



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: 2337.38.042

November 18, 2019

Connie Downing, Director  
Tyonek Native Corporation, Inc.  
1689 C Street, Suite 219  
Anchorage, AK 99501

Re: Decision Document: Tyonek North Forelands Facility  
Cleanup Complete Determination

Dear Ms. Downing:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Tyonek North Forelands Facility site. 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 Tyonek North Forelands Facility, 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:**

Tyonek North Forelands Facility  
KPB Parcel Number 21115055  
T11N, R11W, Section 1 US Survey  
1865 Section 1 Lying Within USS 1865  
Excluding Therefrom Tyonek Village &  
Indian Creek Subdivision  
Latitude: 61.046093  
Longitude: -151.187049

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

Connie Downing, Director  
Tyonek Native Corporation, Inc.  
1689 C Street, Suite 219  
Anchorage, AK 99501

**DEC Site Identifiers:**

File No.: 2337.38.042  
Hazard ID.: 2798

**Regulatory Authority for Determination:**

18 AAC 75

### Site Description and Background

The Tyonek North Forelands Facility site is located roughly 5 miles south of the City of Tyonek, in the North Foreland Area. Roughly 800 gallons of diesel fuel spilled on April 25, 1997 from a 3,000-gallon above ground storage tank (AST). The AST was situated near the southeast corner of the maintenance shop building. Following the release, heavily stained soils were observed beneath the AST, and covered an area about 2,000 square feet in size.

### Contaminants of Concern

During the site characterization and cleanup activities at this site, samples were collected from soil and were analyzed for: gasoline range organics (GRO), residual range organics (RRO), diesel range organics (RRO), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Based on these analyses, DRO was determined to be the sole contaminant of concern at this site.

### Cleanup Levels

DRO was detected in soil above the migration to groundwater (MTG) cleanup levels established in 18 AAC 75.341 (d), Table B2.

**Table 1 – Method Two Soil Cleanup Levels**

Contaminant	Soil - Ingestion (mg/kg)	Soil - Inhalation (mg/kg)	Soil - MTG (mg/kg)	Soil – Maximum Remaining Onsite (mg/kg)
DRO	10,250	12,500	250	4,500

mg/kg = milligrams per kilogram

### Characterization and Cleanup Activities

In May 1998, nearly a year after the release occurred, an investigation was completed to characterize the nature and extent of contamination onsite. Several soil borings were advanced in, and around the surface stained area to delineate the nature and extent of contamination. The borings were advanced to a maximum depth of 50 feet below ground surface (bgs). Groundwater was not encountered.

Results of the 1998 investigation revealed that petroleum contamination, specifically DRO, was present in the surface and sub-surface soils at concentrations up to 15,000 mg/kg. The maximum depth of soil contamination was confirmed at 32 feet bgs. The investigation indicated that the petroleum contamination was stable and not migrating to groundwater. Groundwater in this area is known to exist over 100 feet bgs. Based on the size of the spill and information obtained from the soil boring logs, it was estimated that 2,000 cubic yards of contaminated soil remained insitu.

Excavation commenced in June 2015 to remove the contaminated soil. Roughly 540 cubic yards of impacted soil was removed to a depth of approximately 10 feet bgs and land-spread just past the west end of the airplane landing strip. The impacted soil was spread about 6-inches in depth and within an area approximately 325 feet long and 90 feet wide. An 18-inch high soil berm surrounds the land-spread soils. Segregated clean material, and local fill material was used to

backfill the excavation. Analytical results from the excavation confirmation sampling revealed that concentrations of DRO remained within the excavation, and potentially beneath the adjacent structure up to 4,500 mg/kg. Samples collected from the land-spread soil showed levels up to 1,180 mg/kg DRO.

Follow up investigation activities were completed in 2019 to determine if attenuation had occurred in the land spread soils. Eight samples were collected from the land spread area. Except for one sample (LF-2), DRO ranged from 24.8 to 196 mg/kg. Sample LF-2 exhibited a concentration of DRO at 1,020 mg/kg and RRO at 7,110 mg/kg.

Cleanup at this site has occurred to the extent practicable. Levels of DRO remain beneath the onsite shop building at levels up to 4,500 mg/kg DRO, and in the landfarm up to 1,020 mg/kg. Groundwater was not encountered in soil borings up to 50 feet bgs, and is not expected to exist until at least 100 feet 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, 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 or Pathway Incomplete. A summary of this pathway evaluation is included in Table 2.

**Table 2 – Exposure Pathway Evaluation**

<b>Pathway</b>	<b>Result</b>	<b>Explanation</b>
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	Volatile compounds are not present.
Groundwater Ingestion	Pathway Incomplete	Groundwater is not impacted.

Surface Water Ingestion	Pathway Incomplete	Surface water is not impacted.
Wild and Farmed Foods Ingestion	Pathway Incomplete	All contamination is located is the subsurface, or below the onsite building, and thus is not going to impact any potential plant life. The site is commercial and foraging is unexpected. Additionally, the compounds of concern are not bioaccumulative.
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.

### 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. DRO contamination does remain above migration to groundwater cleanup levels up to 32 feet bgs, but groundwater is approximately 100 feet bgs with clean soils between the remaining DRO and 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,



Joshua Barsis  
Project Manager

cc: Spill Prevention and Response, Cost Recovery Unit