

STATE OF ALASKA

SEAN PARNELL, GOVERNOR

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

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File: 1513.38.067

January 13, 2011

Mr. Jim Cameron
Cameron Plumbing and Heating Inc.
8411 Airport Blvd
Juneau, Alaska 99801

Re: Cleanup Complete Determination; Thunder Mountain Mobile Park #36

Dear Mr. Cameron:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Thunder Mountain Mobile Park #36 contaminated site, located on Thunder Mountain Road in Juneau. 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 the Thunder Mountain Mobile Park #36 Contaminated Site, which is located in the offices of the Alaska Department of Environmental Conservation (ADEC) in Juneau, 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:

Thunder Mountain Mobile Park #36
Thunder Mountain Road
Juneau, Alaska 99801

Hazard ID: 4065

Name and Mailing Address of Contact Party:

Mr. Jim Cameron
Cameron Plumbing and Heating Inc
8411 Airport Blvd
Juneau, Alaska 99801

Database Record Key and File Number:

ADEC Reckey: 2004110135601
File: 1513.38.067

Regulatory authority:

18 AAC 75

Background

On September 17, 2005, a resident of space #36 in the Thunder Mountain Mobile Park contacted the Department of Environmental Conservation (DEC) Southeast Area Response Team (SART) concerning a release of heating oil from an aboveground 275-gallon tank and associated piping that occurred in December 2004. An account of events indicated that the release occurred as a result of a service event performed. The fuel loss volume reported by the homeowner was estimated to be as much as 500 gallons; however, fuel supplier records indicate the volume lost was probably half that figure.

Soil samples and groundwater samples collected at this site have been tested for: gasoline, diesel, and residual range fraction hydrocarbons (GRO, DRO, and RRO), volatile organic compounds (VOCs), and benzene, toluene, ethylbenzene and total xylenes (BTEX).

A deep unconfined aquifer in the eastern Mendenhall Valley is fed by water flowing west from higher elevations of Thunder Mountain. The Thunder Mountain Mobile Park draws from this aquifer using one of four groundwater wells on the property that reach 60 feet below ground surface. The Class "A" Public Water System (PWS) distributes drinking water to 98 residential connections serving a population of 180. The 2004 Source Water Assessment Report #1555 for PWS #110449 received a low rating for vulnerability for all potential contaminants including volatile organic chemicals. The wells are located in the northwest and southeast corners of the property; in 2005 the southeast well was used as the PWS supply. Shallow groundwater in the Mendenhall Valley ranges from three to four feet below ground surface and generally flows from north to south.

Site Investigation

In the fall of 2005, ADEC approved an interim soil removal action at the oil spill site at the residence in Space #36. An estimated ten cubic yards of contaminated soil was removed from beneath the heating oil tank located at the north end of the mobile home residence. The most saturated soil contamination was found beneath the residence and around a utility pole four feet from the north wall of the mobile home. Soil samples collected using field screening to indicate the greatest contamination were sent for laboratory analysis. Results determined that DRO was the contaminant of concern; BTEX compounds were not detected.

In August 2006, an additional 300 cubic yards of contaminated soil was excavated above the water table and was transported off-site for incorporation into asphalt remediation by Bicknell Inc. The cleanup effort required removing obstacles such as the residence at Space #36 (trailer was demolished) and took over a two weeks to complete. The final excavation surface area was 1800 square feet. The depth of the water table varied between three and six feet below ground surface depending on rainfall that occurred during the cleanup effort.

Confirmation soil samples and duplicates collected from the perimeter of the excavation had DRO concentrations below the applicable soil cleanup goal of 230 mg/kg. Soil sample TM-5 was collected in the center of the excavation eight feet beneath the former heating oil tank below the water table into the soil saturated zone. The TM-5 DRO concentration was 1,880 mg/kg and the field duplicate sample DRO concentration was 1,570 mg/kg DRO.

The TM-5 data approximates soil conditions where the groundwater in the excavation limited the removal of contaminated soil from the saturated soil layer under Space #36. A monitoring well was installed on the property line between Space #36 and #37, about ten feet from the alley to determine if contamination concentrations were declining or stable at the DRO cleanup criteria.

Groundwater Sample Results

The groundwater samples collected in 2007 had concentrations of DRO ranging from 6.9 to 7.1 mg/L. The July 2008 sampling event reported concentrations of DRO ranging from 2.62 mg/L and 2.71 mg/L. Although the results declined from 2007 to 2008, concentrations still exceeded the Table C regulatory criteria of 1.5 mg/L DRO. In the 2009 sampling event, DRO was not detected in the analysis of the sample or its field duplicate. In the approval of the 2009 Report, ADEC requested that the 2010 sampling event include testing for BTEX compounds in addition to DRO. No BTEX compounds were detected and concentrations of DRO were at 1.7 mg/L and 1.5 mg/L, just above the Table C cleanup level for DRO. Since the surrogate recovery in the analysis of the duplicate sample was superior, the 1.5 mg/L value is accepted and the department determines that the groundwater cleanup level has been achieved.

Sample Results from Public Drinking Water Wells

In accordance with Drinking Water Program Standards, samples were collected from the Thunder Mountain Mobile Park PWS wells during the last quarter of 2005, and were analyzed at an ADEC approved laboratory for volatile and semi-volatile organic compounds (VOCs and SVOCs) using EPA Drinking Water Approved Methods 524.2 and 525.2 respectively. One of the wells sampled is located behind the laundromat at the north end of the property and the second well sampled is located on the east side of the property near Jordan Creek. No volatile organic analytes were detected in samples from either well. By 2007, with four consecutive quarters of non-detect results for all analytes ADEC reduced the frequency to annual sampling. In a final sample event in 2008, all results were again non-detect.

Contaminants of Concern

During the investigations at this site, samples collected from the on-site Class A public drinking water system were analyzed for VOCs and SVOCs in accordance with 18 AAC 80.010(a)(6)(D), as amended November 11, 2010.

Soil samples were analyzed for diesel range organics (DRO), residual range organics (RRO) and benzene, toluene, ethylbenzene, and xylenes compounds (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.

<u>Contaminant</u>	<u>Site Cleanup Level (mg/kg)</u>
DRO	230

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

<u>Contaminant</u>	<u>Site Cleanup Level (mg/L)</u>
DRO	1.5

Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminant concentrations 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 (see Enclosure).

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.

NOTE: Although a cleanup complete has been granted, if excavation of subsurface at Space #36 becomes necessary, ADEC approval is required for off-site disposal of that soil 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

Mr. Jim Cameron
Re: Thunder Mountain Mobile Park #36

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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, Bruce Wanstall at (907) 465-5210.

Approved By:



Sally Schlichting
Environmental Program Manager

Recommended By:



Bruce Wanstall
Environmental Program Specialist

Enclosure: Table 1 – Exposure Pathway Evaluation

cc: w/Encl: Tracy Walker, Owner, Thunder Mountain Mobile Park
David Khan, Engineer, ADEC Drinking Water Program

Table 1 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	The contaminated surface soil was removed and remediated so there is no surface soil contact.
Sub-Surface Soil Contact	De-minimis exposure	DRO contamination remains in the subsurface in concentrations above the migration to groundwater soil cleanup level but below human health criteria.
Inhalation – Outdoor Air	Pathway Incomplete	DRO contamination remains in the subsurface, but volatile compounds (BTEX) were not detected in samples of the subsurface soil or the groundwater.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	DRO contamination remains in the subsurface, but volatile compounds (BTEX) were not detected in samples of the subsurface soil or the groundwater.
Groundwater Ingestion	De-minimis Exposure	Class A drinking water system was tested quarterly then annually for volatile petroleum compounds and none were detected above drinking water standard instrument detection limits. Groundwater at Space #36 was investigated and monitored for three years after cleanup; remaining contamination is stable at or below DRO migration to groundwater cleanup levels.
Surface Water Ingestion	Pathway Incomplete	Jordan Creek is within ¼ mile of Space #36 but is not used for drinking water and not affected by the soil and groundwater contamination at this site.
Wild Foods Ingestion	Pathway Incomplete	There is no contamination remaining in surface soil above migration to groundwater cleanup levels.
Exposure to Ecological Receptors: aquatic and terrestrial	Pathway Incomplete	The migration route Jordan Creek is incomplete because of the effectiveness of cleanup actions that have occurred at the site. Groundwater monitoring has ensured cleanup was effective in preventing exposure along this route.

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.