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: 2542.38.027

September 5, 2017

Andrew Sorum
U.S. Army Corps of Engineers Alaska
CEPOA-PM-C (FUDS)
P.O. Box 6898 (Elmendorf AFB)
JBER, AK 99506-0898

Re: **Decision Document: Alaska Commercial Co. – Margaret Bay**
Cleanup Complete Determination

Dear Mr. Sorum:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Alaska Commercial Co. – Margaret Bay site (the Site) located approximately 100 feet (ft) south of the Dutch Harbor Post Office in the City of Unalaska. 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 Site, which is located in the ADEC office in Anchorage, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:
Alaska Commercial Co. – Margaret Bay
~100 ft south of Dutch Harbor Post Office
Margaret Bay Subdivision
Unalaska, AK 99685

Name and Mailing Address of Contact Party:
Andrew Sorum
USACE
CEPOA-PM-C (FUDS)
P.O. Box 6898 (Elmendorf AFB)
JBER, AK 99506-0898

DEC Site Identifiers:
File No.: 2542.38.027
Hazard ID.: 1903

Regulatory Authority for Determination:
18 AAC 75

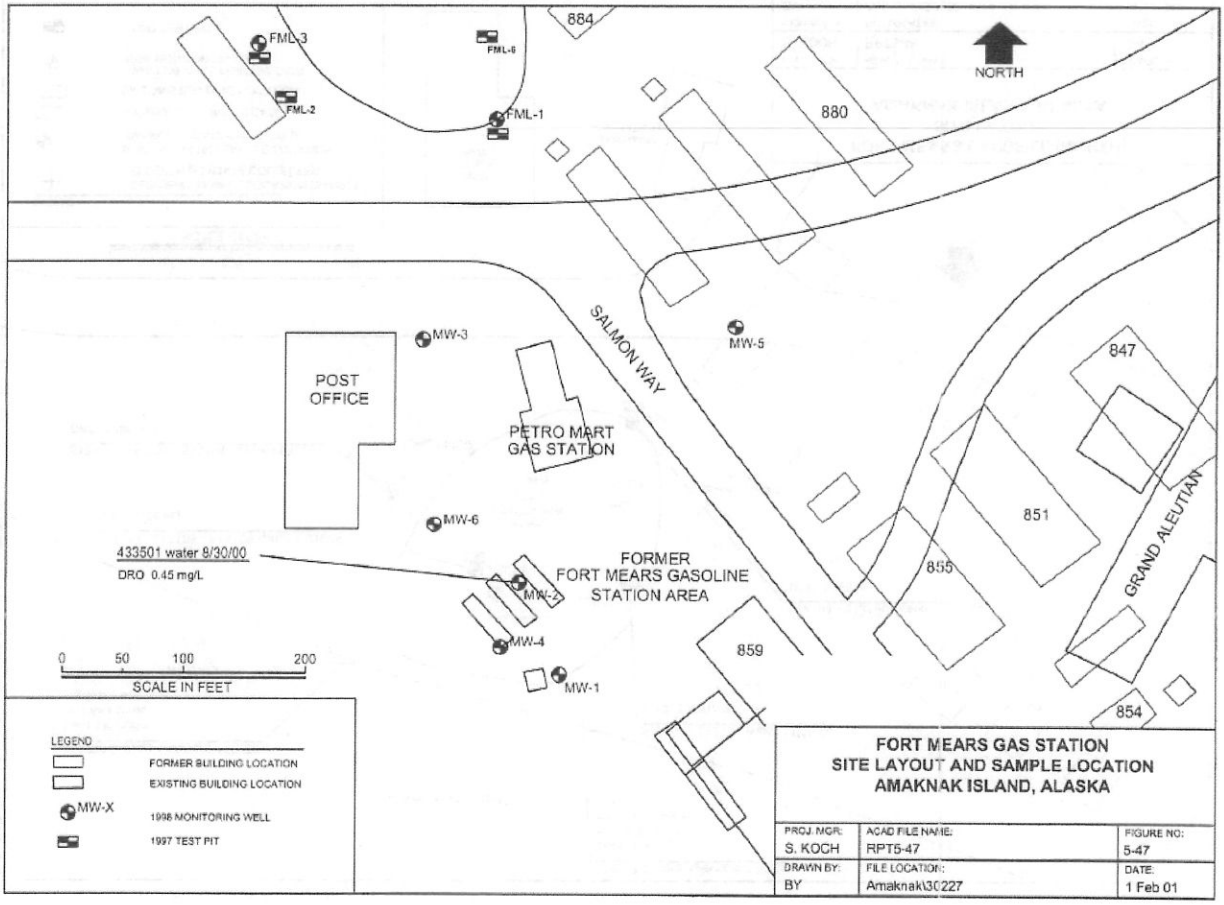
Site Description and Background
Amaknak and Unalaska Islands are located in southwestern Alaska in the Fox Islands group of the Aleutian Islands chain. The islands, which are connected via bridge, are located approximately 800 air miles southwest

of Anchorage, Alaska. During World War II (WWII), the U.S. military established several Army posts and a Naval Operating Base (NOB) in the Dutch Harbor/Unalaska area, with construction beginning in July 1940. A naval air station was commissioned and formally named Fort Mears in September 1941. Most of the large facilities built around Margaret Bay were left intact when the military withdrew in 1947.

The Site is located on the southwest side of Salmon Way between Airport Beach Road and Sea Lion Circle, approximately 100 ft south of the Dutch Harbor Post Office (as shown in Figure 1). The Site is partially capped with asphalt and part of the AC Value Center parking lot. A large bedrock knoll separates the Site from the Sea Lion Circle. To the east of the knoll is an unpaved area that is sparsely vegetated and has a gravel surface. In the Margaret Bay vicinity to the southeast, the unconsolidated deposits were typically observed to be either shot-rock fill material or naturally occurring beach gravels. The ground surface at the Site is relatively flat at an elevation of about 15 ft above mean sea level (msl).

The groundwater at the Site appears to be between 13 and 15 ft below ground surface (bgs), and within the tidal influence zone. The groundwater in the area is not currently used as drinking water source. The closest surface water is Margaret Bay located at approximately 400 ft southeast of the Site. The current land owner is Ounalashka Corporation, but the Site has been leased to Alaska Diversified Corporation and subleased to Alaska Commercial Company.

Figure 1 - Site Layout and Sample Locations



During site preparation work for building the AC store in early 1990's, abandoned underground storage tanks (USTs) and fuel-contaminated soil were identified. Research on the Site indicated that a WWII Fort Mears gas station had been present on the property. The ten 6,000-gallon USTs associated with the gas station were confirmed as nine gasoline tanks and one diesel fuel tank. The USTs were used to service motor vehicles and were removed along with 2,950 cubic yards (cy) of petroleum-contaminated soil which was taken offsite and thermally treated in 1996. Confirmation samples were taken in undisturbed soil along the perimeter of the excavation, with the detections of gasoline range organics (GRO), diesel range organics (DRO) and lead.

Contaminants of Concern

The 1996 soil samples were collected from a total of 18 sample locations within the excavated area. Samples were analyzed for GRO, DRO, residual range organics (RRO), volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs) and lead. Analytical results showed elevated levels of GRO, DRO, and lead at the Site. In 2000, groundwater samples were also collected from six monitoring wells and DRO was the only contaminant that was detected. Based on these analyses, the following chemicals were originally considered Contaminants of Concern (COCs) at the Site:

- GRO
- DRO
- Lead

Cleanup Levels

The most restrictive ADEC Method Two soil cleanup criteria are the migration to groundwater levels at 260 for GRO, 230 mg/kg for DRO, and 400 mg/kg for lead, as established in 18 AAC 75.341 (d) Table B2. The applicable groundwater cleanup criteria are 2.2 mg/L for GRO, 1.5 mg/L for DRO and 0.015 mg/L for lead, as established in 18 AAC 75.345 (b) Table C.

None of the soil or groundwater detections found at the Site has ever exceeded applicable cleanup levels.

Table 1 – Approved Cleanup Levels

Contaminant	Soil (mg/kg)	Groundwater (mg/L)
GRO	260	2.2
DRO	230	1.5
lead	400	0.015

mg/kg = milligrams per kilogram
mg/L = milligrams per liter

Characterization and Cleanup Activities

Investigations at the Site were performed in 1996, 1998, and 2000. Activities included UST removals and contaminated soil excavations, soil borings and associated soil sampling, monitoring well installation, and groundwater sampling.

In 1996, ten USTs were removed from the Site. A total of 2,950 cy of petroleum-contaminated soil from the excavation was removed and treated. A total of 18 confirmation soil samples were collected within the excavation area and analyzed for GRO, DRO, RRO, VOCs, SVOCs and lead. Although groundwater was observed intermittently in the excavation at about 14 to 15 ft bgs, groundwater was not sampled because of concerns regarding access, quality of sample and safety. The excavation was backfilled with clean materials.

Analytical results showed GRO, DRO, RRO, methylene chloride and lead detections. The GRO concentrations ranged from 1.2 to 89 mg/kg, with the maximum detection at sample location FM-01. The DRO concentrations ranged from 4.5 to 181 mg/kg, with the maximum detection at sample location FM-02. The RRO concentrations ranged from 26.8 to 36.7 mg/kg, with the maximum detection at FM-01. Lead was found at concentrations ranging from 2.3 to 30.1 mg/kg, with the maximum detection at FM-01. Methylene chloride was also found at concentrations ranging from 0.0021 to 0.0057 mg/kg, with the maximum detection at FM-01. All detections fell below the applicable cleanup criteria.

In 1998, six soil borings were drilled and converted to monitoring wells MW-1 through MW-6. The borings were completed to depths between 15 and 27.5 ft bgs. Generally, two samples per boring were submitted to the laboratory. Slight brown staining and possible impacted soils were encountered in the six borings between 5 to 15 ft bgs. One boring (B2) located near the former gasoline station UST exhibited free product and heavily stained soils from about 10 to 20 ft bgs.

Soil samples selected for analytical testing were determined by field screening. In general, samples were analyzed for DRO, RRO, VOCs, polycyclic aromatic hydrocarbons (PAHs), and lead. Selected samples were also analyzed for GRO. A total of 16 soil samples were collected for analysis. Geotechnical samples were also obtained at selected locations to gather data for fate and transport modeling. Analytical results of soil found DRO, RRO, PAHs and lead detections. The DRO concentrations ranged from 11 to 170 mg/kg. The RRO concentrations ranged from 25 to 150 mg/kg. Low levels of PAHs were also confirmed. The pyrene concentrations ranged from 0.0022 to 1.1 mg/kg. The lead concentrations ranged from 1.2 to 37.6 mg/kg.

During well development, it was noted that purge water from FMGS-MW2 (located near the former USTs area) exhibited a strong fuel odor and had a visible sheen. Groundwater samples were collected from six monitoring wells. Analytical results indicated that DRO was the only contaminant detected with concentrations ranging from 0.14 to 0.37 mg/L.

In 2000, a groundwater sample was collected from monitoring well FMGS-MW2. The water was clear with no apparent sheen or odor. No contaminants were detected that exceeded regulatory criteria. All six groundwater monitoring wells were decommissioned.

Soil confirmation sampling conducted from 1996 to 2000 indicated that contaminant removal to levels below ADEC Method Two cleanup criteria were achieved at the Site. In addition, none of the compounds detected in groundwater exceeded the applicable cleanup criteria.

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.

The total cumulative carcinogenic risk is $9.7*10^{-11}$, less than the limitation of $1*10^{-5}$. The cumulative hazard indexes is $5.9*10^{-4}$, less than the limitation of one. Based on risk evaluation results, 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 3.

Table 2 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Ten USTs and POL-impacted soil were removed in 1996. The excavation was down to 13-15 ft bgs and backfilled with clean material. The Site is partially capped with pavement.
Sub-Surface Soil Contact	De-Minimis Exposure	GRO, DRO, RRO and lead remain in sub-surface soil in a limited area, but are below ingestion cleanup levels.
Inhalation – Outdoor Air	De-Minimis Exposure	GRO, DRO, RRO and lead remain in a limited area in the sub-surface soil, but are below inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	De-Minimis Exposure	Methylene chloride was the only volatile compounds detected at low levels in 1996 and remains at depths of 13 ft or deeper. It was not detected in any soil samples collected during 1998 investigation which indicated the contamination is limited in the previous excavation area at deep depth.
Groundwater Ingestion	De-Minimis Exposure	DRO concentration remains onsite below cleanup level and groundwater is not used as drinking water currently and highly unlikely in the future due to sea water intrusion.
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	De-Minimis Exposure	Lead has the potential to bioaccumulate in plants or animals. But it remains at depths of 13 ft or deeper and the potential risk for plants or animals is low.
Exposure to Ecological Receptors	Pathway Incomplete	Lead is the only chemical detected at the Site that has the potential to bioaccumulate. It was detected in the soil at depths 13 ft or deeper and never detected in groundwater. So the pathway is not complete for both aquatic and terrestrial 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.

ADEC Decision

Soil and groundwater contamination at the Site have 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.

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 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, 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) 269-0298, or email at linda.liu@alaska.gov.

Sincerely,

Linda Liu, PG
Environmental Project Manager

cc: Spill Prevention and Response, Cost Recovery Unit
Kimberly DeRuyter