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: 2230.26.001

December 17, 2013

Victor Appolloni
Alaska Mental Health Trust Land Office
2600 Cordova Street, Suite 100
Anchorage, Alaska 99503

Re: Decision Document: Hourglass Lake
Corrective Action Complete Determination

Dear Mr. Appolloni:

The Alaska Department of Environmental Conservation (ADEC) has reviewed the environmental records for the Hourglass Lake site. This decision letter memorializes the site history, cleanup actions, and standard conditions for long-term site management. No further remedial action is required.

Site Name and Location:
Hourglass Lake
Hourglass Lake Lot C12
Big Lake, AK 99652

Name and Mailing Address of Contact Party:
Victor Appollini
Alaska Mental Health Trust Land Office
2600 Cordova Street, Suite 100
Anchorage, AK 99503

DEC Site Identifiers:
File No: 2230.26.001
Hazard ID: 22965

Regulatory Authority for Determination:
18 AAC 75 and 18 AAC 78

Site Description and Background

The site was operated by the Federal Aviation Administration (FAA) from the 1960's until the 1980's. Two buildings were constructed at the site, a caretaker's home and a shop building. A 1,000 gallon heating oil underground storage tank (UST) and a 500 gallon heating oil UST served the caretakers home and the shop building, respectively. A third 1,000 gallon diesel UST was also located on site. The property was transferred to the Department of Natural Resources once the FAA ceased operations. The Alaska Mental Health Trust Land Office acquired the property and

discovered the tanks while preparing the land to be sold. The tanks were removed in 2003 and appeared to be in good condition. There have been no reports of releases at the site.

One drinking water well is located on site. Surface water in a wetland is located 200' east and Hourglass Lake is located 300' east of the former UST locations. Groundwater is located approximately 13' below ground surface. The onsite drinking water well is screened to 56' below ground surface.

Contaminants of Concern

During the investigations at the site, soil and water samples were analyzed for DRO, residual range organics (RRO), gasoline range organics (GRO), volatile organic compounds (VOC) including benzene, toluene, ethylbenzene, and xylenes (BTEX), and polynuclear aromatic hydrocarbons (PAH). Based on these analyses and knowledge of the source area, the following Contaminants of Concern were identified in soil:

- Diesel Range Organics (DRO)

Cleanup Levels

DRO were detected in soil above the migration to groundwater cleanup levels established in 18 AAC 75.341 (d), Table B2. No other analytes were detected in soil or groundwater above Method 2 cleanup levels.

Table 1 – Approved Cleanup Levels

Contaminant	Soil (mg/kg)
DRO	250

mg/kg = milligrams per kilogram

Characterization and Cleanup Activities

The three USTs were decommissioned on June 30, 2003. Approximately 200 gallons of diesel was removed from the regulated 1,000 gallon UST and 100 gallons of heating oil was removed from the unregulated 1,000 gallon and 500 gallon heating oil USTs. Excavated soil was stockpiled on site. No evidence of contamination was encountered at the heating oil tank USTs and so the excavated soil was used as backfill once the tanks were removed. Soil from the regulated 1,000 gallon UST excavation was temporarily stockpiled onsite. One sidewall and one floor confirmation sample were collected from the excavation and no analytes were detected above cleanup levels. One composite sample was collected from the stockpile and analytical results reported DRO at 752 mg/kg. The excavation was backfilled with clean material.

A release investigation was conducted in September 2010 to determine the extent of contamination in soil and groundwater resulting from the 1,000 gallon diesel UST. One soil boring was advanced to

15' below ground surface just outside the excavation and soil samples were collected for field screening at 2.5' intervals. Two analytical samples and one duplicate were collected at the highest PID readings in the boring. Two samples were collected from soil stockpiled during the UST removal. One analytical sample was collected from drill cuttings. The soil boring was completed as a monitoring well and a groundwater sample was collected from the monitoring well and on site drinking water well. No analytes were detected above cleanup levels in groundwater. DRO was detected above cleanup levels in the stockpiled soil at 299 mg/kg and in subsurface soil at 341 mg/kg.

Stockpiled soil was removed from the site in 2011 and disposed at the Mat-Su Borough landfill. The groundwater monitoring well was decommissioned according to ADEC guidance on November 26, 2013.

Cumulative Risk Evaluation

Pursuant to 18 AAC 78.600(d), 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.

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	Pathway Incomplete	Contamination is not present in surface soil (0 to 2 feet below ground surface).
Sub-Surface Soil Contact	De-Minimis Exposure	Contamination remains in the sub-surface, but is below direct contact cleanup levels
Inhalation – Outdoor Air	Pathway Incomplete	Contamination remains in the sub-surface, but is below inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Volatile compounds were not detected in soil or groundwater with the exception of xylenes in groundwater which was detected at 0.00212 mg/L, two orders of magnitude below target levels for vapor intrusion.

Groundwater Ingestion	De-Minimis Exposure	Groundwater contamination is not present above cleanup levels. Analytical results from a drinking water well approximately 50' from the excavation did not have exceedences of Table C cleanup levels.
Surface Water Ingestion	Pathway Incomplete	Surface water is located over 200' from the site. It is not known if surface water is used as a drinking water source. Groundwater samples collected in 2010 did not indicate the groundwater was impacted by site 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 likely impacting ecological receptors as the source has been removed and groundwater is not impacted.

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

Remaining petroleum contamination in soil is below inhalation and ingestion cleanup levels. Contamination is not impacting groundwater and the risk is considered de-minimis. 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.

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 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.

If you have questions about this closure decision, please feel free to contact me at (907) 269-3056.

Sincerely,

MDooley

Meghan Dooley
Environmental Program Specialist