



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  
Main: 907-451-5175  
Fax: 907-451-5105  
[www.dec.alaska.gov](http://www.dec.alaska.gov)

File No: 360.38.002

May 26, 2015

Lori Roy  
AFCE/OLAR  
18291 Tarabrooke Drive  
Gulfport, MS 39503

Stacie McIntosh  
BLM – Arctic Field Office  
1150 University Avenue  
Fairbanks, AK 99709

**Decision Document:**      **Wainwright DEW Line/LIZ-3/Landfill LF005  
Cleanup Complete Determination**

Dear Ms. Roy and Ms. McIntosh:

The Alaska Department of Environmental Conservation (DEC) has reviewed the environmental records for the Wainwright Distant Early Warning (DEW) Line LIZ-3 Landfill LF005 site near Wainwright, 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**

Wainwright Short Range Radar Station (SRRS), Landfill LF005  
Kuk River on the Chukchi Sea, 4.5 miles southeast of the village of Wainwright

**Responsible Party**

United States Air Force

**Landowner**

United States Department of the Interior, Bureau of Land Management

**DEC Site Identifiers**

File No: 360.38.002 Hazard ID: 798

**Regulatory Authority for Determination**

18 AAC 75

### Site Description and Background

The Wainwright SRRS is located on federal lands within the National Petroleum Reserve-Alaska (NPR-A), approximately 4.5 miles southeast of the village of Wainwright. The Wainwright SRRS was constructed as a DEW Line Station in 1953 and was an active manned station until 1989. It was converted into an unmanned SRRS in 1994. The station was closed by the U.S. Air Force in 2008. The Air Force contractor completed site demolition activities in 2013. The Technical Services Building and the Radar Building/Radar Antenna remain on site. All other buildings have been demolished and all tanks and fuel pipelines have been removed.

Landfill LF005 was located south of the SRRS installation off the main road from the inlet to the SRRS. LF005 was a permitted Class-III landfill under the ADEC Solid Waste Program. It was used from 1974 through 1989.

### Record of Decision

The Air Force prepared a Record of Decision (ROD) in 2013, selecting landfill removal and off-site disposal as the final remedy. The ROD selected the ADEC's Method Two Arctic Zone cleanup levels, 18 AAC 75.341, Table B1, for this site. The following table presents the contaminants of concern and their cleanup levels.

Contaminant	Cleanup Level
polychlorinated biphenyls (PCBs)	1 mg/kg
lead	400 mg/kg

mg/kg = milligrams per kilogram

### Characterization and Cleanup Activities

As part of a remedial investigation/feasibility study in 1993, soil, sediment, and surface water samples were collected from the landfill and surrounding tundra. Samples were analyzed for petroleum hydrocarbons, volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, and xylenes (BTEX), semi-volatile organic compounds, metals, and polychlorinated biphenyls (PCBs). Petroleum hydrocarbons and fuel related VOCs (toluene, ethylbenzene, xylenes, and 1,2,5-trimethylbenzene) were detected in one soil sample below cleanup levels.

During a 2007 remedial investigation debris including asbestos containing material, metal banding, insulation, scrap metal, crushed drums, wood, and other industrial waste was observed on the surface and extruding from the sides of LF005. Water samples were collected from two test pits downgradient of the landfill and analyzed for metals, VOCs, and polycyclic aromatic hydrocarbons (PAHs). Results were below the Alaska Water Quality standards in 18 AAC 70.

In 2009 the exposed asbestos containing material was covered with a geotextile liner to prevent contact with the material. Additional site investigation activities performed in 2010 discovered previously undocumented hazardous waste including lead-acid batteries and paint. Sampling results showed PCBs and lead above the cleanup levels.

During the 2013 remedial action, the contents of LF005 was removed and approximately 1,446 cubic yards of PCB and lead contaminated soil was transported off-site for disposal. Confirmation samples were analyzed for gasoline, diesel, and residual range organics (GRO, DRO, and RRO), PCBs, lead, and VOCs. Sample results contained detectable levels of PCBs and lead, as well as GRO, DRO, RRO, and several fuel related VOCs, however all results were below the cleanup levels.

### 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 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 presented below.

#### Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	De Minimis	The contents of LF005 have been removed from the site. Confirmation sample results are below direct contact cleanup levels.
Sub-Surface Soil Contact	De Minimis	The contents of LF005 have been removed from the site. Confirmation sample results are below direct contact cleanup levels.
Inhalation – Outdoor Air	De Minimis	The contents of LF005 have been removed from the site. Confirmation sample results are below outdoor inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	The contents of LF005 have been removed from the site. No buildings are present.
Groundwater Ingestion	Pathway Incomplete	The ADEC has made a general determination that the presence of continuous permafrost in the Arctic Zone acts as a barrier for soil contaminant migration to a groundwater zone of saturation (ADEC Guidance No. SPAR 99-3, Policy for Establishing Cleanup Levels for Sites in the Arctic Zone in Accordance with 18 AAC 75, Article 3)
Surface Water Ingestion	Pathway Incomplete	The contents of LF005 have been removed from the site. Confirmation sample results are below cleanup levels, and past sampling has not shown surface water impacts.
Wild and Farmed Foods Ingestion	De Minimis	The contents of LF005 have been removed from this site. Confirmation sample results are below the applicable cleanup levels.
Exposure to Ecological Receptors	Pathway Incomplete	The contents of LF005 have been removed from this site. Confirmation sample results are below the applicable cleanup levels.

**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**

The contents of landfill LF005 were removed and transported off-site for disposal. Remaining contamination in soil is below approved cleanup levels. 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 off-site requires DEC 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.
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 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 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 (907) 451-5175 or [melody.debenham@alaska.gov](mailto:melody.debenham@alaska.gov).

Sincerely,



Melody Debenham  
Environmental Program Specialist

Attachments: Location and Vicinity Map (Jacobs, 2012)  
Wainwright SRRS Site Location Map (Hoefler, 2008)



**Project Location and Areas of Interest**

**LOCATION & VICINITY MAP**  
 WAINWRIGHT SRRS, ALASKA

18 Jul 2012  
 PROJECT MANAGER: J. LADEGARD

0 0.5 1 1.5 2  
 Miles  
 NAD 1983 StatePlane Alaska 6 Feet Transverse Mercator  
 All Locations Are Approximate

**JACOBS**

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