



THE STATE  
of **ALASKA**  
GOVERNOR SEAN PARNELL

Department of  
Environmental Conservation

DIVISION OF SPILL PREVENTION & RESPONSE  
Contaminated Sites Program

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File No: 102.26.011  
Return Receipt Requested  
Article No: 7012 1010 0003 0389 0467

May 14, 2013

Russell Grandel  
Alaska Railroad Corporation (ARRC)  
P.O. Box 107500  
Anchorage, Alaska 99510-7500

Re: Decision Document; ARRC Fairbanks Machine & Steel Company  
Corrective Action Complete – Institutional Controls Determination

Dear Mr. Grandel

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program, has completed a review of the environmental records associated with the ARRC Fairbanks Machine & Steel Company. Based on the information provided to date and the administrative record, the ADEC has determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment. No further remedial action will be required as long as the site is in compliance with established institutional controls.

This letter summarizes the decision process used to determine the environmental status of this site and provides a summary of the regulatory issues considered in the Corrective Action Complete – Institutional Controls Determination

**Site Name and Location:**

ARRC Fairbanks Machine &  
Steel Company  
1990 Phillips Field Drive  
Fairbanks, Alaska 99701

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

Russell Grandel  
ARRC  
P.O. Box 107500  
Anchorage, Alaska 99510-7500

**ADEC Site Identifiers:**

ADEC Reckey: 1989310029202  
File: 102.26.011  
Hazard ID: 24162

**Regulatory Authority for Determination:**

18 AAC 75 and 18 AAC 78

## Background

Petroleum contamination was initially encountered at the site adjacent to the four onsite underground storage tanks (UST) in 1989. Petroleum staining was also noted on the ground surface during the initial investigations. The four USTs included: an unregulated 1,000 gallon heating oil tank (HOT); a regulated 500 gallon used oil UST; a regulated 1,000 gallon gasoline UST and a regulated 1,000 gallon diesel UST with associated pump house (see attachment B). The USTs were removed in 1990 and 1992.

This site is located on ARRC property Lot 7; Block A, Chena Industrial Subdivision. The property was historically leased and subleased to a private individual, Adkins Steel, Totem Ocean Trailer Express, and Fairbanks Machine and Steel. It has been used for steel fabrication, a trucking business, and a carpet warehouse until 1998. The site is currently being leased to Samson True Value Hardware and consists of a building, an above ground HOT, and a water supply well. A drinking water sample collected from the well in 2009 did not contain contaminants above drinking water maximum contaminant levels.

## Contaminants of Concern

During the investigations at the site, soil and groundwater samples were analyzed for the following: gasoline range organics (GRO); diesel range organics (DRO); residual range organics (RRO); metals; polychlorinated biphenyl (PCB); and volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, and xylenes (BTEX). Based on these analyses and knowledge of the source area, the following contaminants of concern (COCs) were identified in soil and ground water:

- DRO
- GRO
- Benzene
- Tetrachloroethylene (PCE)

## Cleanup levels

The default soil cleanup levels for this site are established in 18 AAC 75.341, Method Two, Table B1 and B2, Migration to Groundwater (MTG) *Under 40 Inch Zone*.

<u>Contaminant</u>	<u>MTG Soil Cleanup Level (mg/kg)</u>
DRO	250
GRO	300
Benzene	0.025
PCE	0.024

The default groundwater cleanup levels for this site are established in 18 AAC 75.345 Table C Groundwater Cleanup Levels

<u>Contaminant</u>	<u>Groundwater Cleanup Level (mg/L)</u>
DRO	1.5
GRO	2.2
Benzene	0.005
PCE	0.005

### Site Characterization and Cleanup Actions

Three soil borings B-1, B-2, and B-3 were advanced in 1989. Boring B-3 was advanced adjacent to the 500 gallon waste oil tank and borings B-1 and B-2 were advanced down gradient of the regulated 1,000 gallon gasoline and diesel USTs and associated pump house. During the drilling of borings B-1 and B-2, a hydrocarbon odor was noted at various depths and sheen was noted at the groundwater interface 15 feet below ground surface (bgs). Soil samples collected from 10 to 16.5 feet bgs at B-1 and B-2, contained total petroleum hydrocarbons (TPH) up to 460 mg/kg and benzene up to 0.2 mg/kg. (TPH is roughly equivalent to GRO plus DRO.) Soil samples collected at B-3 contained TPH up to 6,520 mg/kg at a depth of 0.5 feet bgs.

In 1990 three soil borings were advanced and completed as monitoring wells MW-1, MW-2, and MW-3 adjacent to the regulated 1,000 gallon gasoline, diesel USTs and associated pump house. Soil samples collected from 16 to 19 feet bgs at the groundwater interface contained TPH up to 7,910 mg/kg. Groundwater samples collected from the monitoring wells contained TPH up to 13 mg/L and benzene up to 0.1 mg/L.

The 500 gallon waste oil UST, located south of the building, was removed in 1990. Soils around the tank were stained gray and had a hydrocarbon odor. One hundred cubic yards of contaminated soil were removed and put into two onsite stockpiles. Excavation of soil from the northern side of the excavation was limited by the building resulting in visually stained soil left under the building. A soil sample collected from this location 8 feet bgs contained TPH at 2,100 mg/kg and PCE at 0.01 mg/kg. A soil sample collected directly below the visually contaminated soil at a depth of 12 feet bgs contained TPH at 45,000 mg/kg and PCE at 1.8 mg/kg. Confirmation soil samples collected from below each end of the tanks and from below the piping contained TPH up to 262 mg/kg. PCE was not analyzed. A liner was placed in the bottom and the excavation was backfilled with clean fill. Groundwater was not encountered.

The stockpiles were sampled in 1991. A nine-spot composite sample collected from both piles contained TPH up to 810 mg/kg. The purpose of the sampling was to determine if the stockpiles could be thermally treated. The stockpiles are no longer onsite, but the fate of these stockpiles is unknown.

The 1,000 gallon HOT, as well as 1,000 gallon gasoline and diesel USTs with associated pump house were removed in 1992. The 1,000 gallon diesel and gasoline USTs were removed from a common excavation along with 24 cubic yards of contaminated soil that was transported offsite for thermal remediation. The excavation was backfilled with clean fill. Four confirmation soil samples collected at the bottom of the excavation at 10 feet bgs contained diesel range petroleum hydrocarbons (DRPH) which is roughly equivalent to DRO, up to 5,300 mg/kg. The samples also contained gasoline range petroleum hydrocarbons (GRPH) which is roughly equivalent to GRO, up to 370 mg/kg. At the 1,000 gallon HOT location, soil was returned to the excavation after removal due to concerns over the structural integrity of the building. Two soil samples collected 8.5 feet bgs at the bottom of the excavation contained DRPH up to 440 mg/kg.

Groundwater samples were collected from monitoring wells MW-1, MW-2, and MW-3 in 1994 which contained detectable concentrations of BTEX below groundwater cleanup levels. MW-1 and

MW-2 have not been located since this sampling event and the current status of these monitoring wells is unknown.

In 2004 three soil borings were advanced. Two of the borings were completed as monitoring wells (MW-4 and MW-5). Monitoring well MW-4 which was advanced adjacent to the former 500 gallon Used-Oil UST, was installed to delineate elevated historic levels of PCE and TPH discussed above. MW-5 was advanced southeast of the former 1,000 gallon gasoline and diesel USTs. The third boring, B-4, was advanced adjacent to MW-3. A soil sample collected 15 to 17 feet bgs at the groundwater interface from B-4 contained GRO at 787 mg/kg and DRO at 2,770 mg/kg. A ground water sample collected from MW-3 contained DRO at 1.96 mg/L. Soil and water samples collected from MW-4 and MW-5 contained detectable concentrations of contaminants below soil and groundwater cleanup levels. Furthermore, MW-4, which is located directly adjacent and downgradient of the former Used-Oil UST did not contain detectable levels of PCE in soil boring samples or groundwater samples collected in 2004, nor in groundwater samples collected in 2006. Therefore, it is assumed remaining PCE and petroleum contaminated soil underneath the building foundation is limited in extent, and de minimis in nature.

Groundwater collected from monitoring wells MW3, MW4, & MW5 was sampled again in 2006 and 2008. MW-3 was the only monitoring well that contained contaminants above groundwater cleanup levels with DRO at 1.85 mg/L in 2006, and 8.72 mg/L in 2008. Groundwater sampled during 2008 was 1 foot shallower than historic groundwater levels. Groundwater flow direction was south-southeast.

Three soil borings were advanced east and north of the former regulated 1,000 gallon gasoline and diesel USTs. The borings were completed as temporary monitoring wells TW-1, TW-2, and TW-3 in 2011 and 2012. Only one soil sample collected two (2) feet bgs contained DRO at 4,520 mg/kg. Groundwater samples collected from TW-1, TW-2 and TW-3 did not contain detectable levels of contaminants. Groundwater samples collected from MW-3 in 2011 and 2012 contained detectable concentrations of contaminants, but below ADEC cleanup levels. TW-1, TW-2, TW-3 MW-4 and MW-5 were decommissioned in 2011 and 2012.

**Pathway Evaluation**

Following investigation and cleanup at this site, exposure to remaining contaminants was evaluated using ADEC’s Exposure Tracking Model (ETM). Exposure pathways are conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to one of the following: De Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 1.

**Table 1 – Exposure Pathway Evaluation**

<b>Pathway</b>	<b>Result</b>	<b>Explanation</b>
Surface Soil Contact	De Minimis Exposure	Contaminated surface soil around the USTs has been excavated and brought to grade with clean fill. Any remaining contamination onsite from historic surface stains is considered de minimis

Sub-Surface Soil Contact	De Minimis Exposure	Sub-surface confirmation soil samples were below direct contact cleanup levels. Therefore risk via this pathway is insignificant
Inhalation – Outdoor Air	De Minimis Exposure	The remaining soil contaminant concentrations are below inhalation cleanup levels. Therefore risk via this pathway is insignificant
Inhalation – Indoor Air (vapor intrusion)	De Minimis Exposure	The remaining soil contaminant concentrations are below inhalation cleanup levels or de minimis in volume. Clean soil has been placed above the impacted area which further mitigates exposure via this pathway. Therefore risk via this pathway is considered insignificant.
Groundwater Ingestion	De Minimis Exposure	The source area and contaminated soil have been removed. Remaining soil contamination is considered de minimis. A drinking water sample collected from the onsite well in 2009 and the most recent two groundwater sampling events in 2011 and 2012 did not contain contaminants above ADEC cleanup levels. Therefore risk via this pathway is insignificant.
Surface Water Ingestion	Pathway Incomplete	Surface water is not utilized as a drinking water source in this area.
Wild Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals. This area is not used for harvesting wild foods.
Exposure to Ecological Receptors	Pathway Incomplete	There are no complete exposure pathways to ecological receptors at the site.

Notes to Table 1: “De minimis exposure” means that in ADEC’s judgment receptors are unlikely to be affected by the minimal volume 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 ground water use, or a physical barrier in place that deters contact with residual contamination.

### **ADEC Decision**

There is contamination remaining above established cleanup levels at the ARRC Fairbanks Machine & Steel Company, but ADEC has determined there is no unacceptable risk to human health or the environment, and this site will be granted a Corrective Action Complete- Institutional Controls Determination subject to the following:

1. Any future change in land use may impact the exposure assumptions cited in this document. If land use and/or ownership changes, current institutional controls may not be protective and ADEC may require additional remediation and/or institutional controls. Therefore, the ARRC will report to ADEC every five years to document land use, or as soon as the ARRC

becomes aware of any change in land ownership and/or use. **The report can be sent to the local ADEC office or electronically to [DEC.ICUnit@alaska.gov](mailto:DEC.ICUnit@alaska.gov)**

2. Any proposal to transport soil or groundwater off site requires ADEC 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. (See Attachment B).
3. Movement or use of potentially contaminated soil in a manner that results in a violation of 18 AAC 70 water quality standards is unlawful.
4. A report confirming that the onsite monitoring well MW-3 has been decommissioned in accordance with the ADEC November 2011 Monitoring Well Guidance must be submitted to ADEC by December 30, 2013.
5. When the building is decommissioned, remaining soil contamination needs to be addressed in accordance with an approved ADEC workplan.

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 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 99801, 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 99801, 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 contact Grant Lidren at (907) 269-8685.

Approved By,



Grant Lidren  
Environmental Manager

Attachment A: Cleanup Complete-ICs Agreement Signature Page

Attachment B: Site Figure

**Attachment A: Cleanup Complete-ICs Agreement and Signature Page\***

ARRC agrees to the terms of this Corrective Action Complete with Institutional Controls determination as stated in this closure decision document dated **May 14, 2013** for the *ARRC Fairbanks Machine & Steel Company* site. Failure to comply with the terms of this agreement may result in ADEC reopening this site and requiring further remedial action in accordance with 18 AAC 78.276(f).

*Russell Grandel Environmental Engineer*

Signature of Russell Grandel or Authorized Representative, Title  
ARRC

*Russell Grandel*

Printed name of Russell Grandel or Authorized Representative, Title  
ARRC

**Note to Responsible Person (RP):**

**After making a copy for your records, please return a signed copy of this form to the ADEC project manager at the address on this correspondence within 30 days of receipt of this letter.**

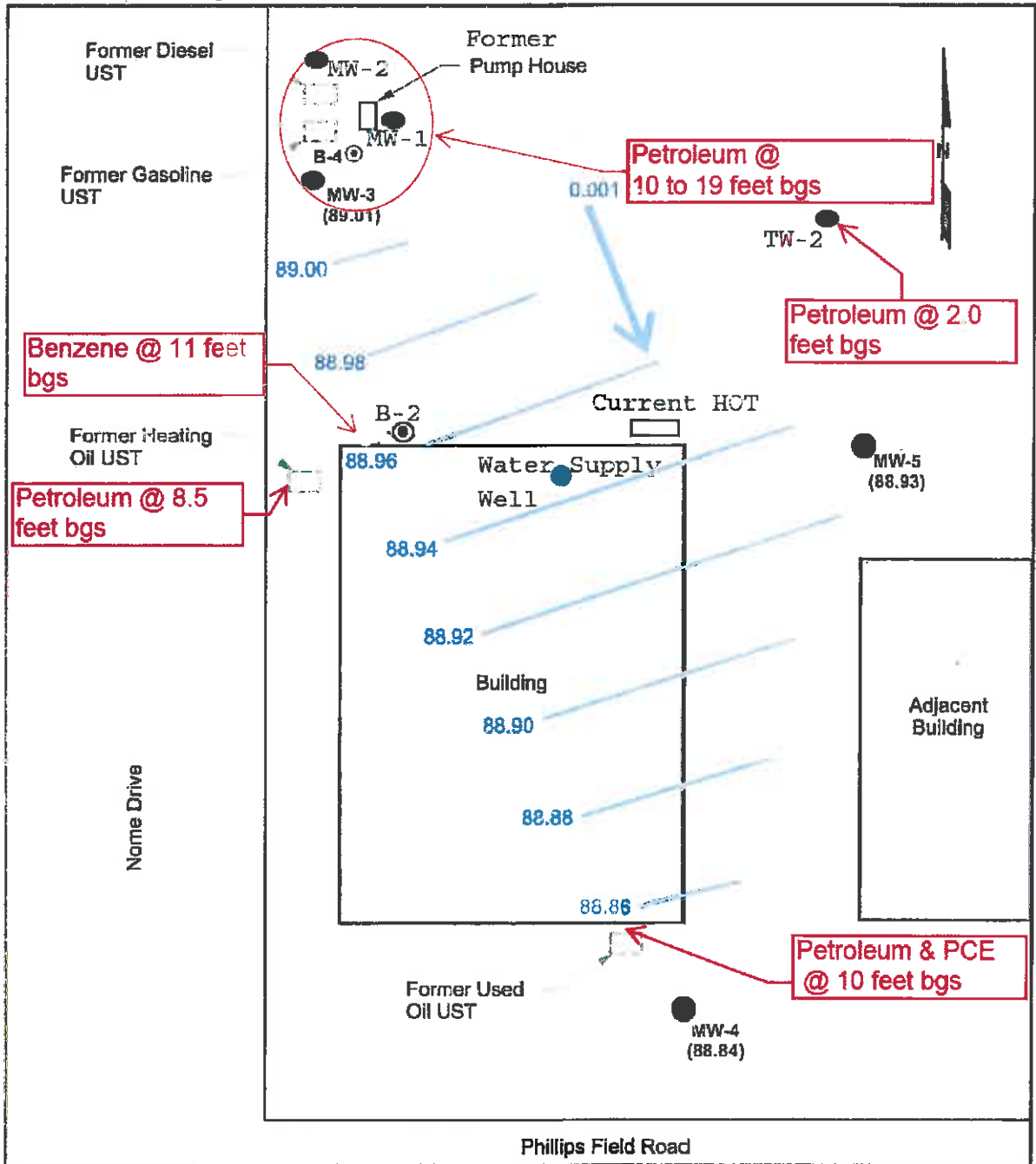
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ADEC File No.: 102.26.011  
Hazard ID: 24162  
ADEC Project Manager: Grant Lidren

**For Internal Use Only**

**\*Attention ADEC Administration Staff:** Please follow the procedure below after Attachment A is signed/returned to ADEC.

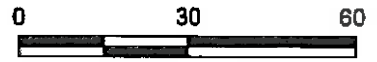
1. Log-in and Date Stamp *Attachment A*
2. Scan and Save to the appropriate electronic folder on the network Drive
3. File the hard copy in the appropriate project/site file Correspondence Folder (blue in Anchorage).
4. Provide the Correspondence folder (with the filed *Attachment A* hard copy) to the ADEC Project Manager

**Attachment B: Site Figure: Areas of Known Soil Contamination**



**Legend:**

- MW-4** ● Well Location and Number
- B-4** ⊙ Soil Boring Location and Number
- 0.001** ↙ Inferred Groundwater Gradient and Direction
- 88.92** — Inferred Groundwater Contour and Relative Elevation in Feet



Approximate Scale in Feet