



THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

**Department of Environmental
Conservation**

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

610 University Avenue
Fairbanks, AK 99709-3643
Phone: (907) 451-2143
Fax: (907) 451-2155
www.dec.alaska.gov

DEC File No: 2541.38.001

December 19, 2022

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

Re: Decision Document: Driftwood Bay RRS LF006 Old Disposal Area
Cleanup Complete Determination

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 LF006 Old Disposal Area located on Unalaska Island. 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 unless information becomes available that indicates residual contaminants may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the Driftwood Bay RRS LF006 Old Disposal Area maintained by DEC. This decision letter summarizes the site history, cleanup actions and levels, and site closure conditions that apply.

Site Name and Location:

Driftwood Bay RRS LF006
Old Disposal Area and Electronic Debris Area
Township 72S, Range 119W, Section 6,
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.: 2541.38.001
Hazard ID.: 95

Regulatory Authority for Determination:

18 Alaska Administrative Code (AAC) 75

Site Description and Background

Driftwood Bay RRS is an inactive United States Air Force (USAF) installation on the northcentral coast of Unalaska Island, Alaska, in the Aleutian Island chain. The RRS operated between 1961 and 1977 to provide reliable communications for the Distant Early Warning Line. In 1991, most of the facility buildings and structures were demolished or removed. Site LF006 is one of several sites within the Driftwood Bay RRS and is a historical, unpermitted landfill located approximately 1-mile south of the Driftwood Bay RRS airstrip. The LF006 property is currently owned by the Ounalashka Corporation and is bordered by land administered by the United States Fish and Wildlife Service. The site is remote, and the land use is recreational.

Site LF006 (historically known as AOC08) consists of two separate source areas referred to as the Electronic Debris Area (EDA) and the Old Disposal Area (ODA). These areas have different contaminants of concern (COCs), but the remedy identified in the 2013 Record of Decision of removal and offsite disposal addressed both areas at the LF006 site. The ODA site is approximately 1,800 square feet, and the EDA is a smaller area of 300 square feet located 300 feet to the west of the ODA (see Figure 1).

In 1996, the ODA was inspected and field screened. The extent of debris and wastes were unknown but is reportedly where some materials were disposed of during the 1991 facility demolition. Debris and 55-gallon drums were noted as being present on the site. Fuel contamination, polycyclic aromatic hydrocarbons (PAHs) from ash material in the landfill, and lead from lead-acid batteries were identified at the ODA above DEC cleanup levels. The EDA source area was not discovered until 2007. Piles of electronic debris including capacitors, transformers, and batteries were identified in an isolated location north of the ODA. Lead was identified at the EDA above DEC cleanup levels.

Contaminants of Concern

During the site investigation and cleanup activities at this site, samples were collected from soil and groundwater and analyzed for polyaromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH), gasoline range organics (GRO), diesel range organics (DRO), residual range organics (RRO), pesticides, herbicides, and Resource Conservation Recovery Act (RCRA) metals. Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern (COCs) at this site:

- Diesel Range Organics (DRO)
- Residual Range Organics (RRO)
- Benzo[a]pyrene
- Lead

Cleanup Levels

Soil cleanup levels applicable to the site are the most stringent Method 2 cleanup levels for the over 40-inches of precipitation climate zone found in 18 AAC 75.341(c), Table B1 and 18 AAC 75.341(d), Table B2. Contaminants have not been detected in groundwater above 18 AAC 75.345 Table C Cleanup Levels at the site, therefore groundwater cleanup levels are not applicable.

Table 1 – Approved Cleanup Levels

Contaminant	Soil (mg/kg)
DRO	230
RRO	8,300

Benzo(a)pyrene	1.2
Lead	400

Notes:

1. mg/kg = milligrams per kilogram

Characterization and Cleanup Activities

Numerous investigations and cleanup actions have occurred at the LF006 site under the regulatory authority of the Contaminated Sites Program since 1996. The most relevant information as it relates to the investigation and cleanup of the LF006 site is described below.

Site characterization under 18 AAC 75.335 began in 1996 at the LF006 site (referenced in historical reporting as AOC08 – Old Disposal Area) during a Preliminary Assessment/Site Inspection (PA/SI). Debris and 55-gallon drums were visible and the extent of the debris was unknown. Sampling included a single soil sample downgradient of the debris identified at LF006 ODA and three surface water samples collected approximately 60 feet downstream of the soil sample. Analyses included TPH, DRO, RRO, VOCs, PAHs, pesticides, herbicides, and RCRA metals. DRO, TPH, arsenic, barium, chromium and lead were detected in soil. Surface water results were non-detect for all analyses. Conclusions of this investigation recommended a geophysical study to determine the extent of the disposal area, and removal of the debris and drums from the site.

An additional PA/SI was conducted in 2005 to determine the extent of the LF006 site, estimate the types of debris present, and determine if contaminated surface soil or surface water were present. A visual survey was conducted and identified the presence of batteries, vehicle parts, engines, and drums. Two analytical surface soil samples and one analytical surface water sample (and duplicate surface water sample) were collected and analyzed for DRO, RRO, GRO, VOCs, PAHs, PCBs, pesticides, herbicides, and RCRA metals. No analytes exceeded screening criteria in the soil samples or surface water sample. This PA/SI also recommended geophysics be used to define the boundaries of the disposal area, additional soil and groundwater sampling be conducted, and removal of the drums and debris at the site. Contaminants of potential concern (COPCs) included DRO, RRO, GRO, PAHs, lead, VOCs, semi-volatile organic compounds (SVOCs) and PCBs.

In 2007 a site characterization was conducted at the LF006 site and the EDA was discovered. A pile of electronic debris (capacitors, transformers and batteries) was found in an area devoid of vegetation north of the ODA. Five batteries, over 30 capacitors and audio transformers of varying sizes, and other associated debris were collected from the EDA and shipped offsite. Contaminants of potential concern (COPC) at the EDA were lead (associated with the batteries) and PCBs (associated with the transformers and capacitors). Niton field screening for lead was performed at various former battery locations and results ranged from $1,261 \pm 508$ to $2,762 \pm 566$ ppm. The field screening indicated the lead contamination was surficial, as a test pit was dug to approximately 2 feet bgs and field screening was below detection results. Soil analytical samples collected beneath each battery location for lead yielded results ranging from 27.6 mg/kg to 72,200 mg/kg. PCB soil analytical results collected were below DEC Method Two cleanup criteria, with a maximum detected concentration of 0.167 milligrams per kilogram (mg/kg). PCBs were determined to not be a contaminant of concern (COC) at the EDA. Recommendations for the EDA following this site investigation included hot spot removal of lead contaminated soil, and application of Ecobond to decrease the bioavailability in soil.

2007 site characterization activities at the ODA included ground-penetrating radar (GPR) to delineate the bounds of the Old Disposal Area. Soil sampling results identified the presence of fuel contamination (DRO

and RRO) and five PAHs above DEC most stringent cleanup levels in an ash layer located approximately one foot bgs, and the presence of lead-acid batteries laying on the ground surface. The lead-acid batteries exposed at ground surface were removed and shipped offsite for recycling. Elevated concentrations of lead in soil (maximum value 89,900 mg/kg) remained in the area of the removed batteries. No other analytes were detected above DEC cleanup levels, including all analytical samples collected from the groundwater interface (approximately 5.5 feet bgs). Downgradient groundwater grab samples, surface water and sediment samples were non-detect for all analytes, therefore groundwater and surface water were not identified as a media of concern.

Following the 2007 RI, a removal action was conducted to remove the electronic debris at the EDA in 2009. Hot-spot removal of lead-contaminated soil occurred and Ecobond was applied to the soils at the LF006 site to stabilize the lead concentrations in soil. Post-treatment results were analyzed for total lead and toxicity characteristic leaching procedure (TCLP). Results indicated the bioavailability of lead was reduced, but not to concentrations below DEC CULs.

In 2010, a data gap investigation was performed at the EDA at LF006 to assess the effects of Ecobond one year post application and to perform additional lead sampling. The results of the investigation delineated the lead contaminated soil. Total lead results for five surface and subsurface samples collected from one area within the EDA exceeded the DEC Method Two cleanup level of 400 mg/kg. Total lead concentrations ranged up to 20,700 mg/kg. In addition, two out of five results for TCLP lead were greater than the RCRA maximum concentration for toxicity characteristic for lead of 5.0 mg/L.

Following a Feasibility Study and Proposed Plan in 2011, the *Record of Decision: Site LF006 Old Disposal Area and Electronic Debris Area* (March 2013) was approved by DEC. The selected remedy was identified as removal and offsite disposal for the remaining PAH, lead, and petroleum contamination at LF006.

Two remedial action efforts were conducted in 2015 and 2016 at LF006. During the 2015 RA, 2,768.51 tons of contaminated soil was removed from LF006. A total of 1,284.24 tons of soil were excavated from the EDA and 1,484.27 tons of soil were excavated from the ODA. All excavated soil from LF006 was containerized and transported offsite for disposal in 2015. During the 2016 RA, 4,158.75 tons of contaminated soil was removed from LF006. A total of 803.59 tons of soil were excavated from EDA and 3,355.16 tons of soil were excavated from the ODA. All excavated soil from LF006 was containerized and transported offsite for disposal in 2016. Confirmation sampling at the EDA confirmed all results were below DEC's most stringent cleanup levels and no further action was required after the 2016 remedial action.

DRO, RRO, and benzo(a)pyrene exceeded the site cleanup levels at the ODA following the 2015 and 2016 RAs. DRO was present at two locations above DEC most stringent cleanup levels, at a maximum value of 3,390 mg/kg at five feet bgs, and RRO remained in the same sample location at a value of 21,600 mg/kg. Benzo(a)pyrene was present at a concentration of 1.36 mg/kg in a single isolated location at 0.5 mg/kg.

In 2018, DEC issued a Cleanup Complete with Institutional Controls determination for the ODA site. DRO and RRO remained in the soil above DEC CULs and therefore unsuitable for unrestricted future use, as determined by the ROD. However, the site was reevaluated for cleanup complete in 2022.

A final mobilization occurred in 2022 to conduct an environmental soil sampling effort at the three known locations of soil contamination remaining above DEC Cleanup Levels at the ODA. The results were analyzed for previously exceeded analytes (DRO, RRO, and benzo(a)pyrene) and compared to the most

stringent DEC Method Two Soil Cleanup Levels to support the closure without institutional controls for the LF006 Site. Laboratory analysis of the soil samples detected no contaminant concentrations above the applicable DEC soil cleanup levels from any of the sample locations. All sample results were below the DEC soil cleanup levels.

Remaining Contamination

The maximum concentrations of contaminants remaining at the site are shown in Table 2. These concentrations are all below their respective approved cleanup levels. Sample locations referred to in Table 2 are shown in the attached site figures.

Table 2 – Maximum Contaminant Concentrations Remaining in Soil

Contaminant	Soil (mg/kg)	Sample Location	Date Sampled
DRO	11.7	22DWB052SL4.O LF006-01	6/21/2022
RRO	57.0	22DWB078S L4.OLF006-01	6/21/2022
Benzo(a)pyrene	0.834	22DWB120S L1.5LF006-01	6/21/2022
Lead	21.6	052SL-LF006 16DWB052SL8.0LF006	6/17/2016

Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g), when detectable contamination remains on-site 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 human health cumulative risk criteria for residential land use.

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 2.

Table 2 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	De Minimis Exposure	Contamination in the surface soil (0 to 2 feet below ground surface) is below the most stringent cleanup levels.
Subsurface Soil Contact	De Minimis Exposure	Contamination in subsurface soil (2 to 15 feet below ground surface) is below the most stringent cleanup levels.

Inhalation – Outdoor Air	Pathway Incomplete	Contamination in subsurface soil is below human health and inhalation levels in 18 AAC 75.341, Tables B1 and B2.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	No buildings are located at the site.
Groundwater Ingestion	Pathway Incomplete	No contamination detected in groundwater.
Surface Water Ingestion	Pathway Incomplete	Contaminants have not been detected in sediment or surface water at the site.
Wild and Farmed Foods Ingestion	De Minimis Exposure	Site is remote. Bioaccumulative contamination in surface soil remains in a single isolated location and is covered with clean fill.
Exposure to Ecological Receptors	Pathway Incomplete	A risk assessment has been conducted and has determined no unacceptable ecological risk.

Notes:

1. “De Minimis Exposure” means that, in DEC’s judgment, the receptors are unlikely to be adversely 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.

DEC Decision

Soil and groundwater contamination at the site have been cleaned up to concentrations below the approved cleanup levels suitable for residential land use. This site will receive a “Cleanup Complete” designation on the Contaminated Sites Database.

DEC approval is required for movement and disposal of soil and/or groundwater subject to the Site Cleanup Rules, in accordance with 18 AAC 75.325(i). Since the cleanup at this site met the most stringent cleanup levels of 18 AAC 75.341, Tables B1 and B2 and 18 AAC 75.345, Table C, this letter will serve as your approval for future movement and disposal of soil associated with this release.

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, additional testing and treatment may be required to ensure the water is suitable for its intended use.

This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if information indicates that contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to 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 questions about this closure decision, please feel free to contact me at (907) 451-2181, or email at cascade.galasso-irish@alaska.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Cas Galasso". The signature is fluid and cursive, with the first name "Cas" and last name "Galasso" clearly distinguishable.

Cas Galasso
Project Manager

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



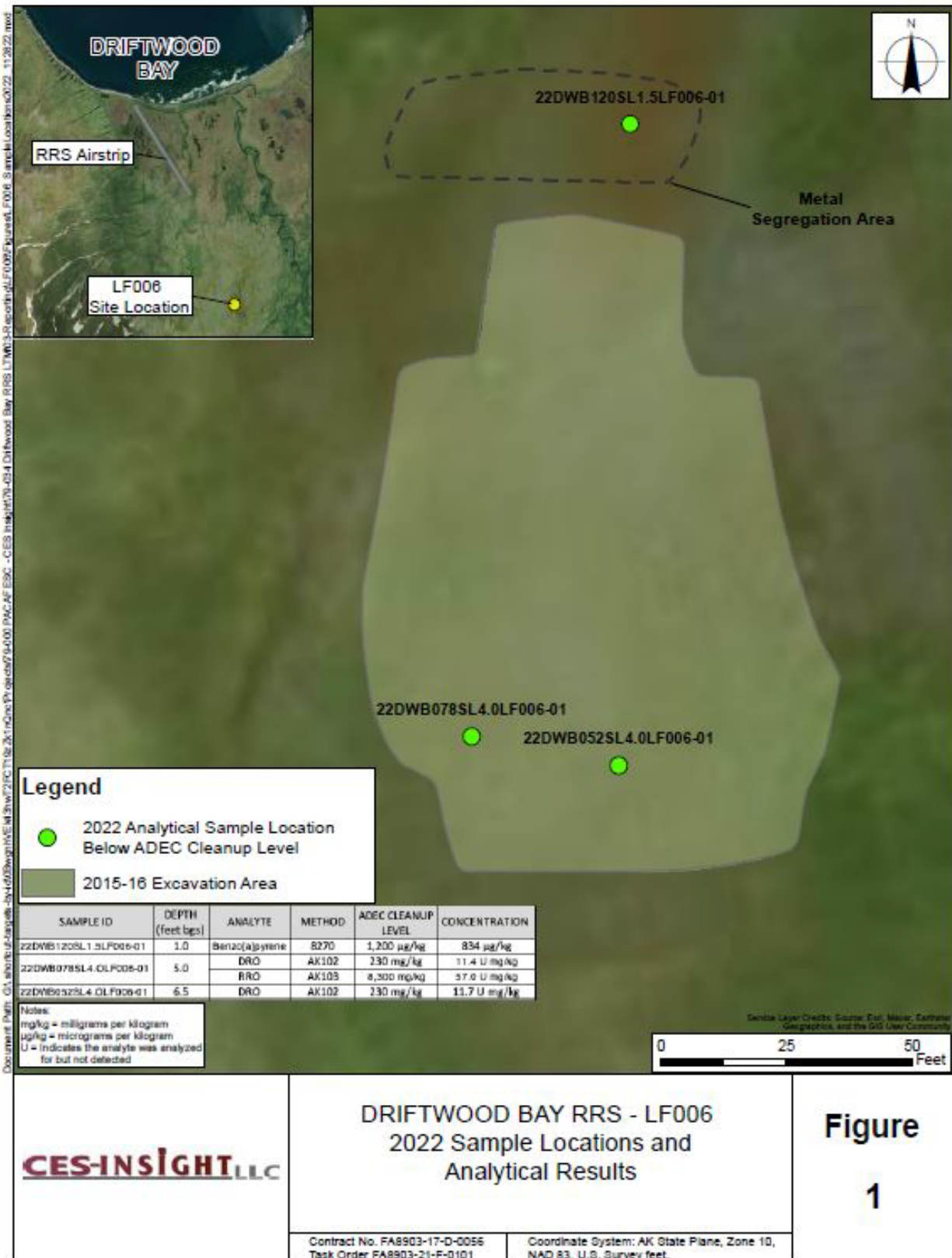


Figure 2 - Sampling results from the 2022 sampling event. Locations of prior exceedances from the 2015-2016 Remedial Action for Remedial Implementation were resampled and confirmed to be below the most stringent cleanup levels.

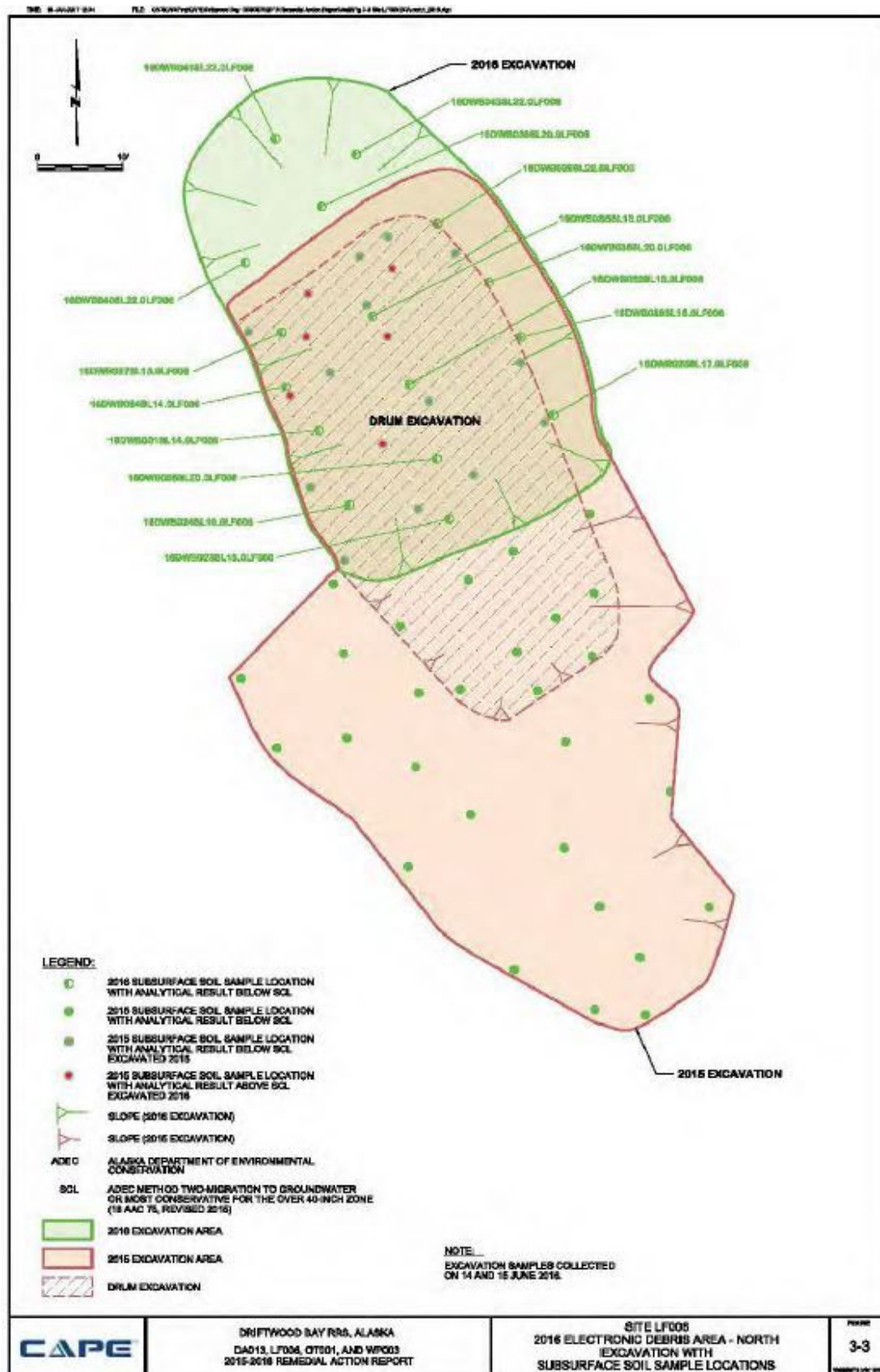


Figure 3 - Sampling locations following the lead removal at the EDA site. Confirmation samples all below CULs.