THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File: 320.38.004

August 14, 2017

Stephen Krause, USAF Remedial Project Manager
USAF - Elmendorf
611 CES/CEAR
10471 20th Street, Ste. 348
Elmendorf AFB, JBER, Alaska 99506-2201

Re: Decision Document: Lonely AFS Dewline – Garage SS09
Cleanup Complete Determination

Dear Mr. Krause:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has completed a review of the environmental records associated with the Lonely AFS Dewline – Garage (SS09) site at the U.S. Air Force (USAF) Point Lonely Short Range Radar Station (SRRS), located in Point Lonely, Alaska. 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 Lonely AFS Dewline – Garage SS09, which is located in the DEC 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:
Lonely AFS Dewline – Garage SS09
Point Lonely SRRS
75 miles northwest of Nuiqsut, AK 99789
Section 17, Township 18 North,
Range 5 West, Umiat Meridian

Name and Mailing Address of Contact Party:
Stephen Krause, USAF Remedial Project Manager
USAF – Elmendorf
611 CES/CEAR
10471 20th Street, Ste. 348
Elmendorf AFB, JBER, Alaska 99506-2201

DEC Site Identifiers:
File No.: 320.38.004
Hazard ID.: 2932

Regulatory Authority for Determination:
18 AAC 75

Site Description and Background

The Point Lonely SRRS is located on the Arctic Coastal Plain adjacent to the Beaufort Sea. The facility was constructed in 1953 as an auxiliary Distant Early Warning Line Station and currently occupies approximately 1,800 acres of low-lying, undisturbed tundra and man-made gravel pads. The Point Lonely station was active until 1989, and in 1993 was converted to a SRRS which operated until 2005. The nearest communities are Nuiqsut, located 75 miles southeast, and Barrow, located approximately 85 miles northwest. Prudhoe Bay/Deadhorse is located approximately 150 miles to the southeast. The facility is located in an area of the National Petroleum Reserve-Alaska, and has been used as a staging area for oil and gas exploration. This use is likely to continue and potentially increase after Air Force departure from the site.

The Garage consists of an inactive vehicle storage and maintenance building, set on wooden pilings approximately 3 feet above the ground surface and surrounded by a gravel pad. The gravel pad grades into largely undisturbed tundra to the north and west. South of the site, the gravel pad borders the installation access road. The floor drains within the garage were reported to have discharged directly to the ground surface below the building until the drains were sealed in 1993. Used oil and other automotive fluids or wastes appeared to have been discharged down these drains while the facility was active. Culverts drained the area underneath the garage and discharged to the adjacent tundra.

Contaminants of Concern

The following contaminants of concern were reported above the approved cleanup levels during the 2005 investigation of SS09 as summarized in the Characterization and Cleanup Activities section of this letter:

- Diesel Range Organics (DRO)
- Residual Range Organics (RRO)
- Polychlorinated Biphenyls (PCBs)
- Lead

Cleanup Levels

Cleanup criteria for SS09 were based upon a comparison of analytical results to the DEC Method Two Cleanup Levels for the Arctic Zone, per 18 AAC 75.340. DEC has determined that the migration to groundwater standard is not applicable for this site, as the underlying permafrost and freezing temperatures prevent the formation of a groundwater aquifer and restrict the vertical migration of contaminants. The soil cleanup levels for the COCs at Lonely AFS Dewline – Garage SS09 are summarized below.

Table 1 – Approved Cleanup Levels

Chemical of Concern (Soil)	Soil Cleanup Level (mg/kg)
DRO	12,500[1]
RRO	13,700[1]
Total Xylenes	57[2]
1,3,5 Trimethlybenzene	37[2]
Tetrachloroethene	68[2]
Total PCBs	1[2]
Chromium	10,0000[2]
Lead	400[2]

Notes:
mg/kg = milligrams per kilogram
1 Ingestion or Inhalation Cleanup Level (more conservative value) per Table B1. Method Two – Soil Cleanup Levels Table, Arctic Zone, 18 AAC 75.341
2 Human Health Cleanup Level per Table B2. Method Two – Petroleum Hydrocarbon Soil Cleanup Levels Table, Arctic Zone, 18 AAC 75.341.

Characterization and Cleanup Activities

1993 investigation sampling determined that the site was contaminated with petroleum hydrocarbons, BTEX, and low levels of VOCs and semi-volatile organic compounds. During a 2005 investigation soil, sediment, and surface water samples were collected at SS09 from the garage and nearby flammable storage building. Surface water was not observed on the gravel pad or under the building in 2005, however a number of shallow ponds (2–2.5 feet) were present in the tundra surrounding the gravel pad. Soil, sediment, and surface water samples were analyzed for fuel-related compounds, PCBs, solvents, metals, and wood preservatives (pentachlorophenol and 2-methylphenol [o-cresol]). Lead, PCBs, DRO, and RRO exceeded DEC Method Two cleanup levels for the Arctic Zone in soil underneath the garage. Sampling conducted in 2005 and 2008 determined the extent of the contamination encompassed the entire footprint of the garage and extended two feet below ground surface. None of the samples collected adjacent to the flammable storage building contained petroleum hydrocarbons above DEC Method Two soil cleanup levels for the Arctic Zone.

Sediment and surface water samples collected from freshwater ponds adjacent to the gravel pad were analyzed for PAHs, VOCs, and RCRA metals. The surface water did not show petroleum sheens prior to disturbance. PAHs, VOCs and arsenic were detected in sediment samples. The low-level detections of VOCs and PAHs indicates lateral migration of petroleum related contaminants from the pad into surface waters. The arsenic detection was attributed to background conditions and selenium and barium were the only compounds detected in surface water samples exceeding National Oceanic and Atmospheric Administration (NOAA) Screening Quick Reference Tables (SQuiRT) freshwater criteria; however, the drinking water maximum contaminant level (MCL) was not exceeded. The levels of selenium were not considered a concern due to limited aquatic habitat and the applicability of the SQuiRT criteria to the shallow ponds, and appeared to be naturally occurring because there was no known source attributable to USAF activities. Selenium is not considered a COC at the site.

NOAA SQuiRT probable effects levels (PELs) for marine sediment were exceeded for 2-methylnaphthalene, fluorene, naphthalene, and phenanthrene; however, the application of NOAA SQuiRT screening criteria to SS09 was questionable given the limited aquatic habitat and the fact that the screening criteria are designed for marine habitats. It was determined that the risk posed by the exceedances of NOAA SQuiRT PELs for these compounds is negligible and does not warrant cleanup. Sample results for these compounds were all below Table B1. Method Two Soil Cleanup Levels.

Cleanup activities began in 2009 and consisted of demolition of the garage building, excavation of the contaminated soil from the underlying pad to a depth of two feet, and confirmation sampling. The excavation generated approximately 283 cubic yards of contaminated soil that was shipped off-site for treatment and disposal. Confirmation sampling concluded DRO, RRO, PCBs, and lead were all below cleanup levels. DRO at the 95% upper confidence limit (UCL) ranged from 789–2,169 mg/kg. RRO at the 95% UCL ranged from 435–1,955 mg/kg. PCBs at the 95% UCL ranged from 0.26–0.94 mg/kg. Lead was detected at concentrations ranging 4.5–8.7 mg/kg. All contaminant concentrations remaining are below cleanup levels. Foundation material and clean gravel were used to backfill the site to one foot above pad grade.

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 non-carcinogenic 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 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 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, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 3.

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 remaining in the sub-surface is below ingestion cleanup levels.
Inhalation – Outdoor Air	De Minimis Exposure	Contamination remaining in sub-surface soil is below inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	The building on site has been demolished, and future construction would likely be above grade.
Groundwater Ingestion	Pathway Incomplete	Supra-permafrost groundwater is not a potential drinking water source.
Surface Water Ingestion	Pathway Incomplete	No exceedances of Alaska Water Quality Standards were detected. Surface water is not used as a drinking water source in the vicinity of the site.
Wild and Farmed Foods Ingestion	De Minimis Exposure	Bioaccumulative contaminants are below cleanup levels and restricted to the subsurface.
Exposure to Ecological Receptors	De Minimis Exposure	Bioaccumulative contaminants are below cleanup levels and restricted to the subsurface.

Notes to Table 2: "De Minimis Exposure" means that in DEC's judgment receptors are unlikely to be adversely affected by the minimal volume or concentration of remaining contamination. "Pathway Incomplete" means that in DEC's judgment contamination has no potential to contact receptors

DEC Decision
Soil 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 off-site 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.

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 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, 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) 451-2166 or email at john.carnahan@alaska.gov.

Sincerely,

Eric Breitenberger

Digitally signed by Eric Breitenberger
DN: cn=Eric Breitenberger, o=ADEC, ou=Contaminated Sites, email=eric.breitenberger@alaska.gov, c=US
Date: 2017.08.14 16:29:28 -08'00'

Eric Breitenberger
Environmental Program Manager

cc: Spill Prevention and Response, Cost Recovery Unit

Attachments: Figure 1-1 Regional Vicinity Map, USAF
Figure 1-2 Point Lonely SRRS Site Locations, USAF

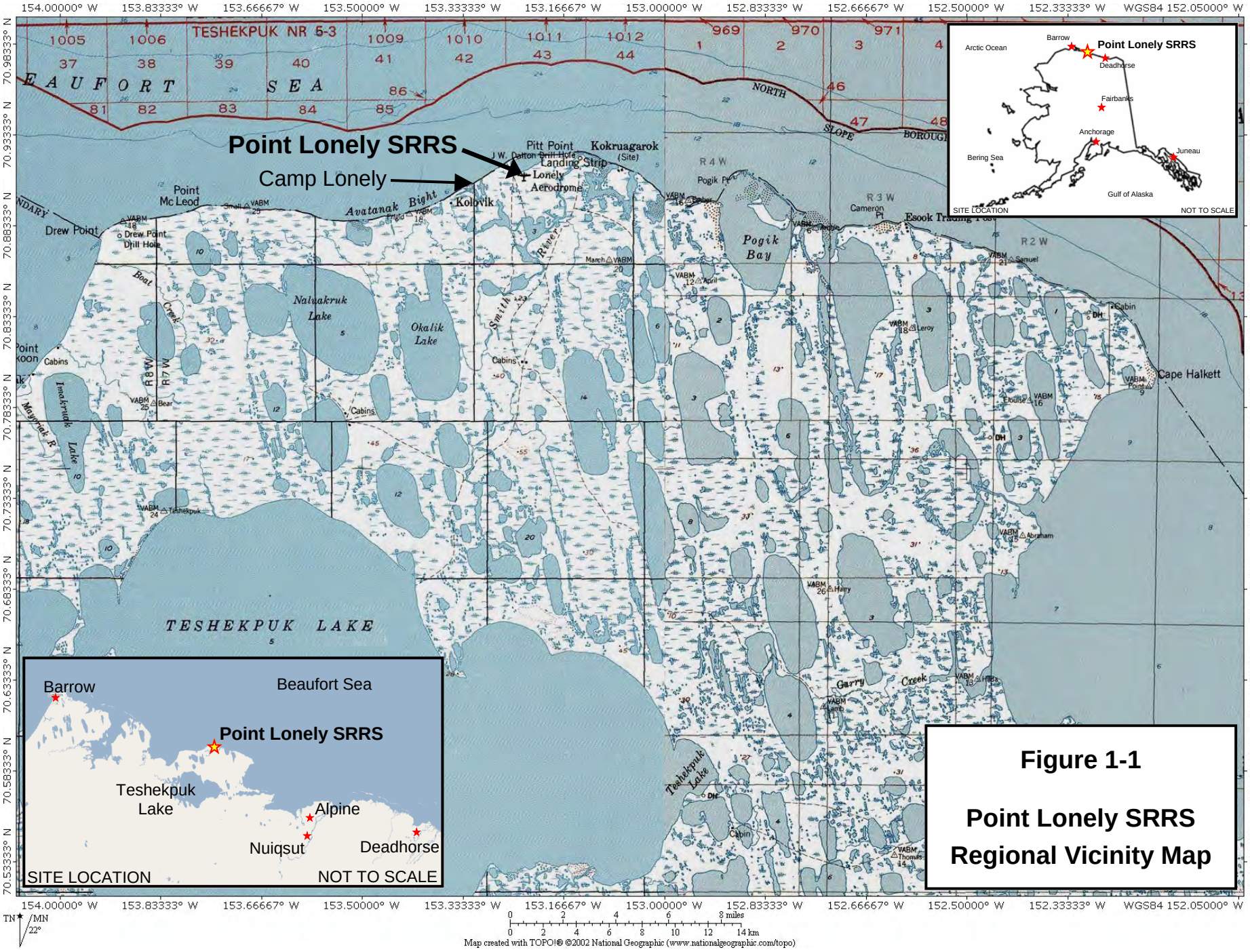

Figure 1-1

Point Lonely SRRS
Regional Vicinity Map

Figure 1-2

Point Lonely SRRS
ERP Site Locations

Photo Date: 2001