



File: 102.26.119

June 27, 2019

Ms. Lisa Lewis  
Petro Star, Inc.  
3900 C Street, Suite 401  
Anchorage, AK 99503

Re: Decision Document: Sourdough Fuel #2159 Airport Way  
Cleanup Complete Determination

Dear Ms. Lewis:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Sourdough Fuel #2159 Airport Way located at 1688 Airport Way, Fairbanks. 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 Sourdough Fuel #2159 Airport Way, which is located in the ADEC office in Fairbanks, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

**Site Name and Location:**

Sourdough Fuel #2159 Airport Way  
1688 Airport Way  
Fairbanks, AK 99701

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

Lisa Lewis  
Petro Star, Inc.  
3900 C Street, Suite 401  
Anchorage, AK 99503

**ADEC Site Identifiers:**

File No.: 102.26.119  
Hazard ID.: 25215

**Regulatory Authority for Determination:**

18 AAC 78 and 18 AAC 75

**Site Description and Background**

The Sourdough Fuel #2159 Airport Way site is an active gas service station located at 1688 Airport Way in Fairbanks, Alaska. The site is owned by Petro Star and is located in a commercial and residential area of the city. Site topography is generally flat, and the site is paved with asphalt. The Chena River is

approximately ½ miles north of the site. Nearby properties include a pawn shop directly to the west, lodging inn to the east, frontage road to the south, and a residential neighborhood to the north.

In July 2008, Petro Star replaced the three USTs that stored gasoline for the service station. Tank capacities were 5,000 gallons (Tank 3), 12,000 gallons (Tank 1), and 15,000 gallons (Tank 2). During the removal of the underground storage tanks (UST) contaminated soils were discovered in the subsurface. Contamination was excavated up to the property boundary, however soil contamination along the property boundary could not be excavated due to safety constraints and lack of property owner consent. Sample results indicated that groundwater contamination was possible.

### Contaminants of Concern

During the site characterization and cleanup activities at this site, samples were collected from soil and groundwater, and analyzed for gasoline range organics (GRO), lead, polyaromatic hydrocarbons (PAHs), benzene, toluene, ethylbenzene, and xylenes (BTEX). Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern at this site:

- GRO
- Lead
- Naphthalene
- BTEX

### Cleanup Levels

The most stringent of the Method 2 soil cleanup levels for the under 40 inch zone and groundwater cleanup levels apply to this site. The soil cleanup levels are established in 18 AAC 75.341(c), Table B1 and 18 AAC 75.341(d), Table B2 for the Method 2. The groundwater cleanup levels are established in 18 AAC 75.345, Table C.

**Table 1 – Approved Cleanup Levels**

Contaminant	Soil <sup>1</sup> (mg/kg)	Groundwater (µg/L)
GRO	300	2200
Lead	400 <sup>2</sup>	15
Naphthalene	0.038	1.7
Benzene	0.022	4.6
Toluene	6.7	1100
Ethylbenzene	0.13	15
Xylenes (Total)	1.5	190

<sup>1</sup>Method 2 Migration to Groundwater soil cleanup levels for all compounds except where otherwise noted

<sup>2</sup>Method 2 Human Health soil cleanup levels

mg/kg = milligrams per kilogram

µg/L = micrograms per liter

### Characterization and Cleanup Activities

In October 2008, ADEC received the tank removal report prepared by Travis/Peterson Environmental Consulting, Inc. (TPECI) that described the tank removal and contaminated soil excavation. The report

documented impacted soils were discovered, and were limited to the west side and bottom of the excavation near the location of Tanks 1 and 3. The excavation was approximately 30 feet wide at its widest point (east to west) and approximately 45 feet long (north to south). The depth of the excavation was 6 to 7 feet below the ground surface (ft bgs) underneath Tank 3 and 7 to 8 ft bgs underneath Tanks 1 and 2. Approximately 30 cubic yards of contaminated soil was excavated and thermally remediated. Residual soil contamination remained along the property boundary and could not be excavated due to safety constraints and lack of property owner consent. Confirmation soil samples collected indicate remaining contamination to the west side and bottom of the excavation near the location of Tanks 1 and 3. A single sample from the west end of Tank 1 at a depth of approximately 5 to 6 ft bgs had the highest concentrations of contamination with GRO up to 2,690 mg/kg, benzene up to 11.2 mg/kg, toluene up to 95.4 mg/kg, ethylbenzene up to 271 mg/kg, and xylenes up to 602 mg/kg. The excavated area was backfilled and re-paved.

In 2011, the installation of 10 Geoprobe™ borings was conducted to delineate soil contamination along the property boundary and at the adjacent property. Groundwater was encountered at approximately 13 to 14 ft bgs and groundwater samples were collected. Soil samples were collected adjacent to the excavation sidewall samples that had tested above approved soil cleanup levels. Soil contamination was observed along the property boundary between 12 to 16 ft bgs containing benzene (0.379 mg/kg), toluene (11.3 mg/kg), ethylbenzene (0.14 to 5.87 mg/kg), xylenes (2.3 to 45.20 mg/kg), and naphthalene (0.0416 mg/kg) that exceeded ADEC's Method 2 Soil Cleanup levels. Soil borings on the adjacent property approximately 70 feet west of the property boundary did not contain contaminants at concentrations above the soil cleanup levels. Groundwater samples closest to the source area contained lead up to 31.8 µg/L, GRO up to 69.9 mg/L, benzene up to 748 µg/L, toluene up to 7,610 µg/L, ethylbenzene up to 2,010 µg/L, xylenes up to 9,100 µg/L, and naphthalene up to 21.4 µg/L.

In 2012, four monitoring wells (MW-1 thru MW-4) were installed at the source area and downgradient locations to characterize the vertical and horizontal extent of the contamination in soil and to sample groundwater. Continuous soil sampling was performed using a split spoon sampler from just below ground surface to the water table at each well. At MW-1, soil samples from the source area were found to contain naphthalene, ethylbenzene and xylenes at concentrations up to 0.414 mg/kg, 2.15 mg/kg, and 6.4 mg/kg, respectively. At MW-1 (source area) and MW-2 (downgradient), groundwater samples contained GRO (581 to 686 µg/L), benzene (71.2 µg/L), and ethylbenzene (41.6 µg/L) above ADEC's Groundwater cleanup levels. Lead and naphthalene were detected below the groundwater cleanup levels. There were no detections of contaminants at downgradient wells, MW-3 or MW-4. A multi-year groundwater monitoring plan was implemented from 2015 to 2018 with six sampling events that showed a decreasing trend in groundwater contaminant concentrations in all affected wells and all contaminants of concern were either below approved cleanup levels or not detected.

### **Cumulative Risk Evaluation**

Pursuant to 18 AAC 78.600(d), 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 in Table 2.

**Table 2 – 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 the most recent results are below human health or ingestion cleanup levels.
Inhalation – Outdoor Air	De Minimis Exposure	Contamination remains in the sub-surface, but is below human health or inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Contamination remains in the sub-surface, but no buildings are present within 30 feet of the contamination. The contamination is a limited amount in the smear zone at 12 to 16 ft bgs and not likely to affect future buildings.
Groundwater Ingestion	De Minimis Exposure	Area is served by municipal water. Groundwater sampling shows groundwater concentrations have decreased to below cleanup levels.
Surface Water Ingestion	Pathway Incomplete	The migration to surface water pathway is not complete due to the distance to the nearest surface water body. Chena River is approximately ½ mile north of the site.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Site is in a commercial area where it is unlikely that food would be grown or harvested.
Exposure to Ecological Receptors	Pathway Incomplete	Site is an active gas station and there are no sensitive ecological receptors.

**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 ADEC approval in accordance with 18 AAC 78.600(h). A “site” as defined by 18 AAC 78.995(134) means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership. (see site figure attached)
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 78.276(f) 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.

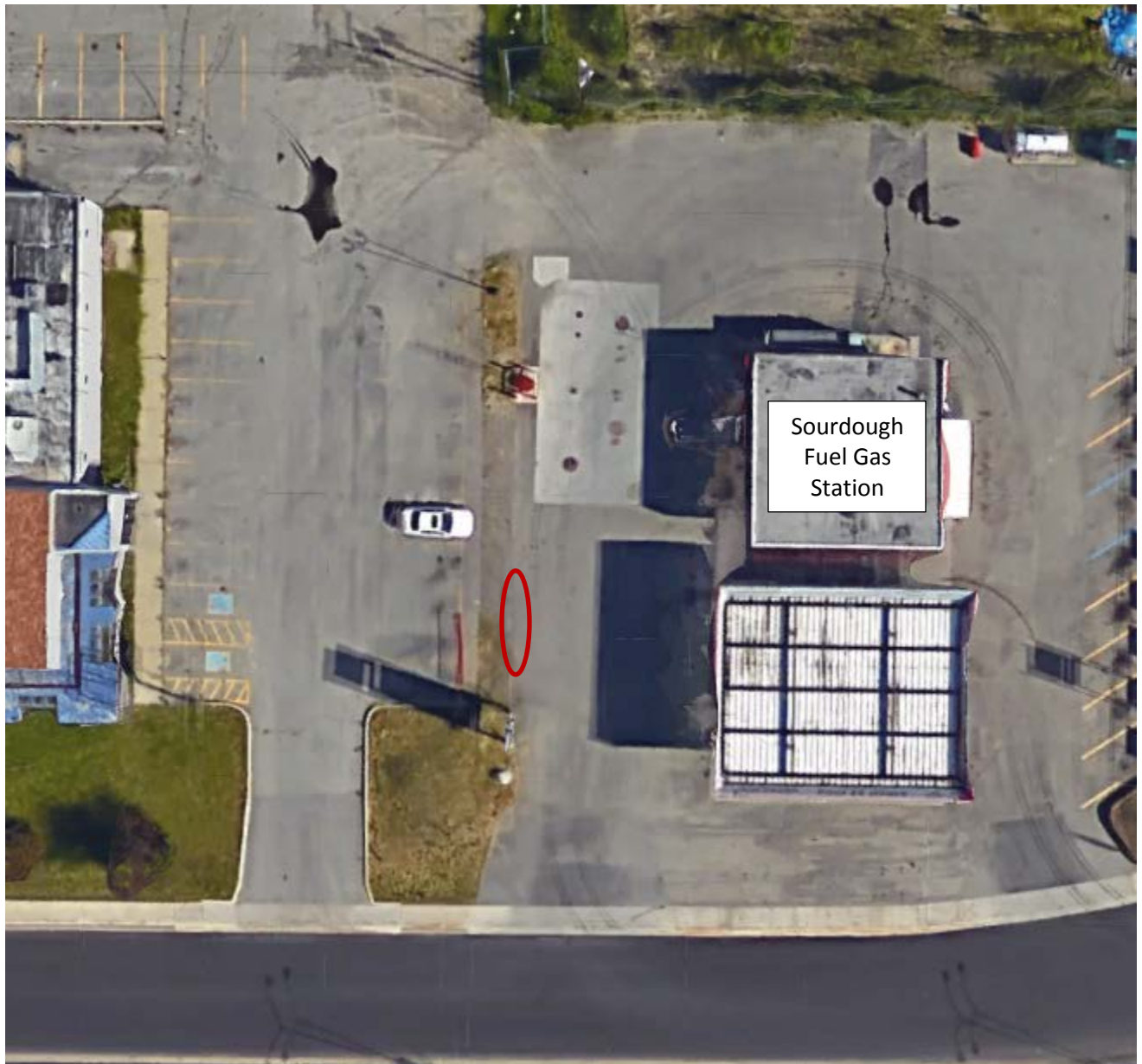
If you have questions about this closure decision, please feel free to contact me at (907) 451-2131, or email at [megan.roberts@alaska.gov](mailto:megan.roberts@alaska.gov).

Sincerely,

*Megan Roberts*

Megan Roberts  
Project Manager

cc: Spill Prevention and Response, Cost Recovery Unit



**Figure 1.** Sourdough Fuel #2159 Airport Way site map with the red oval indicating location of remaining contamination exceeding soil cleanup levels at depths between 12 to 16 feet below ground surface.