

STATE OF ALASKA

**DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE
CONTAMINATED SITES PROGRAM**

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File: 890.38.013

October 31, 2011

Bill Heubner
National Park Service – Anchorage
240 West 5th Avenue
Anchorage, AK 99501

Re: Approval of *Monitoring Well Decommissioning Report*, Bettles Building 104, Gates of the Arctic National Park and Preserve, Alaska (October 3, 2011), and Record of Decision; NPS Bettles Employee Housing HOT – Building 104

Dear Mr. Heubner:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has received and reviewed the September 28, 2011 *Monitoring Well Decommissioning Report, Bettles Building 104, Gates of the Arctic National Park and Preserve*. ADEC received this document on October 3, 2011. The report documents removal of four groundwater monitoring wells previously used to monitor environmental contamination associated with an underground heating oil tank at Building 104. Information presented in this report satisfies the requirements of 18 AAC 75.345(j) and general requirements for site characterization under 18 AAC 75.335, and is therefore approved.

On August 10, 2010, ADEC sent a letter indicating “decommissioning of the four monitoring wells at this site appears to be the only outstanding requirement under 18 AAC 75”. In light of the successful decommissioning of monitoring wells at this site, ADEC has conducted a review of the environmental records associated with NPS Bettles Employee Housing HOT – Building 104. Based on the information provided to date, ADEC has determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment, and this site is designated Cleanup Complete under 18 AAC 75.380.

This determination is based on information provided to ADEC for the NPS Bettles Employee Housing Heating Oil Tank – Building 104. 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 Cleanup Complete determination.

IntroductionSite Name and Location:

NPS Bettles Employee Housing Heating Oil Tank – Building 104
Lot 20, Block 10
Bettles Field, Alaska 99726

Name and Mailing Address of Contact Party:

Bill Heubner
National Park Service – Anchorage
240 West 5th Avenue
Anchorage, Alaska 99501

ADEC Site Identifiers

ADEC Reckey: 2001310119901
File: 890.38.013
Hazard ID: 3813

Regulatory authority under which the site is being cleaned up:

18 AAC 75

Background

Building 104 is a single family residence located in the southern portion of Bettles on a mostly cleared and level rectangular lot of dimensions 100 feet by 120 feet. Water is provided to the house from an on-site drinking water well located 70 feet north of the building, and wastewater is disposed of on site by a septic system. The house is in use as a residence for NPS employees and their families. The house is heated with fuel oil that is currently stored in a 500 gallon aboveground storage tank.

Prior to July 2001, fuel oil was stored in a 500-gallon underground storage tank (UST). On July 18, 2001, the tank was removed. Soil suspected of contamination was also excavated, however the footing of Building 104 and the equipment used for excavation limited soil removal. Approximately 40 cubic yards of soil was excavated to a maximum depth of seven feet. Testing of the excavated soil and soil at the bottom of the excavation indicated values of diesel range organics (DRO) at concentrations above ADEC migration to groundwater cleanup levels.

Site Characterization Activities

During the 2001 excavation, approximately 40 cubic yards of removed soil was temporarily stored before being transported to Organic Incineration Technologies, Inc (OIT) for thermal treatment. Samples of the excavated soil contained DRO up to 4920 milligrams per kilogram (mg/kg), with all other contaminants testing non-detect or below cleanup levels. Soil at the base of the excavation contained DRO up to 2770 mg/kg, but could not be removed due to equipment limitations. Soil along

the southern portion of the excavation also exceeded cleanup levels but was not removed out of concern for the structural integrity of Building 104.

In 2002, 4 monitoring wells were installed in the vicinity of the Building 104 former UST. Groundwater was encountered at 17.5 feet below ground surface (bgs) and flows in a northwesterly direction. The nearest drinking water well is 70 feet northwest of the site. Samples from the drinking water well non-detect for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). One well was installed at the former location of the UST, two wells were installed down gradient, and one well was installed up gradient based on local hydrology. Groundwater tests at all wells were non-detect for DRO, Residual Range Organics (RRO), Benzene, Toluene, Ethylbenzene, and Xylene (BTEX), and Polynuclear Aromatic Hydrocarbons (PAH). Soil samples taken during well installation were also non-detect for DRO, RRO, BTEX, and PAH, including a soil sample taken at 10 feet bgs at the location of the former UST. These results and the excavation depth to 7 feet bgs indicates that the remaining soil contamination is not migrating, will not impact any drinking or surface water, does not pose a risk by any pathways, and is limited to a small volume of soil.

In 2011, the 4 monitoring wells associated with groundwater characterization at Building 104 were decommissioned in accordance with ADEC requirements.

Contaminants of Concern

During the investigations at this site, soil and water samples were analyzed for DRO, GRO, and VOC including BTEX, SVOC, and RRO. Based on these analyses and knowledge of the source area, the following Contaminants of Concern were identified:

- Diesel Range Organics (DRO)

Cleanup Levels

Investigation at this site has confirmed that contaminants have not migrated to groundwater. The soil cleanup levels for this site are established in 18 AAC 75.341, Method Two, Table B2 Under 40 inch Zone, Ingestion.

<u>Contaminant</u>	<u>Site Cleanup Level (mg/kg)</u>
• Diesel Range Organics	10250

Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated and recorded in DEC'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	Surface soil impacted by the leaking UST has been removed.
Sub-Surface Soil Contact	Pathway Incomplete	Contamination remains in the subsurface, but is well below ingestion or inhalation cleanup levels.
Inhalation – Outdoor Air	Pathway Incomplete	Contamination remains in the subsurface, but is well below inhalation cleanup levels
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Remaining contamination is well below inhalation cleanup levels
Groundwater Ingestion	Pathway Incomplete	Remaining contaminated soil is confined to an area between 7 and 10 feet bgs. 4 groundwater wells installed at the site did not detect contaminants.
Surface Water Ingestion	Pathway Incomplete	Remaining contaminated soil is confined to an area between 7 and 10 feet bgs. 4 groundwater wells installed at the site did not detect contaminants.
Wild Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals.
Exposure to Ecological Receptors	De-minimis exposure	The remaining contaminated soil is 7-10 feet bgs and beneath or immediately adjacent to Building 104. Any exposure to ecological receptors is considered <i>de minimis</i> .

Notes to Table 1: “De-minimis exposure” means that in DEC’s judgment receptors are unlikely to be affected by the minimal volume of remaining contamination. “Pathway incomplete” means that in DEC’s judgment contamination has no potential to contact receptors.

ADEC Decision

The cleanup actions to date have served to excavate and adequately remove contaminated soil from the site. Based on the information available, ADEC has determined no further assessment or cleanup action is required. There is no longer a risk to human health or the environment, and this site will be designated as “Cleanup Complete” on the ADEC database.

Although a Cleanup Complete determination has been granted, DEC approval is required for off-site soil disposal in accordance with 18 AAC 75.325(i). 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 75.325(i) and does not preclude DEC 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

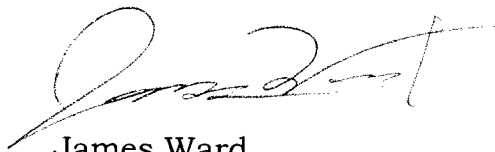
Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 -18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, 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 further questions about this site please contact Melody Debenham, Environmental Program Specialist, at (907) 451-5175.

Approved By



Fred Vreeman
Environmental Program Manager

Recommended By



James Ward
College Intern III

cc: Penelope Adler, Alaska Department of Transportation & Public Facilities, via email
Linda Stromquist, National Park Service, via email