



THE STATE  
of ALASKA  
GOVERNOR MICHAEL J. DUNLEAVY

**Department of  
Environmental Conservation**

DIVISION OF SPILL PREVENTION AND RESPONSE  
Contaminated Sites Program

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File: 2320.38.051

February 21, 2019

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

Re: Decision Document  
Wildwood AFS ACS MARS Facility UST 251-1  
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 AFS ACS MARS Facility UST 251-1 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 ACS MARS Facility UST 251-1 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 ACS MARS  
Facility UST 251-1  
Latitude: 60.584448  
Longitude: -151.282963  
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.: 25209

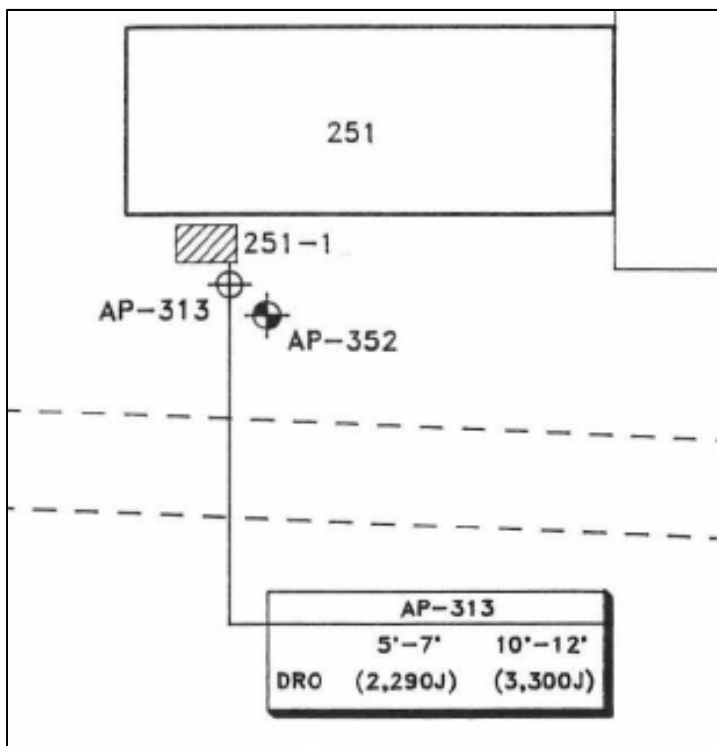
**Regulatory Authority for Determination:**

18 AAC 75

### Site Description, Background, Characterization and Cleanup

Four Underground Storage Tank (UST) sites and one aboveground storage tank (AST) site were investigated at the ACS MARS Facility in May of 1993 (USTs 250-1, 251-1, 253-1, 257-1, and AST 255-1). Except for UST 251-1, all UST and AST sites at the ACS MARS Facility have been closed on the ADEC Contaminated Sites Database. The subject of this letter is former UST 251-1.

UST 251-1 was installed on the southern side of Building 251 in 1957. The UST had a capacity of 500 gallons and was used to store diesel heating oil. Two investigative soil borings were advanced at the UST 251-1 site in May 1993 (AP-313 and AP-352), of which AP-352 was completed as a monitoring well. A total of five soil samples were collected from the borings, from between 5 and 12 feet below ground surface (bgs). A water sample was collected from Well AP-352. All soil and water samples were submitted for laboratory analysis of diesel range organics (DRO) and fuel identification (ID). The 1994 Fuel ID analysis is similar to the Alaska Method for residual range organics (RRO by AK 103).



Results of this investigation showed that DRO was present in the subsurface soils up to 3,300 mg/kg, which exceeds the current Method Two migration to groundwater (MTG) cleanup level of 250 mg/kg. The water sample collected from Well AP-352 exhibited a concentration of DRO at 0.699 mg/l, which is below the current Table C groundwater cleanup level (GCL) of 1.5 mg/l.

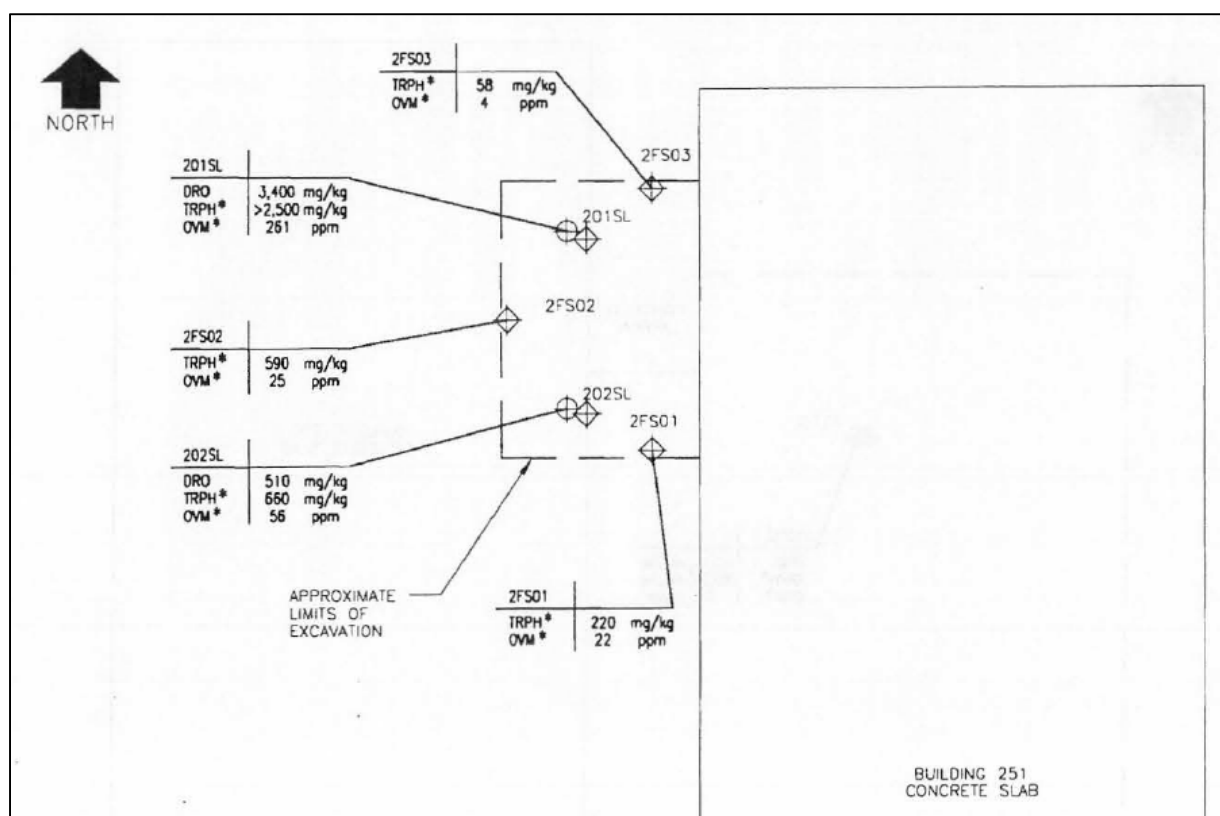
Tank UST 251-1 and its associated piping runs were removed in July of 1994. A post-removal inspection of the tank revealed moderate corrosion. The tank was 6 feet long and 4 feet in diameter. Limited excavation [roughly 25 cubic yards (cy)] was completed after the tank was removed. The final excavation dimensions were 12 feet long, 10 feet wide, and 6 feet deep. No groundwater was encountered during excavation.

Confirmation soil samples were collected from the base and sidewalls of the excavation, and from the 25 cy stockpile. All samples were submitted for laboratory analysis of DRO. Samples collected from the base of the excavation at 6 feet bgs exhibited levels of DRO between 6,100 mg/kg and 8,600 mg/kg, both of which exceed the current MTG cleanup level. Sample results from the stockpiled material contained DRO between 19,000 mg/kg and 26,000 mg/kg. All

excavated material was returned to the hole as backfill. None was transported offsite or disposed of.

Additional excavation was performed in May 1996 at the UST 251-1 site. The report describing the 1996 activities does not document exactly how much soil was removed from the UST 251-1 site, nor does it provide dimensions of the final excavation. However, it is documented that the excavation proceeded to a final depth of 10 feet bgs, and that Well AP-352 was decommissioned during excavation. Samples collected from the base of the excavation were submitted for laboratory analysis of DRO. Results indicated that DRO remained in the subsurface soils up to 3,400 mg/kg.

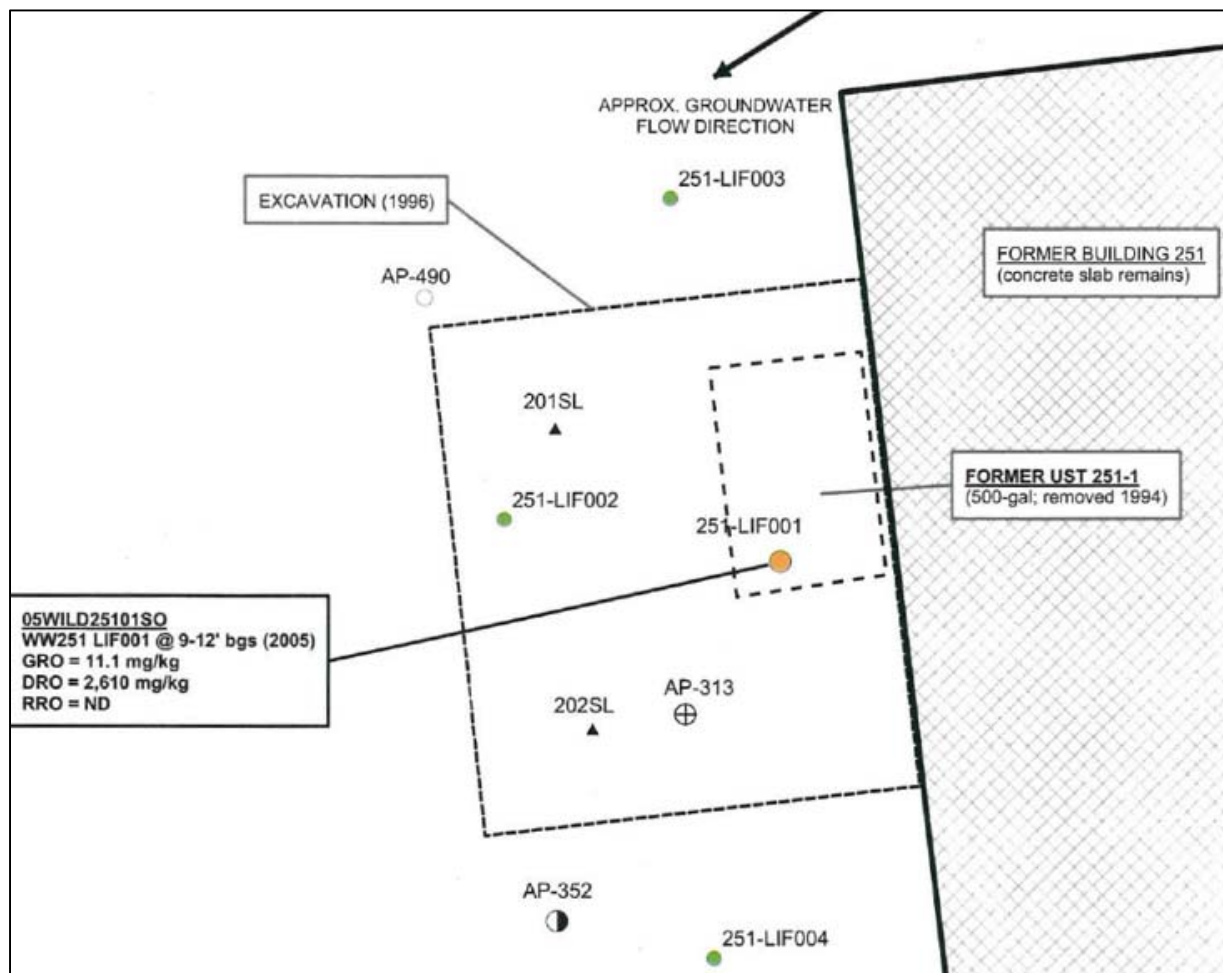
Building 251 was demolished shortly after the excavation, with only the concrete slab remaining. A figure of the excavation and remaining concrete slab is shown below:



Four Rapid Optical Screening Tool/Laser Induced Florescence (ROST/LIF) probes were advanced at the UST 251-1 site in June 2005. The probes were advanced to between 14 and 17 feet bgs. Of the four screening probes, one correlation soil sample was collected for laboratory analysis (from 9 to 12 feet bgs) of gasoline range organics (GRO), DRO, RRO, polycyclic aromatic hydrocarbons (PAHs), volatiles petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPHs), and benzene, toluene, ethylbenzene, and toluene (BTEX).

Results of the ROST/LIF investigation suggest that petroleum impacts exist below the former UST 251-1 site between 9 and 13 feet bgs, in the smear zone, and not more than 10 feet laterally

beyond the source. The soil sample submitted for laboratory analysis exhibited a level of DRO at 2,610 mg/kg. A map of the sample locations is depicted below:



A follow up investigation was completed in 2015 at the UST 251-1 site, specifically to determine total organic compound (TOC) concentrations in background soils, and to calculate an alternative MTG cleanup level for DRO. Four soil borings were advanced upgradient of the UST 251-1 site to a maximum depth of 13 feet bgs. Groundwater was encountered at about 5 feet bgs. Samples were collected from each boring between 9 and 12 feet bgs, and were submitted for laboratory analysis of TOC, GRO, DRO, and RRO. Results showed an average TOC concentration of 3,350 mg/kg or 0.00335 g/g. The average TOC level was used to calculate an alternative MTG cleanup level for DRO, which was determined to be 830 mg/kg. ADEC approved this level.

A single test pit was advanced to 9 feet bgs at the former UST 251-1 location on September 15, 2015 under the Native American Lands Environmental Mitigation Program (NALEMP). Evidence of contamination was not observed in the test pit. This is not an unexpected result, as excavation to 10 feet bgs at the former UST 251-1 site occurred in 1996. Thus, it is probable that only clean fill material was encountered in the test pit.

### 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: Fuel ID, GRO, DRO, RRO, PAHs, VPH, EPHs, and BTEX. 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 830 mg/kg for DRO, as well the risk-based ingestion and inhalation cleanup levels as outlined in 18 AAC 75.341(c), Table B2. The approved cleanup levels are shown below in the table:

**Approved Cleanup Levels Table**

Contaminant	Soil – Alternative MTG (mg/kg)	Soil – Ingestion (mg/kg)	Soil – Inhalation (mg/kg)	Maximum Soil Concentrations Remaining Onsite (mg/kg)
DRO	830	10,250	12,500	2,610

### 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 ingestion 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.

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 10 feet. Minor residual impacts remain in the smear zone, 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 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 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,



Joshua Barsis  
Project Manager

cc: Spill Prevention and Response, Cost Recovery Unit