

# Health Consultation

BOOMSNUB/AIRCO SUPERFUND SITE  
(a/k/a BOOMSNUB/AIRCO)

VANCOUVER, CLARK COUNTY, WASHINGTON

EPA FACILITY ID: WAD009624453

September 4, 2001

**Prepared by**

**The Washington State Department of Health  
Under a Cooperative Agreement with the  
Agency for Toxic Substances and Disease Registry**



# HEALTH CONSULTATION

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## **FOREWORD**

The Washington State Department of Health (DOH) has prepared this health consultation in cooperation with the Agency for Toxic Substances and Disease Registry (ATSDR). ATSDR is part of the U.S. Department of Health and Human Services and is the principal federal public health agency responsible for health issues related to hazardous waste. This health consultation was prepared in accordance with methodologies and guidelines developed by ATSDR.

The purpose of this health consultation is to identify and prevent harmful human health effects resulting from exposure to hazardous substances in the environment. Health consultations focus on specific health issues so that DOH can respond to requests from concerned residents or agencies for health information on hazardous substances. DOH evaluates sampling data collected from a hazardous waste site, determines whether exposures have occurred or could occur, reports any potential harmful effects, and recommends actions to protect public health. The findings in this report are relevant to conditions at the site during the time of this health consultation, and should not necessarily be relied upon if site conditions or land use changes in the future.

For additional information or questions regarding DOH or the contents of this health consultation, please call the health advisor who prepared this document:

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For more information about ATSDR, contact the ATSDR Information Center at 1-888-422-8737 or visit the agency's Web site: [www.atsdr.cdc.gov/](http://www.atsdr.cdc.gov/).

## **BACKGROUND AND STATEMENT OF ISSUES**

The Washington State Department of Health (WDOH) has prepared this health consultation in response to the Environmental Protection Agency's (EPA's) August 6, 1999, proposed plan for the cleanup of some of the soils and groundwater at the Boomsnub/Airco Superfund site in Clark County, Washington.<sup>1</sup>

The Boomsnub/Airco Superfund site is located in the unincorporated town of Hazel Dell, north of the city of Vancouver. The site consists of the Boomsnub and BOC Gases (formerly Airco) properties that are located south of the intersection of NE 47th Avenue and NE 78th Street as well as two areas of groundwater contamination that extend west of NE 47th Avenue (Figure 1). The Boomsnub property is the former location of a chrome plating facility where a number of chemicals, especially chromium, were released to soil. Past business operations at the BOC Gases property resulted in the release of volatile organic compounds to soil. Both releases ultimately resulted in the contamination of groundwater. A commingled plume of metals (primarily chromium) and volatile organic compounds is located in the shallow Alluvial aquifer and to a lesser extent in the deeper Upper Troutdale aquifer as a result of the releases at the Boomsnub and BOC Gases properties.<sup>2</sup>

Private water supply wells are located in the Alluvial aquifer. Private and public water supply wells, including wells operated by the Clark Public Utilities and the City of Vancouver that serve a significant population in the Hazel Dell and surrounding area and the City of Vancouver, respectively, are located in the Upper Troutdale aquifer. Currently, however, none of these water supply wells withdraw groundwater for domestic use from the contaminated portions of the two aquifers.<sup>2</sup>

## **DISCUSSION**

EPA's proposed cleanup plan summarizes the cleanup options that it evaluated for the Boomsnub Soils operable unit (OU) and the Site-Wide Groundwater OU. The Boomsnub Soils OU consists of the contaminated soils identified by EPA at the Boomsnub and adjacent properties. The Site-Wide Groundwater OU consists of the contaminated groundwater that migrated from the Boomsnub and BOC Gases properties. EPA's preferred cleanup options for the two operable units are also identified in the proposed plan.

The following items are WDOH's comments regarding EPA's proposed plan:

### *Site-Wide Groundwater OU*

1) EPA's preferred cleanup option for groundwater is to upgrade the existing ion exchange and air stripping treatment system to treat more groundwater in the shallow Alluvial aquifer. According to the proposed plan, the increased capacity of the treatment system should prevent groundwater contamination from spreading beyond the existing contamination boundaries and

will allow removal of contaminants in the areas of highest contaminant concentration. The upgraded groundwater treatment system will be evaluated by EPA after five years to determine whether the system is effectively removing contaminants. The system is anticipated to operate for 20 to 30 years. However, it is not certain that drinking water standards can be achieved during that 20 to 30 year time period.<sup>1</sup>

Upgrading the existing groundwater treatment system, by itself, is insufficient for protecting human health. Adequate long-term groundwater monitoring that demonstrates control and containment of the contaminant plume should be a key element of the preferred cleanup option. This is especially important for ensuring that contaminants do not migrate beyond the current contaminant boundaries in the Alluvial aquifer or continue to migrate into the underlying Upper Troutdale aquifer. In addition, institutional controls such as ongoing educational measures or restrictive covenants should be included as part of the preferred cleanup option to prevent the installation of new water supply wells and inappropriate use of contaminated groundwater by property owners located within the plume area.

2) Chromium and some volatile organic compounds were detected in the Upper Troutdale aquifer, southwest of the Boomsnub and BOC Gases properties, in an area where private water supply wells are located (Figure 1). The contaminant boundaries of this area, however, have not been determined. No discussion is presented in the proposed plan about how this area of contamination will be addressed.

WDOH recommends that additional studies be conducted to obtain a better understanding about the nature and extent of contamination in this portion of the Upper Troutdale aquifer. In addition, institutional controls and long-term groundwater monitoring should be implemented to ensure that people are not being exposed to harmful levels of contaminants.

#### *Boomsnub Soil OU*

1) The Boomsnub Soil OU is located in an area zoned for commercial/light industrial use. The secondary cleanup action objective should focus on exposures that may occur under both commercial and industrial uses, not just industrial uses as described in the proposed plan. In addition, the cleanup action objective should not be limited to preventing ingestion of contaminated surface soils. Workers may also be exposed to contaminated subsurface soils. Dermal contact and inhalation of contaminants present in surface and subsurface soils should also be prevented.

## **Chemical Exposure and Children**

Children can be uniquely vulnerable to the hazardous effects of environmental contaminants. When compared to adults, pound for pound of body weight, children drink more water, eat more food, and breathe more air. Children have a tendency to play closer to the ground and often put their fingers in their mouths. Additionally, the fetus is highly sensitive to many chemicals, particularly with respect to potential impacts on childhood development. For these reasons, it is very important to consider the specific impacts that contaminants may have on children, as well as other sensitive populations.

## **CONCLUSIONS**

Contaminant concentrations in soils and groundwater at the site should be significantly reduced with the implementation of EPA's preferred cleanup options. For the purpose of this consultation, site conditions at the Boomsnub site are categorized as an indeterminate health hazard.

## **RECOMMENDATIONS AND PUBLIC HEALTH ACTION PLAN**

1. WDOH recommends that EPA incorporate WDOH's suggested changes into the final plan for the cleanup of soils and groundwater at the Boomsnub Soils and the Site-Wide Groundwater OUs.
2. EPA should consider expanding groundwater cleanup options, in the future, if groundwater contaminants are not effectively being contained or removed using the upgraded groundwater treatment system.

WDOH is available to review plans, data, and reports generated as part of the cleanup conducted at the Boomsnub/Airco Superfund site.

## **References**

1. Superfund, Proposed Plan, Boomsnub/BOC Gases, Vancouver, Washington, Environmental Protection Agency, August 6, 1999.
2. Draft Public Health Assessment, Boomsnub/Airco Superfund site, Hazel Dell, Clark County, Washington, CERCLIS NO. WAD009624453, June 1999.

**Preparer of Report**

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Division of Health Assessment and Consultation  
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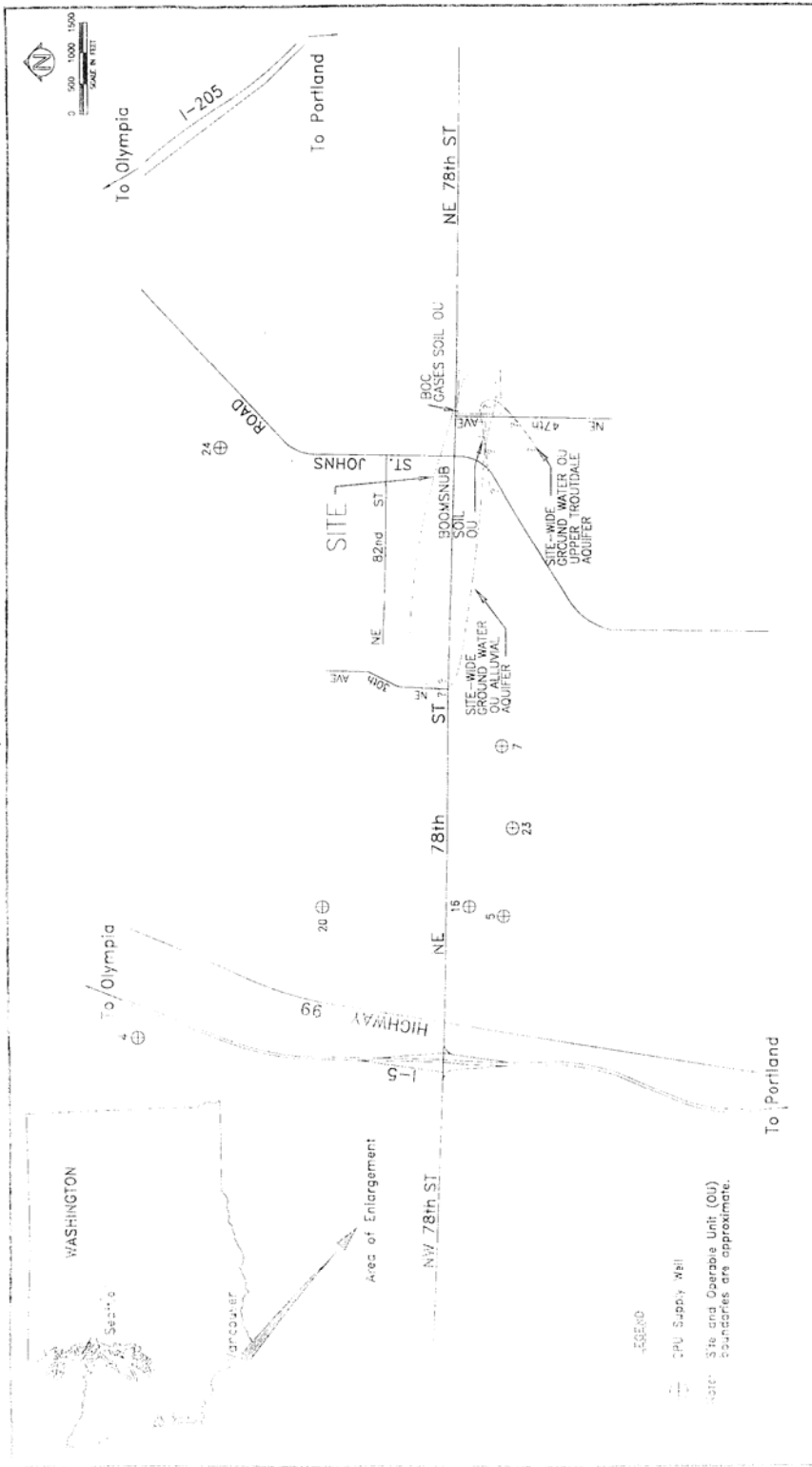


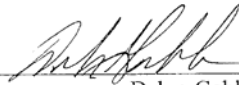
Figure 1. Boomsub/BOC Gases Site Location Map (Adapted from Reference 2)

## Glossary

Aquifer	An underground formation composed of materials such as sand, soil, or gravel that can store and/or supply groundwater to wells and springs.
Agency for Toxic Substances and Disease Registry (ATSDR)	The principal federal public health agency involved with hazardous waste issues, responsible for preventing or reducing the harmful effects of exposure to hazardous substances on human health and quality of life. ATSDR is part of the U.S. Department of Health and Human Services
Comparison value	A concentration of a chemical in soil, air or water, that, if exceeded, requires further evaluation as a contaminant of potential health concern. The terms comparison value and screening level are often used synonymously.
Contaminant	Any chemical that exists in the environment or living organisms that is not normally found there.
U.S. Environmental Protection Agency (EPA)	Established in 1970 to bring together parts of various government agencies involved with the control of pollution.
Exposure	Contact with a chemical by swallowing, by breathing, or by direct contact (such as through the skin or eyes). Exposure may be short-term (acute) or long-term (chronic).
Groundwater	Water found underground that fills pores between materials such as sand, soil, or gravel. In aquifers, groundwater often occurs in quantities where it can be used for drinking water, irrigation, and other purposes.
Hazardous substance	Any material that poses a threat to public health and/or the environment. Typical hazardous substances are materials that are toxic, corrosive, ignitable, explosive, or chemically reactive.
Organic	Compounds composed of carbon, including materials such as solvents, oils, and pesticides which are not easily dissolved in water.
Plume	An area of contaminants in a specific media such as groundwater.

## Certification

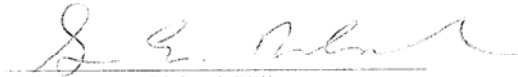
This Health Consultation was prepared by the Washington State Department of Health under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures existing at the time the health consultation was begun.



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The Division of Health Assessment and Consultation, ATSDR, has reviewed this public health consultation and concurs with the findings.



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