



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: 120.38.017

April 22, 2020

Ms. Mary Leith
City of Delta Junction
Post Office Box 229
Delta Junction, AK 99737-0229

Re: Decision Document: Delta Junction Trespass Shooting Range
Cleanup Complete Determination

Dear Ms. Leith:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC-CSP) has completed a review of the environmental records associated with the Delta Junction Trespass Shooting Range site in Delta Junction, 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 Delta Junction Trespass Shooting Range, which is located in the DEC-CSP office in Juneau, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:

Delta Junction Trespass Shooting Range
Richardson Highway
Delta Junction, Alaska

Name and Mailing Address of Contact Party:

Mary Leith
City of Delta Junction
Post Office Box 229
Delta Junction, Alaska 99737-0229

DEC-CSP Site Identifiers:

File No.: 120.38.017
Hazard ID.: 25391

Regulatory Authority for Determination:

18 Alaska Administrative Code (AAC) 75

Site Description and Background

The Delta Junction Trespass Shooting Range is located north of Delta Junction on Tract 8A which encompasses 14.634 acres of undeveloped land owned by the City of Delta Junction (CDJ). Additional undeveloped land owned by the Alaska Department of Natural Resources (DNR) is located to the south. The impact berm at the shooting range is located on both CDJ and DNR lands. Delta Concrete Products, Inc. operates to the north of the site. An unpaved access road off Richardson Highway leads to the site; however, vehicle access is blocked with large boulders.

For several decades, former dump site was used by area residents. In 1982, a soil berm was constructed on the road to the dump to block access. The original berm was 6 feet high and was used as the backstop for a trespass shooting range. In 1998 or 2000, the original berm was expanded as it was no longer blocking traffic. The 'new' berm was placed on the outside of the old berm and the height was raised to its current height of 12 feet, and another berm was added on the northern side. Originally, a cable fence was present on the northern side to allow access to authorized persons and the soil berm was placed in front of the fence. The southern side of the berm was part of the original construction and was built up during the expansion.

Contaminants of Concern

During the site characterization and cleanup activities at this site, soil samples were collected analyzed for metals. Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern at this site:

- Antimony
- Arsenic
- Lead

Cleanup Levels

Cleanup levels that apply to the in-situ soil this site are the 18 AAC 75.341, Table B1, default method two, most stringent exposure pathway value for the under 40-Inches of Precipitation Climate Zone. Lead is a primary compound in bullets and shot with arsenic and antimony added for strength and roundness and copper added as a coating or jacket. At this site, naturally-occurring concentrations of arsenic which exceed the cleanup level are present. Based on site characterization analytical results, copper was not found to be a contaminant of concern in in-situ soils.

The Resource Conservation and Recovery Act (RCRA) also sets forth criteria for determination of a characteristic hazardous waste for disposal purposes using the Toxicity Characteristic Leachate Procedure (TCLP). Also, in collaboration with the DEC-Solid Waste Program, the DEC-CSP developed a site-specific fate and transport model to demonstrate that disposal of the soil in the Delta Junction landfill would not cause an adverse impact to groundwater at the landfill. The DEC-Solid Waste Program required that in order for the soil to leave the site and be disposed of at the Delta Junction landfill, analytical sample results had to demonstrate that the total-metal concentrations in soil were below the maximum concentrations used in the fate and transport model and that the metals concentrations in the leachate were below both the RCRA criteria and concentrations used in the site-specific fate and transport leaching model. As copper was present due to bullet jackets, the DEC-Solid Waste Program requested that disposal criteria for copper also be calculated.

Table 1 – Approved Cleanup Levels

Contaminant	In-situ Soil 18 AAC 75.341, Table B1 (mg/kg)	RCRA Hazardous Waste Criteria (mg/L)	Modeled Leachate Disposal (mg/L)	Soil Disposal Maximum Concentrations (mg/kg)
Antimony	4.6	n/a	2.0	n/a
Arsenic	0.20	5.0	5.0	30.51
Copper	n/a	n/a	0.8	107.5
Lead	400	5.0	5.0	20,000

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

Characterization and Cleanup Activities

In 2016, EPA began a Targeted Brownfields Assessment (TBA) at the site and the unassociated nearby dump area. EPA conducted a site visit and noted that the berm was heavily overgrown with small trees and brush, and shotgun casings, clay target fragments, and other debris. In July 2017, EPA conducted another site visit and collected analytical samples at both the shooting range and dump areas. The EPA identified metals and semi-volatile organic compounds (SVOCs) as potential contaminants of concern associated with bullets and clay targets. The analytical results showed concentrations of antimony, arsenic, copper, and lead were present above their respective cleanup levels. Results from TCLP samples in the berm exceeded the RCRA requirements for arsenic and lead.

In 2018, the CDJ and the Delta Junction Trail Association (DJTA) submitted an application for DEC Brownfields Assessment and Cleanup (DBAC) services from the DEC-CSP Brownfields Program. In July 2018, DNR conducted a survey of the impact berm to determine the location of the property boundaries. The survey demonstrated that the majority of the berm is located on CDJ property. The survey also provided an estimate of the volume of soil in the entire berm as 320 cubic yards, with 210 cubic yards on CDJ property and 110 cubic yards on DNR property.

To provide additional information for the DBAC service process, in August 2018, DEC-CSP and DNR staff conducted a site visit to collect additional site characterization samples and meet with the CDJ and representatives from the DJTA. The DJTA provided an overview of their organization and the River Walk Trail project. DJTA shared that they had recently given another presentation of the project to the Delta Junction City Council and received approval to move forward with the project. DEC-CSP and DNR collected soil samples from behind the impact berm and range floor and found elevated concentrations of antimony, arsenic, and lead. Copper was not found at concentrations exceeding the cleanup levels.

In February 2019, DEC-CSP held a public comment period and public meeting to gather input on several cleanup alternatives for the site. The Analysis of Brownfield Cleanup Alternatives (ABCA) was finalized on March 13, 2019, and documented the rationale for the selection of the preferred cleanup alternative: *Excavation, Stabilization, and Off-Site Disposal*. DEC-CSP began developing a Corrective Action Work Plan which included a stabilization bench study and fate and transport leachate modeling

to calculate concentrations of metals in the soil and leachate which could be disposed of at the Delta Junction landfill without causing an adverse impact to groundwater, as required by DEC-Solid Waste Program.

In Spring 2019, CDJ and DJTA submitted an application for, and were awarded, additional DBAC services from the DEC-CSP Brownfields Program. In September 2019, DEC-CSP completed a final Corrective Action Work Plan. On October 7, DEC-CSP mobilized to the site to begin excavating, screening, and sieving the soil. Field activities were delayed due to cold weather and equipment issues. Sieving and screening of the soil proved to be challenging due to frozen soil and, following a concerted effort, all parties (DEC-CSP, DEC-Solid Waste Program, DNR, and CDJ) agreed that it would be acceptable to forego screening and sieving the soil as long as the confirmation sample results met the previously agreed upon requirements. DEC-CSP excavated the range floor and impact berm and collected confirmation analytical samples to ensure that all of the contaminated soil had been placed in the treatment area. Upon receipt of satisfactory sample results, DEC-CSP returned to the site and applied Maectite™, a stabilizing treatment product, to the entire pile. Eight primary and one duplicate samples of the treated soil were collected and analyzed for total-metals as well as using TCLP and Synthetic Precipitation Leaching Procedure (SPLP) for comparison with the disposal requirements. All of the sample results demonstrated that the soil and leachate met the disposal requirements. DEC-CSP returned to the site in early December and moved the soil to the Delta Junction landfill. Following the removal of all the treated soil, confirmation samples were collected from the ground surface using the incremental sampling methodology (ISM) approach. For the purposes of collecting confirmation samples, the site was divided into two decision units and a bulk sample of 30 increments was collected in triplicate from each decision unit and analyzed for lead. Each of the six samples was below the approved cleanup level. However, due to variability within the sample results, the calculated statistical 95% upper confidence limit (UCL) for the East End decision unit was 400 mg/kg and for the West End decision unit was 512 mg/kg.

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, 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 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 included in Table 2.

Table 2 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	No contamination remains in surface soil (0 to 2 feet below ground surface).
SubSurface Soil Contact	Pathway Incomplete	No contamination remains in the subsurface.
Inhalation – Outdoor Air	Pathway Incomplete	No contamination remains in the surface or subsurface.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	No contamination remains in the surface or subsurface.
Groundwater Ingestion	Pathway Incomplete	Groundwater at the site is not used for drinking water.
Surface Water Ingestion	Pathway Incomplete	Surface water is not used as a drinking water source in the vicinity of the site.
Wild and Farmed Foods Ingestion	Pathway Incomplete	No contamination remains in the surface or subsurface.
Exposure to Ecological Receptors	Pathway Incomplete	No contamination remains in the surface or subsurface.

Notes to Table 2: “De-Minimis Exposure” means that in ADEC’s judgment receptors are unlikely to be adversely 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 institutional control in place limiting land or groundwater use and there may be a physical barrier in place that prevents contact with residual contamination.

ADEC Decision

Soil contamination at the site has 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 from a site that is subject to the site cleanup rules or for which a written determination from the department has been made under 18 AAC 75.380(d)(1) that allows contamination to remain at the site above method two soil cleanup levels or groundwater cleanup levels listed in Table C requires DEC-CSP 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, 555 Cordova Street, Anchorage, Alaska 99501-2617, within 20 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 at (907) 766-3184 or annemarie.palmieri@alaska.gov.

Sincerely,



Anne Marie Palmieri
Project Manager

cc: Spill Prevention and Response, Cost Recovery Unit
Mindy Eggleston, DJTA
Judy Hicks, DJTA
Patty Burns, DNR-Fairbanks
Neil Lehner, DEC-Solid Waste Program