THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Environmental Conservation

Spill Prevention and Response
Contaminated Sites

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File No.: 2513.38.001

April 16, 2020

Guy Warren
CEPOA-PM-C-FUDS
Alaska District U.S. Army Corps of Engineers
PO Box 6898
JBER, AK 99506-6898

Re: Decision Document: **Atka Cape Kudugnax FUDS**
Cleanup Complete Determination

Dear Mr. Warren:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Atka Cape Kudugnax FUDS located approximately 7 miles northeast of the village of Atka on the northeastern shore of Nazan 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 unless new information becomes available that indicates residual contaminants may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the Atka Cape Kudugnax FUDS, which is located in the ADEC office in Anchorage, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:
Atka Cape Kudugnak FUDS
7 miles NE of Atka
Atka, Alaska 99547

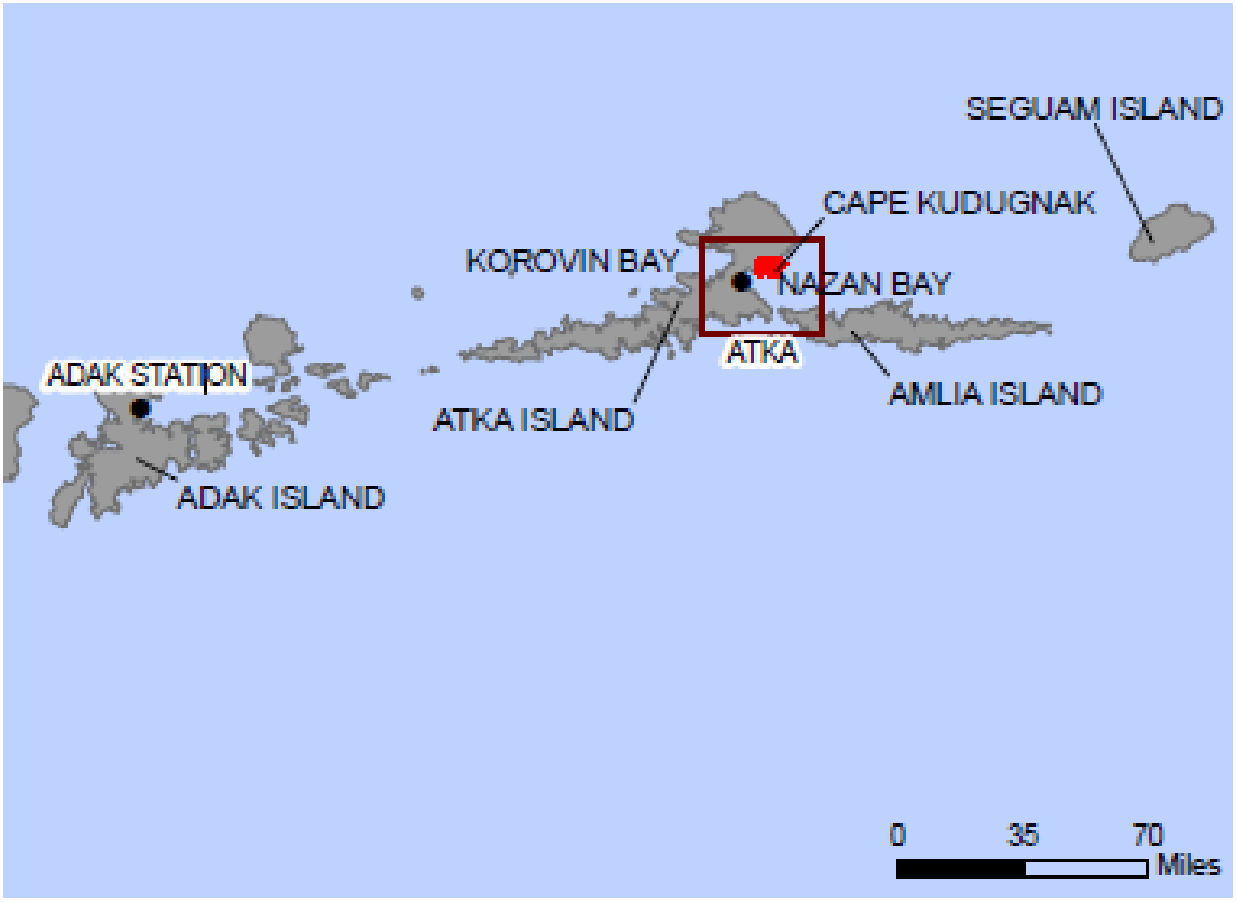
Name and Mailing Address of Contact Party:
Guy Warren
CEPOA-PM-C-FUDS
Alaska District U.S. Army Corps of Engineers
PO Box 6898
JBER, AK 99506-6898

DEC Site Identifiers:
File No.: 2513.38.001
Hazard ID.: 4280

Regulatory Authority for Determination:
18 AAC 75

Site Description and Background

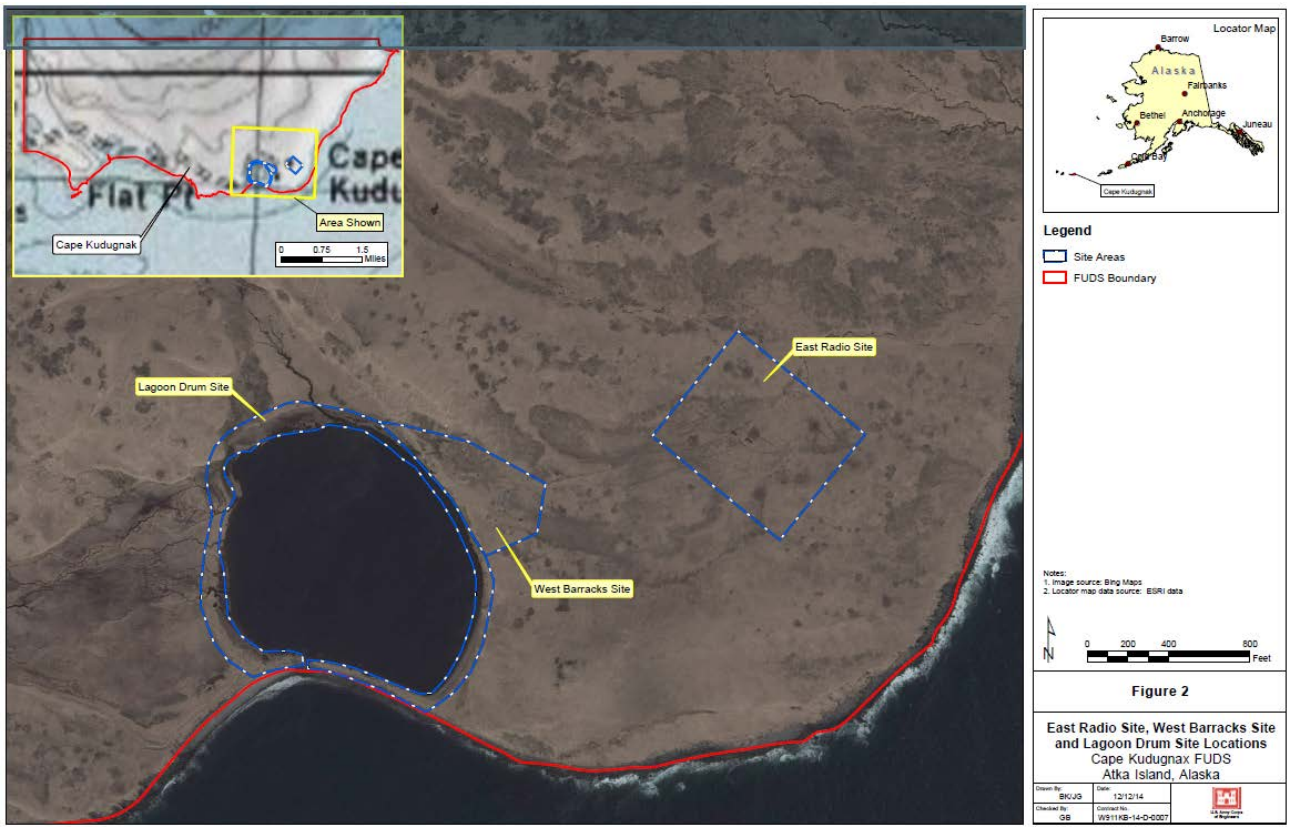
The Atka Cape Kudugnax FUDS property is located on Atka Island approximately 1,100 miles southwest of Anchorage, Alaska. The Cape Kudugnax Naval Radio Station is a former naval facility located on the north entrance to Nazan Bay on Atka Island. This site was built to support air operations at the former Atka Air Force Auxiliary Field located approximately 7 miles to the southwest, during World War II. The airfield was built as a base for fighter and bomber operations against Japanese-held Kiska Island. Atka facilities were primarily used as a way station between Adak and Fort Glenn on Umnak Island.



The Cape Kudugnax radio range site became operational in March 1943, and improvements included radio masts, a radio building, a generator building, barracks, and a mess hall. The radio range site was closed in July 1944 and improvements were abandoned in place. The United States Department of the Interior subsequently transferred all lands in the area of the radio range site to the Axtam Native Corporation in February 1979 under the Alaska Native Claims Settlement Act.

The Atka Cape Kudugnax FUDS property included downed radio antenna towers, standing and dilapidated buildings, aboveground storage tanks (ASTs), drums, transformers, insulators, and lead acid batteries. The site consisted of three known debris areas including the East Radio Site, the West Barracks Site, and the Lagoon Drum Site. The West Barracks Site is situated approximately one-quarter mile west of the East Radio Site. Both the West Barracks Site and the East Radio Site are elevated and included buildings or debris. The Lagoon Drum Site

encompassed various drums located along the lagoon shoreline. During the 2014 and 2015 activities additional World War II-vintage drums were discovered near an unnamed lake.



Contaminants of Concern

COCs at the site include diesel range organics (DRO), naphthalene, 2-methylnaphthalene, lead, and polychlorinated biphenyls (PCBs).

- DRO
- naphthalene
- 2-methylnaphthalene
- lead
- PCBs

During the site characterization and cleanup activities at this site, samples were collected from surface and subsurface soil and analyzed for gasoline range organics (GRO), diesel range organics (DRO), residual range organics (RRO), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and Resource Conservation and Recovery Act (RCRA) metals.

Cleanup Levels

Analytical data for soils was compared to the Title 18 Alaska Administrative Code (AAC) Chapter 75 Section 341 (18 AAC 75.341) (c) Table B1 cleanup levels applicable to the "Over 40 Inch Zone" for all CoCs except DRO. The most stringent of the cleanup levels were used for comparison.

Alternative cleanup levels were generated using site specific soil data (0.017 g/g total organic carbon) as inputs for the ADEC Method Three Calculator for DRO in accordance with 18 AAC 75. 340(e). The alternative cleanup levels for DRO using the most stringent receptor (residential) are 3,800 mg/kg (Migration to Groundwater pathway), 8,300 mg/kg (Ingestion pathway); and 60,500 mg/kg (Inhalation pathway). Only one soil sample result ATDCSS02 (7,620 mg/kg) exceeded the Migration to Groundwater Alternative Cleanup Level of 3,800 mg/kg.

Contaminant	Soil (mg/kg) Migration to Groundwater
DRO	3,800
naphthalene	0.038
2-methylnaphthalene	1.3
lead	400
PCB (total)	1.0

Characterization and Cleanup Activities

East Radio Site
All visible buildings, structures, drums, and other debris were removed and transported offsite during the building demolition/debris removal (BD/DR) project operations in 2014-2015. The remaining man-made features include the radio station building concrete pad, the generator building concrete perimeter footer, and the two concrete generator pads within the generator building perimeter footer. Approximately 796.63 tons of soil was excavated. Confirmation soil sample data indicates that the remaining COC at the East Radio Site is DRO. All other analytical results were either below laboratory detection limits or, if present, were detected below applicable ADEC cleanup levels.

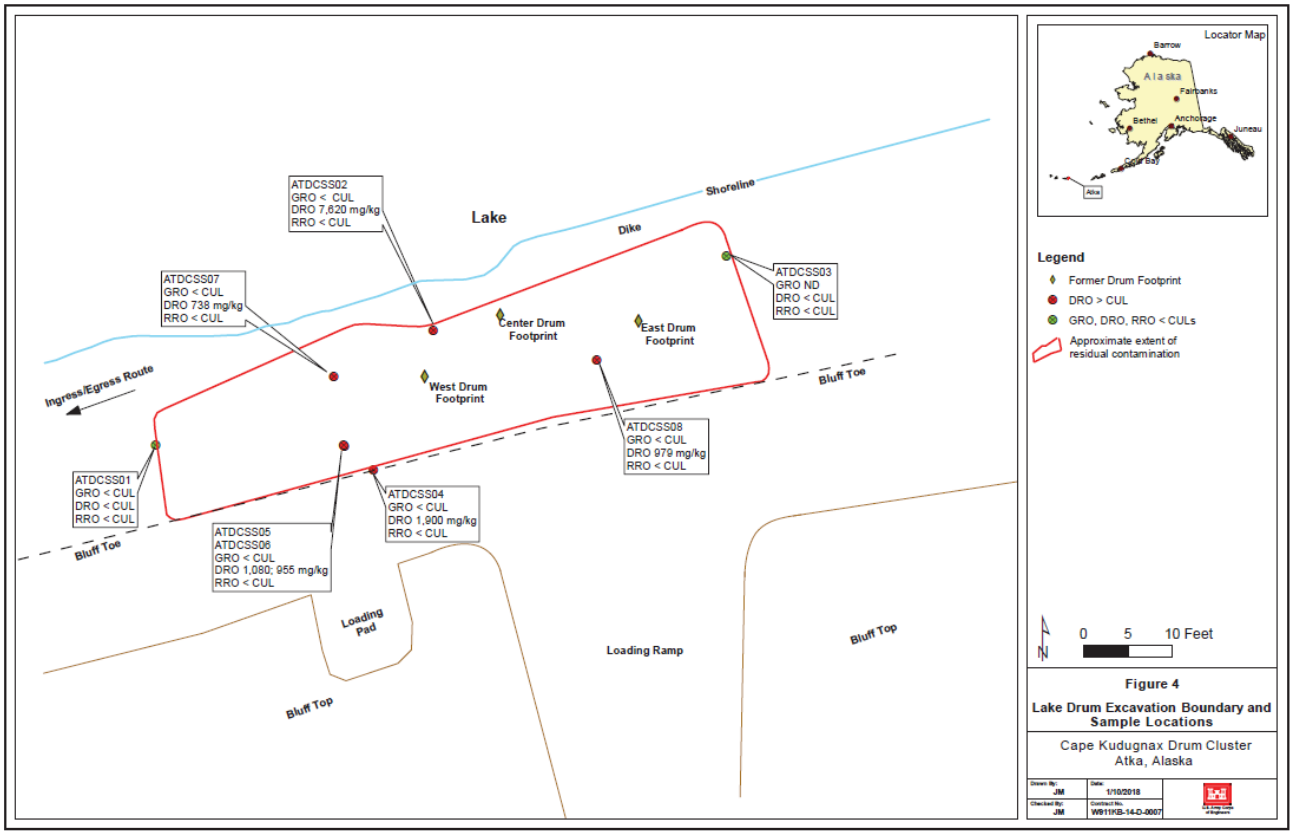
West Barracks Site
All visible building debris, asbestos-containing material (ACM), drums, and other debris were removed and transported offsite under the BD/DR project. Approximately 91.83 tons of soil was excavated at the West Barracks Site. This includes 22.8 tons from the drum pile excavation, 12.68 tons from over-excavation of the wood-stave tank, 46.05 tons from the burn pit excavation, and 10.3 tons from the transformer excavation. Confirmation sampling results were either below laboratory detection limits or at concentrations below the applicable ADEC cleanup levels, with the exception of arsenic. Arsenic sample results averaged 2.75 mg/kg, with a maximum concentration of 15 mg/kg. Literature reviews of arsenic background concentrations in Alaska soils average 17.3 mg/kg with a range of 5 mg/kg to 750 mg/kg, indicating a high degree of variability within the natural environmental (Gough, et. al., 1988). The maximum concentration of 15 mg/kg is within the arsenic background range found in Alaskan soil, and in the absence of a known anthropogenic sources is assumed as background.

Lagoon Drum Site
All visible drums, drum debris, and drum carcasses were removed from the Lagoon Drum Site during the BD/DR project. Drums were fairly evenly distributed along the east and west shorelines of the lagoon with fewer drums found along the north shoreline. Sensory observations (visual, olfactory) and photoionization detector (PID) headspace field screening indicated the localized presence of POL contamination in soils beneath individual drums or drum clusters at the Lagoon Drum Site. In 2014, approximately 7 tons of POL-contaminated soil was excavated from the footprints of seven drums or drum clusters. Ten primary soil samples (and one duplicate) were collected in association with the Lagoon Drum Site, and analyzed for GRO, DRO, RRO, VOCs, PAHs, lead and mercury. All analytical results were either non-detect or detected below applicable ADEC cleanup levels. Based upon

alternative cleanup levels calculated using Method Three and site specific soil data, all sample concentrations are below the alternative DRO cleanup level of 3,800 mg/kg for Migration to Groundwater.

Lake Drum Area

The Lake Drum Area was identified during the 2014-2015 site inspection. A cluster of three highly corroded World War II-vintage drums were found located in a dry lake bed alongside the trace of an old military road that traverses portions of Atka from Nazan Bay to the former Cape Kudugnax Naval Radio Station. The surrounding soil showed indication of petroleum, oil and lubricant (POL) contamination which was assumed to have leaked from the corroded drums. The drums were removed and barged off the island with other scrap steel generated during the BD/DR phase. One primary surface soil sample and a duplicate sample were collected from the footprint of the drum cluster and analyzed for GRO, DRO, RRO, VOC, PAH, lead and mercury. All analytes were below the applicable ADEC cleanup levels with the exception of DRO at two locations: ATLD-SS-011 at 53,000 mg/kg and ATLD-SS-FLD2 (Field Duplicate at ATLD-SS-011 location) at 66,000 mg/kg. In 2017, a supplemental removal action resulted in the excavation of 26.1 tons of POL contaminated soil from the Lake Drum Area. Additional contaminated soil removal was not feasible due to the presence of the lake, large rocks, and toe of an adjacent bluff. Only one soil sample result ATDCSS02 (7,620 mg/kg) exceeded the Migration to Groundwater Alternative Cleanup Level of 3,800 mg/kg. In 2019, a site visit was conducted to collect surface water samples at the lake adjacent to the location of soil sample ATDCSS02 in an effort to confirm residual DRO was not adversely affecting surface water quality. One surface water sample and associated quality control samples were collected from the lake edge directly north of the 2017 soil sample ATDCSS02. The samples were analyzed for BTEX via Method 8260, PAH via Method 8270 SIM, and DRO via method AK102. All BTEX, PAH, and DRO results were non-detect (ND). Total aromatic hydrocarbons (TAH) and total aqueous hydrocarbons (TAqH) were calculated using ADEC *Guidelines for Treatment of Non-Detect Values, Data Reduction for Multiple Detections and Comparison of Quantitation Limits to Cleanup Values, April 2017*, using the limit of detection (LOD) for summation in the case of non-detected results. As all BTEX and PAH results were non-detected, the totals were calculated using only the laboratory LODs for summation. Total aromatic hydrocarbons (TAH) was calculated to be 0.0042 milligrams per liter (mg/L). Total aqueous hydrocarbons (TAqH) was calculated to be 0.0046 mg/L. Both TAH and TAqH were well below the screening criteria of 0.01 mg/L and 0.015 mg/L respectively. Based on the laboratory results and field observations during the 2019 site visit, there are no indications of surface water impacts from the residual DRO contamination in soil at the site.



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.

Based on a review of the environmental record, ADEC 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 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	De-Minimus Exposure	Contamination remains in the surface, but is below the ingestion and human health cleanup levels.

Sub-Surface Soil Contact	De-Minimis Exposure	Contamination remains in the sub-surface, but is below the most conservative 18 AAC 75 ingestion and human health cleanup levels.
Inhalation – Outdoor Air	De-Minimis Exposure	Contamination remains in the surface and sub-surface, but is below inhalation and human health cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	No buildings are present within 30 feet of the site.
Groundwater Ingestion	Pathway Incomplete	No evidence of groundwater impacts was observed in water infiltrating the excavations. Groundwater is not used as a drinking water source in the vicinity of this site.
Surface Water Ingestion	Pathway Incomplete	Surface water is not used as a drinking water source in the vicinity of the site.
Wild and Farmed Foods Ingestion	De-Minimis Exposure	Contaminants of concern that have the potential to bioaccumulate in plants or animals are at concentrations below cleanup levels, and in volumes unlikely to adversely affect receptors. No farmed foods are collected at the site. The collection of wild foods is minimal due to the remote location.
Exposure to Ecological Receptors	De-Minimis Exposure	The remaining contamination is of a minimal volume and concentration that is unlikely to adversely impact ecological receptors.

Notes to Table 2: "De-Minimis Exposure" means that in ADEC's judgment receptors are unlikely to be adversely affected by the minimal volume or concentration of remaining contamination. "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

Soil contamination at this site has been cleaned up to concentrations below the approved cleanup levels suitable for residential land use. One sample at the Lake Drum Site (7620 mg/kg) exceeded the Method Three Migration to Groundwater cleanup level (3800 mg/kg). Surface water adjacent to the single DRO exceedance was sampled for BTEX, PAH and DRO and all results were non-detect. This site will receive a "Cleanup Complete" designation on the Contaminated Sites Database, subject to the following standard conditions.

Standard Conditions

1. Any proposal to transport soil or groundwater from a site that is subject to the site cleanup rules or for which a written determination from the department has been made under 18 AAC 75.380(d)(1) that allows contamination to remain at the site above method two soil cleanup levels or groundwater cleanup levels listed in Table C requires DEC approval in accordance with 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.

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

3. 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. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, 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 ADEC from requiring additional assessment and/or cleanup action if future information indicates that contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to 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 20 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, P.O. 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.

Please feel free to contact me at (907) 269-7528 or darren.mulkey@alaska.gov if you have any questions.

Sincerely,

Darren Mulkey
Environmental Program Specialist

cc: Spill Prevention and Response, Cost Recovery Unit
Melinda Brunner, ADEC