

# SUPERFUND

## Fact Sheet

MOSES LAKE WELLFIELD CONTAMINATION  
SKYLINE WATER SYSTEM



### Deeper Well to Be Drilled for Skyline Water System

*The U.S. Environmental Protection Agency (EPA) has selected construction of a deeper well to provide a permanent clean water supply for the Skyline Water System customers. Depending on the purity and quantity of the water found, it may be necessary to treat the water supply or to hook the water system up to Moses Lake city water.*

#### More about the Decision for the Skyline Water System

EPA has determined that the most appropriate option for replacing the Skyline water supply is a combination of the deeper well and treatment options that were presented for public comment. The U.S. Army Corps of Engineers (USACE) will first deepen the current replacement well into the Ginkgo basalt flow. EPA and USACE expect to find enough clean water to provide a permanent supply for the Skyline Water System users.

If trichloroethylene (TCE) levels in the water from the Ginkgo basalt flow exceed 5 parts per billion (ppb), the water will be treated by air stripping. If there is not enough groundwater in the Ginkgo basalt flow, that water will be blended with water from Skyline well #2 and treated. If the deepened well and Skyline well #2 cannot together supply enough water, the Skyline Water System will be hooked up to city water.

#### Is a Deeper Well Likely to Provide Enough Clean Water?

EPA and USACE believe that the deepened well will provide enough clean water.

The replacement well constructed in 2001 draws water from the middle of the Wanapum Basalt Formation, which is located about 300 to 600 feet below the surface. USACE plans to deepen the well so that it can draw water from the Ginkgo basalt flow. This flow is at the bottom of the Wanapum Formation and above the Grande Ronde Formation. (See drawing on page 2.) The middle Wanapum Formation will be sealed off to stop TCE from moving into the deeper groundwater sources.

According to EPA's calculations based on the Washington Department of Health *Water System Design Manual*, 400 gallons per minute (gpm) of water

*(continued on page 2)*

#### What Was the Result of the Public Comment Period?

EPA held a public comment period that ended on May 24, 2002. We reviewed and considered all the comments made in writing during the comment period, as well as all the comments made at a public meeting held on April 30. Many Skyline Water System users continue to prefer a solution that is permanent and does not include Moses Lake city water. EPA is summarizing and responding to the public comments in a document called a responsiveness summary.

The summary will be available at the Big Bend Community College Library and on the EPA web page listed at the end of this fact sheet. The transcript of the April 30 public meeting will also be available at the library. The revised action memorandum that documents the decision for the Skyline Water System will be available at the library and on the web page.

(continued from page 1)

is necessary to supply water for 100 connections to the Skyline Water System. These connections would include 87 that already exist and additional connections to accommodate some growth in the community.

EPA and USACE believe that there is enough clean water in the Ginkgo flow to supply the Skyline Water System with 400 gpm. As long as 400 gpm of clean water can be pumped from the deeper replacement well, there will be no need for air stripping or hookup to the Moses Lake city water system.

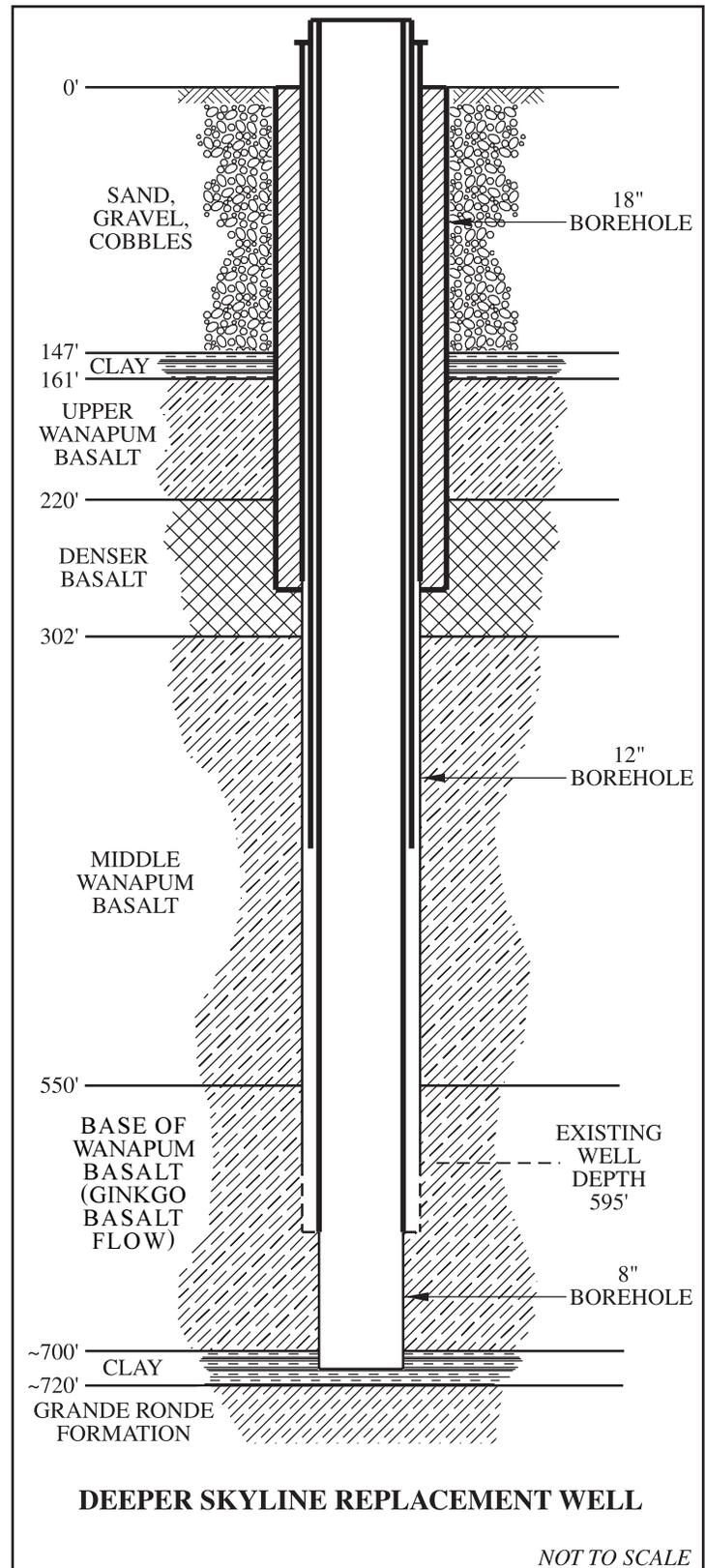
### Under What Circumstances Would An Air Stripper Be Used?

An air stripper would be used if water from the deeper well showed TCE at levels above 5 ppb within ten years after completion of the well. An air stripper would also be used if water from existing Skyline well #2 needed to be added to the water from the deeper well to produce 400 gpm of water. Skyline well #2 is one of the Skyline Water System's two wells that have shown contamination by TCE since sampling began in 1988. The air stripper would reduce the TCE contamination to less than 5 ppb, which is the maximum amount of TCE allowed in drinking water under federal law.

If TCE contamination at levels consistently above 5 ppb occurs at any time within ten years of completion of the deeper well, the federal government will install an air stripper. If contamination greater than 5 ppb occurs after ten years, EPA will reconsider all available options and ensure that the water system users have clean drinking water.

### How Would the Air Stripper Work?

If an air stripper is necessary, water would be pumped out of the ground from one or two TCE-





contaminated wells: the deepened replacement well constructed for the Skyline Water System customers and, if needed, Skyline well #2. These two wells would be used because they are near each other and because Skyline well #1 will be abandoned.

The TCE would be treated by a low-profile air stripper, which is a tank about the size and shape of a large car. It would be located near the two wells. The contaminated water would be pumped into the tank. Low-profile air blowers would force air from the base of the tank through the water. TCE would transfer from the water to the air. The TCE discharged from the tank into the outdoor air would not be a health risk. Clean water would be discharged from the tank to the Skyline water distribution system.

The exact design of the air stripper would be chosen during the contracting process. A chlorinator would be installed on the air stripper, and the Washington State Department of Health would determine whether the chlorinator ever needed to be operated.

The federal government would be responsible for operating and maintaining the air stripper for ten years. The water system owner would be responsible for maintenance after that. EPA estimates that the maintenance cost for the air stripper would be \$14,000 per year. Skyline Water System users' household water bills would increase by about \$6 per month for the first ten years to pay for electricity to operate the air stripper. These household water bills would increase by about an additional \$14 per month, for a total increase of \$20 per month, after ten years to pay for operation and maintenance of the air stripper.

### **Under What Circumstances Would the Skyline System Be Hooked up to City Water?**

Hookup to Moses Lake city water would be necessary if the deeper well and Skyline well #2 cannot together produce enough water for the basic needs of the Skyline Water System users. EPA and USACE estimate that Skyline well #2 can produce at least 180 gpm. Since 400 gpm is the minimum water flow needed, an additional 220 gpm would need to come from the deeper well.

EPA and USACE both believe it is likely that signifi-

cantly more than 220 gpm will be found in the Ginkgo basalt flow. However, we will not know until USACE installs a deeper well. If the deeper well does not produce 220 gpm, the federal government will proceed immediately with the design and hookup of a pipeline to provide Moses Lake city water to the Skyline Water System. In this case, the deeper well would be abandoned.

### **Background**

The Moses Lake Wellfield Contamination Superfund site, located about three miles northwest of the city of Moses Lake, Washington, includes the former Larson Air Force Base. The U.S. Air Force used the base from 1942 to the mid 1960s. The Port of Moses Lake now owns most of the former base, operating a large portion as the Grant County Municipal Airport and leasing space to a variety of commercial enterprises.

In 1988 and 1989, drinking water samples revealed elevated TCE levels in some Moses Lake municipal wells and two Skyline wells. TCE was commonly used as a degreaser in manufacturing and aircraft maintenance. In 1992, EPA added the Moses Lake Wellfield Contamination Site to the National Priorities List of hazardous waste sites across the country that need further investigation and cleanup.

The city of Moses Lake protected users of the municipal water system by closing contaminated municipal wells or changing them to draw only from deeper uncontaminated aquifers. The Port of Moses Lake provided bottled water to Skyline Water System users for several years until USACE took over the distribution in July 1999.

In 2001, USACE completed a replacement well for the Skyline Water System users. The well pumps water from the middle of the Wanapum Basalt Formation, which was believed to be uncontaminated. In November 2001, testing before startup showed that water from the replacement well was contaminated with TCE.

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SKYLINE WATER SYSTEM  
MOSES LAKE WELLFIELD CONTAMINATION  
SUPERFUND FACT SHEET

1200 Sixth Avenue, ECO-081  
Seattle, Washington 98101-1128

United States Environmental Protection Agency



### For More Information

More information about the Moses Lake Wellfield Contamination Superfund site is available from the persons and at the locations listed below.

### General Information

Cindy Colgate, EPA Community Involvement Coordinator  
206-553-1815 or toll-free at 1-800-424-4372  
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### Technical Information

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Bill Graney, U.S. Army Corps of Engineers  
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### Written Information

The transcript of the April 2002 public meeting, the Skyline revised action memorandum and responsiveness summary, and other written information about this site will soon be available at the following locations:

Big Bend Community  
College Library  
Building 1700  
7662 Chanute Street  
Moses Lake, WA  
509-762-6246

Superfund  
Records Center  
1200 Sixth Avenue  
Seattle, WA 98101  
206-553-4494 or  
toll-free 1-800-424-4372

### EPA Region 10

The action memorandum and related information will also be available on the EPA Region 10 web site: <http://www.epa.gov/r10earth>  
Click "Index," then "M," and then "Moses Lake."

*For people with disabilities: Please contact Cindy Colgate at 206-553-1815 (toll-free at 1-800-424-4372) if you have any requests for reasonable accommodations. For TTY users: Please call the Federal Relay Service at 1-800-877-8339 and give the operator Cindy Colgate's phone number.*