

SUPERFUND

Fact Sheet

WYCKOFF/EAGLE HARBOR SUPERFUND SITE

Bainbridge Island, Washington



U.S. ENVIRONMENTAL PROTECTION AGENCY

May 2003

Steam Cleaning at Wyckoff: Schedule Delayed

EPA began the steam injection cleanup pilot project in October 2002. The good news: the technology began successfully removing wood-treating contaminants from the groundwater. The not-so-good news: the concentration and chemical make-up of the contaminants caused several mechanical and chemical problems. EPA is evaluating these problems and plans to make changes to both the steam injection system and the water treatment system.

Chemical incompatibility and clogging are two of the issues encountered. Tests show large amounts of a chemical in the groundwater called naphthalene. As the naphthalene is pumped out, it causes problems with the seals and gaskets and it clogs in the equipment.

"These early results give us important information," says the new EPA Project Manager Mary Jane Nearman. "These pilot tests for developing new technologies help us optimize the system and make any changes to deal with site-specific conditions at Wyckoff." EPA remains committed to making the pilot as successful as possible for the Wyckoff site, as well as to advancing our understanding of this technology nationally. The early testing has provided valuable information as EPA moves forward to make necessary design changes and system modifications.



EPA plans design changes in Wyckoff's cleanup plant.

Initially, EPA had been hopeful that the existing treatment plant would be capable of treating the extracted groundwater contamination. Now it has become clear that the treatment plant likely will need significant modifications to handle the large increase in contamination coming through the system. EPA is now evaluating necessary design changes to treat the groundwater to meet regulatory requirements before it is released into Eagle Harbor.

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Schedule Delayed

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In light of these challenges, the pilot test schedule will be delayed. EPA will spend the next six months evaluating the early test results and retrofitting both the steam injection and water treatment plants. Steam injection would likely restart in fall 2003 and continue for six to eight months or until contaminant extraction volumes are small and no longer cost-effective to pump out. After EPA evaluates the data, proposals can be made about moving forward with a larger cleanup effort.

There have been no reported problems with odors or vapors. There has been some minor increased noise. Because there are more contaminants being treated by the cleanup system, a pump to press solids has been operating more often. EPA is committed to minimizing noise and other nuisances.

New Information About Lower Aquifer

The main area of contamination targeted for soil and water cleanup is immediately under the old Wyckoff process area. That area is called the **upper aquifer**. Below that area is another aquifer, called the lower aquifer. *(An aquifer is an area of underground water.)* A layer of clay forms a barrier between the two aquifers. However, there appear to be areas where the barrier is made up of mostly sand instead of clay. In those areas, water can seep between the two aquifers.

Because of concerns about contamination seeping from the upper contaminated aquifer into the lower aquifer, EPA has been monitoring the aquifers. EPA has known for some time that some contamination has existed in the lower aquifer. (The lower aquifer is not used as a water source.) Recently, however, additional contamination was discovered in the lower aquifer. EPA will continue to monitor the upper and lower aquifers and conduct more hydrogeologic studies to determine the potential for contaminant movement.

Site Background

EPA listed Wyckoff/Eagle Harbor as a Superfund site in 1987. The former Wyckoff wood treating facility, located at the mouth of Eagle Harbor on Bainbridge Island, operated from the very early 1900s to 1988. Soils at the facility, and groundwater beneath the facility, are severely contaminated. Contaminants include creosote and other wood treatment compounds. About 1 million gallons of creosote product remain in the site's soil and groundwater. These contaminants pose a risk to public health and the environment.

A groundwater extraction and treatment system has been operated on site since 1990. However, contaminants were still moving into the marine environment until a sheet pile wall was installed in 2001. EPA is testing thermal treatment technologies to clean up remaining soil and groundwater contamination.

In Eagle Harbor, bottom sediments were severely contaminated with chemicals from wood-treating and shipyard operations. A public health advisory recommends against eating fish and shellfish from the harbor. From 1993 to 2002, contaminated sediments in various locations were capped with clean material.

Update on Other Site Activities

Mitigation Beach Doing Well: The plantings on the new beach are largely thriving. The willows are now in bloom and the added organic material remains in place. The slope of the beach appears to be stable, with wood debris collecting at the high water mark. Clams and worms are recolonizing the beach, and many bird and animal species are visiting. Beach sediment sampling was conducted to confirm that regulatory contaminant levels have been achieved. Results are expected within a month or two.

Offshore Sediment Cap is Stable: The offshore sediment cap is monitored regularly. Monitoring results from 1999 indicate that the cap is physically stable. It continues to isolate underlying contaminated sediments while providing clean habitat. In fall 2002, EPA also monitored the new intertidal and subtidal areas constructed in 2000-2002. Early results show that the cap continues to remain an adequate and effective remedy. Final results are expected this summer.

Outfall Sediments Monitored: Treated water from the treatment plant is discharged into Puget Sound from a subtidal pipe on the east side of the Wyckoff site. The sediments around the outfall pipe were monitored before the start of steaming operations in fall 2002. The tests aimed to determine if there has been any impact from the discharge over the past five years. Results showed that the treatment plant discharges have not affected biological resources in the area of the discharge pipe. Sediments will be monitored again when the pilot project is finished.

Sheet Pile Wall Corrosion to be Studied: EPA will conduct a study of the rate of corrosion of the sheet pile wall and potential methods for reducing the corrosion rate. EPA will also sample the interlocks this summer to find out how much, if any, contaminated groundwater is leaking through the wall.

Hydraulic Containment Under Evaluation: EPA is continuing to evaluate our ability to maintain steady groundwater levels at the site. This evaluation will help us determine if there are ways to reduce the need for expensive groundwater treatment during cleanup activities.

For More Information

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Please contact EPA with any mailing list changes.

EPA Web Site:

www.epa.gov/r10earth/

click on "Index"

click on "W" for Wyckoff

Documents: The Administrative Record is a file that contains all information used by EPA to make decisions on the cleanup actions. The Administrative Record can be reviewed at the

EPA Records Center

7th Floor, 1200 Sixth Avenue

Seattle.

Call 206/553-4494 to make an appointment.

Select documents can be viewed at the Information Repository located at the Bainbridge Island Public Library
1270 Madison Avenue North.

If the library does not have the document you need, feel free to call Andrea Lindsay, EPA Community Involvement Coordinator, at (206) 553-1896.

To request reasonable accommodations:

For people with disabilities: call Andrea Lindsay at the number above.

For TTY users: call 1-800-877-8339 and give the operator Andrea Lindsay's phone number.



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STEAM CLEANING SCHEDULE DELAYED