THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Environmental Conservation
DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File: 100.38.236

May 15, 2017

Phil Streeter
Fairbanks North Star Borough, Department of Public Works
PO Box 71267
Fairbanks, AK, 99707-1267

Re: Decision Document: FNSB – Badger Road Elementary School
Cleanup Complete Determination

Dear Mr. Streeter:

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program has completed a review of the environmental records associated with the Badger Elementary School Portable Music Building located at 2301 Bradway Road. 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. No further remedial action will be required unless new information becomes available that indicates exposure residual contaminants may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the Badger Elementary School Portable Music 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:
Badger Elementary School
2301 Bradway Road
Fairbanks, AK 99705

Name and Mailing Address of Contact Party:
Phil Streeter
Fairbanks North Star Borough
PO Box 71267
Fairbanks, AK 99707-1267

DEC Site Identifiers:
File No.: 100.38.236
Hazard ID.: 25686

Regulatory Authority for Determination:
18 AAC 75

Site Description and Background

On July 14, 2011, a 2,500-gallon unregulated heating oil underground storage tank (UST) was removed and replaced at the Badger Elementary School Portable Music building. During excavation activities contaminated soil was discovered near the fill pipe of the tank. The Badger Road Elementary School main building is also a contaminated site due to releases from a removed 8,000-gallon regulated UST (ADEC file number: 100.26.209). Information about both sites can be found on the contaminated sites online database (accessible here: http://dec.alaska.gov/spar/csp/db_search.htm).

Contaminants of Concern

During tank replacement activities soil samples were collected and analyzed for diesel range organics (DRO), benzene, toluene, ethylbenzene, and xylenes (BTEX), and polycyclic aromatic hydrocarbons (PAHs). During the release investigation in August 2012, groundwater samples were collected and analyzed for DRO, BTEX, and PAHs. All compounds were detected below the Method 2 cleanup levels found in 18 AAC 75.341(d) Tables B1 & B2, and 18 AAC 75.345(B)(1) Table C.

Cleanup Levels

Soil cleanup levels applicable to the site are found in 18 AAC 75.341, Tables B1 & B2. Groundwater cleanup levels are found in 18 AAC 75.345(b)(1), Table C.

Table 1 – Approved Cleanup Levels

Contaminant	Soil[1] (mg/kg)	Groundwater[2] (µg/L)
DRO	250	1,500
Benzene	0.022	4.6
Toluene	6.7	1,100
Ethylbenzene	0.13	15
Xylenes	1.5	190

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
ug/L = micrograms per liter
1 – Method 2 migration to groundwater soil cleanup level
2 – Method 2 groundwater cleanup level

Characterization and Cleanup Activities

During UST replacement at the portable music building at Badger Elementary School in July 2011, Independent Contractors Associated (ICA) personnel encountered contaminated soil at the fill pipe of the 2,500-gallon heating oil UST. Field screening with a photo-ionization detector (PID) was used to delineate the extent of the contamination. Contaminated soil was found to be limited to the soil surrounding the fill pipe and sidewalls of the tank. Soil that was not suspected of being contaminated was stockpiled for reuse as backfill. The tank was removed and 35-cubic yards (cy) of potentially contaminated soil was excavated and thermally remediated at Organic Incineration Technology, Inc. in North Pole, Alaska. Confirmation samples were taken from the limits of excavation and from the clean backfill stockpile. Contaminants in soil samples were below the Method 2 soil cleanup levels in the November 6, 2016, update to 18 AAC 75.341.

No product or sheen was observed on the groundwater encountered at 9.5-ft below ground surface. The excavation was backfilled with soil from the clean stockpile and additional clean fill from offsite.

One sample collected from the soil used to backfill the excavation contained DRO at 122-mg/kg, above the project action level of 100-mg/kg being used at the time, this prompted groundwater monitoring to be conducted. Monitoring well 3 (MW-3) was installed as the excavation was being backfilled to evaluate contamination from the unregulated UST as well as the possibility of contaminant migration from the main school building's larger regulated UST. MW-3 was not installed in accordance with the ADEC Monitoring Well Guidance. As a result the well was not able to be sampled.

In August 2012, Shannon & Wilson, Inc. replaced MW-3 and collected a groundwater sample. Laboratory analysis indicated that all compounds were below the applicable groundwater cleanup levels in the 18 AAC 75.345(b)(1).

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 unrestricted 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 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	De-Minimis Exposure	Contamination remains in surface soil, but is below the direct contact cleanup levels.
Sub-Surface Soil Contact	De-Minimis Exposure	Contamination remains in sub-surface soil, but is below the direct contact cleanup levels.
Inhalation – Outdoor Air	De-Minimis Exposure	Contamination remains in the surface and sub-surface, but is below the inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	The site of the former UST and minimally contaminated soil are 40 ft from the portable music building.
Groundwater Ingestion	Pathway Incomplete	Remaining soil contamination was below the Method 2 migration to groundwater soil cleanup levels. Groundwater testing confirmed that contamination had not impacted groundwater.

Surface Water Ingestion	Pathway Incomplete	The nearest surface water is the Chena slough which is more than 0.25 miles away. Contaminants are not expected to migrate.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bio-accumulate in plants or animals.
Exposure to Ecological Receptors	Pathway Incomplete	There are no ecological receptors in the vicinity of the site.

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 and groundwater 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. 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. (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 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