



THE STATE
of **ALASKA**
GOVERNOR MICHAEL J. DUNLEAVY

**Department of
Environmental Conservation**

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File: 1521.38.012

December 21, 2018

Mr. Stephen M. Krause
United States Air Force
10471 20th Street, Suite 341
JBER, Alaska 99506-2201

Re: Duncan Canal Radio Relay Station – Operable Unit DA001
Cleanup Complete Determination

Dear Mr. Krause:

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 mountain top facility at the Duncan Canal Radio Relay Station (RRS) site near Petersburg, Alaska, specifically DA001: Former Radio Relay Dump 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, Alaska. 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:

United States 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 Alaska Administrative Code (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 the early 1980s, 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 mountain top facility, specifically DA001: Former Radio Relay Dump site which has two (2) areas of concern, DA001 and DA001Upper. DA001 was used as a dump site for fuel sludge, transformer carcasses, and other debris. The exact timeframe that the site was used is unknown; however, documentation from the USAF cleanup in the early 1980s references use of this area. Site DA001 is located on the down-slope side of a short spur road, approximately 0.25 miles west of the former composite building and 150 feet south of the AT&T Alascom repeater site. Debris, such as drums, construction debris, vehicle parts, intact and broken batteries, transformers, and fire extinguishers were visible on the surface of the site. Multiple runoff channels provided drainage for surface water on the sides of the site or crossed the site. Prior to the cleanup, the site was estimated to be 150 feet long by 100 feet wide. DA001Upper is located approximately 400 feet from DA001 along the short spur road. Visible debris present on the ground surface included a crushed battery, tire, and wire spool. The site is located on a small bench of approximately 40 feet by 40 feet and is bordered to the west by a steep slope. (See Figure 1.)

Contaminants of Concern

During the USAF's 2005 *Preliminary Assessment/Site Inspection (PA/SI)*, 2008 *Remedial Investigation (RI)*, and 2010 *Supplemental Sampling*, soil samples from DA001 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 bi-phenyls (PCBs), pesticides, herbicides, and Resource Conservation and Recovery Act (RCRA) metals. Soil borings were only able to be advanced to a depth of 3 to 5 feet before meeting refusal as they were installed using a hand auger and groundwater was not found to be present. The USFS conducted a separate investigation of DA001Upper, as documented in the 2013 *Final Report for the 2012 Investigation of Area 3 (Duncan Canal)*, and soil samples were collected and analyzed for the same parameters as DA001.

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

- DRO (DA001, DA001Upper)
- Lead (DA001)
- PCBs (DA001, DA001Upper)
- Chloroform (DA001)
- Chromium (DA001)

Cleanup Levels

The cleanup levels for operable unit DA001 were set in a Record of Decision (ROD) which was signed by the DEC, USAF, and USFS in May 2014. 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)(1). The cleanup level for chromium was set based through a determination of a naturally-occurring background concentration. Cleanup levels for PCBs, lead, and chloroform were based upon the default method two cleanup levels of 18 AAC 75.341, Table B1 for the Over 40-Inches of Precipitation Climate Zone.

In September 2018, the DEC, USAF, and USFS signed an Explanation of Significant Differences (ESD) which revised the cleanup levels for chromium and chloroform which were set in the ROD. The rationale for the revision of the chromium cleanup level was based upon analytical data collected in 2015 which demonstrated that the chromium present at the site was trivalent in nature, as opposed to hexavalent. The concentrations of chromium detected were below the default method two cleanup level of 18 AAC 75.341, Table B1 for the Over 40-Inches of Precipitation Climate Zone; thus, chromium was eliminated as a COC. The revision of the chloroform cleanup level stemmed from a change in the DEC cleanup level tables in 2016 which increased the default cleanup level for chloroform based upon updated toxicological parameters. The revised chloroform cleanup level for DA001 remained based upon the default method two cleanup level of 18 AAC 75.341, Table B1 for the Over 40-Inches of Precipitation Climate Zone. As all of the concentrations of chloroform found during the site characterization activities were below the revised cleanup level, chloroform was eliminated as a COC. All other cleanup levels as set forth in the ROD remained the same.

Table 1 – Approved Cleanup Levels for Operable Unit DA001

Contaminant	Soil (mg/kg)
DRO	8,300
Lead	400
PCBs (total)	1

mg/kg = milligrams per kilogram

Characterization and Cleanup Activities

The USAF conducted a PA/SI in 2006, a Site Investigation in 2009, and a RI in 2009 to identify and fully characterize the contamination present at the entire RRS facility. At DA001, a limited supplemental sampling effort was conducted in 2010 to further define the extent of PCB contamination. A Feasibility Study (FS) which evaluated several different remedial alternatives was

completed by the USAF and approved by ADEC in 2010. As elevated concentrations COCs regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) were found at DA001, the CERCLA process was followed for this operable unit. A ROD for DA001 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.

A Remedial Action Plan/Quality Assurance Project Plan (QAPP) encompassing the entire facility was approved by ADEC in 2014. As the cleanup actions at the other operable units took longer than anticipated and DA001 was not addressed in 2014. The cleanup contract was extended into 2015 and, at DA001, exploratory test pits were advanced with a small volume of contaminated soil removed during the second year. However, as the volume of contamination found exceeded the original estimate and it was decided to postpone the cleanup action at DA001 until the entire operable unit could be addressed in one field season. The *Final Summary of 2014-2015 Field Activities Report for Remedy Implementation*, dated July 2016, documents the results of the exploratory test pits and the contaminated soil which was removed at DA001.

In 2017, a DA001-specific QAPP was approved by ADEC and a site visit conducted to identify potential field effort concerns was attended by ADEC, USFS, USAF, and USAF contractors. Following the diversion of the existing streams at DA001, excavation of contaminated soil began. The original estimated boundaries of the contaminated area were 150 feet long by 100 feet wide (15,000 square feet) to a depth of 3 to 8 feet. The final excavation measured approximately 8,360 square feet and ranged from 1 to 12 feet below ground surface. Approximately 7,700 square feet, or 90% of the entire excavation footprint, was excavated to bedrock. All storm water which entered into the excavations was pumped into storage containers and treated on-site prior to being discharged away from the open excavation. (See Figure 2.) At DA001Upper, the final excavation dimensions measured 46 feet by 48 feet (1,900 square feet) and to a depth of 3 to 6 feet. Approximately 1,600 square feet, or 84% of the entire excavation footprint, was excavated to bedrock. (See Figure 3.) Confirmation samples were collected from all of the excavation sidewalls and only the excavation floors where soil was left in place. All analytical results from the confirmation samples met the approved cleanup levels. The excavations were partially backfilled and the ground surface sloped with an erosion control blanket and seed added to minimize erosion. More than 2,100 tons of non-hazardous and hazardous contaminated soil and debris was disposed of properly either at Columbia Ridge Landfill or the Chemical Waste Management's Subtitle C Landfill 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	No groundwater was present.
Surface Water Ingestion	Pathway Incomplete	Surface water in the vicinity of the site could be used for drinking water by outdoor recreationalists; however, as all of the contaminated soil was removed this pathway is incomplete.
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 DA001 has been cleaned up to concentrations below the approved cleanup levels suitable for residential land use. A notation that this operable unit 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.

As this is the final operable unit to be closed for the Duncan Canal RRS facility, site status for the main facility record will be updated on the Contaminated Sites Database. However, since one operable unit, SS006, was closed with institutional controls, the overall facility status will be updated to "Cleanup Complete – Institutional Controls.

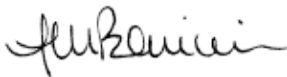
This determination is made in accordance with 18 AAC 75.380 and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to the environment.

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 ADEC's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Alaska Department of Environmental Conservation, P.O. Box 111800, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after ADEC 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
Project Manager

cc: Melinda Brunner, ADEC-CSP, Fairbanks
Linda Riddle, 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.

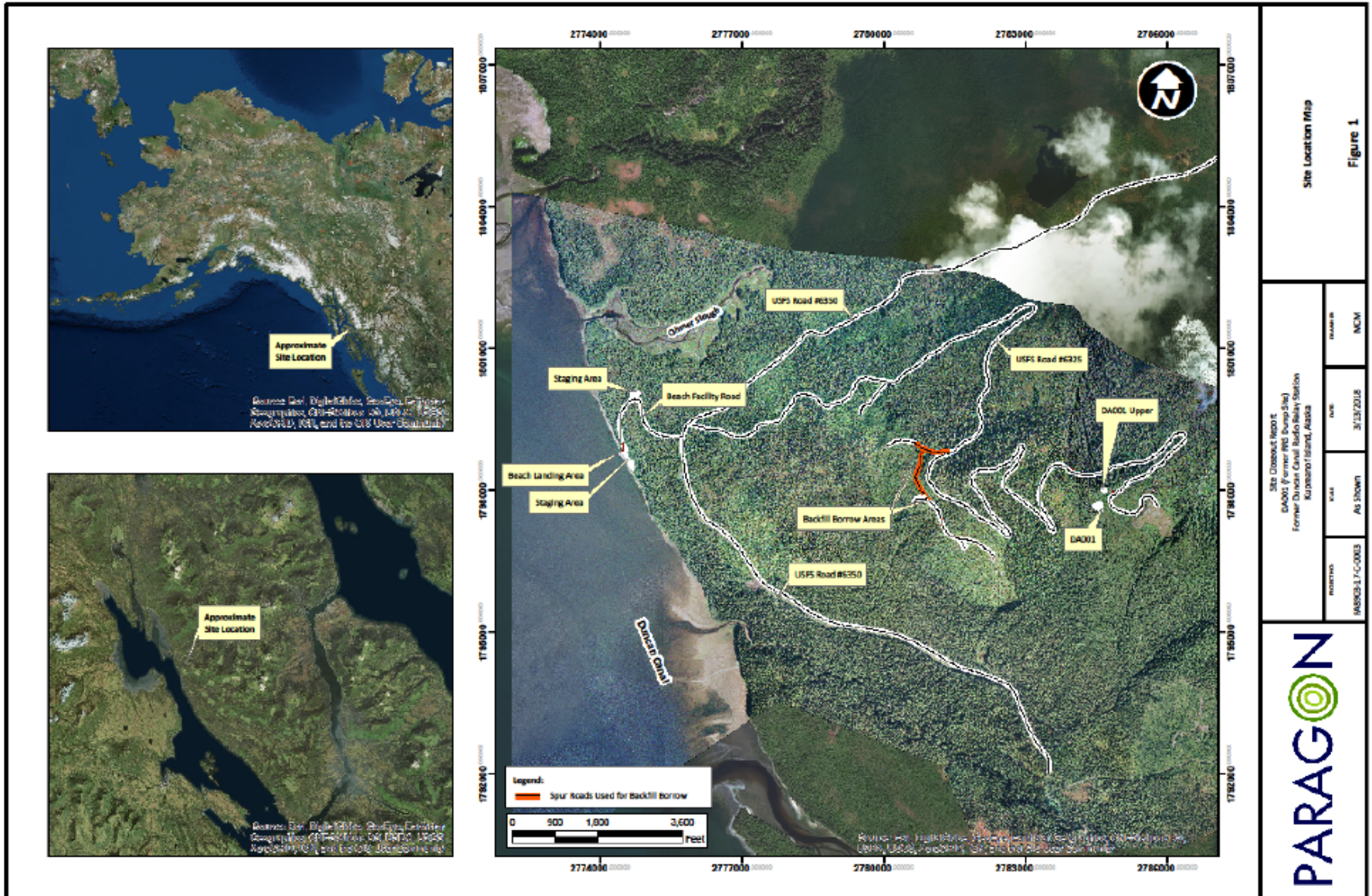
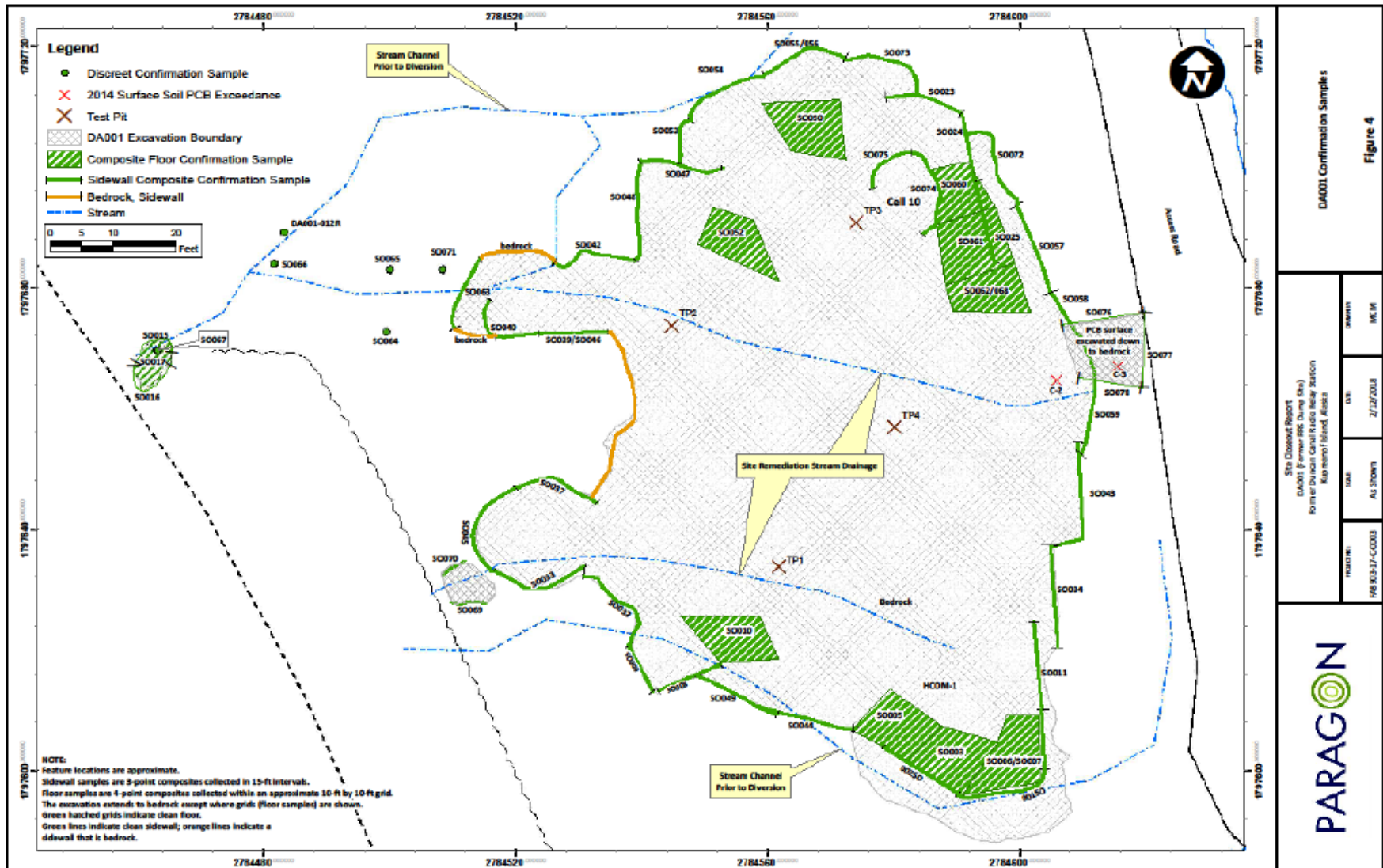


Figure 1: Site location. (Figure source: *Site Closeout Report – DA001 (Former RRS Dump Site)*, Paragon Professional Services. July 2018.)



DA001 Confirmation Samples
Figure 4

Site Closeout Report DA001 (Former RRS Dump Site) Former Duncan Canal/Inlets Near Station Kaktovik Island, Alaska		DATE 2/12/2018	DRAWN BY MCM
REVISION 168.003.01-C-003	DATE AS SHOWN		

PARAGON

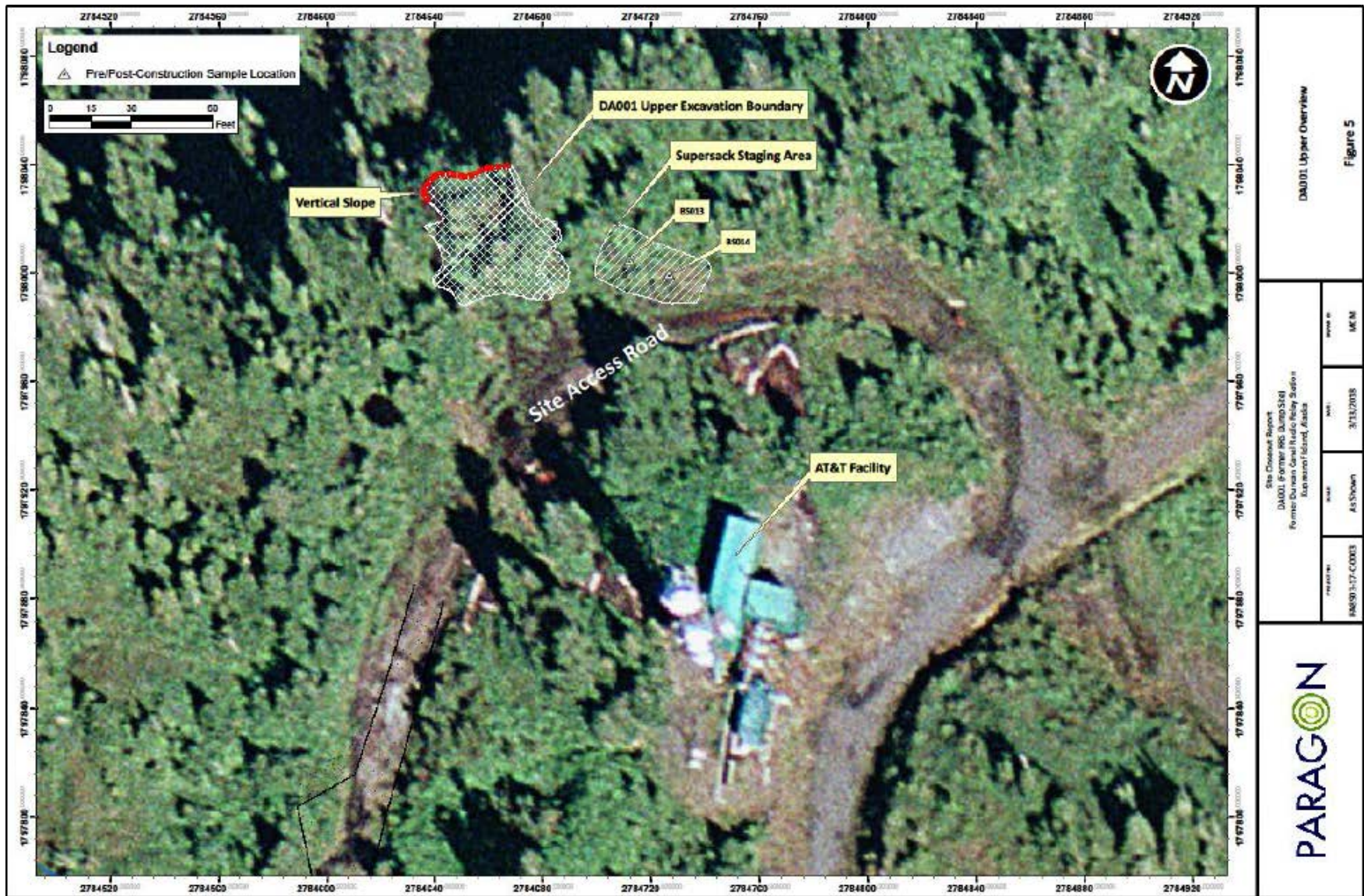


Figure 3: DA001 Upper excavation boundaries. (Figure source: *Site Closeout Report – DA001 (Former RRS Dump Site)*, Paragon Professional Services. July 2018.)