

DEPT. OF ENVIRONMENTAL CONSERVATION

DIVISION OF SPILL PREVENTION AND RESPONSE
CONTAMINATED SITES PROGRAM

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File: 2314.26.019

November 22, 2011

Dave Gottschalk
Environmental Compliance Manager
Kenai Peninsula Borough
144 North Binkley Street
Soldotna, Alaska 99669

Re: ADEC Decision Document; Kenai Peninsula Borough Homer Maintenance Shop
Corrective Action Complete Determination

Dear Mr. Gottschalk:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Kenai Peninsula Borough Homer Maintenance Shop site located at 638 East Pioneer Avenue, Homer, Alaska. 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 at this time.

This decision is based on the administrative record for this site, which is located in the offices of the ADEC in Soldotna, 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 this Corrective Action Complete Determination.

Introduction

Site Name and Location:

Kenai Peninsula Borough Homer Maintenance Shop
638 East Pioneer Avenue
Homer, Alaska 99603

Property Legal Description:

Township 6 South, Range 13 West, Section 17 and 20, Seward Meridian, New Homer High School No. 2 Tract 3, according to Plat No. 87-11, in the Homer Recording District, Third Judicial District, State of Alaska.

Landowner:

Kenai Peninsula Borough

ADEC Site Identifiers

ADEC Reckey: 1992230036502

ADEC File Number: 2314.26.019

Hazard ID: 23217

Regulatory authority under which the site is being cleaned up:

18 AAC 75 and 18 AAC 78

Background

This site was developed in 1941 by the Alaska Road Commission and became the Bureau of Public Roads facility in 1948. The site was reconstructed as a State of Alaska Department of Public Works Highway Maintenance Garage in the mid to late 1960's. In 1967 the site was officially transferred to the State of Alaska. In 1985 the Kenai Peninsula Borough (KPB) acquired the property and currently still owns this property. The KPB currently owns and operates a KPB Maintenance Shop on this land. The site currently consists of one large shop building, one small shop building with adjoining storage, and a perimeter fence around the property line. In 1990, two 3,000-gallon Underground Storage Tanks (USTs), one diesel and one regular gasoline, were removed. In 1992, one 1,500-gallon non-regulated heating fuel tank and one 500-gallon regulated waste oil UST were also removed. A more detailed history of this site is contained within ADEC's project file for this site, which is available for public review.

Site Characterization and Cleanup Actions

During the removal of two 3,000-gallon USTs, one diesel and one regular gasoline in August of 1990, petroleum contaminated soil and groundwater was encountered, with a petroleum sheen being observed on the groundwater at 7 feet below ground surface (bgs). Approximately 180 cubic yards of contaminated soil was excavated and temporarily stockpiled on the Homer High School parking lot. Side wall samples detected TPH at 39.8 to 915 ppm, benzene at 0.072 to 0.203 ppm, toluene at 58.5 ppm, ethylbenzene at 64.5 ppm, and total xylenes at 329.3 ppm. The water sample taken in the excavation detected benzene at 0.0132 ppm. Total depth of the excavation was approximately 8.5 feet bgs. These stockpiled soils were later moved to a storage cell at the Homer Bailer Facility in July of 1991, and subsequently approved for use at the Homer Landfill as cover material.

On September 21, 1990 due to the high concentrations detected in the excavation, three additional feet of soil was removed from each sidewall. Confirmation soil samples taken in the sidewalls detected TPH at 162 to 876 ppm and benzene at 0.85 ppm, with the highest TPH detected was within the south sidewall at 876 ppm. Five and a half feet of standing water was present within the excavation with a total depth of the excavation at 8.5 feet bgs.

On January 16, 1991 a 1,500-gallon non-regulated heating fuel tank was discovered along the east side of the shop building and removed on May 18th and 19th of 1992. All the soil removed from the tank excavation was transported to a long-term storage cell at the Homer Bailer

Facility, and later approved for use as cover at the Homer Landfill. All the contaminated soil was removed except a 5 to 10 foot section three to four feet under the building footing. The confirmation soil samples taken within the excavation did not detect any of the analytes above the soil cleanup levels. It was estimated less than 10 cubic yards of low levels of contaminated soil remains under the shop footing within 3 to 4 feet below the footing and above the water table.

In addition, on January 16, 1991 a 500-gallon regulated waste oil tank was discovered along the north side of the shop building and removed on May 21, 1992. Approximately 60 cubic yards of contaminated soil was excavated and transported to a long-term storage cell at the Homer Bailer Facility, and later transported to Clean Soils, Inc., for thermal remediation and disposal in 1993. All contamination was removed except for an area under the concrete apron about fifteen feet long, three to four feet wide and four to five feet deep. Confirmation soil samples detected TPH at 107 to 1,620 ppm from 3.5 to 8.5 feet below ground surface, with the highest concentration at 5 feet below ground surface in the east end of the excavation at 1,620 ppm TPH. It was estimated 10 to 15 cubic yards of contaminated soil remains under the concrete apron. EPH was also detected on the east end of the excavation north of the apron at 5 feet below ground surface.

On November 17, 1994 ADEC issued a No Further Remedial Action for the 1,500-gallon diesel heating fuel UST and the 500-gallon waste oil UST.

On May 11th and 12th of 1995 during a Site Assessment to assess the petroleum contamination from the former two 3,000-gallon USTs, eight soil borings were advanced with DRO detected at 352 and 465 mg/kg and benzene at 0.642 mg/kg at a depth of 10 to 12 feet bgs in the former UST excavation. DRO at 11,400 mg/kg was encountered at a depth of 5 to 7 feet bgs southeast of the USTs along the fence line and benzene was encountered in two soil borings south of the USTs at 2.5 to 7.5 feet bgs at concentrations of 0.103 to 2.29 mg/kg. The groundwater sample taken in the one monitoring well detected DRO at 57.5 mg/l and benzene at 0.016 mg/L.

On January 24 through January 31, 1996 three more monitoring wells were installed, MW-2 through MW-4 and three additional soil borings were advanced to further characterize the contamination at the site. Soil contamination was encountered in four locations south and southeast of the former two 3,000-gallon USTs with benzene from 0.03 to 1.57 mg/kg, ethylbenzene from 8.53 to 17.3 mg/kg, xylenes at 93.9 mg/kg, GRO 370 to 1,100 mg/kg and DRO from 883 to 12,200 mg/kg at depths from 4 to 7 feet bgs. Groundwater contamination was encountered from the hydro punch samples taken south and southeast of the former two 3,000-gallon USTs with benzene at 0.030 and 0.076 mg/L and DRO at 1.63 and 69.8 mg/L.

On June 25, 1996 five additional soil borings were advanced to further assess the petroleum contamination at the site. The underground water line was the deepest on-site utility at approximately 85 inches below grade. The on-site utility corridor was not sampled because the utility as-built drawings were unreliable. Soil samples detected DRO at 320 mg/kg at 2.5 to 3.5 feet bgs, along Pioneer Avenue in the area where hydrocarbon contamination was reported in June 1994. Benzene was detected at 0.20 mg/kg at 2.5 to 3.5 feet bgs further south (closer to Pioneer Avenue) and the groundwater samples taken from the hydro-punch samplers in the area

of the buried waterline detected benzene at 1.00 mg/L and GRO at 2.80 mg/L in the southernmost sample collected.

In May of 1997 an additional monitoring well (MW-5) was installed down-gradient of the contaminant plume to characterize the full extent of the plume. No soil contamination was detected above the soil cleanup levels and no groundwater was reported above the groundwater cleanup levels. Benzene at 0.057 and 0.130 mg/L and DRO at 6.6 mg/L were detected in a monitoring well located in the area of the former Fuel Shed.

From August 12 – 15, 1998, approximately 164 cubic yards of contaminated soil was excavated and transported to the KPB's storage cell at the Homer Landfill. This soil was eventually transported to Soil Processing, Inc., in 1999 for thermal remediation, and following thermal remediation these soils were transported to the Central Peninsula Bailing Facility in Soldotna to be used as cover material in the KPB landfill. Contaminated soil was encountered from two feet bgs to the groundwater interface. The depth of the excavation was limited due to high groundwater and buried utilities, at a depth of approximately 4 feet bgs. Soil samples were taken with benzene detected at 0.13 and 0.89 mg/kg and DRO at 590 mg/kg under the gate entrance, east of the gate entrance, and northwest of the gate entrance.

On October 18, 2007, due to monitoring wells being destroyed during the excavation of soil, three new monitoring wells were installed, one up-gradient of the former tank locations, one near the former location of MW-3 and one down-gradient of the former tank locations. The newly installed well located up-gradient of the former tanks detected DRO at 2.91 mg/L and RRO at 1.88 mg/L. Benzene at 0.0254 was detected in the well that replaced MW-3. Two test pits were advanced in the area of a possible previous tank location located along the west property line and south of the building foundation, and just north and south of the newly installed MW-6. Hydrocarbon odors were encountered at 2.5 feet bgs. A sample was taken at 3.5 feet were DRO was encountered at a concentration of 5,140 mg/kg.

On August 12, 2009 during the installation of a new gate at the maintenance facility entrance, an area of contaminated soil was encountered at approximately 4 feet bgs. On September 30, 2009 approximately 6.5 cubic yards (a total of 15.72 tons) of contaminated soil was excavated from two areas near the facility entrance and transported off-site for thermal remediation and disposal to Alaska Soil Recycling. Confirmation soil samples detected DRO at 1,130 mg/kg and 1,870 mg/kg at 5 feet bgs at the bottom of the two excavations.

Contaminants of Concern

During the investigations at this site, soil and water samples were analyzed for DRO, GRO, RRO and volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, and xylenes (BTEX). Following the completion of the cleanup measures employed at this site, residual concentrations of the following Contaminants of Concern remained at this site in soil and/or groundwater, in excess of the ADEC Cleanup Levels:

- Diesel Range Organics (DRO)
- Gasoline Range Organics (GRO)
- Benzene

Cleanup Levels

The default soil cleanup levels for this site are established in 18 AAC 75.341, Method Two, Table B1 and Table B2, Under 40 inch Zone, Migration to Groundwater.

Contaminant	Site Cleanup Level (mg/kg)
• Diesel Range Organics	250
• Gasoline Range Organics	300
• Benzene	0.025

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

Contaminant	Site Cleanup Level (mg/L)
• Diesel Range Organics	1.5
• Gasoline Range Organics	2.2
• Benzene	0.005

Pathway Evaluation

Following investigation and cleanup at the site, the potential for exposure to all known remaining contamination 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 1.

Table 1 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	De minimis Exposure	Impacted surface soils were excavated and treated.
Sub-Surface Soil Contact	De minimis Exposure	No known areas of sub-surface contamination remain on site in concentrations exceeding ADEC direct health/ingestion soil cleanup levels.
Inhalation – Outdoor Air	De minimis Exposure	No known areas of sub-surface contamination remain on site in concentrations that exceed ADEC outdoor air inhalation soil cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	No impact to indoor air quality is anticipated.
Groundwater Ingestion	Pathway Incomplete	Groundwater has been impacted at concentrations exceeding ADEC groundwater cleanup levels for DRO and benzene. Groundwater may be moving off site to the south of the property and into the

		utility corridor. The City of Homer public water system is the source of drinking water within the area potentially affected by the residual groundwater contamination.
Surface Water Ingestion	Pathway Incomplete	No impact to surface water has been observed, nor is any impact anticipated.
Wild Foods Ingestion	Pathway Incomplete	No harvest or consumption of wild foods is anticipated.
Exposure to Ecological Receptors	Pathway Incomplete	No contact with ecological receptors is anticipated.

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.

ADEC Decision

Based on the most recent soil and groundwater samples collected at this site, soil and groundwater contamination remains on site above established default cleanup levels. However, ADEC has determined that this site does not pose an unacceptable risk to human health or the environment, subject to the below stipulated conditions. Therefore, we are issuing this ‘Corrective Action Complete’ decision, subject to the following conditions:

1. City of Homer public water service is provided to this property and adjacent properties. Water wells may not be installed on this property without the prior review and approval of ADEC.
2. Pursuant to 18 AAC 75.325(i)(1) and (2), and/or 18 AAC 78.274(b), ADEC approval is required prior to moving or disposing soil or groundwater that is, or has been, subject to the cleanup rules found at 18 AAC 75.325-.370 and/or 18 AAC 78, Article 2. Contaminated soil or water may not be moved or disposed without ADEC’s prior written approval. Excavation on this property may expose contaminated soil or water requiring proper safety, management, and disposal practices. The Kenai Peninsula Borough is responsible for any residual contamination. Any person(s) excavating soil or moving soil or water from the vicinity of the former cleanup excavation areas shall contact ADEC and should coordinate with the Kenai Peninsula Borough risk assessor’s office. The Kenai Peninsula Borough shall provide the services of a qualified impartial third party, as required in 18 AAC 75 and 18 AAC 78, in order to properly monitor, assess, manage, treat, and dispose of any contaminated media. The Kenai Peninsula Borough shall provide for the proper handling, treatment, and disposal of any contaminated soils or groundwater encountered in accordance with all applicable ADEC regulations at that time.
3. The four groundwater monitoring wells on the property associated with this project must now be properly decommissioned in accordance with ADEC’s February 2009 Monitoring Well Guidance. The Kenai Peninsula Borough must prepare and provide ADEC with a work plan which identifies proposed decommissioning procedures for

ADEC review and approval prior to implementation of those procedures. The decommissioning of these monitoring wells should occur before July 30, 2012, and must be documented in a written report submitted to ADEC by October 31, 2012. This work must be performed or directly supervised by a 'qualified person', as defined in 18 AAC 78.995(118), and the report must be signed by a qualified person.

The ADEC Contaminated Sites Database will be updated to reflect the change in site status to 'Cleanup Complete', and will include a description of the contamination remaining at the site.

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 75.380(d) and 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. The Kenai Peninsula Borough remains liable for any additional assessment and/or cleanup actions(s), should ADEC impose such a requirement.

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 Document, please contact the ADEC project manager, currently Peter Campbell, at (907) 262-3412 or via e-mail at peter.campbell@alaska.gov

Approved By,



Paul Horwath, P.E.
Environmental Engineer

Recommended By,



Peter Campbell
Environmental Program Specialist

Cc: Donald Dougherty, Environmental Management Incorporated, Anchorage