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: 1530.38.011

November 09, 2020

Christy Baez
U.S. Army Corps of Engineers
P.O. Box 6898
Elmendorf AFB, AK 99506-6898

Re: No Further Action Needed Determination: Yakutat AFB Point Carrew Garrison OU - C5 Base End Station Powerhouse Building No. 1082

Dear Ms. Baez

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Yakutat Air Force Base (AFB) Point Carrew Garrison OU - C5 Base End Station Powerhouse Building No. 1082 (C5 Base End Station Powerhouse) located at the west side of Point Carrew Road, approximately 1.7 miles west of the Ankau Trestle Bridge. This powerhouse is also known as Area of Concern (AOC) C5. The Yakutat Air Force Base Point Carrew Garrison OU has seven AOCs. Based on the information provided to date, it has been determined that the contaminant concentrations remaining at AOC C5 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.

Please note that the file number and Hazard ID associated with the Yakutat AFB Point Carrew Garrison OU will remain open until all AOCs are closed.

This no further action needed determination is based on the administrative record for the C5 Base End Station Powerhouse, which is located in the ADEC office in Anchorage, Alaska. This letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:
Yakutat AFB Point Carrew Garrison OU
C5 Base End Station Powerhouse
Building No. 1082
Point Carrew Road
Yakutat, AK 99689

Name and Mailing Address of Contact Party:
Christy Baez
U.S. Army Corps of Engineers
P.O. Box 6898
Elmendorf AFB, AK 99506-6898

DEC Site Identifiers:
File No.: 1530.38.011
Hazard ID.: 1986

Regulatory Authority for Determination:
18 AAC 75

Site Description and Background
A small Coast Artillery outpost, comprised of a base end station and radar installation, was located at Ocean Cape during World War II. Constructed in 1942 by the 244th Coast Artillery as a component of the harbor defense installations at Point Carrew, the base end station at Ocean Cape was one of four planned for Yakutat Air Base (Figure 1 and 2). By mid-1943, tactical operations were reduced because the war had shifted to the west and the possibility of enemy attack had dwindled. In September 1943, the Coast Artillery garrison troops were transferred westward with the exception of a small detachment left to operate the radar installation. That personnel transfer permitted the closing down of the Point Carrew Garrison area with the exception of the outpost at Ocean Cape, which remained in active operation until December 1943. C5 Base End Station Powerhouse is located on the west side of Point Carrew Road, approximately 1.7 miles west of the Ankau Trestle Bridge. The 1948 War Assets Administration Real Property Classification inventory described Building 1082 as a 14' x 16' Frame Powerhouse. It was one of 15 structures at Ocean Cape. As-builts from the 1984 U.S. Army Corps of Engineers (USACE) removal action show that adjacent buildings were removed and may have included the powerhouse structure. A 2016 remedial investigation (RI) conducted at the Ocean Cape Radio Relay Site included the location of the C5 Base End Station Powerhouse where a concrete foundation was uncovered.

Contaminants of Concern
During the 2016 site RI activities at this site, samples were collected from surface and subsurface soil, as well as groundwater, and analyzed for Diesel Range Organics (DRO), Residual Range Organics (RRO), polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs) and Resource Conservation and Recovery Act (RCRA) metals. Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern at this site:

- Diesel Range Organics (DRO)
- Naphthalene
- Chloroform

Cleanup Levels
The migration to groundwater (MTGW) cleanup levels established in 18 AAC 75.341(c) Table B1 and 18 AAC 75.341(d) Table B2 apply to this site. The horizontal extent of contamination is limited to approximately 20' x 20'. Vertical delineation of contamination indicated concentrations of DRO, naphthalene and chloroform greater than the cleanup levels at 6'-8' below ground surface (bgs). Groundwater samples were collected during site activities at approximately 16' bgs.

Table 1 – Approved Cleanup Levels

Contaminant	Soil (mg/kg)	Groundwater (mg/L)	Surface Water (ug/L)
DRO	230	1.5	N/A
Naphthalene	0.038	0.0017	N/A
Chloroform	0.0071	0.0022	N/A

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
ug/L = micrograms per liter

Characterization and Cleanup Activities
In 2016 USACE conducted a remedial investigation (RI) at the C5 Base End Station Powerhouse site. A geophysical survey was performed locating the foundation of Building 1082. Soil samples collected adjacent to the foundation indicated elevated levels of Diesel Range Organics (DRO), chloroform, and naphthalene above Alaska Department of Environmental Conservation (ADEC) cleanup levels at depths of 6-8 feet below ground surface (bgs). DRO, chloroform, and naphthalene exceedances were 1,600 mg/kg, 0.063mg/kg, and 0.064 mg/kg respectively. The area of contamination was estimated to be 20 by 20 feet and appeared to extend from the surface vertically to the saturated zone, approximately 8.5 feet bgs.

Based on the field screening and geophysical investigation, three monitoring wells were installed and sampled. One monitoring well (92-MW011) was installed to the southwest of the former powerhouse location near geophysical anomalies. Groundwater was encountered at approximately 16' bgs. The groundwater sample was submitted for full suite analysis. Two monitoring wells were installed near the soil boring with the highest photo ionization detector (PID) reading (82-MW012) and downgradient of this elevated field screening area. Groundwater analysis included GRO, DRO, RRO, RCRA Metals, PCBs (polychlorinated biphenyls), VOCs, PAH, and Mercury.

Arsenic and chromium exceed the ADEC Table C cleanup levels in groundwater; however, there are no known anthropogenic arsenic and chromium sources at this site and it is suspected that the elevated concentrations are naturally occurring. Barium was also detected above the ecological screening level; however, barium in groundwater tends to precipitate as barium sulfate upon discharge to saline waters with only an estimated 0.006% of the total barium brought by freshwater sources remaining in solution. Because of its low solubility, barium sulfate tends to be nontoxic and this finding is not considered significant.

In 2018, a removal action was conducted at the site and 893 tons of petroleum contaminated soil was excavated (Figure 3). Soil and groundwater samples were submitted to the project laboratory for DRO, chloroform, and naphthalene analysis. All the analytical confirmation soil sample results were below ADEC cleanup levels. With the completion of the excavation, groundwater monitoring wells were installed in the former source area and down gradient of the excavation. The wells were developed, purged and sampled and all the groundwater analytical results indicate that the remaining dissolved phase contamination is below ADEC cleanup levels.

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 at AOC C5 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-Minimis	Contamination was detected and removed. Soil samples results indicate contamination remaining is below Method 2 cleanup levels.
Sub-Surface Soil Contact	De-Minimis Exposure	Contamination remains in the sub-surface, but is below Method 2 cleanup levels.
Inhalation – Outdoor Air	De-Minimis Exposure	Contamination remains in the sub-surface, but is below human health and inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	De-Minimis Exposure	Subsurface soil contained DRO, chloroform and naphthalene at concentrations below Method 2 cleanup levels that do not pose a vapor intrusion concern. The pathway is considered de-minimis.
Groundwater Ingestion	De-Minimis Exposure	Groundwater elevation is approximately 16 feet below ground surface. Groundwater contained detections of DRO and chloroform at concentrations below 18 AAC 75.345 Table C cleanup levels.
Surface Water Ingestion	Pathway Incomplete	Surface water observed 750ft west downgradient of the site. Contamination is not expected to migrate to surface water; exposure pathway considered incomplete. Surface water is not used as a drinking water source.
Wild and Farmed Foods Ingestion	De-Minimis Exposure	Bioaccumulative metals arsenic, chromium, and barium were detected at the site. Metals detected are considered naturally occurring. Considered a de-minimis exposure pathway.
Exposure to Ecological Receptors	De-Minimis Exposure	Contamination remains in the subsurface soil, but it is of limited volume and concentration, and is located within a developed area unlikely to attract ecological receptors. The metals are considered naturally occurring because there is no anthropogenic source, and similar concentrations of these analytes were detected in nearly all soil samples at multiple areas of concern across Yakutat.

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 AOC C5 has been cleaned up to concentrations below the approved ADEC cleanup levels suitable for residential land use. This source area will receive a "No Further Action Needed" notation 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.

If you have questions about this closure decision, please contact Rachael Petraeus at (907) 269-7520 or email at rachael.petraeus@alaska.gov.

Sincerely,

Rachael Petraeus

Rachael Petraeus
Project Manager

cc: Melinda Brunner, ADEC

Enclosure: Figures 1-3