



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: 2100.26.322

November 1, 2013

Jon Clark
MOA Maintenance and Operations
P.O. Box 196650
Anchorage, AK 99519-6650

Re: Decision Document; MOA Fire Station #6
Corrective Action Complete

Dear Mr. Clark:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with Municipality of Anchorage (MOA) Fire Station #6 located at 1307 Patterson Street in Anchorage. 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.

This decision is based on the administrative record for the MOA Fire Station #6 which is located in the offices of the ADEC in Anchorage, 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.

Site Name and Location:

MOA Fire Station #6
1307 Patterson Street
Anchorage, AK 99504

Name and Mailing Address of Contact Party:

Municipality of Anchorage
Jon Clark
MOA Maintenance and Operations
P.O. Box 196650
Anchorage, AK 99519

DEC Site Identifiers:

ADEC Reckey: 1994210034101
File: 2100.26.322
Hazard ID: 23692

Regulatory Authority for Determination:

18 AAC 75 and 18 AAC 78

Background

The subject property is a fires station located in the MOA. From 1978 to 1994, MOA installed two regulated underground storage tanks (USTs), one 1,000 gallon diesel UST and one 500 gallon gasoline UST and associated piping and a dispenser for fueling vehicles. In 1994 during the removal of the two USTs petroleum contamination was noted in soil.

Contaminants of Concern

During the investigations at this site, soil and groundwater samples were analyzed for the following constituents: gasoline range organics (GRO); diesel range organics (DRO) benzene, toluene, ethylbenzene, and xylene (BTEX); total lead, and polycyclic aromatic hydrocarbons (PAHs). Based on these analyses and knowledge of the source area, the following Contaminants of Concern were identified in soil and/or groundwater:

- DRO

Cleanup Levels

The default soil cleanup levels for this site are established in 18 AAC 75.341, Method Two, Table B2, Migration to Groundwater Pathway for the Under 40 inch Zone.

<u>Contaminant</u>	<u>Site Cleanup Level (mg/kg)</u>
• DRO	250

The default groundwater cleanup levels for this site are established in 18 AAC 75.345 Table C Groundwater Cleanup Levels.

<u>Contaminant</u>	<u>Site Cleanup Level (mg/L)</u>
• DRO	1.5

Site Characterization and Cleanup Actions

In October 1994, the 1,000 gallon and 500 gallon USTs, associated piping, and dispenser were removed from the site. Approximately 51 cubic yards of soil were excavated and stockpiled on site and later removed from the site for thermal treatment. Confirmation soil samples from the excavation base contained DRO up to 6,200 mg/kg. No groundwater was encountered during the excavation. A passive vapor extraction system (PVES) was installed in the excavation area where the former diesel UST and dispenser were located. The bottom of the excavation was coated with a mixture of nitrogen, phosphorous, and potassium, at a ratio of 10:1:1. The imported soil used as backfill was also mixed with the nutrients to enhance the natural biodegradation of the hydrocarbons.

In December 2012, in order to evaluate the extent of the diesel-impacted soil and groundwater one soil borehole was advanced in the vicinity of the former diesel USTs and completed as a groundwater monitoring well (MW-1). DRO was detected up to 23.0 mg/kg in the soil sample and DRO was detected at a concentration less than 0.382 mg/L in the groundwater sample.

Cumulative Risk Calculation

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 do not pose a cumulative human health risk.

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 1.

Table 1 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contamination is not present in surface soil (0 to 2 feet below ground surface).
Sub-Surface Soil Contact	De Minimis Exposure	Remaining contaminated subsurface soil is below migration to groundwater cleanup levels.
Inhalation – Outdoor Air	De Minimis Exposure	Remaining contaminated soil is below the outdoor inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Volatile contaminants capable of causing risk via this pathway are not present at the site.
Groundwater Ingestion	Pathway Incomplete	Petroleum contamination is not present in the groundwater and is not expected to migrate to the groundwater.
Surface Water Ingestion	Pathway Incomplete	Surface water is not used as a drinking water source in this area.
Wild Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals.
Exposure to Ecological Receptors	Pathway Incomplete	There are no complete exposure pathways to ecological receptors at the site.

Notes to Table 1: “De-minimis exposure” means that in ADEC’s judgment receptors are unlikely to be affected by the minimal volume of remaining contamination. “Pathway incomplete” means that in ADEC’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.

ADEC Decision

Remaining petroleum contamination in soil is below approved cleanup levels. This site will receive a “Closed” 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 78.600(h). 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. (See attached site figure.)
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 78.276(f) and does not preclude ADEC 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.

Sincerely,

A handwritten signature in cursive script that reads "Katrina Chambon". The signature is written in dark ink and is positioned below the word "Sincerely,".

Katrina Chambon
Environmental Program Specialist