



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

**Department of Environmental
Conservation**

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

410 Willoughby Ave., Suite 303
P.O. Box 111800
Juneau, Alaska 99811-1800
Main: 907.465.5390
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www.dec.alaska.gov

File: 720.38.001

June 18, 2018

Sent via electronic mail only

Lance Bowie, Superintendent
Yukon Flats School District (YFSD)
P.O. Box 350
Fort Yukon, AK 99740

Re: Institutional Controls (ICs) Agreement for:
Chalkyitsik School Heating Oil Tank (HOT) Spill

Dear Mr. Bowie:

The Contaminated Sites Program is conducting an audit of contaminated sites closed with conditions (Institutional Controls) to verify that closure stipulations such as periodic monitoring and reporting are being performed by the responsible party of record as required under state law (18 AAC 75.375).

In May 2013, the Alaska Department of Environmental Conservation (ADEC) issued a Cleanup Complete Determination – Institutional Controls (Decision Document) for the Chalkyitsik School HOT Spill site requesting that Attachment A: Cleanup Complete-ICs Agreement and Signature Page be signed and returned to ADEC within 30 days of receipt of the letter. Based on our records, we never received the required signed agreement page. The Decision Document outlining the original request is enclosed.

REQUESTED DOCUMENTATION

A signed copy of **Attachment A: Cleanup Complete-ICs Agreement and Signature Page**. A blank copy of the signature page is enclosed with this letter.

*Please be advised that the Chalkyitsik School HOT Spill site is subject to the following standard and site-specific conditions and/or institutional controls:

1. Any future change in land use may impact the exposure assumptions cited in the 2013 Decision 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, YFSD will report to ADEC every five years to document land use, or as soon as YFSD becomes aware of any change in land ownership and/or use, if earlier. The report can be sent to the local ADEC office or submitted electronically to CS.Submittals@alaska.gov.

June 18, 2018

2. 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 C in the 2013 Decision Document.)
3. The soil contamination located under the Southern Teacher’s HOT is currently inaccessible. (See Attachment C in the 2013 Decision Document.) When the HOT is removed and/or the soil becomes accessible, the soil must be evaluated in accordance with an ADEC approved work plan.
4. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.
5. Installation of groundwater or drinking water wells will require approval from ADEC.

Please sign and return *Attachment A* to ADEC either by hard copy letter or email no later than July 20, 2018.

If you have any questions about these requirements, please do not hesitate to contact me at (907) 465-5229 or evonne.reese@alaska.gov.

Sincerely,



Evonne Reese
Environmental Program Specialist
Institutional Control Unit

Encl: Attachment A: Cleanup Complete-ICs Agreement and Signature Page (blank copy)
2013 Decision Document

Note: This letter is being transmitted to you in electronic format only. If you require a paper copy, let us know and we will be happy to provide one to you. In the interest of reducing file space, the Division of SPAR/Contaminated Sites Program has transitioned to electronic transmission of project correspondence.

You may submit any needed documentation electronically. If your submittal is too large to email (i.e. exceeds 20 megabytes), you may submit it to me through the Alaska ZendTo “drop-off” option at <https://drop.state.ak.us/drop/>. The Division of SPAR/Contaminated Sites Program prefers and encourages electronic submittals.

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

Lance Bowie, as a representative of Yukon Flats School District agrees to the terms and institutional controls conditions of the Cleanup Complete - Institutional Controls Decision Document dated **May 7, 2013** for the Chalkyitsik School HOT Spill site. Failure to comply with the terms and conditions of the determination may result in ADEC reopening this site and requiring further remedial action in accordance with 18 AAC 75.380.

Signature of Authorized Representative, Title
Lance Bowie, Superintendent; Yukon Flats School District

Date

Printed Name of Authorized Representative, Title
Lance Bowie, Superintendent; Yukon Flats School District

Institutional Controls and Conditions

1. Any future change in land use may impact the exposure assumptions cited in the 2013 Decision 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, YFSD will report to ADEC every five years to document land use, or as soon as YFSD becomes aware of any change in land ownership and/or use, if earlier. The report can be sent to the local ADEC office or submitted electronically to CS.Submittals@alaska.gov.
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4. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.
5. Installation of groundwater or drinking water wells will require approval from ADEC.

Note to Landowner/Responsible Person (RP):

After making a copy for your records, please email a scanned, signed copy of this form to the ADEC project manager at the email address on this correspondence within 30 days of receipt of this letter. The Division of SPAR/Contaminated Sites Program prefers and encourages electronic submittals.



THE STATE
of **ALASKA**
GOVERNOR SEAN PARNELL

Department of
Environmental Conservation

DIVISION OF SPILL PREVENTION & RESPONSE
Contaminated Sites Program

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dec.alaska.gov

File No: 720.38.001
Return Receipt Requested
Article No: 7012 1010 0003 0389 0436

May 7, 2013

Lance Bowie, Superintendent
Yukon Flats School District (YFSD)
P.O. Box 350
Fort Yukon, AK 99740

Re: Decision Document; Chalkyitsik School Heating Oil Tank (HOT) Spill
Cleanup Complete – Institutional Controls

Dear Mr. Bowie:

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program, has completed a review of the environmental records associated with the Chalkyitsik School HOT Spill. Based on the information provided to date and the administrative record, the ADEC has determined that the contaminant concentrations remaining for this site do not pose an unacceptable risk to human health or the environment. No further remedial action will be required as long as the site is in compliance with established institutional controls.

This letter summarizes the decision process used to determine the environmental status of the Chalkyitsik School HOT Spill site and provides a summary of the regulatory issues considered in the Cleanup Complete - Institutional Controls Determination.

Site Name and Location:

Chalkyitsik School HOT Spill
Southern Teacher's Housing
Chalkyitsik, AK 99788

Name and Mailing Address of Contact Party:

Lance Bowie, Superintendent
Yukon Flats School District (YFSD)
P.O. Box 350
Fort Yukon, AK 99740

ADEC Site Identifiers:

File No: 720.38.001
ADEC Reckey: 2002310129201
Hazard ID: 3959
Salmon Ave & Fishhook Dr

Regulatory Authority for Determination:

18 AAC 75 & 18 AAC 70

Background

Approximately 750 gallons of heating oil were spilled from the 250-gallon Heating Oil Tank (HOT) at the Southern Teacher's housing as a result of overfilling in October 2002. The HOT is currently in use. The fuel flowed downhill along a road 300 feet to the south before it pooled onto land adjacent to the airport runway. The Black River Slough is located 100 feet to the east down gradient of the HOT, and was not impacted. The slough seasonally floods into the Black River, which is the drinking water source for the village.

There are additional historic spills and leaks which have caused area wide soil contamination at the Chalkyitsik School property which are not discussed in this letter. It should be noted that petroleum contamination associated with these source areas is being tracked separately in the Contaminated Sites Program database as the active site known as: Chalkyitsik School Bulk Fuel Storage. More information can be found at: <http://dec.alaska.gov/applications/spar/CSPSearch/default.asp>

Contaminants of Concern

During the investigations at this site, soil and water samples were analyzed for one or more of the following: diesel range organics (DRO), gasoline range organics, residual range organics (RRO), polynuclear aromatic hydrocarbons (PAHs) and benzene, toluene, ethylbenzene, and xylenes (BTEX). Based on these analyses and knowledge of the source area, the following Contaminants of Concern (COC) were identified in soil:

- DRO
- xylenes

Cleanup Levels

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

<u>Contaminant</u>	<u>Migration to Groundwater (MTG) Cleanup Level (mg/kg)</u>
Diesel Range Organics (DRO)	250
Xylenes	63

Site Characterization and Cleanup Actions

One month before the School HOT spill event, soil was evaluated at the southern Teacher's housing as part of a village wide site reconnaissance in September 2002. One soil sample collected 1 foot below ground surface (BGS) underneath the HOT from visually stained soil, contained DRO at 27,700 mg/kg and xylenes at 90.7 mg/kg.

To evaluate the extent of contamination after the HOT overflow in October 2002, nine test pits were excavated along the spill area. A decision was made to defer spill response until Spring 2003 due to frozen conditions and a lack of suitable excavating equipment. A soil sample collected from a test pit 15 feet to the south of the HOT at 6 feet below ground surface (BGS) contained DRO up to 19,000 mg/kg. During the investigation it was noted the spill area appeared to be on the west side of the road away from the Black River Slough and the soil at the bottom of the hill near the airport was saturated with fuel.

Spill response activities began in May 2003 with the excavation of a diversion trench intended to divert fuel contaminated runoff from entering the Black River Slough during breakup. The diversion trench was lined with visqueen, absorbent pads, and a boom to capture fuel oil. Excavation of contaminated soil was conducted in September 2003. Contaminated soil was excavated from the surface to between 3.5 and 6 feet BGS in an area 290 feet long by 30 feet wide. Six confirmation soil samples collected at the base of the excavation contained DRO up to 7,690 mg/kg. The excavation was limited in some areas due to permafrost, the grade of slope, proximity to the HOT, lack of clean backfill material, and instability of the excavation. Approximately 270 cubic yards of contaminated soil were stockpiled onsite. Three soil samples collected from the pile contained DRO up to 3,960 mg/kg. Reportedly, the stockpiled soil was later blended into roadbed material during road improvements between the school and the village to the north.

The excavation was left open, then backfilled with clean fill in 2013. The depression remaining closest to the HOT was filled with 5 to 6 feet of gravel, tapering to 2 to 3 feet of fill toward the road which effectively serves as a cap. The road to the area was capped and leveled with one (1) foot of clean fill. Two surface water samples collected from the Black River Slough in 2012 did not contain detectable levels of petroleum constituents except acenaphthene. Acenaphthene was detected at an estimated concentration of 0.0191 µg/L, which is below the most stringent 18 AAC 70 Alaska Water Quality Standard of 1,200 ug/L.

Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants were 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 1.

Table 2 – Exposure Tracking Model Results

Pathway	Result	Explanation
Surface Soil Contact	De Minimis Exposure	Contaminated surface soil has been removed and capped with clean fill to the best extent practicable. Contaminated soil above direct contact and ingestion cleanup levels remains beneath the active HOT, but it is assumed it is limited in extent. Exposure through this pathway is considered de minimis.
Sub-Surface Soil Contact	De Minimis Exposure	Contaminated surface soil has been removed and capped with clean fill to the best extent practicable. Contaminated soil above direct contact and ingestion cleanup levels remains directly beneath the active HOT, but it is assumed to be limited in extent. Exposure through this pathway is considered de minimis.
Inhalation – Outdoor Air	De Minimis Exposure	Contaminated surface soil has been removed and capped with clean fill to the best extent practicable. Contaminated soil above inhalation cleanup levels remains beneath the active HOT, but it is assumed to be limited in extent. Exposure through this pathway is considered de minimis.

Inhalation – Indoor Air (vapor intrusion)	De Minimis Exposure	Contaminated surface soil has been removed and capped with clean fill to the best extent practicable. Contaminated soil above inhalation cleanup levels remains beneath the active HOT, but appears to be limited in extent, and the nearest building is constructed on pilings. Exposure through this pathway is considered de minimis.
Groundwater Ingestion	Pathway Incomplete	Groundwater is not used as a drinking water source at this site because the area is underlain by continuous permafrost. Therefore, exposure risk via this pathway is considered incomplete.
Surface Water Ingestion	Pathway Incomplete	Surface water is utilized as a drinking water source in this area. Sampling indicates contamination has not reached the potable water supply as a result of this release; therefore, this pathway is incomplete.
Wild Foods Ingestion	Pathway Incomplete	There are no complete exposure pathways to wild food ingestion at this site.
Exposure to Ecological Receptors	Pathway Incomplete	There are no complete exposure pathways to ecological receptors at this 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 groundwater 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 Chalkyitsik HOT Spill, but ADEC has determined there is no unacceptable risk to human health or the environment therefore this site will be granted a Cleanup Complete- Institutional Controls determination. However, there are additional historic spills and leaks which have caused area wide soil contamination at the Chalkyitsik School property. Petroleum contamination associated with these source areas are being tracked separately in the Contaminated Sites Program database as the active site known as: Chalkyitsik School Bulk Fuel Storage. More information can be found at:

<http://dec.alaska.gov/applications/spar/CSPSearch/default.asp>

The Institutional Controls Determination for the Chalkyitsik HOT Spill includes the following conditions:

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, YFSD will report to ADEC every five years to document land use, or as soon as YFSD 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. 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 C).

3. The soil contamination located under the Southern Teacher's HOT is currently inaccessible. (See attachment C). When the HOT is removed and/or the soil becomes accessible, the soil must be evaluated in accordance with an ADEC approved work plan.
4. Installation of groundwater or drinking water wells at this site will require approval from ADEC.

This determination is in accordance with 18 AAC 75.380(d) 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.

If you have questions about this closure decision, please contact the ADEC Project Manager, Grant Lidren at (907) 269-8685.

Approved By,



Grant Lidren
Environmental Program Specialist

Attachment B: Site Photographs of the Southern Teacher's Housing HOT

Photo taken June 2011 before gravel capping



Photo taken October 2012 after gravel capping



Attachment C: Site Figure

