



Environmental Restoration News

U.S. Army Alaska

Fort Wainwright

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The “Last” Restoration Advisory Board Meeting

The U.S. Army Alaska convened the “last” Restoration Advisory Board (RAB) Meeting on July 15, 2003. While the Army has no plans for additional RAB meetings, if there is a need identified in the future, the Army will reconvene the RAB. The Army is preparing the final documentation required to formalize the adjournment of the RAB.

The Army wishes to thank the RAB members for all their years of service and interest in the environmental restoration activities at Fort Wainwright. This newsletter will continue to be published quarterly to keep interested individuals informed of the status of site work.



RAB Community Co-Chair, Christine Storey, Therese Deardorff, Army Co-Chair, and Ann Farris, the ADEC Project Manager for Fort Wainwright, at the “last” meeting in July.

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Site Updates

Operable Unit 1

Operable Unit (OU) 1 includes the phytoremediation soils located across the street from the Fort Wainwright landfill and the 801 Drum Burial Site.

The Army completed construction of the new landfill cell at the Fort Wainwright landfill to accept the phytoremediation soils from their location across from the Fort Wainwright landfill. The landfill cell design has been approved by the Alaska Department of Environmental Conservation (ADEC). In October 2003 the soils were moved into the new lined cell and covered. The cell will be permanently sealed in the spring of 2004.

The 801 Drum Burial site is currently undergoing a Cleanup Operation Systems Site Exit Strategy (CLOSES) evaluation. The next groundwater monitoring event at the 801 Drum Burial site is scheduled for March 2004.

Operable Unit 2

OU2 includes the groundwater beneath the Defense Reutilization and Marketing Office (DRMO) Yard. OU2 also consists of Building 1168, which was closed approximately 3 years ago. The Army continues to monitor the site for rebound contamination.

The Army installed two groundwater monitoring wells at the DRMO Yard in October 2003. The wells were installed to support the Army, U.S. Environmental Protection Agency (EPA), and ADEC decision that the active treatment system may no longer be necessary. EPA and ADEC have required that the Army monitor groundwater for any rebound of contamination. The additional two wells will be sampled along with previously installed groundwater monitoring wells during the regular sampling events at this site to help confirm that rebound has not occurred. The Fall 2003 sampling event occurred. The CLOSES evaluation for this site and future monitoring requirements will be decided based on that report.

The Building 1168 site is currently undergoing a CLOSES evaluation. In addition, the treatment system was decommissioned in early October 2003 and has since been removed.

Operable Unit 3

OU3 consists of three sites: 1) mileposts 2.7 and 3.0, 2) the Railcar Off-Loading Facility (ROLF), and 3) the Birch Hill Tank Farm.

The soil stockpiles located at Milepost 2.7 and Milepost 3.0 were decommissioned this fall. The soil stockpiled at both mileposts had been contaminated with petroleum and was being treated using an air sparge system. The treatment of the soil worked well, resulting in the removal of 8,400 cubic yards of “clean” soil from the stockpiles to the Fort Wainwright landfill for use as fill material. The resulting 1,100 cubic yards of soil will be removed from Fort Wainwright by a contractor who will treat the soil in an off-site soil burner.

A total of 4 multi-level groundwater monitoring wells were installed in the Birch Hill area. These wells are specialized to allow for sample collection at varying levels from one borehole. The groundwater monitoring wells installed in Birch Hill have 6 sample ports per well. The maximum depth of the wells ranges from 150 to 250 feet below ground surface. See related story on page 5 about borehole geophysics.

The Product Recovery System on Birch Hill has been shut down since August.

The Army is conducting a rebound study. The first round of samples was collected in August, a second set collected in October, and a third round of samples is scheduled to be collected in January 2004. More information about the rebound study will be reported in future newsletters.

Seismic and geophysical testing was conducted by the Cold Regions Research and Engineering Laboratory (CRREL). The data that was collected will help update the computer model of the Birch Hill area.

ACRONYMS

RAB

Restoration Advisory Board

OU

Operable Unit

ADEC

Alaska Department of Environmental Conservation

CLOSES

Cleanup Operation Systems Site Exit Strategy

DRMO

Defense Reutilization and Marketing Office

EPA

U.S. Environmental Protection Agency

ROLF

Railroad Off-Loading Facility

CRREL

Cold Regions Research and Engineering Laboratory

FFA

Federal Facilities Agreement

Operable Unit 4

OU4 consists of the former Fort Wainwright landfill and the Coal Storage Yard located behind the Power Plant.

The Fall 2003 groundwater sampling event took place at the landfill in September 2003. Results indicate that no contaminant migration is occurring. The next round of groundwater samples is scheduled to be collected in spring 2004.

The site conditions at the Coal Storage Yard site continue to improve. The CLOSES evaluation for this site indicates that no additional soil sampling is needed and that the frequency and number of wells included in the groundwater sampling events can be decreased.

Operable Unit 5

OU5 consists of two sites: the Birch Hill Tank Farm site and the Former East Quartermaster's and West Quartermaster's Fueling System sites.

The CLOSES evaluation conducted for OU5 concluded that a reduced number of monitoring wells could be sampled as part of the long-term groundwater monitoring program. These wells were sampled in October 2003. Discussion continues as to whether soil vapor extraction may be turned off at the horizontal well system during the 2004 season; this will be decided at the January 2004 Federal Facilities Agreement (FFA) meeting.

The Chena River boom system, which had been in place all summer in the Chena River near the Quartermaster Fueling System sites, was removed prior to the river freezing. The boom will be replaced in the river next spring/summer 2004.

Two-Party Agreement Sites Update

There are 10 Two-Party Agreement sites on Fort Wainwright. These are the sites that are being addressed through a formal agreement between the U.S. Army and State of Alaska because the only contaminant of concern at these sites is petroleum, which is not monitored by the EPA. The Army has and continues to work closely with ADEC to address these sites.

Building 2250 (at the golf course)

An air sparge/soil vapor extraction (AS/SVE) system is in place and operating. This is one of the sites where an innovative technology called laser-induced fluorescence or LIF was used in October 2003. (See related article about LIF on page 4 of this newsletter.) Due to technical difficulties and schedule constraints with the LIF probe truck, the limits of contamination were not defined during the October 2003 field event. The Army hopes to bring the LIF truck back to Fort Wainwright for more work at Building 2250.

Buildings 2111/2112 (located on the runway)

The Fall 2003 semi-annual groundwater sampling event was conducted in September 2003. The air sparge treatment system has been shut down at this site during the winter months.

Building 2077

The AS/SVE system in place at Building 2077 was disconnected and moved in July 2003. A “hot spot” or specific area of petroleum-contaminated soil was identified and excavated in October 2003. Once analytical results are obtained, future planning for this site will occur. Initial indications are that the soils removed were in fact a large cause of remaining contamination; the report will be available by the January 2004 FFA meeting. Based on that report, new groundwater monitoring well(s) could be installed in summer 2004.

Buildings 1002 and 1168

Long-term monitoring plans for these sites are complete and groundwater monitoring schedules have been negotiated for both sites. The treatment systems at these two sites were decommissioned and removed in fall 2003.

Neely Road

A previous site investigation conducted at Neely Road determined that contaminated soil is present. The Army chose to use the innovative technology LIF to define the area of contamination at the site. The fieldwork was conducted in October 2003. The results from the fieldwork are expected in December 2003.

Building 3483

The treatment system was decommissioned and removed in July 2003.

North Post Site

Groundwater samples were collected in fall 2003. A CLOSES evaluation study will be conducted. Following receipt of the analytical results and the CLOSES evaluation, a site monitoring schedule for 2004 will be developed.

IAP Workshop

The Installation Action Plan (IAP) for Fort Wainwright was updated at a U.S. Army Environmental Center (USAEC) facilitated workshop in August 2003. The IAP is updated annually and outlines the total multi-year integrated, coordinated achieving an installation’s restoration goals. The plan is used by USAEC, major commands (MACOMs)/major subordinate commands (MSCs), and installations to monitor requirements, schedules, and budgets. For each site the IAP documents Installation Restoration Program requirements, the rationale for the technical approach, and the corresponding financial requirements. Participants included the Army, EPA, ADEC, USAEC, and USACE.

There are 19 active sites listed for Fort Wainwright: Building 2077, Coal Storage Yard, Landfill Plume, DRMO Salvage Yard, North Post, Fairbanks Fuel Terminal, 801 Drum Burial Site, Building 1168, ROLF, Fairbanks Eielson Pipeline Spills, Building 5110, Buildings 2111/2112, Former Quartermaster Fueling System, Building 1002, Birch Hill Above Ground Storage Tanks, Building 1168 Underground Storage Tank, Building 3564, Building 2250, and Neely Road. Each site was reviewed, discussed, and updated in an open forum with the participants to ensure the accuracy and usability of the document. The Fort Wainwright IAP is currently in draft status and is expected to be finalized by March 2004. Copies of the updated IAP will be available at the administrative record repositories.

ACRONYMS

AS/SVE

Air sparge/soil vapor extraction

LIF

Laser-induced fluorescence

IAP

Installation Action Plan

USAEC

U.S. Army Environmental Center

MACOM

Major command

MSC

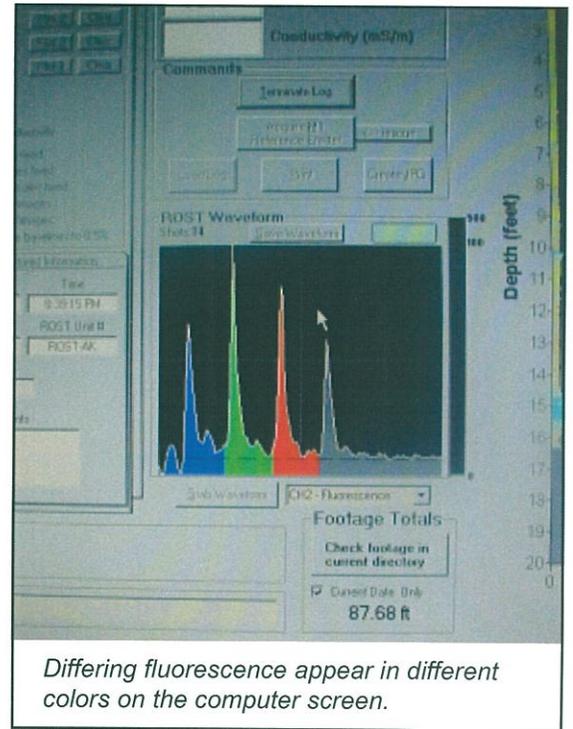
Major subordinate command

Laser-Induced Fluorescence Technology at Fort Wainwright

CRREL and the U.S. Army Corps of Engineers, Alaska District (USACE), worked with the Army on the application of an innovative technology at two sites on Fort Wainwright called laser-induced fluorescence or LIF.

LIF is a technology that uses a double fiber optic line inserted within a probe, which is pushed below ground surface and used to detect contaminants that have specific chemical properties. One fiber optic line sends a laser pulse down into the ground, the second fiber optic line receives the fluorescence reflection from a mirror at the bottom of the probe. At Fort Wainwright, the contaminants of concern at the Neely Road site and at the Building 2250 site are gasoline-range and diesel-range organics. These contaminants each give off a different fluorescence measured as a wavelength read on the computer as different colors.

The purpose of the investigation using LIF was to delineate the area of contamination at each of the sites. Information from previous reports was used and confirmation samples were collected. The data correlations indicated that the LIF technology was a useful and cost-effective tool to delineate the area of contamination. The fieldwork was conducted in October 2003 and lasted approximately 2 weeks. The field team was able to delineate the area of contamination at the Neely Road site; but due to technical difficulties and broken equipment, work at Building 2250 was not completed.



Differing fluorescence appear in different colors on the computer screen.



The LIF probe is mounted on the back of a flat-bed pickup truck, which allows for flexibility during fieldwork.

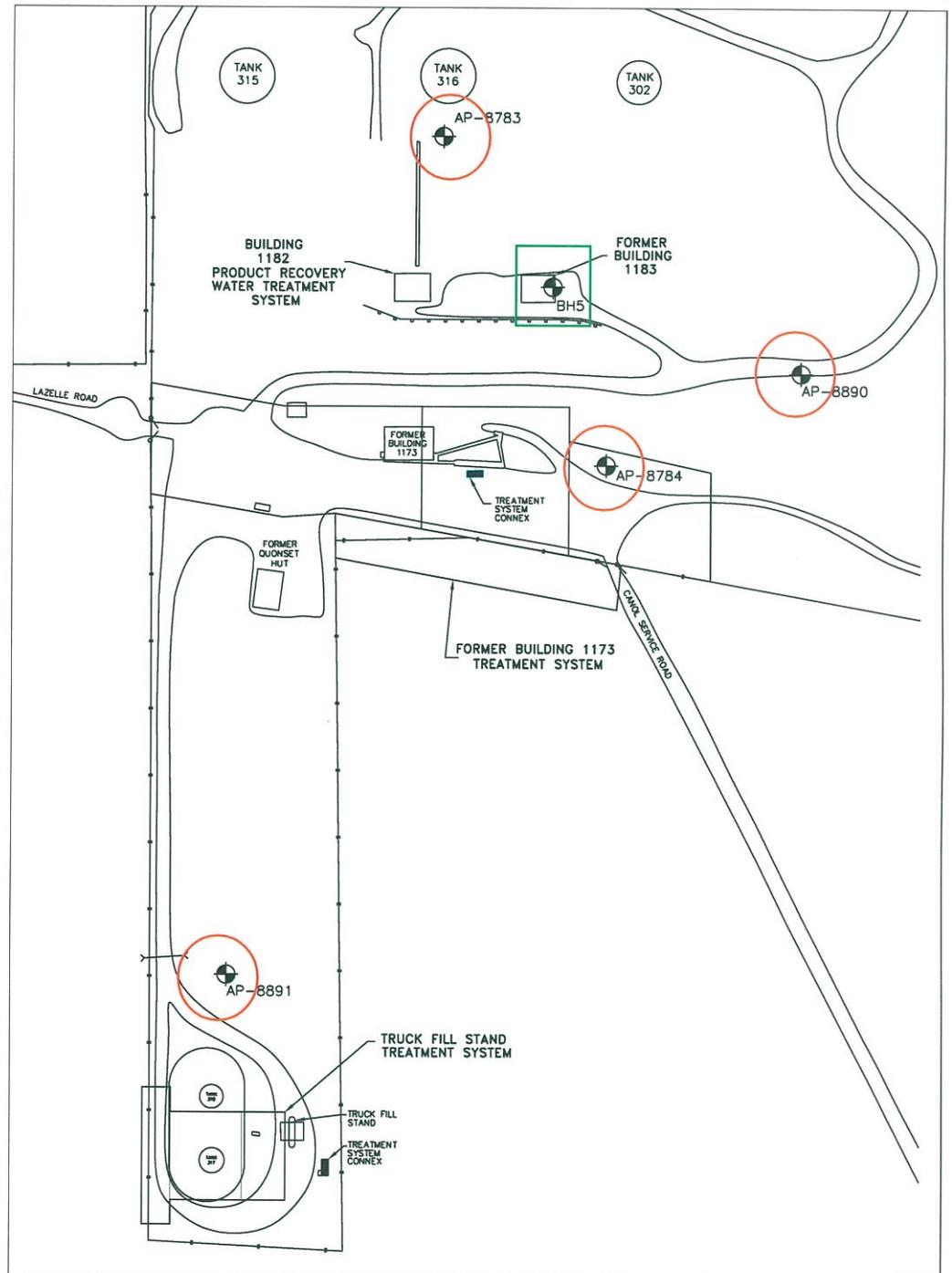
Deep Well Drilling and Well Installation at Birch Hill

In July and September 2003, the Army drilled four deep boreholes and one angled borehole in the Birch Hill area in a continued effort to gain better information on contaminant flow in bedrock fractures and evaluate the geology and groundwater flow patterns. The data was also used to support the geologic model being developed in this area. Four of the boreholes were developed into multi-level groundwater monitoring wells. The multi-level wells were installed to obtain groundwater samples and hydraulic head measurements from several discretely isolated zones in the boreholes up to 250 feet deep. The fifth borehole was an angle boring drilled to a depth of 125 feet below ground surface. It was not developed into a monitoring well. Well and borehole locations are shown in the figure below.

Groundwater samples were collected from each of the six ports within each of the four multi-level wells following their installation. The wells installed in July have been sampled twice; the wells installed in September sampled once. Samples will be collected from all ports in each of the four wells in January 2004.

CRREL supported this project by logging and classifying the rock core removed from the boreholes. The material was laid out and is being stored in plastic core boxes at Fort Wainwright.

CRREL also provided support by conducting geophysics evaluations in each of the boreholes. The information gathered in these investigations will be especially important to the Army for developing the geologic model of the area.



Source: Fairbanks Environmental Services

Alaska Forum on the Environment

The Annual Alaska Forum on the Environment will be held from February 9 through 13, 2004, in Anchorage at the Egan Convention Center. This conference also includes the Statewide RAB meeting, which will be held on February 12 from 8:00 a.m. to 5:00 p.m. All RAB Community Co-Chairs are invited to participate. More information, including an agenda, can be found at www.akforum.com or call toll free (888) 301-0185.

Contact Info:

For more information about the Fort Wainwright Environmental Restoration program, contact Therese Deardorff, U.S. Army Alaska Project Manager.

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