THE STATE of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

P.O. Box 111800
Juneau, AK 99811-1800
Phone: 907-465-5390
Fax: 907-465-5218
www.dec.alaska.gov

File: 1514.57.002

February 20, 2019

Via electronic mail only
Rudy Bean
City of Kake
P.O. Box 500
Kake, Alaska 99830

Re: Decision Document: Kake Former Elementary School
Cleanup Complete Determination

Dear Mr. Bean:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Kake Former Elementary School Site located at the intersection of Church Street and Fourth Avenue in downtown Kake. 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 Kake Former Elementary School Site, which is located in the ADEC office in Juneau, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:
Kake Former Elementary School
Church Street and Fourth Avenue
Kake, Alaska 99830

Name and Mailing Address of Contact Party:
Rudy Bean
City of Kake
P.O. Box 500
Kake, Alaska 99830

DEC Site Identifiers:
File No.: 1514.57.002
Hazard ID.: 26252

Regulatory Authority for Determination:
18 AAC 75

Site Description and Background

The Kake former elementary school is located in downtown Kake at the intersection of Church Street and Fourth Avenue. It was built in 1951 and an addition was added between 1979 and 1980. The school closed in 1996 after a new school was constructed. The school has since been vacant and has deteriorated over time. A 4,500-gallon heating oil underground storage tank (UST) located on the southeast side of the building provided heat. As part of an ADEC Brownfield Assessment and Cleanup (DBAC) project, the UST was excavated and a small amount of heating oil (less than a half-gallon) was spilled.

Contaminants of Concern

During the site characterization and cleanup activities at this site, samples were collected from soil and analyzed for gasoline range organics (GRO), diesel range organics (DRO), benzene, toluene, ethylbenzene, and 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:

- DRO
- Benzene
- 1-methylnapthalene
- 1-methylnapthalene

Cleanup Levels

The cleanup levels for soil for the site are the migration to groundwater for the over-40 inch precipitation zone established in 18 AAC 75.341.

Table 1 – Approved Cleanup Levels

Contaminant	Soil (mg/kg)
DRO	230
Benzene	0.022
1-methylnapthalene	0.41
1-methylnapthalene	1.3

mg/kg = milligrams per kilogram

Characterization and Cleanup Activities

Characterization and cleanup activities conducted under the regulatory authority of the Contaminated Sites Program began in 2014 as part of a DBAC project. According to the *Site Assessment Former Kake Elementary School*, prepared by Shannon and Wilson, and dated December 2014, the onsite UST was excavated in September 2014. Prior to excavation, approximately 170 gallons of heating oil was removed from the tank. The tank was buried at about 10 feet (ft.) belowground. The tank appeared in good condition with no holes or evidence of corrosion. The piping was disconnected from the tank and removed to the extent practicable due to the presence of playground equipment which prevented complete excavation. During the excavation, less than a half-gallon of residual heating oil was discharged onto the excavation sidewall and base. The fuel impacted soil was removed and placed in a stockpile and the empty UST disposed of.

The final excavation measured approximately 15 by 9 by 23 by 22 ft. and extended to a depth of 8 ft. The clean overburden soil (93 cubic yards (yd^3)), contaminated soil (less than one yd^3), and the excavation were field screened using a photoionization detector (PID). A total of 24 field screening samples were collected. Six laboratory samples were collected from the excavation and analyzed for GRO, DRO, and BTEX; one sample was also analyzed for PAHs. The results met ADEC cleanup levels. Two soil samples were collected from the clean overburden and analyzed for GRO, DRO, and BTEX; the results met cleanup levels. The potentially contaminated soil stockpile was sampled (one sample) and analyzed for GRO, DRO, BTEX, and PAHs. The results were above cleanup levels for DRO at 2,200 mg/kg, benzene at 0.41 mg/kg, 1-methylnapthalene at 7.0 mg/kg, and 2-methylnapthalene at 9.7 mg/kg. The excavation was backfilled with the clean overburden and clean gravel. The less than one cubic yard of contaminated soil was taken to the City of Kake City Pit to be landspread, tilled, and allowed to naturally attenuate.

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 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, but is below the most stringent cleanup levels.
Inhalation – Outdoor Air	De-Minimis Exposure	Contamination remains in the sub-surface, but is below the most stringent cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	There are no occupied buildings on site and the soil meets the most stringent cleanup levels.
Groundwater Ingestion	Pathway Incomplete	Groundwater was not affected by the contamination.
Surface Water Ingestion	Pathway Incomplete	Surface water was not affected by the contamination.
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	Ecological receptors were not affected by the contamination.

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 the site have been cleaned up 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. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

2. 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 feel free to contact me at (907) 465-5207, or email at danielle.duncan@alaska.gov.

Sincerely,

Danielle Duncan
Project Manager

cc: Spill Prevention and Response, Cost Recovery Unit