



THE STATE
of **ALASKA**
GOVERNOR SEAN PARNELL

Department of
Environmental Conservation

DIVISION OF SPILL PREVENTION & RESPONSE
Contaminated Sites Program

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File No: 2524.26.001

November 8, 2013

Bob Tucker
Kodiak Island Borough School District
P.O. Box 8908
Kodiak, AK 99615

Re: Decision Document; Chiniak School
Corrective Action Complete – Institutional Controls Determination

Dear Mr. Tucker;

The Alaska Department of Environmental Conservation (ADEC) has reviewed the environmental records for the Chiniak School. This decision letter memorializes the site history, cleanup actions, and specific conditions required to effectively manage remaining contamination. No further remedial action will be required as long as compliance with these conditions is maintained.

Site Name and Location:

Chiniak School
42551 Chiniak Highway
Anchorage, Alaska 99615

Name and Mailing Address of Contact Party:

Bob Tucker
Kodiak Island Borough School District
P.O. Box 8908
Kodiak, AK 99615

ADEC Site Identifiers:

File: 2524.26.001
Hazard ID: 25747

Regulatory Authority for Determination:

18 AAC 75 and 18 AAC 78

Background

In September 2011, petroleum contamination was encountered during sight assessment activities to remove an unregistered regulated 500-gallon diesel underground storage tank (UST) on the south side of the Chiniak School maintenance building.

Additional site assessment activities were conducted on the east side of the maintenance building to evaluate a separate registered regulated 12,000-gallon diesel UST. This tank was converted from a regulated UST containing generator fuel to an unregulated underground heating oil tank (HOT) and remains on site. Soil samples collected 12 feet below ground surface (bgs) from four soil borings contained detectable concentrations of petroleum constituents, but below cleanup levels. Based off this information, no further action has been required at the 12,000-gallon HOT.

Contaminants of Concern

During the investigations at the site, soil samples were analyzed for the following: gasoline range organics (GRO); diesel range organics (DRO); residual range organics (RRO); Polycyclic Aromatic Hydrocarbons (PAHs); and the volatile organic compounds (VOCs) benzene, toluene, ethylbenzene, and xylenes. Based on these analyses and knowledge of the source area, the following contaminants of concern (COCs) were identified in soil:

- DRO
- Benzene
- Toluene

ADEC Cleanup Levels

The default soil cleanup levels for this site are established in 18 AAC 75.341, Method Two, Table B1 and B2, *Over 40 Inch Zone*.

Table 1- Soil Cleanup Levels and Highest Remaining Contaminant Level

Contaminants of Concern	Soil- Method Two, Direct Contact /Ingestion*	Soil-, Inhalation*	Soil- Method Two Migration to Groundwater*	Soil-Highest remaining contaminant level on site*
DRO	8,250	12,500	230	13,000
Benzene	120	8.5	0.025	0.91
Toluene	6,600	220	6.5	8.63

Notes to Table 1. *All soil contaminant concentrations are presented in mg/kg.

Site Characterization and Cleanup Actions

Site characterization conducted under the regulatory authority of the Contaminated Sites Program (CSP) began in 2011. Fifteen cubic yards (CY) of contaminated soil were removed from the UST excavation and stockpiled on site. The bottom of the 500-gallon UST was estimated at 6 feet bgs. A confirmation sample was not collected at this depth due to two feet of standing water in the base of the excavation and sluffing soil potential. However, soil samples were collected 12 feet bgs at the adjacent 12,000 gallon HOT. These soil samples contained detectable concentrations of petroleum constituents, but below cleanup levels.

Three soil samples collected from the 500-gallon UST excavation at depths of 3.5 to 5.5 feet contained DRO up to 734 mg/kg. Two soil samples collected below the piping adjacent to the maintenance building at 1.5 feet bgs contained DRO at 13,000 mg/kg, benzene at 0.91 mg/kg, and toluene at 8.63 mg/kg. Removal of this soil was not practical due its proximity to building structures. The 15 CY contaminated stockpile was placed on a liner and covered on site, and the excavation was fenced off and left open. This stockpile was ultimately treated in the landfarm.

Additional site assessment and soil excavation work was completed in 2012. One soil sample collected from the 15 CY stockpile contained DRO at 1,230 mg/kg. Forty cubic yards of additional contaminated soil was removed and put in a lined covered stockpile on site and eventually landfarmed. Excavation of contaminated soil was limited by the maintenance building foundation. Two soil samples collected from the bottom of the excavation at 4.0 to 4.5 feet bgs contained DRO up to 423 mg/kg. Two soil sidewall samples collected below the piping adjacent to the maintenance building foundation at 3.25 and 3.50 feet bgs contained DRO up to 1,500 mg/kg. Two soil samples collected from this stockpile contained DRO up to 1,280 mg/kg. An additional lined/covered stockpile was ultimately required which was treated in the landfarm. The excavation was then brought to grade with clean fill.

In 2012, six soil samples were collected from an historic ADEC Prevention and Emergency Response Program (PERP) managed landfarm located on the school property. (The PERP landfarm was originally generated from a 2009 spill at the School Caretakers house.) PERP closed the Caretakers house spill event in 2012 based off six soil samples collected from the landfarm, which contained DRO up to 265 mg/kg. PERP then approved placement of the Chiniak School soils into this area for landfarming.

In May 2013, a total of 55 CY of stockpiled soils were placed in the historic landfarm in a 40 by 40 foot area with an average thickness of 7 inches deep. Fertilizer was mixed in the soil to promote biodegradation. In September 2013, three soil samples collected 6 inches into the pile contained DRO up to 276 mg/kg.

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 records, the residual DRO concentration exceeds the inhalation risk pathway. However, the source area has been removed, the area of contamination is limited in extent, and the site is capped with clean-fill mitigating exposure. This pathway is considered de minimis and the risk is insignificant. (See *Exposure Pathway Evaluation* table below for further details.)

Exposure Pathway Evaluation

Following investigation and cleanup at this site, exposure to remaining contaminants was evaluated using ADEC's Exposure Tracking Model (ETM). Exposure pathways are conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to one of the following: De Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 1.

Table 1 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	De Minimis Exposure	Land farmed soil area does not contain DRO concentrations above ingestion cleanup levels. Contaminated surface soil associated with the former 500 gallon UST was excavated and brought to grade with clean fill. DRO contaminated soil left in place along the former pipeline exceeds ingestion cleanup levels, but is currently inaccessible, and the extent appears limited. Therefore, exposure via this pathway is considered insignificant.
Sub-Surface Soil Contact	De Minimis Exposure	DRO subsurface soil samples were below ingestion cleanup levels. Subsurface soil contamination remains underneath the building foundation and appears to be limited in extent. Additionally, the proximity to the building prevents access. Therefore, exposure through this pathway is considered insignificant.

Inhalation – Outdoor Air	De Minimis Exposure	DRO remains above inhalation cleanup but is limited in extent. The source has been removed, and the site is capped with clean fill. Exposure via this pathway is considered insignificant.
Inhalation – Indoor Air (vapor intrusion)	De Minimis Exposure	DRO, benzene, and toluene remain in the soil. However, the source area has been removed, and the site is capped with clean fill. Additionally, the maintenance building is occasionally occupied further limiting exposure via this pathway.
Groundwater Ingestion	De Minimis Exposure	Petroleum constituents remain in the soil above migration to groundwater cleanup levels. However, the source area has been removed and remaining contamination is limited in extent. Additionally, the Chiniak School drinking water (DW) well, the closest DW well to the site, is located 2,000 feet away. Therefore, exposure via this pathway is considered insignificant.
Surface Water Ingestion	Pathway Incomplete	Surface water is not utilized as a drinking water source in this area.
Wild Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals. This area is not used for harvesting wild foods.
Exposure to Ecological Receptors	Pathway Incomplete	There are no complete exposure pathways to ecological receptors at the site.

Notes to Table 1: “De minimis exposure” means that in ADEC’s judgment receptors are unlikely to be affected by the minimal volume of remaining contamination. “Pathway incomplete” means that in ADEC’s judgment contamination has no potential to contact receptors. “Exposure Controlled” means there is an administrative mechanism in place limiting land or ground water use, or a physical barrier in place that deters contact with residual contamination.

ADEC Decision

There is contamination remaining above established cleanup levels at the Chiniak School, but ADEC has determined there is no unacceptable risk to human health or the environment, and this site will be granted a Corrective Action Complete- Institutional Controls Determination subject to the following:

1. Any future change in land use may impact the exposure assumptions cited in this document. If land use and/or ownership changes, current institutional controls may not be protective and ADEC may require additional remediation and/or institutional controls. Therefore, the Chiniak School will report to ADEC every five years to document land use, or as soon as the Chiniak School becomes aware of any change in land ownership and/or use. **The report can be sent to the local ADEC office or electronically to DEC.ICUnit@alaska.gov**
2. The soil contamination located under the maintenance building is currently inaccessible. (See attachment B). When the building is removed and/or the soil becomes accessible, the soil must be evaluated in accordance with an ADEC approved work plan.
3. In the future, if soil is removed from the site it must be characterized and managed following regulations applicable at that time. Pursuant to 18 AAC 78.274 (b), DEC approval is required prior to moving soil that is, or has been, subject to 18 AAC 78, Article 2.

4. Installation of groundwater wells at this site will require approval from ADEC
5. Movement or use of potentially contaminated soil in a manner that results in a violation of 18 AAC 70 water quality standards is unlawful.
6. 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 Attachment B).

The ADEC Contaminated Sites Database will be updated to reflect the change in site status as detailed above, and will include a description of the contamination remaining at the site. Institutional controls will be removed in the future if documentation can be provided that shows cleanup levels have been met. Note: management conditions 5 and 6 will remain in effect after ICs are removed.

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 this site may pose an unacceptable risk to human health or 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, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, 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, Juneau, Alaska 99801, 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.

Please sign and return *Attachment A* to ADEC within 30 days of receipt of this letter. If you have questions about this closure decision, please feel free to contact Grant Lidren at (907) 269-8685.

Sincerely,



Grant Lidren
Environmental Specialist

Attachment A: Cleanup Complete-ICs Agreement Signature Page
Attachment B: Site Figure

Attachment A: Cleanup Complete-ICs Agreement and Signature Page*

The Chiniak School agrees to the terms of this Corrective Action Complete with Institutional Controls determination as stated in this closure decision document dated **November 8, 2013** for the *Chiniak School* site. Failure to comply with the terms of this agreement may result in ADEC reopening this site and requiring further remedial action in accordance with 18 AAC 78.276(f).

Signature of Bob Tucker or Authorized Representative, Title
Chiniak School

Printed name of Bob Tucker or Authorized Representative, Title
Chiniak School

Note to Responsible Person (RP):

After making a copy for your records, please return a signed copy of this form to the ADEC project manager at the address on this correspondence within 30 days of receipt of this letter.

ADEC File No.: 2524.26.001
Hazard ID: 25747
ADEC Project Manager: Grant Lidren

For Internal Use Only

***Attention ADEC Administration Staff:** Please follow the procedure below after Attachment A is signed/returned to ADEC.

1. Log-in and Date Stamp *Attachment A*
2. Scan and Save to the appropriate electronic folder on the network Drive
3. File the hard copy in the appropriate project/site file Correspondence Folder (blue in Anchorage).
4. Provide the Correspondence folder (with the filed *Attachment A* hard copy) to the ADEC Project Manager

Attachment A: Site Figure

