



File: 2320.38.051

March 13, 2019

Rena Flint  
U.S. Army Corps of Engineers, Alaska District  
P.O. Box 6898  
JBER, AK 99506-6898

Re: Decision Document  
Wildwood AFS Operations Building Facility Former Drum Storage Location  
Cleanup Complete Determination

Dear Ms. Flint:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Wildwood Air Force Station (AFS) Operations Building Facility Former Drum Storage Location site, located in Kenai. 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 Wildwood AFS Operations Building Facility Former Drum Storage Location site, which is located in the ADEC office in Anchorage, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

**Site Name and Location:**

Wildwood AFS Operations Building  
Facility Former Drum Storage Location  
Latitude: 60.607133  
Longitude: -151.286902  
Kenai, AK 99611

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

Rena Flint  
U.S. Army Corps of Engineers, Alaska District  
PO Box 6898  
JBER, AK 99506-6898

**DEC Site Identifiers:**

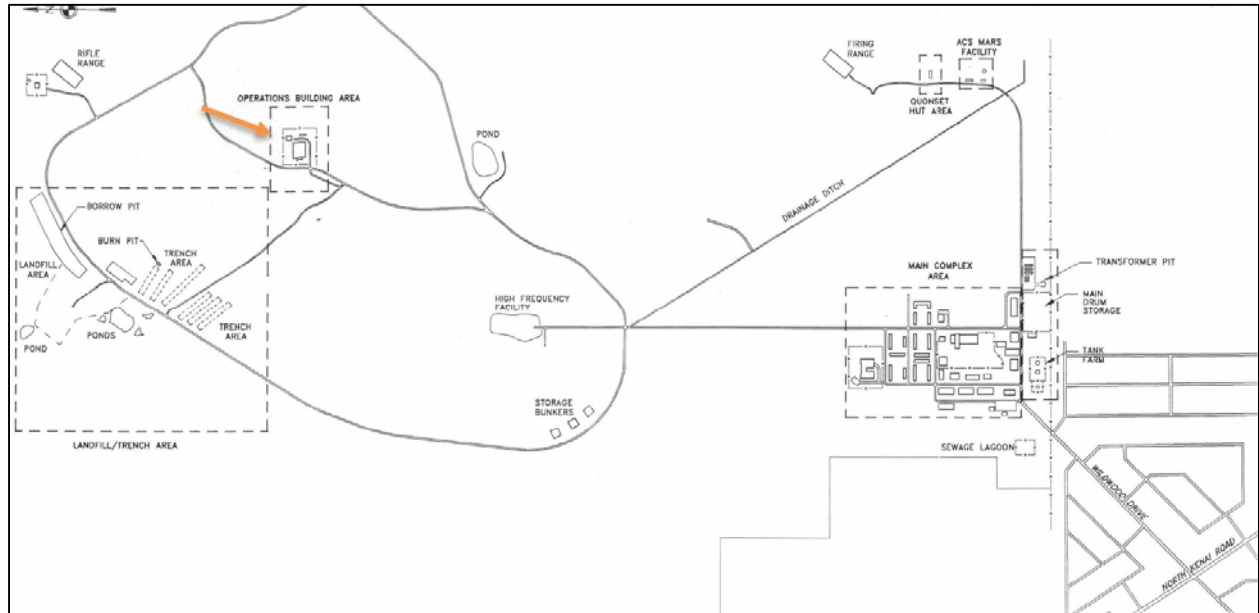
File No.: 2320.38.051  
Hazard ID.: 25212

**Regulatory Authority for Determination:**

18 AAC 75

**Site Description and Background**

The Wildwood AFS Operations Building Facility Former Drum Storage Location site is located in the north-central area of Wildwood AFS development. Drums containing fuel were stored in the area north of Building 101. A figure showing the Operations Building Area is presented below:



**Contaminants of Concern**

During the site characterization and cleanup activities at this site, samples were collected from soil and groundwater, and were analyzed for one or more of the following: Aromatic Volatile Organic Analyses (VOA), Halogenated VOA, polycyclic aromatic hydrocarbons (PAHs), volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), pesticides, polychlorinated biphenyls (PCBs), gasoline range organic (GRO), diesel range organic (DRO), residual range organics (RRO), and metals. Based on these analyses, DRO is the only contaminant of concern.

**Cleanup Levels**

Applicable cleanup levels for this site include the calculated alternative MTG cleanup of 1,200 mg/kg for DRO, as well the risk-based ingestion cleanup level as outlined in 18 AAC 75.341(c), Table B2. 18 AAC 75.345 Table C outlines the applicable groundwater cleanup levels. The approved cleanup levels are shown below in the table:

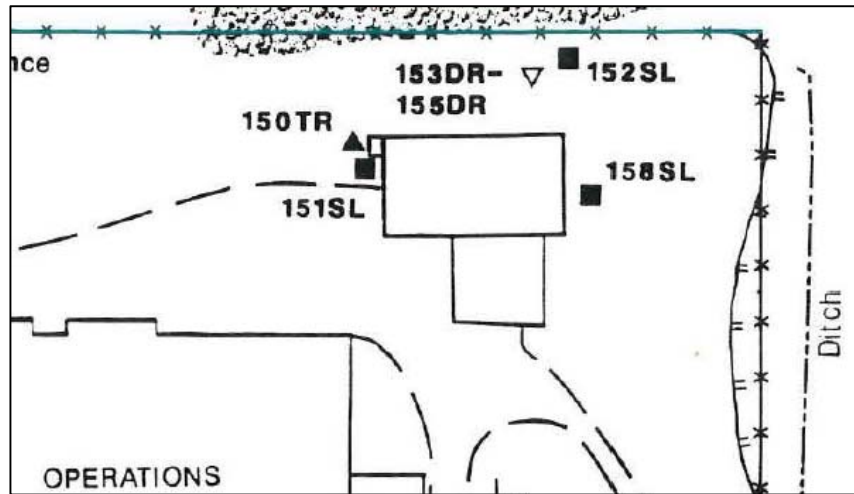
**Approved Cleanup Levels Table**

Contaminant	Soil – Alternative MTG (mg/kg)	Soil - Ingestion (mg/kg)	Groundwater (mg/L)	Maximum Soil Concentrations Remaining Onsite (mg/kg)
DRO	1,200	10,250	1.5	5,800

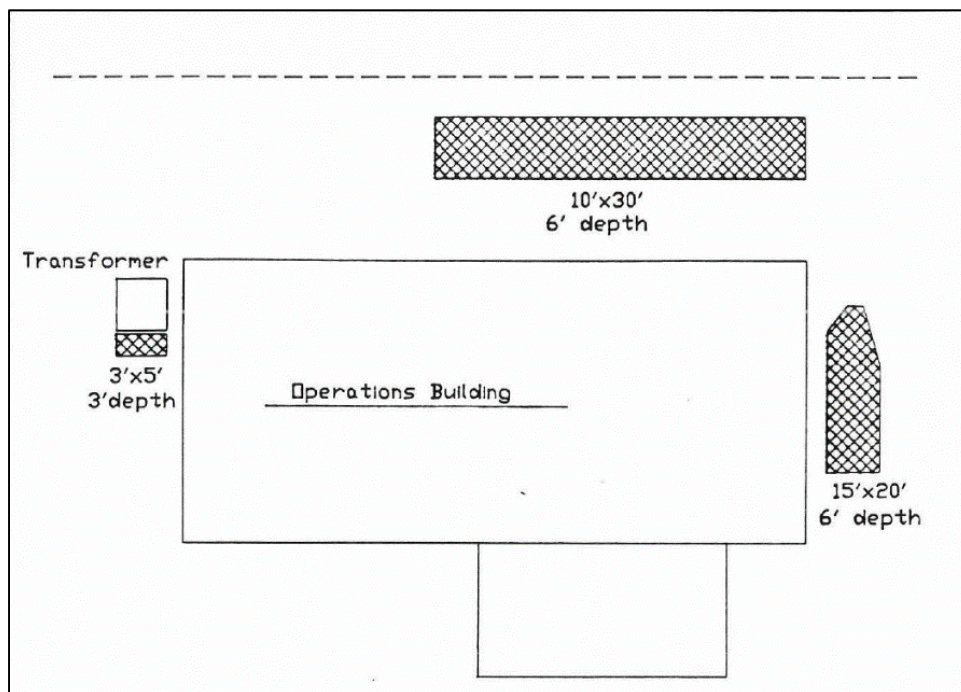
### Characterization and Cleanup

The site was first evaluated on October 13, 1989. Nine drums were observed onsite, three of which contained fluids and were labeled “lube oil”. The other six drums were empty, however significant staining in the area indicated that one or more of the drums had leaked onto the ground. Two surface soil samples were collected from the visibly stained soils (Samples 152SL and 158SL) and were submitted for laboratory analysis of Aromatic Volatile Organic

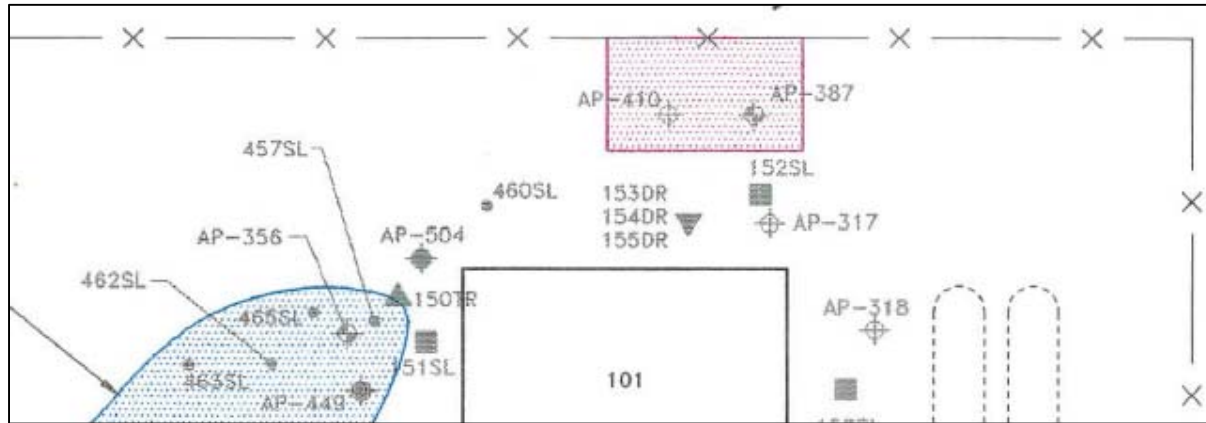
Analyses (VOA), Halogenated VOA, Pesticides/ polychlorinated biphenyls (PCBs), and Metals. Various compounds were detected in the samples, such as lead, pesticides, and petroleum-related compounds; however none of the compounds were present at levels above ADECs current migration to groundwater (MTG) cleanup levels. The figure to the right shows the sample locations.



Limited soil removal occurred in late October 1990. A stained area roughly 10 feet wide, 30 feet long, and 6 feet deep was identified and, apparently, removed during this effort. About 14 cubic yards of contaminated soil was removed and disposed of offsite. The removal is not well documented and it is not clear if analytical samples were collected post-excavation. A figure of the excavation is shown below:

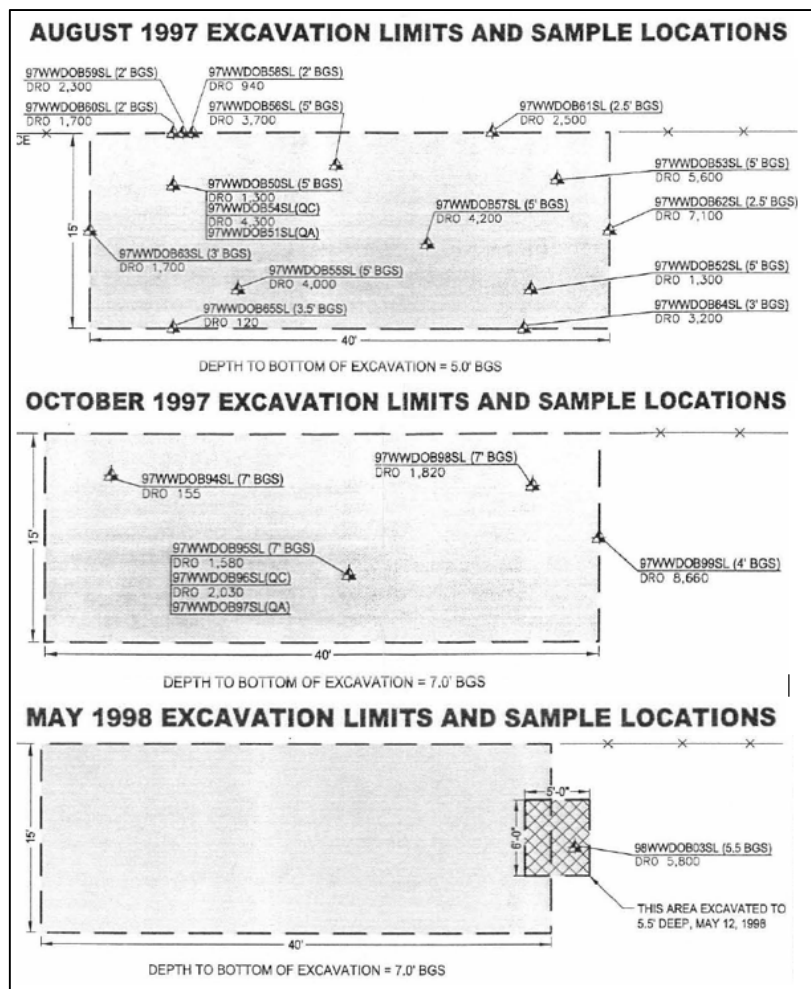


Additional characterization was completed in 1994 and included installation of two soil borings (AP-410 and AP-411) and one monitoring well (AP-387). Analytical samples collected from subsurface soils at the smear zone, at about 5 feet below ground surface (bgs), had concentrations of DRO up to 4,400 mg/kg. The water sample collected from Well AP-387 contained DRO at 8.86 mg/l. A figure showing the sample locations is presented below:



Well AP-387 was only sampled one time in 1994. However, a downgradient well, AP-504 was sampled twice in 1995. DRO was present in Well AP-504 at 1.8 mg/l in August and 20 mg/l in December 1995.

Excavation commenced at the former drum storage location in August 1997. The excavation was completed in three stages to ensure maximum removal. In total, about 162 cubic yards (cy) of contaminated material was removed. The final excavation dimensions were 40 feet long, 15 feet wide, and 7 feet deep. Confirmation sample results ranged from below MTG cleanup levels up to 5,800 mg/kg DRO. The highest level of DRO remained along the east wall of the excavation. Well AP-387 was removed during this effort. A map of the excavation progressoin is presented to the right:

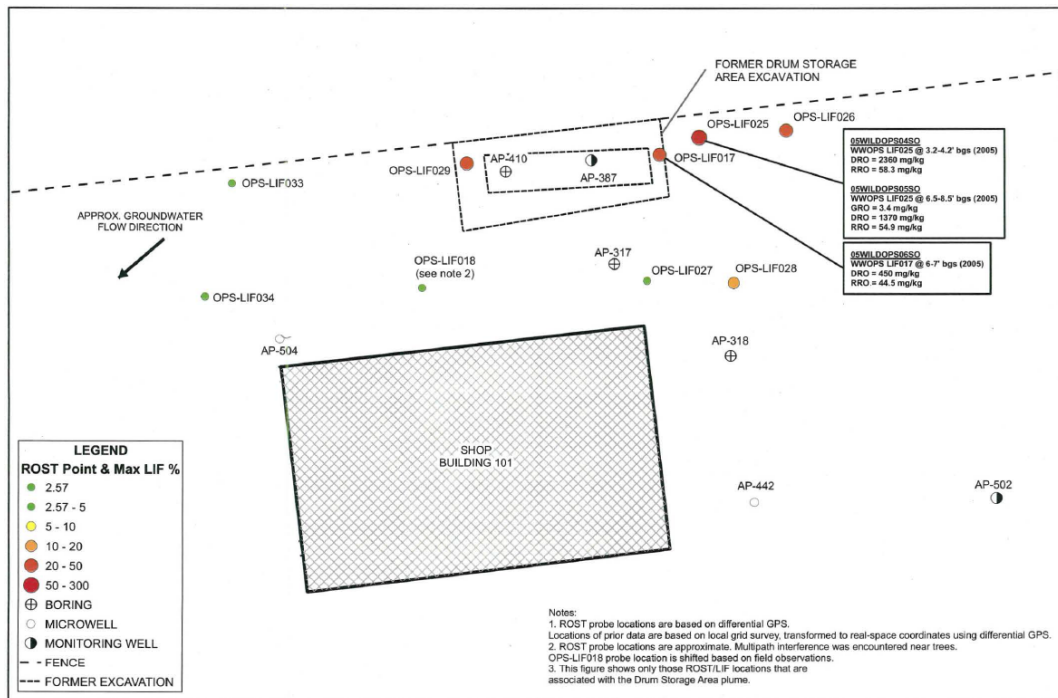


Well AP-504 was monitored a final time in 1997. A historical table of results is presented below:

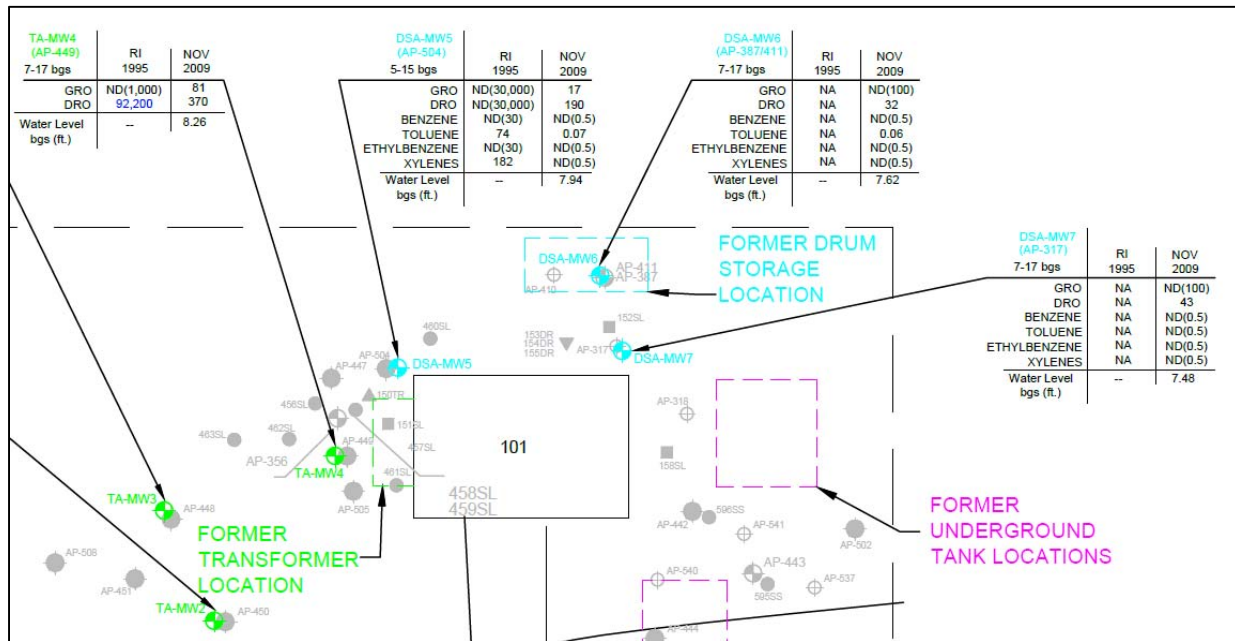
**OPERATIONS BUILDING FACILITY FORMER DRUM STORAGE LOCATION**

Well Number	AP-504	AP-504	AP-504	AP-504
Sample ID	94WIL245WA	95WIL038GW	95WIL128GW	97WIL518GW
Date	7/28/94	8/17/95	12/11/95	7/29/97
<b>VOCs (Method 8260; Only analytes detected are listed)</b> (field lab result)				
Benzene	30 U	0.4 U	2.2 UJ	NA
Ethylbenzene	30 U	0.4 U	1.6 U	NA
Methylene Chloride	NA	1.8	3.7 U	NA
Naphthalene	NA	1.2	3.3 U	NA
Toluene	74	0.4 U	2 U	NA
Xylenes	175	1.2 U	6.5 U	NA
<b>Diesel-Range Organics</b>	NA	1,800 J	20,000	6,000

Further characterization was completed in June of 2005. Nine ROST/LIF probes were advanced to between 10 and 15 feet bgs. Three correlation soil samples were collected from select borings for analysis. Results of the investigation showed that DRO-impacted soil remains between 3 and 9 feet bgs, in the smear zone, up to 2,360 mg/kg. A figure showing the boring locations is presented below:

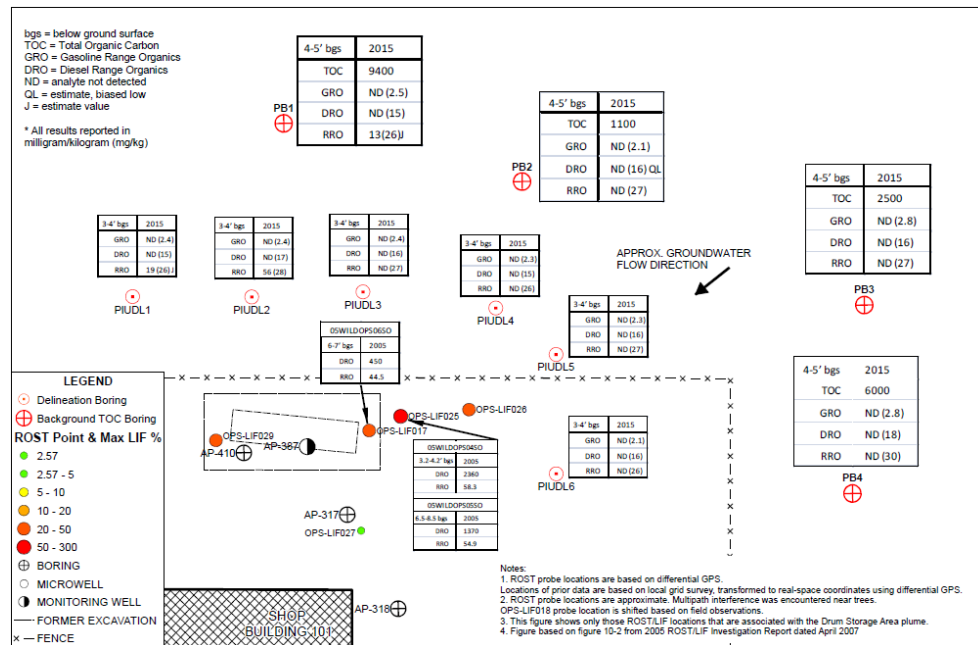


Three temporary monitoring well were installed in November 2009 to reevaluate impacts to groundwater. Water samples were collected from each well and were submitted for laboratory analysis of GRO, DRO, VOCs, and PAHs. None of the sample results from any of the temporary wells exceeded ADEC Table C groundwater cleanup levels (GCLs). A figure showing the well locations and results is presented below:



A follow up investigation was completed in 2015, specifically to determine total organic compound (TOC) concentrations in background soils, and to calculate an alternative MTG cleanup level for DRO. Samples were collected from each boring between 3 and 5 feet bgs, and were submitted for laboratory analysis of TOC, GRO, DRO, and RRO. Results showed an average TOC concentration of 4,750 mg/kg or 0.00475 g/g. The average TOC level was used to calculate an alternative MTG cleanup level for DRO, which was determined to be 1,200 mg/kg. ADEC approved this level. A figure of the 2015 soil boring locations is presented to the right:

concentration of 4,750 mg/kg or 0.00475 g/g. The average TOC level was used to calculate an alternative MTG cleanup level for DRO, which was determined to be 1,200 mg/kg. ADEC approved this level. A figure of the 2015 soil boring locations is presented to the right:



### 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 noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

Based on a review of the environmental record, ADEC 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 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 below:

### Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contamination is not present in surface soil (0 to 2 feet below ground surface).
Sub-Surface Soil Contact	De-Minimis Exposure	Contamination remains in the sub-surface, but is below human health, ingestion, and inhalation cleanup levels.
Inhalation – Outdoor Air	De-Minimis Exposure	Contamination remains in the sub-surface, but is below inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Contaminants of concern are not volatile therefor do not result in risk via this pathway.
Groundwater Ingestion	De-Minimis Exposure	Groundwater contamination is below Table C groundwater cleanup levels.
Surface Water Ingestion	Pathway Incomplete	Surface water is not present near the site.
Wild and Farmed Foods Ingestion	Pathway Incomplete	All contamination has been excavated to the smear zone. Residual impacts remain, but below risk-based cleanup levels and at a depth that would not impact wild or farmed foods.
Exposure to Ecological Receptors	Pathway Incomplete	No aquatic or terrestrial routes are present.

**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.

### ADEC Decision

Soil and groundwater contamination at the site have been cleaned up to concentrations below the approved human health cleanup levels suitable for residential land use. Soil contamination does still remain above the migration to groundwater cleanup level, but groundwater has been shown to meet cleanup levels since 2009 and ADEC has made a determination that contamination in

soil is at equilibrium and will not migrate to groundwater. 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 from a site that is subject to the site cleanup rules or for which a written determination from the department has been made under 18 AAC 75.380(d)(1) that allows contamination to remain at the site above method two soil cleanup levels or groundwater cleanup levels listed in Table C requires DEC approval in accordance with 18 AAC 75.325(i). A “site” [as defined by 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.
3. Groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use. Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

This determination is in accordance with 18 AAC 75.380 and does not preclude ADEC 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 20 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 feel free to contact me at (907) 269-7691 or email at [joshua.barsis@alaska.gov](mailto:joshua.barsis@alaska.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read 'Joshua Barsis', with a stylized flourish at the end.

Joshua Barsis  
Project Manager

cc: Spill Prevention and Response, Cost Recovery Unit  
Melinda Brunner, ADEC Contaminated Sites