STATE OF ALASKA

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

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File: 100.38.152
100.26.146

May 15, 2008

Mr. and Mrs. James D. O'Neill
P. O. Box 60630
Fairbanks, AK 99706-0630

Re: Chena Marina Subdivision Hangar
1092 Dolphin Way, Fairbanks Alaska

Dear Mr. and Mrs. O'Neill:

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program, reviewed the Alaska Resources and Environmental Services report titled *Phase II Environmental Site Assessment Report 1092 Dolphin Way* dated May 2003. Based on the information presented in the report, ADEC has determined that soil and ground water contaminant levels remain at the site above the most stringent 18 AAC 75 cleanup levels. However, the nature and extent of the contamination does not pose a risk to human health or the environment and will require no further cleanup action at this time.

Please note the following information that was considered in making the determination on the environmental status of this site including site specific conditions it is subject to.

Site Background
The property is 2.06 acres zoned General Residential and described as Lot 4, Block 6, Chena Marina, Second Addition, Tax Lot 2202, within Section 22, Township 1 South, Range 2 West, Fairbanks Meridian. It is located in a residential area with commercial businesses primarily associated with aircraft storage, maintenance and repair. The only structure on the subject property is an aircraft hangar with a footprint of approximately 5,418 square feet. It is bordered by Dolphin Way on the west and the Chena Marina airstrip and float pond on the east. North and south of the property are residential properties.

There were underground storage tanks (USTs) for aviation gasoline and waste oil previously on site but were removed in 1995 and 1996. There was no evidence of contamination associated with the aviation gas tanks (refer to ADEC file 100.26.146) but the waste oil tank had unresolved issues regarding its contents and their disposal. The UST issues were resolved and ADEC closed this portion of the site in 2003.

However, there also was a floor drain in the hangar connected to a domestic wastewater system (leach field). It reportedly was used to discharge liquid waste stream from the hangar operation and was classified as a Class V Underground Injection Control (UIC) well regulated under federal and state laws. There was soil and ground water contamination identified above ADEC cleanup levels in the vicinity of the leach field and the floor drain was plugged and the piping disconnected to the leach field. However, the leach field remained in place.

An assessment of the leach field consisted of soil screening that did not detect any contamination in proximity but two soil samples were collected within the leach field box itself. The samples were composed of sediments and sludge with high moisture content. The analytical results detected diesel range organics (DRO) above ADEC cleanup levels. However, due to the nature of the leach field (i.e. mixture of domestic waste and industrial), it was possible that the elevated DRO was due to biological interferences and not necessarily petroleum compounds.

The arsenic concentration of 23.2 milligrams per kilogram (mg/kg) was slightly elevated above cleanup level but within the range of arsenic concentrations for this area. The total chromium soil concentration was not speciated (between trivalent versus hexavalent) but based on the groundwater analysis for the site, it was concluded to be trivalent and not above the established cleanup level.

The site is located in an area of discontinuous permafrost and data from private drinking water wells in the area indicate that the groundwater is present as a shallow (unconfined) aquifer underlain by 50 feet of permafrost. The deeper aquifer is located beneath the permafrost and the drinking water wells in this area are all screened in the deep aquifer. The on-site well was drilled to100 feet and it reportedly was through 75 feet of continuous permafrost.

There were several monitor wells installed in the shallow aquifer to determine groundwater quality conditions. There were two sample events conducted at this site. The September 2001 event detected groundwater contamination above ADEC cleanup levels but the May 2002 event did not. Furthermore, the groundwater contamination was detected only in the monitor well adjacent to the former leach field whereas the down gradient wells did not detect any contaminants.

The total chromium in groundwater was speciated to determine the toxicity of the contamination. There was no detection of the hexavalent chromium (more toxic) resulting in the determination that the chromium present was trivalent chromium which has a cleanup level of 55 milligrams per liter (mg/L).

Contaminants of Concern

The contaminants methylene chloride, DRO, arsenic, and chromium were detected in the soil above the respective cleanup levels with results summarized in the following table:

Soil Contaminant	Detected Concentration (mg/kg)	ADEC Cleanup Levels (mg/kg)
Methylene Chloride	0.268	0.015
Diesel Range Organics (DRO)	4370	250
Arsenic	23.2	2
Total Chromium	544	26

The contaminants methylene chloride, 1, 2-Dichloropropane, and chromium were detected in the groundwater above their respective cleanup levels with results summarized in the following table:

Groundwater Contaminant	Detected Concentration (mg/L)	ADEC Cleanup Levels (mg/L)
Methylene Chloride	0.0340	0.005
1,2-Dichloropropane	0.0102	0.005
Total Chromium	0.158	0.1

Exposure Pathway Evaluation
The exposure pathways evaluated at the site include ingestion, inhalation and direct contact. However, there is no soil contamination that exceeds the health risk based levels for these exposure pathways.

The migration to ground water pathway is complete and the shallow groundwater has been impacted above ADEC cleanup levels. However, the shallow groundwater is not used as a drinking water source and conditions will be attached to this decision document to ensure owners/operators do not use this groundwater until it meets established cleanup levels.

Cleanup Levels
The soils cleanup levels established for this site are the 18 AAC 75.341 Tables B1 and B2, "under 40 inch zone" migration to ground water levels.
The ground water cleanup levels are the 18 AAC 75.345 Table C levels.

ADEC Decision
Based on the information provided to date, ADEC requires no further cleanup actions at this site and it will be listed as conditionally closed, subject to the following conditions:

1. The owner/operator of this property, in accordance with18 AAC 75.325(i), shall notify ADEC in the event soil excavation and removal in the vicinity of leach field is proposed.
2. The owner/operator shall not extract and/or discharge any groundwater from the shallow (unconfined) aquifer without prior review and approval of ADEC in accordance with 18 AAC 75.325(i).
3. A Notice of Environmental Contamination shall be listed on the ADEC database notifying owners and/or operators at the site that residual soil and groundwater contamination remains subject to conditions.

In accordance with 18 AAC 75.380 (d)(1), additional investigation and cleanup may be required if new information is discovered which leads ADEC to make a determination that the cleanup described in this decision is not protective of human health, safety, and welfare or the environment.

Site closure (without conditions) will be considered after it is documented that soil and groundwater have achieved the established cleanup levels for this site.

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 Neal Everson at (907) 451-2117 or via e-mail at neal.everson@alaska.gov.

Sincerely,

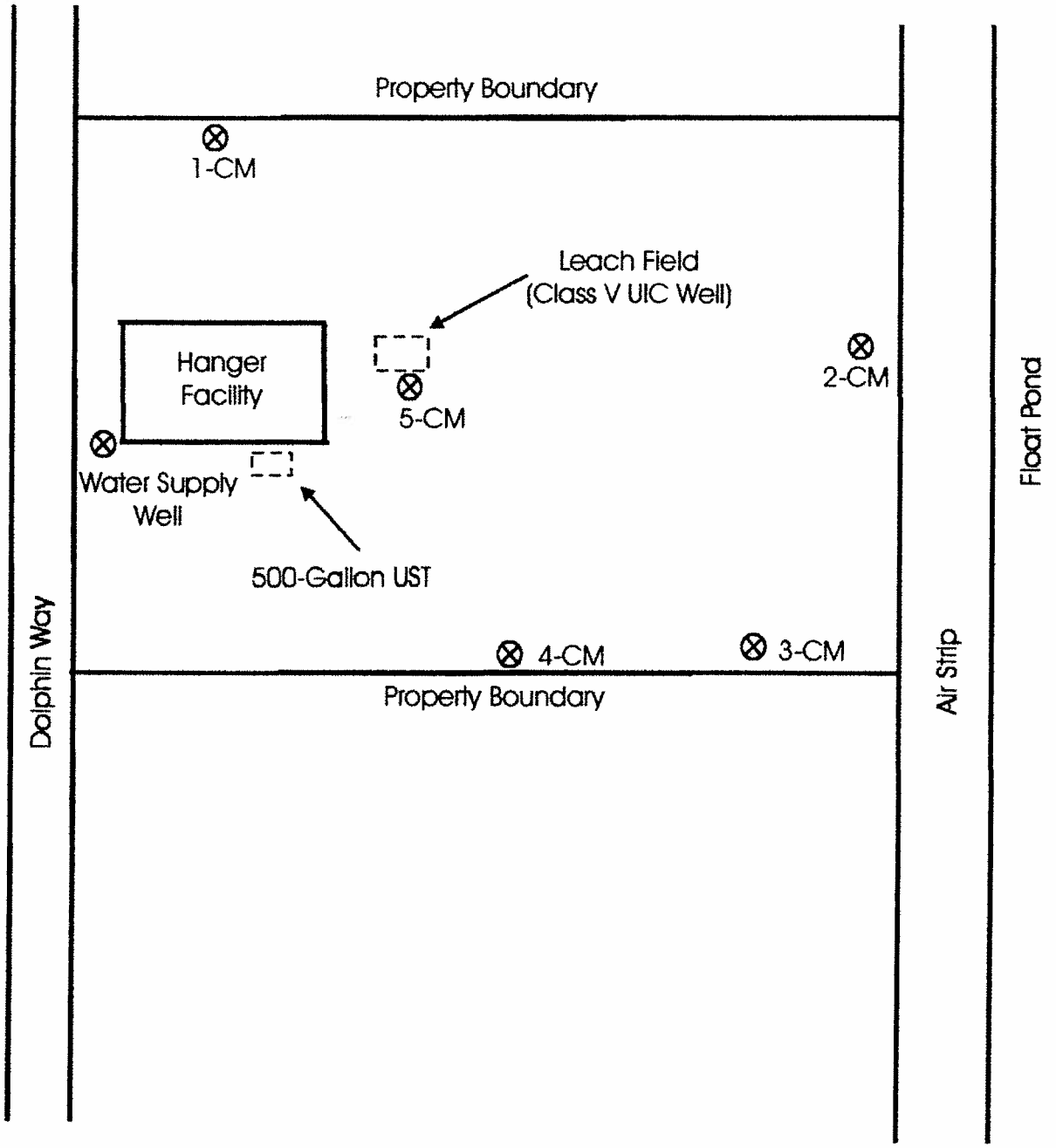
Neal Everson
Environmental Program Specialist

Sincerely,

Jim Frechione
Environmental Program Manager

Enclosure: Figure 2

CC: Jennifer Parker, EPA UIC Program, Region 10/Seattle



N	SCALE (FEET) 0 — 85	**PHASE II ESA** 1092 Dolphin Way Fairbanks, Alaska May, 2003	**Figure 2** **Site Map**