



DIVISION OF SPILL PREVENTION & RESPONSE Contaminated Sites Program

> 555 Cordova Street Anchorage, Alaska 99501 Phone: 907.269.7503 Fax: 907.269.7649 dec.alaska.gov

File: 2428.38.006

March 20, 2014

Mr. Carl John Lower Yukon School District PO Box 32089 Mountain Village, AK 99632 Mr. Kevin Smith Chief of Right-of-Way Alaska Department of Transportation and Public Facilities 2301 Peger Road Fairbanks, Alaska 99709

Re: Decision Document; Marshall Former School Day Tanks and Tank Farm Cleanup Complete Determination-Institutional Controls

Dear Mr. John and Mr. Smith;

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Marshall Former School Day Tanks and Tank Farm site located in Marshall, Alaska. 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 as long as the site is in compliance with established institutional controls.

This decision is based on the administrative record for the Marshall Former School Day Tanks and Tank Farm which is located in the offices of the ADEC in Anchorage, 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 ICs determination.

Introduction

Site Name and Location:

Marshall Former School Day Tanks and Tank Farm 89 School Road Marshall, Alaska U.S. Survey No. 2264 U.S. Survey No. 3666 Lot 7, Block 7 of the Marshall Townsite, U.S. Survey No, 4415

Name and Mailing Address of Contact Parties:

Mr. Carl John Lower Yukon School District PO Box 32089 Mountain Village, AK 99632 Mr. Kevin Smith Chief of Right-of-Way Alaska Department of Transportation and Public Facilities 2301 Peger Road Fairbanks, AK 99709

ADEC Site Identifiers

File: 2428.38.006 Hazard ID: 25798

Regulatory authority under which the site is being cleaned up:

18 AAC 75

Background

Petroleum contamination at this site resulted from spills and leaks of heating oil from the tank farm and various day tanks at the former Marshall School. The site consists of U.S. Survey No. 2264 and U.S. Survey No. 3666 which are currently owned by the Lower Yukon School District, and Lot 7, Block 7 of the Marshall Townsite, U.S. Survey No. 4415 which is currently owned by the Alaska Department of Transportation and Public Facilities (ADOT&PF). A Site Plan is shown on Figure 1 in Attachment B

The main school building, several accessory buildings and the tank farm have been demolished. Several housing units and other structures remain at the site.

Contaminants of Concern

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

• Diesel Range Organics (DRO)

Cleanup Levels

The most stringent soil cleanup levels for this site are established in 18 AAC 75.341, Method Two, Table B2, for the Migration to Groundwater Pathway in the Under 40 inch Zone.

Site Cleanup Leve	(mg	/kg)
1	~ 0	-0

• DRO 250

Site Characterization and Cleanup Activities

A Phase II Environmental Site Assessment was conducted in 2011 to identify potential areas of contamination that may require cleanup. Soil borings and test pits were advanced at day tanks and at the tank farm to evaluate for the presence of petroleum contamination. Based on the results of the Phase II investigation, the following areas were identified as requiring further investigation and/or cleanup:

- The former Bulk Fuel Tank Farm
- Day Tank (DT) H-8 at the Maintenance Office Building
- DT H-10 at the Maintenance Garage Building
- DT M-5 west of the former Shop Building
- The floor of the Maintenance Garage Building
- An historic fuel pipeline that connected the tank farm to the day tanks

The former Bulk Fuel Tank Farm, DT H-10, and the Maintenance Garage are located on U.S. Survey No. 2264 (Figure 2), DT M-5 and the historic fuel pipeline are located on U.S. Survey No. 3666 (Figure 3) and DT H-8 is located on Lot 7, Block 7 of the Marshall Townsite, U.S. Survey No, 4415 (Figure 3).

Site cleanup was conducted in 2012. The objective of the cleanup effort was to remove petroleum contaminated surface soil from 0-2 feet below ground surface (bgs) to below the ingestion cleanup level of 10,250 mg/kg with the understanding that institutional controls would be required at the site to control exposure to contamination that was expected to remain in place.

At the Bulk Fuel Tank Farm, approximately 586 cubic yards (cy) of contaminated soil were excavated to depths up to 9 feet below ground surface (bgs). Confirmation soil samples collected from the base of the excavation at 6 feet bgs contained DRO up to 14,800 mg/kg. A test pit was excavated to a depth of 15 feet bgs in an effort to evaluate the vertical extent of contamination. The sample collected from weathered bedrock at the bottom of the test pit contained DRO at 2,110 mg/kg. To confirm the removal of contaminated soil from 0-2 feet bgs, additional surface soil samples were collected around the perimeter of the excavation in 2013. DRO was detected up to 111 mg/kg in the 2013 samples.

At DT H-8, 10 cy of petroleum contaminated soil were excavated to a depth of 2 feet bgs over an area of 138 square feet. Confirmation samples collected from the base of the excavation contained DRO up to 9,020 mg/kg. Excavation in this area was limited due to the presence of an existing day tank. A test pit was excavated to a depth of 5 feet bgs to evaluate the vertical extent of contamination. The sample from the bottom of the test pit did not contain detectable concentrations of DRO.

At DT H-10, 13 cy of petroleum contaminated soil were excavated to a depth of 2 feet bgs over an area of 167 square feet. Confirmation samples collected from the base of the excavation contained DRO up to 14,500 mg/kg. Further excavation in this area was limited due to the presence of the Maintenance Garage Building. Excavation in this area eventually merged with the Tank Farm excavation.

At DT M-5, 47 cy of petroleum contaminated soil were excavated to a depth of 2 feet bgs over an area of 590 square feet. Confirmation samples collected from the base of the excavation contained DRO up to 35,600 mg/kg. A test pit was excavated to a depth of 11.5 feet bgs to evaluate the vertical extent of contamination. The test pit met refusal at a layer of hardpan clay. The sample from the bottom of the test pit contained DRO at 1,420 mg/kg.

Inside the Maintenance Garage, stained soil was excavated to a depth of approximately 4 inches until staining was no longer evident. One half cubic yard of contaminated soil was removed, the confirmation sample from the bottom of the excavation contained DRO at 32.4 mg/kg.

The fuel pipeline was investigated by excavating three exploratory trenches in the reported located of the pipeline near the former school building. The trenches were approximately 12 feet long, 3 feet wide, and 3 feet deep. The pipeline was not encountered and there was no evidence of a petroleum release, therefore no further activities were conducted in this area.

Contaminated soil excavated from the site was placed into supersacks and transported to Washington State for disposal by Waste Management Inc. Excavations were backfilled with clean fill and graded to meet the surrounding elevation.

Groundwater was not encountered at any time during excavation work at the site. The City of Marshall uses three groundwater wells to supply water to residences. The wells draw water from over 300 feet below ground surface and the water is piped to residences in Marshall. The nearest known drinking water well is at least 500 feet from the former school in an area that is inferred to be upgradient from the site. Samples collected from the public drinking water system in 2010 did not contain detectable concentrations of fuel contaminants.

Cumulative Risk Calculation

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 non-carcinogenic risk standard at a hazard index of one across all exposure pathways.

Cumulative risk at this site was calculated assuming a residential land use and using the highest detected concentrations of contaminants in all of the samples collected following the cleanup action in 2012. The results indicate a cumulative carcinogenic cancer risk of 2 in 100,000 and a non-carcinogenic hazard index of 0.8. The potential cumulative risk is via a combination of the inhalation and direct contact pathways. These pathways are controlled as the remaining contamination at the site is in sub-surface soil and the institutional controls are intended to restrict exposure to subsurface soil and notify future property owners to the presence of contamination remaining in the subsurface.

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 1.

Pathway	Result	Explanation
Surface Soil Contact	De minimis	Surface soil with contaminants concentrations above
	exposure	direct contact cleanup levels has been excavated from the
	_	site.
Sub-Surface Soil Contact	Exposure	An Institutional Control will be placed on the property
	Controlled	that notes the presence of contamination in the subsurface
		and restricts access to subsurface soil
Inhalation – Outdoor Air	De minimis	Contaminant concentrations in discrete areas exceed
	exposure	outdoor inhalation cleanup levels, however these areas are
		covered by clean fill, which will mitigate exposure via this
		pathway and the sub-arctic climate in Marshall minimizes
		the volatilization of contaminants for much of the year.
Inhalation – Indoor Air	De minimis	Volatile contaminants are not present above inhalation
(vapor intrusion)	exposure	cleanup levels.
Groundwater Ingestion	Pathway	Groundwater was not encountered at the site and is not
	Incomplete	used as a drinking water source in the immediate area or
		downgradient of this site. The drinking water wells that
		supply the public water system are not located in areas
		likely to be impacted by contamination from this site.
Surface Water Ingestion	Pathway	Surface water is not used as a drinking water source in this
	Incomplete	area.
Wild Foods Ingestion	Pathway	Wild foods are not collected in this area.
	Incomplete	
Exposure to Ecological	Pathway	Ecological receptors are not likely to come into contact
Receptors	Incomplete	with subsurface contamination remaining at the site.

Table 1 – Exposure Pathway Evaluation

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

Contamination remains on site above established default cleanup levels, however ADEC has determined there is no unacceptable risk to human health or the environment. Therefore this site will be issued a Cleanup Complete- ICs 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 ICs may not be protective and ADEC may require additional remediation and/or ICs. Therefore the Lower Yukon School District and ADOT&PF or their designees shall report to ADEC every five years to document land use, or as soon as they become aware of any change in land ownership and/or use, if earlier. The report can be sent to the local ADEC office or electronically to DEC.ICUnit@alaska.gov.
- 2. A Notice of Environmental Contamination (Attachment C) will be recorded at the Alaska Department of Natural Resources Recorders Office indicating that contamination remains at the site above default cleanup levels and detailing the Institutional Controls in place at the site.
- 3. Installation of groundwater well will require prior approval from the ADEC Contaminated Sites Program
- 4. 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 attached site figure.)
- 5. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

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. When the site meets the requirements for a Cleanup Complete determination, Institutional Controls will be terminated.

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 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.

Kevin Smith Carl John

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 contact the ADEC project manager, Bill O'Connell at (907) 269-3057.

Approved By,

Bill O'Connell Environmental Program Manager

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

Attachment C: Notice of Environmental Contamination

Attachment A:	Hazard ID No. Cleanup Complete-ICs Agree		Page*
Kevin Smith Carl John	ADEC File No.	APR 1 4 2014	March 20, 2014
		DZ-T OF ERATION	

Complete-ICs Agreement and Signature ras The Lower Yukon School District agrees to the terms of this Cleanup Complete with ICs determination as stated in this Closure Decision Document dated Match 20, 2014 for the Marshall Former School Day Tanks and Tank Farm site, specifically U.S. Survey Nos. 2264 and 3666. 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 18 AAC 75.380(d).

PERINTEN 2007

Signature of Authorized Representative, Title, Organization

Signature of Authorized Representative, Title, Organization

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. 2428.38.006 Hazard ID: 25798 ADEC Project Manager: Bill O'Connell

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. <u>Scan and Save to the appropriate electronic folder on the network</u> Drive
- File the hard copy in the appropriate project/site file Correspondence Folder (blue in Anchorage).
 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.

Kevin Smith Carl John

T Wester MART 100 AUt - 3 2014

March 20, 2014

RECEIVED

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

The Alaska Department of Transportation and Public Facilities agrees to the terms of this Cleanup Complete with ICs determination as stated in this Closure Decision Document dated <u>March 20</u>, <u>2014</u> for the Marshall Former School Day Tanks and Tank Farm site, specifically Lot 7 Block 7, Marshall Townsite, U.S. Survey No. 4415.. 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 18 AAC 75.380(d).

Signature of Authorized Representative, Title,

CHIEF, RIGHT OF WAY

Printed Name of Authorized Representative, Title, Organization

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.	2428,38,006
Hazard ID:	25798
ADEC Project Manager:	Bill O'Connell

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 Figures







Attachment C: Notice of Environmental Contamination

COPY ONLY-DO NOT FILE

NOTICE OF ENVIRONMENTAL CONTAMINATION

As required by the Alaska Department of Environmental Conservation, Grantor, pursuant to 18 AAC 75.375, the Lower Yukon School District and Alaska Department of Transportation and Public Facilities Grantees, as the owner and/or operator of the subject properties, hereby provides public notice that the property located at:

- U.S. Survey No. 2264
- U.S. Survey No. 3666
- Lot 7, Block 7 of the Marshall Townsite, U.S. Survey No, 4415

has been subject to a discharge or release of oil or other hazardous substances, regulated under 18 AAC 75, Article 3, as amended October 9, 2008. This release and cleanup are documented in the Alaska Department of Environmental Conservation (ADEC) contaminated sites database at http://www.dec.state.ak.us/spar/csp/db_search.htm under Hazard ID number 25798. ADEC reviewed and approved, subject to this and other institutional controls, the cleanup as protective of human health, safety, welfare, and the environment. No further cleanup is necessary at this site unless new information becomes available that indicates to ADEC that the site may pose an unacceptable risk to human health, safety, welfare, or the environment. ADEC determined, in accordance with 18 AAC 75.325 – 390 site cleanup rules, that cleanup has been performed to the maximum extent practicable even though residual petroleum contamination in soil exists on-site.

Attached is a site survey or diagram drawn to scale that shows the property boundaries and the approximate extent of petroleum contamination in soil. This site is subject to the following institutional controls:

- Any future change in land use may impact the exposure assumptions cited in this document. If land use and/or ownership changes, current ICs may not be protective and ADEC may require additional remediation and/or ICs. Therefore the Lower Yukon School District and ADOT&PF or their designees shall report to ADEC every five years to document land use, or as soon as they become aware of any change in land ownership and/or use, if earlier. The report can be sent to the local ADEC office or electronically to DEC.ICUnit@alaska.gov.
- 2. Installation of groundwater well will require prior approval from the ADEC Contaminated Sites Program
- 3. 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 attached site figure.)

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

In the event that information becomes available which indicates that the site may pose an unacceptable risk to human health, safety, welfare or the environment, the land owner and/or operator are required under 18 AAC 75.300 to notify ADEC and evaluate the environmental status of the contamination in accordance with applicable laws and regulations; further site characterizations and cleanup may be necessary under 18 AAC 75.325-.390.

Pursuant to 18 AAC 75.325(i)(1) and (2), DEC approval is required prior to moving soil or groundwater that is, or has been, subject to the cleanup rules found at 18 AAC 75.325-.370. At this site, in the future, if soil is removed from the site it must be characterized and managed following regulations applicable at that time.

This NEC remains in effect until a written determination from ADEC is recorded that states that soil at the site has been shown to meet the most stringent soil cleanup levels in method two of 18 AAC 75.340 and that off-site transportation of soil is not a concern. This document will be filed in the Iliamna recording district.

For more information on the contaminated site in this Notice of Environmental Contamination, please see ADEC Contaminated Sites Program file number 2428.38.006 for the site named Marshall Former School Day Tank and Tank Farm.

Signature of Authorized ADEC Representative

Date