



Proposed Plan For SR001

FORMER RECREATIONAL SMALL ARMS USE AREA

TATALINA LONG-RANGE RADAR SITE, ALASKA

July 2015

HOW YOU CAN PARTICIPATE

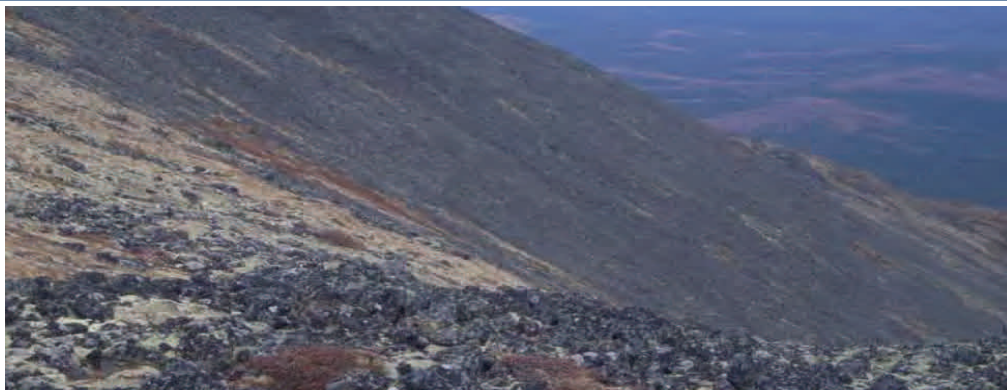
You are encouraged to comment on this Proposed Plan. The public comment period begins 3 August 2015 and ends 4 September 2015.

The Air Force will accept written comments during the public comment period. A pre-addressed form is included with this document. All comment letters must be postmarked by 4 September 2015.

Submit comments to:
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This Proposed Plan summarizes information that can be found in greater detail in the Feasibility Study and other documents contained in the Administrative Record file for this site. The Air Force and Alaska Department of Environmental Conservation encourage the public to review these documents to gain a comprehensive understanding of SR001 and the response activities that have been conducted at Tatalina LRRS.

More information can be found in the Community Participation section on page 19. A comment form is included before the last page of this Proposed Plan.



Takotna Mountain

U.S. AIR FORCE ANNOUNCES PROPOSED PLAN

This Proposed Plan, developed for the United States Air Force (Air Force) Environmental Restoration Program (ERP) proposes a remedy for area SR001, a Former Recreational Small Arms Use Area located at the Tatalina Long-Range Radar Site (LRRS), Alaska. The remedy proposed at SR001 is Debris Removal, In Situ Soil Treatment, and Onsite Disposal. This Proposed Plan also summarizes the response alternatives evaluated for implementation at this site. The chemicals of concern (COC) include lead and antimony.

The Tatalina LRRS was established in 1952. Located in the upper Kuskokwim River Delta approximately 240 miles northwest of Anchorage, SR001 is accessible only by air or water. The closest village is Takotna, which is approximately 5 miles to the northwest. The larger town of McGrath is located approximately 14 miles northeast of the installation. The installation consists of 4,968 acres divided into four main areas of activity: the Upper Camp, the Lower Camp, the airstrip, and Sterling Landing, where barges load and offload from the Kuskokwim River. These areas are connected by a road. SR001 is located at the Lower Camp.

The LRRS currently serves as a Minimally Attended Radar Site and is part of the Alaska Radar System managed by the Pacific Air Forces Regional Support Center, a tenant on Joint Base Elmendorf-Richardson adjacent to Anchorage, Alaska. The installation occupies the summit and southeastern slope of Takotna Mountain, which reaches a maximum elevation of 3,203 feet above mean sea level.

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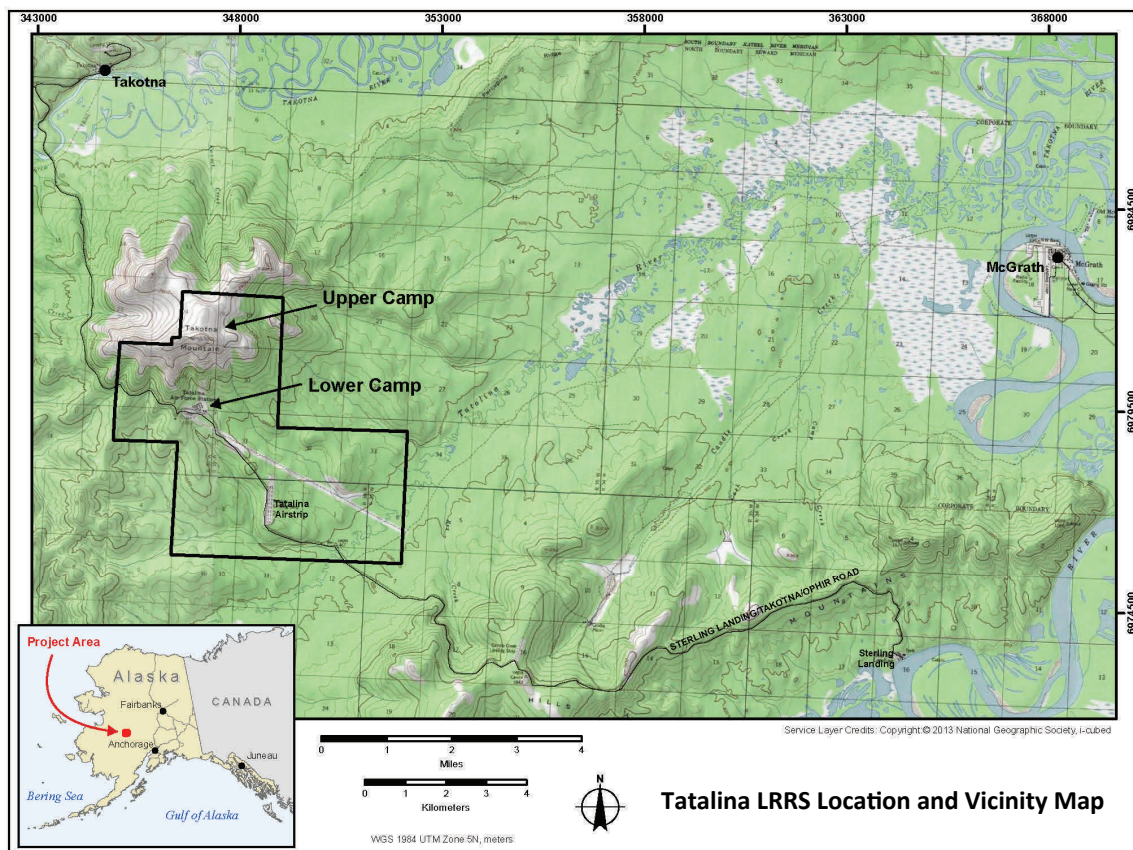
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This Proposed Plan is issued by the Air Force as the lead agency for site activities. The Alaska Department of Environmental Conservation (ADEC) is the regulatory support agency. The Air Force will select a final remedy for the site after reviewing and considering all information submitted during the public comment period, and may modify the Preferred Alternative or select another response action based on new information or public comments. Therefore, the public is encouraged to review and comment on this Proposed Plan. The Air Force is issuing this Proposed Plan as part of its public participation responsibilities under §117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Title 42 U.S. Code (USC) §9617(a), and §300.430(f)(2) and (3) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). Following consideration of public comments, the Air Force will prepare a Record of Decision to document the final response action selected for SR001. The Record of Decision will contain a summary of responses to public comments received.

SITE BACKGROUND

Site Location and History

Constructed in 1952, Tatalina LRRS was one of the Aircraft Control and Warning (AC&W) sites built to establish an air defense system in Alaska. This system was replaced with a White Alice Communication System (WACS) in 1957. In 1977, operation of the installation was transferred from military to contractor personnel. In 1979, with the advent of satellite-based communications systems, the facility was phased out and the number of personnel at the site reduced. The technology at the station was upgraded again in 1985 with the installation of a Minimally Attended Radar system. Currently, the facility is managed by four personnel who reside there year-round. Most of the original AC&W/WACS buildings and structures at Tatalina LRRS were demolished in the mid 1980s, leaving six remaining AC&W buildings.



Land Use

Current land use of the Tatalina LRRS includes industrial activities associated with operation and maintenance (O&M) of the radar installation and runway. Current uses of nearby lands include subsistence hunting and recreation. Land uses are not expected to change in the foreseeable future.

HISTORICAL INVESTIGATIONS

Investigations pertaining to SR001 are briefly summarized below. These documents are available in the Administrative Record for the site. The Air Force and ADEC encourage the public to review these documents to gain a more comprehensive understanding of SR001 and the response activities that have been conducted at Tatalina LRRS.

Comprehensive Site Evaluation Phase I/II

Pursuant to CERCLA, Comprehensive Site Evaluation Phase I/II (CSE Phase I/II) was finalized in 2013 to obtain information and evaluate the possible presence of munitions, munitions debris, explosives, and contaminated media at two potential areas (USACE 2013). The CSE Phase I/II concluded that the small arms use at Unknown Area 1 (now referred to as SR001) was recreational rather than military in nature and the recreational small arms use area is not an “other than operational” military range. Therefore, it is not a Munitions Response Area. But since the CSE Phase I/II found elevated lead concentrations in the berm area; further CERCLA response action under the ERP was recommended.



Small arms munitions debris found at the site.

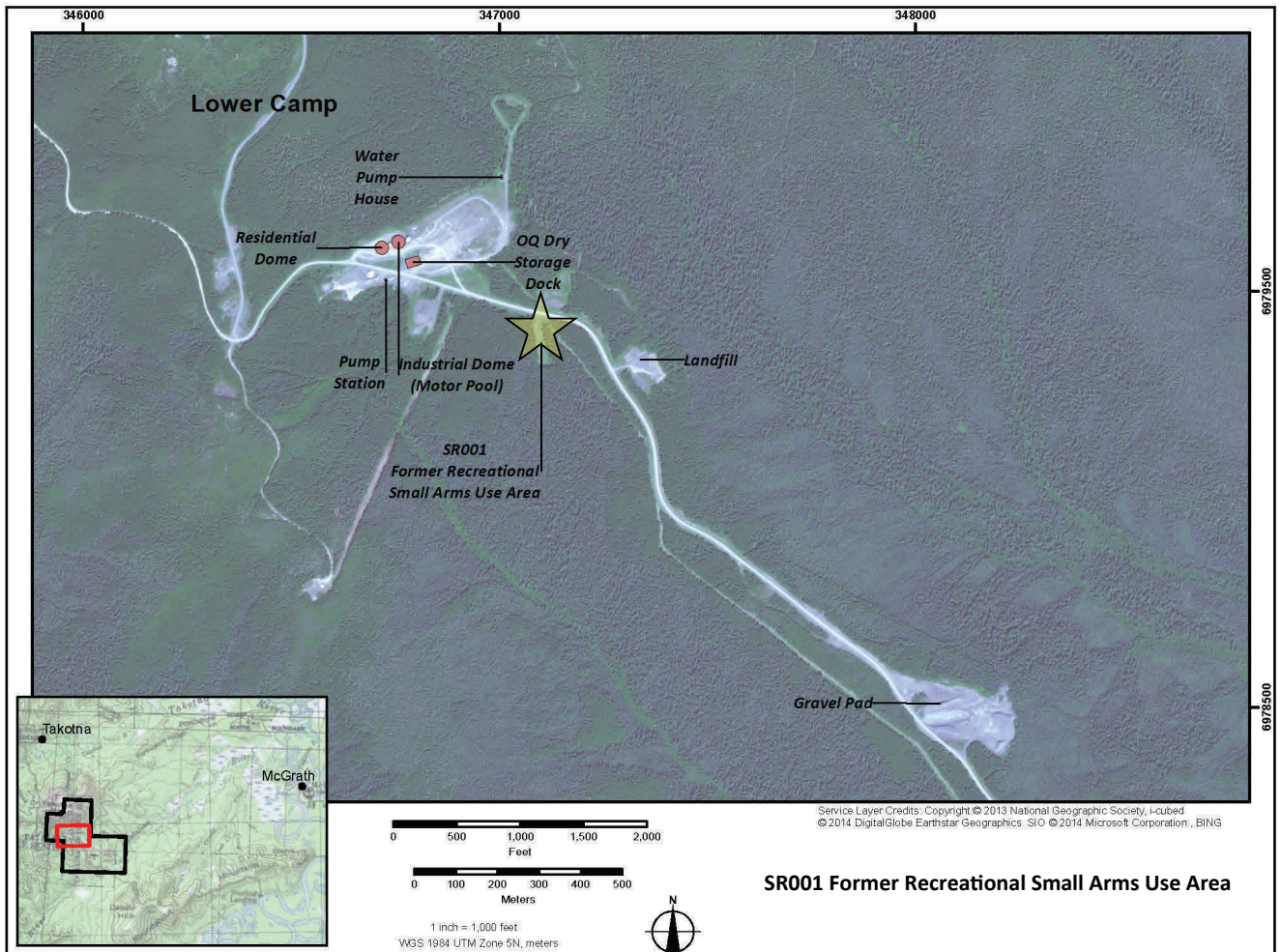
Feasibility Study

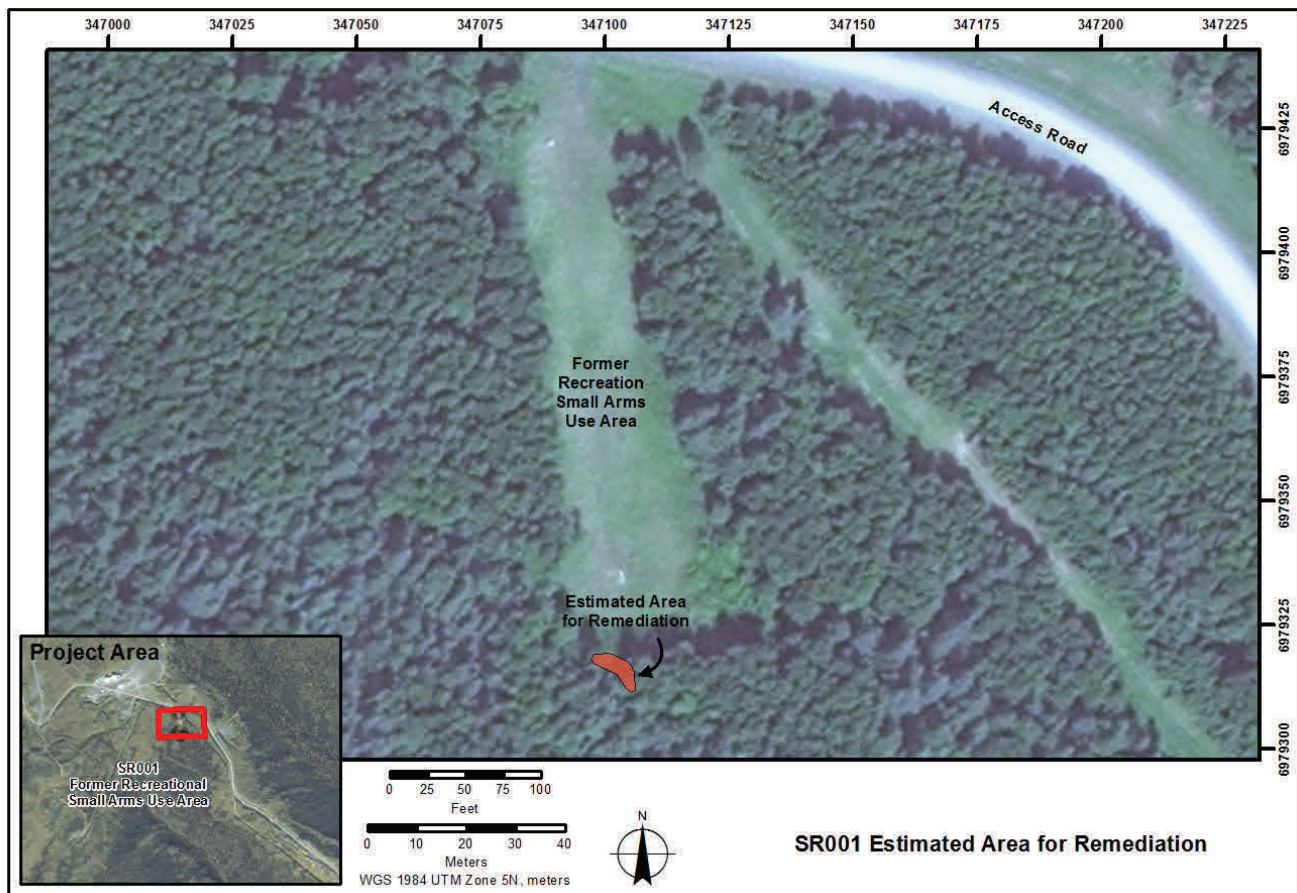
A Feasibility Study conducted in 2014 evaluated potential response technologies to address metals contamination in soil at SR001, Former Recreation Small Arms Use Area, formerly called Unknown Area 1 (Air Force 2014). The alternatives presented in the Feasibility Study were screened based on site-specific effectiveness, implementability, and cost.

The following alternatives were developed and evaluated for addressing soil contamination:

- Alternative 1: No Action
- Alternative 2: Land-Use Controls and Long-Term Monitoring
- Alternative 3: Capping, Land-Use Controls, and Long-Term Monitoring
- Alternative 4: Debris Removal, In Situ Soil Treatment, Capping, and Land-Use Controls
- Alternative 5: Removal and Offsite Disposal

The No Action alternative was retained as a baseline against which the other alternatives could be compared. Each alternative was subjected to detailed analysis, based on the threshold and primary balancing criteria established under the NCP [40 CFR 300.430(e)].





SITE CHARACTERISTICS

SR001 is located approximately 0.25 miles southeast of the Lower Camp activity area and just south of the access road between the Lower Camp and the airstrip. SR001 consists of a man-made clearing covered with native grasses and shrubs. The north end of the clearing nearest the road is the small arms use area firing point; the south end of the clearing has a large berm/impact area. Sixteen Installation Restoration Program (IRP) sites are located at the installation as well as a closed leaking underground storage tank site. The closest IRP site to SR001 is LF001 Landfill #1. Historical aerial photographs of the Lower Camp from 1976 and 1983, including SR001, show a visible clearing southeast of the Lower Camp. The feature appears to contain a small structure at the southern end, where there is currently a berm. This feature does not correspond with any landfills identified in the Administrative Record and appears to be a small

WHAT ARE THE CONTAMINANTS OF CONCERN?

The Air Force and ADEC have identified two contaminants that pose potential risks to human health and the environment at this site:

Lead – Lead adsorbs to soil and is not considered highly mobile in the environment. When lead is deposited in soil from anthropogenic sources, it does not biodegrade or decay and is not rapidly absorbed by plants; therefore, it remains in soil at elevated levels. The maximum concentration found at SR001 was 1,200 mg/kg.

Antimony – Antimony can be found in soils, waters and air in very small amounts. Antimony will mainly pollute soils. Human exposure to antimony can take place by breathing air, drinking water and eating foods that contain it, but also by skin contact with soil, water and other substances that contain it. The maximum concentration found at SR001 was 0.78 mg/kg.

No principal threat wastes exist.

arms use area. An additional aerial photograph from 2000 shows the clearing becoming overgrown and the structure no longer present. SR001 was identified as a potential munitions response area based on a 2011 historical records review as documented in the CSE Phase I/II (USACE 2013). Through further records review, field reconnaissance, and visual surveys of SR001 during the CSE Phase I/II, it was concluded that SR001 is a recreational small arms use area and not eligible for investigation under the Air Force Military Munitions Response Program.

Depth to groundwater in the lower housing and operations area is approximately 11 feet below ground surface (CH2M HILL 1998). However, due to the low mobility of lead and antimony in soil, a lack of receptors, and a small source volume, exposure to groundwater pathways is likely negligible but remains a current or expected future pathway. Permafrost is discontinuous at the Lower Camp and has not been encountered near SR001.

NATURE AND EXTENT OF CONTAMINATION

The primary COCs at SR001 are metals associated with small-caliber ammunition (lead and antimony). During the CSE Phase I/II, soil was sampled for lead and antimony. Analytical results indicated that there is lead and antimony in surface and subsurface soil associated with activities conducted at SR001. Samples detected lead in concentrations that exceeded the soil cleanup level (400 milligrams per kilogram [mg/kg]) in three locations in the berm/impact area. All results for antimony were less than the most stringent cleanup criterion. Although antimony was identified as a chemical of potential concern in the CSE Phase I/II and evaluated as a potential contributor to overall risk, site concentrations are well below both state and federal cleanup levels. The antimony results were collocated with lead. Lead-contaminated soil is located at the firing range berm/impact

area. This area measures approximately 45 feet by 30 feet and extends an estimated 1 foot below ground surface; it is estimated that approximately 50 cubic yards of soil are contaminated with lead. The affected volume of soil was estimated based on the ADEC soil cleanup level for lead. There was no evidence of historical use of explosives and no munitions and explosives of concern were observed during the CSE Phase I/II; only “small arms debris” was observed during the visual survey. No surface water was observed at SR001; therefore, there are no surface water or sediment data.

REMEDIAL ACTION OBJECTIVES

The following environmental remedial action objectives (RAO) have been established for SR001 based on regulatory guidance and the findings of previous investigations, actions, and assessments:

- Prevent direct contact of humans to soil containing lead in excess of 400 mg/kg
- Minimize or eliminate direct ecological exposure to COCs
- Reduce the potential for COCs to migrate from site soil to any groundwater, surface water, and/or sediments where human receptors could be exposed

The cleanup levels selected for this site are chemical-specific applicable or relevant and appropriate requirements (ARARs) for lead, based on the ADEC Method Two soil cleanup level (400 mg/kg for direct contact/ingestion). Achievement of these RAOs will be necessary to protect human health and the environment, allowing continued use of the site for the Air Force mission at Tatalina LRRS.

SCOPE AND ROLE OF THE RESPONSE ACTION

Although not evaluated in the Feasibility Study, the preferred response alternative identified in this Proposed Plan is Debris Removal, In Situ Soil Treatment, and Onsite Disposal. This alternative was created based on conversations between the Air Force and ADEC. This alternative fits into the Air Force's overall site environmental restoration strategy to protect public health and the environment from actual or threatened releases of hazardous substances into the environment. The scope of the proposed alternative addresses contaminated soil and buried debris remaining at the site.

SUMMARY OF SITE RISKS

Screening level human health and ecological risk assessments performed as part of the CSE Phase I/II investigation were limited to the lead and antimony soil sample data collected in 2011.

Human Health Risks

A screening level human health risk assessment (HHRA) was performed as part of the CSE Phase I/II investigation and was limited to the lead and antimony soil sample data collected in 2011. The HHRA concluded that lead in soil at SR001 may result in risk to human receptors as the highest result for lead (1,200 mg/kg) resulted in a screening hazard quotient of 3 (USACE 2013).

This exceeds the target hazard quotient of less than 1. The other two results over the 400 mg/kg regional screening level resulted in hazard quotients equal to 1. The lateral and vertical extent of contaminated soil around the highest result appears well defined.

In order for contamination at a site to pose a risk or threat to people or the environment, a complete exposure pathway must be present. Current contaminant concentrations at SR001 pose a potential risk to human health due to potential contact with lead-contaminated soil. Exposure to contaminants by surface or groundwater at SR001 is not a current or reasonably expected future pathway; groundwater and surface water sample results from 1997 were nondetect for lead and antimony, indicating that leaching of contaminants is not occurring (CH2M HILL 1998). Surface water and groundwater are not a current or expected future source of drinking water. Current and reasonably expected future land use is expected to remain limited to industrial activities associated with operation and maintenance of the radar installation and runway, and subsistence hunting and recreational use by local residents.

Under the preferred alternative, surficial munitions debris would be removed and disposed of offsite. Soil contaminated with lead above the Method Two cleanup level (400 mg/kg) would be treated with a chemical stabilization product to prevent leaching and limit migration. The treated soil would then be excavated and transported for onsite disposal to the Tatalina LRRS permitted landfill at LF004. Approximately 50 cubic yards of lead-contaminated soil will be removed, which eliminates risk to human health, and the site would be restored for unlimited use/unrestricted exposure.

Ecological Risks

Ecological risk was assessed based on possible ecological receptors and exposure pathways. Birds, mammals, and fish can be exposed to COCs through ingestion of surface water, plants and animals, and soil/sediment. Both lead and antimony in soils may result in unacceptable risks to ecological receptors at SR001. Although antimony was identified as a chemical of potential concern in the CSE Phase I/II and evaluated as a potential contributor to overall risk, site concentrations are well below both state and federal cleanup levels. Because antimony is collocated with lead, most treatments addressing lead will also address antimony. It is the Air Force's current judgment that the alternative identified in this Proposed Plan, or one of the other active measures considered in the Proposed Plan, is necessary to protect public health, or welfare, or the environment from actual or threatened releases of hazardous substances into the environment.



Evidence of small arms use at SR001

SUMMARY OF ALTERNATIVES

To develop a response strategy for lead-contaminated soil at SR001, a conceptual understanding of the volume and location of the contamination is needed. Approximately 50 cubic yards of lead-contaminated soil remain at SR001.

Alternative 1: No Action

The No Action alternative is required under the NCP [40 CFR 300.430(e)(6)] to serve as a baseline for comparison to other alternatives. Under this alternative, no activities would be undertaken to treat or remove the contamination present or to otherwise prevent exposure to the contamination. No monitoring would be conducted. The No Action alternative is required for consideration under the NCP and serves as a baseline against which other alternatives can be compared. Capital Costs: \$0, Annual O&M: \$0, Present Worth Costs: \$0, Estimated Duration: 0 days.

Alternative 2: Land-Use Controls and Long-Term Monitoring

Under this alternative, LUCs would be implemented to restrict invasive and recreational activities and protect human health from exposure to lead contamination in soil above the ADEC Method Two cleanup level (400 mg/kg). LUCs would include dig restrictions and signage that would state that the area is restricted from access, digging, vehicular traffic, all-terrain vehicles, and pedestrian traffic. In addition, the Air Force would file a notice of contamination with the Air Force real property records and the appropriate district of the State of Alaska Department of Natural Resources (DNR) Recorder's Office. LUCs would be documented and enforced through the Air Force LUC Management Plan. LTM to monitor for erosion and other site conditions and CERCLA five-year reviews would be required to evaluate the long-term protectiveness of the remedy. LTM inspections would be coordinated with other site inspections for IRP sites at Tatalina LRRS and would occur biennially for the first five years (the first, third, and fifth years). After the last inspection, a five-year review would be conducted to review the results of the inspections. Five-year reviews would be required indefinitely. Capital Costs: \$222,078, Annual O&M: \$15,929, Present Worth Costs: \$263,491, Estimated Duration: 1 day every 2 years for the first 5 years, then 1 day per 5 years.

Alternative 3: Capping, Land-Use Controls, and Long-Term Monitoring

Under this alternative, munitions debris at the site and soil contaminated with lead greater than 400 mg/kg would be capped with a minimum 2-foot soil cap. The cap and LUCs would be implemented to restrict invasive activities and protect human health and the environment from exposure to lead contamination in soil over the cleanup level. LUCs would include dig restrictions and signage that would state that the area is



SR001 southwest corner

restricted from access, digging, vehicular traffic, all-terrain vehicles, and pedestrian traffic. In addition, the Air Force would file a notice of contamination with the Air Force real property records and the appropriate district of the State of Alaska Department of Natural Resources (DNR) Recorder's Office. LUCs would be documented and enforced through the Air Force LUC Management Plan. LTM would be implemented to ensure the integrity of the cap and inspections would occur biennially for the first five years (the first, third, and fifth years). After the last inspection, a five-year review would be conducted to review the results of the inspections.

A permeable cap would be appropriate at this location because it should effectively prevent migration of contaminants to groundwater. Based on the estimated extent of contamination, the cap would need to cover approximately 1,500 square feet and would be constructed with 2 feet of locally available gravel. The NCP requires that response actions that result in any hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use/unrestricted exposure be reviewed every five years to ensure protection of human health and the environment. Therefore, five-year reviews would be required until cleanup levels are met for the site (indefinitely). Capital Costs: \$929,667, Annual O&M: \$16,004, Present Worth Costs: \$972,233, Estimated Duration: 10 days, plus 1 day every 2 years for the first 5 years, then 1 day per every 5 years.

Alternative 4: Debris Removal, In Situ Soil Treatment, Capping, and Land-Use Controls

Under this alternative, the surficial munitions debris would be removed by hand and disposed of offsite. Following this, soil to a 12-inch depth containing lead above 400 mg/kg would be treated with a chemical stabilization product to prevent leaching and limit migration. Analytical samples would be collected from the soil prior to and after treatment with the chemical stabilization product and analyzed using the Toxicity Characteristic Leaching Procedure (TCLP) for lead. Should the post-treatment soil samples fail TCLP, the soil will be managed and disposed of offsite as Resource Conservation and Recovery Act (RCRA) hazardous waste. Treated soil left onsite would be covered with a 2-foot soil cap. The cap and LUCs would be implemented to restrict invasive activities and protect human health and the environment from exposure to lead-contaminated soil over the cleanup level. LUCs would include dig restrictions and signage that would state that the area is restricted from access, digging, vehicular traffic, all-terrain vehicles, and pedestrian traffic. In addition, the Air Force would file a notice of contamination with the Air Force real property records and the appropriate district of the State of Alaska Department of Natural Resources (DNR) Recorder's Office. LUCs would be documented and enforced through the Air Force LUC Management Plan. LTM would be implemented to ensure the integrity of the cap and inspections would occur biennially for the first five years (the first, third, and fifth years). After the last inspection, a five-year review would be conducted to review the results of the inspections. Five-year reviews would be required indefinitely. Capital Costs: \$1,162,922, Annual O&M: \$16,004, Present Worth Costs: \$1,205,488, Estimated Duration: 17 days, plus 1 day every 2 years for the first 5 years, then 1 day per every 5 years.

Alternative 5: Removal and Offsite Disposal

Under this alternative, munitions debris and soil contaminated with lead above the Method Two cleanup level (400 mg/kg) would be excavated, staged, manifested, and transported for disposal to a RCRA-permitted chemical waste landfill capable of managing RCRA-regulated lead-contaminated soil. Soil samples would be analyzed using TCLP to determine if the soil should be managed and disposed of as RCRA hazardous waste. Soil would be excavated and staged onsite prior to transport. Approximately 50 cubic yards of lead-contaminated soil would be removed. It is anticipated that excavation activities would focus on surface soil to a 12-inch depth. Confirmation sampling of the excavation would be required to ensure lead was no longer present at concentrations above the ADEC cleanup levels. Once analytical results from confirmation samples indicate that all contaminated soil has been removed, the excavation would be backfilled with clean backfill. Under this alternative, the site would be restored for unlimited exposure/unrestricted use. CERCLA five-year reviews would not be required with this alternative. Capital Costs: \$1,860,860, Annual O&M: \$0, Present Worth Costs: \$1,860,860, Estimated Duration: 10 days.

Alternative 6: Debris Removal, In Situ Soil Treatment, and Onsite Disposal

Under this new alternative, surface munitions debris would be removed by hand and disposed of offsite. Following this, soil to a 12-inch depth containing lead above 400 mg/kg would be treated with a chemical stabilization product. Pre-and post-treatment soil samples would be collected and analyzed using TCLP to determine if any soil should be managed and disposed of offsite as RCRA hazardous waste. The treated non-hazardous soil would then be excavated and transported for onsite disposal to the Tatalina LRRS permitted landfill at LF004 with institutional controls already in place. Confirmation sampling of the excavation would be required to ensure lead was no longer present at concentrations above the ADEC cleanup levels. Once analytical results from confirmation samples indicate that all contaminated soil has been removed, the excavation would be backfilled. Under this alternative, the site would be restored for unlimited use/unrestricted exposure. CERCLA five-year reviews would not be required with this alternative. Capital Costs: \$962,869, Annual O&M: \$0, Present Worth Costs: \$962,869, Estimated Duration: 18 days.

EVALUATION OF ALTERNATIVES

In accordance with the NCP, the response alternatives were evaluated against seven of the nine criteria (except state and community acceptance) described in §121(b) of CERCLA and the NCP 300.430(f)(5)(i) and summarized in this Proposed Plan on the following page. These criteria are used to evaluate and compare the different remediation alternatives to select a remedy. The following table presents a comparison of the alternatives conducted during the screening process. This section of the Proposed Plan profiles the relative performance of each alternative against the nine criteria, noting how it compares to the other options under consideration. Evaluation of the last two criteria (state and community acceptance) will be conducted after the public comment period.

COMPARISON OF ALTERNATIVES FOR SR001

Evaluation Criteria	Alternative 1: No Action	Alternative 2: LUCs and LTM	Alternative 3: Capping, LUCs, and LTM	Alternative 4: Debris Removal, In Situ Soil Treatment, Capping and LUCs	Alternative 5: Removal and Offsite Disposal	Alternative 6: Debris Removal, In Situ Soil Treatment, and Onsite Disposal
Overall protection of human health and the environment	Fail	Pass	Pass	Pass	Pass	Pass
Compliance with ARARs	Fail	Pass	Pass	Pass	Pass	Pass
Long-term effectiveness and permanence	0	2	3	4	5	5
Reduction in toxicity, mobility, and volume through	0	0	0	0	0	0
Short-term effectiveness	0	2	3	3	4	4
Implementability	5	4	4	3	3	3
Cost (in millions)	\$0	\$0.26	\$0.97	\$1.21	\$1.86	\$0.96

REMEDIAL ALTERNATIVE EVALUATION SYSTEM

Category	Evaluation Criteria	Standard	Value
Threshold Criteria	Overall Protection of Human Health and the Environment	Protective; provides adequate risk reduction.	Pass or Fail
	Compliance with Applicable or Relevant and Appropriate Requirements (ARAR)	Complies with ARARs.	Pass or Fail
Primary Balancing Criteria	Long-Term Effectiveness and Permanence	Contaminants are destroyed or removed; no recurrence is possible.	5
		Some contaminants destroyed, removed, or contained.	1 to 4
		Contaminants not removed or contained.	0
	Reduction of Toxicity, Mobility, or Volume through Treatment	Significantly reduces toxicity, mobility, or volume through treatment; no residuals remaining after treatment.	5
		Somewhat reduces toxicity, mobility, or volume through treatment; some residuals remaining after treatment.	1 to 4
		Does not reduce toxicity, mobility, or volume through treatment; significant residuals remaining after treatment.	0
	Short-Term Effectiveness	Protective of community and workers during remediation; no environmental impacts; rapidly meets RAOs.	5
		Somewhat protective of community and workers during remediation; limited environmental impacts; meets RAOs over a period of years to decades.	1 to 4
		Not protective of community and workers during remediation; significant environmental impacts; will not meet RAOs in the near future.	0
	Implementability	Proven, reliable technologies; little or no difficulty in obtaining needed approval, equipment, personnel, and materials. Technical difficulties are expected to be minimal.	5
		Somewhat unproven technologies; potentially more difficulty in obtaining needed approval, equipment, personnel, and materials. Technical difficulties may be significant.	1 to 4
		Unproven technologies; obtaining needed approval, equipment, personnel, and materials could be very difficult. Technical difficulties could prevent implementation.	0
	Cost	Estimated present worth cost is listed for each alternative.	Estimate
Modifying Criteria ¹	State Acceptance	To be determined.	Not applicable
	Community Acceptance	To be determined.	Not applicable

Note: ¹ State and community acceptance will be evaluated following public comment on the Proposed Plan and addressed when the Record of Decision is prepared.

PREFERRED ALTERNATIVE

The Preferred Alternative for SR001 is Debris Removal, In Situ Soil Treatment, and Onsite Disposal. Under this alternative, surficial munitions debris would be removed and disposed of offsite. Soil to a 12-inch depth containing lead above 400 mg/kg would be treated with a chemical stabilization product to prevent leaching and limit migration. The treated soil would then be excavated and transported for onsite disposal to the Tatalina LRRS permitted landfill at LF004. Approximately 50 cubic yards of lead-contaminated soil is at the site; when excavated, the amount of soil to be disposed of equates to approximately 60 cubic yards of soil when adjusted for bulk factor.

Analytical samples would be collected from the soil prior to and after treatment with a chemical stabilization product and analyzed using the TCLP for lead. Should the post-treatment soil samples fail TCLP, the soil will be managed and disposed of offsite as RCRA hazardous waste.

Confirmation sampling of the excavation would be required to ensure lead was no longer present at concentrations above the ADEC cleanup levels. Once analytical results from confirmation samples indicate that all contaminated soil has been removed, the excavation would be backfilled. Under this alternative, the site would be restored for unlimited use/unrestricted exposure. CERCLA five-year reviews would not be required with this alternative.

BASIS FOR THE PREFERRED ALTERNATIVE

Based on the information currently available, it is the Air Force's judgment that Alternative 6, Debris Removal, In Situ Soil Treatment, and Onsite Disposal, is the best choice to protect public health, welfare, and the environment from actual or threatened releases of pollutants or contaminants at SR001.

While Alternatives 2 through 6 would be effective, it is believed that Alternative 6 is the most effective for SR001. Alternatives 2, 3, and 4 would require the maintenance of LUCs indefinitely. In contrast, Alternatives 5 and 6 would cost more but would not require any LUCs or LTM. Alternatives 4, 5, and 6 are most effective but have higher difficulties in implementability and cost. Alternative 2 is the easiest to implement but does not significantly lower risk compared to Alternatives 3, 4, 5, and 6. Alternative 6 offers better protection of human health and the environment than Alternative 1 (No Action) and it has similar effectiveness, is easier to implement, and will cost less than Alternative 5. Therefore, Alternative 6 meets all of the RAOs outlined in this Proposed Plan.

*Looking east from SR001*

IMPLEMENTATION OF THE PREFERRED ALTERNATIVE

Based on information currently available, the Air Force believes the preferred alternative meets the threshold criteria and provides the best balance of trade-offs among the other alternatives with respect to the balancing and modifying criteria. The Air Force expects the preferred alternative to satisfy the following statutory requirements of CERCLA §121(b): (1) be protective of human health and the environment; (2) comply with ARARs; (3) be cost-effective; (4) utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent possible; and (5) satisfy the preference for treatment as a principal element, or explain why the preference for treatment will not be met. However, this preferred alternative can change based on public comments received during the public comment period or the introduction of new information.

As part of the preferred alternative, soil would be treated and excavated. Approximately 50 cubic yards of lead-contaminated soil would be removed. Pre- and post-treatment soil samples would be collected and analyzed using TCLP to determine if any soil should be managed and disposed of offsite as RCRA hazardous waste. Confirmation sample of the excavation would be required to ensure lead was no longer present in the soil at concentrations above the ADEC cleanup level. The excavation would be backfilled with clean backfill. This remedial action at SR001 would be conducted concurrently with other response actions at the Tatalina LRRS. Under this alternative, SR001 would be restored for unlimited use/unrestricted exposure. CERCLA five-year review would not be required with this alternative.

Following receipt of public comments on this Proposed Plan, the alternatives will be further evaluated based on the modifying criteria: state/support agency acceptance and community acceptance. The final response alternative will be presented in a Record of Decision.



Trash can with bullet holes, evidence of small arms use at SR001

ADMINISTRATIVE RECORD

The final response action alternative will be selected for the site based on comments from the community. The Air Force and ADEC encourage the public to gain a more comprehensive understanding of SR001 and the response activities that have been conducted at the site. Information concerning Tatalina LRRS and SR001 can be found in the Administrative Record files located online at:

<http://afcec.publicadmin-record.us.af.mil>

REFERENCES

CH2M HILL. 1998 (October). *Tatalina Long Range Radar Station Remedial Investigation Report*. Prepared for the U.S. Air Force 611th Civil Engineer Squadron.

USACE (U.S. Army Corps of Engineers). 2013 (June). *Tatalina Long Range Radar Site Comprehensive Site Evaluation Phase I/II*. Prepared for USAF 611th CES. Prepared by Sky Research, Inc.

Air Force (U.S. Air Force). 2014 (November). *Site SR001 Former Recreational Small Arms Use Area at Tatalina Long Range Radar Site*. Final. Prepared for USAF 611th CES by Jacobs Engineering Group Inc.



Debris with bullet holes, evidence of small arms use at SR001

GLOSSARY OF TERMS

Alaska Department of Environmental Conservation (ADEC) – The regulatory body that monitors the enforcement of Alaska's environmental standards.

ADEC Method Two – Established cleanup levels for soil for the State of Alaska under Title 18 of the Alaska Administrative Code, Chapter 75.

Administrative Record – A file that contains information used by the Air Force to decide on the cleanup for a contaminated site. This file is available for public review.

Antimony – Antimony chlorides are corrosive to skin. Alloying lead and tin with antimony improves the properties of the alloys which are used in solders, bullets, and plain bearings.

Applicable or Relevant and Appropriate Requirements (ARAR) – Federal, state, and local standards, requirements, criteria, or limitations that are legally applicable or relevant and appropriate to the site; they can be chemical-specific, action-specific, or location-specific

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) – A U.S. federal law designed to clean up sites contaminated with hazardous substances

Chemicals of Concern (COC) – Chemicals that have been identified onsite above ADEC cleanup levels that pose a potential risk to human health and the environment.

Environmental Restoration Program (ERP) – The Air Force's CERCLA program.

Feasibility Study – A public document required under CERCLA to investigate the potential options available to remediate contamination.

Hazard Quotient – The ratio of the potential exposure to the substance and level at which no adverse effects are expected.

Institutional Controls – Structural or legal mechanisms that protect property users and the public from existing site contamination (i.e. deed restrictions, permitting requirements).

Land-Use Controls (LUC) – Legal measures that limit human exposure by restricting activity, use, and access to properties with residual contamination.

Lead – Lead is used in building construction, lead-acid batteries, bullets and shot, and weights. If ingested, lead is poisonous to animals and humans, damaging the nervous system and causing brain disorders. Lead is a neurotoxin that accumulates both in soft tissue and in bone.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP) – The regulations that provide the structure and procedures for responding to discharges of oil and hazardous substances, as directed by CERCLA.

Principal Threat Wastes – Source materials considered to be 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.

Record of Decision (ROD) – A public document that explains which alternative or action will be used to clean up a contaminated site.

Superfund Amendments and Reauthorization Act (SARA) – This act amended the CERCLA in order to respond to changes and additions to the program.

Toxicity Characteristic Leaching Procedure – A soil sample extraction method for chemical analysis employed as an analytical method to simulate leaching through a landfill. At SR001, this testing method is used to determine if a waste should be disposed of as RCRA hazardous waste.

White Alice Communication System (WACS) – A communications system built throughout rural Alaska in the 1950s for military and civilian use.

[illegible]

Email and/or Phone:



**COMMENTS ON PROPOSED PLAN FOR
SR001 TATALINA LRRS, ALASKA**



Return Address

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SR001 firing area, looking south

YOUR OPPORTUNITY TO PROVIDE COMMENTS

The Air Force would like community members to provide comments on the preferred alternative presented in this Proposed Plan. Your input on the Proposed Plan for SR001 is important. Comments provided by the public are valuable to help the Air Force select a final remedy. You can send your comments in writing using the comment form that included in this document, provide your comments over the phone by calling 1-800-222-4137, or email your comments to robert.johnston.17@us.af.mil.

For your convenience, a pre-addressed comment form has been included in this Proposed Plan. If there is sufficient interest for a public meeting on this Proposed Plan, an acceptable meeting date will be scheduled in McGrath, Alaska before 30 October 2015, and the comment period will be extended by an additional 30 days.

Following the receipt of comments on this Proposed Plan, the alternatives will be further evaluated based on the modifying criteria: state/support agency acceptance and community acceptance. The final response alternative will be presented in a Record of Decision.



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