



GROUNDWATER Remedial Investigation Results

Groundwater Contamination Under Parts of Algona and Auburn

Remedial Investigation Determines Cleanup or Remediation Is Needed

The Department of Ecology (Ecology) oversaw a comprehensive investigation of contamination, called a Remedial Investigation (RI), at the Boeing Facility (Facility). Groundwater contamination was found under parts of Algona and Auburn. Groundwater is water found underground that moves slowly through soil, sand and rocks. Based on the RI, Ecology will require the contaminated groundwater beyond the Boeing property boundary and three locations that are sources of contamination at the Facility to be cleaned up or remediated.

The three locations on the Facility requiring cleanup include:

- Building 17-06 (SWMU 15a/ SWMU 16)
- Between Buildings 17-06 and 17-07 (AOC A-01); and
- Building 17-07 (AOC A-09).

How the cleanup or remediation will be done will be evaluated further in the Feasibility Study (FS), the next phase in the cleanup process.

Ecology Oversaw the Remedial Investigation of Groundwater

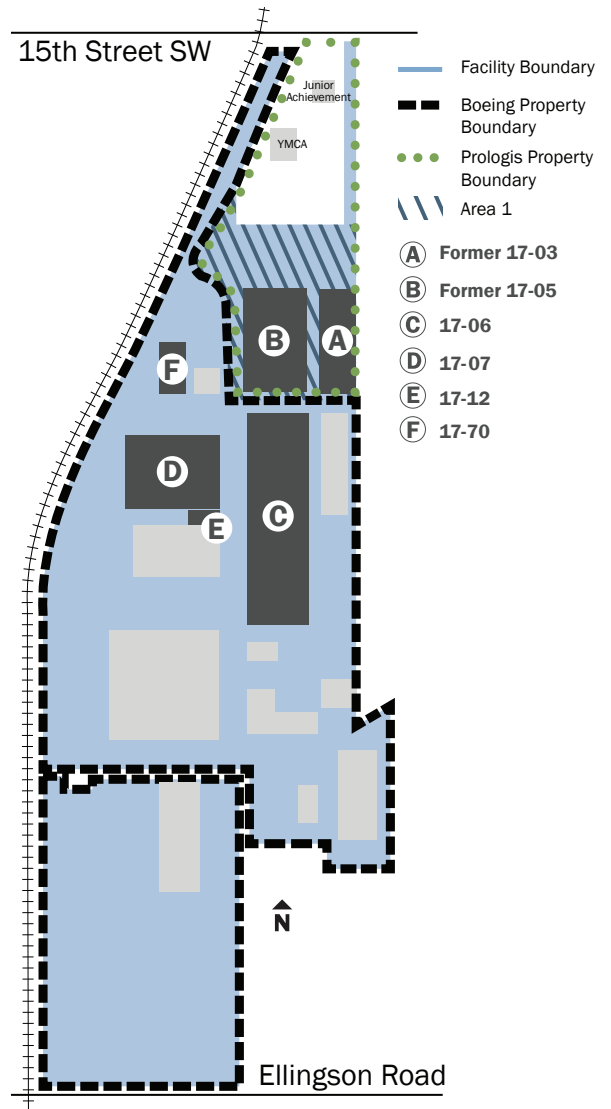
Historical releases of a chemical called trichloroethene (TCE) at the Facility contaminated the groundwater under parts of Algona and Auburn. Groundwater is water found underground that moves slowly through soil, sand and rocks.

Ecology oversaw the RI to learn the location and concentration of contamination in groundwater, and to determine if concentrations were changing over time. The groundwater evaluation primarily measured the contaminants TCE and its breakdown product, vinyl chloride (VC).

Ecology evaluated results of groundwater sampling at three levels below the surface of the ground: shallow (up to 35 feet below the surface), intermediate (35-75 feet below the surface) and deep (75-100 feet below the surface).

Remedial Investigation Found Two Sources of TCE Contamination

The site-wide TCE and VC groundwater plumes are referred to as the Area 1 plume and the western plume. Both contaminated plumes extend northwest



from the Boeing property under parts of Algona and Auburn, carrying contaminants in flowing groundwater. Concentrations of TCE and VC in the plumes are relatively dilute and are expected to decrease over time.

Contamination at the Boeing Facility

The Boeing Company (Boeing) interviewed long-time employees and conducted an extensive review of historical documents and engineering drawings to investigate TCE use at the Facility.

Most TCE was used historically in three buildings (Building 17-07 and former Buildings 17-03 and 17-05) with stationary TCE vapor degreasers used to clean metal parts.

Area 1 Plume

The TCE degreaser and tank line in former Building 17-05 leaked and is the source of the Area 1 groundwater plume (see map in publication #17-04-007). From 2004 to 2006, Boeing worked with Ecology to conduct an Interim Remedial Action to clean up residual TCE from this area.

Western Plume

The former TCE vapor degreaser in Building 17-07 (S-13a) is the likely source of the western groundwater plume, based on operational history and groundwater and soil gas data. The former chrome waste holding tank and the former north lagoon on the Boeing property may also have contributed to the groundwater plume. This degreaser structure, holding tank and piping have been removed and the north lagoon has been closed. Future groundwater cleanup will be incorporated into the site-wide groundwater cleanup proposals for the FS.

Contaminated Groundwater Plumes Are Stable

TCE and VC contaminant concentration trends at most wells at the site are not detectable, stable or decreasing over time, based on current statistical analysis. When the concentrations of contamination in groundwater remain the same or decrease over time, the plume is considered stable. Ecology will continue to evaluate the stability of the plume during the FS.

Ecology May Determine That More Evaluation Is Needed

The area where groundwater needs to be evaluated may change if sampling shows that the plumes have expanded beyond their current boundaries. Once groundwater cleanup levels are established in the FS, the plumes will be evaluated for cleanup, based on the areas where TCE and VC concentrations levels are above cleanup levels.

Якщо ви хочете отримати інформацію про забруднення ґрунтових вод у Алгоні та Оберні українською мовою, будь ласка, зателефонуйте 425-649-7181, щоб поговорити зі співробітником Департаменту Екології та перекладачем.

ਅਲਗੋਨਾ (Algona) ਅਤੇ ਔਬਰਨ (Auburn) ਵੱਲੋਂ ਭੂਮੀਗਤ ਪਾਣੀ ਦੇ ਦੁਸ਼ਣ ਬਾਰੇ ਪੰਜਾਬੀ ਵੱਲੋਂ ਹੋਰ ਜਾਣਕਾਰੀ ਲਈ, ਕਰਿਪਾ ਕਰਕੇ ਚੌਗਰਿਦਾ ਵਰਿਗਿਆਨ (Ecology) ਦੇ ਸਟਾਰ ਮੈਂਬਰ ਅਤੇ ਇੱਕ ਦੁਭਾਸ਼ੀਏ ਨਾਲ ਗੱਲ ਕਰਨ ਲਈ 425-649-7181 ਤੇ ਫੋਨ ਕਰੋ।

Para sa higit pang impormasyon tungkol sa pagkakontamina ng groundwater sa Algona at Auburn na nasa wikang Tagalog, mangyaring tumawag sa 425-649-7181 upang makipag-usap sa isang miyembro ng kawani ng Ecology at sa isang interpreter.

To request ADA accommodation for disabilities, or printed materials in a format for the visually impaired, call Ecology at (425) 649-7000 or visit www.ecy.wa.gov/accessibility.html. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at (877) 833-6341.

This fact sheet should be accompanied by the Remedial Investigation Folio and is one of four fact sheets relaying information about the investigation's findings.

Key Terms

Cleanup Level

The concentration of a hazardous substance in soil, water, air or sediment that is determined to be protective of human health and the environment under specified exposure conditions.

Facility

The Boeing Auburn Fabrication Facility, also known as the Boeing property.

Feasibility Study (FS)

A detailed study identifying and evaluating cleanup alternatives.

Model Toxics Control Act (MTCA)

Washington's pollution cleanup law for contaminated sites.

Plume

The area covered by the spread of contaminated groundwater.

Remedial Investigation (RI)

An investigation of a site's contamination.

Site

The Boeing property, plume and all affected areas.

Trichloroethene (TCE)

A liquid degreaser used to clean grease and oil from metal objects; a volatile organic compound.

Vinyl Chloride (VC)

A breakdown product of TCE; a volatile organic compound.

Volatile Organic Compound (VOCs)

Compounds that easily evaporate from water into air at normal air temperatures. Examples of household products that contain these compounds include gasoline, dry cleaning fluid, solvents and paint thinners.

Next Steps: Feasibility Study Will Propose Cleanup Alternatives

Ecology and Boeing will have more information on how the site will be cleaned up in the FS. The FS will include alternatives for cleaning up the remaining groundwater contamination that has moved away from the source of the Area 1 and western plumes.

For additional information on results, please visit: www.ecy.wa.gov/programs/hwtr/CleanupSites/boeing-fabn/GroundwaterResults.html

