

STATE OF ALASKA

FRANK H. MURKOWSKI, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION DIVISION OF SPILL PREVENTION AND RESPONSE CONTAMINATED SITES PROGRAM

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File: 2450.38.002

September 18, 2006

Bill Ferguson, Superintendent
Lower Kuskokwim School District
P.O. Box 305
Bethel, Alaska 99559-0305

Re: Toksook Bay School, ADEC Spill #1990250133201
Conditional Closure Approved

Dear Mr. Ferguson.:

The Alaska Department of Environmental Conservation, Contaminated Sites Program, (ADEC) reviewed the administrative file for the heating fuel release, assessment, and cleanup actions conducted at the Toksook Bay School. Based on this review, ADEC has determined that hazardous substance contamination remains under the school maintenance building but it does not pose an unacceptable risk to human health or the environment, subject to site specific conditions outlined in this decision document.

Therefore, it is ADEC's decision that no further remedial action is required at this site and a conditional closure determination is approved. This letter summarizes the information considered in making this decision regarding the environmental status of this site.

Introduction

Site name and location:

Toksook Bay School
Toksook Bay, Alaska

Regulatory authority under which the site is being cleaned up:

18 AAC 75, Article 3

Name and mailing address of current contact and/or responsible person:

Lower Kuskokwim School District
P.O. Box 305
Bethel, Alaska 99559-0305

Land Owner:

State of Alaska

Background

The City of Toksook Bay is one of three communities on Nelson Island, which lies 115 miles northwest of Bethel. It is on Kangirivak Bay across the water from Nunivak Island. Tununak is about 6 miles to the northwest. The population is about 485.

On November 27, 1990, the Lower Kuskokwim School District (LKSD) discovered a shortage of 4,687 gallons with their fuel oil inventory at the Toksook Bay Elementary School. It was determined that the fuel was lost from a fuel pipeline over a period of 5 to 12 weeks prior to being reported. The State of Alaska (through the Department of Education) owned the pipeline, with LKSD as the lessee/operator.

The hydrogeologic conditions at Toksook Bay is bedrock consisting of fractured inter-bedded siltstone and silty sandstone, located at depths from 11 feet to more than 70 feet below ground surface (bgs). Groundwater was encountered about 45 feet bgs with a regional groundwater flow direction northwest to the southeast from the Nealruck Mountains to Kangirivak Bay. Discontinuous permafrost may be present at Toksook Bay but subsurface fractures and other geologic structures have more influence on the local groundwater flow.

The site assessment work identified contaminated soil and groundwater after the community's backup water supply well (Well "B") pumped contaminated water into the City water supply system. The LKSD assumed responsibility for cleanup of the City water system and the State and Federal governments funded a replacement water well for the community. In 1994, as part of a legal settlement between the State, the LKSD, the City of Toksook Bay and numerous residents, ADEC initiated assessment and cleanup operations with respect to subsurface contamination.

Between 1990 and 1997, the cleanup actions related to this release included: removal of the free phase fuel product from the groundwater; decommission the former water supply well (Well "B"); and collect shell fish tissue samples to determine any impacts to ecological receptors. It was estimated that approximately 72 cubic yards of contaminated soil was present under the school maintenance building but it was agreed that soil remediation would not occur until the removal of the school maintenance building. The LKSD agreed to assume responsibility to remove and dispose of the contaminated soil at that time.

The groundwater beneath the school site is 45 feet bgs and is not currently used as a water source. The site assessment data resulted in a conclusion that the groundwater has naturally occurring water quality problems related to sea water intrusion. In addition, most of the monitor wells were dry or marginally productive indicating low yield potential. The community of Toksook Bay developed their primary water source in 1983. It is located outside of the community and is a surface water infiltration gallery that provides the potable water source. The former City water wells (including Well "B") were only used in the event the primary water supply was unable to provide the community's needs. Following the heating fuel release, two new water supply wells were installed outside of the developed community as the primary drinking water source and the infiltration gallery now serves as a backup water supply.

Contaminants of Concern

The contaminants of concern for both soil and groundwater are associated diesel fuel and include:

- Benzene, toluene, ethylbenzene and xylenes (BTEX)
- Diesel range organics (DRO)

- Residual range organics (RRO)

Pathway Evaluation

The human exposure pathways evaluated include: inhalation, ingestion of soil and water and dermal contact. The migration pathways considered include: migration to groundwater and/or surface water. The impacts to ecological receptors were also evaluated.

The exposure pathways to humans are currently limited because the contaminated soil is beneath a building and inaccessible. As long as the building remains in place and the soil is not accessible to humans, there is no unacceptable risk to human health. Also, the groundwater is not considered a current (or future) drinking water source that will prevent that exposure pathway.

The migration pathway to groundwater is complete and has impacted water quality. However, natural attenuation over time will reduce contaminant concentrations. Since the groundwater will not be used as a water source and there is no evidence of migration to surface water, natural attenuation over time and source removal in the future will allow cleanup levels to be reached in the future.

Cleanup Levels

The soil cleanup levels established for this site are the 18 AAC 75.341 (Tables B1 and B2) levels for 'Migration to Groundwater' (under 40 inch zone). The groundwater cleanup levels for this site are the 18 AAC 75.345 (Table C) levels.

ADEC Decision

ADEC has determined that additional remediation of the 1990 fuel oil release is not necessary at this time. The contaminated soil is not accessible to human receptors based on its location and present land use. Also, the groundwater at the site is not a water source based on the contamination and/or naturally occurring conditions. The community has water supply wells located away from any contamination and provide a safe water source for all members of the community. There was no indication of any impacts to surface water (or ecological receptors) from this incident.

There is residual soil and groundwater contamination remaining at this site. However, with appropriate controls and restrictions, it will not pose an unacceptable risk to human health or the environment. Therefore, no further remedial action is required at this time and this site is approved for conditional closure, subject to the following conditions:

1. In accordance with 18 AAC 75.350, ADEC has determined the groundwater at this site is not a drinking water source based on contamination and naturally occurring conditions. Therefore, the installation of groundwater wells is prohibited. Any exception to this prohibition must be reviewed and approved by ADEC.
2. The soil contamination located under the elementary school maintenance building is currently inaccessible due to the buildings and structures located there. When (or if) the buildings are removed and/or the soil becomes accessible, ADEC shall be contacted for appropriate action. ADEC must approve any excavation, transport, remediation and/or disposal of soil from the school site.

In accordance with 18 AAC 75.380(d)(2), ADEC may require additional site assessment, monitoring, remediation, and/or other necessary actions at this facility should new information become available that indicates contamination at this site may pose a threat to human health or the environment.

An institutional control will be established on the ADEC database to document residual soil and groundwater contamination remaining on site above the most stringent 18 AAC 75.341 soil cleanup levels and the 18 AAC 75.345 (Table C) groundwater cleanup levels. Site closure (without conditions) will be considered when soil and groundwater samples confirm that all soil and groundwater meet the established ADEC soil and groundwater cleanup levels for this site.

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.

Signature of Acknowledgement:

As a duly authorized representative of the Lower Kuskokwim School District, I agree to the terms and conditions established in this decision document. This includes the prohibition of groundwater wells and the need to notify ADEC when (or if) the contaminated soil beneath the school maintenance building becomes accessible.

Lower Kuskokwim School District

Authorized Signature: _____

Printed Name & Official Title: _____

If you have questions or concerns about this Conditional Closure decision, or any of the attached conditions, please contact me at (907) 262-5210, extension #233.

Sincerely,



Don Seagren
Environmental Program Specialist
Department of Environmental Conservation

CC: Mayor, City of Toksook Bay, P.O. Box 37008, Toksook Bay, Alaska 99637
Steve Mulder, ADOL/Anchorage