



THE STATE  
of **ALASKA**  
GOVERNOR SEAN PARNELL

Department of Environmental  
Conservation

DIVISION OF SPILL PREVENTION & RESPONSE  
Contaminated Sites Program

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File No: 2202.38.011

Return Receipt Requested

Article No: 7010 2780 0000 2178 4278

July 12, 2012

Lon Wilson  
4240 Tahoe Drive  
Anchorage, Alaska 99502-1460

Re: Decision Document; Residence-5100 South Dottie Lou Lane HHOT  
Cleanup Complete Determination

Dear Mr. Wilson:

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program has completed a review of the environmental records associated with Residence-5100 South Dottie Lou Lane Home Heating Oil Tank (HHOT) located at 5100 South Dottie Lou Lane, Big Lake, Alaska 99562. Based on the information provided to date, the ADEC 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-5100 South Dottie Lou Lane 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-5100 South Dottie Lou Lane HHOT  
5100 South Dottie Lou Lane  
Big Lake, Alaska 99562

Name and Mailing Address of Contact Party:

Lon Wilson  
4240 Tahoe Drive  
Anchorage, Alaska 99502-1460

Database Record Key and File Number:

ADEC Reckey: 2007220115601

File: 2202.38.011

Hazard ID: 4607

Regulatory authority under which the site is being cleaned up:

18 AAC 75

**Background**

In June 2007 a 300-gallon above-ground tank (AST) supply line released diesel into the cabin located on-site and diesel seeped through the flooring to the ground surface under the northwest side of the structure. It is estimated that approximately 10 to 30 gallons of diesel was released during the spill. A total of 263.77 tons of impacted soil was excavated from the site during spill response activities. Confirmation soil samples collected from the excavation at 10-12 feet below ground surface indicated diesel range organics (DRO) and benzene remained at concentrations above ADEC cleanup levels, with DRO detected up to 2,170 mg/kg and benzene detected up to 0.101 mg/kg. Groundwater was encountered in the excavation at 12 feet bgs. The on-site drinking water well located up gradient of the spill was sampled on October 27<sup>th</sup>, 2007. The well terminated at a depth of 69.5 ft below the top of the well casing with the static water level at 14.82 feet below the top of the casing. Water was sampled for volatile organic compounds by Environmental Protection Agency drinking water method 524.2. The sample did not contain detectable concentrations of contaminants, indicating that the well was unaffected by the spill.

**Characterization Activities**

In March 2009 two groundwater monitoring wells, MW-1 and MW-2, were installed and sampled at the subject property. MW-1 was advanced to approximately 15 feet bgs and MW-2 was advanced to approximately 10 feet bgs. Groundwater was encountered in MW-1 at approximately 6 feet bgs with a confining layer of silt observed at approximately 12 feet bgs. Groundwater was encountered in MW-2 at approximately 9 feet bgs. Groundwater samples contained detectable concentrations of contaminants, but all analytes were below Table C cleanup levels. Soil samples collected during monitoring well installation did not contain contaminants above Method Two migration to groundwater cleanup levels.

The two wells were sampled again in October 2009 and July 2010. DRO was detected in MW-2 at 8.85 mg/l during the October sampling event; however contaminants were not detected above cleanup levels in the July sampling event. The July 2010 samples were analyzed using a silica gel cleanup process to remove naturally occurring organics from the sample prior to analysis, and a review of the chromatograms from the October 2009 sampling event support the concept that naturally occurring organics were responsible for the DRO detected in the October 2009 samples. Groundwater samples were collected again in July 2011 and analyzed using silica gel cleanup. Contaminants were not detected above cleanup levels.

Because of the proximity to Big Lake and because a complete pathway exists for groundwater to migrate to surface water, groundwater analytical data were also compared to 18 AAC 70 Alaska Water Quality Standards (AWQS) for total aromatic hydrocarbons (BTEX) and total aqueous hydrocarbons (BTEX + PAHs). Contaminants were not detected above AWQS.

**Contaminants of Concern**

During the investigations at this site, soil and groundwater samples were analyzed for DRO, residual range organics, benzene, toluene, ethylbenzene and xylene (BTEX) and polycyclic aromatic hydrocarbons (PAHs). Based on these analyses and knowledge of the source area, the following Contaminant of Concern was identified:

- Diesel Range Organics (DRO)
- Benzene

### 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
Benzene	0.025

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
Benzene	0.005

### 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	All contaminated surface soil was removed during initial response activities and significant exposure is not expected through this pathway
Sub-Surface Soil Contact	De Minimis Exposure	The remaining contamination is located in the subsurface and is below direct contact cleanup levels
Inhalation – Outdoor Air	De Minimis Exposure	Due to depth of remaining contamination (12 feet bgs) and contaminant levels below inhalation action levels, exposure to significant levels of contamination through this pathway are not expected.
Inhalation – Indoor Air (vapor intrusion)	De Minimis Exposure	Due to depth of remaining contamination (12 feet bgs) and contaminant levels below inhalation action levels, exposure to significant levels of contamination through this pathway are not expected.
Groundwater Ingestion	De Minimis Exposure	Soil contamination remains above migration to groundwater cleanup levels; however, ground water contaminant concentrations are below 18 AAC 75.345 ADEC Table C cleanup levels.
Surface Water Ingestion	Pathway Incomplete	Surface water is not utilized as a drinking water source in the area.

Wild Foods Ingestion	Pathway Incomplete	Wild food s are not collected in this area
Exposure to Ecological Receptors	Pathway Incomplete	There are no complete exposure pathways to ecological receptors at the site.

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