THE STATE of ALASKA
GOVERNOR SEAN PARNELL

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION & RESPONSE
Contaminated Sites Program

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File No: 2258.38.011

September 14, 2012

William Stearns
Alaska Resource Group
HC 89 Box 8560
Talkeetna, Alaska 99676-9705

Re: Decision Document; Residence - 22133 South C Street HHOT
Cleanup Complete Determination

Dear Mr. Stearns

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program, has completed a review of the environmental records associated with the Residence – 22133 South C Street Home Heating Oil Tank (HHOT). Based on the information provided to date and the administrative record, the ADEC has determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment. No further remedial action will be required as long as the site is in compliance with established institutional controls.

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.

Introduction

Site Name and Location:
Residence – 22133 south C Street HHOT
22133 South C Street
Talkeetna, Alaska 99676

Name and Mailing Address of Contact Party:
William Stearns
Alaska Resource Group
HC 89 Box 8560
Talkeetna, Alaska 99676-9705

ADEC Site Identifiers:
ADEC Reckey: 2007220102901
File: 2258.38.011
Hazard ID: 4361

Applicable State of Alaska Regulation:
18 AAC 75

Background
In January 2007, approximately 850 gallons of diesel released from a 1,000 gallon heating oil tank when snow removal activities caused an outflow fitting to crack. The release occurred in a residential/ commercial area between two houses on Lots 4A and 5A, Block 12, Talkeetna Townsite. There is a 20 foot deep residential drinking water well on Lot 5A located 36 feet down gradient west of the spill location.

Contaminants of Concern
During the investigations at the site, soil and groundwater samples were analyzed for the following: gasoline range organics (GRO); diesel range organics (DRO); residual range organics (RRO); and volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, and xylenes. Based on these analyses and knowledge of the source area, the following contaminants of concern (COCs) were identified in soil and ground water:

- GRO
- DRO

Cleanup levels
The default soil cleanup levels for this site are established in 18 AAC 75.341, Method Two, Table B2, Migration to Groundwater (MTG) *Over 40 Inch Zone.*

Contaminant (mg/kg)	MTG Soil Cleanup Level
GRO	300
DRO	250

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

Contaminant (mg/L)	Groundwater Cleanup Level
GRO	2.2
DRO	1.5

Site Characterization and Cleanup Actions
During the initial response effort in January and February 2007, approximately 245 cubic yards of contaminated soil were excavated and transported to 35269 South Hopper Drive in Talkeetna for remediation via land farming. The excavation dimensions were 23.5 feet by 29.25 feet . The depth of the excavation was 9.5 feet below ground surface (bgs), and was

backfilled with clean material. At the bottom of the excavation free product was observed seeping out of the soil and trickling into the groundwater. Approximately 100.5 gallons of the free product were recovered from the ground water. Six soil samples collected from the excavation sidewalls contained detectable concentrations of contaminants below cleanup levels. The exact locations of the soil samples are unknown. Prior to backfilling with clean fill, an excavation monitoring point (EMP) was placed in the excavation.

To delineate the extent of soil and groundwater contamination in July 2007, four soil borings were advanced, soil samples were collected, and the boreholes were completed as monitoring wells RSE-1, RSE-2, RSE-3, and RSE-4. Groundwater samples were collected from the four monitoring wells, the Lot 5A drinking water well and the EMP. Of the four boreholes sampled, only one, RSE-2, contained detectable concentrations of contaminants with DRO at 20,600 mg/kg at 1.0 feet bgs, and DRO at 380 mg/kg at 5.0 feet bgs. Groundwater was found to flow west to southwest. Groundwater samples collected from the EMP and the four new monitoring wells contained detectable concentrations of contaminants but below cleanup levels. A groundwater sample collected from the onsite drinking water well did not contain detectable concentrations of contaminants

In September 2007, a limited amount of contaminated soil was excavated from the area surrounding the RSE-2 location and added to the off-site land farm at 35269 South Hooper drive. Confirmation soil samples collected from the bottom of the excavation at 6.5 to 7.5 feet bgs contained petroleum constituents below ADEC migration to groundwater cleanup levels. Prior to the contaminated soil excavation, a groundwater sample collected from RSE-2 contained DRO at 6.36 mg/L.

From 2009 to 2011, the monitoring wells and the land farm were sampled. Groundwater samples collected in 2009 from the four RSE monitoring wells and the onsite drinking water well did not contain detectable concentrations of contaminants. RSE-2 was sampled in 2010 and again did not contain detectable concentrations of contaminants. The land farm was tilled once in 2009 and four more times in 2011 with fertilizer amendments. Soil samples collected from the land farm in 2009, 2010, and 2011 demonstrated a decreasing trend of in contaminant concentrations. The initial soil samples collected from the pile in 2009 contained DRO up to 4,790 mg/kg and GRO up to 506 mg/kg. Samples collected in 2011 contained detectable concentrations of contaminants, but were below cleanup levels.

In 2011 and 2012 the monitoring wells and the land farm were decommissioned. Monitoring wells RSE-1, RSE-2, and RSE-3 and EMP were decommissioned. The EMP could not be removed; therefore it was decommissioned in place. The monitoring well RSE-4 was not located and may have been destroyed during 2011 road improvements. The land farm soil was spread at the 35269 South Hopper Drive property to a thickness of less than 6 inches. The liner and silt fencing were removed prior to land spreading activities.

Pathway Evaluation

Following investigation and cleanup at this site, exposure to remaining contaminants was evaluated using ADEC's Exposure Tracking Model (ETM). Exposure pathways are conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to 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	De Minimis Exposure	The contaminated surface soil has been removed and land spread offsite. Surface soil samples were below the most stringent ADEC cleanup levels. Therefore risk via this pathway is insignificant
Sub-Surface Soil Contact	De Minimis Exposure	Sub-surface confirmation soil samples were below the most stringent ADEC cleanup levels. Therefore risk via this pathway is insignificant
Inhalation – Outdoor Air	De Minimis Exposure	The remaining soil contaminant concentrations are below the most stringent ADEC cleanup levels. Therefore risk via this pathway is insignificant
Inhalation – Indoor Air (vapor intrusion0	Pathway Incomplete	The remaining soil contaminant concentrations are below the most stringent ADEC cleanup levels and de minimis in volume with clean soil above the impacted area which further mitigates exposure. Therefore this pathway is considered incomplete
Groundwater Ingestion	De Minimis Exposure	Contaminated soil above cleanup levels has been removed. The onsite drinking water well has never contained detectable concentrations of contaminants. Therefore risk via this pathway is insignificant
Surface Water Ingestion	Pathway Incomplete	Surface water is not utilized as a drinking water source in this area
Wild Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals. This area is not used for harvesting wild foods.
Exposure to Ecological Receptors	Pathway Incomplete	There are no complete exposure pathways to ecological receptors at the site.

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. "Exposure Controlled" means there is an administrative mechanism in place limiting land or ground water use, or a physical barrier in place that deters contact with residual contamination.

ADEC Decision

Based on the information available, ADEC has determined no further assessment and/or cleanup action is required. There is no unacceptable risk to human health or the environment, and this site will be designated as closed on the Department's database.

Although a Cleanup Complete determination has been granted, ADEC approval is required for off-site soil disposal in accordance with 18 AAC 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 of the environment.

Appeal

Any person who disagrees with this decision may request an adjudicatory hearings 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 request 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 the ADEC Project Manager, Grant Lidren at (907) 269-8685

Approved By,

Linda Nuechterlein
Environmental Manager

Recommended By,

Grant Lidren
Environmental Specialist