



THE STATE  
of **ALASKA**  
GOVERNOR SEAN PARNELL

**Department of Environmental  
Conservation**

Division of Spill Prevention and Response  
Contaminated Sites Program

610 University Ave.  
Fairbanks, Alaska 99709-3643  
Main: 907.451.5715  
Fax: 907.451.5105

File: 480.26.001

March 11, 2013

Doug Mackey  
Bureau of Land Management  
Alaska Fire Service  
1544 Gaffney Road  
Fort Wainwright, AK 99703

Re: Decision Document, BLM Fire Service Dahl Creek, Corrective Action Complete Determination

Dear Mr. Mackey:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Bureau of Land Management (BLM) Fire Service Dahl Creek site. 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 site, which is located in the offices of the ADEC in Fairbanks, 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 Corrective Action Complete Determination.

**Site Name and Location**

BLM Fire Service Dahl Creek  
Dahl Creek Airport Ramp  
Kobuk, Alaska

**DEC Site Identifiers**

File: 480.26.001  
Hazard ID: 23352

**Regulatory Authority for Determination**

18 AAC 75 and 18 AAC 78

**Background**

The BLM Alaska Fire Service leased Parcel B, Lot 2, Block 1 at the Dahl Creek Airport from the Alaska Department of Transportation & Public Facilities to operate a Wildland Fire Facility. Three underground storage tanks (USTs), two 3,000-gallon Jet-A and one 3,000-gallon aviation gasoline (AVGAS), were used to support remote operations from this facility. The USTs were located at the Dahl Creek Airport ramp, as

shown on the attached figure from the 2013 Site Characterization Report. In 1994 the BLM closed the Dahl Creek facility and removed the USTs.

Contaminated soil was encountered during the UST removal in 1994, and approximately 44 cubic yards of petroleum-contaminated soil was excavated and stockpiled on site. Although these tanks stored Jet-A and AVGAS, soil samples collected from the limits of the excavation were only analyzed for diesel range organics (DRO). Sample results indicated there was contamination left in place.

In 1995 the stockpiled soils were sampled for gasoline range organics (GRO), DRO, and benzene, toluene, ethylbenzene, and xylenes (BTEX). Results were below cleanup levels and the soil was spread on site.

### 2012 Field Activities

To address data gaps from the 1994 sampling and to delineate the extent of remaining contamination additional field work was performed in 2012. The location of the former USTs was identified and a sampling grid was established to encompass the source area. Eleven test pits were excavated and soil samples were collected and analyzed for GRO, DRO, BTEX, lead, and ethylene dibromide (EDB). Results were compared to the ADEC Method Two Table B1 and B2 cleanup levels. The maximum sample results are presented below, along with the cleanup levels:

	Sample Location and Depth	Maximum Concentration (mg/kg)	ADEC Cleanup Level (mg/kg)		
			Migration to groundwater	Direct Contact/ Ingestion	Outdoor Inhalation
GRO	TP-9, 3 feet	506	300	1,400	1,400
DRO	TP-11, 11 feet	2050	250	10,250	12,500
Benzene	TP-9, 3 feet	0.55	0.025	150	11
Toluene	TP-11, 11 feet	0.682	6.5	8,100	220
Ethylbenzene	TP-11, 11 feet	3.67	6.9	10,100	110
Xylenes	TP-11, 11 feet	19.19	63	20,300	63
Lead	TP-9, 3 feet	18.3	--	400	--
EDB	TP-9, 3 feet		0.00016	4.2	0.60

Soil cleanup levels are 18 AAC 75.341 Method Two, Table B1 and B2, under 40-inch zone

Attempts were made to install two temporary monitoring wells at this site. The first was installed at the center of the soil sampling grid and driven to a depth of 18.5 feet. No water was present in the well. The second was installed downgradient of the site, in the direction of Dahl Creek. This area is comprised of large cobbles and gravel about one foot below the vegetative mat. Several attempts were made to install the well, however the drive points hit refusal at one to two feet.

The maximum concentration of DRO was detected in test pit TP-11 at 11 feet. A sample from TP-11 at 14 feet was non-detect for all analytes, showing that the vertical extent of contamination has been delineated. The remaining residual contaminant concentrations are less than the health based cleanup levels. Based on the limited volume of residual contamination remaining in place, the migration to groundwater pathway is considered incomplete at this site.

### 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. 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.

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Surface soil was removed and treated during UST removal in 1994. Remaining contamination is in subsurface soil.
Sub-Surface Soil Contact	De Minimis	De minimis volume of contaminated soil remains in the subsurface. Results are below direct contact cleanup levels.
Inhalation – Outdoor Air	De Minimis	De minimis volume of contaminated soil remains in the subsurface. Results are below outdoor air inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	No occupied buildings within 30 feet of the site.
Groundwater Ingestion	Pathway Incomplete	The de minimis volume of contaminated soil remains between 4 to 11 feet and is not expected to migrate to groundwater.
Surface Water Ingestion	Pathway Incomplete	Dahl Creek is approximately 200 yards from the site. Contamination is not expected to migrate.
Wild Foods Ingestion	De Minimis	Lead results are all below the cleanup level.
Exposure to Ecological Receptors	Pathway Incomplete	De minimis volume of contaminated soil remains in the subsurface.

### 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 Corrective Action Complete determination has been granted, ADEC approval is required for off-site soil disposal in accordance with 18 AAC 78.600(h). 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 78.276(f) 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.

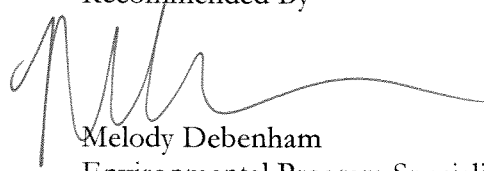
If you have questions about this closure decision, please feel free to contact the ADEC project manager, Melody Debenham, at melody.debenham@alaska.gov or (907) 451-5175.

Approved By



Fred Vreeman  
Environmental Manager

Recommended By



Melody Debenham  
Environmental Program Specialist

Enclosures: 2013 Site Characterization Report Dahl Creek Site, Figure 1

cc: Tom Kowalczyk, ADOT&PF  
Mike McCrum, BLM



Photo courtesy of Alaska Department of Transportation (ADOT). June 1993.

<b>FIGURE 1</b>	
<b>SITE AND VICINITY MAP</b>	
BLM-Alaska Fire Service Dahl Creek, Alaska	
ECC, Inc.	December 2012