THE STATE of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File: 105.38.008

February 7, 2019

Frances Isgrigg, Director
UAF - Environmental Health, Safety & Risk Management
1855 Marika Road
Fairbanks, AK, 99775

Re: Decision Document: UAF Arctic Health Building, Cleanup Complete Determination

Dear Frances Isgrigg:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Arctic Health Research Building (AHRB) located at 901 North Koyukuk Drive on the University of Alaska Fairbanks (UAF) main campus in Fairbanks, 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 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 University of Alaska Fairbanks Arctic Health Research Building which is located in the ADEC office in Fairbanks, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:
UAF Arctic Health Building
901 North Koyukuk Drive
Fairbanks, AK 99775

Name and Mailing Address of Contact Party:
Frances Isgrigg, Director
UAF Environmental Health, Safety & Risk Management
1855 Marika Road
Fairbanks, AK 99775

ADEC Site Identifiers:
File No.: 105.38.008
Hazard ID.: 23055

Regulatory Authority for Determination:
18 AAC 75

Site Description and Background

In May 2011, while excavating the foundation of the UAF AHRB greenhouse, UAF Environmental Health, Safety & Risk Management (EHSRM) personnel discovered historic diesel contamination adjacent to, and beneath, the road way of Yukon drive and contacted ADEC's Prevention Preparedness and Response Program (PPRP) about the release. The age, volume and source of the spill are unknown, but it is thought to be the result of an old and undocumented heating oil release. Contamination was removed where possible but confirmation samples documented the presence of diesel contamination under Yukon drive and the site was transferred to the Contaminated Sites Program.

Contaminants of Concern

During the site investigation and cleanup activities, samples were collected from soil and analyzed for: gasoline range organics (GRO); diesel range organics (DRO); residual range organics (RRO); benzene, toluene, ethylbenzene, and total xylenes (BTEX); and polycyclic aromatic hydrocarbons (PAHs). 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)

Cleanup Levels

The most stringent method 2 cleanup levels are applicable at this site. Diesel range organics were detected in soil above the migration to groundwater cleanup level established in 18 AAC 75.341(d), Table B2. Contamination did not reach groundwater at this site so the Table C groundwater cleanup levels do not apply.

Table 1 – Approved Cleanup Levels

Contaminant	Soil (mg/kg)
DRO	250

mg/kg = milligrams per kilogram

Characterization and Cleanup Activities

During the excavation in 2011, UAF EHSRM personnel oversaw the removal and sampling of the contaminated soil under oversight by PPRP. Field screening with a photoionization detector (PID) was used to determine the extent of the soil contamination. PID screening was performed on 145 soil samples and three laboratory samples were collected from areas with the highest PID readings. A total of 25 cubic yards (cy) of contaminated soil were sent to OIT, Inc. in Moose Creek for thermal remediation.

Soil contamination extended from approximately two feet to eight feet below ground surface (ft. bgs) and DRO was the only contaminant found above the cleanup levels. Nortech Engineering estimated that approximately 5 cy of contaminated soil remained under the road surface based on how contaminant concentrations declined approaching Yukon drive. DRO were found at 2,710 mg/kg at the southeast extent of the excavation. The remaining contaminated soil could not be removed without destabilizing the road surface. Nortech was contracted to prepare the site report describing the cleanup activities.

In summer 2018 the road surface on Yukon drive was removed facilitating additional characterization. UAF contracted Nortech to return to the site and delineate soil impacts in July 2018. Five soil borings were advanced 10 to 20 ft. bgs to delineate the area where contamination had previously been encountered in the southeast corner of the former greenhouse excavation.

Field screening did not indicate the presence of contaminated soil in any of the borings and confirmation samples from each boring contained DRO concentrations at non-detectable or very low concentrations. No BTEX or PAHs were detected in any of the samples. The contamination encountered in 2011 appears to have naturally attenuated.

Soil borings down to 20 ft. bgs did not encounter groundwater, and based on nearby well logs, groundwater is not expected to be encountered until at least 80 ft. bgs. Contamination was found at a maximum depth of 8 ft. and groundwater is no longer used for drinking water in this area.

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 non-carcinogenic 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	Pathway Incomplete	Contamination has not been encountered in surface soils (0-2 ft. bgs) at this site.
Sub-Surface Soil Contact	De Minimis Exposure	Contamination remains in the sub-surface, but it is below the Table B2 ingestion cleanup levels.
Inhalation – Outdoor Air	De Minimis Exposure	Contamination remains in the sub-surface, but it is below the Table B2 inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Remaining petroleum contamination is below the most stringent soil cleanup levels and is not expected to impact indoor air.
Groundwater Ingestion	Pathway Incomplete	No petroleum compounds were detected deeper than 8 ft. bgs. Groundwater was not encountered in any soil borings and is expected to be at least 80 ft. bgs.
Surface Water Ingestion	Pathway Incomplete	The nearest surface water, Smith Lake is located over 0.5 miles away and contamination is not migrating.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Contamination is not impacting an area where hunting, fishing, or foraging could take place.
Exposure to Ecological Receptors	Pathway Incomplete	Contamination is not impacting an area where ecological receptors could be impacted.

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 has naturally remediated 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, subject to the following standard conditions.

Standard Conditions:

1. Any proposal to transport soil or groundwater off-site requires ADEC 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 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, 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) 451-5174, or email at michael.hooper@alaska.gov.

Sincerely,

Michael Hooper
Project Manager

cc (via email): Spill Prevention and Response, Cost Recovery Unit