THE STATE of ALASKA
GOVERNOR SEAN PARNELL

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION & RESPONSE
Contaminated Sites Program

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File: 2100.38.482

September 21, 2012

Brooks H. Wade
14424 Canyon Road
Anchorage, Alaska 99516

Re: Decision Document; Residence-14424 Canyon Road Home Heating Oil Tank Cleanup Complete Determination

Dear Mr. Wade;

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with Residence-14424 Canyon Road Home Heating Oil Tank (HHOT) located at 14424 Canyon Road, Anchorage, AK 99516. Based on the information provided to date, it has determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment, and this site will be closed.

This decision is based on the administrative record for Residence-14424 Canyon Road HHOT, 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 Determination.

Introduction

Site Name and Location:
Residence-14424 Canyon Road HHOT
14424 Canyon Road
Anchorage, Alaska 99516
Lot 5, Block 1,Beede Subdivision, Anchorage Recording Office

Name and Mailing Address of Contact Party:
Brooks H. Wade
14424 Canyon Road
Anchorage, Alaska 99516

Database Record Key and File Number:
ADEC Reckey: 2005210135601
File: 2100.38.482
Hazard ID: 999

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

Background
On December 22, 2005, Mr. Brooks Wade discovered and reported to ADEC's Prevention and Emergency Response Program (PERP) an approximate 250 gallon fuel leak of home heating oil from his 300 gallon aboveground storage tank (AST). The AST was located along the northeast side of the residence and about 20 feet away from the residence. The Wade property is located in the lower hillside of Anchorage off of Upper Canyon Road.

The Wade residence water well is located approximately 50 feet up gradient and south of the HHO tank excavation location. Soils consist of organic silt overlying approximately 40 feet of mixed gravelly soils with cobbles and boulders with a thin water bearing gravel zone from 43 to 50 feet deep, overlaying bedrock. The well is drilled to a total depth of 105 feet in bedrock, cased to 52.7 feet and perforated from 44-45 feet. Groundwater was detected at 33 feet bgs. The adjacent residence drinking water well on Lot 4 is located approximately 50 to the north and slightly up-slope of the Wade HHOT excavation. Groundwater was detected at 40 feet bgs. There was no well information available for the Lot 3 residence, which is located in the lower northeast portion of the lot and is approximately 400 to 500 feet from the Wade HHOT excavation. The Residence-14424 Canyon Road HHOT site is not located within an ADEC designated public drinking water protection area.

Characterization Activities
Emerald Alaska Inc. (EAI) was contacted by the homeowner to develop, implement and coordinate all activities associated with the initial Emergency Response Action Work Plan.
EAI started excavation on February 8, 2006 and completed work on February 14 after a weather delay. The total amount of soil removed from the site was approximately 110.48 tons. The contaminated soils were excavated to a total depth of 18 feet below ground surface (bgs). No groundwater or free product was observed in the excavation. The excavation was later filled with clean gravel. The remaining fuel was pumped out before removal and the AST was recycled for scrap metal.

Soil samples, representing the post removal conditions, were obtained from the excavation sidewalls (at approximately 12 feet bgs) and bottom (at approximately 18 feet bgs) using the track-hoe bucket and field screening using a Photo Ionization Detector (PID). Field screening data for the east (east – southwest) and south (south – southwest) sidewalls showed elevated concentrations at approximately 6 feet bgs, in the most visible heavily contaminated zone beneath the HHOT sump location, and decreasing with depth (12 feet bgs). The north (north – southwest) sidewall samples contained low-level and decreasing petroleum hydrocarbon concentrations at the 6 and 12 foot depths, indicating that the northern edge of the HHOT release was defined. The western extent of the HHOT release was determined by visual and olfactory observations. After the extent of the release had been determined, removal activities were refocused to the area beneath/adjacent to the

HHO tank/sump. Total depth of excavation was 18 feet bgs and 23 feet in length and 10 feet in width.

Two confirmation soil samples were collected from the track-hoe bucket from approximately 18 feet bgs. The soils removed are considered to be representative of conditions of the bottom of the excavation. The samples were submitted to SGS-CTE Laboratory for analysis of DRO using the AK-102 method. The confirmation soil samples, CS-1 and CS-2 contained similar concentrations of DRO, reported as 563 mg/kg and 538 mg/kg. Soil samples collected and analyzed for gasoline range organics (GRO), benzene, toluene, ethylbenzene, and xylenes, (BTEX) samples were well below their respective most stringent 18 AAC 75.341 cleanup levels (i.e., migration to groundwater).

Contaminants of Concern

During the investigations at this site, soil samples were analyzed for DRO, GRO, and 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

The default groundwater cleanup levels for this site are established in 18 AAC 75.345 Table C Groundwater Cleanup Levels.

Contaminant	Site Cleanup Level (mg/L)
DRO	1.5

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.

Table 1 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	The contaminated soil was excavated to a depth of 18 feet bgs and transported to the local treatment facility (ASR), and thermally treated so there is no surface soil contact.
Sub-Surface Soil Contact	De-minimis exposure	Contamination remains in the subsurface, but is below direct contact cleanup levels.
Inhalation – Outdoor Air	Pathway Incomplete	The remaining contamination is below inhalation cleanup levels for DRO.
Inhalation – Indoor Air (vapor intrusion)	De-minimis exposure	Soil samples were not analyzed for PAHs however it is suspected that the remaining contamination presents a de minimus exposure because of the low DRO concentration (563 mg/kg and 538 mg/kg), and the contamination is more than 30 ft. away from the existing residence (i.e., depth of the remaining contamination is 18 ft. or greater and distance from the residence is 20 ft. from the residence).
Groundwater Ingestion	De-minimis	Groundwater was not encountered during the investigation and from the drinking water well log groundwater is about 33 feet. bgs. DRO was detected at 563 mg/kg and 538 mg/kg bgs but is expected to decrease in concentration to pose little risk to groundwater.
Surface Water Ingestion	Pathway Incomplete	The nearest surface water body, Rabbit Creek, is approximately 0.5 miles from this site. Surface water is not utilized as a drinking water source in this area.
Wild Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals.
Exposure to Ecological Receptors	Pathway Incomplete	Contamination remains in the subsurface, but is covered with clean backfill. Any exposure to ecological receptors is considered de minimis.

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

The cleanup actions to date have served to excavate and adequately remove contaminated soil from the site. Based on the information available, ADEC has determined no further assessment or cleanup action is required. There is no longer a risk to human health or the environment, and this site will be designated as closed on the Department's database.

Although a Cleanup Complete Determination has been granted, ADEC approval is required for off-site soil disposal in accordance with 18 AAC 75.325(i). It should be noted that movement or use of

potentially contaminated soil in a manner that results in a violation of 18 AAC 70 water quality standards is unlawful.

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, Katrina Chambon at (907) 269-7551.

Approved By,

Rich Sundet
Environmental Manager

Recommended By

Katrina Chambon
Environmental Program Specialist