



THE STATE
of **ALASKA**
GOVERNOR SEAN PARNELL

Department of Environmental
Conservation

DIVISION OF SPILL PREVENTION & RESPONSE
Contaminated Sites Program

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File No: 1508.26.012

September 15, 2012

Mr. Al Clough, Director
Southeast Regional Office
Alaska Dept Transportation & Public Facilities
6860 Glacier Highway
Juneau, Alaska 99801-7997

RE: Decision Document: Corrective Action Cleanup Complete Determination
ADOTPF Haines Maintenance Station, Hazard ID 25136

Dear Mr. Clough,

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has completed a review of the environmental records associated with the ADOTPF Haines Maintenance Station located on Haines Highway in Haines, Alaska. Based on the information provided to date, the DEC has determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment, and this site will be closed.

This decision is based on the ADOTPF Haines Maintenance Station Contaminated Site administrative record, which is located in the offices of the Alaska Department of Environmental Conservation (DEC) in Juneau, Alaska. This letter summarizes the decision process used to determine the environmental status of this site and provides a summary of the regulatory issues considered in the Corrective Action Complete Determination.

Site Name and Location

ADOTPF Haines Maintenance Station
Mile 2 Haines Highway
Haines, Alaska, 99827

Address of Contact Party

Mr. Al Clough, Director
ADOT&PF SE Regional Office
6860 Glacier Hwy
Juneau, Alaska 99801-7997

DEC Site Identifiers

Hazard ID 25136
File: 1508.26.012
UST Source Area 77285

Regulatory Authority Determination

Title 18 Alaska Administrative Code 78

Background

In November, 1999, a site assessment was conducted for the closure by removal of two regulated underground storage tanks (USTs) at the Department of Transportation and Public Facilities (DOT) highway maintenance station in Haines. Site activities for the UST assessment and the subsequent release investigation and corrective action included the collection of soil and water samples that were delivered under custody to a DEC approved laboratory and were analyzed by DEC approved methods for benzene, toluene, ethylbenzene and total xylenes (BTEX) and gasoline (GRO) and diesel (DRO) range petroleum hydrocarbons.

Characterization Activities

During the site assessment of the two 2,000-gallon USTs, the dispenser and all associated piping, petroleum impacted soil was encountered. During the release investigation a volume estimated at fifty cubic yards of contaminated soil was separated from clean soil by field screening during the excavation to remove and decommission the USTs. Stained soil began to appear two feet below the ground surface and continued to groundwater depth which was at a seasonally high level. The saturated condition made access to contaminated soil at greater depths difficult and beyond the scope of the UST project.

Soil

Observation of the sidewalls concluded that the greatest amount of contaminated material was located in the southeast corner of the excavation. The estimated volume of remaining soil contamination was 20 cubic yards. Four confirmation samples and a field duplicate were collected from soil in the sidewalls near the water table interface at the limits of the excavation. The depth of confirmation sample collection was four feet below the ground surface. The highest level of contamination remaining was detected in sample CL01 collected in the southeast corner of the excavation. The levels in each of the other confirmation soil samples were below the DEC Method Two Migration to Groundwater (M2 MTG) soil cleanup levels listed in Title 18 Alaska Administrative Code (AAC) 75.341 Table B1 and B2.

Table 1 displays the highest levels detected in soil remaining at the site, the sample depth, and the M2 MTG cleanup levels. Levels shown in bold are above the applicable cleanup levels and represent the contaminant(s) of concern.

Hydrocarbon range and compounds of concern	Greatest level in soil mg/kg	Sample name and depth below the surface	M2 MTG Cleanup Levels mg/kg
GRO	290	CL01 at 4 feet	260
DRO	550	CL01 at 4 feet	230
Benzene	0.070	CL01 at 4 feet	0.025
Toluene	5.5	CL01 at 4 feet	6.5
Ethylbenzene	6.9	CL01 at 4 feet	6.9
Total Xylenes	49	CL01 at 4 feet	63

Table 1 the greatest levels of analytes detected in remaining soil at the site.

With DEC approval, the contaminated soil recovered in the 1999 UST corrective action in Haines was transported to a remediation facility in Juneau where the soil was thermally treated to meet the regulatory soil cleanup levels. The release investigation sample of the contaminated soil before it was remediated had GRO of 450 mg/kg, DRO of 3,500 mg/kg, and total BTEX of 6.236 mg/kg.

Groundwater

In 2007, DEC initiated an investigation of groundwater for petroleum contamination by contracting with Hoefler Consulting Group to install and sample four monitor wells near the former USTs on the north side of the main building. The locations were spaced to determine both the direction of groundwater flow and the probable extent of residual petroleum contamination from the UST release. The wells were completed to average depths of six feet below ground surface. An estimated two-thirds of the well screen interval is immersed in groundwater when hydraulic levels are low. Based on the measured water levels and the surveyed elevation of well casings, the direction of groundwater flow was estimated to be generally to the west.

Wells MW-1, MW-2, MW-3 and MW-4 produced sufficient volume of groundwater for sample collection. Samples were sent to an approved DEC laboratory to analyze for GRO, DRO, RRO and BTEX using DEC approved methods. Results of laboratory analysis of samples from the new wells are displayed in Table 2. Initial characterization indicates that groundwater contamination at the site is present below the respective 18 AAC 75.345 Table C regulatory levels for each analyte.

Analyte	Units	MW-1	MW-1 duplicate	MW-2	MW-3	MW-4	Table C level
GRO	mg/L	0.064	0.0713	0.0136	0.0113	0.0108	1.3
DRO	mg/L	0.435	0.585	0.111	0.0846	0.0862	1.5
RRO	mg/L	0.222	0.227	0.158	0.153	0.145	1.1
Benzene	ug/L	0.184	0.164	<0.150	<0.150	<0.150	5
Toluene	ug/L	<0.620	<0.620	<0.620	<0.620	<0.620	1,000
Ethylbenzene	ug/L	1.11	1.12	<0.620	<0.620	<0.620	700
Total Xylenes	ug/L	4.56	4.41	<0.620	<0.620	<0.620	10,000

Table 2 Results of 2007 groundwater sampling event in milligrams per liter (mg/L)

In 2010, DEC contracted Shannon & Wilson (S&W) to sample the monitor wells. All wells were located at the site, but MW-2 was not sampled because it was dry but samples and a field duplicate were successfully collected from each of the other wells. Samples were sent to an approved DEC laboratory for GRO, DRO, RRO and BTEX analyses. Sample results are displayed in Table 3; results in bold text are results exceeding regulatory levels and represent contaminants of concern for groundwater at this site.

The second set of characterization samples indicated that groundwater contamination at the site is present below the 18 AAC 75.345 Table C regulatory levels for each analyte with the exception of DRO and RRO. See Table 3.

Analyte	Units	MW-1	MW-1 duplicate	MW-2	MW-3	MW-4	Table C
GRO	mg/L	<0.100	<0.100	NS	<0.100	<0.100	1.3
DRO	mg/L	21.8	15.6	NS	<0.714	<0.714	1.5
RRO	mg/L	1.11	0.933	NS	<0.446	<0.446	1.1
Benzene	ug/L	<0.5	<0.5	NS	<0.5	<0.5	5
Toluene	ug/L	<2	<2	NS	<2	<2	1,000
Ethylbenzene	ug/L	<2	<2	NS	<2	<2	700
Total Xylenes	ug/L	<2	<2	NS	<2	<2	10,000

Table 3 Results of 2010 groundwater sampling event in milligrams per liter (mg/L)

In 2011, DEC contracted with Oasis Environmental (Oasis) to sample the monitor wells but made two changes to the sampling plan. Due to the low number of analytes detected in the 2010 sampling event, the list of analytes was reduced to DRO and RRO. The second change was that two samples from each well would be collected. One sample from each well was pre-treated with silica gel (SG) to remove naturally occurring organic compounds that often elute in the DRO range, causing an upward bias in the result. The other sample was analyzed without pre-treatment to allow for comparison of the results.

In July 2011, Oasis was not able to locate MW-2 and MW-4 was not sampled because it was dry, however, samples and a field duplicate were successfully collected from wells MW-1 and MW-3. Samples were sent to an approved DEC laboratory to analyze for DRO and RRO using DEC approved methods. Results of the laboratory analysis of two samples run in parallel are displayed in Table 4. Due to the low volume of water that was collected from MW-1 for the field duplicate, the sample was diluted for analysis resulting in higher than expected reporting limits for results that were below instrument detection. The third set of characterization samples indicated that groundwater contamination at the site is below the respective 18 AAC 75.345 Table C regulatory levels for each analyte.

Analyte	Units	MW-1	MW-1 duplicate	MW-2	MW-3	MW-4	Table C
DRO with SG	mg/L	1.30	<2.5	NS	<0.245	NS	1.5
DRO no SG	mg/L	1.51	<2.5	NS	<0.245	NS	1.5
RRO with SG	mg/L	<0.481	<5.0	NS	<0.490	NS	1.1
RRO no SG	mg/L	<0.481	<5.0	NS	<0.490	NS	1.1

Table 4 Results of 2011 groundwater sampling event in milligrams per liter (mg/L)

DEC finds the results of the 2011 sampling event as a good indication that natural occurring organic compounds in the shallow groundwater can influence DRO analysis on samples. The release investigation of groundwater contamination required by 18 AAC 78.235, has shown that, as required in 18 AAC 78.600 – 18 AAC 78.625, the petroleum contamination of groundwater at the site is at levels that are stable or declining and are below Table C cleanup levels.

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, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 5 as Attachment A to this letter.

Cumulative Health Risk Calculation

Pursuant to 18 AAC 75.325 (g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be calculated. With data currently available, the DEC has determined that petroleum compounds remaining at the referenced site following cleanup are in concentrations that do not present a cumulative risk to human health.

DEC Decision

The cleanup actions to date have served to excavate and adequately remove contaminated soil from the site. Based on the information available, DEC has determined no further assessment or cleanup action is required. There is no longer a risk to human health or the environment, and this site will be designated as closed on the Department's database.

Although a Corrective Action Complete determination has been granted, DEC approval is required for off-site soil disposal in accordance with 18 AAC 78.600(h). It should be noted that movement or use of potentially contaminated soil in a manner that results in a violation of 18 AAC 70 water quality standards is unlawful.

This determination is in accordance with 18 AAC 78.276(f) and does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or 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 99801, 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 99801, 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 contact the DEC project manager, Bruce Wanstall at (907) 465-5210.

Approved By:

Recommended By:


Sally Schlichting
SE Field Ops Unit Manager


Bruce Wanstall
Environmental Program Specialist

Attachment A: Table 5

Attachment A: Exposure Pathway Evaluation

Table 5 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Surface soil contamination has been removed and remediated off-site.
Sub-Surface Soil Contact	De-minimis exposure	Soil contamination remains in the subsurface between MTG and human health levels but the UST site is below ground and future excavation is not planned.
Inhalation – Outdoor Air	Pathway incomplete	Contamination remains in the subsurface, but no volatile compounds are present above outdoor inhalation screening levels
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Buildings are present but volatile petroleum compound levels are below laboratory instrument detection.
Groundwater Ingestion	De- minimis exposure	Petroleum levels in groundwater are below Table C cleanup levels. Groundwater does not influence a current or future drinking water source. Haines Public Works supplies potable water to the area.
Surface Water Ingestion	Pathway Incomplete	Surface water hydraulically connected to the site is not of sufficient quality or quantity for a potable water source.
Wild Foods Ingestion	Pathway Incomplete	The site and the urban area are not a wild foods harvest area and none of the contaminants have potential to bioaccumulate in flora or fauna.
Exposure to Ecological Receptors	Pathway Incomplete	Highly valued ecological receptors are present in off-site water bodies but groundwater samples are below the Table C cleanup levels.

Notes to Table 1: “De-minimis exposure” means that in DEC’s judgment receptors are unlikely to be affected by the minimal volume of remaining contamination. “Pathway incomplete” means that in DEC’s judgment contamination has no potential to contact receptors. “Exposure controlled” means there is an administrative mechanism in place limiting land or groundwater use, or a physical barrier in place that deters contact with residual contamination.