



THE STATE  
of **ALASKA**  
GOVERNOR BILL WALKER

**Department of Environmental  
Conservation**

DIVISION OF SPILL PREVENTION AND RESPONSE  
Contaminated Sites Program

610 University Ave  
Fairbanks, AK 99709-3643  
Main: 907-451-5175  
Fax: 907-451-5105  
[www.dec.alaska.gov](http://www.dec.alaska.gov)

File No: 141.38.001

September 2, 2015

Glen Shonkwiler  
SMDC - ENE  
P.O. Box 1500  
Huntsville, AL 35807-3801

Re: Decision Document – North Delta Tank Farm  
Cleanup Complete Determination

Dear Mr. Shonkwiler:

The Alaska Department of Environmental Conservation (DEC) has reviewed the environmental records for the North Delta Tank Farm site located at the intersection of the Richardson Highway and the Alaska Highway in Delta Junction, Alaska. This decision letter memorializes the site history, cleanup actions, and standard conditions for long-term site management. No further remedial action is required.

**Site Name and Location:**

North Delta Tank Farm  
Intersection of Richardson Highway and Alaska Highway  
Delta Junction, Alaska  
Section 23, Township 10 South, Range 10 East, Fairbanks Meridian

**Landowner:**

State of Alaska, Alaska Department of Natural Resources

**Responsible Party:**

U.S. Army, Space and Missile Defense Command

**DEC Site Identifiers:**

File Number: 141.38.001  
Hazard ID: 1705

**Regulatory Authority for Determination:**

18 AAC 75

### Site Description and Background:

The North Delta Tank Farm site is located between the Alaska Highway and Richardson Highway in Delta Junction, Alaska, on land owned by the Alaska Department of Natural Resources (DNR). The United States Army used the North Delta Tank Farm site as a tank farm for fuel operations associated with Allen Army Airfield at Fort Greely. The original system was built in 1943 as part of the Canada-Alaskan Oil Line (CANOL). In 1954 the facility was reconfigured to become part of the Haines-Fairbanks pipeline. The facility included two 94,500-gallon above-ground storage tanks (ASTs), fuel pumps, fill stands, and fuel lines. The tanks stored aviation gasoline and JP-4. The facility was active until 1987, and tanks and associated infrastructure were decommissioned in 1989.

### Contaminants of Concern and Cleanup Levels:

Characterization activities at this site included sampling for potential contaminants of concern including: gasoline, diesel, and residual range organics (GRO, DRO, and RRO); volatile organic compounds (VOCs) including benzene, ethylbenzene, toluene, and xylenes (BTEX) and ethylene dibromide (EDB); polynuclear aromatic hydrocarbons (PAHs); and lead.

Cleanup levels for this site are found in 18 AAC 75.341 Table B1 and Table B2 Method Two Soil Cleanup Levels, Under 40-inch Zone, and 18 AAC 75.345 Table C Groundwater Cleanup Levels.

### Characterization and Cleanup Activities:

Characterization activities at the North Delta Tank Farm included soil sampling in 1992, 1995, and 1997, which identified contamination near the one of the ASTs and the fuel pumps. A corrective action was performed in 1999, during which approximately 4,300 cubic yards of petroleum contaminated soil was excavated from the location of the fill stand and fuel pumps (north excavation) and one of the former ASTs (south excavation). The soil was transported to Fort Greely for treatment by landfarming. Confirmation sampling results from the north excavation were below the migration to groundwater cleanup levels. Confirmation sampling results indicated there was contamination remaining on-site at the south excavation.

In 2006, site characterization activities were performed to determine the extent of remaining contamination. Additional removal actions were performed at the south excavation in 2007, and approximately 830 cubic yards of petroleum contaminated material was removed and transported to Fort Greely for treatment by landfarming. Confirmation sample results for GRO, DRO, benzene, toluene, and ethylbenzene were detected above the migration to groundwater cleanup level but below the exposure based cleanup levels in one floor sample and two sidewall samples. A limited volume of contaminated soil remains near a utility pole that could not be excavated due to stability concerns. Maximum concentrations from the confirmation samples are presented below:

	Depth	Maximum Concentration	Cleanup Level: Migration to Groundwater	Cleanup Level: Exposure (direct contact, inhalation, or ingestion)
GRO	14 feet	662 mg/kg	300 mg/kg	1,400 mg/kg
DRO	14 feet	1,690 mg/kg	250 mg/kg	12,500 mg/kg
Benzene	14 feet	1.38 mg/kg	0.025 mg/kg	11 mg/kg
Ethylbenzene	15 feet	8.03 mg/kg	6.9 mg/kg	110 mg/kg
Toluene	15 feet	17.7 mg/kg	6.5 mg/kg	220 mg/kg

Depth to groundwater at the North Delta Tank Farm site is approximately 40 feet, and groundwater generally flows to the north-northeast. Three groundwater monitoring wells were installed in 2009 to

determine if groundwater was impacted by activities at the site. Groundwater samples were collected in November 2009, July 2010, and October 2010, and analyzed for GRO, DRO, EDB, and BTEX. In the 2009 sampling event DRO was detected at a concentration below the cleanup level, and GRO, EDB and BTEX were non-detect. All sample results were non-detect in both rounds of groundwater samples collected 2010.

No known investigations have been performed at the locations of the former fill stands within in the Alaska Highway shown on the enclosed site plan. The permit for the parcel where the fill stands were located was revoked in 1958, and the fill stands were relocated to accommodate the revised Alaska Highway right-of-way.

#### **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 do not pose a cumulative human health risk.

#### **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 the table below.

**Exposure Pathway Evaluation**

<b>Pathway</b>	<b>Result</b>	<b>Explanation</b>
Surface Soil Contact	De Minimis	Contaminated soil has been removed from this site. Confirmation sample results show a small volume of contaminated soil remains with concentrations above migration to groundwater cleanup levels but below ingestion and inhalation cleanup levels.
Sub-Surface Soil Contact	De Minimis	Contaminated soil has been removed from this site. Confirmation sample results show a small volume of contaminated soil remains with concentrations above migration to groundwater cleanup levels but below ingestion and inhalation cleanup levels.
Inhalation – Outdoor Air	De Minimis	Contaminated soil has been removed from this site. Confirmation sample results show a small volume of contaminated soil remains with concentrations above migration to groundwater cleanup levels but below ingestion and inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	De Minimis	Contaminated soil has been removed from this site. Confirmation sample results show a small volume of contaminated soil remains with concentrations above migration to groundwater cleanup levels but below ingestion and inhalation cleanup levels.
Groundwater Ingestion	Pathway Incomplete	Contaminated soil has been removed from this site. Confirmation sample results show a small volume of

		contaminated soil remains with concentrations above migration to groundwater cleanup levels but below ingestion and inhalation cleanup levels. Contaminants were not detected in groundwater samples above cleanup levels.
Surface Water Ingestion	Pathway Incomplete	Contaminated soil has been removed from this site. Confirmation sample results show a small volume of contaminated soil remains with concentrations above migration to groundwater cleanup levels but below ingestion and inhalation cleanup levels. The nearest surface water body is 0.35 miles from the site.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Contaminated soil has been removed from this site. Confirmation sample results show a small volume of contaminated soil remains with concentrations above migration to groundwater cleanup levels but below ingestion and inhalation cleanup levels. Contaminants of concern are not bio-accumulative.
Exposure to Ecological Receptors	Pathway Incomplete	Contaminated soil has been removed from this site. Confirmation sample results show a small volume of contaminated soil remains with concentrations above migration to groundwater cleanup levels but below ingestion and inhalation cleanup levels. Contaminants of concern are not bio-accumulative.

**Notes to Table 2:** “De-Minimis Exposure” means that in ADEC’s judgment receptors are unlikely to be 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 administrative mechanism in place limiting land or groundwater use, or a physical barrier in place that deters contact with residual contamination.

### ADEC Decision

A de minimis volume of petroleum contaminated soil was left in place approximately 14 feet below ground surface with concentrations above the migration to groundwater cleanup levels but below direct contact and inhalation cleanup levels. However, groundwater is at 40 feet below ground surface and no contaminants were detected above Table C cleanup levels. Therefore, migration to groundwater is not a concern and the 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 ADEC approval in accordance with 18 AAC 75.325. 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. (See attached site figure.)
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 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 99811-1800, 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 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 [melody.debenham@alaska.gov](mailto:melody.debenham@alaska.gov) or (907) 451-5175.

Sincerely,



Melody Debenham  
Environmental Program Specialist

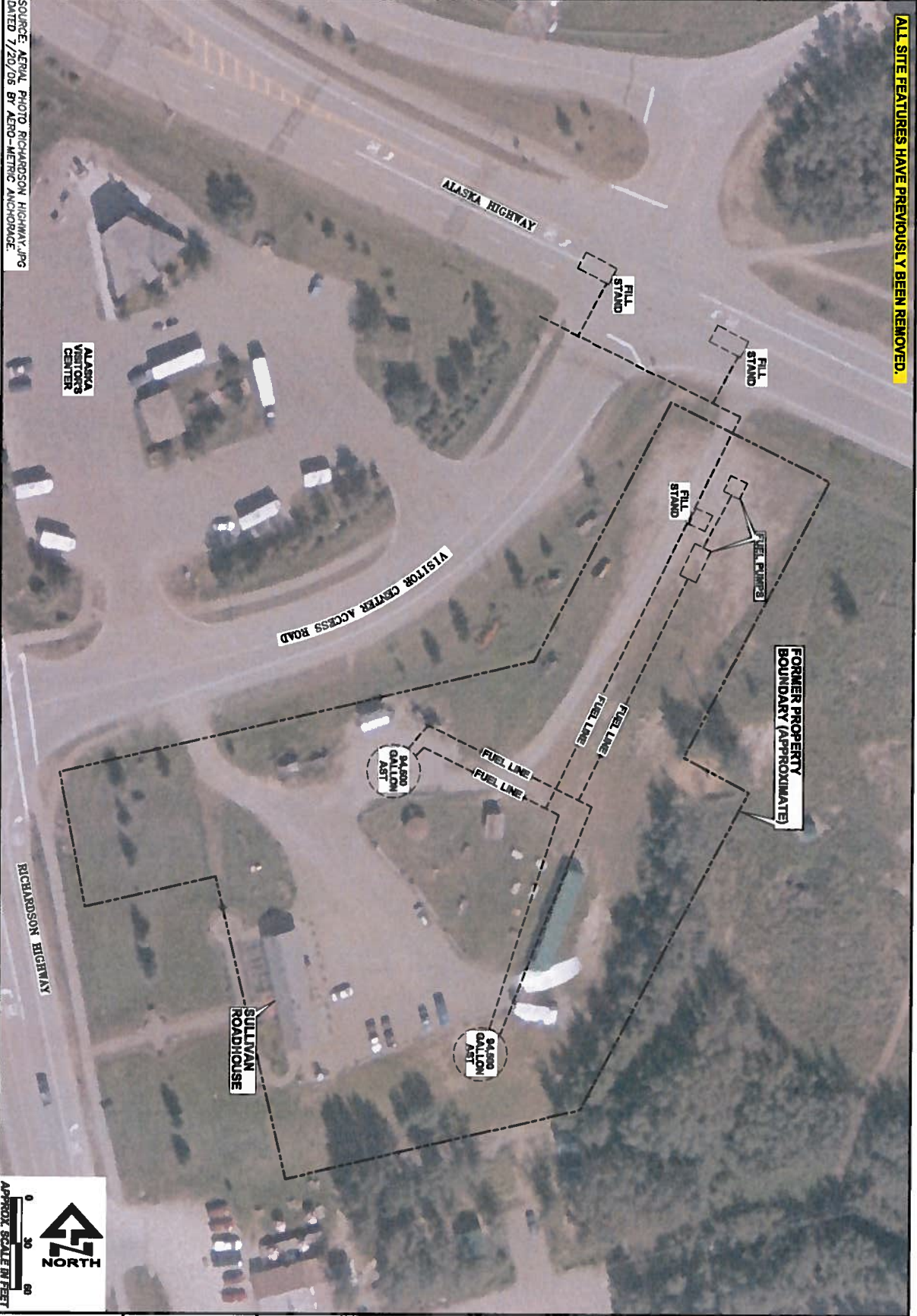
Enclosures: Figure 2, Site Plan with Historical Features (Oasis, 2008)  
Figure 1-3, Previous Investigations and Removal Actions (Sivuniq, 2011)

cc: Patty Burns, DNR



SOURCE: AERIAL PHOTO RICHARDSON HIGHWAY.JPG  
DATED 7/20/05 BY AERO-METRIC ANCHORAGE.

ALL SITE FEATURES HAVE PREVIOUSLY BEEN REMOVED.



**oasis**  
ENVIRONMENTAL

DATE: JAN. 2008  
CHKD: B.J.M.  
DRAWN: C.E.H.  
PROJ. No.: 14-106  
825 W. 8th Ave., Anchorage,  
AK 99501, (907) 258-4880

**SITE PLAN WITH HISTORICAL FEATURES**

CONTAMINATED SOIL EXCAVATION AND SAMPLING  
CORRECTIVE ACTION PLAN  
Delta Junction, Alaska

FIGURE  
**2**

**Figure 1-3: Previous Investigations Sampling Locations and Removal Actions**

