



THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

**Department of Environmental
Conservation**

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

555 Cordova Street
Anchorage, AK 99501
Phone: 907-269-7557
Fax: 907-269-7687
www.dec.alaska.gov

File: 2560.38.012

December 5, 2022

Nick Kuhlmann
CPD Alaska, LLC
201 Arctic Slope Avenue
Anchorage, AK 99518-3033

Re: Decision Document: Crowley Tank Farm Iliamna Airport
Cleanup Complete Determination

Dear Mr. Kuhlmann:

The Alaska Department of Environmental Conservation DEC, Contaminated Sites Program (CSP), has completed a review of the environmental records associated with the Crowley Tank Farm Iliamna Airport located at Lot 2A, Block 1200 Iliamna Airport. 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 information becomes available that indicates residual contamination may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the Crowley Tank Farm Iliamna Airport which is located in the DEC 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:

Crowley Tank Farm Iliamna Airport
Lot 2A, Block 1200 Iliamna Airport
Iliamna, AK 99606

Name and Mailing Address of Contact Party:

Nick Kuhlmann
CPD Alaska, LLC
201 Arctic Slope Avenue
Anchorage, AK 99518-3033

DEC Site Identifiers:

File No.: 2560.38.012
Hazard ID.: 25528

Regulatory Authority for Determination:

18 AAC 75

Site Description and Background

The DEC Prevention Preparedness and Response Program (PPRP) was notified that an aviation gas spill occurred from a fuel tanker truck parked at the Crowley tank farm (Figure 1) at the Iliamna airport in Iliamna, Alaska (the Site) between November 18, 2009 and December 15, 2009. The tanker truck was identified as carrying 1,507 gallons of aviation fuel of which the entire contents was released to the ground.

The product that spilled was identified as 100 low lead aviation fuel with toluene as an octane booster. Water within the tanker truck fuel line was not properly drained during extreme cold temperatures, which caused the fuel line on the tanker truck to split open. The spill caused a 5 by 14-foot stain in the soil in the shape of an hourglass at the parking location west of the Crowley tank farm fence and south of the pump house.

Contaminants of Concern

During the site investigation and cleanup activities at this site, samples were collected from soil and pad pore water and analyzed for lead, gasoline range organics (GRO), diesel range organics (DRO), residual range organics (RRO), polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Based on these analyses, the following contaminants of concern were identified at the site:

- GRO
- DRO
- Benzene
- Ethylbenzene
- Toluene
- Xylenes
- Naphthalene
- 1-Methylnaphthalene
- 2-Methylnaphthalene

Cleanup Levels

The default soil cleanup levels for this site are the migration to groundwater levels established in 18 AAC 75.341, Method Two, Table B1 and B2, *Under 40 Inch Zone*. The default groundwater cleanup levels for this site are established in 18 AAC 75.345 Table C Groundwater Cleanup Levels.

Table 1- Approved Cleanup Levels

Contaminant	Soil (mg/kg)	Groundwater (µg/L)
GRO	300	2.2
DRO	250	1.5
Benzene	0.022	0.0046
Ethylbenzene	0.13	0.015
Toluene	6.7	1.1
Xylenes	1.5	0.19
Naphthalene	0.038	0.0017
1-Methylnaphthalene	0.41	0.011
2-Methylnaphthalene	1.3	0.036

Notes:

1. mg/kg = milligrams per kilogram
2. µg/L = micrograms per liter

Characterization and Cleanup Activities

On December 14, 2009 the spill occurred on the western side of Crowley's tank farm located east of the Iliamna airport (Figure 1). The spill occurred on the loading dock and was immediately contained. The leak was due to a broken fuel line elbow on the truck at the bottom of the tanker's tank. Contaminated soil was removed on December 29, 2009 by OASIS to the extent practicable at the Iliamna Airport property. Sixty-

five cubic yards of contaminated soil was removed to a depth of 2.5 feet below ground surface (ft bgs). Eight soil samples collected from the excavation bottom contained GRO up to 5,500 mg/kg, DRO up to 666 mg/kg, ethylbenzene up to 4.76 mg/kg, xylenes up to 61.6 mg/kg, naphthalene up to 0.753 mg/kg, and toluene up to 916 mg/kg. The removal of contaminated soil was limited horizontally by the tank farm fence located to the east and vertically by a buried electrical cable directly beneath the impacted area. After collection of confirmation soil samples, the excavation was brought to grade with clean fill. The contaminated soil was initially stockpiled onsite and then transported to the Iliamna landfill in 2013.

In 2010 four soil borings were advanced on the Crowley lot and completed as monitoring wells and three drinking water wells were sampled. Fourteen soil samples were collected at the groundwater interface, location of high field screening readings, and from the bottom of each boring. Two of the borings contained detectable concentrations of contaminants with GRO up to 749 mg/kg, DRO up to 2,220 mg/kg, benzene up to 14.6 mg/kg, ethylbenzene up to 6.32 mg/kg, toluene up to 48.7 mg/kg, xylenes up to 19.9 mg/kg, 1-methylnaphthalene up to 4.41 mg/kg, 2-methylnaphthalene up to 5.59 mg/kg, and naphthalene up to 5.27 mg/kg. Soil contamination was found to a depth of 6.5 ft bgs near the spill location and to a depth of 7.75 ft bgs at the southeast property corner. Groundwater was encountered 3.92 to 5.8 ft bgs. Only one monitoring well contained contaminant concentrations above cleanup levels. The three drinking water wells sampled, including the Alaska Department of Transportation (DOT) Maintenance Station well 400 feet to the east from the site, did not contain detectable concentrations of contaminants.

In 2011 eight soil borings were advanced east of the Crowley lot, in the area between the tank farm and the DOT Maintenance Station. Five borings were completed as temporary well points and two completed as monitoring wells. At the well points, elevated field screening results and hydrocarbon odor were noted at the groundwater interface at 3 to 7 feet bgs. Two soil samples collected at depths of 2 to 8 ft bgs from each boring contained GRO up to 480 mg/kg, DRO up to 1,500 mg/kg, benzene up to 0.27 mg/kg, toluene up to 12 mg/kg, ethylbenzene up to 0.27 mg/kg, xylenes up to 7.4 mg/kg, naphthalene up to 1.5 mg/kg, 1-methylnaphthalene up to 4.4 mg/kg, and 2-methylnaphthalene up to 7.5 mg/kg. Three of the six temporary well points contained groundwater contamination above DEC cleanup levels.

In 2012 10 additional borings were installed and completed as monitoring wells. This investigation extended the sampling to the south, beyond the Laundry/ Dry Shack property, and to the east, beyond the DOT Maintenance Station property. Two soil samples were collected from each boring: one at the groundwater interface and one at the highest screening level. Two out of twenty-two soil samples contained contaminant concentrations above cleanup levels. These soil samples, collected 6 ft bgs at the groundwater interface, contained DRO up to 844 mg/kg. Groundwater samples contained benzene up to 191 µg/L and RRO up to 0.0011 µg/L.

In 2015, six additional soil borings were installed downgradient from the site at and adjacent to the Federal Aviation Administration (FAA) property to characterize contamination encountered in 2011. Two borings were completed as temporary well point. contained DRO contamination above cleanup levels in soil and groundwater. One temporary well located off the northwest corner of the FAA building, contained DRO contaminated groundwater and soil at 0.00164 µg/L and 1060 mg/kg, respectively. The groundwater at this well point location was sampled again in 2016. This sample did not contain contaminant concentrations above Table C groundwater cleanup levels.

The groundwater was evaluated and sampled 2010 through 2016. During the last four monitoring well sampling events from 2013 through 2016 the contamination concentrations were below DEC cleanup levels. One temporary well point sampled in 2015 was just above Table C cleanup levels for DRO (0.00164 µg/L), but below when sampled again in 2016. The DOT drinking water well located 400 feet to the east of the site

was sampled in 2010, 2011, and 2016. None of these drinking water samples contained contaminant concentrations above DEC Table C cleanup levels. Additionally, based on a well survey conducted in 2016, this is the only drinking water well in the vicinity. The drinking water well was installed to a depth of 148 ft bgs.

A final mobilization occurred in 2017 to decommission monitoring wells.

On October 13, 2021, DNA Environmental Consultants conducted re-sampling at the location where the GRO concentration exceeded the maximum allowable concentration criteria in 2009 and at the location where the benzene concentration exceeded the Table B1 human health cleanup level in 2010. The laboratory reported all GRO and BTEX results as not detected. A review of the soil data indicates that at various times DRO, GRO, benzene, and toluene were present throughout the site at depths primarily between 5 and 8 ft bgs.

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, 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	De Minimis Exposure	Surface soil was excavated outside the tank farm enclosure. Some contamination may remain in the tank farm enclosure below human health and ingestion levels in 18 AAC 75.341, Tables B1 and B2.
Sub-Surface Soil Contact	De Minimis Exposure	Benzene, toluene, GRO, and DRO have been observed in various soil samples collected between 2.5 and 8 ft bgs throughout the site but were below human health and ingestion levels in 18 AAC 75.341, Tables B1 and B2.
Inhalation – Outdoor Air	De Minimis Exposure	Volatile contaminants may remain in the subsurface soil but below the below human health and inhalation levels in 18 AAC 75.341, Tables B1 and B2.
Inhalation – Indoor Air (vapor intrusion)	De Minimis Exposure	Soil contamination has been removed from the surface at the spill location. Remaining volatile contaminants may be present in the subsurface but is

		mostly expected to be deeper than 5 ft bgs and is not expected to migrate to indoor air.
Groundwater Ingestion	De Minimis Exposure	Contaminant concentrations in the groundwater are below DEC cleanup levels. The nearest drinking water well is located 400 feet cross-gradient to the east of the site. Drinking water samples collected in 2010, 2011, and 2016 did not contain contaminant concentrations above DEC cleanup levels. A well survey conducted in 2016 confirmed this is the only drinking water well in the vicinity of the Iliamna Airport property.
Surface Water Ingestion	Pathway Incomplete	Surface water is not used as a drinking water source in the vicinity of the site.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals.
Exposure to Ecological Receptors	Pathway Incomplete	Ecological receptors are not expected to contact any remaining contaminant concentrations in the subsurface soil.

Notes:

1. “De Minimis Exposure” means that, in DEC’s judgment, the receptors are unlikely to be adversely affected by the minimal volume or concentration of remaining contamination.
2. “Pathway Incomplete” means that, in DEC’s judgment, the contamination has no potential to contact receptors.
3. “Exposure Controlled” means there is an IC 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 contamination at the site has been cleaned up to concentrations suitable for residential land use and groundwater contamination is no longer present. DRO and other petroleum compounds may remain in subsurface soil, which is mostly expected to be between 5 to 8 ft bgs. This site will receive a “Cleanup Complete” designation on the Contaminated Sites Database, subject to the following standard conditions.

DEC approval is required for movement and disposal of soil and/or groundwater subject to the site Cleanup Rules, in accordance with 18 AAC 75.325(i). Please contact DEC for information about applicable regulations and requirements. A “site”, as defined by 18 AAC 75.990, means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership.

Movement or use of contaminated material in an ecologically sensitive area or in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited. Furthermore, 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. If, in the future, groundwater from this site is to be used for other purposes, 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 DEC from requiring additional assessment and/or cleanup action if information indicates that contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to the environment.

Informal Reviews and Adjudicatory Hearings

A person authorized under a provision of 18 AAC 15 may request an informal review of a contested decision by the Division Director in accordance with 18 AAC 15.185 and/or an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340. See DEC's "Appeal a DEC Decision" web page <https://dec.alaska.gov/commish/review-guidance/> for access to the required forms and guidance on the appeal process. Please provide a courtesy copy of the adjudicatory hearing request in an electronic format to the parties required to be served under 18 AAC 15.200. Requests must be submitted no later than the deadline specified in 18 AAC 15.

Sincerely,



Janice Wieggers
Project Manager

***Enclosures: Figure 1 Site detail.
Figure 2 Area where soil contamination may remain.***

cc: Spill Prevention and Response, Cost Recovery Unit (dec.spar.cr@alaska.gov)
Erik Norberg, DOT Statewide (erik.norberg@alaska.gov)
Dan Frank, DNA Environmental (daniel.frank@dnaenviro.com)



Figure 1: Site detail.

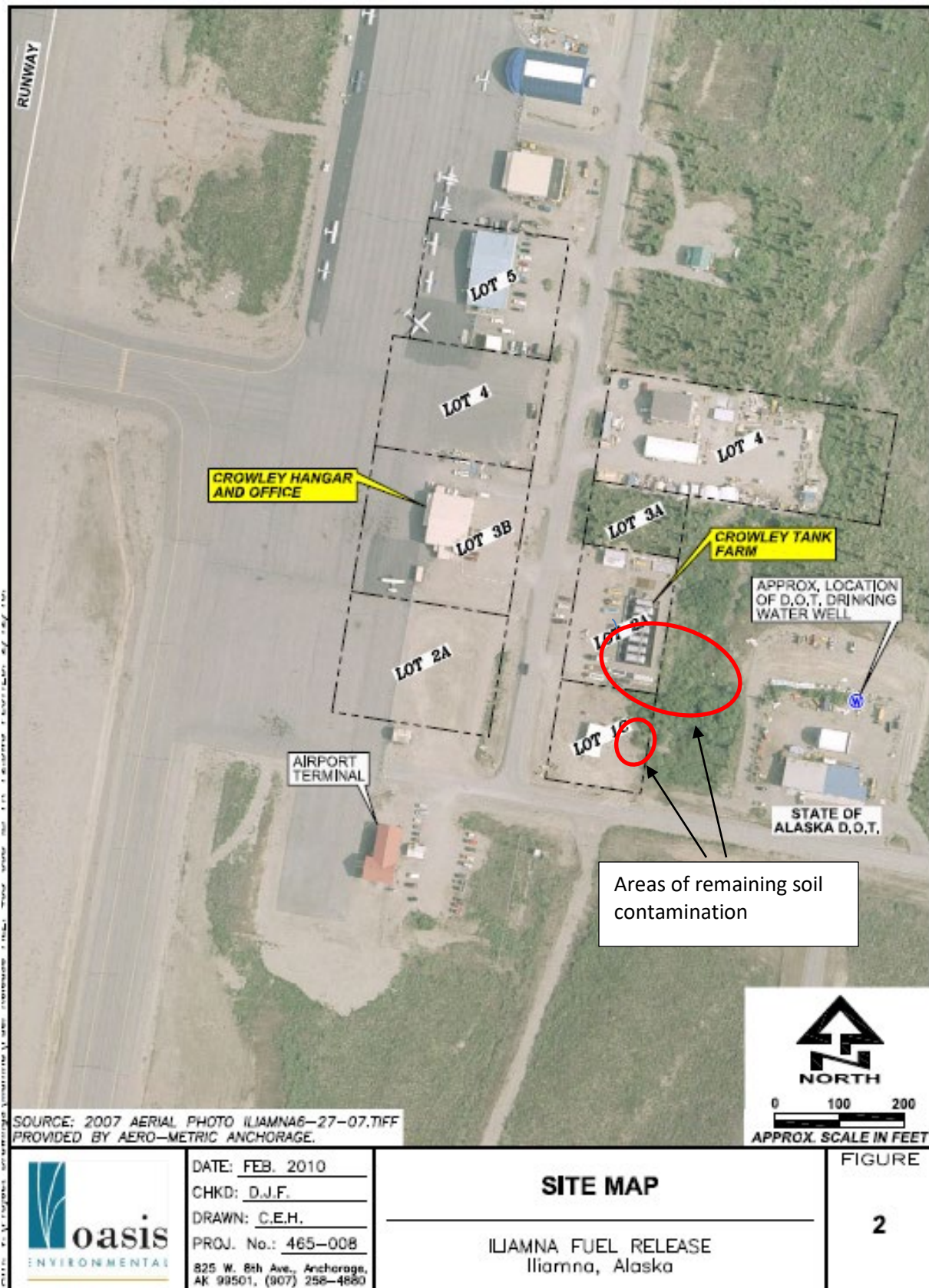


Figure 2: Area where soil contamination may remain (figure revised by DEC).