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INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, U.S. ARMY GARRISON ALASKA
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FORT WAINWRIGHT, ALASKA 99703-6000

September 12, 2024

Directorate of Public Works

Subject: Submission of the Final 2022 Gerstle River Test Site Land Use Control Inspection Report to the State of Alaska Department Environmental Conservation.

Ms. Erica Blake
Remedial Project Manager
Alaska Department of Environmental Conservation
610 University Avenue
Fairbanks, AK 99709

Dear Ms. Blake:

This letter documents transmission of the Final 2022 Gerstle River Test Site Land Use Control Inspection Report to the State of Alaska Department Environmental Conservation (ADEC).

A digital copy of the document will be provided to you. If you would like to receive a hard copy of this document, please notify us within the next few weeks.

If you have questions or concerns regarding this action please contact Mr. Peter Baker, Primary RPM at (907) 361-6623 or email peter.a.baker8.civ@army.mil; or Melissa Shippey, Alternate RPM at (907) 361-9622 or melissa.s.shippey.civ@army.mil.

Sincerely,

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Peter Baker
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Final
2022 Land Use Controls Inspection Report
Gerstle River Test Site

U.S. Army Garrison Alaska



Gerstle River Test Site-UST #450 and #451:
HQAES No. 2202A.1001
ADEC File No. 141.26.008
ADEC Hazard ID 24980

Contract W911KB-20-D-0005
Task Order W911KB-21-F-0111

September 2024

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Final
2022 Land Use Controls Inspection Report
Gerstle River Test Site

Contract W911KB-20-D-0005
Task Order W911KB-21-F-0111

September 2024

Prepared For:
U.S. Army Garrison Alaska



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TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS	III
EXECUTIVE SUMMARY	V
1.0 INTRODUCTION	1-1
1.1 Background	1-1
1.1.1 Site Location.....	1-1
1.1.2 Previous Investigations	1-2
1.1.3 Current and Future Land Use.....	1-2
1.2 Source Area Tracking Numbers	1-3
1.3 Objectives	1-3
1.4 LUC Requirements	1-4
1.4.1 Garrison Policy #38	1-4
1.4.2 Informational and Warning Signs	1-5
1.4.3 Outdoor Recreation Regulation Supplement	1-5
1.4.4 LUCs at the Administrative Area Landfills.....	1-5
1.4.5 Excavation Clearance Request Review	1-6
1.4.6 GIS and LUC Source Area Description Table Review	1-6
2.0 LUC ASSESSMENT RESULTS	2-1
2.1 GRTS Administrative Area	2-1
2.1.1 Administrative Area USTs Inspection.....	2-1
2.1.2 Administrative Area Landfill Inspection.....	2-1
2.2 Other GRTS AOC Inspections	2-2
2.3 Excavation Clearance Request Review	2-3
2.4 GIS and LUC Database Update	2-3
3.0 COMPLIANCE CONCERNS AND FOLLOW-UP ACTIONS FOR 2023	3-1
3.1 Compliance Concerns and Actions Initiated	3-1
3.1.1 Administrative Area USTs Compliance Concerns	3-1
3.1.2 Administrative Area Landfill Compliance Concerns.....	3-1
3.1.3 Other GRTS Compliance Concerns.....	3-1
3.2 Recommended Follow-Up Actions in 2023.....	3-1
3.2.1 Administrative Area USTs	3-1
3.2.2 Administrative Area Landfills	3-1
3.2.3 Other GRTS Areas	3-2
4.0 REFERENCES	4-1

TABLE OF CONTENTS (CONTINUED)

TABLES

Table 1-1	GRTS Source Area Tracking Numbers	1-3
Table 2-1	Other GRTS AOC Inspections Summary	2-2

FIGURES

Figure 1	Gerstle River Test Site Map
Figure 2	Gerstle River Test Site Areas of Concern Locations

APPENDICES

Appendix A	Land Use Controls Source Area Description Table
Appendix B	Field Forms and Notes
Appendix C	Photograph Log
Appendix D	Responses to Comments

ACRONYMS AND ABBREVIATIONS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ADNR	Alaska Department of Natural Resources
AOC	area of concern
ATV	all-terrain vehicle
bgs	below ground surface
Bristol	Bristol Environmental Remediation Services, LLC
CFR	Code of Federal Regulations
COC	contaminant of concern
CRREL	Cold Regions Research and Engineering Laboratory
DA	Department of the Army
DERP	Defense Environmental Restoration Program
DMO	Demand Maintenance Order
DPW	Directorate of Public Works
EC	engineering control
ECR	Excavation Clearance Request
EPIC	Environmental Photographic Interpretation Center
FES	Fairbanks Environmental Services
GB	G-Series nerve agent Sarin
GIS	geographic information system
GPS	global positioning system
GREA	Gerstle River Expansion Area
GRTS	Gerstle River Test Site
HQAES	Headquarters Army Environmental System
IC	institutional control
LTM	Long Term Management
LUC	Land Use Controls
N/A	not applicable
NBC	nuclear biological chemical
OCA	Operation Cleanup Alaska
ORV	off-road vehicle
RAP	Recreation Access Permit
SOP	standard operating procedure
USACE	U.S. Army Corps of Engineers
USAG Alaska	U.S. Army Garrison Alaska
USARTRAK	U.S. Army Recreation Tracking System
USATHAMA	U.S. Army Toxic and Hazardous Materials Agency
UST	underground storage tank

ACRONYMS AND ABBREVIATIONS (CONTINUED)

VX	V-series nerve agent, [2-(Diisopropylamino)ethyl]-O-ethyl methylphosphonothioate
WELTS	Well Log Tracking System

EXECUTIVE SUMMARY

The purpose of this report is to evaluate the implementation and effectiveness of land use controls (LUCs) associated with the underground storage tank (UST) and landfill areas in the Administrative Area of the Gerstle River Test Site (GRTS), as well as other GRTS areas of concern (AOCs) identified in the data gap analysis. LUCs at this site consist of institutional controls (ICs) and engineering controls (ECs).

The 2022 assessment documented that LUCs have been implemented and were effective at each of the AOCs. No corrective actions were taken at the time of inspection. It is recommended that more robust signs and posts be installed at the asbestos debris landfill in the Administrative Area. In addition, new signage and the placement of signs will be reviewed and updated to create a bigger presence on the property, additional patrols by conservation officers will be implemented, and Salcha Delta will fix or replace signs as needed at least once every other year.

An Excavation Clearance Request (ECR) review was conducted; no ECRs were issued for the GRTS in 2022. The LUC assessment also included a review of the U.S. Army Garrison Alaska (USAG Alaska) geographic information system (GIS)-based database to determine if updates were required; no updates were required.

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1.0 INTRODUCTION

This report documents the annual land use control (LUC) inspection activities conducted during 2022 at the Gerstle River Test Site (GRTS). LUCs at the site consist of institutional controls (ICs) and engineering controls (ECs): ICs are legal or administrative actions (property transfer or property use restrictions) and ECs are engineered barriers or deterrents (fences, signs, and landfill caps). LUCs are designed to prevent or minimize the risk of human exposure to hazardous substances.

The implementation and effectiveness of LUCs associated with the underground storage tank (UST) Sites #450/451 in the Administrative Area (Alaska Department of Environmental Conservation [ADEC] file number 141.26.008) of the GRTS were evaluated and ensured LUCs complied with the State of Alaska Decision Letter associated with UST sites #000¹, #449¹, #450, and #451 (ADEC 2014). Additionally, LUCs are implemented for the landfills in the Administrative Area and GRTS areas of concern (AOCs) identified in the data gap analysis (ADEC file numbers 141.26.001, 141.26.010, and 141.38.039). Environmental Compliance Consultants (ECC) performed this work under contract to the U.S. Army Corps of Engineers (USACE), Contract Number W911KB-20-D-0005 (Task Order W911KB-21-F-0111). The work was completed according to the 2022 Two-Party Sites Work Plan (USACE 2022) and the Long-Term Management (LTM) Plan (Fairbanks Environmental Services [FES] 2019).

The annual LUC assessment also includes a review of any Excavation Clearance Request (ECR) issued for the site and a review of the U.S. Army Garrison Alaska (USAG Alaska) geographic information system (GIS)-based database to determine if updates were required.

1.1 Background

1.1.1 Site Location

The GRTS is an Army active maneuver training area located approximately 35 miles southeast of Delta Junction, near Fort Greely, Alaska, and approximately 100 miles southeast of Fairbanks, Alaska. The GRTS consists of an area of approximately 20,000 acres and was acquired by the U.S. Army in 1952. The Gerstle River bounds the site to the southeast, with the western corner of the site extending into the foothills of the Granite Mountains, and the northern portion of the site situated in the Tanana Lowlands. The 80,000-acre Gerstle River Expansion Area (GREA) borders the site on the remaining three sides; GREA is a Formerly Used Defense Site and will not be discussed further in this report. The location of the GRTS is shown on Figure 1.

The GRTS was leased to the U.S. Department of Defense from the state of Alaska in the 1950s and 1960s for chemical and conventional munitions and materials testing. This included testing and surveillance of rocket motors, surveillance and function tests of riot control munitions and agents, insecticides, land mines with V-series nerve agent (VX), 115mm M55 rockets with G-series nerve agent Sarin (GB) and VX, flame munitions (incendiary bursters, flame throwers, etc.), smoke pots, smoke grenades, gas masks,

¹ The UST sites #000 and #449 were closed as Cleanup Complete with no ICs as a result of a site investigation conducted in 2009 and 2010 (FES 2011).

chemical agent test kits, bulk fuel containers, and blasting kits. Chemical munitions testing ended in 1967 (U.S. Army Toxic and Hazardous Materials Agency [USATHAMA] 1976).

1.1.2 Previous Investigations

Cleanup operations were conducted at the GRTS starting in 1968. By 1970, all munitions were inerted or removed from the site, and all testing equipment was decontaminated and removed or disposed of in on-site landfills (USATHAMA 1976).

Several detailed records searches were conducted between 1976 and 2004, and an aerial photography review was conducted to identify potentially contaminated areas or contaminant sources remaining in the GRTS. A comprehensive aerial photography analysis was conducted in 1986 and identified various ground scars and stains (Environmental Photographic Interpretation Center [EPIC] 1986).

In 2014, a data gap analysis was completed for the GRTS to collect, consolidate, and evaluate information associated with the testing, cleanup, and investigation activities at the GRTS. Based on this review, several AOCs were identified where additional evaluation and/or characterization was recommended to fully evaluate potential risk to human health and the environment (FES 2014a). These AOCs included former Test Grids, Debris Burial Areas, Ground Scars or Ground Stains, Administrative Area USTs, and other miscellaneous sites where chemical munitions tests or other activities may have been conducted.

Sampling and evaluation activities included geophysical surveys and soil, groundwater, sediment, and surface water sampling. Formal site investigations and removal actions have also been conducted at the GRTS. A summary of investigations conducted at the GRTS is included in the Data Gaps Analysis (FES 2014a).

1.1.3 Current and Future Land Use

The GRTS is owned by the federal government, although the land surrounding the site (GREA) is owned by the state of Alaska. Current uses of the site include military training, firewood harvesting (by permit only), and recreation (including hunting, fishing, trapping, off-road vehicle use, and berry picking). There are currently no physical restrictions preventing access to the site (e.g., fence or gate), but access is restricted through policy by USAG Alaska. Recreational users of the site must obtain a Recreation Access Permit (RAP), and then check in through the U.S. Army Recreation Tracking System (USARTRAK) prior to accessing the site. The USARTRAK system provides information regarding temporary closures due to military training, as well as permanently restricted areas within the GRTS.

The future use of the site is expected to remain for military training purposes. The nearest residential dwellings are approximately 3 miles north of the GRTS along the Alaska Highway. The nearest community is the native community of Healy Lake, which is approximately 16 miles to the northeast of the site.

A drinking water well (Well 17) associated with Building 1501 was installed in 1955. The depth to groundwater measured at the time of well installation was approximately 458 feet below ground surface (bgs). However, groundwater underlying the Administrative Area at the GRTS is not currently used as a drinking water source and is not anticipated to be used in the foreseeable future.

A search for potential water supply wells in the area was made using the Alaska Department of Natural Resources (ADNR) Well Log Tracking System (WELTS; ADNR 2018). The nearest well is approximately 2.8 miles northeast of the GRTS boundary, south of the Alaska Highway.

Buildings 1501 and 1502 in the Administrative Area were demolished in fall 2004, and the debris was buried onsite in two landfills. One landfill was designated for asbestos-containing material (Permit #SWG0301000), and one landfill was designated for non-asbestos material (Permit #SWG0303000). Although the landfills were permitted by ADEC, the building debris landfills were not properly documented for closure with the State of Alaska at the time of construction.

Collection of the required data to support landfill closure was completed by Bristol Environmental Remediation Services, LLC (Bristol) in 2017, as described in the Sump Decommissioning Report (Bristol 2019). The boundaries of the landfills were identified using geophysical survey methods, and the corners of the landfills were surveyed and monumented by a professional land surveyor.

1.2 Source Area Tracking Numbers

The GRTS source areas are tracked in the ADEC Contaminated Sites database (ADEC 2021), which is maintained by the ADEC project manager assigned to the site and by the Army in the Headquarters Army Environmental System (HQAES) for funding purposes. The source area descriptions, along with the HQAES and ADEC IDs, are summarized in Table 1-1.

Table 1-1 GRTS Source Area Tracking Numbers

HQAES SITE DESIGNATION	ADEC HAZARD ID	ADEC FILE NUMBER	SITE NAME	CURRENT PROGRAM	STATUS
2202A.1001	866	141.38.039	Gerstle River Test Site	Two-Party	Open
2202A.1006	25020	141.26.001	Gerstle River Test Site – UST #000	Two-Party	Cleanup Complete
	25564	141.26.010	Gerstle River Test Site – UST #449	Two-Party	Cleanup Complete
	24980	141.26.008	Gerstle River Test Site Administrative Area – UST #450 and #451	Two-Party	Cleanup Complete with ICs

Notes:

For definitions, refer to Acronyms and Abbreviations section.

1.3 Objectives

The objectives of the LTM Plan were to establish:

- LUCs to comply with the State of Alaska Decision Letter associated with UST sites #000, #449, #450, and #451 (ADEC 2014)
- LUCs to protect the landfills in the Administrative Area²
- LUCs across the GRTS

² The visual inspection of the landfill is a requirement of the ADEC Solid Waste permit and not a requirement of the Defense Environmental Restoration Program (DERP). However, the landfill inspection was concurrently performed with the LUC inspections for efficiency purposes during this inspection cycle.

1.4 LUC Requirements

The LUCs at the GRTS are based on UST closure letters (ADEC 2014), the Decision Document for the USTs in the Administrative Area (FES 2014b), the LTM Plan (FES 2019), and the Garrison Policy #38 (see Section 1.4.1). LUCs not identified in these documents are being implemented by the Army voluntarily. The purpose of implementing LUCs at the GRTS is to eliminate the potential exposure to contaminants remaining in place by human or ecological receptors. The LUCs being implemented are listed below and additional descriptions are provided in the following sections (Sections 1.4.1 through 1.4.6).

- Informational signs describing the location and details of the restrictions at the entrance to the Administrative Area at the GRTS (see Section 1.4.2).
- Restriction on excavation into contaminated soil without an approved soil management plan.
- Requirement to obtain ADEC contaminated sites program approval prior to relocating contaminated soil to the ground surface or moving it off site, in accordance with Title 18 of the Alaska Administrative Code (AAC), Chapter 75.325 (ADEC 2021b), and prohibit movement or use of contaminated material that results in a violation of 18 AAC 70 water quality standards (ADEC 2020).
- Addition of the LUC restrictions to the Outdoor Recreation Regulation Supplement and RAP process for the GRTS area (see Section 1.4.3).
- Inclusion of the LUC boundaries and restrictions in the USAG Alaska GIS-based LUC database (see Section 1.4.6).
- Update of LUC boundaries and restriction details in Army Mapper.
- Implementation of LUC inspections and reporting.

1.4.1 Garrison Policy #38

Garrison Policy #38 provides authority to implement restrictions applicable to all contiguous and non-contiguous property under the control of USAG Alaska, Fort Wainwright. The Policy describes the following restrictions:

- All construction, maintenance, repairs, and authorized training activities conducted anywhere within active ranges and training areas that involve soil disturbing activities impacting soils 6 inches or more bgs in known contaminated areas shall comply with LUC requirements in addition to Range Control directives and standard operating procedures (SOPs; Section 4(a) of the Policy).
- Prior to the start of all soil disturbing activities impacting soils 6 inches or more bgs anywhere on the site, the following items must be obtained: a Directorate of Public Works (DPW)-approved Work Order (Department of the Army [DA] Form 4283) or DPW-approved Service Order, a signed and approved ECR from the DPW Customer Service Desk, and a completed and signed Project Checklist for Environmental Concerns (Section 4(b) of the Policy).
- Any type of soil disturbing activity conducted in an area of suspected contamination must be described in a Work Plan that is approved by the U.S. Army and ADEC (Section 4(c) of the Policy).
- If any readily identified or potentially hazardous waste, buried waste containers, discarded military munitions, unexploded ordnance, munitions debris, “unusual debris”, or other forms of

contamination are identified; all personnel should be immediately removed from the area and DPW Environmental and Range Control must be notified (Section 4(d) of the Policy).

Another important component of the Policy is the ability for enforcement. Penalties for violating this policy include the full range of statutory and regulatory sanctions for military and civilian personnel (Section 3(e) of the Policy).

1.4.2 Informational and Warning Signs

The informational sign posted at the entrance to the Administrative Area at the GRTS also includes site boundaries and details regarding the LUCs. Signs were placed at locations where major trails cross onto the GRTS. The signs alert site visitors to the GRTS boundary so they are aware that they are entering the site.

New signage and the placement of signs will be reviewed and updated to create a bigger presence on the property, additional patrols by conservation officers will be implemented, and Salcha Delta will fix or replace signs as needed at least once every other year.

A warning sign was placed at each side of the asbestos landfill perimeter to meet the requirements of Title 40 of the Code of Federal Regulations (CFR), Part 51.154(b). The warning signs contain the text:

ASBESTOS WASTE DISPOSAL SITE
DO NOT CREATE DUST
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

1.4.3 Outdoor Recreation Regulation Supplement

The Outdoor Recreation Regulation Supplement was developed to manage hunting, fishing, trapping, off-road vehicle (ORV), and other recreation on Fort Wainwright-managed lands as described in Section 3.6 of the LTM Plan (FES 2019). Management of these activities is particularly applicable to the data gap AOCs since the sites are spread across the GRTS and may be in locations where these activities may take place. The complete Supplement is available from <https://usartrak.isportsman.net/regulations.aspx>.

In addition to the use restrictions described in the Supplement, all persons 16 years of age and older must obtain a RAP prior to participating in recreational activities on Fort Wainwright training lands. A RAP may be obtained from USAG Fort Wainwright online from <https://usartrak.isportsman.net/default.aspx>. Holders of a RAP are responsible for knowing and obeying temporary, long-term, and permanent closures of and within training areas. The information for the restrictions at the GRTS is included in the Supplement, which is available at the time the RAP is obtained. All of the restrictions for the GRTS also apply to the UST #450/451 site.

1.4.4 LUCs at the Administrative Area Landfills

In addition to the site-wide LUCs described in Section 4.1 of the LTM Plan (FES 2019), site-specific LUCs were developed for the building demolition debris and asbestos-containing debris landfills in the Administrative Area. The LUCs will ensure the integrity of each landfill is maintained, and no exposure to buried debris occurs that is detrimental to human health or the environment. Annual inspections of the landfills were completed using checklists (provided in Appendix B) as described in Section 2.1.2.

1.4.5 Excavation Clearance Request Review

Work activities that involve ground disturbance activities of six inches or more bgs must go through the Environmental Routing and Approval Process for Facilities Engineering Work Request (DA Form 4283), Demand Maintenance Order (DMO), and ECR/Dig Permit.

ECRs are administrative or governmental LUCs that can be used to minimize or prevent exposure to contaminants in various media, including soil and groundwater. Prior to the commencement of any excavation or other soil disturbing activities impacting soils six inches or more bgs; contractors must obtain an ECR, USAG Alaska Form 81-E, and complete a Project Checklist for Environmental Concerns. The ECR form is updated annually to clearly alert the user about procedures to follow when potential contamination is encountered.

1.4.6 GIS and LUC Source Area Description Table Review

An important component of the LUCs is maintaining the locations and descriptions of the LUCs in the Fort Wainwright DPW GIS. The boundaries in Figure 2 may be revised as additional information regarding the sites is obtained.

The USAG Alaska Fort Wainwright LUC is updated in the GIS as needed. Spatial boundary updates are completed by a DPW GIS specialist using source area boundaries from global positioning system (GPS) data, drawings, or other relevant source area information. The GIS includes the boundaries of each LUC, as well as a summary of the contaminants of concern (COCs) and restrictions present at each AOC.

In addition, a detailed description of the GRTS LUCs is summarized in Source Area Description Table A-1 presented in Appendix A.

2.0 LUC ASSESSMENT RESULTS

The goal of this assessment was to determine whether the LUC requirements are being met at the GRTS AOCs. This section summarizes the LUC assessment process and Section 3 presents concerns identified by the LUC assessment in 2022. LUC inspection forms and photographs documenting inspection activities are presented in Appendices B and C, respectively.

2.1 GRTS Administrative Area

2.1.1 Administrative Area USTs Inspection

An annual inspection of the LUCs associated with UST site #450/451 at the GRTS Administrative Area was conducted on 18 October 2022. The signage was intact, and no visual soil disturbance was noted. No clutter or trash was present, no evidence of vandalism or trespassing was observed, and no evidence of land use change was noted. The UST #450/451 site was overgrown with vegetation.

The informational signs at the site show RAP and Sportsman information, and also includes maps with general areas of military training use and closure dates from the fall 2020 season. The maps do not include specific AOC boundaries or LUC restrictions. The LUC inspection form is included in Appendix B.

2.1.2 Administrative Area Landfill Inspection

2.1.2.1 *Building Demolition Debris Landfill*

The building demolition debris landfill was inspected on 18 October 2022. The inspection is summarized as follows:

- No signs were identified.
- ATV tracks were observed in vegetation on top of the cell, but no soil disturbance or damage was observed.
- The cap is 100% vegetated.

Signage should be installed at various points around the landfill berm to comply with LUC requirements. No other issues were identified.

2.1.2.2 *Asbestos Debris Landfill*

The asbestos debris landfill was inspected on 18 October 2022. The inspection is summarized as follows:

- None of the signs reposted in 2021 were observed onsite.
- ATV tracks were observed in vegetation on top of the cell, but no soil disturbance or damage was observed.
- The cap is 100% vegetated.

All signs should be replaced on more permanent posts with permanent fixtures. The signs should be located where they can easily be read.

2.2 Other GRTS AOC Inspections

LUC inspections were conducted at 15 other AOCs at the GRTS on 18 October 2022. No major compliance concerns were identified. Six AOCs (Test Grid 1, 8, 8A, 8B, 9A, Blueberry Lake Disposal Pit #1, and the Exploration Test Boring) could not be accessed due to deep water and mud on trails or in the case of Test Grid 9A, a fallen tree. For future inspections, alternative access options will be explored to these sites. Some feasible options include using a tracked UTV, completing inspections with a drone, or moving the inspection date later in the year to allow the ground to harden but before significant snow accumulation.

A summary of the GRTS AOCs where LUC site inspections were conducted is presented in Table 2-1 and AOC locations are shown on Figure 2.

Table 2-1 Other GRTS AOC Inspections Summary

CATEGORY	GRTS AREA OF CONCERN	INSPECTION NOTES ¹
Test Grids	Test Grid 1	N/A ²
	Test Grid 2	No evidence of any land use/recreational use on the test grid. However, an “Active Trapline” sign is nailed to a tree on the trail west of Test Grid 2. See photo 10 in Appendix C.
	Test Grid 3-7	Various ATV trails through the site. A vertical pipe is protruding from the ground in the north-central area of the site. Two abandoned temporary shelters were observed in the northern area of the site. See photos 11, 12, and 13 in Appendix C.
	Test Grid 8	N/A ²
	Test Grid 8A	N/A ²
	Test Grid 8B	N/A ²
	Test Grid 9A	Fallen tree blocked the trail to Test Grid 9A.
Debris Burial Areas Outside of the Administration Area ³	Blueberry Lake Disposal Pit #1	N/A ²
	Blueberry Lake Disposal Pit #2	No evidence of use for any recreational activity.
	CRREL Area E/Test Grid 2 Debris Burial Area	ATV trail present along the N side of the disposal area. No evidence of site use for recreational purposes observed.
	CRREL Area F/OCA Disposal Pit	ATV trails on the N/W sides of the site, but no other trails into the area were observed.
	CRREL Areas G and H	No evidence of site access.
	NBC Toxic Gas Yard	No evidence of use for any recreational activity.
	Explosives Storage Area	Area contains abandoned camping gear and a dug-out fire pit.
Other Miscellaneous Sites	Exploration Test Boring	N/A ²

Notes:

For definitions, refer to Acronyms and Abbreviations section.

Test Grid 1 and Blueberry Lake Disposal Pit #1 were inspected in 2021. Test Grid 8, Test Grid 8A, Test Grid 8B, and the Exploration Test Boring sites were last inspected sometime before 2020. The Army will explore other options to include tracked UTVs, or potentially drone flyovers, cognizant of the problem of creating new access routes for trespass to inspect.¹ Compliance concerns include issues including damaged signage, soil disturbance, or land use changes are mentioned here. These concerns are further addressed in Section 3. See LUC inspection forms in Appendix B for full inspection details.

² Area was not accessible due to thin ice over water and extremely soft trail conditions.

³ The inspections at the Administration Area Building Demolition Debris and Asbestos Debris Landfills are presented in Section 2.2.

2.3 Excavation Clearance Request Review

No ECRs were issued during 2022 for the GRTS. However, the six-inch bgs fire pit first noted in the 2021 inspection was observed in the northeast corner of the Explosives Storage Area. No other soil disturbances were observed during the 2022 inspections.

2.4 GIS and LUC Database Update

This assessment also covered a review of site wide LUCs at USAG Alaska in order to update the GIS and LUC Database. The GIS database is maintained by the Fort Wainwright DPW Environmental office. Only Master Planning, Engineering, and Fort Wainwright DPW can access the GIS to make changes.

No updates to the GIS database or to the descriptions in the LUC Source Area Description Tables were required.

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3.0 COMPLIANCE CONCERNS AND FOLLOW-UP ACTIONS FOR 2023

This section identifies LUC compliance concerns at AOCs that were identified during 2022 LUC inspections, and actions that were initiated during 2022 at the GRTS as a result of the LUC inspection.

3.1 Compliance Concerns and Actions Initiated

3.1.1 Administrative Area USTs Compliance Concerns

- None

3.1.1.1 Administrative Area USTs Compliance Actions Taken

- None.

3.1.2 Administrative Area Landfill Compliance Concerns

The following LUC compliance concerns were identified at the Administrative Area landfills:

- None of the four signs from the previous year were observed at the asbestos debris landfill.
- ATV tracks were observed on top of the caps at both the building demolition debris and asbestos debris landfills.

3.1.2.1 Administrative Area Landfill Compliance Actions Taken

- None

3.1.3 Other GRTS Compliance Concerns

The following LUC compliance concerns were identified at the GRTS:

- A hunting camp was observed at the Explosives Storage Area. Shallow digging for a fire pit was observed in the northeast corner.
- Abandoned temporary buildings were observed in the northern area of Test Grids 3-7/ CRREL Areas F, G, and H.

3.1.3.1 Other GRTS Compliance Actions Taken

- None.

3.2 Recommended Follow-Up Actions in 2023

3.2.1 Administrative Area USTs

It is recommended that the informational signs are updated each year with closure dates for military training. It is also recommended that the signs identify all AOC boundaries and LUC restrictions more clearly (similar to the example informational signs presented in Appendix A of the LTM Plan [FES 2019]).

3.2.2 Administrative Area Landfills

ATV tracks were observed alongside and on top of the caps of both the demolition debris and asbestos debris landfills. At the asbestos debris landfill, the signposts of all four warning signs were replaced in

2021. However, it is recommended that more robust posts be used in the future none of the signs were observed in 2022. It is also recommended that the verbiage on the warning signs be updated to specifically discourage landfill cap disturbance rather than “do not create dust” since the landfill cap is now fully vegetated.

No warning signs are in place at the demolition debris landfill. It is recommended that similar robust warnings signs would be installed along the boundaries of this landfill to deter recreational users from driving over the landfill cap.

3.2.3 Other GRTS Areas

It is recommended to remove the temporary structures in the northern area of Test Grids 3-7/ CRREL Areas F, G, and H to discourage improper land use.

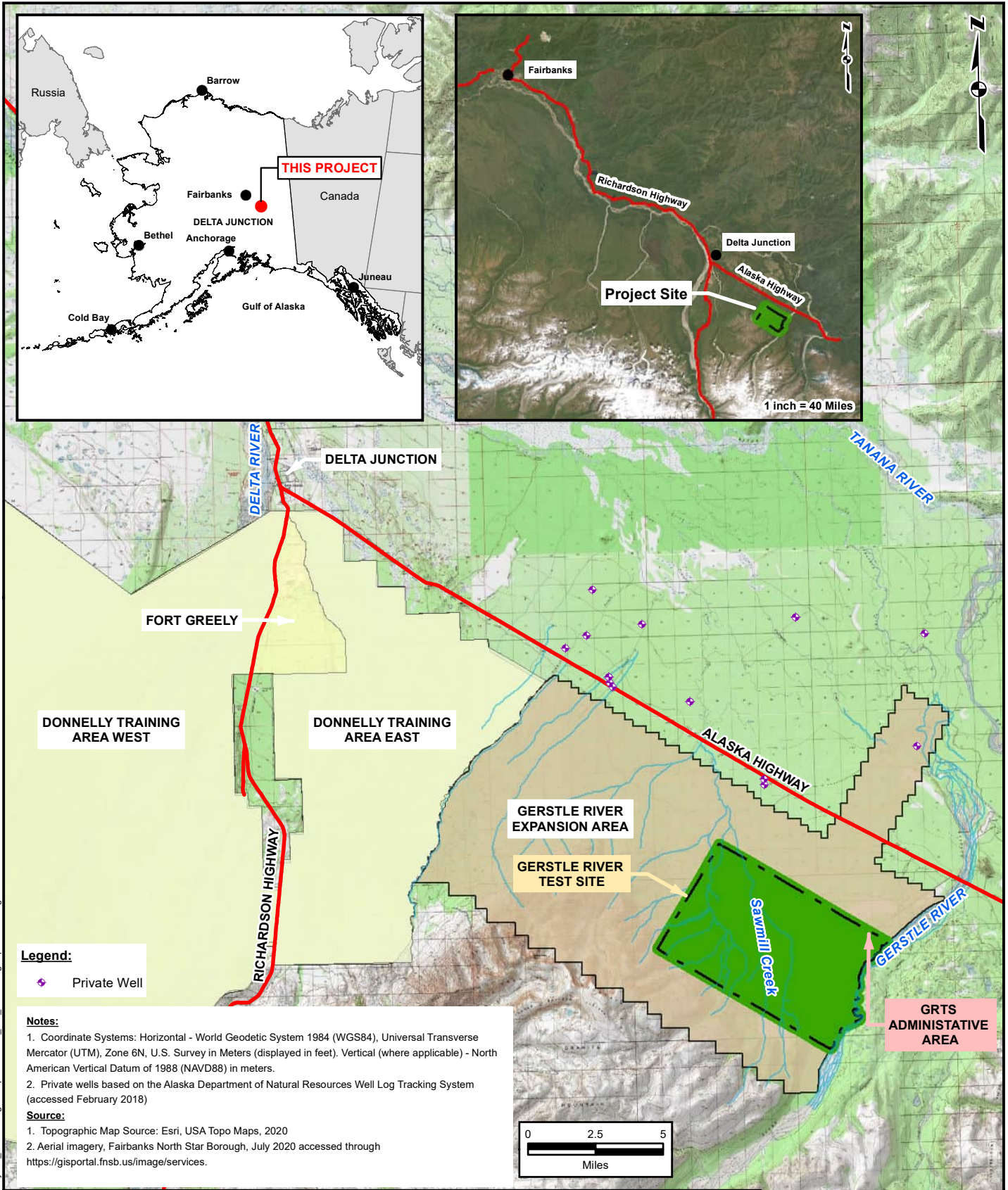
4.0 REFERENCES

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- ADEC. 2021b. *Oil and Other Hazardous Substances Pollution Control*. 18 Alaska Administrative Code 75. November.
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- Environmental Photographic Interpretation Center (EPIC). 1986. Installation Assessment Relook Program – Working Document. Gerstle River Test Site, Alaska. TS-PIC-85X-26. July.
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- FES. 2014b. *Decision Document for the Underground Storage Tank Sites in the Administrative Area. Gerstle River Test Site, Alaska*. September.
- FES. 2019. *Long-Term Management Plan*. Gerstle River Test Site, Alaska. June.
- U.S. Army Corps of Engineers (USACE). 2022 (May). *2022 Two-Party Sites Work Plan, Fort Wainwright, Alaska*. Final. Prepared by Paragon-Jacobs Joint Venture.
- U.S. Army Toxic and Hazardous Materials Agency (USATHAMA). 1976. *Installation Assessment of Gerstle River Test Site. Records Evaluation Report Number 105, Volume 1*. Aberdeen Proving Ground, MD.

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FIGURES

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2022 LAND USE CONTORLS INSPECTION REPORT
U.S. Army Garrison Alaska

GERSTLE RIVER TEST SITE LOCATION FOR IC INSPECTIONS

DATE:
7/31/2023

PROJECT No.:
D3436302

P.M. / DRAWN:
K.M. / J.W.

FIGURE:
1

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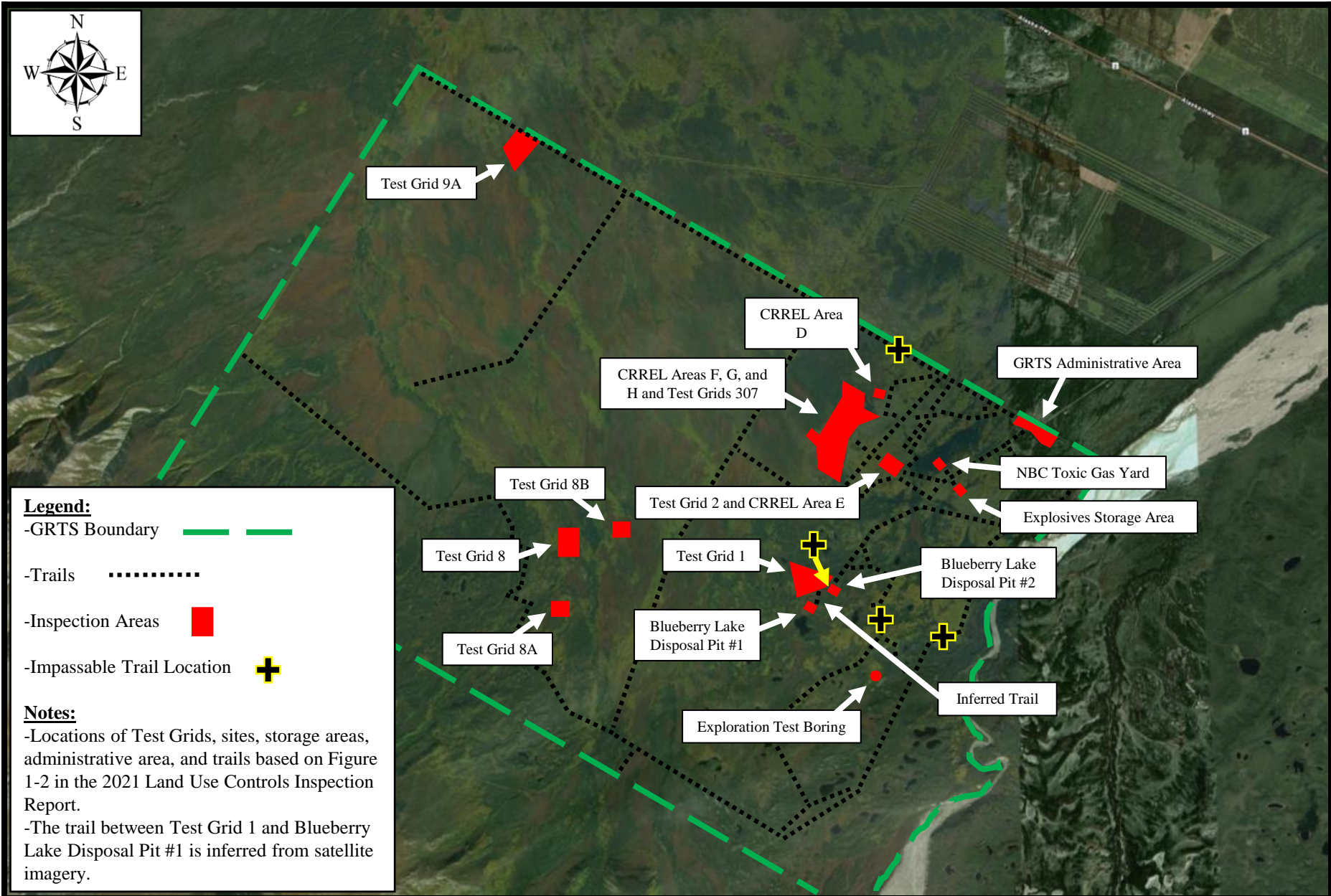


FIGURE 2	PROJECT: Paragon: EI & M FWA 2022	2022 Gerstle River Test Site IC Inspection Map <small>(SOURCE: ArcGIS Earth)</small>	Gerstle River Alaska, USA
	DRWG BY: GMN		
	DATE: 19 October 2021		
	SCALE: 1" = 6,400'		
	SHEET: 1 OF 1		

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APPENDIX A
LAND USE CONTROLS
SOURCE AREA DESCRIPTION TABLE

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**Gerstle River Test Site Land Use Controls
Potential Source Area List w/ Status**

Source Area Name	Administrative Area UST #450 and #451
HQAES Number	2202A.1006
FFA Designation	Two-Party
Source Area Status	Cleanup Complete with ICs
Media of Concern	Soil
Contaminant(s) of Concern	Xylenes, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Naphthalene
Soil LUC/IC	Access to the site is restricted without a valid RAP. Excavation at this site is restricted without an approved soil management plan. ADEC contaminated sites program approval must be obtained prior to relocating contaminated soil to the ground surface or moving it off site.
Water LUC/IC	None
Source Area Description	<p>UST #450 and #451 were associated with a fueling station in the Administrative Area of the GRTS. UST #450 was a 500-gallon gasoline tank, and UST #451 was a 500-gallon diesel fuel tank. Underground piping and a pump shed were also associated with the USTs. Each of the tanks and the associated components were removed in 1994.</p> <p>Three soil samples were collected from the excavated soils at the time of the tank removal in 1994 (OST 1994). Soil samples were not collected from the bottom of the excavation due to safety concerns. UVOST and subsurface soil sampling was conducted in the former tank area and immediate vicinity in 2009 using a Geoprobe 6610DT drill rig (FES 2011). Additional subsurface soil samples were collected in 2010 using a Geoprobe 8040DT drill rig to delineate the vertical extent of soil contamination.</p> <p>The results from the 1994 sampling did not exceed ADEC migration to groundwater cleanup levels. Sampling results from 2009 showed ADEC migration to groundwater exceedances for GRO, DRO, ethylbenzene, xylenes, EDB, 1,2,4-Trimethylbenzene, and naphthalene. The only migration to groundwater cleanup level exceedance in 2010 was DRO. However, due to the depth to groundwater at the site (approximately 450 feet bgs), the most stringent of the soil direct contact, ingestion, or inhalation cleanup levels were used to determine potential exposure routes. The only exceedances of these cleanup levels were xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and naphthalene.</p>
Reference Documents	<p>FES. 2011. <i>Investigation of Abandoned Underground Storage Tank Sites in the Administrative Area</i>. Gerstle River Test Site, AK. July 2011.</p> <p>FES. 2014. <i>Decision Document for the Underground Storage Tank Sites in the Administrative Area</i>. Gerstle River Test Site, Alaska. September 2014.</p> <p>Oil Spill Technology. 1994. <i>Underground Storage Tank Closure UST Site Assessment and Recommendations, Fort Wainwright Alaska</i>. October.</p>

Acronyms and Abbreviations:

ADEC – Alaska Department of Environmental Conservation
bgs – below ground surface
DRO – diesel range organics
EDB – 1,2-dibromoethane
FES – Fairbanks Environmental Services
GRO – gasoline range organics
GRTS – Gerstle River Test Site
IC – institutional control
LUC – Land Use Control
RAP – Recreation Access Permit
UST – underground storage tank
UVOST – ultra-violet optical screening tool

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APPENDIX B
FIELD FORMS AND NOTES

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Institutional Control Inspection Form

Ft. Wainwright, Alaska

Site Name: GRTS Admin. Area

HQAES ID: 2202A.1006

Date and Time: 10/18/22 0915

Operable Unit/Status: _____

Ground Conditions: Snow covered, 2-4"

Weather Conditions: Partly Cloudy 30-41°F

Inspector: Garnet N. & Tabitha B. -U.

Remedy Includes:

- Access Controls (signs, fences, gates, ect)
- Air Sparge Soil Vapor Extraction
- Surface Water Containment
- Institutional Controls

- Landfill Cover
- Monitored Natural Attenuation
- Other

Access and Institutional Control (IC)s

Notes

Fencing	<input type="checkbox"/> Damaged	<input type="checkbox"/> Intact	<input checked="" type="checkbox"/> N/A	_____
Gate(s)	<input type="checkbox"/> Damaged	<input type="checkbox"/> Intact	<input checked="" type="checkbox"/> N/A	_____
Signage	<input checked="" type="checkbox"/> Damaged	<input type="checkbox"/> Intact	<input type="checkbox"/> N/A	<u>Missing Signs.</u>
Other Security Measures	<input type="checkbox"/> Damaged	<input type="checkbox"/> Intact	<input checked="" type="checkbox"/> N/A	_____
IC(s) properly implemented	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	<u>Missing Required Signs</u>
IC(s) Adequate	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	<u>access the site.</u>
Vandalism/Trespassing Evident	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	_____
Land Use Changes Evident	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	_____

General Site Conditions

Vegetation in acceptable condition	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Clutter or Trash Present	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Visual evidence of unauthorized soil disturbance below 6 inches, on site	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Unauthorized groundwater use	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A

Monitoring Wells

- All required wells located
- Maintenance needed (describe below)
- Properly Secured
- Good condition
- N/A
- N/A

Comments: Except the institutional sign at the site entrance, no other signage was observed. There are many standing stakes that could have held signs at one point in time. Snow cover limited observations.

Institutional Control Inspection Form

Ft. Wainwright, Alaska

Site Name: GRS - Site Wide HQAES ID: 2202A.1001
 Date and Time: 10/18/22 1002 Operable Unit/Status: _____
 Ground Conditions: Snow Covered, 2-4" Weather Conditions: Partly Cloudy 30-41°F
 Inspector: Contract N. 9 Terbiten B.-V.

Remedy Includes:

- Access Controls (signs, fences, gates, ect)
- Air Sparge Soil Vapor Extraction
- Surface Water Containment
- Institutional Controls
- Landfill Cover
- Monitored Natural Attenuation
- Other

Access and Institutional Control (IC)s

Notes

Fencing	<input type="checkbox"/> Damaged	<input type="checkbox"/> Intact	<input checked="" type="checkbox"/> N/A	_____
Gate(s)	<input type="checkbox"/> Damaged	<input type="checkbox"/> Intact	<input checked="" type="checkbox"/> N/A	_____
Signage	<input checked="" type="checkbox"/> Damaged	<input type="checkbox"/> Intact	<input type="checkbox"/> N/A	<u>Missing Signs.</u>
Other Security Measures	<input type="checkbox"/> Damaged	<input type="checkbox"/> Intact	<input checked="" type="checkbox"/> N/A	_____
IC(s) properly implemented	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	_____
IC(s) Adequate	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	_____
Vandalism/Trespassing Evident	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	_____
Land Use Changes Evident	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	_____

General Site Conditions

Vegetation in acceptable condition	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Clutter or Trash Present	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Visual evidence of unauthorized soil disturbance below 6 inches, on site	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Unauthorized groundwater use	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A

minimal, at Exp. Storage area

Monitoring Wells

- All required wells located
- Maintenance needed (describe below)
- Properly Secured
- Good condition

Comments: Could not access Test Grid 9A, Test Grids 8A and 8B, the entirety of Test Grid 1, B. Benz leaks Disp. Pit #1, and the Exploration Pit being due to impassable trail conditions. Snow cover limited observations. Did not observe any signs other than the Admin. Area Inlc Signs at the entrance of the site.

51) 10-17-72 GRTS
parties for Grant Nonresidential

510

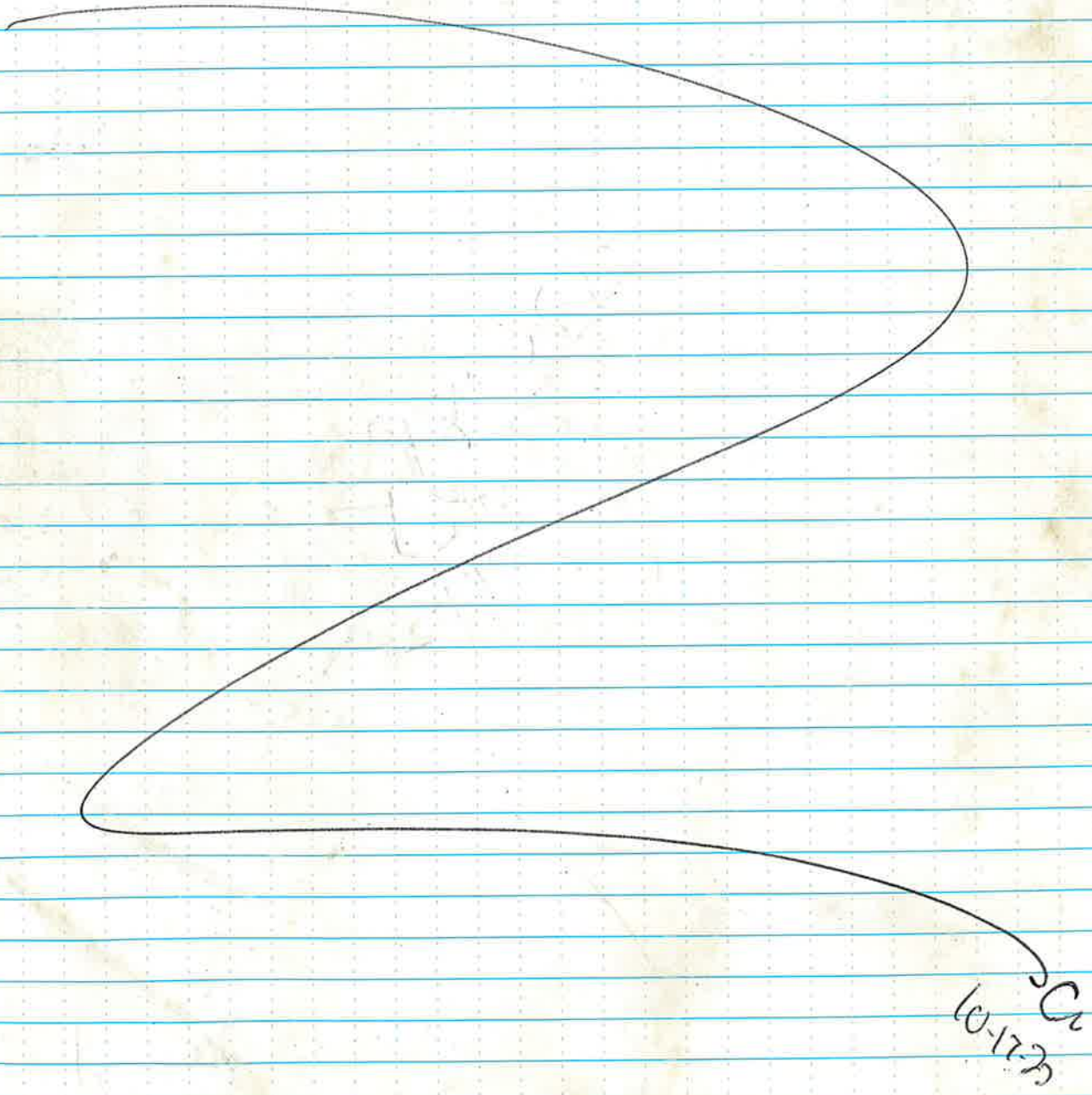
1400 Departed Etc NP

1430 Picked up Rental Seat phone at Surveyor Exchange.

1507 Picked up Rental trailer at White Spruce

1537 Picked up Rental SxS at The Alaskan Express

1551 Arrived back at NP.



10-18-72

GRTS IC Inspections

410 (57)

Personnel: Garrett Nansen
Tabitha Bergvin-Kromare
0700 Departed ECC North Pole

0850 Notified DTA Range Central that we will be arriving at GRTS.

0914 Arrived at GRTS, began inspections.

1134 Check engine light on SixS Comm on.

1225 finished inspecting all accessible areas and departed site

1250 Notified range central of departure

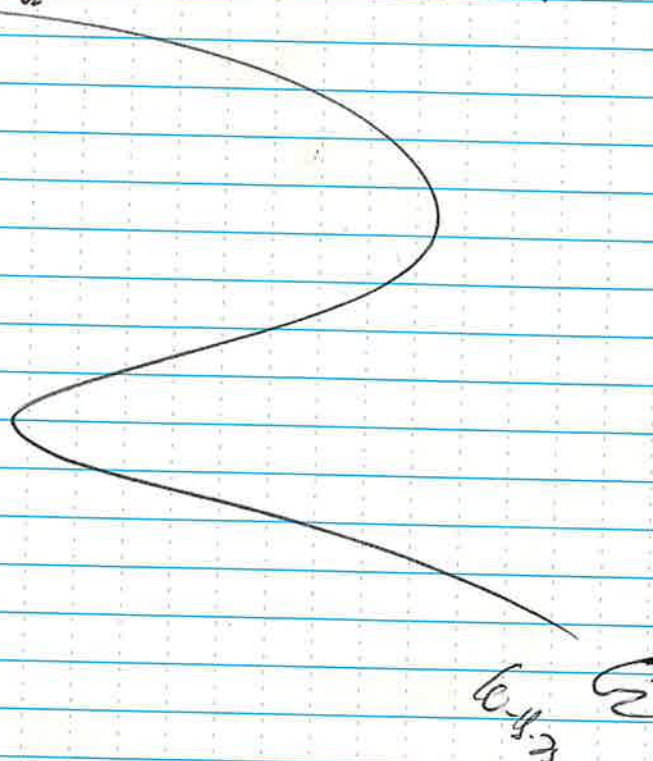
1450 Returned Rental Side Site to The Aberdeen Adventure
Expedition

1510 Returned Rental Trailer to White Sparc.

1512 Returned to ECC NP.

1600 Returned Rental SAT Phone to Surveyor's Exchange.

Note: Could not access Trail Grid 9A due to an ice falling over the trail. Could not access Trail Grids 8, 8A, 8B, 7, B. Berry Ledge Disposal Pit #1, or the exp. tent being due to muddy trail conditions and ^{thin} ice thickness over mud holes.



APPENDIX C
PHOTOGRAPH LOG

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Photo 1: Administrative Area informational sign.



Photo 2: Administrative Area landfill, near the center of the site, view west.



Photo 3: Administrative Area landfill, near the center of the site, view south.



Photo 4: Administrative Area, western portion of the site, view south.



Photo 5: Administrative Area, eastern portion of the site, view east.



Photo 6: NBC Toxic Gas Yard, view northwest.



Photo 7: Explosives Storage Area, view southeast.

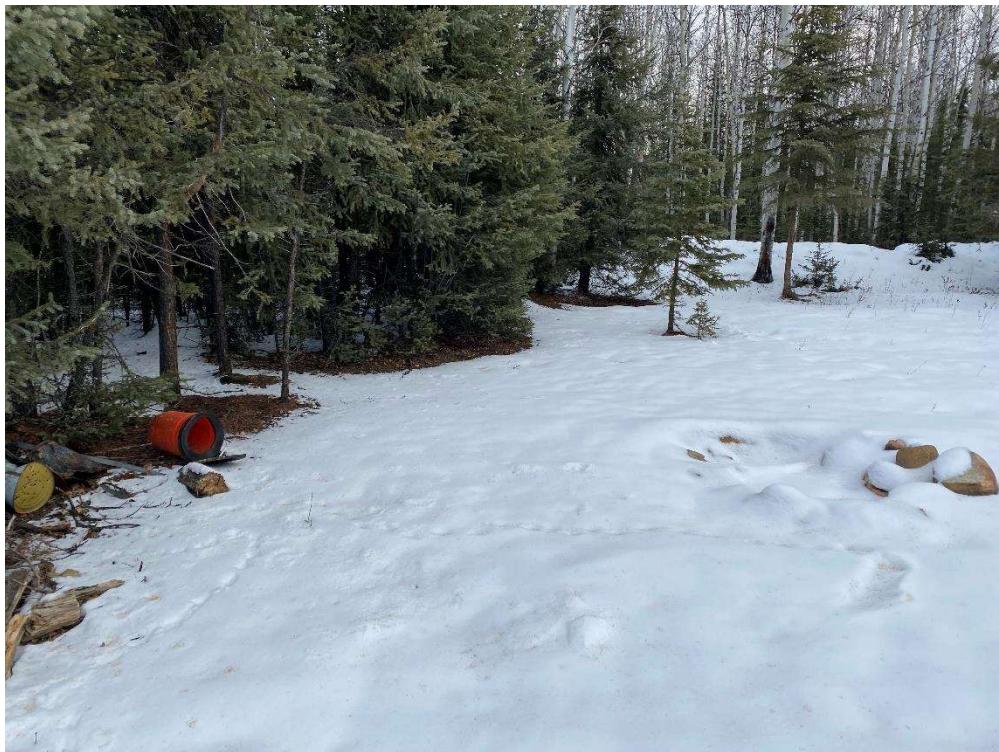


Photo 8: Explosives Storage Area fire pit and camping debris.



Photo 9: Test Grid 2/CRREL Area E, near center of site, view south.



Photo 10: Active trapline sign located along the trail west of Test Grid 2.



Photo 11: Test Grids 3-7/CRREL Areas F, G, and H. View north along the trail near the center of the site.



Photo 12: Test Grids 3-7/CRREL Areas F, G, and H. Pipe located in the north central area of the site.



Photo 13: Test Grids 3-7/CRREL Areas F, G, and H. Abandoned shacks in the northern area of the site.



Photo 14: Tree blocking trail leading to Test Grid 9A.



Photo 15: Blueberry Lake Disposal Pit #2, view south.



Photo 16: Impassable trail between Blueberry Lake Disposal Pit #2 and Test Grid 1.



Photo 17: Shallow mudhole on the trail south of Blueberry Lake to the Exploration Test Boring area.



Photo 18: Impassable western trail leading to the Exploration Test Boring area.



Photo 19: Impassable eastern trail leading to the Exploration Test Boring area.

APPENDIX D
RESPONSE TO COMMENTS

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THE STATE
of **ALASKA**
GOVERNOR MICHAEL J. DUNLEAVY

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Site Program

610 University Avenue
Fairbanks, AK 99709
Main: 907.451.2143
Fax: 907.451.2155

File No.: 141.26.008
141.38.036

Electronic Delivery Only

January 2, 2024

Department of the Army
Directorate of Public Works
ATTN: AMIM-AKP-E (P. Baker)
1046 Marks Road
Fort Wainwright, AK 99703

Subject: DEC responses to comments for the *Draft 2022 Land Use Controls Inspection Report, Gerstle River Test Site, U.S. Army Garrison Alaska* Dated August 2023

Dear Mr. Baker:

The Alaska Department of Environmental Conservation (DEC) provided review comments on the above-referenced document on October 4, 2023, and received responses to comments (RTCs) on December 21, 2023. The land use controls inspection report (LUCIP) assesses the effectiveness of land use controls (LUCs) associated with the Administrative Area at the Gerstle River Test Site (GRTS) located near Fort Greely, Alaska. The site was inspected in 2022, and the institutional controls in place were reviewed as part of the inspection. No corrective actions were taken, and there were no Excavation Clearance Requests (ECRs) issued in 2022. Recommended follow-up actions are for the signs at the site to be more robust and provide up to date information regarding areas of concern (AOC) boundaries and LUC restrictions. Some of the areas had evidence of improper use, which should be discouraged.

DEC has reviewed the RTCs and has accepted all comments, pending a comment backcheck to the final document (see enclosure). Please provide DEC with a final document for review, prior to approval. The accepted comments should be appended to the final report.

If there are any questions, please contact me by phone at (907) 451-2182 or by email at erica.blake@alaska.gov.

Sincerely,

Erica Blake
Environmental Program Specialist

Mr. Peter Baker
Gerstle River Test Site

2

January 2, 2024

Enclosure: 2022 GRTS RTC_12.21.23

cc via email: Matt Pengelly, USAG FTW
Bob Hazlett, USACE
Julie Allan, USACE

**REVIEW
COMMENTS**

**PROJECT: Gerstle River Test Site-UST #450 and #451
DOCUMENT: Draft 2022 Land Use Controls Inspection Report, Gerstle River
Test Site, U.S. Army Garrison Alaska, dated August 2023**

ALASKA DEPT. OF ENVIRONMENTAL CONSERVATION		DATE: 10/4/2023 REVIEWER: Erica Blake PHONE: (907) 451-2182	Action taken on comment by: OJ Barrera			
Item No.	Drawing Sheet No., Spec. Para.	COMMENTS	REVIEW CONFERENCE A - comment accepted W - comment withdrawn (if neither, explain)	CONTRACTOR RESPONSE	ADEC/EPA RESPONSE ACCEPTANCE (A-AGREE) (D-DISAGREE)	CONTRACTOR RESPONSE
1	General	DEC assumes these inspections are completed annually. Please confirm and include inspection frequency in this draft report.	A	Accepted. The inspection frequency will be added to the report.	Agree with comment backcheck.	
2	General, Site Inspections	Do U.S. Army personnel accompany contractors for the annual land-use control inspections? Are the soft condition trails, wetland areas during the summer?	A	Army personnel were not present for LUC inspections. Yes, the soft trail conditions are wetland areas in the summer.	Agree.	
3	Executive Summary, 2 nd Paragraph	Statement: "It is recommended that more robust signs and posts be installed at the asbestos debris landfill in the Administrative Area." In reviewing prior reports and this one, this statement is made. When will the U.S. Army install more signs?	A	Acknowledged. The signs were installed under the landfill maintenance contract with Salcha Delta. A task will be added to that contract to replace missing or damaged signs no less than once every other year.	Agree with comment backcheck.	
4	Section 1.4.3	Statement: "The information for the restrictions at the GRTS is included in the Supplement, which is available at the time the RAP is obtained." It is not clear how the restrictions are shared when a RAP is obtained. Is there an optional document for users to click? Or is the RAP issued with a list of restrictions automatically provided? Please include an example of this in the Appendices. It is also not clear, how are these RAPs being checked? Do we know all site users have one?	A	The recreational supplement will be updated to include a map of the restricted areas and will be disseminated to all users when they obtain a RAP. Also, this area is patrolled regularly by conservation officers to enforce rules.	Agree.	
5	Section 2.1.2	Having signs installed around the site is a land-use control requirement. If there are no signs, or signs are getting vandalized, that is a	A	Acknowledged.	Agree with comment	

**REVIEW
COMMENTS**

**PROJECT: Gerstle River Test Site-UST #450 and #451
DOCUMENT: Draft 2022 Land Use Controls Inspection Report, Gerstle River
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Item No.	Drawing Sheet No., Spec. Para.	COMMENTS	REVIEW CONFERENCE A - comment accepted W - comment withdrawn (if neither, explain)	CONTRACTOR RESPONSE	ADEC/EPA RESPONSE ACCEPTANCE (A-AGREE) (D-DISAGREE)	CONTRACTOR RESPONSE
		compliance issue. How is the Army planning to address the lack of and/or missing signs around Gerstle River areas of concern?		<p>New signage will need to be designed and installed. The frequency and spacing of signage placement will need to be reviewed and adjusted as needed to create a bigger presence on the property.</p> <p>Better up front education via the iSportsman permitting website:</p> <ul style="list-style-type: none"> • Include maps with the signed user permit of the GRTS ACM landfill area that is off limits to traffic/recreation <p>Additional patrols by conservation officers.</p>	backcheck. Please make sure this information is in the final report.	
6	Table 2-1	There are six areas that could not be accessed due to thin ice over water and extremely soft trail conditions. When was the last time these areas got inspected? How does the Army plan to investigate these areas in the future to ensure those areas stay in compliance?	A	<p>Test Grid 1 and Blueberry Lake Disposal Pit #1 were inspected in 2021. Test Grid 8, Test Grid 8A, Test Grid 8B, and the Exploration Test Boring sites were last inspected sometime before 2020. However, all six of these sites were able to be inspected in 2023 and no IC concerns were noted.</p> <p>The Army will explore other options to include tracked UTVs, or</p>	Agree with comment backcheck.	

**REVIEW
COMMENTS**

**PROJECT: Gerstle River Test Site-UST #450 and #451
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				potentially drone flyovers, cognizant of the problem of creating new access routes for trespass in an attempt to inspect. Recognizing that some areas that need to be inspected are not accessible until after freeze up, inspection could be postponed until the ground hardens, but before the first major snowfall.		
7	Section 2.3	What was the depth of the fire pit observed? Is it deeper than 6-inches below ground surface?	A	Unfortunately, the depth was not measured nor noted in the inspection and field logs.	Agree with comment. Please make sure when disturbances are observed depth measurements are also collected.	
8	Section 3.2	Evidence that ATVs are driving on the caps is a sign that the land-use controls are not effective. The caps are currently vegetated but if enough ATV's drive around on the caps, the vegetation may get damaged. How does the Army plan to prevent improper use of the areas of concern at the Gerstle River Test Site?	A	The Army cannot guarantee a 100% effective exclusion. We will make a good-faith effort commensurate with the risk associated with this site that may include new/reworded signs, increased patrols by Conservation Law Enforcement, information kiosks/brochures, iSportsman disclaimers, drone use, etc.	Agree.	
9	Appendix C, Photo 14	DEC recommends future site inspections include bringing tools to remove things like fallen trees preventing access to parts of the site.	A	Acknowledged.	Agree.	

**REVIEW
COMMENTS**

**PROJECT: Gerstle River Test Site-UST #450 and #451
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10	End of Comments					