



THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

**Department of
Environmental Conservation**

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File No: 2541.38.001
Hazard ID: 91

September 21, 2023

Robert Johnston
AFCEC/CZOP
10471 20th Street, Suite 343
Elmendorf AFB, AK 99506-2201

Re: Decision Document: Driftwood Bay RRS SS010 Former H2O Supply Pumphouse
Cleanup Complete Determination – Institutional Controls

Dear Mr. Johnston

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has completed a review of the environmental records associated with the Driftwood Bay RRS SS010 Former H2O Supply Pumphouse located at Driftwood Bay. Based on the information provided to date, it has been determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment and no further remedial action will be required as long as the institutional controls are maintained and effective, and no information becomes available that indicates residual contamination poses an unacceptable risk.

This Cleanup Complete with Institutional Controls (ICs) determination is based on the administrative record for the Driftwood Bay RRS SS010 Former H2O Supply Pumphouse maintained by DEC. This decision letter summarizes the site history, cleanup actions, regulatory decisions, and specific conditions required to effectively manage remaining contamination at this site.

Site Name and Location:

Driftwood Bay RRS SS010
Former H2O Supply Pumphouse
Seward Meridian
Dutch Harbor, AK 99692

Name and Mailing Address of Contact Party:

Robert Johnston
AFCEC/CZOP
10471 20th Street, Suite 343
Elmendorf AFB, AK 99506-2201

DEC Site Identifiers:

File No.: 2451.38.001
Hazard ID.: 91

Regulatory Authority for Determination:

18 Alaska Administrative Code (AAC) 75

Site Description and Background

Site SS010 is located on the north shore of Amaknak Island, approximately 1 mile west of the Driftwood Bay runway at what is referred to as lower camp. SS010 was a former water supply pumphouse that drew water via a pipeline from a nearby creek. A 550-gallon diesel underground storage tank (UST) was reported to be located at the site to power the pumphouse. In 2005, while moving overburden caused by a landslide at the site, a strong hydrocarbon odor and sheen were detected in saturated soil. Soil samples were collected, and diesel range organics (DRO) was detected above cleanup levels at a maximum concentration of 8,640 mg/kg. Further excavation and sampling posed safety concerns due to the steep instable slope and landslide concerns.

Contaminants of Concern

During the site investigation and cleanup activities at this site, samples were collected from soil and surface water and analyzed for polyaromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), gasoline range organics (GRO), diesel range organics (DRO), and residual range organics (RRO). Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern (COCs) at this site:

- DRO

Cleanup Levels

DEC Method 3 Alternative Cleanup Levels for migration to groundwater and the ingestion pathway were calculated for DRO for the over 40-inches of precipitation climate zone by approved methods established in 18 AAC 75.340(e). The alternative cleanup levels modify the levels for the migration to groundwater and ingestion pathways in Table B2 of 18 AAC 75.341(d) based on approved site-specific soil and groundwater data and the approved DEC Method Three Cleanup Levels Calculator. The approved cleanup levels are identified in Table 1.

Table 1 – Approved Cleanup Levels

Contaminant	Soil – Migration to Groundwater ¹ (mg/kg)	Soil – Human Health ² (mg/kg)	Groundwater (µg/L)
DRO	4,500	8,250	1,500

Notes:

¹ Alternative soil cleanup level protective of groundwater used as a drinking water source.

² Alternative soil cleanup level protective of people exposed to contaminated soil by the ingestion pathway.

mg/kg = milligrams per kilogram

µg/L = micrograms per liter

Characterization and Cleanup Activities

Site characterization under 18 AAC 75.325 began in 2005 when a Preliminary Assessment/Site Investigation (PA/SI) was conducted at Driftwood Bay. A 500 or 550-gallon UST reportedly fueled the SS010 pumphouse but was never located during investigations due to obstructions from a landslide. While attempting to remove overburden from the site during the PA/SI, the presence of DRO contamination in the soil and shallow groundwater/daylighting surface water at the site was observed with a strong hydrocarbon odor. The pumphouse foundation was located, but the UST was not. Two soil samples were collected near the former water supply pumphouse and analyzed for DRO, residual range

organics (RRO), polycyclic aromatic hydrocarbons (PAHs), and Resource Conservation and Recovery Act (RCRA) metals. DRO was detected in the soil at concentrations ranging from 7,570 to 8,640 mg/kg.

In 2007 during a Site Characterization and Remedial Investigation, a geophysical survey of the site using an electromagnetic survey and ground-penetrating radar was conducted to the west of the former pumphouse, where historic as-builts had placed the UST. The electromagnetic data did not locate any anomalies to confirm the tank location. Shallow groundwater was observed across the site between six inches to one foot of the soil surface. While accessing the site, field personnel observed footprint imprints filling with water and sheen. Due to the unstable terrain and presence of potentially mobile petroleum-contaminated groundwater, absorbent booms were deployed at the edge of the site to protect contaminant migration into the adjacent surface water, Snuffy Creek. Four soil samples were collected and analyzed for DRO, benzene, toluene, ethylbenzene and xylenes (BTEX), and PAHs to evaluate potential impacts to the nearby surface water. Two samples exceeded ADEC 18 AAC 75 Method Two Migration to Groundwater cleanup levels for DRO, ranging from 490 to 5,300 mg/kg in surface soil. Due to the large boulders present at the site, drilling was not attempted, and soil samples were collected with hand tools. See Figure 1 for sample locations, and Figures 2 and 3 for site location.

In order to develop site-specific criteria, ADEC Method Three calculations were performed using site-specific fraction of organic carbon (FOC) obtained from total organic carbon (TOC) concentrations established for the site. Following the evaluation of criteria, one sample result at 5,300 mg/kg remained in exceedance of the calculated Method Three Migration to Groundwater value of 4,500 mg/kg.

A surface water sample was collected from nearby Snuffy Creek, approximately 60 feet downgradient of the pumphouse, to see if contaminants were migrating to surface water. Surface water sample results were non-detect for DRO, PAHs, and volatile organic compounds (VOCs).

Fill material from a nearby quarry area were brought in to cover the site to minimize the potential for infiltration and sheen formation, as native fill was too unstable to access. Due to the steep slope at the site and landslide concerns limiting further remedial activities and posing an unacceptable risk to site workers, Institutional Controls (ICs) were recommended by the Air Force.

On February 8, 2010, ADEC issued a Determination of Final Compliance for Driftwood Bay Radio Relay Station (RRS) Sites, recommending SS010 for cleanup complete with institutional controls. ICs were proposed to: 1) document location and extent of residual contamination, 2) limit land use to very limited/remote recreational use, and 3) document the need to properly manage residual contamination in accordance with applicable regulations.

In 2015, an IC Plan was developed for the site and included the following elements:

1. Land Use Controls (LUCs) for each site will be incorporated into the 611th Civil Engineering Squadron LUC Management Plan. This was completed in July of 2015. See Figure 5.
2. Warning signs placed at the boundary of each site to provide contact information for LUC management. This was completed in August of 2015. See Figure 4.
3. A Notice of Environmental Contamination (NEC) to be placed in the Alaska Department of Natural Resources' (ADNR) land records. This was completed in April of 2018.

Annual IC inspections are conducted to monitor for signs of trespassing and to ensure signage remains in place. The warning signs at site SS010 state the following: "Warning – Any work/dig permit must

comply with PACAF Regional Support Center OI 32-7001 Land Use Control Management. Soil and/or water in this area are contaminated.” The signs also provide contact information for the AFCEC Remedial Project Manager and a figure with the area subject to LUCs identified. Additionally, the LUC boundary figure from the 611th Civil Engineering Squadron LUC Management Plan specifies that there are excavation and digging restrictions in place at SS010.

A Notice of Environmental Contamination (NEC) for SS010 was filed in 2018 with the Alaska Department of Natural Resources (ADNR) Land Records. This notice documents the location of the site, and that the cleanup has been performed to the maximum extent practicable even though residual fuel in soil and/or groundwater exists on-site.

Statutory reviews under CERCLA are not required for site SS010 as no CERCLA contaminants were identified and the site does not have an official Decision Document, however the Air Force conducts Five-Year Reviews due to pollutants or contaminants regulated under Alaska State Law remaining at the site above levels that allow for unlimited use and unrestricted exposure (UU/UE). The Five-Year Reviews re-evaluate the ICs in place to ensure the current remedy remains effective in limiting risk to human health and the environment. The first periodic review was conducted in 2018 and the second periodic review was conducted in 2023.

Remaining Contamination

The maximum concentrations of contaminants remaining at the site are shown in Table 2. The concentrations of DRO in soil are above the respective approved cleanup levels. Sample locations referred to in Table 2 are shown in the attached site Figure 1.

Table 2 – Maximum Contaminant Concentrations Remaining in Soil

Contaminant	Soil (mg/kg)	Sample Location	Date Sampled
DRO	5,300	DBSS010-SU08-SO-X	7/13/2007

Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g), when detectable contamination remains onsite following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index (HI) of 1 across all exposure pathways.

Based on a review of the environmental record, DEC has determined that residual contaminant concentrations meet the cumulative risk criteria for human health.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC’s Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De-Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 3.

Table 3 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Direct Contact with Surface Soil	Exposure Controlled	Contamination remains in surface soil (0 to 2 feet bgs) above the approved migration to groundwater cleanup levels and below human health cleanup levels. ICs are in place to limit access and exposure. These ICs include warning signs, LUCs including dig restrictions in the Air Force's LUC Management Plan, a Notice of Environmental Contamination filed with ADNR, and a partial cap.
Direct Contact with Subsurface Soil	Exposure Controlled	Contamination remains in subsurface soil (>2 feet bgs) above the approved migration to groundwater cleanup levels and below human health cleanup levels. ICs are in place to limit access and exposure. These ICs include warning signs, LUCs including dig restrictions in the Air Force's LUC Management Plan, and a Notice of Environmental Contamination filed with ADNR.
Inhalation – Outdoor Air	Pathway Incomplete	Contaminants in soil are not volatile enough to reach outdoor air.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Contaminants in soil exceed migration to groundwater but are below the inhalation soil cleanup level. No occupied buildings are present at the site and are not reasonably expected to be placed at the site as long as ICs are in place.
Groundwater Ingestion	Exposure Controlled	ICs are in place controlling exposure. The Air Force Land Use Management Plan states groundwater is not to be used as drinking water until it meets applicable cleanup levels.
Surface Water Ingestion	Exposure Controlled	COCs were non-detect in surface water but have the potential to migrate to surface water source. ICs in the form of signage and annual inspections are in place controlling exposure.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals.
Exposure to Ecological Receptors	De Minimis Exposure	Ecological receptors are not expected to be significantly impacted by remaining contamination. Impacted media covers a small area (approximately 225 square feet), is covered by large boulders from a landslide, and the adjacent surface water body is a fast-running stream.

Notes:

1. “De-Minimis Exposure” means that, in DEC’s judgment, the receptors are unlikely to be affected by the minimal volume or concentration of remaining contamination.
2. “Pathway Incomplete” means that, in DEC’s judgment, the contamination has no potential to contact receptors.
3. “Exposure Controlled” means there is an IC in place limiting land or groundwater use and there may be a physical barrier in place that prevents contact with residual contamination.

DEC Decision

Petroleum contamination remains in the subsurface soil above levels suitable for unrestricted future use; however, DEC has approved the use of institutional controls to limit potential future exposure and risk to human health or the environment. A Notice of Environmental Contamination (NEC) has been recorded in the land records maintained by the Alaska Department of Natural Resources and a copy is enclosed with this letter.

Per the NEC, ICs necessary to support this closure determination include:

- Notification to the ADEC is required for approval prior to commencing any subsurface excavation or digging activities within the boundaries of Tract 38A and Tract 38B, as required by 18AAC 75.325(i). Any work/dig permit must comply with Pacific Air Force (PACAF) Center OI 32-7001 Land Use Control Management.
- In the event that the remaining contaminated soil or groundwater becomes accessible by land use activities, or other information becomes available which indicates that the site may pose an unacceptable risk to human health, safety, welfare or the environment, the land owner and/or operator are required under 18 AAC 75.300 to notify ADEC and evaluate the environmental status of the contamination in accordance with applicable laws and regulations; further site characterizations and cleanup may be necessary under 18 AAC 75.325-.390.
- Pursuant to 18 AAC 75.325(i)(1) and (2), DEC approval is required prior to moving soil or groundwater that is, or has been, subject to the cleanup rules found at 18 AAC 75.325-.390. At this site, in the future, if soil is removed from the site or groundwater is brought to the surface it must be characterized and managed following regulations applicable at that time.

DEC has determined the cleanup is complete as long as the ICs are properly implemented, and no information becomes available that indicates residual contamination may pose an unacceptable risk.

Movement or use of contaminated material in an ecologically sensitive area or in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited. Furthermore, groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use. Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. If, in the future, groundwater from this site is to be used for other purposes, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

The DEC Contaminated Sites Database will be updated to reflect the change in site status to “Cleanup Complete with Institutional Controls” and will include a description of the contamination remaining at the site. The Notice of Environmental Contamination will be available online through the DEC Contaminated Sites Database at:

<https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/91>.

The ICs will be removed in the future if documentation is provided that shows concentrations of all residual hazardous substances remaining at the site are below the levels that allow for unrestricted exposure to, and use of, the contaminated media and that the site does not pose a potential unacceptable risk to human health, safety or welfare, or to the environment.

This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if the institutional controls are determined to be ineffective or if information indicates that contaminants at this site may pose an unacceptable risk to human health or the environment.

Informal Reviews and Adjudicatory Hearings

A person authorized under a provision of 18 AAC 15 may request an informal review of a contested decision by the Division Director in accordance with 18 AAC 15.185 and/or an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340. See DEC's "Appeal a DEC Decision" web page <https://dec.alaska.gov/commish/review-guidance/> for access to the required forms and guidance on the appeal process. Please provide a courtesy copy of the adjudicatory hearing request in an electronic format to the parties required to be served under 18 AAC 15.200. Requests must be submitted no later than the deadline specified in 18 AAC 15.

If you have any questions about this closure decision, please contact me at (907 451-2181, or by email at cascade.galasso-irish@alaska.gov.

Sincerely,



Cas Galasso
Project Manager

Enclosure: Recorded Notice of Environmental Contamination, April 19, 2018.

cc: DEC, Division of Spill Prevention and Response, Cost Recovery Unit

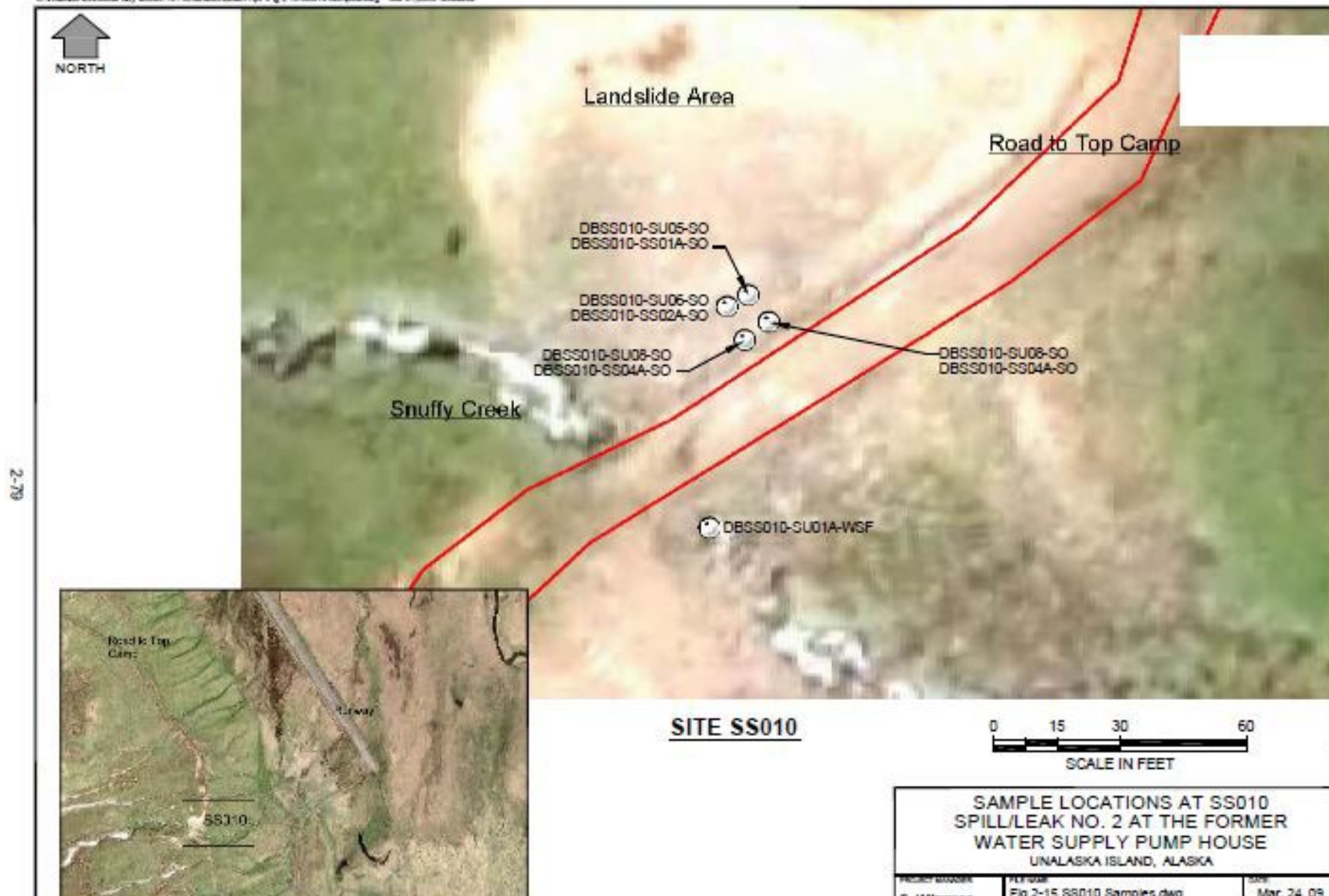


Figure 1 - 2007 Soil Sampling Locations. The sample location DBSS010-SU08-SO-X exceeded ADEC Cleanup Levels. DBSS010-SUD1A-WSF, the downgradient surface water sample location in Snuffy Creek that was non-detect is also shown.

Photo Number: 5306
Photographer: K Bloom
Description: Performing excavation of landslide material covering former pump house location. Looking northeast.
File Name: SS010_landslide_excavation_6.13_KB.JPG
Date: 06/13/2007



Figure 2 - Former Pump House location covered with landslide material.

Photo Number: 5320
Photographer: M McKee
Description: SS010 after being cleared. Snuffy creek in background. Looking southwest.
File Name: SS010_cleared_8W_6.24_MM
Date: 06/24/2007



Figure 3 - SS010 after overburden clearing during 2007 Site Characterization. Pictured is a small area of contamination, directly adjacent to a surface water body and the presence of landslide material.

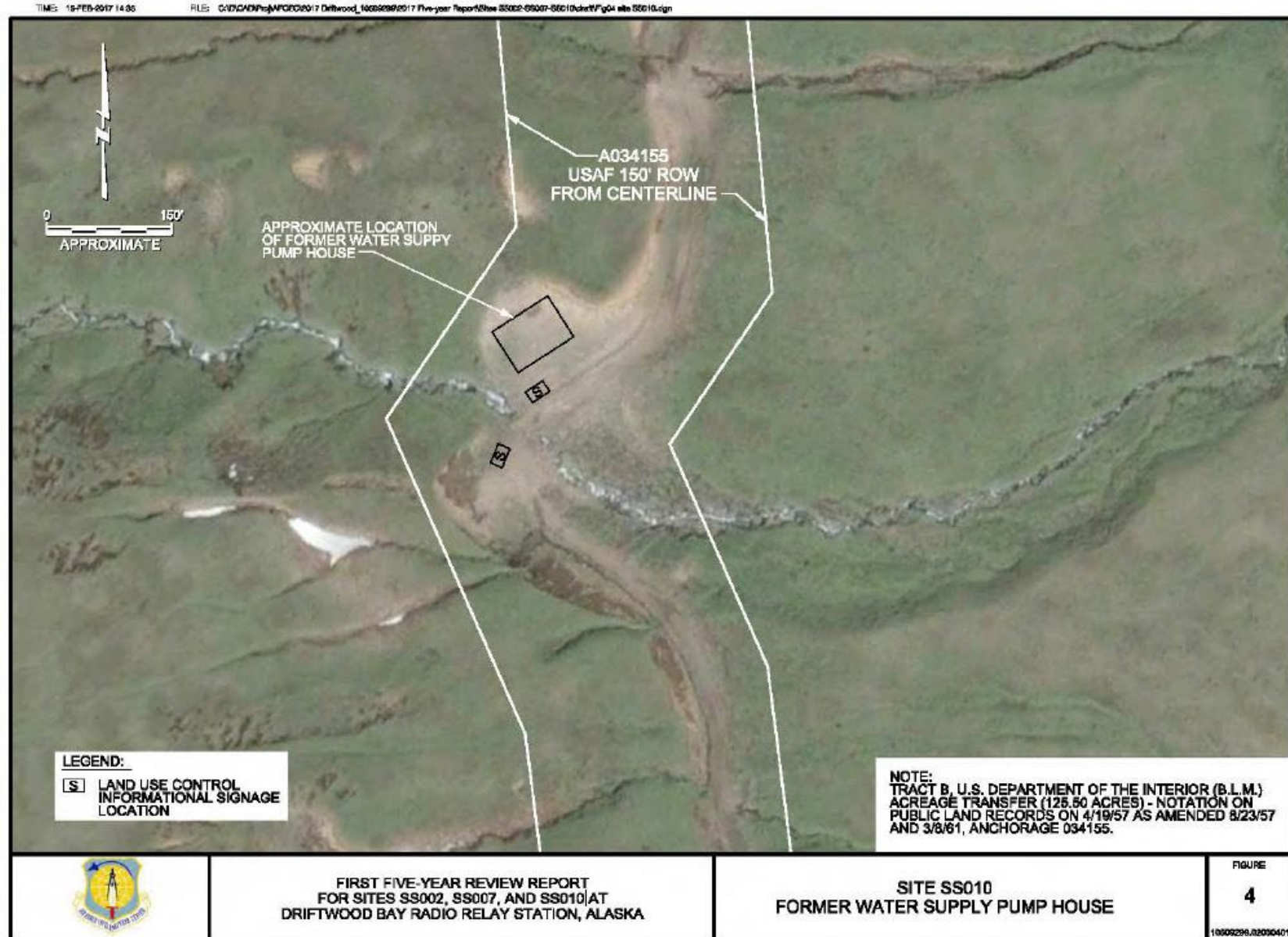


Figure 4 - Locations of signage present with contamination warning, LUCs, and contact information for the Air Force.

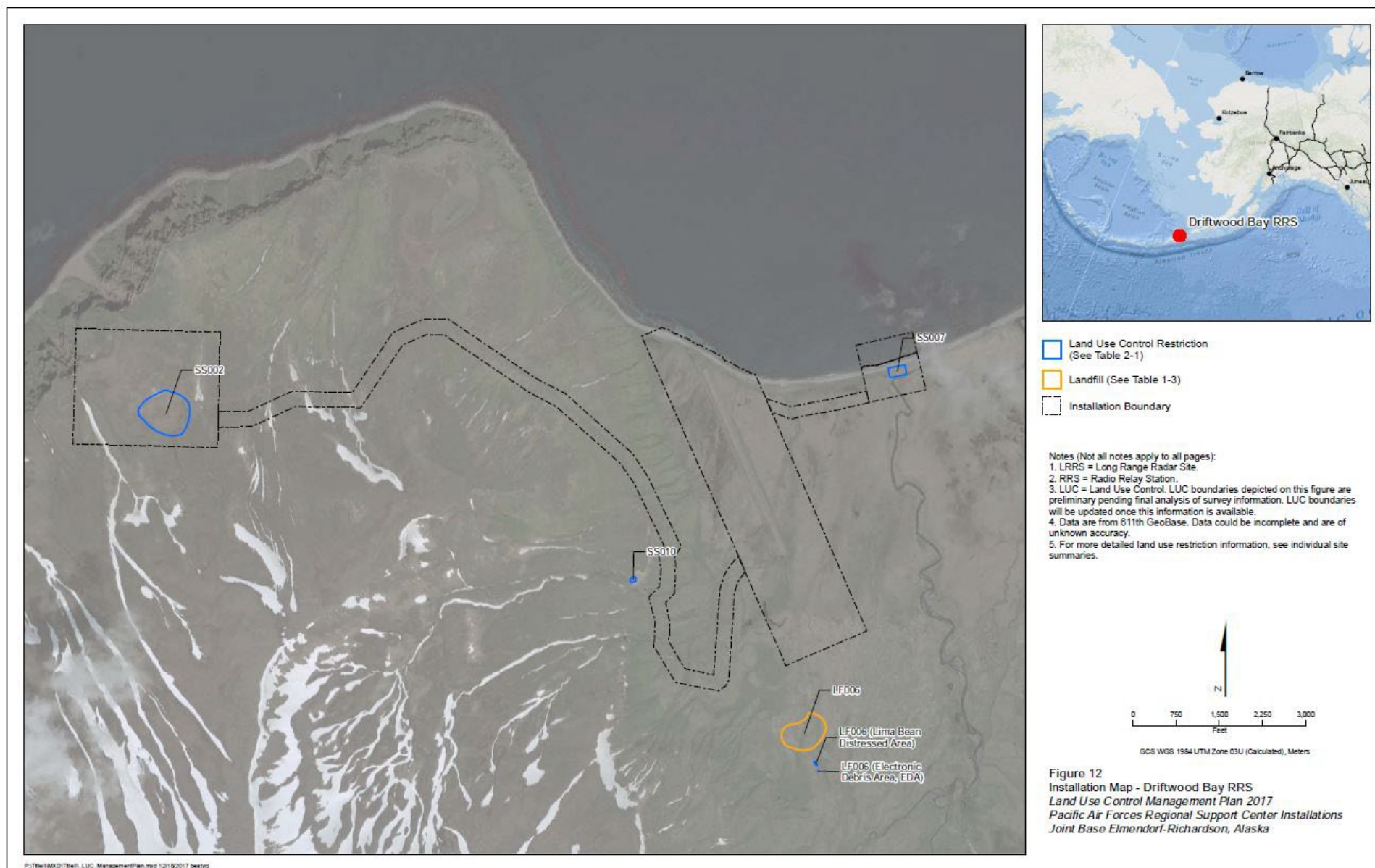


Figure 5 - Locations of LUC restrictions present in the Air Force Land Use Control Management Plan.



NOTICE OF ENVIRONMENTAL CONTAMINATION

Recording District: Aleutian

As required by the Alaska Department of Environmental Conservation, Grantee, pursuant to 18 AAC 75.375 the U.S. Air Force, Grantor, as the owner of the subject property, hereby provides public notice that the property located at: Northing 1,207,773 feet, Easting 5,242,384 feet (Zone 10 Alaska State Plane), Along the road to High Camp, Unalaska Island, Alaska, 99692, and more particularly described as follows:

T. 72 S., R. 119 W., Section 4, 150 foot Air Force Right-of-Way, A034155, Seward Meridian

has been subject to a discharge or release and subsequent cleanup of oil or other hazardous substances, regulated under 18 AAC 75, Article 3, as amended June 17, 2015. This release and cleanup are documented in the Alaska Department of Environmental Conservation (ADEC) contaminated sites database at http://www.dec.state.ak.us/spar/csp/db_search.htm under Hazard ID number 131.

ADEC reviewed and approved, subject to this and other institutional controls, the cleanup as protective of human health, safety, welfare, and the environment. No further cleanup is necessary at this site unless new information becomes available that indicates to ADEC that the site may pose an unacceptable risk to human health, safety, welfare, or the environment. ADEC determined, in accordance with 18 AAC 75.325 - 390 site cleanup rules, that cleanup has been performed to the maximum extent practicable even though residual fuel contaminated soil and/or solvent contaminated groundwater exists on-site. Further cleanup was determined to be impracticable as a result of findings of the Site Characterization Report for Driftwood Bay RRS, dated September 2009.

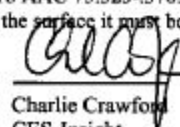
Attached is a site survey or diagram drawn to scale that shows the property boundaries, the area which was addressed during the 2015 Remedy Implementation at Site SS010, and locations of warning signs posted at the site.

Notification to the ADEC is required for approval prior to commencing any subsurface excavation or digging activities within the boundaries of Tract 38A and Tract 38B, as required by 18AAC 75.325(i). Any work/dig permit must comply with Pacific Air Force (PACAF) Center OI 32-7001 Land Use Control Management.

In the event that the remaining contaminated soil or groundwater becomes accessible by land use activities, or other information becomes available which indicates that the site may pose an unacceptable risk to human health, safety, welfare or the environment, the land owner and/or operator are required under 18 AAC 75.300 to notify ADEC and evaluate the environmental status of the contamination in accordance with applicable laws and regulations; further site characterizations and cleanup may be necessary under 18 AAC 75.325-.390.

Pursuant to 18 AAC 75.325(i)(1) and (2), DEC approval is required prior to moving soil or groundwater that is, or has been, subject to the cleanup rules found at 18 AAC 75.325-.370. At this site, in the future, if soil is removed from the site or groundwater is brought to the surface it must be characterized and managed following regulations applicable at that time.

Return To: Charlie Crawford, CES-Insight
1701 Shenandoah Avenue, NW, Roanoke, VA 24017


Charlie Crawford
CES-Insight

