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: 100.26.202

May 16, 2018

Janet Smith, Deputy Director of Public Works
Fairbanks North Star Borough
PO Box 71267
Fairbanks, AK, 99707

Re: Decision Document: FNSB - Weller Elementary School UST 1
Cleanup Complete Determination

Dear Ms. Smith:

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program has completed a review of the environmental records associated with the Weller Elementary School UST #1 located at 635 Elementary Drive in Fairbanks. 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 Weller Elementary School UST #1, 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:
Weller Elementary School UST #1
635 Elementary Drive
Fairbanks, AK 99712

Name and Mailing Address of Contact Party:
Janet Smith
Fairbanks North Star Borough
P.O. Box 71267
Fairbanks, AK 99707

DEC Site Identifiers:
File No.: 100.26.202
Hazard ID.: 25535

Regulatory Authority for Determination:
18 AAC 78 and 18 AAC 75

Site Description and Background

During tank replacement at Weller Elementary School contaminated soil was discovered originating from the manway fitting at the top of the 5000-gallon dual-use heating oil and emergency generator underground storage tank (UST). During remedial actions a total of 161 cubic yards (cy) of contaminated soil were excavated for thermal remediation. Residual contamination was noted down to 18 feet below ground surface (ft bgs) where bedrock prevented further removal of contaminated material. The excavation was backfilled with clean soil and a new 4000-gallon regulated dual-use UST was installed in the same excavation.

Contaminants of Concern

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

Cleanup Levels

The most stringent Method 2 migration to groundwater soil cleanup levels apply at this site. Method 2 soil clean up levels are established in 18 AAC 75.341(c) Table B1 and 18 AAC 75.341(d) Table B2.

Table 1 – Approved Cleanup Levels

Contaminant	Soil[1] (mg/kg)
DRO	250
ethylbenzene	0.13
xylenes	1.5

mg/kg = milligrams per kilogram
1 – Migration to groundwater cleanup level, Method 2

Characterization and Cleanup Activities

In July of 2010, during replacement of the 5000-gallon dual-use heating oil and emergency generator UST at the weller elementary school, contamination was discovered originating from the top of the tank. Small historic petroleum releases had occurred from the manway fitting. No free product was observed in the excavation and all soils encountered were dry.

After the tank was removed remedial actions began. Contaminated soil was removed from under the tank impression until bedrock prevented further excavation at 18 ft bgs. Soil samples were collected from above this bedrock and from the excavation sidewalls using the excavator bucket. Samples collected above the bedrock at the center of the excavation bottom exceeded the approved soil cleanup level for DRO, ethylbenzene, and xylenes at 2,680 mg/kg, 1.17 mg/kg, and 6.36 mg/kg, respectively.

The site is located in the foothills north of Fairbanks with the groundwater aquifer at approximately 360 ft bgs. Well logs indicate that the aquifer is pressurized and has a competent confining layer separating it from surface soils. The school's well is located 200 ft from the UST and is screened at 540 ft bgs in the confined aquifer. This well is only used for flushing toilets and other non-potable uses. All potable water used at the the school is delivered to a holding tank by Pioneer Wells.

Though soil above the migration to groundwater cleanup level remains within the weathered bedrock at 18 ft bgs under the new tank, migration to groundwater is not expected to be a complete pathway and groundwater is not used as a source of drinking water on-site.

During excavation one set of continuous rolled copper fuel lines was exposed 6 feet below ground surface. The lines were cut, drained, capped and abandoned under the building foundation. The lines daylight immediately inside the building where they entered the generator and boiler transfer pump; less than 10 ft of line was abandoned in place and there was no indication of a release from this piping. The analytical results from a soil sample collected from the excavation sidewall under the abandoned lines did not contain any detectable contaminants.

Cumulative Risk Evaluation

Pursuant to 18 AAC 78.600(d), 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, 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	All contaminated soils were removed from the surface (0-2 ft bgs)
Sub-Surface Soil Contact	De-Minimis Exposure	All contaminated soils were removed from the subsurface (2-15 ft bgs). Contamination remains in deep soils (15-18 ft bgs), but is below human health and ingestion cleanup levels.
Inhalation – Outdoor Air	De-Minimis Exposure	All contaminated soils were removed from the subsurface (2-15 ft bgs). Contamination remains in deep soil (15-18 ft bgs), but is below human health and inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	De-minimis Exposure	Low level petroleum contamination remains in deep soils at 15-18 ft bgs, but is overlain by clean fill and not expected to impact indoor air quality.
Groundwater Ingestion	Pathway Incomplete	The groundwater aquifer at this site is located approximately 360 ft bgs and is contained by a competent confining layer.
Surface Water Ingestion	Pathway Incomplete	The nearest surface water, Wigwam Creek, is located more than half a mile away. Contamination is not expected to migrate.
Wild and Farmed Foods Ingestion	Pathway Incomplete	The site is on a developed lot not used for hunting, fishing, gathering or farming food.
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 78.600(h). A "site" as defined by 18 AAC 78.995(134) 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 78.276(f) 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) 451-5174, or email at michael.hooper@alaska.gov.

Sincerely,

Michael Hooper
Project Manager

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