Environmental Restoration News

U.S. Army Alaska — Fort Richardson

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RAB Update

The Fort Richardson Restoration Advisory Board (RAB) met at the Russian Jack Chalet on April 25, 2002. Agenda items included updates about the Two-Party Agreement sites and the Operable Units. These updates are summarized in this newsletter.

In addition, Dr. Mark Prieksat, the Army's RAB Co-Chair, provided a briefing to attendees on the Eagle River Flats Litigation.

The next RAB meeting has been tentatively scheduled for June 27, 2002. The RAB meeting will likely be a field trip on Fort Richardson to view some of the field activities and remedial investigation progress being made at Operable Unit E (Building 35-752 and the Armored Vehicle Maintenance Area).

IN THIS ISSUE

Information Repositories

The Fort Richardson Administrative Record is located in four information repositories in the Anchorage area. The information repositories contain microfiche copies of the Administrative Record, an index of documents, and site summaries for each of the five Operable Units at Fort Richardson. The information repositories are listed below:

U.S. Army Alaska
Directorate of Public Works
Environmental Resources Department
730 Quartermaster Road, Bldg. 724
Fort Richardson, AK 99505-6500
(907) 384-2176

Hours: Monday through Friday, 8 a.m. to 5 p.m.

(This office maintains the Administrative Record in paper form, on microfiche, and on CD-ROM.)

Fort Richardson Post Library
Building 636
B Street
Fort Richardson, AK 99503
(907) 384-1648

Hours: Monday through Thursday, 11 a.m. to 8 p.m.; Saturday 1 p.m. to 5 p.m.; Closed on Friday and Sunday.

Alaska Resource Library and Information Services
3150 C Street
Anchorage, AK 99503
(907) 272-7547

Hours: Monday through Friday, 8 a.m. to 5 p.m.

University of Alaska Anchorage Consortium Library (Reserve Desk)
3211 Providence Drive
Anchorage, AK 99508
(907) 786-1871

Summer Hours: Monday through Friday, 7:30 a.m. to 8 p.m.; Saturday, 12 noon to 5 p.m.; Sunday, closed.

Two-Party Agreement Sites

Building 762-786

This site was formerly a gas station and is currently a parking lot used for winter driver training. After investigation, the Army has determined that the contamination at this site is limited to diesel range organics (DRO). The Army is evaluating recommendations to install wells for long-term monitoring of groundwater at the site. Active remediation for this site is not feasible because the levels of soil contamination are low and the contamination is located relatively deep in the subsurface.

Building 986

Building 986 is the former Operable Unit A (OUA) site that serves as the petroleum-testing laboratory. A dry well connected to a dump-sink in the building was the source of contamination at the site. Petroleum samples were routinely dumped into the sink as a means of disposal. The soil vapor extraction (SVE) bioventing system has been brought back on-line and is scheduled to operate for another year. At the end of that cycle, confirmation soil samples will be collected to determine if operation of the system was successful at remediating the site. The Army conducted a test to determine whether biological activity was present in association with the treatment system. This test showed that biological activity is present, which indicates that the SVE system is actively remediating the site. Soil stockpiles associated with removal actions that occurred at both Building 986 and 987 will be sampled and treated this summer.

Building 987

This building was the pump house at a former petroleum, oil, and lubricants storage facility. The U.S. Army Corps of Engineers is developing a site evaluation plan. The Army is looking at the possibility of installing downgradient groundwater monitoring wells at the site and initiating a long-term groundwater monitoring program. Elevated levels of benzene were detected during demolition of the fuel facility, but there does not appear to be a significant risk to human health and the environment at the site because it is capped with asphalt and no surface contamination has been detected.

ACRONYMS

DRO
Diesel range organics
OU
Operable Unit
SVE
Soil vapor extraction
UST
Underground storage tank

Building 28008

This site is the water treatment facility on Fort Richardson, located off of Arctic Valley Road east of Moose Run Golf Course. Petroleum contamination was discovered during removal of two 10,000-gallon diesel fuel tanks in 1995. Diesel fuel contamination has been detected in several groundwater monitoring wells at the site. Although it appears that the plume is stable,

Two-Party Agreement Sites

there are not enough monitoring data to perform a trend analysis. The Army is considering remedial action at the site, but it is a difficult case because the plume extends underneath the building.

Buildings 35610 and 35620

These buildings are pump houses used to operate backup water supply wells on Fort Richardson. A significant removal of contaminated soil occurred at these sites about 2 years ago. Benzene was the only contaminant detected during the fall 2001 groundwater sampling event. However, because benzene was also detected in a rinsate blank sample, the result is suspect. The wells will be sampled again this spring to determine whether the benzene detected during the fall sampling event was “real” or a result of cross-contamination.

Building 47220 is a former underground storage tank (UST) site at the Old Boat Yard near Bryant Army Air Field. The UST was removed a couple of years ago. At that time, diesel fuel contamination associated with the UST was discovered in the soil. The groundwater at this site has not been impacted. The Army is developing a leachability assessment and is considering performing a limited source removal at this site. The Army is hoping to close the site by the end of September 2002.

This building is located at the Small Arms Range and was formerly a self-contained operations bunker. Two 10,000-gallon underground storage tanks were used to store diesel fuel that ran generators associated with on-site bunkers. Diesel fuel has been detected in one of the monitoring wells at the site. Two downgradient wells were installed during the fall of 2001. A passive product recovery system has been installed to collect diesel fuel from the impacted well. Recovery of the diesel fuel has occurred in small amounts, for example, 1 or 2 gallons every month.

Addressing this site is difficult because only limited soil contamination has been detected that would justify installing a treatment system. The Army will continue to monitor groundwater contamination associated with this site. The Army plans to (1) install downgradient “sentinel” wells (i.e., a row of wells downgradient of the building) to monitor potential movement of the groundwater plume and (2) conduct long-term groundwater monitoring with the hope that the diesel fuel will naturally attenuate (i.e., lessen) over time.

Operable Unit Updates

Operable Unit B – Poleline Road Disposal Area

This newsletter edition includes historical and current status information about the Operable Unit B (OUB) - Poleline Road Disposal Area site in an effort to educate, or reeducate, newsletter readers about the site and its status within the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) framework.

The Poleline Road Disposal Area

The Poleline Road Disposal Area was discovered in 1990 through interviews with former soldiers who worked at the site and indicated that they had participated in the disposal of chemicals, smoke bombs, and Japanese cluster bombs. Part of what led to the identification of the site was the discovery of some historic aerial photographs that showed disposal trenches at the site. The area was used for disposal from 1950 until 1972.

ACRONYMS

CAIS
Chemical agent identification sets
CERCLA
Comprehensive Environmental Response, Compensation, and Liability Act
CRREL
U.S. Army Cold Regions Research Environmental Laboratory
OU
Operable Unit
RAO
Remedial Action Objectives
ROD
Record of Decision
SVE
Soil vapor extraction

Contamination Source

During the disposal process, shallow trenches were excavated and a lime solution was placed in the bottom of the trenches. Chemically contaminated materials and chemical agent identification sets (CAIS) were then placed in the trenches and ignited with thermal grenades. After the materials were burned, a bleach and solvent solution was poured on top to further denature the chemical. This explains why the contamination at the site is a chlorinated solvent plume.

OPERABLE UNIT B

Site Investigation and Removal Actions

A site investigation was conducted at the site in 1991 and 1992, and removal actions occurred in 1993 and 1994. The removal actions uncovered the CAIS that are now stored in Ammo Area A at Fort Richardson. The site investigation detected elevated levels of chlorinated solvents in soil and groundwater. The remedial investigation and feasibility studies were conducted in 1995 and 1996.

Treatability Study

A treatability study for soil vapor extraction (SVE) and air sparging was conducted in 1996; a second study for SVE was also conducted in 1996. The OUA/OUB Record of Decision (ROD) was signed in 1997. A design verification study for the six-phase soil heating system was conducted in 1997. A high-vacuum extraction treatability study was conducted in 1998, and the six-phase soil heating system was operated again in 1999.

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Operable Unit Updates

Operable Unit B – Poleline Road Disposal Area (cont.)

Selected Site Remedy

The ROD states that the selected remedy for this site is high-vacuum extraction with long-term monitoring. The major components of the selected remedy include the reduction of contaminant levels by treating "hot spot" areas. An area is considered to be a "hot spot" if 1,1,2,2-tetrachloroethane has been detected over 1 part per million. Other components of the remedy were to conduct treatability studies to evaluate new technologies, establish site-wide institutional controls, allow natural attenuation of the groundwater plume outside the "hot spot," and conduct long-term monitoring of groundwater as part of the ROD.

Remedial Action Objectives

The remedial action objectives (RAOs) established for the site are to:

- Reduce contaminant levels in groundwater to comply with drinking water standards;
- Prevent soil from continuing to act as a source of contamination;
- Prevent contaminated groundwater from adversely affecting Eagle River; and
- Minimize degradation of Alaska's groundwater resources.

The Army has met the objective of preventing soil from continuing to be a contaminant source. Eagle River is located approximately 1.5 miles from the site; therefore, the Army believes that the RAO for preventing adverse effects to Eagle River has also been met.

Although the drinking water quality standards RAO has not yet been met, the Army expects this RAO will be achieved through natural attenuation of contaminants in groundwater. When the drinking water RAO is met, the RAO related to the degradation of groundwater will also be met. Currently, six-phase soil heating has decreased soil contaminant levels in the "hot spot" areas by about 97 percent, and an approximate 70 percent decrease of contaminant levels in groundwater has been observed.

The Army is currently conducting long-term groundwater monitoring and allowing natural attenuation to occur in groundwater. The Army plans to continue geophysical investigations at the site to further map the area for a better understanding of the groundwater flow conditions.

The Army is in the process of developing an interim remedial action report, which should be available later this summer. The report will discuss the history of the investigations at the site and evaluate how the RAOs are being met through the activities performed at the site.

Long-term Groundwater Monitoring

The Army will conduct biannual long-term groundwater monitoring of the site, at least through September 2003. From that point, the Army may choose to conduct annual groundwater monitoring but will coordinate with the U.S. Environmental Protection Agency and the Alaska Department of Environmental Conservation to develop the long-term monitoring plan. When the Army drafts the exit strategy for the site, it will detail the frequency of sampling and number of wells to be sampled.

The Army will install additional groundwater monitoring wells this summer. Geophysical studies will occur in early fall and will identify areas where new downgradient wells will be installed. The U.S. Army Corps of Engineers Cold Regions Research and Engineering Laboratory (CRREL) has developed a visual model of the site. The model will be used to visualize the geology at the site and to track contaminant-level changes over time.

Operable Unit Updates

Operable Unit C - Eagle River Flats

OPERABLE UNIT C

Remedial Activities

The Army is in the process of preparing for the fourth field season of post-Record of Decision remedial activities at Operable Unit C (OUC). An attempt was made to install a gravel floodgate on the Bread Truck ditch during this past winter. However, because of the method used to install the floodgate, it has only been marginally successful and will probably not last through the summer season.

Pond Pumping

Six pumps will be deployed again this year in a continuing effort to remediate the white phosphorus in the pond sediment. Some demolition work was completed this past winter when it was easier to access the wetland. Additional demolition work was done in May 2002 to enhance some of the drainage ditches and to expand the sump pits in the ponds.

Pond pumping will probably end in late August because tides are expected to be high in September. Bird telemetry and sediment sampling will be conducted in the fall of 2002. The Army is in the process of developing an interim remedial action report for OUC that should be available to the public in the fall of 2002.

Operable Unit E - Armored Vehicle Maintenance Area and Building 35-752

Remedial Investigation

The Army awarded the remedial investigation and risk assessment work for Operable Unit E (OUE) in early June. The work for the remedial investigation will begin shortly after contract award.

There are two sites within OUE:

1. Building 35-752, and
2. The Armored Vehicle Maintenance Area.

The remedial investigation for both sites will involve the collection of soil and groundwater samples.

OPERABLE UNIT E - Armored Vehicle Maintainence Area

Transferring Army Property

Sometimes the Army receives inquiries as to whether portions of land it occupies can be transferred to or purchased by other parties. For example, a couple of years ago, 3 acres of Fort Wainwright were reassigned to the Fairbanks North Star Borough for a solid waste transfer station. This land was not a contaminated site.

With the closure of installations and a greater demand for land use, the Army often receives requests for the transfer of contaminated sites as well.

Prior to any transfer, an investigation has to occur to determine whether any hazardous substances, petroleum products, or petroleum-product derivatives were released or disposed of on the property.

Also, for National Priorities List (NPL) sites, such as Fort Richardson, the U.S. Environmental Protection Agency has to concur with the conclusion of the investigation and to approve property transfer.

The bottom line is that for property transfer to occur there should be no "threat to human health or the environment" as a result of transfer. NPL-listed sites, or areas with treatment or monitoring, generally do not meet the criteria and would therefore not be available for transfer out of Army jurisdiction.

However, exceptions have been known to occur, and there is no strict rule that applies to every site.

Prior to any transfer, an investigation has to occur to determine whether any hazardous substances, petroleum products, or petroleum-product derivatives were released or disposed of on the property.

TO CONTACT US

If you have questions about the environmental program at Fort Richardson, or would like to be added or deleted from the mailing list, please contact:

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