



THE STATE  
of **ALASKA**  
GOVERNOR BILL WALKER

Department of  
**Environmental Conservation**

DIVISION OF SPILL PREVENTION AND RESPONSE  
Contaminated Sites Program

410 Willoughby Avenue, Suite 303  
P.O. Box 111800  
Juneau, AK 99811-1800  
Phone: 907-465-5390  
Fax: 907-465-5218  
www.dec.alaska.gov

File: 1516.38.047

September 22, 2016

*Via electronic mail only*

Mr. Mike Carney, Director  
Ketchikan International Airport  
1000 Airport Terminal Suite 10  
Ketchikan, AK 99901

Re: Decision Document: Ketchikan Airport ARFF Bldg HazMat Shed  
Cleanup Complete Determination

Dear Mr. Carney:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has completed a review of the environmental records associated with the Ketchikan Airport ARFF HazMat Shed. 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 Ketchikan Airport ARFF HazMat Shed which is located in the DEC office in Juneau, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

**Site Name and Location:**

Ketchikan Airport ARFF Bldg HazMat Shed  
Ketchikan International Airport  
Ketchikan, AK 99901  
Lot 5 USS 3535 Ketchikan Gateway Borough

**Name and Mailing Address of Contact Party:**

Mike Carney  
Ketchikan International Airport  
1000 Airport Terminal Suite 10  
Ketchikan, AK 99901

**DEC Site Identifiers:**

File No.: 1516.38.047  
Hazard ID.: 26525

**Regulatory Authority for Determination:**

18 AAC 75

**Site Description and Background**

The Ketchikan International Airport is located on Gravina Island, across Tongass Narrows from the community of Ketchikan. Gravina Island is approximately 95 square miles and has a population of 50

people. The release Site is within a controlled access facility fenced to preclude public access. Workers frequenting the site are trained and prepared for hazardous conditions and potential exposure risk. Groundwater and surface water in the area, if present, have neither sufficient quantity nor quality to be used as a drinking water source. The City of Ketchikan Public Works provides water and sewer to the Site.

Ketchikan ARFF HazMat Assessment Report by Nortech Engineering Inc. (Nortech) dated August, 2015, states that Nortech collected soil samples from bare (surface) soil near the storage shed for hazardous materials. Laboratory results for sample (KS-4) had a diesel (DRO) range hydrocarbon concentration of 609 milligrams per kilogram (mg/kg) and a residual (RRO) range hydrocarbon concentration of 5,930 mg/kg. Sample KS-4 required a dilution in order to quantify the RRO.

### Contaminants of Concern

During the site investigation and cleanup activities at this site, samples were collected from soil and analyzed for DRO and RRO contamination. Based on these analyses, the following contaminant was detected above the applicable cleanup levels and is considered a Contaminant of Concern at this site:

- Diesel Range Hydrocarbons (DRO)

### Cleanup Levels

The facility is industrial land use in an area with shallow groundwater. The most stringent levels of all applicable pathways under Method Two soil cleanup levels for the over 40-inch precipitation zone, established in 18 AAC 75.341(c), Table B1, and 18 AAC 75.341 (d), Table B2 apply to the Site.

Groundwater criteria list in Table C at 18 AAC 75.345(b)(1) also apply, and surface water as referenced in 18 AAC 75.345(f) must meet the Water Quality Standards found in 18 AAC 70 for TLqH and TAH (volatile and semi-volatile hydrocarbons). Although groundwater was not investigated for contamination, soil cleanup levels protective of migration to groundwater and in turn, surface water, still apply.

**Table 1 – Approved Cleanup Levels**

Contaminant	Soil (mg/kg)
DRO	230

mg/kg = milligrams per kilogram

### Characterization and Cleanup Activities

Title 18 Alaska Administrative Code (AAC) 75.340 authorizes DEC to set soil cleanup levels for this site. At the request of the Ketchikan Gateway Borough, a representative of R&M Engineering-Ketchikan, Inc. (R&M) performed a field inspection of the Airport Fire Station Hazardous Materials Shed area where Nortech had collected sample (KS-4). DEC attended the field inspection to direct sampling of contaminated soil in this area of the Site.

DEC directed R&M to collect confirmation samples of surface soil for laboratory analysis in the area of the hazardous materials shed. Analytes included DRO and RRO. A duplicate sample was collected and was submitted blind to the laboratory.

Table 1 displays the highest levels detected in soil remaining at the site, the sample depth, and the Method Two (M2) Migration to Groundwater (MTG) cleanup levels. Levels shown in bold are above the applicable cleanup levels and represent the contaminant(s) of concern.

**Table 2 the greatest levels of analytes detected in remaining soil at the site.**

Hydrocarbon range and compounds of concern	Greatest level in soil mg/kg	Sample name and depth below the surface	M2 MTG Cleanup Levels mg/kg
DRO	<85.0	TH1 at 0.5 feet	230

**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 one across all exposure pathways.

Based on a review of the environmental record, DEC 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 DEC'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	Contamination is not present in surface soil.
Sub-Surface Soil Contact	Pathway Incomplete	Contamination is not in the sub-surface.
Inhalation – Outdoor Air	Pathway Incomplete	Contamination is not present at the site.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Contamination was not found at the site.
Groundwater Ingestion	Pathway Incomplete	Surface soil contamination is not present at the site.
Surface Water Ingestion	Pathway Incomplete	Surface water is not used as a drinking water source.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants and animals
Exposure to Ecological Receptors	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals.

**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.

### DEC Decision

Soil and groundwater contamination at the site have been cleaned up to concentrations below the approved cleanup levels suitable for residential land use. 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 DEC approval in accordance with 18 AAC 75.325(i). A “site” [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.

This determination is in accordance with 18 AAC 75.380 and does not preclude DEC 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 contact the DEC project manager, Bruce Wanstall at (907) 465-5210.

Sincerely,



Bruce Wanstall  
Remedial Project Manager  
Contaminated Sites Program

cc: Sally Schlichting, DEC Unit Manager, CS Program, via email  
DEC SPAR Cost Recovery, via email