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: 1521.38.011

September 29, 2022

Aemon Wetmore
FAA Alaska Region
222 W. 7th Ave, Box 14
Anchorage, AK 99513-7587

Re: **Decision Document: Cleanup Complete Determination**
FAA Frederick Point NDB Facility

Dear Mr. Hanneman,

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the FAA Frederick Point NDB Facility located at 4.5 miles east southeast of Petersburg, Alaska. 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 FAA Frederick Point NDB Facility, 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.

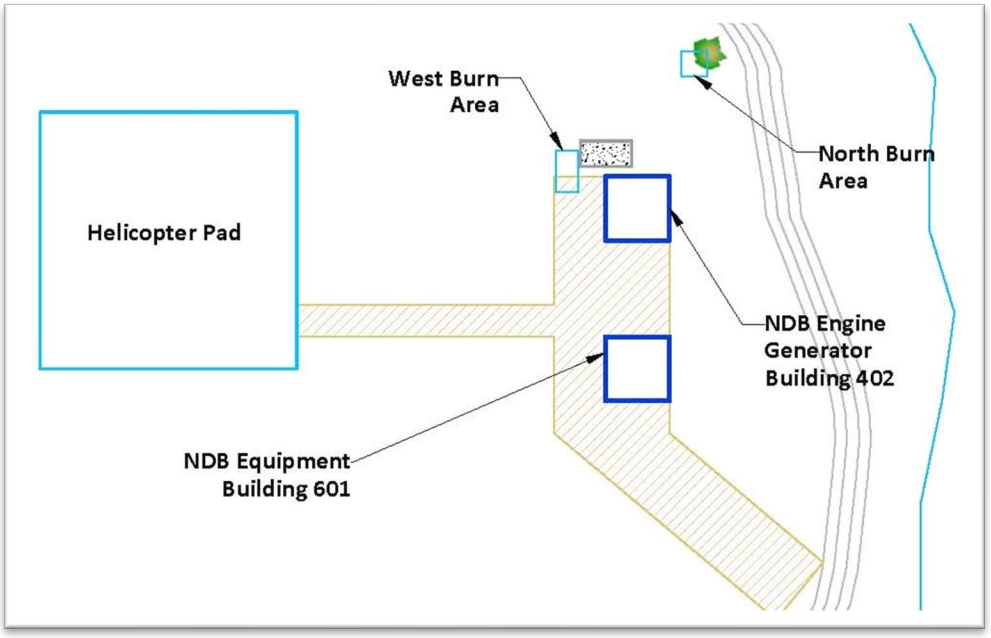
Site Name and Location:
FAA Frederick Point NDB Facility
56.7923, -132.8213
Petersburg, AK 99833

Name and Mailing Address of Contact Party:
Aemon Wetmore
FAA Alaska Region
222 W. 7th Ave, Box 14
Anchorage, AK 99513-7587

DEC Site Identifiers:
File No.: 1521.38.011
Hazard ID.: 1762

Regulatory Authority for Determination:
18 AAC 75

Site Description and Background



Frederick Point NDB facility (Frederick Point) is located approximately 4.5 miles east-southeast of Petersburg, Alaska. Frederick Point includes seven acres of land leased from the United States Forest Service. The facilities at the site included the Engine Generator Building 402, the NDB Equipment Building 601, and a helicopter landing pad. All buildings and other structures were dismantled by hand and airlifted from the site in 2018. A road passes within approximately ¼ mile of the Frederick Point site, however, the site is not directly accessible by road. The area is underlain with bedrock at varying depths.

There are two areas of concern at the site, the West Burn Area, which is located near the former deck for Building 402, and the North Burn Area, located at the base of a large tree stump and within the root mass. While it is unknown exactly what was burned in these two areas, it is believed that treated lumber from the former deck was among the materials.

Groundwater is assumed to occur in both surficial sediments and bedrock in the area. Groundwater was not encountered or evaluated during the work at this site. The average depth to bedrock is approximately 50 feet below ground surface (bgs) but it is known to outcrop in areas. The closest drinking water wells according to the Well Log Tracking System (WELTS) are five to six miles to the west of the site and vary in depth between 50’ and 180’ bgs.

Contaminants of Concern

Arsenic in soil is the only contaminant of concern (COC) at the site.

Cleanup Levels

The following 18 AAC 75 soil and groundwater cleanup levels apply at Frederick Point:

- Table B1 Method Two Migration to Groundwater soil cleanup levels
- Table B1 Over 40-Inch Zone Human Health soil cleanup levels
- Table C Groundwater Cleanup levels

Table 1 – Approved Cleanup Levels and Maximum Remaining Concentration in Soil

Contaminant	Method Two Migration to Groundwater Soil Cleanup Level (mg/kg)	Method Two Human Health or Ingestion/Inhalation Soil Cleanup Level(mg/kg)	Maximum Remaining Soil Concentration (mg/kg)
Arsenic	0.20	7.2	160

mg/kg = milligrams per kilogram

Characterization and Cleanup Activities

Note: Due to the remoteness of the location and lack of road access to both the North Burn Area and the West Burn Area, all excavations were conducted by hand.

North Burn Area

Site characterization began in 1993 when one soil sample was collected from the North Burn Area. Arsenic exceeded the migration to ground water (MTG) cleanup level (CUL) of 0.20 mg/kg and the human health (HH) CUL of 7.2 mg/kg with a concentration of 860 mg/kg. The concentration of chromium was 250 mg/kg, which exceeded the current Chromium [Cr(VI)] MTG CUL of 0.089 mg/kg. Copper exceeded the MTG CUL of 370 mg/kg with a concentration of 1,600 mg/kg.

In 1997, five analytical samples were collected and analyzed for arsenic, gasoline range organics (GRO), Diesel Range Organics (DRO), Residual Range Organics (RRO), Total Petroleum Hydrocarbons (TPH), benzene, toluene, ethylbenzene, and xylenes (BTEX). DRO exceeded the MTG CUL of 230 mg/kg in with a maximum concentration of 890 mg/kg. Arsenic exceeded the MTG and HH CULs with a maximum concentration of 1,290 mg/kg. Benzene was detected at 0.11 mg/kg, exceeding the MTG CUL of 0.022 mg/kg.

In 1998, approximately 6.5 cubic feet of contaminated soil was removed from around and under the tree stump. Confirmation samples were only analyzed for arsenic and indicated results of up to 34 mg/kg of arsenic.

In 2012, approximately 0.5 cubic yards (CY) of soil was removed from the North Burn Area. Five analytical soil samples were collected and analyzed for DRO, RRO, BTEX, 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), arsenic, copper, and chromium. All five samples exceeded the applicable cleanup level for arsenic, with concentrations ranging from 15 to 76 mg/kg.

In 2014, an additional 0.5 CY of soil was hand-excavated from the base of the 2012 excavation. Six samples were collected and analyzed for arsenic, total chromium [assumed to be Cr(III)], and Cr(VI). Four of the six soil samples collected from the excavation limits had arsenic results that exceeded ADEC MTG and HH cleanup levels with concentrations ranging from 23 to 51 mg/kg. Concentrations of Cr(III) and Cr(VI) did not exceed their respective cleanup levels.

Approximately 0.3 CY of soil was removed from the North Burn Area in 2017 and three confirmation samples were collected and analyzed for arsenic. The arsenic results ranged from 60 to 160 mg/kg, exceeding the MTG and HH CULs.

In April 2021, ADEC requested additional clarification regarding the site conditions at the North Burn Area, and specifically what limited the excavation depth in 2017. FAA advised that it was unable to continue with soil removal due to bedrock and roots surrounding the excavation, and a steep 10 to 20

foot drop-off immediately behind the tree stump. FAA further indicated that no recoverable material remained and that the intertidal zone of Frederick Sound and is comprised of bedrock material and was not considered for sampling.

West Burn Area

Site characterization began in 1993 when one soil sample was collected from the West Burn Area. DRO exceeded the MTG CUL of 230 mg/kg with a concentration of 250 mg/kg. Dieldrin (pesticide) exceeded both the MTG CUL of 0.0047 mg/kg and the HH CUL of 0.36 mg/kg with a concentration of 0.033 mg/kg. TCDD exceeded MTG and HH CULs, 3.9×10^{-6} and 4.9×10^{-5} mg/kg respectively, with a concentration of 0.0003 mg/kg.

In 1997, five soil samples were collected and analyzed for DRO, GRO, RRO, BTEX, and TPH. Results indicated DRO concentrations up to 610 mg/kg, exceeding the MTG CUL of 230 mg/kg. Dioxins, pesticides, and polycyclic aromatic hydrocarbons (PAHs) were not analyzed.

In 2012, approximately 0.5 CY of soil was hand-excavated to the extent practicable with the decking inhibiting further excavation. The samples were analyzed for DRO, RRO, BTEX, TCDD, pesticides, arsenic and PAHs. Analytical results indicated one sample exceeded the arsenic MTG and HH CULS with a concentration of 26 mg/kg. All other analytes were below ADEC cleanup levels.

In 2015, an additional 0.25 CY of soil was excavated from under the northwest corner of the deck at Building 402 and four confirmation samples were analyzed for arsenic. Two of the four samples exceeded the MTG and/or HH cleanup level with concentrations ranging from 6.5 to 11 mg/kg.

In 2018, all the infrastructure which included two buildings, a solar panel array, wooden boardwalk, wooden deck and support pilings, aluminum helicopter landing pad, concrete foundations, a metal tower, and miscellaneous debris/materials was dismantled by hand and removed via helicopter. With the structures removed, the 2012 excavation was expanded and approximately 1 CY of soil was removed, and four confirmation samples collected. The samples were analyzed for GRO, DRO, RRO, BTEX, and PAHS. All concentrations were below the applicable ADEC Method Two cleanup levels.

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 of one across all exposure pathways.

Based on a review of the environmental record, ADEC has determined that the lowest practicable level of contamination has been achieved, the residual arsenic mass is de minimis and no further action is needed at this site.

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	De Minimis Exposure	Contamination remains in the sub-surface in extremely small quantities. Shallow bedrock, a large tree root system and a steep drop-off to the beach all contribute to the inaccessibility of contamination. No recoverable material remains.
Inhalation – Outdoor Air	Pathway Incomplete	Arsenic in the subsurface soil does not pose a risk for outdoor air inhalation.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Arsenic in the subsurface soil does not pose a risk for indoor air inhalation.
Groundwater Ingestion	Pathway Incomplete	The area is underlain by bedrock outcroppings ranging from the surface to approximately 50' bgs, adjacent to Frederick Sound. No groundwater was encountered during site investigations.
Surface Water Ingestion	Pathway Incomplete	Residual contamination is not expected to reach drinkable surface water.
Wild and Farmed Foods Ingestion	Pathway Incomplete	The area around the tree stump is not expected to be used for wild or farmed foods. Residual mass of arsenic is de minimis.
Exposure to Ecological Receptors	Pathway Incomplete	There are no concerns about other ecological pathways.

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.

ADEC Decision

Soil contamination at the site has been cleaned up to the maximum extent practicable. A small amount of contamination remains that exceeds the applicable ADEC CULs. The remaining contamination cannot be removed from the North Burn Area due to shallow bedrock, the tree root system, and the bluff down to the ocean. The remaining amount of contaminated soil is de minimis and does not pose a threat to human health, safety, or welfare, or to the environment and requires no further cleanup action. 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. (See attached site figure.)

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 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, 610 University Avenue, Fairbanks, Alaska 99709, 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.

If you have questions about this closure decision, please feel free to contact me at (907) 451-2881, or email at shonda.oderkirk@alaska.gov.

Sincerely,

Shonda Oderkirk

Shonda Oderkirk
Project Manager

cc: Spill Prevention and Response, Cost Recovery Unit
Nick Waldo, ADEC
Jamie McKellar, ADEC
Aaron Timian, DNR