
**Boomsnub/Airco Superfund Site** **Hazel Dell, Washington**

U.S. Environmental Protection Agency, Region 10 June 2009

# Questions and Answers

The Boomsnub/Airco Superfund Site is located in Hazel Dell, Washington. Groundwater and soil at the site were contaminated with chromium from the former Boomsnub chrome plating operation and volatile organic compounds (VOC's) from the Linde gas manufacturing facility. The Environmental Protection Agency (EPA) placed the site on the National Priorities List, a list of the most polluted places in the nation, for cleanup under Superfund in 1995.

## What has been done to clean up the site?

In the 1990's, EPA and the Washington Department of Ecology took quick action to excavate and dispose of chromium-contaminated soil at the Boomsnub property and install and operate a system to clean the groundwater.

After an extensive investigation, EPA published a Record of Decision (ROD) in 2000 that outlined the selected cleanup plan for the site. This final cleanup plan established different remedies for three problems at the Superfund site, contaminated soil at the Linde facility, contaminated soil at the Boomsnub site and contaminants in the groundwater in the alluvial aquifer beneath the site.

Most of the contaminated soil from the Boomsnub property has been removed and the remaining soils are under buildings where people will not be exposed to them. Soils at the Linde facility are being treated through in-well stripping and soil vapor extraction. Soils above the cleanup level on the Boomsnub site will be removed when the building that houses the pump and treat facility is demolished.

The largest and most important part of the remedy is the groundwater extraction and treatment system. This system will continue to clean the water until it meets drinking water standards, as specified in the ROD. The attached maps show the significant progress in reducing both the size of the contamination plume and the concentration of hazardous substances in the groundwater.

## How long will it take to finish cleaning up the contaminated groundwater?

The Boomsnub/Airco cleanup has been very successful, but decontaminating an aquifer takes a long time. We estimate that it will take twenty years until groundwater meets federal and state drinking water standards.

The maps on pages 5 and 6 compare the contaminated portion of the aquifer in 1995 and 2008. Both the TCE and chromium plume maps show a dramatic decrease in aerial extent of the contamination as well as in the concentration of contaminants. They also show that we still have portions of the aquifer that are above cleanup standards. However, we believe that people are not currently being exposed to contaminants at this site.

### Does EPA check the site to make sure the remedy is still working?

Yes. Data collected twice each year from an extensive monitoring well system shows that the size and toxicity of the contaminant plume has been significantly reduced by the extraction and treatment system. Sentinel wells located along NE 30th Avenue that have never recorded contamination.

In addition to routine monitoring, Superfund sites (including the Boomsnub/Airco Site) undergo comprehensive reviews every five years to make sure the remedy is working to keep people safe who live or work near the site. As indicated in the most recent 5-year review completed in September 2008, even though the Boomsnub/Airco site is still being cleaned up, the exposure routes to people have been eliminated. Moreover, the report concluded that the remedy is functioning very well, and contaminant concentrations in the groundwater are decreasing.

### Which chemicals are we concerned with in the groundwater?

Chromium and several Volatile Organic Compounds (VOC's) such as Trichloroethylene (TCE) are the primary contaminants at the site. Most of the monitoring documents focus on TCE as an indicator chemical for the other volatile organic compounds. We focus on TCE because of the quantity found, its toxicity and its ability to move with water. Although we talk the most about TCE, we also monitor for and treat all the other volatile organic compounds at this site. The remedy selected for the site will clean up the contaminated groundwater to 80 ppb for hexavalent chromium, which was derived using the Model Toxics Control Act analysis for hazardous waste sites and 5 ppb for TCE, which is the federal drinking water standard.

### I live in a neighborhood right above the plume. Am I at risk from contaminated groundwater?

No. The chromium and TCE contamination is at least 50 to 90 feet below the ground surface at the property owned by Clark County. That is roughly equivalent to a 4 to 5 storey building below the ground surface. Since the main way people might have contact with contaminants of concern at the Site is from water from a private well that is screened in the shallow aquifer, we have surveyed the area and have worked with Clark County to ensure that people are not using private water wells. All residents and businesses in the immediate vicinity of the Boomsnub/Airco Site are on public drinking supply water.

### Is it okay to dig in my yard or will I disturb contamination or polluted groundwater?

It is fine to dig in your yard. Even if you were using a back hoe, you would not be able to reach the contaminated part of the aquifer.

### Are the stormwater drains connected to the contaminated groundwater?

For the most part, stormwater comes from runoff from roadways, roofs, buildings, and can collect in fields. Gravity pulls the water down. The chromium and TCE in the Boomsnub/Airco site has consistently been found towards the bottom of the alluvial aquifer, which is considerably deeper than any stormwater drains.

### Does the groundwater contamination float up towards the surface?

At the Boomsnub/Airco site, it is very unlikely that contamination would come up to the surface. The contaminated water in the alluvial aquifer is moving towards the west and away from the surface. The structure of the soils and aquifer, the general direction of water flow, and gravity cause the TCE and chromium to be found in the lower portion of the alluvial aquifer.

### Will vapors come up from the storm drains or well casings?

No. The storm drains help direct rain water and highway runoff into areas where the water can percolate downward through the soil. The chromium and TCE contaminated portion of the aquifer is far below water that can be seen in the storm drain.

We also know that vapors are not an issue in the proposed ball field area. We have evaluated even more direct routes for vapor exposure than any that storm water might offer. For several years, well casings were monitored, but we did not find vapors. The monitoring and extraction wells at this Site are designed to have screens that allow water to come in from the most contaminated part of the aquifer. The covers on the wells prevent vapor from mixing with air. We tested these vapors to ensure that personnel who are collecting samples from the wells are not being exposed to vapors.

### Is my drinking water safe?

Yes, your drinking water is safe because it comes from a public water supply in a deeper, safer aquifer. Clark County complies with regulations that require all water systems serving more than 50 people to test their water to make sure it meets federal and state drinking water supply standards before it is piped out for general consumption.

### Does the contamination pose a risk to children who use the field owned by Clark County? Is it okay to walk or ride a bike there?

The contamination does not pose a risk. People can walk, run and play in this area. If playfields are developed on Clark County's property or on adjacent properties, children will not be exposed to the chromium or VOC's from the Boomsnub/Airco Site.

The main threat to the public is the potential to trip or run into the well covers, casings and monuments associated with the groundwater extraction system. Although the wells extend deep into the ground, the surface components of the extraction system are potential trip/fall hazards to the general public that might be concealed by vegetation at times of the year.

### Can the contaminated groundwater get mixed with topsoil during construction of roads, ball fields and other park improvements?

No. In the proposed development area, the contaminated groundwater is generally found 50 to 90 feet below the ground surface. This is well below standard depths that would be disturbed during construction.

### What do I need to know about the monitoring, extraction and treatment wells in the field?

The heart of the treatment system is fenced in and located on the Boomsnub property. Outside the Boomsnub property, except for the above ground control vaults, the extraction system pipes and wells are deep below ground. EPA needs to know about any potential development proposals so that we can work to ensure that the extraction system would not be damaged.

### What is EPA's position on the proposed ball park?

EPA will not take a position on how the community chooses to develop the Clark County property. We only ask that developers work with us to prevent any damage to the extraction system. We do not believe that people will be exposed to the contaminants during construction or use of the property.

EPA's job is to protect human health and the environment. Our long term goal is to return cleaned up properties, such as Boomsnub, to productive and acceptable reuse in the community. At Boomsnub/Airco, our main concern is that people do not build wells or use the water from the alluvial aquifer.

### Isn't there one well where new contamination has been discovered?

Yes. EPA detected elevated levels of TCE at monitoring well AMW-18, which is near the mini-storage units. In fall 2008, the concentration of TCE at AMW-18 was 390 ppb, while prior to 2006, this well never exceeded the clean-up level of 5 ppb.

EPA requested that Linde conduct additional analyses of this area to learn more about this increase in TCE. Linde conducted a geoprobe study and determined depths and concentrations of TCE near AMW-18. The results of the analysis indicate this increase is from an incoming dissolved TCE plume that appears to be unrelated to the Boomsnub or Linde facilities. Our groundwater flow modeling projections indicate that this plume will be captured by the current groundwater extraction system.

### How can I find out more about the site?

On the web: ***http://yosemite.epa.gov/R10/CLEANUP.NSF/sites/Boomsnub***

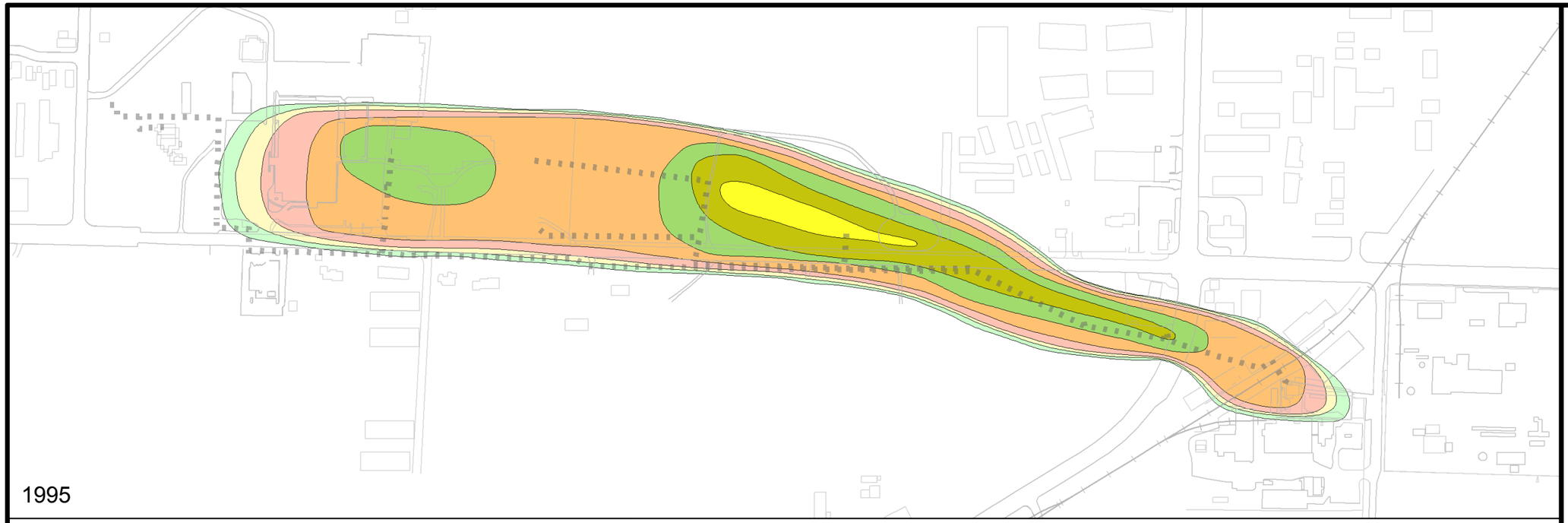
At the reference desk:

Fort Vancouver Regional Library
1007 East Mill Plain Blvd
Vancouver, WA 98663

Site contacts:

Claire Hong, Project Manager 206-553-1813, *hong.claire@epa.gov*
Judy Smith, Community Involvement Coordinator 503-326-6994, *smith.judy@epa.gov*

You can get your name added to the project mailing list or to request information in an alternative format for the disabled by sending a message to Judy Smith.





## Legend

Extraction Well Pipeline

**Chromium Concentration Contours**

- 80 - 250 µg/L
- 250 - 500 µg/L
- 500 - 1,500 µg/L
- 1,500 - 5,000 µg/L
- 5,000 - 10,000 µg/L
- 10,000 - 20,000 µg/L
- >20,000 µg/L

N W E S

Note:
Contours represent evaluation of probable conditions based on presently available data. Some variations from these conditions must be expected.

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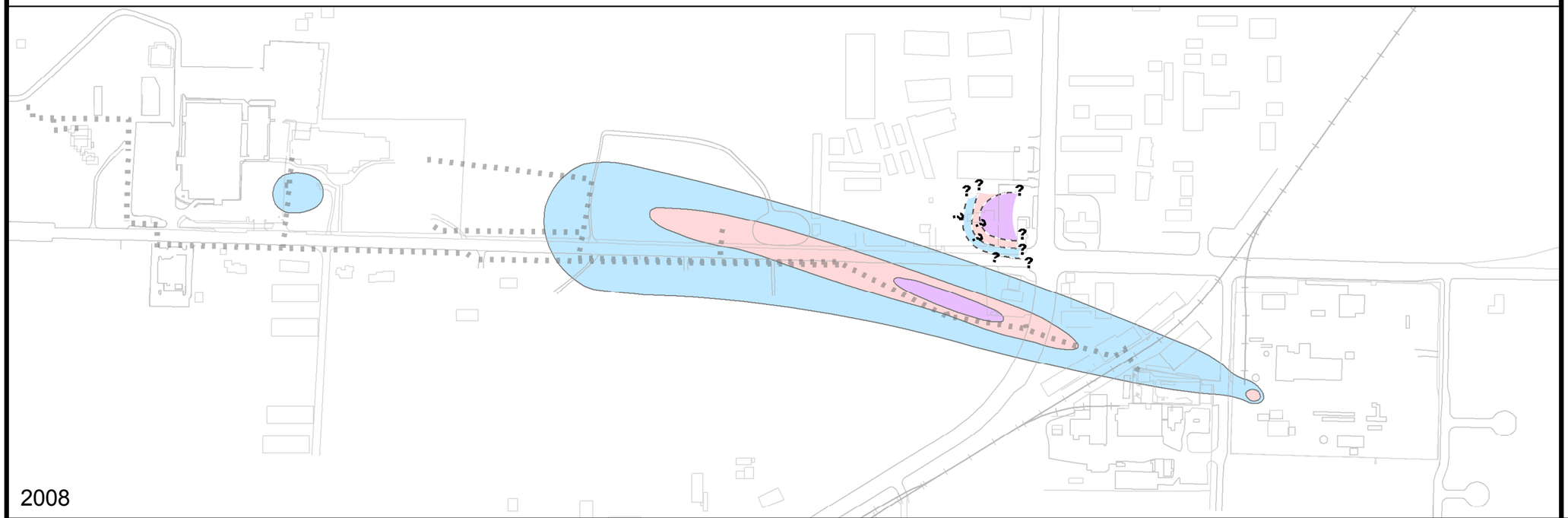
BOOMSNUB/AIRCO SUPERFUND SITE
HAZEL DELL, WASHINGTON

FIGURE 13
CHROMIUM PLUME MAP
1995 vs. 2008


1995




2008

## Legend

Extraction Well Pipeline

**TCE Concentration Contours**

- 5 - 25 µg/L
- 25 - 100 µg/L
- 100 - 500 µg/L
- 500 - 1,000 µg/L
- 1,000 - 2,000 µg/L
- > 2,000 µg/L

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Note:
Contours represent evaluation of probable conditions based on presently available data. Some variations from these conditions must be expected.

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FIGURE 14
TCE PLUME MAP
1995 vs. 2008