STATE OF ALASKA

**DEPARTMENT OF ENVIRONMENTAL CONSERVATION**
**DIVISION OF SPILL PREVENTION AND RESPONSE**
**CONTAMINATED SITES PROGRAM**

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www.dec.state.ak.us

File: 780.38.012

December 27, 2010

Al "Bear" Ketzler
City of Tanana
Box 249
Tanana, AK 99777

Re: Decision Document; Tanana School
Cleanup Complete with Institutional Controls Determination

Dear Mr. Ketzler:

The Alaska Department of Environmental Conservation (DEC), Contaminated Sites Program has completed a review of the environmental records associated with the Tanana School located on 1st Avenue, Tanana, Alaska. Based on the information provided to date, DEC has 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 as long as the site is in compliance with established institutional controls.

This decision is based on the administrative record for Tanana School, which is located in the offices of DEC in Fairbanks, Alaska. This letter summarizes the decision process used to determine the environmental status of this site and provides a summary of the regulatory issues considered in the *Cleanup Complete with Institutional Controls* determination.

**Introduction**

Site Name and Location:
Tanana School (Maudrey J. Sommer School)
Sec. 17, T004N, R022W, Fairbanks Meridian
89 Front Street
Tanana, Alaska 99777

Name and Mailing Address of Contact Party:
Al "Bear" Ketzler
City of Tanana
Box 249
Tanana, AK 99777

Database Record Key and File Number:
ADEC Reckey: 2006310120701
File: 780.38.012
Hazard ID: 4357
Source Area ID # 75341 - *15,000 gallon Heating Oil Tanks*
Source Area ID # 78997 - *Stockpile/landspread soil*

Regulatory authority under which the site is being cleaned up:
18 AAC 75

**Background**
Petroleum contamination was discovered in 2006 during removal of two non-regulated 15,000-gallon underground storage tanks used to heat the school building. The tanks are believed to have been installed in 1971 and taken out of service approximately 5 years prior to removal. The excavated 798 cubic yards of contaminated soil were stockpiled on a 10 mil liner at the City of Tanana old dumpsite on the west end of town (referred hereafter as the old dumpsite). The stockpile was spread in 2007 and land-farmed as the method for remediation. Sampling of the stockpile in 2010 indicated that diesel range organics (DRO) were below the inhalation and ingestion cleanup levels and benzene, toluene, ethylbenzene, and xylenes (BTEX) were below the most stringent cleanup levels.

Groundwater is assumed to flow from the Tanana School property to the south-southwest, towards the Yukon River; however, no groundwater was encountered during the 2006 excavation. Groundwater at an adjacent contaminated site has been observed at a depth of 21 to 24 feet. The school is connected to Too'gha Inc., a utility board, for water and sewer. Some surrounding properties are also connected to the Too'gha Inc. water supply.

**Characterization Activities**
*Source Area ID # 75341 - 15,000 gallon Heating Oil Tanks*
Two non-regulated 15,000-gallon underground heating oil tanks were removed by Arctic Solutions in 2006. Approximately 798 cubic yards of soil were excavated and stockpiled at the old dumpsite. The final excavation size was approximately 100 by 25 feet with an extension of an additional 15 by 60 feet ("L" shaped excavation, see Figure 1). The bottom of the excavation was approximately 6 feet deep; however some confirmation samples were collected at greater depths (Figure 1). Eight confirmation samples were collected from the bottom and sidewalls of the excavation. The highest screened sample was tested for volatiles (BTEX); results for these contaminants were below laboratory detection levels. All confirmation samples were analyzed for DRO, with the highest result above its 18 AAC 75.341 migration to groundwater cleanup level at 456 milligrams per kilogram (mg/kg) at a depth of 8.5 feet. An estimated 10 cubic yards of diesel-contaminated soil are estimated to remain at this depth.

*Source Area ID # 78997 - Stockpile/landspread soil*
Following the tank removal activities by Arctic Solutions in 2006, 798 cubic yards of soil were excavated and stockpiled at the old dumpsite. The old dumpsite is located west of the current City of Tanana landfill (Figure 2). The property owner, Tozitna Limited, granted permission to temporarily store the contaminated soil at that location. No confirmation samples were collected from the stockpile located at the old dumpsite in 2006. However, one sample collected during excavation

detected DRO as high as 4,240 mg/kg at a depth of 4.2 feet. Other samples collected during excavation also showed elevated DRO levels and these soils were placed on a lined stockpile.

There is no known groundwater information for the stockpile location. However, for the landfill located less than 1000 feet east of the site, groundwater is estimated at 50 to 70 feet below unexcavated landfill elevations.

During the summer of 2007, workers from the City of Tanana spread the top one foot of the stockpile out from the center to get an even layer of soil that ranged from 20 to 26 inches in depth. Approximately 0.5 ton of 20-10-10 fertilizer was added to the entire surface. According to the Landfill Superintendent the land-farmed soil was turned one more time since 2007 using heavy equipment with additional fertilizer added to stimulate bioremediation.

In August 2010 eight headspace samples (one per 10 cubic yards) were collected from the land-farmed soil and screened with a photo-ionization detector by Independent Consultant Associated. Seven laboratory confirmation samples were then collected based on the field screening results. Samples were tested for DRO and BTEX. DRO results ranged from non-detect to 1,980 mg/kg. All BTEX results were non-detect or below their respective 18 AAC 75.341 migration to groundwater cleanup levels.

**Contaminants of Concern**
During the investigations at this site, soil samples were analyzed for diesel range organics (DRO); benzene, toluene, ethylbenzene, and xylenes (BTEX). Based on these analyses and knowledge of the source area, the following Contaminant of Concern was identified:

- Diesel Range Organics (DRO)

**Cleanup Levels**
**The default soil cleanup levels for this site are established in 18 AAC 75.341, Method Two, Tables B1 and B2, Migration to Groundwater.**

| Contaminant | Site Cleanup Level (mg/kg) |
|---|---|
| DRO | 250 |

**Pathway Evaluation**
Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC'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 the pathway evaluations for both source areas is included in Tables 1 and 2.

**Table 1 – Exposure Pathway Evaluation- Source Area ID # 75341 - 15,000 gallon Heating Oil Tanks**

| Pathway | Result | Explanation |
|---|---|---|
| Surface Soil Contact | Pathway Incomplete | Because contamination was caused by an underground storage tank, no surface soil contamination was documented for this source area. |
| Sub-Surface Soil Contact | De-minimis exposure | An estimated 10 cubic yards of contaminated soil are estimated to remain in the subsurface. Contaminant levels are below health based (inhalation/ingestion) levels. |
| Inhalation – Outdoor Air | De-minimis exposure | Contamination remains in the subsurface (8.5 feet), but below inhalation levels. |
| Inhalation – Indoor Air (vapor intrusion) | Pathway Incomplete | No volatile contaminants were detected in the area of remaining contamination. |
| Groundwater Ingestion | Pathway Incomplete | Groundwater was not encountered during the investigations. No drinking water wells are located downgradient of the contamination. |
| Surface Water Ingestion | Pathway Incomplete | Although surface water is located approximately 20 feet from the southern edge of the excavation; based on the sampling of the sidewalls of the excavation, contamination is not expected to have migrated to surface water. |
| Wild Foods Ingestion | Pathway Incomplete | The heating oil tank location is not an area likely to be used for hunting or fishing. |
| Exposure to Ecological Receptors | Pathway Incomplete | No ecological evaluation needed for the tank area. |

**Table 2 – Exposure Pathway Evaluation- Source Area ID # 78997 - Stockpile/landspread soil**

| Pathway | Result | Explanation |
|---|---|---|
| Surface Soil Contact | De Minimis | Recent results show DRO below ingestion levels at the landfarm location. |
| Sub-Surface Soil Contact | Pathway Incomplete | Stockpile was initially placed on a liner. Remaining contaminant levels are below health based (inhalation/ingestion) levels. |
| Inhalation – Outdoor Air | De-minimis exposure | Recent results show DRO below inhalation levels. |
| Inhalation – Indoor Air (vapor intrusion) | Pathway Incomplete | No volatile contaminants were detected in the soil and no nearby buildings. |

| | | |
|---|---|---|
| Groundwater Ingestion | Pathway Incomplete | Contamination not expected to have migrated to groundwater. Stockpile placed on a liner. |
| Surface Water Ingestion | Pathway Incomplete | Contamination is not expected to have migrated to surface water. |
| Wild Foods Ingestion | Exposure Controlled | Institutional controls have been established that require soil to be transported to the landfill. |
| Exposure to Ecological Receptors | Exposure Controlled | The soil stockpile has been transported off-site and treated by land-farming. Institutional controls have been established that require soil to be transported to the landfill. |

Notes to Tables 1 and 2: "De-minimis exposure" means that in DEC's judgment receptors are unlikely to be affected by the minimal volume of remaining contamination. "Pathway incomplete" means that in DEC'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**

Contamination remains on site, including within the contaminated soil transported off site for temporary stockpiling at the old dumpsite, above established default cleanup levels. However, DEC has determined there is no unacceptable risk to human health or the environment. Based on the information provided, no further action is required for the contamination remaining on Tanana School property but there are issues remaining at the "site." Therefore this site will be issued a *Cleanup Complete with Institutional Controls* determination subject to the following:

1. The existing land-farmed soil located at the old dumpsite must be properly disposed of by July 31st 2011. Any proposal to transport the soil off site requires DEC approval in accordance with 18 AAC 75.325 (i). A brief report including proof of soil transport to an approved disposal facility/location must be provided (i.e. photos or similar).

2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

Any proposal to transport soil or groundwater off site requires ADEC approval in accordance with 18 AAC 75.325 (i). (See Note 17) 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.

The DEC 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. Based on the Cleanup Complete Memorandum of June 2009, a *Cleanup Complete* without *Institutional Controls* can be granted for sites with remaining soil contamination below health-based levels. Therefore, upon receiving the brief report that the contaminated soil stockpile has been properly disposed of, the *Institutional Controls* will be removed and a subsequent *Cleanup Complete* determination will be issued to that effect for this site.

This determination is in accordance with 18 AAC 75.380(d) and does not preclude DEC 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 DEC <u>within 30 days of receipt of this letter</u>.** If you have questions about this closure decision, please contact the DEC project manager, Tamara Cardona-Marek at (907) 451-2192.

Approved By,

Carmi Wezis

Rich Sundet
Environmental Program Manager

Recommended By,

T. Cardona-Marek

Tamara Cardona-Marek, PhD
Environmental Program Specialist

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

cc: Susan Vogt, Independent Consultant Associated

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

The City of Tanana agrees to the terms of this Cleanup Complete with ICs determination as stated in this Closure Decision Document dated **December 27, 2010** for the Site Name. Failure to comply with the terms of this agreement may result in DEC reopening this site and requiring further remedial action in accordance with 18 AAC 75.380(d).

_____
Signature of Authorized Representative, City of Tanana

_____
Printed Name of Authorized Representative, Title
City of Tanana

**Note to Responsible Person (RP):**
**After making a copy for your records, please return a signed copy of this form to the DEC project manager at the address on this correspondence within 30 days of receipt of this letter.**

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ADEC File No. 780.38.012
Hazard ID: 4357
Project Manager: Tamara Cardona-Marek

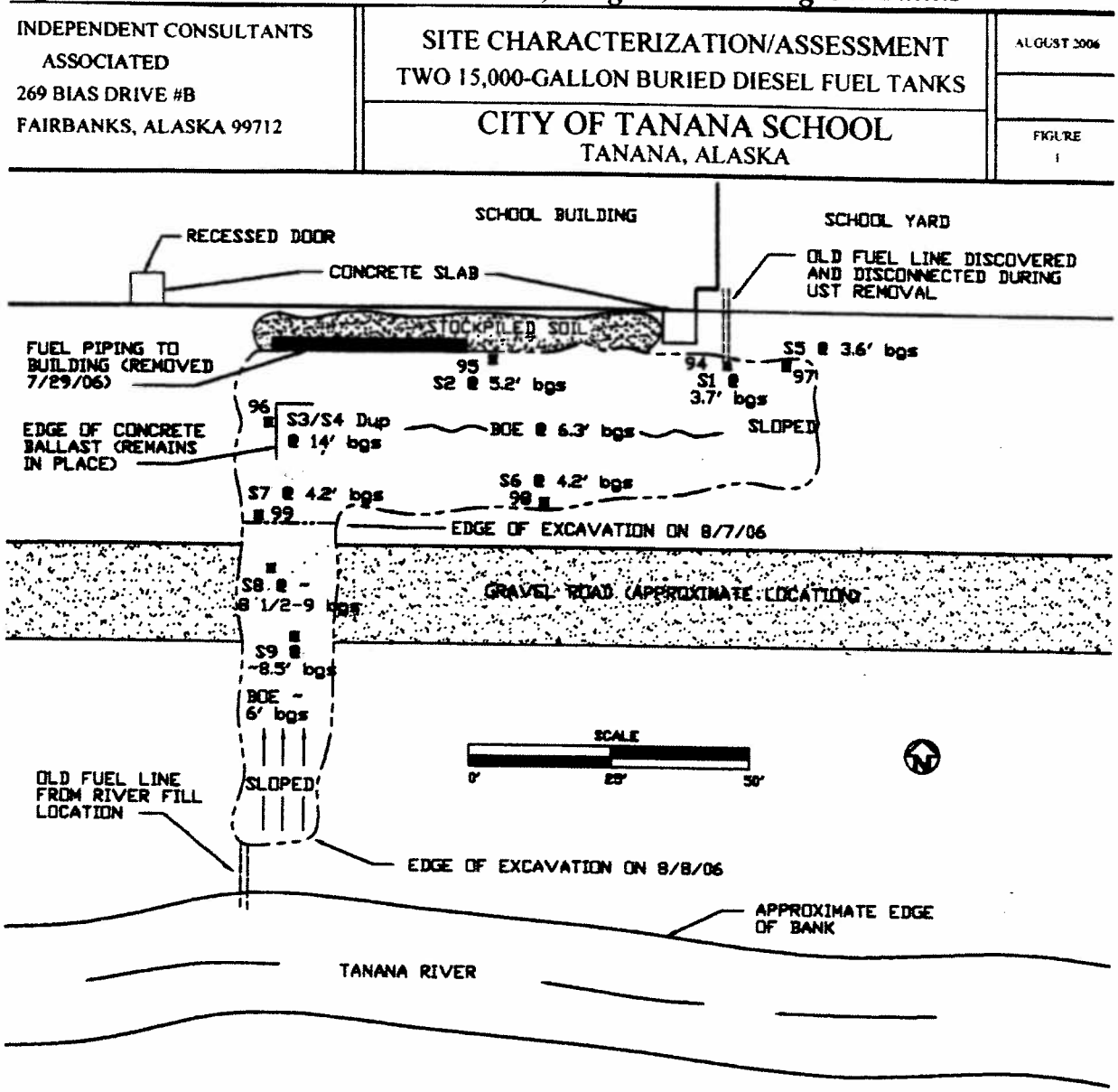
**For Internal Use Only**

***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 so that the PM can update the CS database.

## *Attachment B: Site Figure*

### *Figure 1: Source Area ID # 75341 - 15,000 gallon Heating Oil Tanks*




LEGEND

| | |
|---|---|
| 96 ■ S5 | FINAL HEADSPACE SAMPLE No. AND LABORATORY SAMPLE AND LOCATION |
| BOE | BOTTOM OF EXCAVATION |
| bgs | BELOW GROUND SURFACE |
| Dup | DUPLICATE SAMPLE |

NOTES:

1. 798 YARDS TOTAL OF CONTAMINATED SOIL REMOVED 7/29 - 8/8/06.
2. LABORATORY SAMPLE NUMBERS S8 AND S9 WERE COLLECTED BY CITY OF TANANA PERSONNEL AFTER ADDITIONAL EXCAVATION COMPLETED.

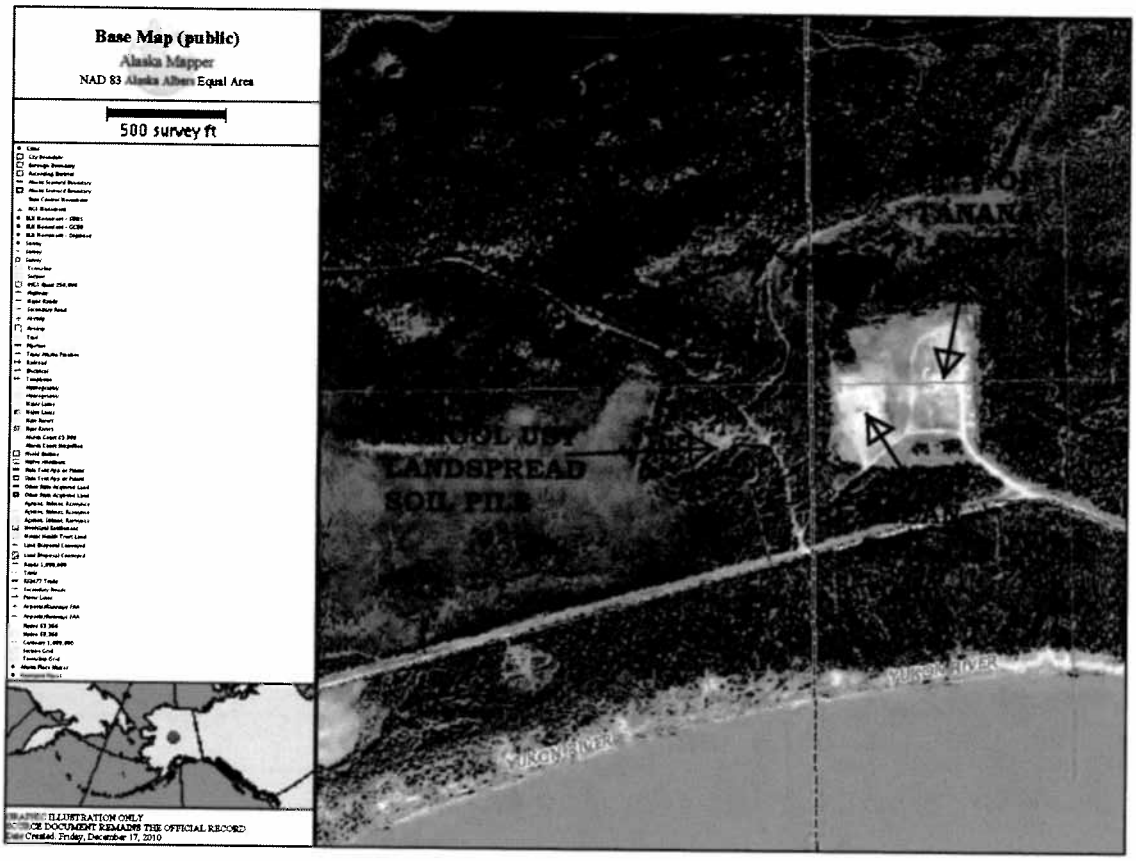



***Figure 2: Source Area ID # 78997 - Stockpile/landspread soil***