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: 1515.38.002

June 16, 2014

Via Electronic and Regular Mail
Edward Sam Thomas, Jr.
Organized Village of Kasaan
P.O. Box 26 - Kasaan
Kasaan, AK 99950

Re: Decision Document: Former Kavilco Bunkhouse - Kasaan
Cleanup Complete Determination

Dear Mr. Thomas:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has completed a review of the environmental records associated with the contaminated site named Former Kavilco Bunkhouse - Kasaan. 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 letter memorializes the site history, cleanup actions, and standard conditions for long-term site management.

Site Name and Location:
Former Kavilco Bunkhouse - Kasaan
400 Ft ESE of Kasaan Dock; ~12 Mi SE of Thorne Bay
Kasaan, Alaska
Latitude 55.536802 N, Longitude -132.396433 W

Name and Mailing Address of Contact Party:
Edward Sam Thomas, Jr.
Organized Village of Kasaan
P.O. Box 26 - Kasaan
Kasaan, AK 99950

DEC Site Identifiers:
File No: 1515.38.002
Hazard ID: 25940

Regulatory Authority for Determination:
18 AAC 75

Site Description and Background

This site (Former Kavilco Bunkhouse - Kasaan) is located in Kasaan and is a former cannery facility that operated from about 1902-1950 (Figure 1). It was purchased by Kavilco Inc. in 1974 and in about 1980 the cannery buildings were removed. The former bunkhouse is located on a bench approximately 190 ft. east of Kasaan Bay (Figure 2). In August of 2012, during utility construction activities (trench digging) on the north side and near the foundation of the former Kavilco bunkhouse, petroleum-contaminated soil was discovered.

Figure 1: Location of Kasaan, AK.

Figure 2: Former Kavilco bunkhouse, Kasaan, AK.

Contaminants of Concern

The following petroleum contaminants of concern, those above approved cleanup levels, were identified during the course of the site investigations summarized in the Characterization and Cleanup Activities section of this decision letter.

- Diesel Range Organics (DRO)

Cleanup Levels

Although cleanup criteria for soil for this site were not formally proposed and approved the most stringent cleanup level - the migration to groundwater pathway for the over 40-inch precipitation zone, established in 18 AAC 75.341(d), Table B2 applies. DRO was detected in soil above the approved Method 2 Migration to Groundwater pathway level, but below the ingestion - direct contact cleanup level. The cleanup levels for the site are shown in Table 1.

Contaminant	Method 2 – Over 40" zone Soil (mg/kg)
DRO	230 (Migration to Groundwater)
DRO	8,250 (Ingestion)

Table 1: Applicable Cleanup Levels

If a complete pathway to surface water was present at the site, 18 AAC 70 Water Quality Standards would apply for total volatile and semi-volatile constituents. However, this pathway is incomplete based on the distance (0.2 miles NW) to surface water, and the limited extent and concentration of contaminant levels of DRO remaining on site.

Characterization and Cleanup Activities

Characterization and cleanup activities conducted under the regulatory authority of the Contaminated Sites Program for the former Kavilco bunkhouse began in October of 2012. Characterization and mitigation of petroleum contamination began in November of 2012. These activities are described below.

After discovery of petroleum contamination during construction activities near the former Kavilco bunkhouse, R&M was hired by the Organized Village of Kasaan to characterize the contamination. R&M submitted six samples from four different areas of the site for various analyses including DRO, RRO, and BTEX (Figures 3 and 4). Two of these samples (2 and 2A (duplicate)) had an averaged concentration of 740 mg/kg, which exceeded the Method 2 Soil Cleanup level of 230 mg/kg for migration to groundwater as outlined in Table B2 of 18 AAC 75.341(d). After receipt of these results, DEC staff visited the site with R&M staff in November. During this site visit it was determined that because the DRO contamination was of a relatively low level and because it was present in the subsurface near the foundation on the north side of the building, contaminated soil should remain in place. However, DEC requested that all upland surface drainages be redirected away from the north side of the building. In addition, DEC requested that gutters be installed on the building and a barrier be placed over the soil on the north side of the building. R&M would report back to DEC with documentation and pictures once work was completed.

In April of 2014, DEC received the Site Inspection Notes from R&M Engineering which outlined in pictures mitigation efforts on the property. These activities are summarized below:

1. Installation of a drainage ditch along the east side of the upper roadway that is functioning and channeling uphill runoff along the driveway to a culvert where runoff is diverted across the driveway and into a rocky catch basin followed by buried culvert and Typar wrapped drain rock to a ditch along Bay Road.
2. On the north side of the building and lower parking area, Typar was placed before backfilling with aggregate and shotrock.
3. A culvert was installed cross the upper roadway and area north of the building to divert uphill drainage.
4. Gutters were not installed on the building.
5. Although no pictures of the liner around the building were provided as it was buried, R&M Engineering stated that it was installed previous to capping with clean shotrock and aggregate.

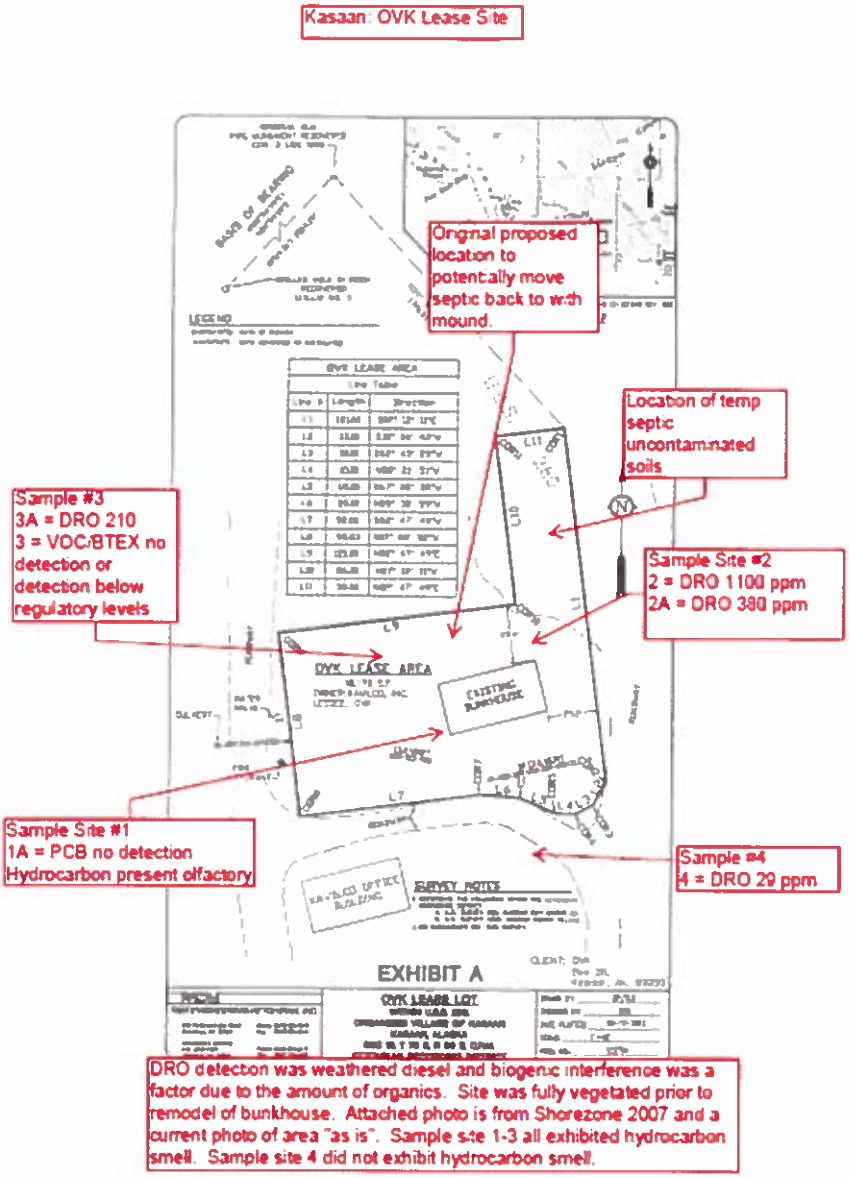

Figure 3: Sample locations and summary results.

Sample	BTEX (µg/kg)	SVOC (µg/kg)	PCBs (µg/kg)	DRO (mg/kg)	RRO (mg/kg)
1A	-	-	ND	-	-
2	-	45	-	1100	83
2A Duplicate	-	-	-	380	56
3	ND	-	-	-	-
3A	-	-	-	210	ND
4	-	-	-	29	110

Figure 4: Tabulated analytical results. Samples taken from 2-4 ft. Samples in red (2 and a duplicate, 2A) exceed Method 2 Soil Cleanup level for migration to groundwater. ND = none detected.

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 such 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 records, ADEC has determined that residual contaminant concentrations do not pose a cumulative human health risk.

Exposure Pathway Evaluation

Following investigation 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 or Pathway Incomplete. A summary of this pathway evaluation is included in Table 2.

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Remaining concentrations of petroleum hydrocarbons in soil are below the surface at approximately 2-4 ft. below ground surface.
Sub-Surface Soil Contact	De-Minimis	Remaining concentrations of petroleum hydrocarbons in soil are at concentrations below ingestion cleanup levels.
Inhalation – Outdoor Air	De-Minimis	Remaining concentrations of petroleum hydrocarbons in soil are below the surface and at concentrations below inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	De-Minimis	Remaining soil contamination is below inhalation cleanup level.
Groundwater Ingestion	Pathway Incomplete	Although soil contamination remains above the soil migration to groundwater cleanup level, drinking water in the area comes from surface water.
Surface Water Ingestion	Pathway Incomplete	Nearest surface water is marine water and the site is not expected to impact surface drinking water sources.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Remaining soil contamination is below the ingestion cleanup level and does not pose a significant risk of bioaccumulation in plants and animals.
Exposure to Ecological Receptors	De-Minimis	Remaining soil contamination is below the ingestion cleanup level and does not pose a significant risk to ecological receptors.

Table 2: Exposure Tracking Model results

Notes to Table 2: "De-Minimis Exposure" means that in ADEC's judgment receptors are unlikely to be 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 administrative mechanism in place limiting land or groundwater use, or a physical barrier in place that deters contact with residual contamination.

ADEC Decision

Soil sample results indicated that DRO contamination in soil remains above the migration to groundwater cleanup level at a concentration of approximately 740 mg/kg, but is in de minimis in extent and below the ingestion and inhalation cleanup levels. In addition, this contamination in soil is below the surface (2-4 ft.) and limited to the northeast corner of the building. As a result, the subsurface soil exposure pathway is complete but de minimis. For these reasons, 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 75.325. 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 in the state of Alaska is protected for aquaculture use. In the event that an aquaculture facility uses groundwater from this site in the future, additional testing may be required to ensure that aquatic life criteria under 18 AAC 70 are not exceeded.

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 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 feel free to contact me at (907) 465-5207.

Sincerely,

Danielle Duncan
Project Manager

cc: Robert Badgett, PE, R&M Engineering – Ketchikan Inc., via electronic mail
Sally Schlichting, Environmental Program Manager, via electronic mail
Response Fund Administration, Cost Recovery Unit, via electronic mail