that Table 2-8 is for Site OD001 where the selected remedy is Alternative 3 (Surface and Subsurface Remove to Achieve UU/UE). However, we disagree with the "partially meets criterion" assessment for Reduction of Toxicity, Mobility, and Volume Through Treatment selected under Alternative 2. Land Use Controls do not reduce toxicity, mobility, and volume through treatment. 2. Please see DEC's response to Comment No. 2.	1. Concur. In Table 2-8, for Alternative 2 LUCs, Reduction of Toxicity, Mobility, and Volume Through Treatment has been changed from partially meets criterion ("◖" symbology) to does not meet criterion ("O" symbology). **8/17/2021:** DEC Accepts. 2. Please see response to Comment 2. **8/17/2021:** DEC Accepts.
30.	Table 2-10 p. 2-32	1. UECA should be listed as an ARAR in Table 10. 2. The removal activities at OB/OD cannot cause violations of 18 AAC 70 (Water Quality Standards), if there are nearby surface waters. 3. The disposal activities must be conducted in accordance with 18 AAC 60 (Solid Waste Management).	1. Concur. A row has been added to the end of Table 2-10 for the Alaskan statutes under the Uniform Environmental Covenants Act (AS 46.04.300 et al.). 2. Let's discuss, if necessary. 18 AAA 70.020(b) was not included as an ARAR because there is no permanent surface water is at the Former CAFS MRSs. Section 2.5.2 (Hydrology) states: "No permanent surface water is present at the Former CAFS MRSs. Surface water in the general vicinity consists of ponding and wetlands in low areas." 3. Concur. A row has been added to the end of Table 2-10 for Solid Waste Management (18 AAC 60).	**6/15/2020:** 1. DEC Accepts. 2. **Disagree.** Please see the definition of "waters" under AS 46.03.900(37): "waters" includes lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, straits, passages, canals, the Pacific Ocean, Gulf of Alaska, Bering Sea, and Arctic Ocean, in the territorial limits of the state, and all other bodies of surface or underground water, natural or artificial, public or private, inland or coastal, fresh or	1. Thank you. **8/17/2021:** Comment closed. 2. Concur. A row has been added to the end of Table 2-10 to include 18 AAC 70. **8/17/2021:** DEC Accepts. 3. Thank you. **8/17/2021:** Comment closed.

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				salt, which are wholly or partially in or bordering the state or under the jurisdiction of the state. Note that the word "permanent" does not appear in this definition. The ponding and wetlands in low-lying areas constitute waters of the State of Alaska and are therefore regulated under 18 AAC 70. As such, the following regulations under 18 AAC 70 apply and need to be included as ARARs. **18 AAC 70.010(a):** A person may not conduct an operation that causes or contributes to a violation of the water quality standards set by this chapter. **18 AAC 70.010(b):** The water quality standards set by this chapter specify the degree of degradation that may not be exceeded in a waterbody as a result of human actions. The water quality standards are set by the antidegradation policy in 18 AAC 70.015, the water quality criteria in 18 AAC 70.020(b), and the limits in 18 AAC 70.030, applied in accordance with the remainder of this chapter. 3. DEC Accepts.	
31.	Sec. 2.10.6 Implementability	*For Alternative 2, implementation of the land use and access controls requires support by the landowner (Gana-A'Yoo, Limited Native Cooperative).* It is unclear how Gana-A'Yoo will support land use and access controls. The concurrence letter included with this ROD does not make it clear that the Gana-A'Yoo understands the USAF is shifting these responsibilities to the corporation. If Gana-A'Yoo does not already have a robust LUC implementation program, USAF will need to work with them to develop one. Is Gana-A'Yoo aware they need to have a mechanism in place by which intrusive activities will be considered, approved/denied, and then construction support would be needed if/when those activities take place? The ROD should be very clear about what responsibilities the USAF will have and what responsibilities Gana-A'Yoo will have. Gana-A'Yoo must provide clear, written concurrence	Concur. Most of these concerns will be addressed in the Environmental Covenant with Gana-A 'Yoo.	**6/15/2020:** Please see DEC's response to Comment No. 8. USAF needs to obtain an updated letter of concurrence from Gana-A'Yoo.	Please see response to Comment 8. **8/17/2021:** DEC Accepts, with comment: As noted in Comment No. 8, the Environmental Covenant is not an "enforcement mechanism." Gana-A'Yoo's signature is an indication of concurrence with the restrictions placed on their property **8/23/2021, USAF:** Concur. Comment noted. **9/20/2021: Comment Closed**

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		for any responsibilities they will acquire as a result of this document. Additionally, USAF must ensure that Gana-A'Yoo has a process in place for dealing with LUC implementation and future construction activities.			
32.	Sec. 2.12 p. 2-36, 2-37	1. ***No. 2*: Risks Necessitating the LUCs:** *There is a potential for MEC to be present under the former Air Force landfill cover. Access to MEC is unlikely as there is a minimum of 4 ft. of fill over the area where MEC may remain. However, LUCs are required in order to ensure land use does not change or proper safety controls are in place should the landfill be removed.* The landfill makes up a small portion of the area covered by the ROD and LUC boundary. What about the area that is not landfill? 2. ***No. 3*: Performance Objectives:** *Prevent direct contact with MEC in subsurface soils through education of the property owner and local community and by providing construction support as necessary should any future development of the property be performed.* See Comment No. 23. Based on the figures provided, it is unclear to DEC whether the entirety of the former rocket range has been investigated for MEC in surface soil. 3. ***No. 4*: Location of LUCs:** *LUCs will be implemented for the 12.80-acre RI Investigation Area shown on Figure 2-4.* It is unclear from Figure 2-4 if the LUC area includes both the 12.80-acre area bounded by red (RI Investigation Area) and the "Reconnaissance Complete" area also bounded (and shaded) in red. 4. ***No. 6*: Description of Each LUC and How It Achieves a Specific LUC Performance Objective** This section needs to be revised based on previous comments. 5. ***No. 7*: General Performance Responsibility:** *…However, because the property is owned and operated by Gana-A'Yoo Limited Native Cooperation, final implementation, maintenance and enforcement of the LUCs is the responsibility of the Gana-A'Yoo Limited Native Cooperation.*	1. **No. 2:** Concur. LUCs will cover entire MRS boundary (range fan area) not just the landfill. 2. **No. 3:** During the RI, a MEC surface clearance was performed across 10.58 acres of the 12.41-acre RI area, which was based on the range fan (see Figure 2-4). DGM surveys were then conducted on transects covering approximately 4.40 acres of the investigation area, equating to approximately 34% coverage over the MRS area. The RI and TCRA investigation boundaries are shown on Figure 2-4. Please refer to response to Comment #1 and 23. 3. **No. 4:** Concur. The text has been revised to state that LUCs will be applied over the entire MRS (i.e., range fan area), which does overlap with some of the "Reconnaissance Complete" areas shown on Figure 2-4. In Section 2.12, the 4th bullet has been revised to read: "Location of LUCs: LUCs will be implemented for the 12.80-acre RI Investigation Area *entire range fan area MRS* shown on Figure 2-4." 4. **No. 6:** Concur. The 2nd and 3rd bullets have been revised to read: "-- The Air Force will record a Notice of *NAUL for the federal property and will prepare an* Environmental Contamination *Covenant for signage for the private property owned by Gana-A 'Yoo* in the appropriate Alaska recording district; -- The Air Force will install signage *at access points to the area* along the MRS boundary and develop and disseminate educational information to manage and reduce community exposure to hazards *by means and frequencies detailed in the LUCIP*;" Also refer to similar edits made per Comments 8 and 9. 5. **No. 7**: Please refer to response to Comment 31. 6. **No. 8**: Concur. The text has been revised to read: "Specific Performance Responsibility to Bind Contractors and Tenants: The Air Force shall inform, monitor,	**6/15/2020:** 1. DEC Accepts 2. Please see DEC's Response to #23. A Remedial Action Objective addressing surface soil at the Suspected Former Rocket Range needs to be added to the ROD. 3. DEC Accepts 4. Please see previous comments regarding Gana-A'Yoo concurrence and specific details that need to be included in the ROD and DEC's position on the LUCIP. 5. Please see DEC's response to Comment No. 31. 6. The original comment was not addressed - the Gana-A'Yoo letter of concurrence states that "The AF will provide construction support for future development performed within the site as necessary." Please see DEC's response to Comment No. 8. 7. *"Although the Air Force has transferred these procedural responsibilities (i.e., implementing, maintaining, reporting on, and enforcing LUCs) to another party by property transfer agreement, the Air Force shall retain ultimate responsibility for remedy implementation and protectiveness."* Please see DEC's response to Comment No. 8.	1. Thank you. **8/17/2021:** Comment closed. 2. Please see response to Comment 2. **8/17/2021:** Please see DEC's response to Comment No. 23. **8/23/2021, USAF:** Concur. Please see response to Comment 23. **9/20/2021: DEC Accepts** 3. Thank you. **8/17/2021:** Comment closed. 4. Concur. Please refer to the response to Comment 6. **8/17/2021:** DEC Accepts. 5. Please see response to Comment 31. **8/17/2021:** DEC Accepts. Please see our response to Comment No. 31. 6. Concur. Please refer to the response to Comment 3. **8/17/2021:** DEC Accepts. 7. Please see response to Comment 8. Also, in Section 2.12, #9 has been revised to read: "Specific Performance Responsibility for Transferred Sites: *As a result of BLM transferring land ownership to Gana-A'Yoo Limited Native Cooperation, Gana-A'Yoo Limited Native Cooperation will*

Comment No.	Page/ Section	DEC Comment/Recommendation 12/23/2019; Revised 12/31/2019	USAF Response: 5/26/2020	DEC Response: 6/15/2020	USAF Backcheck Response: 7/20/21 DEC Responses: 8/17/2021 USAF Response: 8/23/21 DEC Response: 9/20/2021
		See Comment No. 31, above. This statement is unclear. What is Gana-A'Yoo responsible for? The signed letter of concurrence provided at the end of the ROD does not specify Gana-A'Yoo's agreement to maintain and enforce LUCs. 6. ***No. 8: Specific Performance Responsibility to Bind Contractors and Tenants:*** *The Air Force shall inform, monitor, enforce, and bind, where appropriate, authorized lessees, tenants, contractors and other authorized occupants of the site regarding the LUCs affecting the site.* Please specify that this pertains to both USAF and Gana-A'Yoo property. The Gana-A'Yoo letter of agreement states, "The AF will provide construction support for future development performed within the site as necessary." 7. ***No. 9: Specific Performance Responsibility for Transferred Sites:*** *Although the Air Force has transferred these procedural responsibilities to another party by property transfer agreement, the Air Force shall retain ultimate responsibility for remedy implementation and protectiveness.* Please define "procedural responsibilities". 8. ***No. 12: Concurrence Language:*** *The Air Force shall not modify or terminate LUCs, modify land uses that might impact the effectiveness of the LUCs, take any anticipated action that might disrupt the effectiveness of the LUCs, or take any action that might alter or negate the need for LUCs without 45 days prior to the change seeking and obtaining approval from ADEC of any required ROD modification.* For land owned by Gana-A'Yoo, landowner concurrence must also be obtained.	enforce, and bind, where appropriate, authorized lessees, tenants, contractors and other authorized occupants of the site *(both federal property and private property owned by Gana-A'Yoo)* regarding the LUCs affecting the site." 7. **No. 9**: Concur. The text has been revised to read: "Specific Performance Responsibility for Transferred Sites: Although the Air Force has transferred these procedural responsibilities *(i.e., implementing, maintaining, reporting on, and enforcing LUCs)* to another party by property transfer agreement, the Air Force shall retain ultimate responsibility for remedy implementation and protectiveness." 8. **No. 12**: Concur. The following statement has been added: "*For land owned by Gana-A 'Yoo, landowner concurrence must be obtained as well (detail will be provided in the Environmental Covenant).*"	Gana-A'Yoo must provide written concurrence that they agree to take on said procedural responsibilities. Additionally, the specific responsibilities need to be detailed in the ROD. 8. Landowner concurrence must be obtained prior to finalization of this ROD. See DEC's response to Comment No. 8.	*have* ~~Although the Air Force has transferred these~~ procedural responsibilities (i.e., implementing, maintaining, reporting on, and enforcing LUCs). ~~to another party by property transfer agreement~~, T~~t~~he Air Force shall retain ultimate responsibility for remedy implementation and protectiveness." **8/17/2021, DEC:** Clarification: The June 14, 2021 signed letter of concurrence states the following: *"Although the Air Force will be responsible for the remedy consisting of LUCs pursuant to the ROD for AL908, it is recommended that Gana-A'Yoo incorporate site access in its land management policies to ensure that the site is continually monitored and maintained and that the LUCs are enforced. Gana-A'Yoo should notify the Air Force as soon as possible should site conditions or land use conditions change or in the event that one of the LUCs is violated. These notices to the Air Force could include damaged or missing signs or planned construction activities. As part of any planned change to current site conditions (i.e., intrusive activities such as planting plants, constructing a building, laying utilities, or making road improvements), ADEC must be notified and provide approval."* **8/23/2021, USAF:** Concur. In Section 2.12, #9 has been revised to read: "Specific Performance Responsibility for Transferred Sites: As a result of BLM transferring land ownership to Gana-A'Yoo Limited Native Cooperation, Gana-A'Yoo Limited Native Cooperation will have procedural responsibilities (i.e., *Gana-A'Yoo incorporate site access in its land management policies to ensure that the site is continually monitored and*

Comment No.	Page/ Section	DEC Comment/Recommendation 12/23/2019; Revised 12/31/2019	USAF Response: 5/26/2020	DEC Response: 6/15/2020	USAF Backcheck Response: 7/20/21 DEC Responses: 8/17/2021 USAF Response: 8/23/21 DEC Response: 9/20/2021
					maintained and that the LUCs are enforced. Gana-A'Yoo should notify the Air Force as soon as possible should site conditions or land use conditions change or in the event that one of the LUCs is violated. These notices to the Air Force could include damaged or missing signs or planned construction activities. As part of any planned change to current site conditions [i.e., intrusive activities such as planting plants, constructing a building, laying utilities, or making road improvements], ADEC must be notified and provide approval. ~~*implementing, maintaining, reporting on, and enforcing LUCs*~~). The Air Force shall retain ultimate responsibility for remedy implementation and protectiveness." **9/20/2021: DEC Accepts** 8. Please see response to Comment 8. **8/17/2021:** DEC Accepts. Please see our response to Comment No. 8.
33.	Sec. 2.13. 1	*The selected remedy at the Former Suspected Rocket Range (MRS AL908), Alternative 2 –LUCs, will protect human health and the environment by mitigating contact with potential residual subsurface MEC.* ~~*No hazards or risks to the environment are present at the MRS.*~~ The landfill was not investigated. Delete last sentence.	Concur. In Section 2.13.1, the 2nd paragraph has been revised to read: "The selected remedy at the Former Suspected Rocket Range (MRS AL908), Alternative 2 – LUCs, will protect human health and the environment by mitigating contact with potential residual subsurface MEC. ~~No hazards or risks to the environment are present at the MRS~~."	**6/15/2020:** DEC Accepts	Thank you. **8/17/2021:** Comment closed.
34.	Sec 4.0	• *18 AAC 75. Oil and Other Hazardous Substances Pollution Control. October 2012.* 18 AAC 75 has been amended through October 2018. Citation should be: ADEC. October 2018. 18 AAC 75, Oil and Other Hazardous Substances Pollution Control. As amended through 27 October 2018. • *Fairbanks Daily News Miner, 1954.* Include article title and date. • *USEPA, 1999. Guidance 540-R-98-031.* Please include the full name and date of the guidance.	Concur. In Section 4.0 the following edits have been made: ~~18 AAC 75. Oil and Other Hazardous Substances Pollution Control. October 2012.~~ *ADEC, 2018. 18 AAC 75, Oil and Other Hazardous Substances Pollution Control. As amended through 27 October 2018.* Fairbanks Daily News Miner, 1954. "*One Serviceman Dies Enroute to Ladd; Another Loses Legs." Tuesday April 27. Front Page*." USEPA, 1999. "*A Guide to Preparing Superfund Proposed*	**6/15/2020:** DEC Accepts	Thank you. **8/17/2021:** Comment closed.

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			Plans, Records of Decision, and Other Remedy Selection Decision Documents." Guidance EPA 540-R-98-031. *July.*		
35.	Attach ment 3	The Gana-A'Yoo Letter of Concurrence states*:* *"As described in the November 2018 Proposed Plan and the Record of Decision for Campion AFS…"* The ROD has not been finalized.	Comment noted.	**6/15/2020:** Please see DEC's response to Comment No. 8.	Please see response to Comment 8. **8/17/2021:** DEC Accepts. Please see our response to Comment No. 8.
		End of Comments	Thank you for providing comments.		Thank you for providing backcheck comments.
Additional Comments per 8/27/21 call with ADEC, AFCEC, and GSI					
36.		ADEC requested that language regarding the post-remedy risk assessment be added to the ROD.	In Section 1.4, the following text has been added to read: *"Once the physical remedy is complete, the Air Force will assess whether the RAO has been achieved."* Similar edits were made in Section 2.12.		**9/20/2021: DEC Accepts**
37.		Per discussions on the call, additional changes will be incorporated to clarify the additional work needed on the 3.90 acre RI areas	Concur. In Section 2.5.9.4, the 1st paragraph has been revised to read: "At the OB/OD Range (MRS OD001), a surface clearance was performed and subsurface investigation ~~(with all target anomalies investigated)~~ was performed over 3.90 acres of the 15.00-acre MRS. One MEC item was found in the surface. *However, due to concerns that the RI had unresolved anomalies and 20mm threshold concerns as only 25% of the anomalies between 8 and 16mV were dug, there is a potential for subsurface MEC to remain in the 3.90-acre RI areas.* ~~However, an a~~Additionally, 11.10 acres of the MRS was not included in the surface clearance or subsurface investigation. Therefore, there is a potential for MEC to remain on the surface and in the subsurface in the 11.10 acres not investigated during the RI. As such, both the surface and subsurface pathways are potentially complete *at the MRS.*" In Section 1.4, the 3rd bullet in the 3rd paragraph has been revised to generalize the excavation text for the possibility of use of mechanical equipment (remote excavator or armored excavator) and also a new bullet has been added for soil removal in lifts/sieving that may be needed for work in the 3.90-acre RI areas. • "MEC removal from the surface and subsurface through hand excavation or mechanically ~~hand~~ assisted excavation *(e.g., excavator [remote/armored as needed])*; ~~and~~"		**9/20/2021: DEC Accepts**

Comment No.	Page/ Section	DEC Comment/Recommendation 12/23/2019; Revised 12/31/2019	USAF Response: 5/26/2020	DEC Response: 6/15/2020	USAF Backcheck Response: 7/20/21 DEC Responses: 8/17/2021 USAF Response: 8/23/21 DEC Response: 9/20/2021
			• "*Removal of soil in lifts/sieving within the demolition pits, mapping and resolution of targeted anomalies, if needed; and*" Similar edits were made in Section 2.12. In Table 2-6, the following bullet has been added for Alternative 3 to read: • "*Removal of soil in lifts/sieving for anomaly resolution (if needed)*"		
Additional Comment provided by ADEC via 8/17/21 email					
38.		One other thing that I didn't specifically mention in the comment table. We took a closer look at the CSMs when evaluating the response to Comment No. 23. I'm not sure how to interpret these CSM figures, particularly with opposing direction of the arrows pointing toward "MEC at the Surface and "MEC in the subsurface." Do I read left to right until I get to the Release Mechanism and then read right to left for Receptor and Exposure Route? What if there's an intrusive activity in the surface (0 to 2 feet bgs)? How is that captured in the CSM?	Concur. Unlike potential MC interaction, for MEC interaction, the receptor takes action and therefore the arrows go in the opposite direction in accordance with EM 200-1-12, Section 2, Figure 2-4 (refer to ADEC Comment 14 on the UFP-QAPP). The MEC CSMs (Figure 2-5 and 2-6) have been revised to list the depths for surface (0 – 2 feet) and subsurface (> 2 feet), and new lines added for intrusive activity in the surface (i.e., "incomplete" for the Suspected Former Rocket Range and "potentially complete" for the OB/OD Range. Please note, in reviewing the previous reports, there were a few discrepancies noted. The FS report text listed the Suspected Former Rocket Range subsurface pathway as "complete" but the FS CSM figure showed "potentially complete." This discrepancy had been carried over into the original version of the ROD. Since there are discussions that state there is "potential" for MEC to remain in the subsurface under the landfill, the "potentially complete" pathway presented in the CSM is correct and text should instead be clarified. In the ROD Section 2.5.9.4, the last sentence in the last paragraph has been corrected to say "potentially complete" which aligns with previous text discussion and the CSM: "Therefore, the surface pathways are considered incomplete and the subsurface pathways are considered as *potentially* complete for the Suspected Former Rocket Range (MRS AL908)." Please also note, a similar inconsistency was also found for the OB/OD Range. The RI listed the exposure pathways as "complete" but the subsequent FS and ROD listed them as "potentially complete." The OB/OD Range UFP-QAPP CSM had originally followed the RI stating complete and has been corrected to reflect "potentially complete" pathways which is		9/20/2021: DEC Accepts

Comment No.	Page/ Section	DEC Comment/Recommendation 12/23/2019; Revised 12/31/2019	USAF Response: 5/26/2020	DEC Response: 6/15/2020	USAF Backcheck Response: 7/20/21 DEC Responses: 8/17/2021 USAF Response: 8/23/21 DEC Response: 9/20/2021
			consistent with the ROD.		

Attachment 2

Public Notices

Public Notice
Request for Public Document Review for
Former Campion Air Station

Former Campion AFS
Galena, AK
December 2018

The United States Air Force (USAF), in cooperation with the Alaska Department of Environmental Conservation (ADEC) announce the public comment period for the Proposed Plan for two Munitions Response Sites (MRSs) at the Former Campion Air Force Station (AFS), Galena, Alaska.

The sites are approximately 6 miles east-southeast of the town of Galena and are accessible via a gravel road. The Suspected Rocket Range (MRS AL908) consists of 12.41 acres and the OB/OD Range (MRS OD001) encompasses approximately 15.00 acres. Comprehensive Site Evaluations, Remedial Investigations, Feasibility Studies, Interim Removal Actions, and other data collection activities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) have occurred at the Former Campion AFS since 2006.

The Air Force's preferred alternative for addressing potential risks at the OB/OD Range (MRS OD001) is a surface and subsurface removal to achieve Unlimited Use/Unrestricted Exposure and the Air Force's preferred alternative for addressing risks at the Suspected Former Rocket Range (MRS AL908) is land use controls.

Based on the information available at this time, the Air Force believes the preferred alternatives are protective of human health and the environment, comply with Applicable or Relevant and Appropriate Requirements, can be implemented in a reasonable time frame, allow the property to be maintained as is currently being used for the foreseeable future, and are cost effective solutions. Further, the preferred alternative for the OB/OD Range (MRS OD001) meets the statutory preference for treatment and results in no projected future costs following completion of the remedy.

The USAF, in consultation with ADEC, provides information regarding the cleanup and final remedy selection for the MRSs to the public through the Administrative Record and announcements are published in the local newspaper. Before finalizing the Proposed Plan, the USAF will consider all oral and written comments received during the 30-day public comment period. Due to the winter holidays, the 30-day comment period will be extended until January 11th, 2019.

Public Comment Period:
December 9th, 2018 – January 11th, 2019

During this time, you may submit written comments and you may also request that a public meeting be held. If community members express an interest in a public meeting, one will be held. To request a public meeting or to provide comments about the Proposed Plan, please contact Mr. Charley Peyton (by **January 11th, 2019**):

Mr. Charley Peyton
Remedial Project Manager
Air Force Civil Engineer Center (AFCEC) CZOP
Tel: (907)552-9765
charley.peyton@us.af.mil

A copy of the Proposed Plan for the OB/OD Range (MRS OD001) and Suspected Rocket Range (MRS AL908), dated November 2018, can be found at:

Charles Evans Community/School Library
299 Antoski Drive
Galena, AK 99741
(907) 656-1883

CHARLES EVANS COMMUNITY LIBRARY HOURS:

Monday:	4:30pm-6:45pm
Tuesday:	4:30pm-6:45pm
Wednesday:	4:30pm-6:45pm
Thursday:	4:30pm-6:45pm
Sunday:	10am-3pm

For more information on the OB/OD Range (MRS OD001) and Suspected Former Rocket Range (MRS AL908) you may also view the Administrative Record file at http://afcec.publicadmin-record.us.af.mil/. Click "Continue to Site" to go to next page. From the "Installation List" on the left, scroll down and select "Campion AFS, AK." In the "Sites" box, select "OD-001 (MRS 684), Open Burn/Open Detonation" and click "Search." Scroll down to see the available documents. Click on the magnifying glass to open and view a document. This will find the documents that cover both MRSs. A help button is located in the upper right corner. The Administrative Record file may also be viewed at:

Alaska Resource Library and Information Services
Library Building, Suite 111
3211 Providence Drive
Anchorage, AK 99508
Reference Desk: (907) 27-ARLIS
Mon-Fri 8:00 a.m. to 5:00 p.m.

AFFP

Former Campion AFS- Galena, AK

Affidavit of Publication

UNITED STATES OF AMERICA
STATE OF ALASKA } SS.
FOURTH DISTRICT

Before me, the undersigned, a notary public, this day personally appeared Crystal Wise, who, being first duly sworn, according to law, says that he/she is an Advertising Clerk of the Fairbanks Daily News-Miner, a newspaper (i) published in newspaper format, (ii) distributed daily more than 50 weeks per year, (iii) with a total circulation of more than 500 and more than 10% of the population of the Fourth Judicial District, (iv) holding a second class mailing permit from the United States Postal Service, (v) not published primarily to distribute advertising, and (vi) not intended for a particular professional or occupational group. The advertisement which is attached is a true copy of the advertisement published in said paper on the following day(s):

December 09, 2018

and that the rate charged thereon is not excess of the rate charged private individuals, with the usual discounts.

Advertising Clerk

Subscribed to and sworn to me this 9th day of December 2018.

Marena Burnell, Notary Public in and for the State Alaska.

My commission expires: December 07, 2021

00008869 00048065

ANN ZAJAC
BAY WEST, LLC
5 EMPIRE DR
ST. PAUL, MN 55103

STATE OF ALASKA
NOTARY PUBLIC
M. Burnell
My Commission Ends December 7, 2021

Former Campion AFS - Galena, AK - Dec. 2018

Public Notice
Request for Public Document Review for
Former Campion Air Station

The United States Air Force (USAF), in cooperation with the Alaska Department of Environmental Conservation (ADEC) announce the public comment period for the Proposed Plan for two Munitions Response Sites (MRSs) at the Former Campion Air Station (AFS), Galena, Alaska.

The sites are approximately 6 miles east-southeast of the town of Galena and are accessible via a gravel road. The Suspected Rocket Range (MRS AL908) consists of 12.41 acres and the OB/OD Range (MRS OD001) encompasses approximately 15.00 acres. Comprehensive Site Evaluations, Remedial Investigations, a Feasibility Study, Interim Removal Actions, and other data collection activities under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) have occurred at the Former Campion AFS since 2006.

The Air Force's preferred alternative for addressing potential risks at the OB/OD Range (MRS OD001) is a surface and subsurface removal to achieve Unlimited Use/Unrestricted Exposure and the Air Force's preferred alternative for addressing risks at the Suspected Former Rocket Range (MRS AL908) is land use controls.

Based on the information available at this time, the Air Force believes the preferred alternatives are protective of human health and the environment, comply with Applicable or Relevant and Appropriate Requirements, can be implemented in a reasonable time frame, allow the property to be maintained as is currently being used for the foreseeable future, and are cost effective solutions. Further, the preferred alternative for the OB/OD Range (MRS OD001) meets the statutory preference for treatment and results in no projected future O&M costs following completion of the remedy.

The USAF, in consultation with ADEC provides information regarding the cleanup and final remedy selection for the MRSs to the public through the Administrative Record and announcements are published in the local newspaper. Before finalizing the Proposed Plan, the USAF will consider all oral and written comments received during the 30-day public comment period. Due to the winter holidays, the 30-day comment period will be extended until January 11th, 2019.

Public Comment Period: December 9th, 2018 - January 11th, 2019

During this time, you may submit written comments and you may also request that a public meeting be held. If community members express an interest in a public meeting, one will be held. To request a public meeting or to provide comments about the Proposed Plan, please contact Mr. Charley Peyton (by January 11th. 2019):

Mr. Charley Peyton
Remedial Project Manager
Air Force Civil Engineer Center (AFCEC) CZOP
Tel: (907)552-9765
charley.peyton@us.af.mil

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M. Burnell
My Commission Ends December 7, 2021

documents that cover both MRSs. A help button is located in the upper right corner. The Administrative Record file may also be viewed at:

Alaska Resource Library and Information Services
Library Building, Suite 111
3211 Providence Drive
Anchorage, AK 99508
Reference Desk: (907) 27-ARLIS
Mon-Fri 8:00 a.m. to 5:00 p.m.

AD# 48065. Publish: 12-09-2018

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Attachment 3

Gana-A'Yoo Letter of Concurrence

DEPARTMENT OF THE AIR FORCE
PACIFIC AIR FORCES

14 June 2021

Jennifer Wehrmann, PMP
Remedial Project Manager
Air Force Civil Engineer Center (AFCEC/CZOP)
10471 20th Street, Suite 343
JBER AK 99506-2201

Dena Sommer-Pedebone
Chief Executive Officer
Gana-A'Yoo, Limited
1001 E. Benson Blvd., Suite 201
Anchorage, Alaska 99508

Dear Ms. Sommer-Pedebone,

The Air Force Civil Engineer Center (AFCEC/CZOP) is performing restoration activities at the former Campion Air Force Station (AFS), Alaska. Cleanup is being performed on both Air Force property and a parcel owned by Gana-A'Yoo, also known as site AL908, a Suspected Former Rocket Range. A Record of Decision (ROD) is currently in development for AL908.

In a June 26, 2020 letter, the Alaska Department of Environmental Conservation (ADEC) expressed its interest in ensuring that Gana-A'Yoo understands the restrictions and requirements that could be imposed on Gana-A'Yoo's land under the proposed ROD for site AL908. In the letter, ADEC requested that the Air Force update its September 2019 letter of concurrence, specifying Gana-A'Yoo's agreement to certain additional details. This letter has been prepared in response to ADEC's request to ensure that Gana-A'Yoo understands the requirements of the ROD, which identifies Land Use Controls (LUCs) as the selected remedy for site AL098. Below is a summary of environmental restoration activities to date and our proposed plan for the site.

SITE AL908, on Gana-A'Yoo Land:

AL908 was an informal rocket range previously used by the Air Force. It consists of 12.80 acres on the south margin of the Campion AFS, on property now owned by Gana-A'Yoo. A Remedial Investigation conducted in 2014 found evidence of munitions or explosives of

concern (MEC) and munitions debris (MD). Uncovered MEC was destroyed on the day encountered. A time-critical removal action (TCRA) was performed in 2015 to identify and remove potential human health and safety hazards associated with MEC. Search and removal occurred over both the historical use area and an expanded area beyond historical use. Based on the results of the TCRA, it was concluded that the most probable target area was investigated but no MEC was found on either the surface or subsurface; however, a small quantity of MD was recovered, verifying that the TCRA covered the area where historical munitions activities occurred. A visual reconnaissance into the expanded area did not uncover any evidence of MEC or MD.

Following completion of the TCRA, a Proposed Plan was finalized in 2018 and a public comment period was open between 9 December 2018 and 11 January 2019. The draft ROD for site AL908, which is expected to be finalized in spring 2021, identifies LUCs as the remedy for AL908. LUCs (also known as activity and use limitations) are necessary to limit access to the land for safety purposes because the Air Force cannot ensure that all potential MEC or MD have been removed and that there is no risk to human health and safety. These restrictions and limitations will be placed on the land through an environmental covenant. Environmental covenants are required under Alaska law (Alaska Statute 46.04.300) where contamination (or munitions) remains at a level that is safe for some, but not all uses. The environmental covenant for AL908 would restrict excavation and removal of soils without first having the area evaluated by personnel certified in munitions avoidance; and require warning signs at all entry points. The Air Force will prepare the environmental covenant for Gana-A'Yoo and ADEC signatures, and the covenant will be recorded in the appropriate Alaska recording district. The Air Force will install and maintain signage and provide educational information to manage and reduce community exposure to hazards. The Air Force will monitor the LUC effectiveness as part of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) five-year review process.

The Air Force wants to ensure that Gana-A'Yoo understands that the LUCs placed on AL098 are intended to protect human health and the environment from potentially buried MEC. Attached is a site figure depicting the site and the area where LUCs will be applied. The LUCs required at this site include:

1. Access and land use restrictions
2. Warning sign installation
3. Training and education programs
4. MEC recognition safety training
5. Construction support
6. Visual surveys
7. CERCLA Five-Year Reviews

It is important to note that LF004, a landfill that overlaps with a portion of AL908, may also be a source of MEC or MD. Information regarding LF004, including LUCs and a LUC boundary, will be discussed under a separate decision document or record of decision. In addition, any requests for concurrence with regards LUCs on LF004, will be provided to Gana-A'Yoo separately.

Although the Air Force will be responsible for the remedy consisting of LUCs pursuant to the ROD for AL908, it is recommended that Gana-A'Yoo incorporate site access in its land management policies to ensure that the site is continually monitored and maintained and that the LUCs are enforced. Gana-A'Yoo should notify the Air Force as soon as possible should site conditions or land use conditions change or in the event that one of the LUCs is violated. These notices to the Air Force could include damaged or missing signs or planned construction activities. As part of any planned change to current site conditions (i.e., intrusive activities such as planting plants, constructing a building, laying utilities, or making road improvements), ADEC must be notified and provide approval. The Air Force can provide construction support, as necessary and under specified conditions with advanced notice (i.e., a minimum of 6 months is requested). If on-site construction support is required and approved by ADEC, the Air Force will provide Unexploded Ordnance-qualified personnel to observe ground-disturbing activities and remove munitions, if encountered, from the footprint of the planned ground-disturbing activity, however, a minimum advance notice of 6 months is required to coordinate this effort. Construction support would be provided at no cost to Gana-A'Yoo.

In some situations, the Air Force may be able to provide guidance for changing the location for a ground-disturbing activity to avoid a particular area suspected to contain munitions.

In conclusion, the Air Force ROD for AL908 remains unsigned pending your concurrence below. The ROD says that the site be placed in a Long Term Management program with LUCs, which will be implemented through an environmental covenant in accordance with the Alaska Uniform Environmental Covenants Act (UECA) Sec. 46.04.300. The Air Force respectfully requests that you acknowledge your understanding of, and concurrence with, the details and actions mentioned in this letter by signing in the designated space below.

Sincerely,

Jennifer Wehrmann

JENNIFER WEHRMANN,
PMP, GS-12
Remedial Project Manger

Attachment:
Site Figure, AL908

cc:
Steven Mattson, Chief, Environmental Restoration, PRSC Installations Remote & JBER, AFCEC/CZOP
John Page III, Restoration Attorney, DAF/JA - Operations & International Law - Environmental Law & Litigation

Jamie McKellar, Environmental Program Specialist, DEC Contaminated Sites
Doyon, Limited, Lands and Natural Resources

Gana-A'Yoo understands and concurs with the details describing the components of the selected remedy for AL908 on Gana-A'Yoo land.

Dena Sommer-Pedebone

Name

CEO

Title

07.19.2021

Date

608300 608400 608500 608600 608700 608800 608900 609000

7175800 7175700 7175600 7175500 7175400 7175300 7175200

Former Campion Air Force Station

Land Surrounding AL908 MRS owned by Gana-A 'Yoo

Land Ownership Boundary

64.687937,
-156.723136

64.687723,
-156.724537

K2 K3
J2 J3 J4
I2 I3 I4 I5
H3 H4 H5
G3 G4 G5
F4 F5
E4 E5

LUC Boundary

64.684788,
-156.718997

64.684214,
-156.722757

Figure
Suspected Former Rocket Range
MRS (AL908)
Former Campion Air Force Station
Alaska

Legend

- Sign Location
- Significant MD Item (2015 TCRA)
- MD Location (2014)
- MEC Location (2014)
- 1954 M6A3 Rocket*
- Landfill Area within Investigation Area
- LF004 Landfill
- Grid (100 x 100 ft) DGM/Analog Investigation Area
- Vegetation Removal Buffer (55 ft)
- Visual Reconnaissance Completed
- Suspected Former Rocket Range (MRS AL908) (i.e.,Range Fan) (12.8 ac)
- Former Campion Air Force Station

* Two other M6A3 Rockets were found in the vicinity of this location

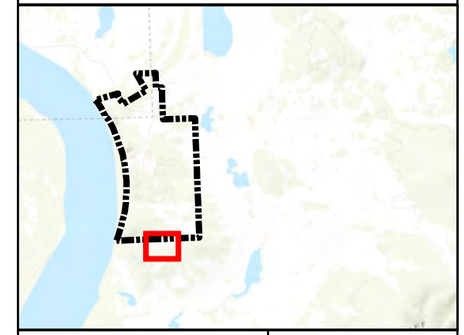
TN GN MN 13°

Magnetic Declination 2019
13° 18' E ± 0° 28'
changing by 0° 23' W per year

Scale: 1:150,000
Datum: WGS 1984
Coordinate System: UTM Zone 4N
Map Units: Meters

0 25 50 100 150 Meters

0 125 250 500 Feet



U.S. AIR FORCE

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Drawn By: lfischer

Revised: 6/8/2021