



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Environmental Conservation
DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File: 190.38.005

May 4, 2017

David and Nancy Shaw
Nenana Heating Services
P.O. Box 9
Nenana, AK, 99760

**Re: Decision Document: Nenana Heating Services Truck Rollover - MP 134.5 Denali Highway
Cleanup Complete Determination**

Dear Mr. and Ms. Shaw.

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program has completed a review of the environmental records associated with the Nenana Heating Services Truck Rollover located at Denali Highway milepost 134.5, Cantwell, AK. 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 unless new information becomes available that indicates residual contaminants may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the Nenana Heating Services Truck Rollover, which is located in the ADEC office in Fairbanks, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:

Nenana Heating Services Truck Rollover
Milepost 134.5 Denali Highway
Cantwell, AK 99729

Name and Mailing Address of Contact Party:

David and Nancy Shaw
Nenana Heating Services
P.O. Box 9, Nenana, AK 99760

DEC Site Identifiers:

File No.: 190.38.005
Hazard ID.: 26142

Regulatory Authority for Determination:

18 AAC 75

Site Description and Background

On August 30, 2013 a vehicle operated by Nenana Heating Services overturned at mile 134.5 of the Denali Highway in Cantwell, Alaska. The area surrounding this site is a mixture of Department of Transportation right-of-way and private land. There is an RV park on the northern side of the highway and an undeveloped black spruce forest in the private lot to the south; see attached figure for details.

Groundwater in this area flows west towards the Jack River. Approximately 250-gallons of Ultra Low Sulfur Diesel (ULSD) spilled from the vehicle onto the shoulder and southern ditch.

Nenana Heating Services notified ADEC and mobilized equipment to remove surface contamination. Nortech provided oversight for site characterization and cleanup, free product recovery, and sample collection. Contamination in soil exceeding migration to groundwater cleanup levels remains in place under the Denali Highway and in the ditch. Groundwater samples taken at the source area and downgradient indicate that groundwater was not impacted by this spill.

Contaminants of Concern

During the site investigation and cleanup activities at this site samples were collected from soil and groundwater and analyzed for diesel range organics (DRO), benzene, toluene, ethylbenzene, and xylenes (BTEX). Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern at this site:

- Diesel Range Organics (DRO)
- Ethylbenzene
- Xylenes

Cleanup Levels

Soil cleanup levels applicable at the site are found in 18 AAC 75.341(d), Tables B1 and B2 for the migration to groundwater pathway in the less than 40-inches of precipitation zone. Diesel range organics, ethylbenzene, and xylenes were detected in soil above the migration to groundwater cleanup levels for the less than 40 inch zone established in 18 AAC 75.341 (d), Tables B1 & B2. Groundwater cleanup levels are found in 18 AAC 75.345(b)(1) Table C.

Table 1 – Approved Cleanup Levels

Contaminant	Soil (mg/kg)	Groundwater (µg/L)
DRO	300	1,500
Ethylbenzene	0.13	15
Xylenes	1.5	190

mg/kg = milligrams per kilogram
 ug/L = micrograms per liter

Characterization and Cleanup Activities

A single vehicle accident occurred on August 30, 2013, when a heating oil truck overturned and released approximately 250-gallons of ULSD onto the road shoulder and southern ditch of the Denali Highway at milepost 134.5. The owner of the truck, Nenana Heating Services, mobilized a backhoe and dump truck to remove contaminated soil. Approximately 70-cubic yards (cy) of soil were excavated and transported to Organic Incineration Technology (OIT) for thermal remediation.

On September 3, 2013, Nortech arrived on site to provide oversight for the remaining spill response and site characterization activities. During excavation, groundwater was found at less than 5-feet below the ground surface. An interception trench was constructed down-gradient to limit contaminant migration. Free product was collected from the excavation and interception trench using sorbent pads and booms.

At the end of excavation activities a total of 70-cy had been removed from the south ditch and thermally remediated at Organic Incineration Technology (OIT) in North Pole, Alaska. Used sorbent pads were transported to the Nenana Heating Services Cantwell Shop for disposal. The excavation and the interception trench were backfilled with clean soil. Confirmation samples from the bottom of the excavation contained DRO up to 1,020-mg/kg, ethylbenzene up to 8.98-mg/kg, and xylenes up to 42.5-mg/kg. Based on field screening and the analytical soil samples it is estimated that approximately 10-cy of contaminated soil above the method 2 migration to groundwater cleanup level remains at the site.

Groundwater samples were taken from temporary sampling points advanced with a GeoProbe direct push drill rig in September and November of 2013. During the September sampling event, ethylbenzene was detected above the groundwater cleanup level along with detectable levels of DRO, benzene, toluene, and xylenes down-gradient from the source area. In the November sampling event, groundwater was found at the same depth and all contaminants were below the method detection limits in the source area, up-gradient from the source area, and down-gradient from the source area. All temporary sampling points were removed and backfilled with bentonite after sampling.

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 non-carcinogenic risk standard at a hazard index of 1 across all exposure pathways.

Based on a review of the environmental record, ADEC has determined that residual contaminant concentrations meet the human health cumulative risk criteria for residential land use.

Exposure 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 2.

Table 2 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Surface contamination was removed during initial spill response activities and replaced with clean backfill.
Sub-Surface Soil Contact	De-Minimis Exposure	Contamination remains in the sub-surface, but is below ingestion cleanup levels.
Inhalation – Outdoor Air	De-Minimis Exposure	Contamination remains in the sub-surface, but is below inhalation cleanup levels.

Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	There are no occupied structures in the vicinity of the source area.
Groundwater Ingestion	De-Minimis Exposure	Low levels of DRO and BTEX contamination were detected immediately after the release. However contamination was not detected in groundwater during the latest sampling event. The nearest drinking water well is 400ft up-gradient and completed in a confined aquifer separated from near-surface groundwater.
Surface Water Ingestion	Pathway Incomplete	The nearest surface water is the Jack River, over a quarter of a mile away.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bio-accumulate in plants or animals.
Exposure to Ecological Receptors	Pathway Incomplete	There are no impacted ecological receptors in the vicinity.

Notes to Table 2: “De-Minimis Exposure” means that in ADEC’s judgment receptors are unlikely to be adversely affected by the minimal volume or concentration of remaining contamination. “Pathway Incomplete” means that in ADEC’s judgment contamination has no potential to contact receptors. “Exposure Controlled” means there is an institutional control in place limiting land or groundwater use and there may be a physical barrier in place that prevents contact with residual contamination.

ADEC Decision

Soil contamination remains onsite at concentrations above the applicable cleanup levels, however sufficient characterization has been completed and ADEC has made a determination that the remaining contaminants in soil have achieved steady-state equilibrium and will not migrate to groundwater. This site will receive a “Cleanup Complete” designation on the Contaminated Sites Database, subject to the following standard conditions:

Standard Conditions

1. 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.
2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.
3. Groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use. Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

This determination is in accordance with 18 AAC 75.380 and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to 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, 555 Cordova Street, Anchorage, Alaska, 99501-2617, 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, P.O. Box 111800, Juneau, Alaska, 99811-1800, 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 feel free to contact me at (907) 451-5174, or email at michael.hooper@alaska.gov.

Sincerely,



Michael Hooper
Project Manager

Enclosures: Figure 1 – Satellite Imagery of Spill Location

Cc (via email): Sam Myers, Department of Transportation
Peter Beardsley, Nortech

Figure 1: Satellite Imagery of Cantwell Alaska Denali Highway MP 134.5

