

SEAN PARNELL, GOVERNOR

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

43335 K-Beach Rd, Suite 11
Soldotna, AK 99669
PHONE: (907) 262-5210
FAX: (907) 262-2294
<http://www.state.ak.us/dec/>

File: 2320.38.015

July 7, 2011

Mr. James H. Doyle
Doyle's Fuel Storage
P.O. Box 582
Kenai, AK 99611

Re: Decision Document; Doyle's Fuel Service
Cleanup Complete Determination

Dear Mr. Doyle:

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program has completed a review of the environmental records associated with the Doyle's Fuel Service site, located at 8847 Kenai Spur Highway, in Kenai, 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. No further remedial action is required at this time, and this site will be closed.

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 Cleanup Complete determination.

Introduction

Site Name and Location:

Doyle's Fuel Service
8847 Kenai Spur Highway
Kenai, Alaska

Name and Mailing Address of Land Owner:

Redoubt Commercial LLC
P.O. Box 1290
Kenai, AK 99611-1290

ADEC Site Identifiers

Reckey: 1998230128901
File: 2320.38.015
Hazard ID: 3031

Regulatory authority under which the site is being cleaned up:
18 AAC 75

Background

This site is the location of a former bulk fuel storage and distribution facility, which was operated from 1962 until 1999. The site was impacted by diesel and/or gasoline fuels from leaks and/or spills associated with two 15,000-gallon above ground fuel tanks (ASTs), two 500-gallon underground fuel storage tanks (USTs), and two 500-gallon gasoline USTs and associated piping and dispenser systems, which were all removed in 1999. The two ASTs and two of the 500-gallon USTs reportedly contained heating fuel, and two 500-gallon USTs reportedly contained gasoline during their history of use from 1962 until 1999. During site assessment and cleanup response measures, soil and groundwater samples collected at this site were tested for: diesel range organics (DRO); gasoline range organics (GRO); benzene, toluene, ethylbenzene, and xylene (BTEX); and polynuclear aromatic hydrocarbons (PAHs). The site and immediately adjacent properties are served by public water and sewer systems. A more detailed history of this site is contained within ADEC's project file for this site, and is available for public review.

Site Characterization and Cleanup Actions

Prior to a property transaction in October of 1998, an environmental site assessment was conducted to determine if there were any environmental impacts at the site related to operation of the bulk fuel sales facility. Petroleum contaminated soil was encountered around the former two 15,000-gallon ASTs and on the north side of the covered fuel containment structure. Maximum concentrations of DRO at 9,450 mg/kg, GRO at 348 mg/kg and benzene at 0.071 mg/kg were encountered in soil at a depth of 9.5 feet below ground surface (bgs) around the former two 15,000-gallon ASTs. DRO at 2,050 mg/kg, GRO at 1,180 mg/kg and benzene at 6.1 mg/kg were detected in soil at a depth of 9 feet bgs along the west side of the concrete slab and just north of the covered fuel containment structure. Benzene was also detected along the east side of the covered fuel containment structure, and west of the location of the two former 15,000-gallon ASTs at a maximum concentration of 0.391 mg/kg.

In July of 1999, the two 500-gallon heating oil tanks and two 500-gallon gasoline tanks were excavated and removed. No fuel contamination was detected during removal of one 500-gallon heating oil tank located next to the house, and during removal of the two 500-gallon gasoline tanks located southeast of the shop building. A waste oil pit was encountered during the removal of a 500-gallon heating oil tank located at the southeast corner of the shop. Approximately 65 cubic yards of contaminated soil was excavated during this 500-gallon shop UST removal and waste oil pit cleanup effort, and transported off-site for thermal treatment. After treatment, these soils were returned to the site and used as backfill in the excavated areas. Approximately 1 to 2 cubic yards of contaminated soil has been estimated to remain in the area of the former waste oil pit at 7 feet bgs at a concentration of 1,270 mg/kg, and an additional 5

to 10 cubic yards of contaminated soil has been estimated to remain in the area of the former 500-gallon heating oil tank at the southeast corner of the shop, with DRO concentrations of 424 mg/kg and 998 mg/kg. The cleanup excavation effort was halted just above the groundwater because further excavation of the contaminated soil would have undermined the shop foundation; therefore some contaminated soil was left in place.

In October of 1999 an interim characterization was conducted at the site to characterize the groundwater quality. Monitoring wells were installed with both soil and groundwater samples collected. Soil contamination was encountered in the area of the two former 15,000-gallon ASTs with concentrations of 650 mg/kg GRO, 14,000 mg/kg DRO, and 0.2 mg/kg benzene at a depth of 7.5 to 8 feet bgs; and 480 mg/kg GRO, 11,000 mg/kg DRO, and 2.6 mg/kg benzene at a depth of 2 feet bgs. Groundwater contamination was also detected in the area of the former 15,000-gallon ASTs at 2.4 mg/L GRO and 14 mg/L DRO. Off-site groundwater contamination was encountered down-gradient, to the southeast, with benzene detected at 0.1 mg/L.

In the effort to remove the in-situ soil and groundwater contamination, cleanup work consisting of air sparging of the groundwater, nutrient injection, and heating of the impacted soil and groundwater was conducted during the 2008 and 2009 field seasons. Following the completion of treatment system operations, water quality sample data demonstrated that the groundwater contamination had been reduced to below ADEC groundwater cleanup levels.

Maximum historical soil contaminant concentrations reported to ADEC during the history of this project were:

DRO	14,000 mg/kg
GRO	1,180 mg/kg
Benzene	6.1 mg/kg

Following corrective action efforts, the soil sample data for DRO remained at levels exceeding the applicable ADEC Method 2 soil cleanup levels at the southeast side of the shop building.

Maximum historical groundwater concentrations reported to ADEC during the history of this project were:

DRO	33.6 mg/L
GRO	54.0 mg/L
Benzene	2.66 mg/L

Following corrective action efforts, the groundwater sample data from this site met the applicable ADEC Table C groundwater cleanup levels.

Contaminants of Concern

During the investigations and corrective action/cleanup work performed at this site, soil and water samples were collected and analyzed for diesel range organics (DRO), gasoline range organics (GRO), volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, and xylenes (BTEX), and polynuclear aromatic hydrocarbons (PAHs). After completion of the cleanup measures implemented at this site, the following Contaminants of Concern were reported to exceed the applicable ADEC cleanup levels in soil:

- Diesel Range Organics

Following the completion of the cleanup measures employed at this site, groundwater quality met the applicable ADEC groundwater cleanup levels.

Soil Cleanup Levels

The default soil cleanup levels applicable for this site are established in 18 AAC 75.341, Method Two, Tables B1 and B2, 'Migration to Groundwater'.

Contaminant	Site Cleanup Level (mg/kg)
GRO	300
DRO	250
Benzene	0.025

Groundwater Cleanup Levels

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

Contaminant	Site Cleanup Level (mg/L)
GRO	2.2
DRO	1.5
Benzene	0.005

Pathway Evaluation

Following investigation and cleanup at the site, the potential for exposure to any 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 current pathways to be: 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	Surface soil no longer exceeds ADEC's default 'ingestion' and 'direct contact' soil cleanup levels.
Sub-Surface Soil Contact	De Minimis Exposure	Sub-surface soil no longer exceeds ADEC's default 'ingestion' and 'direct contact' soil cleanup levels.
Inhalation – Outdoor Air	De Minimis Exposure	Residual soil contaminant concentrations no longer exceed ADEC's default outdoor inhalation soil cleanup level.
Inhalation – Indoor Air (vapor intrusion)	De Minimis Exposure	Indoor air quality is unlikely to be affected by the minimal concentrations of remaining soil or groundwater contamination.

Groundwater Ingestion	Pathway Incomplete	Drinking water is supplied by the City of Kenai public water system.
Surface Water Ingestion	Pathway Incomplete	Residual contamination has no potential to contact surface water, and drinking water is supplied by the city of Kenai public water system.
Wild Foods Ingestion	Pathway Incomplete	Contaminants of concern are not bioaccumulative in plants or animals.
Exposure to Ecological Receptors	Pathway Incomplete	There is no potential for residual contamination to contact ecological receptors.

Notes to Table 1: “De Minimis Exposure” means that, in ADEC’s judgment, receptors are unlikely to be affected by the minimal concentration of remaining contamination. “Pathway Incomplete” means that, in ADEC’s judgment, contamination has no potential to contact receptors.

ADEC Decision

The cleanup actions to date have served to reduce soil and groundwater contaminant concentrations to acceptable levels. Based on the information available, ADEC has determined no further assessment or cleanup action is required. There is no longer an unacceptable risk to human health or the environment. Therefore this site is being issued a Cleanup Complete determination. The ADEC Contaminated Sites Database will be updated to reflect the change in site status as ‘Cleanup Complete’.

All remaining groundwater monitoring wells must now be properly decommissioned in accordance with ADEC’s February 2009 Monitoring Well Guidance. A work plan which identifies proposed decommissioning procedures must be prepared and provided for ADEC review and approval prior to implementation of those procedures. The decommissioning of these monitoring wells should occur before September 31, 2011, and must be documented in a written report submitted to ADEC by December 31, 2011. This decommissioning work must be performed, or directly supervised by, a ‘qualified person’, as defined in 18 AAC 75.990(100).

Although a Cleanup Complete determination has been granted, ADEC approval is still required for off-site soil disposal of any soil with residual concentrations of petroleum contamination, 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 75.380(d) 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 Cleanup Complete decision, or any other aspect of this project, you may phone me at (907) 262-3422, or contact me via e-mail at paul.horwath@alaska.gov

Sincerely,



Paul Horwath, PE
Environmental Engineer

Cc: Ron Rozak, Rozak Engineering, Anchorage
Redoubt Commercial LLC, Kenai

Pdh.Doyle's Fuel Service _ Cleanup Complete Determination Ltr _ 7-7-11