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: 1521.38.012

November 29, 2016

Mr. Steven J. Mattson
US Air Force
10471 20th Street, Suite 341
JBER, Alaska 99506-2201

Re: Duncan Canal Radio Relay Station – Operable Unit SS004
Cleanup Complete Determination

Dear Mr. Mattson:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with one (1) operable unit located at the beach facility at the Duncan Canal Radio Relay Station (RRS) site near Petersburg, Alaska, specifically SS004: Drum Storage and Burial 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 former Duncan Canal Radio Relay Station which is located in the DEC office in Haines. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

**Site Name and Location:**
Duncan Canal Radio Relay Station
Duncan Canal, Tongass National Forest
Near Petersburg, Alaska

**Name and Mailing Address of Contact Party:**
US Air Force
10471 20th Street, Suite 341
JBER, Alaska 99506-2201

**DEC Site Identifiers:**
File No.: 1521.38.012
Hazard ID.: 26

**Regulatory Authority for Determination:**
18 AAC 75

**Site Description and Background**

The Duncan Canal RRS is located on Lindenburg Peninsula on Kupreanof Island in Southeast Alaska near Petersburg. It is located within the Tongass National Forest on land managed by the United States Forest Service (USFS). The RRS facility consists of two (2) operable units on the mountain top and four (4) operable units near the beach. The mountain top facility is accessed using a 5-mile gravel logging road (USFS Road #6350) which is maintained by the USFS.

The Duncan Canal RRS was constructed by the United States Air Force (USAF) in 1960 and used as a radio link between the Smuggler's Cove and Hoonah RRS facilities. The mountain top facility consisted of a composite building, radio relay building, two billboard antennas, water reservoir and tank, septic tank, and fuel aboveground storage tanks (ASTs) and underground storage tanks (USTs). The beach facility consisted of a barge landing dock and seaplane ramp, fuel pump station, and one (1) AST. The Duncan Canal RRS was deactivated in 1976. All of the facility building and structures were demolished or removed in 1986, and the land was returned to USFS management in 1987. AT&T Alascom, Inc. currently operates a commercial communications facility at the mountain top facility.

This site closure letter encompasses one (1) operable unit located at the beach facility, specifically SS004: Drum Storage and Burial site. Site SS004 consists of two portions (Upper and Lower) separated by approximately 700 feet. S004 Upper (Drum Storage Site) is one-third mile from the barge landing area at a sharp bend in the beach facility road. The area is located a small clearing in the trees northwest of the road. The area was used as a dump area and contained various drums, paint cans, vehicle batteries, oil cans, miscellaneous piping, and other household and industrial debris scattered across the surface and partially buried around the site. The condition and extent of buried drums and debris could not be determined during the site characterization activities. Surface staining was observed near the north end of the clearing. Site SS004 Lower (Drum Disposal Site) consisted of exposed drums at the surface and buried on the west-facing bluff along the beach access road. The drums were located above the bluff edge extending to approximately 30 feet downhill from the bluff. Drums appeared to have been pushed over the edge and/or used during road construction. Accessible drums appeared to be empty; however, the condition of buried and inaccessible drums and the soil beneath them could not be determined during the site characterization activities.

**Contaminants of Concern**

During the 2006 *Preliminary Assessment/Site Inspection (PA/SI)* and 2009 *Site Investigation (SI)* and 2009 *Remedial Investigation (RI)*, soil samples were collected and analyzed for gasoline range organics (GRO), diesel range organics (DRO), residual range organics (RRO), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), pesticides, herbicides, and Resource Conservation and Recovery Act (RCRA) metals. Groundwater samples were collected at SS004 Upper and analyzed for GRO, DRO, RRO, VOCs, PAHs, VOCs, and metals. No contaminants were found to be present above the cleanup levels of 18 AAC 75.345, Table C.

Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern at this site:

- GRO
- DRO
- RRO
- Arsenic

**Cleanup Levels**
The cleanup levels for operable unit SS004 were approved by ADEC on April 19, 2013. The soil cleanup levels for the petroleum hydrocarbon ranges of GRO, DRO, and RRO were developed using a method three calculation with a site-specific concentration of total organic carbon, as allowed under 18 AAC 75.340(e), as amended through April 8, 2012. The cleanup level for arsenic was set based through a determination of a naturally-occurring background concentration. The Record of Decision specified that if any additional COCs were found during the cleanup those cleanup levels would be based upon the default method two cleanup levels of 18 AAC 75.341, Table B1 for the Over 40-Inches of Precipitation Climate Zone. Groundwater cleanup levels were not set as no contamination was found to be present above 18 AAC 75.345, Table C values.

**Table 1 – Approved Cleanup Levels for SS004: Drum Storage and Burial**

| Contaminant | Soil (mg/kg) |
|---|---|
| GRO | 260 |
| DRO | 450 |
| RRO | 8,300 |
| Arsenic | 18.13 |

mg/kg = milligrams per kilogram

**Characterization and Cleanup Activities**
The USAF conducted a PA/SI in 2006 and a concurrent SI and RI in 2009 to identify and fully characterize the contamination present at the entire RRS facility. A Feasibility Study which evaluated several different remedial alternatives was completed and approved by ADEC in 2010. Although elevated concentrations of any COCs regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) were found at SS004, the presence of vehicle batteries in the surface debris indicated a possible CERCLA release. A Record of Decision for SS004 was developed by the USAF and signed by the USAF, USFS, and ADEC in May 2014. The selected remedy for soil was excavation of all contaminated soil with off-site disposal. The Remedial Action Plan/Quality Assurance Project Plan (QAPP) was approved by ADEC on July 3, 2014, and the USAF mobilized to the field on July 7th.

Field work began in 2014 and was completed in 2015. The *Final Summary of 2014-2015 Field Activities Report for Remedy Implementation*, dated July 2016, documents that all of the contaminated soil was removed and cleanup levels were achieved at SS004. In 2014, the USAF removed approximately 200 crushed drums present on the ground surface and partially buried at SS004 Lower. Although the drums were mostly empty, all fluids were consolidated in one (1) new 55-gallon drum for disposal. Field screening and confirmation analytical soil samples collected after the drum removal

showed that no elevated COCs were present and no soil excavation needed to be conducted. The highest concentrations of COCs found were: GRO – 4 mg/kg, DRO – 110 mg/kg, RRO – 860 mg/kg.

In 2014 at SS004 Upper, the USAF removed the majority of the surface debris and began removing the buried drums and debris. The volume and extent of the buried debris was significantly greater than originally estimated and many buried drums contained either liquid fuel or solvent, and thus not all of the contamination could be removed in the first field season. Additional contaminated soil, buried debris and empty drums, and buried drums containing liquid fuel or solvent were excavated in 2015. Analytical confirmation samples showed that all of the contaminated soil was removed and the highest concentrations remaining were DRO – 33 mg/kg, RRO – 110 mg/kg, and arsenic – 8.3 mg/kg. A total of 945 tons of contaminated soil, 205 dry drums, 51 drums of liquid fuel or solvent, and 54 tons of debris was removed. The excavation holes were backfilled with clean soil. The contaminated soil was transported for disposal at Waste Management's Columbia Ridge Landfill and Recycling Center in Arlington, Oregon, and the liquid waste was transported for disposal to Chemical Waste Management of the Northwest in Arlington, Oregon.

**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 means by which contamination may reach human or ecological receptors. ETM results show all pathways to be considered "Pathway Incomplete", indicating that, in ADEC's judgment, the contamination has no potential to contact potential human or ecological receptors. A summary of this pathway evaluation is included in Table 2.

**Table 2 – Exposure Pathway Evaluation**

| Pathway | Result | Explanation |
|---|---|---|
| Surface Soil Contact | Pathway Incomplete | Following the cleanup action, contamination is not present in surface soil (0 to 2 feet below ground surface) at concentrations above the approved cleanup levels. |

| | | |
|---|---|---|
| Subsurface Soil Contact | Pathway Incomplete | Following the cleanup action, contamination is not present in the subsurface soil (more than 2 feet below ground surface) at concentrations above the approved cleanup levels. |
| Inhalation: Outdoor Air | Pathway Incomplete | Following the cleanup action, contamination is not present at concentrations above the approved cleanup levels. |
| Inhalation: Indoor Air (vapor intrusion) | Pathway Incomplete | Following the cleanup action, contamination is not present at concentrations above the approved cleanup levels. |
| Groundwater Ingestion | Pathway Incomplete | Sample results from 2014 and 2015 demonstrate that concentrations of COCs in groundwater are below the approved cleanup levels. |
| Surface Water Ingestion | Pathway Incomplete | Surface water in the vicinity of the site is marine water. |
| Wild and Farmed Foods Ingestion | Pathway Incomplete | Following the cleanup action, contamination is not present at concentrations above the approved cleanup levels. |
| Exposure to Ecological Receptors | Pathway Incomplete | Following the cleanup action, contamination is not present at concentrations above the approved cleanup levels. |

**ADEC Decision**

Soil contamination at operable unit SS004 has been cleaned up to concentrations below the approved cleanup levels suitable for residential land use. Although the entire RRS facility will not be granted site closure until all of the operable units are cleaned up, a notation that this area has received a "Cleanup Complete" designation will be made on the Contaminated Sites Database, subject to the following standard conditions.

**Standard Conditions**

1. Any proposal to transport soil off-site requires ADEC approval in accordance with 18 AAC 75.325(i).

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 made 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 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, 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 by phone at (907) 766-3184 or via email at annemarie.palmieri@alaska.gov.

Sincerely,

Anne Marie Palmieri

Digitally signed by Anne Marie Palmieri
DN: cn=Anne Marie Palmieri, o=ADEC-SPAR-CSP, ou=State of Alaska, email=annemarie.palmieri@alaska.gov, c=US
Date: 2016.11.29 13:36:43 -09'00'

Anne Marie Palmieri
Project Manager

cc: Kim DeRuyter, ADEC-CSP, Fairbanks
Michael Wilcox, USFS
Tim Chittenden, USFS

Note: Please note that this letter is being transmitted in electronic format only as the ADEC Contaminated Sites Program is no longer providing hard copies of project correspondence.