



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 No: 900.38.001

May 2, 2018

Via Electronic Mail Only

Beth Astley
CEPOA-PM-C-FUDS
P.O. Box 6898
JBER, AK 99506-6898

Re: Haines-Fairbanks Pipeline MP 458.75 – Gate Valve (GV) 58
Cleanup Complete

Dear Ms. Astley:

The Alaska Department of Environmental Conservation (ADEC) has reviewed the United States Army Corps of Engineers' (USACE) Project Closure Report for the Haines-Fairbanks Pipeline MP 458.75 – Gate Valve (GV) 58: Hazard ID: 4474. 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 as long as no new information becomes available that indicates residual contamination poses an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the Haines-Fairbanks Pipeline MP 458.75 – GV 58 which is located in the offices of the ADEC in Juneau, Alaska. The site history and cleanup actions were described in the draft Project Closure Report Containerized Hazardous, Toxic, or Radioactive Waste Project # F10AK1016-17 Haines-Fairbanks Pipeline Milepost 458.75 Gate Valve #58 Near Dot Lake, Alaska, dated February 2018, and are included in this document as an attachment. Cleanup levels for the site are based upon the ADEC Method 2 migration to groundwater soil cleanup levels for the under-40 inch zone (18 AAC 75.340).

GV58 is located near Alaska Highway milepost 1347.75 on the north side of the Robertson River crossing. The nearest community to the site is Tanacross, located approximately 18 miles southeast (as the crow flies). The current site use is presumed recreational although it is not a known recreational site. Although there were no documented petroleum releases, petroleum contamination in the soil was discovered at the vault in 2001. As a result, 20 cubic yards of contaminated soil was excavated and disposed of in 2007. Further investigation found that petroleum contaminated soil remained belowground and in 2017, approximately 41 tons of petroleum contaminated soil was excavated and

disposed of. All of the confirmation soil samples had petroleum concentrations below the most stringent ADEC cleanup levels.

Contaminants of Concern

During the site characterization and cleanup activities at this site, samples were collected from soil and analyzed for lead, diesel range organics (DRO), residual range organics (RRO), gasoline range organics (GRO), benzene, toluene, ethylbenzene, and total xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), and metals. Groundwater was not encountered during investigation and excavation activities and surface water was not affected by the contamination. Based on these analyses, the following contaminant was detected above the applicable cleanup levels and is considered a Contaminant of Concern at this site:

- Diesel Range Organics (DRO)

The migration to groundwater cleanup levels for soil for the under-40 inch precipitation zone apply to the site.

Table 1 – Approved Cleanup Level

Contaminant	Soil (mg/kg)
DRO	250

mg/kg = milligrams per kilogram

Following investigation and cleanup at the site, exposure to the remaining contamination was evaluated using ADEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. The remaining petroleum contamination (DRO) on site meets the most stringent of 18 AAC 75.340 cleanup levels, therefore, ADEC has determined that residual contaminant concentrations meet the human health cumulative risk criteria for residential land use.

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. Although DRO is not used in this calculation, 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	De-Minimis Exposure	Contamination on site meets the most stringent ADEC cleanup levels.
Sub-Surface Soil Contact	De-Minimis Exposure	Contamination on site meets the most stringent ADEC cleanup levels.
Inhalation – Outdoor Air	De-Minimis Exposure	There is no contamination in the surface soil above inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	There are no buildings on site.
Groundwater Ingestion	Pathway Incomplete	Groundwater was not affected by the contamination.
Surface Water Ingestion	Pathway Incomplete	Surface water was not affected by the contamination.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals.
Exposure to Ecological Receptors	Pathway Incomplete	Contamination is not expected to affect ecological receptors.

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.

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 off-site requires ADEC 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.
3. Groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use. Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

May 2, 2018

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 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) 465-5207, or email at Danielle.Duncan@alaska.gov.

Sincerely,



Danielle Duncan
Project Manager

cc: Spill Prevention and Response, Cost Recovery Unit

Enclosure: draft Project Closure Report Containerized Hazardous, Toxic, or Radioactive Waste Project # F10AK1016-17 Haines-Fairbanks Pipeline Milepost 458.75 Gate Valve #58 Near Dot Lake, Alaska.

Project Closure Report

Containerized Hazardous, Toxic, or Radioactive Waste
Project # F10AK1016-17
Haines-Fairbanks Pipeline Milepost 458.75
Gate Valve #58
Near Dot Lake, Alaska

Draft

February 2018



Prepared By:
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1.0 INTRODUCTION

The Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS) authorizes the cleanup of contamination resulting from past military activities at sites no longer owned by the Department of Defense (DOD). A hazardous, toxic, and radioactive waste (HTRW) project (F10AK1016-01) was authorized for the Haines-Fairbanks Pipeline (HFP) in 2002. The Haines-Fairbanks Pipeline was formerly used by the DOD and determined to be eligible for cleanup under the DERP-FUDS. In 2012, a revised Inventory Project Report (INPR) was completed to modify the existing -01 HTRW project and add 13 CON/HTRW projects (F10AK1016-02 through -14). As part of the 2012 HFP INPR revision, the F10AK1016-13 CON/HTRW project was established for Haines-Fairbanks Pipeline Milepost 458.75 (Gate Valve #58), 343.9 (Scottie Creek Scraper Trap), and 555 (Tenderfoot Creek). In 2015, a follow-on INPR revision was completed in part to separate the Gate Valve #58 site into a newly-created and stand-alone CON/HTRW project (F10AK1016-17).

Based on the results of environmental investigations and contaminated soil removal actions conducted at the Gate Valve #58 site between 2001 and 2017, the F10AK1016-17 CON/HTRW project of the Haines-Fairbanks Pipeline is being recommended for closure.

The United States Army Corps of Engineers (USACE) is an agent for the Department of Defense and has been assigned the responsibility of coordinating activities at Formerly Used Defense Sites. This project closure report is issued by the United States Army Corps of Engineers, Alaska District (USACE-AK); the lead agency for the Haines-Fairbanks Pipeline FUDS.

The Gate Valve #58 site is listed on the Alaska Department of Environmental Conservation (ADEC) Division of Spill Prevention and Response Program website under the name “Haines-Fairbanks Pipeline MP 458.75 – GV 58”, with Hazard Identification (ID) #4474 and File ID #900.38.001.

2.0 SUMMARY OF SITE CONDITIONS

2.1 Haines-Fairbanks Pipeline History

The USACE was responsible for pipeline design and construction. The HFP, its five pumping stations, and two associated bulk storage terminals were constructed by private contractors with oversight from USACE over a period of 22 months from 1953 to 1955. The HFP was built to transport fuels from the port at Haines, Alaska, to the military bases in interior Alaska. The pipeline was run by federal civilians supervised by the Petroleum Division on Fort Richardson. Four types of fuel were transported through the pipeline including diesel, automotive gas, jet fuel, and aviation gas; however the majority of the fuel transported was jet fuel (JP4). Much of the 8-inch diameter pipeline was laid on the ground surface, although approximately 96 miles of the HFP near Delta Junction, Alaska, and most of the 42 miles of HFP between the Haines Fuel Terminal and the Canadian border were buried. Other portions of the HFP were also buried, although these intervals were short and intermittent.

Originally, the HFP was constructed with five pump stations located at Haines and Tok, Alaska, and Border, Haines-Junction, and Donjek in Yukon Territory, Canada. Bulk fuel storage facilities were also constructed at Haines and Tok, Alaska. Six new pump stations were added to the HFP in 1962 in response to increased military fuel demands. The new pump stations were located at Blanchard River, Destruction Bay, and Beaver Creek in Yukon Territory, Canada, and at Lakeview, Sears Creek, and Timber, Alaska.

The Haines-to-Tok section of the pipeline was shut down in July 1971. In 1973, the Tok-to-Eielson section of the HFP was deactivated. The bulk fuel storage facilities in Haines and Tok, Alaska, continued to operate until 1979, when the U.S. Army closed the Tok fuel storage facility. The Tok-to-Fairbanks section of the HFP was briefly reactivated to pump the remaining fuel from the station. All of the fuel was removed from the Tok terminal in July 1979 and the pipeline was shut down. Most of the unused pipeline has been removed or salvaged by non-military entities.

The HFP was plagued with leaks from corrosion, ice damage, and vandalism (e.g., bullet holes) throughout its operational history. Underground portions of the pipeline experienced damage from broken welds and at least one accidental breach from borehole drilling. Ice plugs formed in the pipeline during system startup and resulted in spills at a number of sites; however, most of these ice plugs were located in Canadian sections of the pipeline (CRREL 1972).

2.2 Site Location and Background

The Haines-Fairbanks Pipeline extends a total of 626 miles from Haines, Alaska, through the Canadian provinces of British Columbia and the Yukon Territory, through Tok, Alaska, and up to Fairbanks, Alaska. The pipeline route generally parallels the Haines Highway from Haines, Alaska, to Haines Junction, Yukon Territory. It then follows the Alaska Highway to Delta Junction, Alaska, continuing along the Richardson Highway to Fort Wainwright, Alaska. Approximately 52 percent of the pipeline route lies within United States territory.

Pipeline Milepost 458.75 (Gate Valve #58)

The Gate Valve #58 site is located at Pipeline Milepost 458.75 near Alaska Highway Milepost 1347.75 on the north side of the Robertson River crossing. Global positioning system (GPS) coordinates of the site are 63.50265° North Latitude and 143.83157° West Longitude. No known releases are associated with this site.

3.0 REMOVAL ACTIVITIES

Several environmental investigations and cleanup activities have occurred at various locations along the HFP since its closure in 1973. The most recent activities concerning the Gate Valve #58 site occurred in 2001, 2007, 2008, and 2017.

USACE-AK conducted a limited investigation of the Gate Valve #58 site in 2001. The valve and vault were successfully located and a petroleum odor was noted within the vault. Two surface soil samples (6-8 inches deep) were collected beneath the floor of the valve box along the south

side and analyzed for gasoline-range organics (GRO), diesel-range organics (DRO), residual-range organics (RRO), benzene, toluene, ethylbenzene, xylene (BTEX), and lead. Both samples contained DRO in excess of the ADEC cleanup level, with concentrations of 335 milligrams per kilogram (mg/kg) and 450 mg/kg (USACE 2001).

CH2M HILL completed a limited removal action and soil sampling effort at the Gate Valve #58 site in 2007. An excavator was used to expose the partially buried vault, upon which it was observed that the gate valve had been previously salvaged. An excavation measuring 4 feet wide, 12 feet long, and 11 feet deep was completed beneath the former gate valve location and approximately 20 cubic yards of fuel-impacted soil were removed and disposed of. The concrete vault was also removed during the effort. A total of five soil samples were collected as the excavation progressed and analyzed for GRO, DRO, RRO, BTEX, polycyclic aromatic hydrocarbons (PAHs), and metals. All samples exceeded the ADEC soil cleanup level for arsenic, although these detections are assumed to be naturally occurring. The excavation floor sample at 4 feet below ground surface (bgs) had a DRO concentration of 1,300 mg/kg. However, the final floor sample of the excavation (11 feet bgs) did not register any contaminant concentrations above applicable cleanup levels, with the exception of arsenic. The extent of fuel impacts was successfully delineated vertically and laterally in all directions, with the exception of the north wall and additional investigation was recommended (CH2M HILL 2008).

USACE-AK completed six rapid optical screening tool (ROST) probe points at the Gate Valve #58 site in 2008. Probe depth ranged from 16.5 to 24 feet bgs. Two ROST probes (GV58-02 and GV58-05) registered slightly elevated laser-induced fluorescence (LIF) signatures of potential fuel. The effective LIF values (1.0% and 1.3%, respectively) were low and of limited vertical extent and no soil sampling was conducted. Based on the results of the ROST effort, the majority of contaminated soil appeared to have been removed during the 2007 CH2M HILL excavation effort and no further investigation was recommended (USACE 2010). However, the ADEC recommended that additional investigation be conducted to evaluate the north wall of the CH2M HILL excavation.

Bristol Environmental Remediation Services, LLC (Bristol) completed a soil removal action at the site in 2017. The excavation was conducted at the former gate valve location and measured approximately 8 feet wide, 10 feet long, and 10 feet deep. A total of 40.79 tons of fuel-impacted soil was removed and all confirmation soil samples were below applicable ADEC soil cleanup criteria. Based on the results of this effort, the site was recommended for closure with no further action (Bristol 2018).

4.0 SUMMARY OF REMEDY

Based on the results of the aforementioned investigation efforts and cleanup activities, USACE-AK has recommended that no further action is required at the Gate Valve #58 site (F10AK1016-17). All soil in excess of applicable ADEC soil cleanup levels has been removed and there is no remaining risk to human health and the environment at the site. This project closure determination may be reviewed and modified in the future if any new information becomes

5.0 REFERENCES

USACE, 2018. Gate Valve No. 58 Contaminated Soil Removal Action Report, January. Prepared by Bristol Environmental Remediation Services, LLC. (F10AK101617_02.13_0500_a)

CRREL, 1972. Preliminary Investigations of Petroleum Spillage, Haines-Fairbanks Military Pipeline, Alaska, April. (F10AK101601_01.09_0501_a)

USACE, 2008. 2007 Haines-Fairbanks Pipeline Site Investigation. July. Prepared by CH2MHill. (F10AK101601_01.09_0505_a)

USACE, 2001. Trip Report, Haines-Fairbanks Pipeline, Alaska. July. (F10AK1016--_01.13_0503_a)

USACE, 2010. 2008 ROST Site Investigation Report Final, March. (F10AK101601_01.09_0503_a)

Figures



<p>LOCATION AND VICINITY MAPS</p>			
<p>0 650 1,300 FEET</p>	<p>U.S. Army Corps of Engineers Alaska District</p>	<p>GATE VALVE #58 - F10AK1016-17</p>	<p>FIGURE 1</p>
		<p>NEAR DOT LAKE, ALASKA</p>	

Attachment 1

Declaration of Project Closure Decision

DECLARATION OF PROJECT CLOSURE DECISION
For
FORMERLY USED DEFENSE SITE CON/HTRW PROJECT
PIPELINE MILEPOST 458.75 (GATE VALVE #58 - F10AK1016-17)
NEAR DOT LAKE, ALASKA

STATEMENT OF BASIS

Authority for the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS) for Containerized Hazardous Toxic Radiological Waste (CON/HTRW) projects is derived from the Defense Environmental Restoration Program, 10 United States Code (USC) 2701-2707. The decision to close out the CON/HTRW project (F10AK1016-17) is based on the 2018 Project Closure Report and the results of site investigations and removal activities completed on behalf of the United States Army Corps of Engineers – Alaska District (USACE-AK) in 2001, 2007, 2008, and 2017.

SITE DESCRIPTION AND HISTORY

The Haines-Fairbanks Pipeline (HFP) extends a total of 626 miles from Haines, Alaska, through the Canadian provinces of British Columbia and the Yukon Territory, through Tok, Alaska, and up to Fairbanks, Alaska. The pipeline route generally parallels the Haines Highway from Haines, Alaska, to Haines Junction, Yukon Territory. It then follows the Alaska and Richardson Highways to Delta Junction, Alaska, continuing along the Richardson Highway to Fort Wainwright, Alaska. Approximately 52 percent of the pipeline route lies within United States territory.

An original HTRW project (F10AK1016-01) was authorized for the HFP in 2002 after completing a Findings and Determination of Eligibility (FDE). The results of the FDE indicated that the Haines-Fairbanks Pipeline was formerly used by the Department of Defense (DOD) and eligible for cleanup under the DERP-FUDS. In 2012, a revised Inventory Project Report (INPR) was completed to modify the existing -01 HTRW project and add 13 CON/HTRW projects (F10AK1016-02 through -14). As part of the 2012 HFP INPR revision, the F10AK1016-13 CON/HTRW project was established for Haines-Fairbanks Pipeline Milepost 458.75 (Gate Valve #58), 343.9 (Scottie Creek Scraper Trap), and 555 (Tenderfoot Creek). In 2015, a follow-on INPR revision was completed in part to separate the Gate Valve #58 site into a newly-created and stand-alone CON/HTRW project (F10AK1016-17).

DESCRIPTION OF THE SELECTED REMEDY AND IMPLEMENTATION

Based on the results of environmental investigations in 2001 and 2008, as well as soil removal actions in 2007 and 2017, USACE-AK has determined that no further action is required at the Gate Valve #58 site.

DECLARATION

In accordance with the Defense Environmental Restoration Program for Formerly Used Defense Sites, the U.S. Army Engineer District, Alaska, has completed all CON/HTRW activities at the Haines-Fairbanks Pipeline Milepost 458.75 – Gate Valve #58 FUDS (F10AK1016-17), located near Dot Lake, Alaska. This Declaration of Project Closure Decision supports the conclusion

that all known sources of CON/HTRW have been remediated. No further CON/HTRW actions are required by the DOD at this project location. This decision may be reviewed and modified in the future if any new information becomes available which indicates the presence of eligible CON/HTRW that may cause a risk to human health or the environment.

This Declaration of Project Closure Decision has been prepared and approved by the undersigned in accordance with the FUDS Program Policy, Engineer Regulation (ER) 200-3-1, May 10, 2004.

_____ Date _____

MICHAEL S. BROOKS
COL, EN
Commanding