



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: 2323.38.001

February 24, 2016

Marcus Mueller  
Land Management Officer  
Kenai Peninsula Borough  
144 North Binkley Street  
Soldotna, Alaska 99669

Re: Nikiski Airstrip  
ADEC Hazard ID #669  
Updated Record of Decision

Dear Mr. Mueller:

Enclosed please find an "updated" ADEC Record of Decision (ROD) for the Nikiski Airstrip site. The original ADEC Record of Decision for this site was issued February 28, 2005. Since that time, additional groundwater monitoring has occurred which supports the current ADEC determination that no further groundwater quality monitoring is necessary in order to ensure that the groundwater contaminant plume doesn't expand, and thereby pose an unacceptable exposure, and risk, to area groundwater users. The groundwater quality monitoring funded by ADEC to date has demonstrated that the groundwater plume is stable or diminishing in concentration and extent. Current conditions have been found to be protective of human health and the environment, provided that the existing institutional controls are maintained. Should site conditions change in the future, the site can be re-evaluated to ensure that human health and the environment is protected.

This updated ROD is less restrictive than the original February 28, 2005 ROD, in that the requirement for long term groundwater quality monitoring has been removed. Following this decision, and because of greater uncertainty concerning future levels of ADEC funding, we want to open a discussion on the value of maintaining the remaining groundwater monitoring wells. ADEC doesn't plan to fund additional groundwater sampling, and in that respect, the groundwater monitoring wells could now be decommissioned. However as the land owner, the monitoring wells may have value to the Kenai Peninsula Borough for the purpose of determining whether and when the contamination naturally attenuates over time, to the point of achieving the groundwater cleanup levels.

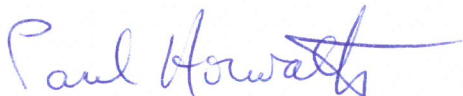
We believe the primary petroleum product that was disposed at this site was Bunker C fuel, which is very persistent in the subsurface environment compared to the more common petroleum products. Some diesel fuel or heating fuel may also have been disposed in the former pit. We anticipate that the groundwater at this site will remain contaminated for decades, and that continued sampling to track the natural degradation over time is not warranted. However at some point in the distant future, the Kenai Peninsula Borough may want to sample the wells to determine the residual groundwater contaminant concentrations.

ADEC could currently fund the decommissioning of the groundwater monitoring wells this fiscal year, using funds available at this time. We want to propose the use of current funds to hire a contractor to pay for this well decommissioning work. We could decommission all of the wells at this time, or only the ones that have consistently been free of petroleum contamination for a long period of time. The contaminated monitoring wells offer the greater value for tracking future contaminant concentrations.

Please consider the alternatives on behalf of the Kenai Peninsula Borough, and let us know the Borough's preference. If the Borough would like to maintain some or all of the existing groundwater monitoring wells, then the Borough would become responsible for future maintenance and any future decommissioning costs.

If you have any questions, or would like to discuss this matter in further detail, please contact me at (907) 262-3422. In any event, we would like to receive a decision within a reasonable time period, which will allow ADEC to hire a contractor to decommission the monitoring wells with currently available funding during this field season, should the Borough agree with the decommissioning of the groundwater monitoring wells.

Sincerely,



Paul Horwath  
ADEC Project Manager

Enclosure: February 24, 2016, Updated Record of Decision

Cc: Kara Kusche, ADEC/Anchorage/Contaminated Sites Program

**ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
(ADEC)  
DIVISION OF SPILL PREVENTION AND RESPONSE  
CONTAMINATED SITES PROGRAM**

**Nikiski Airstrip – Updated Record of Decision**

Nikiski, Alaska

Updated February 24, 2016

**I: INTRODUCTION**

Site Name: Nikiski Airstrip

Land Owner: Kenai Peninsula Borough, 144 Binkley Street, Soldotna, Alaska 99669

Location: USGS Kenai C-4 Quadrangle, SW 1/4 Section 36, R12W, T8N, Seward Meridian

Kenai Peninsula Borough Tax Parcel Number: 01202014

ADEC Database Record IDs: Nikiski Airstrip, Hazard ID #669, File ID #2323.38.001

Regulatory Authority: 18 AAC 75; Oil and Other Hazardous Substances Pollution Control

**II: BACKGROUND**

The Nikiski Airstrip contaminated site is located on an undeveloped 113 acre parcel of land on the northwest portion of the Kenai Peninsula near Nikiski, Alaska. The site is adjacent to an abandoned airstrip west of Nikishka Beach Road, and situated on a relatively flat terrace about 200 feet in elevation above Cook Inlet. Currently, the most direct access is by driving to the Offshore Systems - Kenai (OSK) parking lot and walking crossing their property to the site.

The Nikiski Airstrip is located on property presently owned by the Kenai Peninsula Borough (KPB). The former airstrip was in use during the 1960's through the early 1980's. Two separate areas adjacent to the airstrip were used for the un-permitted disposal of solid waste and petroleum products. The northern pit was primarily used for household-type solid waste disposal. The southern pit was used to dispose of Bunker C fuel and other petroleum products, in addition to solid waste. Limited cleanup activities were implemented by the KPB in 1985, including removing some of the oil from the southern pit using a vacuum pump, disposing of solid waste in the KPB landfill, excavating some of the contaminated soil, and covering the pit with clean soil. The contaminated soil removed from the pit was land spread along the airstrip. The cleanup work was incomplete and not well documented. Soil and groundwater contamination remain as a result of the un-permitted disposal of petroleum products.

In 1986, OSK leased part of the airstrip and developed the property to build a helicopter pad, associated buildings, and a parking lot. The development of this property eliminated the northern disposal pit along the former runway. ADEC funded environmental assessment work related to this site since the late 1980s has only been focused on the southern pit as the sole remaining area of concern. The southern disposal pit is located approximately 125 feet southwest of the OSK property boundary.

### **III: SUB-SURFACE CONDITIONS**

The former pit encompassed a land area of roughly 100 feet by 300 feet. Only a small portion of the 113 acre parcel of land is contaminated. Sub-surface soil contamination exceeding ADEC soil cleanup levels extended from near the ground surface down to groundwater, which is encountered approximately 98 feet in depth directly beneath the pit. The primary contaminants exceeding the soil cleanup levels in 18 AAC 75.341 are benzene and Diesel Range Organics (DRO).

Groundwater in the vicinity of the pit has been contaminated with the petroleum constituents benzene, Gasoline Range Organics (GRO), DRO, and Residual Range Organics (RRO) in concentrations exceeding the groundwater cleanup levels in 18 AAC 75.345 Table C. Two monitoring wells located centrally in the former pit (B6MW and NIK 93-13), still had free phase petroleum product floating on the groundwater in August 2014, with measured thicknesses of 0.29 foot and 0.15 foot, respectively.

The groundwater at this site has been measured between 97 and 131 feet below ground surface at differing locations, due in large part to the varying ground surface topography. The hydrogeology at the site is variable and complex. A recent KPB funded study of groundwater in the broader Nikiski area included groundwater elevation data from some of the Nikiski Airstrip monitoring wells. The report covering this study (Nikiski Groundwater Report, Final Report, March 2015), suggested that the general groundwater flow direction in the vicinity is to the north-northwest. However more detailed groundwater elevation data collected within the confines of this site indicate that the groundwater flow in the former pit area may divide near the approximate locations of monitor wells B6MW and NIK 93-13, with a differing component of groundwater flow direction toward the southeast.

Numerous groundwater monitoring wells have been installed and sampled during the course of site assessment work, and these wells are believed to encompass the groundwater contaminant plume. Groundwater sampling and analysis data demonstrate that the contaminant plume is stable or diminishing.

### **IV: GROUNDWATER USE**

There are no known drinking water wells located on the property at this time. The nearest drinking water well is on the OSK property. The OSK property boundary is located about 125 feet northeast of this site.

A Notice of Environmental Contamination has been recorded on the property deed prohibiting the installation of groundwater wells until groundwater achieves the 18 AAC 75.345 Table C cleanup levels, or the installation is otherwise approved by ADEC.

### **V: CONTAMINANTS OF CONCERN**

Benzene, GRO, DRO, and RRO constituents from the illegal disposal of Bunker C and other petroleum products remain in subsurface soil and groundwater.

**VI: ADEC CLEANUP LEVELS**

Interim cleanup actions served to remove some of the solid waste and petroleum contaminated soil, but a significant mass of petroleum remains in soil and groundwater at concentrations exceeding the 18 AAC 75 cleanup levels.

**Soil**

The soil contaminants detected in concentrations exceeding site cleanup levels are benzene and DRO. The soil contamination is present from near the ground surface down to groundwater (approximately 98 feet bgs), and is predominantly limited to the footprint of the former disposal pit.

The ADEC soil cleanup levels established for this site are listed in 18 AAC 75.341, Tables B1 and B2, Method Two, “Migration to Groundwater” (Under 40 inch Zone). **Table 1** lists the range of contaminant concentrations detected in soil samples collected in 2004, compared to the 18 AAC 75 soil cleanup levels.

**Table 1 – Soil Cleanup Levels (as of June 17, 2015)**

<b>Contaminant</b>	<b>2004 Soil Concentrations (mg/kg)</b>	<b>“Migration to Groundwater” Soil Cleanup Level (mg/kg)</b>	<b>“Ingestion” / “Inhalation” Soil Cleanup Levels (mg/kg)</b>
DRO	39.7 – 1,870	<b>250.</b>	<b>10,250 / 12,500</b>
Benzene	0.0091 – 1.05	<b>0.025</b>	<b>150 / 11</b>

mg/kg = milligrams per kilogram

**Groundwater**

The groundwater has typically been present between approximately 97 to 131 feet bgs, depending on the location. This is largely due to the variable ground surface topography/elevation across this site. Groundwater remained contaminated with benzene, DRO, and RRO above the 18 AAC 75.345 Table C groundwater cleanup levels. **Table 2** lists the highest contaminant concentrations detected in groundwater samples collected in August, 2014, compared to the 18 AAC 75.345 Table C groundwater cleanup levels. Groundwater samples were not collected from monitoring wells B6MW and NIK 93-13 in 2014, because free-phase petroleum product was present in both wells.

**Table 2 – Groundwater Cleanup Levels (as of June 17, 2015)**

<b>Contaminant</b>	<b>Groundwater Concentrations August 2014 (mg/L)</b>	<b>Groundwater Cleanup Level (mg/L)</b>
DRO	4.11	<b>1.5</b>
Benzene	0.0094	<b>0.005</b>
RRO	No RRO Analyses in 2014	<b>1.1</b>

mg/L = milligrams per liter

## VII: ADEC DECISION

Based on the site assessment and long term groundwater quality monitoring work completed to date, ADEC has determined there is no unacceptable risk to human health, safety, welfare, or the environment provided that exposure to the residual contamination is properly controlled, and the contamination is properly managed. ADEC initially determined that no further cleanup action was necessary at this site at the time its original Record of Decision was issued on February 28, 2005. The primary update/modification in this ADEC Decision, compared to the original ADEC Record of Decision dated February 28, 2005, is that no further groundwater quality monitoring is necessary at this site.

Although contamination exceeds the 18 AAC 75.341 “migration to groundwater” soil cleanup levels, it does not exceed the human health levels established for ingestion, dermal contact, and inhalation near the ground surface, where human exposure would typically occur. The groundwater at the site has been impacted above 18 AAC 75.345 Table C cleanup levels, but the affected water is not currently used as a drinking water source. An institutional control has been established and recorded on the property deed in the effort to provide public notification of the residual soil and groundwater contamination, and to help ensure groundwater at this site is not used as a drinking water source until it meets the applicable cleanup levels, or is otherwise approved for safe use by ADEC.

ADEC has completed sufficient groundwater quality monitoring to reach a determination that the groundwater contaminant plume is stable and/or diminishing. ADEC has no plans to fund further groundwater quality monitoring. The petroleum product disposed at this site is persistent in the subsurface, and is likely to remain in the subsurface soil and groundwater for decades; however human exposure can be minimized, or controlled, through the use of institutional controls.

ADEC’s decision is subject to the following conditions:

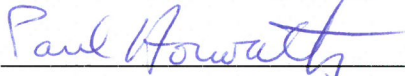
1. A Notice of Environmental Contamination has been recorded on the property deed at the State of Alaska Kenai Recorder’s Office, to serve as an institutional control. The Notice identifies the nature and extent of remaining soil and groundwater contamination exceeding ADEC cleanup levels. The Notice prohibits the installation of drinking water wells on the property until applicable groundwater cleanup levels are met. If the site is developed in the future and/or it becomes readily accessible to the public, the contaminated pit area should be managed in a manner protective of human health and the environment.  
This institutional control is to remain in place until analytical data demonstrates that both the soil and groundwater contaminant levels are below the 18 AAC 75 cleanup levels established for the site.
2. Any excavation, transport, movement, treatment, or disposal of contaminated soil or groundwater at this site requires prior ADEC notification and approval. An environmental assessment and soil management plan may be required. Soil movement and management may be required to be observed and monitored by a qualified environmental consultant, and also reported to ADEC by the qualified environmental

consultant. Pursuant to 18 AAC 75.325(i)(1) and (2), ADEC approval is required prior to moving soil or groundwater that is, or has been, subject to the site cleanup rules found at 18 AAC 75.325-.370.

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.

Any person who disagrees with this updated 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. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, 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.

ADEC Project Manager Approval:

  
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Paul Horwath, Engineer I, DEC

Date: February 24, 2016