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

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File: 330.38.034

December 28, 2004

Robert Schnieder
Field Manager
Northern Field Office
Bureau of Land Management
1150 University Avenue
Fairbanks, AK 99709

Re: Sagwon Bluffs Airstrip
RecKey # 1989730902523

Dear Mr. Schnieder:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) reviewed the Harding Lawson Associates (HLA) Site Investigation Report for the Sagwon Airstrip contaminated site. The information provided to date indicates that soil and groundwater contamination remains there above the most stringent 18 AAC 75 cleanup levels. However, based on site specific conditions, ADEC has determined the contamination does not pose a risk to human health, safety, welfare or the environment and no further cleanup action at the site is required at this time.

The following information was considered in making this determination regarding the environmental status of this site.

Site Background

The Sagwon Airstrip is located approximately 60 miles south of Prudhoe Bay, Alaska, and consists of a small airstrip and an elevated gravel pad where former facility buildings were located. The site was operated as a staging area for petroleum exploration activities on Alaska's North Slope from approximately 1960 until the early 1970s. In a cooperative effort to cleanup the area, the Bureau of Land Management (BLM), in partnership with the State of Alaska and private industry, conducted a surface cleanup at the site during the summer of 1999. The cleanup activities consisted of removing buildings, pipes, tanks, drums, infrastructure, and debris at the site. In addition, soil sampling activities identified two areas of subsurface petroleum contamination.

Chemicals of Concern

Potential contaminants of concern at the site include the petroleum indicator compounds: volatile organic compounds (VOCs) that include benzene, toluene, ethylbenzene, and xylenes (BTEX), polynuclear aromatic hydrocarbons (PAHs), gasoline range organics (GRO), diesel range organics (DRO), residual range organics (RRO), and metals (arsenic, cadmium, chromium, and lead).

Site Investigation Activities
Former Fuel Distribution Area
Soil:
During the decommissioning and removal of the 3 fuel pipelines, soil with suspected petroleum hydrocarbon contamination was identified. Soil was excavated from 6 test pits to assess the nature and extent of contamination. Based on the initial assessment activities, an additional 20 test pits were investigated between 4 and 6 feet below ground surface (bgs). Table 1 shows the results of the soil samples collected from the former fuel distribution area.

Table 1: Soil contaminant levels – Former Fuel Distribution Area

Analyte	Detected Concentration Range (mg/kg)
GRO	4 – 1,100
DRO	25 – 6,610
Toluene	0.24
Ethylbenzene	0.59 – 3.10
Total xylenes	0.37 – 31.9
Naphthalene	3.490 – 9.810
Phenanthrene	0.034 – 0.368
Fluoranthene	0.002 – 0.003
Pyrene	0.002 – 0.003
Chrysene	0.002
Lead	2 - 13

NOTE: The maximum benzene level detected was 1.9 mg/kg which was the Practical Quantitation Limit (PQL) for the analytical method.

Water:
Water was encountered at approximately 4 feet bgs in the test pits and is assumed to be seasonally thawed supra-permafrost water. Analytical water samples were collected from 8 of the 20 test pits at the former fuel distribution area and the results can be found in Table 2. The water samples were analyzed for lead, BTEX and total aqueous hydrocarbons (TaqH).

Table 2: Water samples – Former Fuel Distribution Area

Analyte	Detected Concentration Range (µg/L)
Benzene	1.8 - 390
Toluene	ND - 460
Ethylbenzene	ND – 110
Total xylenes	9.6 – 220
Lead	ND
Naphthalene	ND – 379
Acenaphthylene	ND – 51.2
Fluorene	ND – 20
Phenanthrene	ND – 6.19
Anthracene	ND – 2.9
Fluoranthene	ND – 0.654
Pyrene	ND – 1.18

The groundwater at this site is not considered a drinking water source primarily because it is shallow (4 – 6 feet bgs) in nature and in an unsaturated condition. The groundwater contaminant levels were evaluated for migration and/or impacts to surface water.

Landfill Area

Soil:

There was a surface stain near the former landfill during cleanup activities and approximately 5 cubic yards of soil were excavated.

Additional field investigation activities included the excavation of 3 test pits and expansion of the original excavation approximately 2 feet below original depth and 2 feet into the north wall. Water was encountered approximately 6 feet bgs. Table 3 shows the contaminant levels in the soil at the landfill area.

Table 3: Soil contaminant levels - Landfill Area

Analyte	Detected Concentration Range (mg/kg)
GRO	3.7 – 17
DRO	15.7 – 1,250
Benzene	0.024
Toluene	0.14 – 0.15
Ethylbenzene	0.025
Total xylenes	0.033 – 0.09
1,3,5-Trimethylbenzene	0.045
Naphthalene	0.0975
Phenanthrene	0.0691
Pyrene	0.00211
Arsenic	1.86
Cadmium	0.167
Chromium	7.43
Lead	6.93

Cleanup Levels

The Sagwon Airstrip site is located within the Arctic Zone and the exposure pathways of ingestion, inhalation, and impacts to surface water were evaluated. The migration to groundwater pathway is not considered applicable at the site due to the permafrost layer. The contaminant levels were evaluated in accordance with 18 AAC 75.341 Tables B1 and B2 levels for ingestion and inhalation in the Arctic Zone. All soil levels at this site were below the ingestion/inhalation standard except for one sample (GRO - 2,470 mg/kg) collected from TP6 (location of the former fuel pump house) during the initial site characterization work.

The migration to surface water pathway was evaluated in accordance with site conditions. The unsaturated soil conditions of the gravel pad indicate that suprapermafrost water does not serve as a contaminant transport medium and therefore this pathway is not considered complete when establishing site cleanup levels.

The soil cleanup levels considered appropriate for this site are the ingestion and inhalation cleanup levels listed in Table 4.

Table 4: ADEC Soil Cleanup Levels - Sagwon Airstrip

Analyte	ADEC Cleanup Level (mg/kg) – Arctic Zone
GRO	1400
DRO	12,500
Benzene	13
Toluene	180
Ethylbenzene	89
Total xylenes	81
1,3,5-Trimethylbenzene	48.8
Naphthalene	180
Phenanthrene	41,000
Fluoranthrene	5,500
Pyrene	4,100
Chrysene	1,500
Arsenic	8
Cadmium	140
Chromium	410
Lead	400

The groundwater cleanup levels for this site are not based on drinking water standards (18 AAC 75.345 Table C) but are site specific dependent on migration potential and/or proximity to surface water.

ADEC Decision

ADEC has determined that the cleanup actions employed at the Sagwon Airstrip site were effective in removing the majority of the impacted soil. There is soil contamination that remains above the most stringent 18 AAC 75 .341 cleanup levels but the concentrations do not pose a risk to human health or the environment.

The suprapermafrost groundwater is not considered a drinking water source and, therefore, was evaluated for its potential to transport contamination from the source areas.

Based on the information provided to date, the nature and extent of the contamination does not pose a risk to human health, safety, welfare or the environment and, as a result, no further cleanup action at this site is required at this time. This decision is subject to the following conditions:

1. An institutional control (database entry) that identifies the remaining contamination will be entered into the ADEC's Contaminated Sites Database.
2. In accordance with 18 AAC 75.325(i), ADEC approval will be obtained prior to removal and/or disposal of soil and/or groundwater from this site.

3. The surface of the gravel pad shall be monitored to insure that any physical and/or thermal erosion (e.g. thermokarst) is minimal and that surface drainage is diverted away from contaminated areas. The owner and/or operator of the site is required to notify ADEC if the pad begins to erode in those areas of contamination.
4. In accordance with 18 AAC 75.380(d)(1), additional investigation and cleanup may be required if new information is discovered which leads the ADEC to make a determination that the cleanup described in this decision is not protective of human health, safety, and welfare or the environment.

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 of the decision. 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 of the decision. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have any questions, please contact Deborah Williams at (907) 451-5174 or via e-mail at Deborah_Williams@dec.state.ak.us.

Sincerely,

Deborah Williams

Deborah Williams
Environmental Specialist

Sincerely,

Jim Frechione
Environmental Conservation Manager

cc: Susan Flora, BLM
Mike Worley, BLM