

STATE OF ALASKA

SARAH PALIN, GOVERNOR

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

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File: # 300.38.244

February 1, 2008

Myna Letlow
Baker Oil Tools Inc.
9100 Emmott Road
Houston TX, 77040

Re: Baker Oil Tools Machine Shop Tract 12
Record of Decision

Dear Ms. Letlow:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) reviewed environmental records associated with Baker Oil Tools Machine Shop Tract 12. This site had been contaminated by the release of a hazardous substance; however, based on the information provided to date, ADEC has determined that no further remedial action is required, and that Baker Oil Tools Machine Shop Tract 12 can be closed subject to the conditions outlined in this document. The hazardous substance contamination has been adequately addressed and does not pose an unacceptable risk to human health or the environment.

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 ADEC determination.

Introduction

Site Name and Location

Baker Oil Tools Machine Shop Tract 12
Deadhorse, AK

Name and Mailing Address of Contact Party:

Myna Letlow
Baker Oil Tools Inc.
9100 Emmott Road
Houston TX, 77040

Database Record Key and CS file number:

ADEC Reckey # 1996360119101
CS file # 300.38.244

Regulatory authority under which the site is being cleaned up:

18 AAC 75 and 18 AAC 70

Background

Contaminated soil was discovered during construction of a machine shop in 1996.

Site Characterization

Prior to construction of the machine shop in 1996, approximately 300 cubic yards of petroleum contaminated soil was excavated and treated off site; however the extent of petroleum contamination was not entirely delineated.

Additional soil samples were collected from boreholes in 1998 and 2000 which indicated DRO up to 10,000 mg/kg and benzene up to 0.53 mg/kg remained in soil adjacent to the area excavated in 1996.

In an effort to remove the remaining contaminated material, Baker Oil Tools conducted a removal action in 2007. Beginning in the area of greatest contamination identified during previous investigations, approximately 33 cubic yards of contaminated soil were excavated and treated off site. Confirmation samples collected from the limits of the excavation contained DRO up to 2,250 mg/kg adjacent to the foundation of the machine shop. Benzene was not detected.

One test pit was excavated at the northwest corner of the pad, where contaminants had been detected in surface water in previous samples. Contamination was not detected in soil in this area, however a surface water sample collected adjacent to this area off of the pad contained total aromatic hydrocarbons (TAH) in excess of Alaska surface water quality criteria.

Contaminants of Concern

Diesel Range Organics

Cleanup Levels

The cleanup levels for petroleum hydrocarbon-contaminated soil on manmade gravel pads and roads in the Arctic Zone are established in 18 AAC 75.341 Method One, Table A2 and 18 AAC 75.341 Method Two Tables B1 and B2.

A number of factors are considered by ADEC when evaluating site specific cleanup levels in the Arctic Zone including:

- human health (ingestion/inhalation);
- ecological impacts (contamination impacting ecological species other than humans);
- water (ground and surface) quality;
- presence of free phase product; and
- any other factors that might cause a deleterious impact to the environment.

In the Arctic Zone, the migration to surface water pathway is evaluated as the primary migration pathway since the migration to groundwater pathway is not considered applicable due to the presence of continuous permafrost.

The 18 AAC 75.341 Method Two Table B2 regulations also limit soil hydrocarbon concentrations to a “maximum allowable concentration”. This concentration was established based on a specific soil type in which hydrocarbon product may become mobile as a separate phase and migrate in the soil. If a petroleum hydrocarbon exceeds a soil saturation limit, there may be an increased risk of migration off the gravel pad to surface water or tundra that has to be evaluated when making environmental decisions. Therefore, the soil type must be evaluated when establishing cleanup levels in the Arctic Zone to ensure the petroleum hydrocarbon does not exceed the residual saturation levels and pose a risk by migrating.

ADEC has evaluated the current site specific information regarding North Slope soil types and considers a coarse gravel soil type to be representative of those gravel pads rather than a fine sandy silt soil that was considered when establishing the Table B2 Arctic Zone levels. The diesel range saturation point in a coarse gravel material is 2200 mg/kg; the gasoline range saturation point is 950 mg/kg with residual range being 4800 mg/kg.

NOTE: Even though the migration to groundwater pathway is not complete in the Arctic Zone, the soil cleanup levels established for the migration to groundwater pathway in the Over 40 inch Zone are considered to be the most stringent cleanup levels, and protective of human health and the environment. If these cleanup levels are achieved at an Arctic Zone site, it will allow for unrestricted closure. In addition, the 18 AAC 75.341 Method One Table A2 cleanup levels may also be considered when making a final closure determination. Either Method One or Method Two migration to groundwater cleanup levels are considered protective to allow full site closure. The guidance document, “Policy for Establishing Cleanup Levels for Sites in the Arctic Zone in Accordance With 18 AAC 75, Article 3,” provides additional information for management of residual contamination in the Arctic Zone.

Pathway Evaluation

The pathways evaluated at this site include the human health exposure pathways of soil ingestion and inhalation of vapors and the ecological exposure pathway of migration to surface water.

The inhalation and ingestion pathways may be complete but contaminant concentrations are below inhalation and ingestion cleanup levels

The migration to surface water pathway may be complete but the test pit excavated at the edge of the pad suggests that surface water contamination along the northwest corner of the pad is not the result of contaminants migrating off of the pad. Furthermore, the tundra in this area is healthy, with no sign of stressed vegetation.

The exposure pathway analysis above was supported by the most recent ADEC Exposure Tracking Model (ETM) ranking. The ETM results showed all pathways to be one of the following: De Minimis Exposure, Exposure Controlled, or Pathway Incomplete.

ADEC Decision

There is contamination remaining above established cleanup levels at Baker Oil Tools Machine Shop Tract 12 but ADEC has determined there is no unacceptable risk to human health or the environment, and this site will be conditionally closed.

This decision is subject to the following conditions:

1. A Notice of Environmental Contamination will be recorded on the ADEC database to document that there is residual contamination remaining on site above the most stringent ADEC cleanup levels;
2. Any proposal to transport soil off site requires ADEC approval in accordance with 18 AAC 78.274(b)

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.

Site closure (without conditions) can be achieved when soil sampling confirms that all soil meets the most stringent ADEC cleanup levels.

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 contact William O'Connell at (907) 269-3057.

Sincerely,



Jim Frechione
Environmental Manager

Cc. Gary Schultz, ADNR Fairbanks