THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File: 2541.38.001

April 17, 2018

Robert Johnston
AFCEC/CZOP
10471 20th Street, Suite 347
JBER, AK 99506-2201

Re: **Decision Document: Driftwood Bay RRS LF006 Old Disposal Area**
Cleanup Complete Determination – Institutional Controls

Dear Mr. Johnston:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Old Disposal Area site at LF006 located at the former Driftwood Bay Radio Relay Station (RRS), Driftwood Bay, Alaska. Based on the information provided to date, it has been determined by ADEC that the contaminant concentrations remaining at the Old Disposal Area do not pose an unacceptable risk to human health or the environment. No further remedial action will be required by ADEC at the Old Disposal Area as long as the institutional controls are established in a timely manner, maintained, effective and no new information becomes available that indicates residual contamination poses an unacceptable risk to human health or the environment.

This Cleanup Complete with Institutional Controls (ICs) determination by ADEC for the Old Disposal Area is based on the administrative record which is located in the offices of the ADEC in Anchorage, Alaska. 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 LF006
Old Disposal Area
Driftwood Bay, Alaska

Name and Mailing Address of Contact Party:
Robert Johnston
AFCEC/CZOP
10471 20th Street, Suite 347
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ADEC Site Identifiers:
File No.: 2541.38.001
Hazard ID.: 95

Regulatory Authority for Determination:
18 AAC 75
18 AAC 60

Site Description and Background

Driftwood Bay RRS is an inactive United States Air Force (USAF) installation established on land withdrawn from public domain for military purposes by a Public Land Order and the property is owned by the USAF. Driftwood Bay RRS is located on the northcentral coast of Unalaska Island, approximately 12 air miles west-northwest of Dutch Harbor, AK. No residents live in the vicinity of the former facility. Current land use at the Driftwood Bay RRS is recreational and within the Alaskan Maritime Wildlife Refuge. The facility consists of several other installation restoration program sites in addition to the Old Disposal Area (LF006) addressed by this decision document:

- LF006 – Consists of two areas: the Old Disposal Area and the Electronic Debris Area. These areas have different contaminants of concern (COC) that are regulated separately, but the remedies identified in the 2014 Record of Decision selected for each area are the same across Site LF006 (removal and off-site disposal). Residual range organics (RRO) and select polycyclic aromatic hydrocarbons (PAH) in soil are the COCs at the Old Disposal Area. This decision document only addresses the Old Disposal Area.

Residential use is not anticipated because site access is limited to boat or plane. Based on the results of a community survey conducted in 2008, travel to Driftwood Bay is dangerous and infrequent. Subsistence hunting or gathering is unlikely although harvesting of small game and vegetation (e.g., berries) may occur on a limited basis (14 days or less per year).

The Old Disposal Area site (LF006) consisted of a disposal area located approximately one mile south of the south end, of the runway. In 1995, an inspection of the source area was conducted. A soil stockpile and debris pile (solid waste) including several 55-gallon drums, were noted within the disposal area. In 2005, a visual survey of LF006 indicated that potential sources of contamination include: batteries, vehicle parts, engines, a fire extinguisher, and drums. Depth-to-groundwater in the vicinity of Lower Camp (includes LF006) was reported in soil boring descriptions at approximately 5 to 32 feet bgs. Groundwater flow direction at LF006 is east to northeast. Variations in groundwater depth were a result of a shallow, leaky aquitard near the bay and surface water recharge in other areas of Lower Camp. The surface water body known as Driftwood Bay is approximately 8,000 feet in the northerly direction. Humpy Creek is on the east side of the valley and flows toward Driftwood Bay.

Contaminants of Concern

There have been several investigations, including a geophysical survey, and cleanup actions have occurred at the Old Disposal Area (see Characterization section below). After analyzing for fuels, lead, volatile organic compounds (VOCs), semivolatile organic compounds (SVOC), and polychlorinated biphenyls (PCBs), the only remaining contaminants are diesel range organics (DRO) and RRO at the Old Disposal Area. The site is an unpermitted landfill and solid waste is commingled with the fuel contaminated soil. The 2007 Site Characterization for the Old Disposal Area site included soil organic carbon characterization and efforts to determine the presence and depth of groundwater (estimated to be 5-32' bgs).

There is no known current use for surface water or groundwater. A geophysical survey was conducted and in 2015 1,484 tons of contaminated soil were removed and in 2016 803.59 tons of contaminated soil were removed (these two removal actions addressed the stockpile of contaminated soil and debris). Based on these analyses, the following petroleum-related contaminants were detected above the applicable cleanup levels (18 AAC 75 as amended November 7, 2017) and are considered contaminants of concern:

- Diesel Range Organics (DRO)
- Residual Range Organics (RRO)

Cleanup Levels

DRO and RRO were detected in soil at the Old Disposal Area above the migration to groundwater (Table B2 18 AAC 75 November 7, 2017) for DRO and ingestion cleanup level for RRO (Table B1 Method Two, Over 40-inch precipitation zone 18 AAC 75 November 7, 2017). The site is an unpermitted landfill and solid waste is commingled with the fuel contaminated soil. Groundwater could be a potential source of future drinking water.

Table 1 – Approved Cleanup Levels (Over 40 Inch Zone)

Contaminant	Soil (mg/kg)
DRO	230[1]
RRO	8,300[2]

[1] – Migration to Groundwater (18 AAC 75 Table B12017)
[2] – Ingestion pathway, Method 2 (18 AAC 75 Table B2 2017)

Characterization and Cleanup Activities

Characterization and cleanup activities conducted under the regulatory authority of the Contaminated Sites Program began in 1995. These activities are described below.

In 1995, as part of a preliminary assessment, a soil sample and 3 surface water samples (1 primary, QA/split and duplicate) were collected on the east side of the disposal area where the road intersects with Humpy Creek. Humpy Creek runs along the east side of the Driftwood Bay Valley. All samples were analyzed for total petroleum hydrocarbons (TPH), DRO, gasoline range organics (GRO), total metals, pesticides, volatile organic compounds (VOCs), benzene, toluene, ethylbenzene, xylenes (BTEX). While TPH was detected in soil at 37 mg/kg and DRO was detected at 30 mg/kg ("JB" estimated, due to method blank detection) there were no exceedances of cleanup levels in soil. There were no surface water quality criteria (18 AAC 70) exceedances found in any of the samples. No impacts were observed in the surface water.

In 2005, as part of the preliminary assessment/site investigation, two soil samples and two surface water samples were collected from was collected from the northwest corner of the pond adjacent to LF006. Analysis was conducted for DRO, RRO, GRO, VOCs, PAHs, PCBs, pesticides, herbicides, and metals. Arsenic results marginally exceeded background levels. No additional analytes, including PCBs, PAHs, and DRO, exceeded cleanup criteria in soil or surface water.

In 2007, remedial investigation activities at LF006 identified the presence of fuel contamination. Soil and groundwater samples were analyzed for DRO, RRO, GRO, BTEX, PAHs, pesticides, herbicides, PCBs, and total metals. No groundwater contamination was detected in the three grab samples from the 3 installed well points installed at the northern end of the site to assess potential groundwater contamination. Two additional monitoring wells were installed northeast of LF006. Fuel contamination identified in the soil does not appear to be migrating offsite, based on downgradient groundwater sampling of the 2 monitoring wells sampled. The site is an unpermitted landfill and solid waste is commingled with the fuel contaminated soil. A collocated surface water/sediment samples was collected from Humpy Creek and Driftwood Bay and no surface water quality criteria were exceeded (consistent with 2005 and 1995 sampling efforts).

A ground-penetrating radar and an electromagnetic survey were used to delineate the bounds of the Old Disposal Area at LF006. Investigative studies conducted during the remedial investigation focused on

ensuring that landfill solid wastes were not leaching to groundwater, and that the disposal site did not contain drums or other items that could affect groundwater in the future.

In 2014, a Record of Decision (ROD) was signed for LF006: Old Disposal Area and the Electronic Debris Area. The selected remedy was identified as removal and offsite disposal for the petroleum for the Old Disposal Area and lead contaminated soils for the Electronic Debris Area. Although not a COC, solid waste is commingled with the fuel COCs at the Old Disposal Area. Groundwater sampling results from the remedial investigation were all below cleanup levels and therefore groundwater was not identified as a media of concern in the ROD. This decision document addresses only the Old Disposal Area.

In 2015, all soil was sampled for RCRA metals (including nickel and vanadium), VOCs, PAHs, PCBs, GRO, DRO, and RRO. Only DRO exceeded cleanup levels in soil. Approximately 1,484.27 tons of petroleum contaminated soil and 10 tons of solid waste (includes scrap metal) was excavated from Old Disposal Area (includes the stockpiled soil) and transported off-site for disposal.

In 2016, all soil remaining from the 2015 effort was sampled for RCRA metals (including nickel and vanadium), VOCs, PAHs, PCBs and fuels. Only DRO and RRO exceeded cleanup levels in soil. Approximately 3,355.16 tons of contaminated soil and comingled solid waste (scrap metal) was excavated from the Old Disposal Area and transported off-site for disposal. The base of the excavation varied from 5 feet bgs to 8 feet bgs based on soil screening levels during removal. Samples were taken from locations screened by using a PID which were indicative of the highest contamination remaining after excavation.

Table 2: Sample results following 2016 excavation

16DWB052SL8.0LF006	8' bgs	DRO	340 mg/kg
16DWB078SL5.0LF006	5' bgs	DRO	3,930 mg/kg
	5' bgs	RRO	21,600 mg/kg

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 of one across all exposure pathways. With just diesel range organics (DRO) and residual range organics (RRO) remaining at the Old Disposal Area, a cumulative risk cannot be calculated and therefore, 18 AAC 75.325(g) is not applicable.

The site's current land use is recreational (assuming 14 continuous days per year based on completed community survey questionnaires) with no groundwater or surface water used as drinking water at the site. Fuel contamination identified in the soil does not appear to be migrating into groundwater offsite, based on downgradient groundwater sampling of monitoring wells sampled to the northeast of site LF006 in July of 2007. The ingestion exposure pathway for soil is de minimis as the remaining contamination at the site and institutional controls are in place to prevent exposure to soil without prior ADEC approval.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using ADEC'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	Pathway incomplete	Contamination is not present in surface soil (0 to 2 feet below ground surface).
Sub-Surface Soil Contact	Exposure Controlled	Contamination remains in the sub-surface, but land use controls limit exposure to contamination.
Inhalation – Outdoor Air	Pathway Incomplete	Contamination remains in the sub-surface, but contaminants do not pose an inhalation risk.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	No structures exist and contaminants does not pose an inhalation risk.
Groundwater Ingestion	Pathway Incomplete	No contamination present and groundwater is not used as a drinking water source.
Surface Water Ingestion	Pathway Incomplete	No contamination present and surface water is not used as a drinking water source in the vicinity of the site.
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	Pathway Incomplete	Contamination is only present in the sub-surface and determined not to be risk to plants or animals.

Notes to Table 2: "Pathway Incomplete" means that in ADEC's judgment contamination has no potential to contact receptors. "Exposure Controlled" means there is an institutional control in place limiting land or groundwater use and there may be a physical barrier in place that prevents contact with residual contamination.

ADEC Decision

Petroleum contamination remains in the sub-surface soils above levels suitable for unrestricted future use; however, residual contaminant concentrations are below maximum allowable soil cleanup levels, groundwater beneath the site is not impacted, and land use controls will be established by the USAF to limit potential future exposure and risk to human health or the environment at the Old Disposal Area (LF006). A Notice of Environmental Contamination and Institutional Controls (NEC-IC) will be required to be recorded in the land records maintained by the Alaska Department of Natural Resources within one-hundred and eighty (180) days of AFCEC's receipt of this letter.

Groundwater is not impacted and based on existing information, ADEC has determined the residual soil contamination does not pose an unacceptable migration to groundwater concern at the Old Disposal Area.

Institutional controls necessary to support this closure determination will include:

- In the event that the remaining contaminated soil becomes accessible in the future, the land owner shall notify ADEC and characterize and, if determined necessary, cleanup the soil.

- The Air Force will provide notice to ADEC as soon as practicable, but no later than 10 days, after discovery of any activity that is inconsistent with the LUC requirements, objectives or controls, or

any action that may interfere with the effectiveness of the LUCs. The Air Force will include in such notice a list of corrective actions taken or planned to address such deficiency or failure.

- The Air Force will obtain prior concurrence from ADEC to terminate the LUCs

Standard site closure conditions that apply to all sites include:

- ADEC approval is required prior to moving any soil off any site that is, or has been, subject to the site cleanup rules [see 18 AAC 75.325(i)]. A "site" as defined by 18 AAC 75.990 (115) means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership. In the future, if soil will be excavated, it must be characterized and managed following regulations applicable at that time and ADEC approval must be obtained before moving the soil off the property.

- Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

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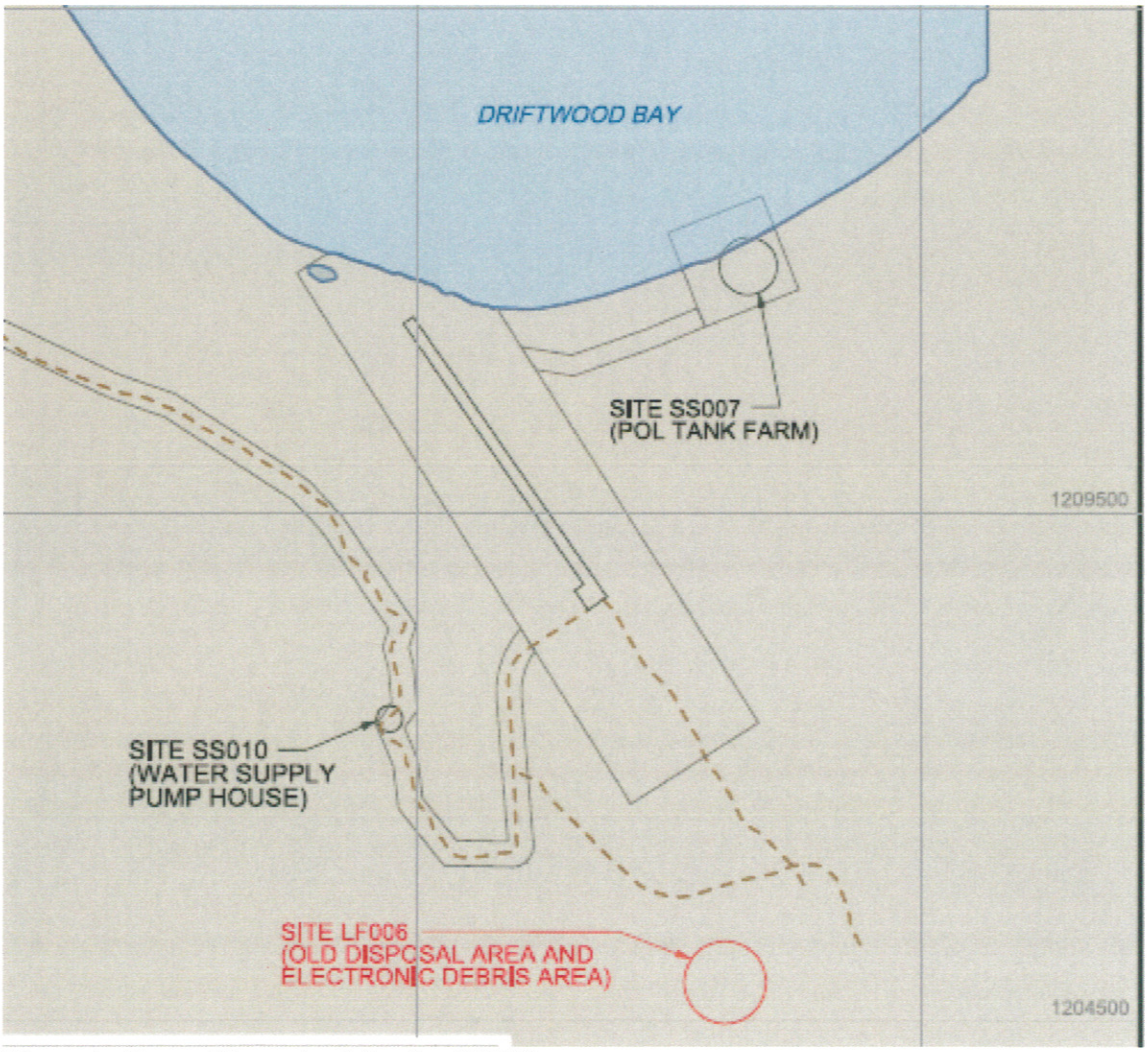

Figure 1. General Location Map for LF006

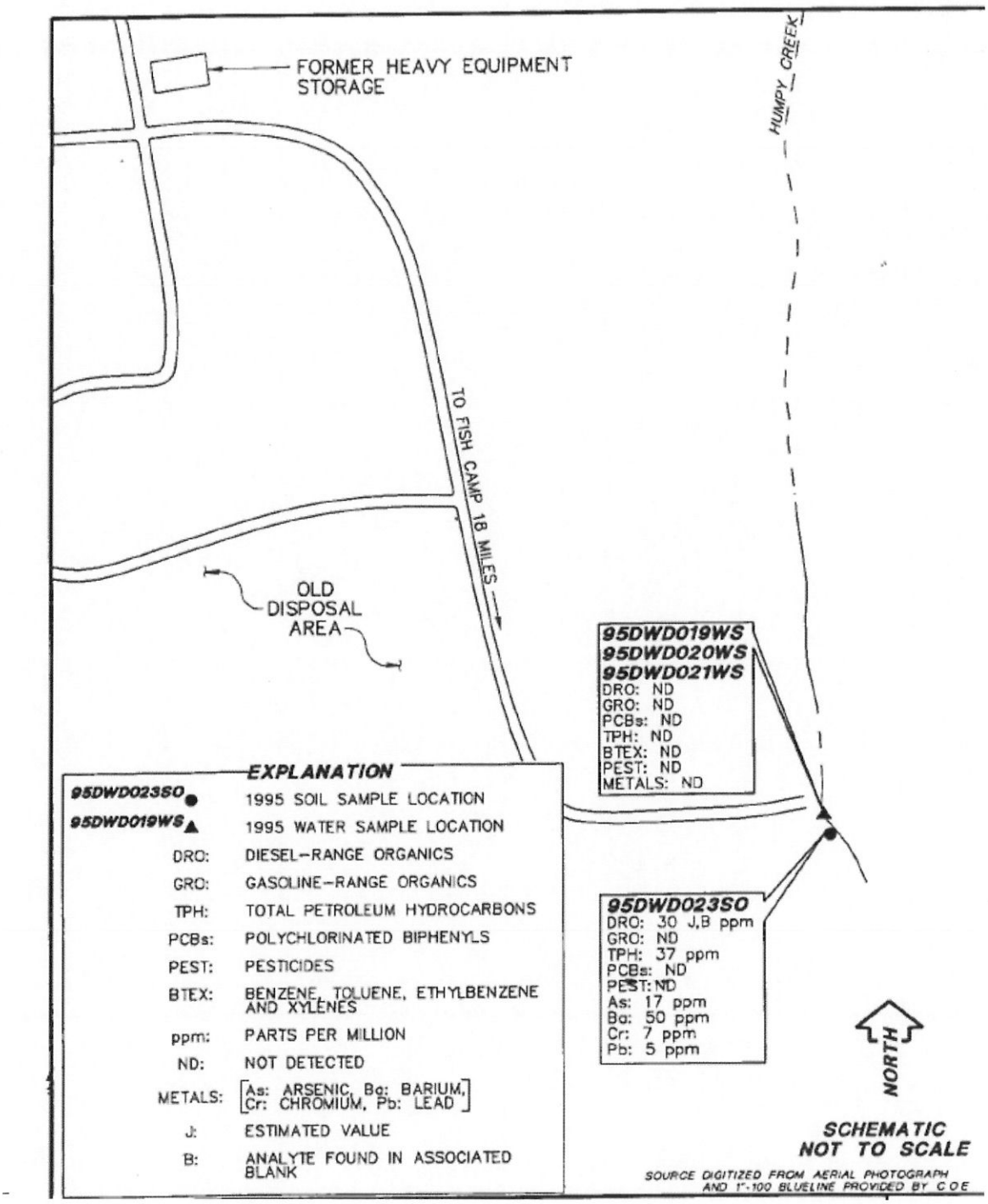

Figure 2. Old Disposal Area location in relation to the soil and surface water locations (Humpy Creek)

ADEC has determined the cleanup is complete as long as the institutional controls are properly implemented in a timely manner and no new information becomes available that indicates residual contamination may pose an unacceptable risk at the Old Disposal Area (LF006).

The ADEC Contaminated Sites Database will be updated to reflect the change in site status for the Old Disposal Area (LF006) to "Cleanup Complete with Institutional Controls" and will include a description of the contamination remaining at the site.

The institutional controls will be removed in the future if documentation is provided that shows concentrations of all residual hazardous substances remaining at the Old Disposal Area 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. Standard conditions above will remain in effect after ICs are removed.

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

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 555 Cordova Street, Anchorage, Alaska 99501-2617, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, PO Box 111800, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have questions about this closure decision, please feel free to contact me at (907) 269-7552 or email at louis.howard@alaska.gov.

Sincerely,

Louis Howard
Project Manager

cc: Kim DeRuyter via email