DEPARTMENT OF ECOLOGY
State of Washington
3190 160th Avenue SE
Bellevue, WA 98008

Boeing Auburn Fabrication Site Cleanup

August 2015

Pilot Study starts mid-August in commercial Algona

This bioremediation pilot study will evaluate the effectiveness of a potential groundwater cleanup technology. Under Ecology's direction, Boeing's contractors are conducting this test to see if this previously successful method might be effective for the contaminated groundwater cleanup in Algona and Auburn. See inside for more details.

Help with other languages and formats?

ਜੇ ਤੁਸੀਂ ਇਹ ਜਾਣਕਾਰੀ ਪੰਜਾਬੀ ਵਿੱਚ ਲੈਣੀ ਚਾਹੋ, ਤਾਂ ਈਕੋਲੋਜੀ ਸਟਾਫ ਦੇ ਕਿਸੇ ਮੈਂਬਰ ਅਤੇ ਇੱਕ ਦੁਭਾਸ਼ੀਏ ਨਾਲ ਗੱਲ ਕਰਨ ਵਾਸਤੇ ਕਿਰਪਾ ਕਰਕੇ 425-649-7181 'ਤੇ ਕਾਲ ਕਰੋ। ਕਿਰਪਾ ਕਰਕੇ ਨੋਟ ਕਰੋ, ਦੁਭਾਸ਼ੀਏ ਤਕ ਪਹੁੰਚਣ ਲਈ ਈਕੋਲੋਜੀ ਨੂੰ ਕਿਸੇ ਬਾਹਰੀ ਪਾਰਟੀ ਨੂੰ ਕਾਲ ਕਰਨ ਦੀ ਲੋੜ ਹੋਵੇਗੀ, ਜਿਸ ਵਿੱਚ ਇੱਕ ਮਿੰਟ ਤਕ ਲੱਗ ਸਕਦਾ ਹੈ।

Kung nais mo ang impormasyon na ito sa Tagalog, pakitawagan ang 425-649-7181 upang makipag-usap sa isang tauhang miyembro ng Ekolohiya at isang tagapagsalin ng wika. Pakibigyang pansin, mangangailangan ang Ekolohiya na dumayal ng isang nasa labas na partido upang maabot ang isang tagapagsalin ng wika, na maaring abutin ng hanggang isang minuto.

Якщо ви хочете отримати цю інформацію українською мовою, будь ласка, зателефонуйте 425-649-7181, щоб поговорити зі співробітником Департаменту Екології та перекладачем. Будь ласка, зверніть увагу, що співробітнику Департаменту Екології необхідно буде запросити для розмови перекладача, що може зайняти до однієї хвилини.

Si necesita información en español, favor de contactar a Luis Buen Abad al 425 649-4485.

To request ADA accommodation including materials in a format for the visually impaired, call Ecology at 425-649-7000. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

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DEPARTMENT OF ECOLOGY
State of Washington

Boeing Auburn Fabrication Site

Hazardous Waste and Toxics Reduction Program **August 2015**

Pilot Study Starts Mid-August

The Boeing Company (Boeing) and its contractor are performing a bioremediation pilot study under the direction of the Washington State Department of Ecology (Ecology). Boeing's contractors are conducting this study to see if this previously successful method might be effective for cleaning up the contaminated groundwater in Algona and Auburn.

Once the data from the pilot study are analyzed, the results will be posted on Ecology's website and shared with the community. The results will give Ecology a head start on the future Feasibility Study for the area, and will be used to help evaluate potential cleanup options.

Project Background

In parts of Auburn and Algona, groundwater– the water that flows under the ground through the soil – is contaminated with a degreaser called trichloroethene (TCE), also called trichloroethylene, and its breakdown products. It is believed that these chemicals originated from the Boeing Auburn facility. The contaminated groundwater (called a plume) flows north and northwest away from the Boeing property into portions of southwest Auburn and northeast Algona.

To date, in places where people could come into contact with contaminated groundwater (e.g. ditch water, shallow groundwater, creeks, air, soil), the chemicals have not been consistently found at levels that could be a risk to human health. In the future, if these chemicals are found to be an immediate risk, Ecology will direct Boeing to implement interim actions to reduce the risk. Ecology's role is to oversee Boeing's investigation of the contamination and to review and approve cleanup options and a cleanup plan.

For More Information

Call our hotline!
(253) 219-7645

Email the Project:
BoeingAuburnSite@ecy.wa.gov

Submit Comments and Technical Questions to:
Neal Hines - Site Manager
E-mail: Neal.Hines@ecy.wa.gov

Submit Outreach Questions to:
Thea Levkovitz - Outreach Specialist
E-mail: tlev461@ecy.wa.gov

Go to the project website to join our email list!
Ecology's Website
Bit.ly/EcyBoeingAuburn

Facility Site ID #: 2018
Cleanup ID #: 5049

Anticipated Cleanup Schedule

The project is currently in the Remedial Investigation phase. This summer's pilot study provides a unique opportunity to get a head start on the next phase, the Feasibility Study.

Opportunities for public comment Ecology encourages feedback from the community. Public comment periods are held at key points throughout the cleanup process.

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Pilot Study Location

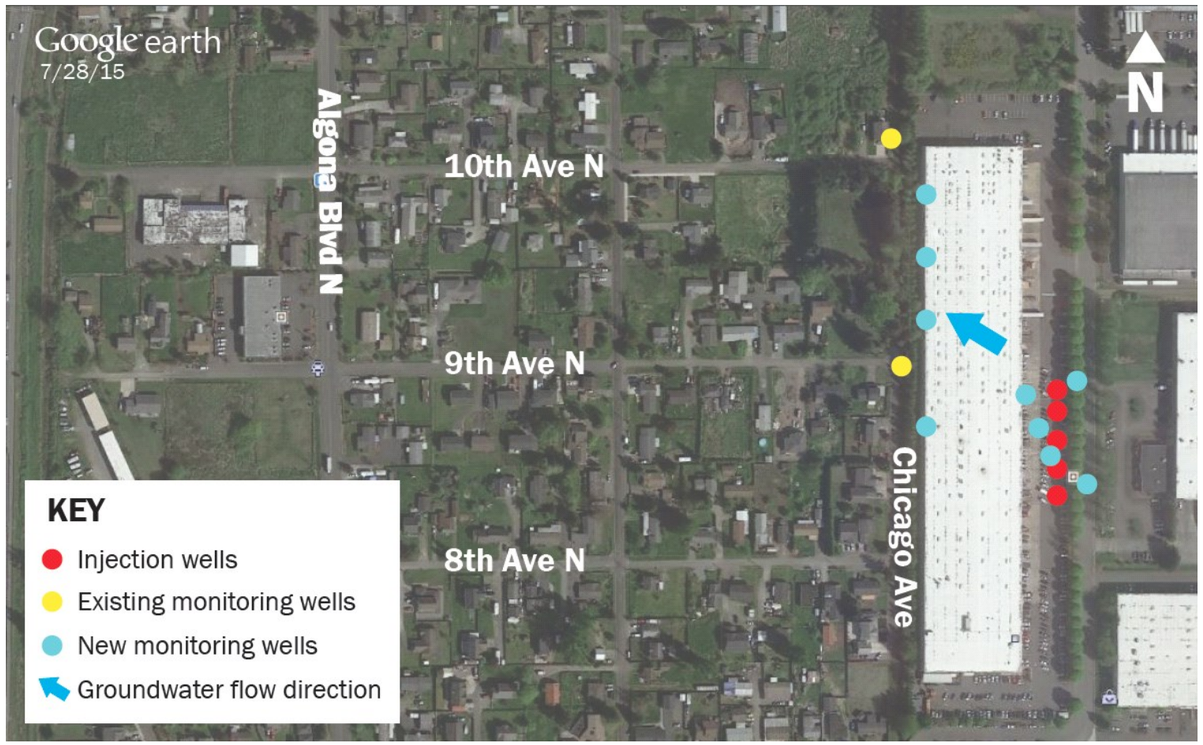
The bioremediation pilot study will be conducted in the commercial area of northeastern Algona at 851 Milwaukee Ave N (see map below). Fourteen new wells will be installed as part of the study, and most will be located on commercial property.

Study Process

During the study, technicians inject a non-toxic, food-grade solution into the groundwater wells located near a building in the commercial district of Algona. With more food, the population of the naturally occurring microbes usually increases, enabling them to break down the chemical contamination in the groundwater. Groundwater will be sampled downstream from the injection wells and the results will indicate whether this cleanup method can work for this site.

This technology, called bioremediation, has worked in situations where concentrations of TCE and its breakdown products were at higher levels than what is in the groundwater under Algona and Auburn. Boeing used this technology to clean up a contaminated area on its property during the 2004-2005 Interim Action. This pilot study will help Ecology evaluate whether the technique is effective at lower concentrations of the chemicals present in the groundwater plume.

Pilot Study Map



Map of pilot study area, with groundwater monitoring and injection well locations.

Boeing Auburn Fabrication Site

What Happens Next?

Starting in late July and continuing through early August, 14 new injection and monitoring wells were installed in the pilot study area. Staging of the study materials at the site will begin in mid-August, and the wells will be injected with the solution starting the week of August 17, 2015. The initial pilot study will continue for four to six weeks. Results will be posted on the Ecology website when they are available.

What to Expect

During the pilot study, neighbors can expect:

- Set up and staging of equipment in the parking lot of the testing site. Equipment includes baker tanks, drilling machinery, generators and containers storing the pilot study solution.
- Work mostly during off-peak hours, including nights, to minimize impacts to nearby businesses.
- Continued sampling of the new wells and existing groundwater monitoring network to assess the effectiveness of the pilot study.
- Injection study lasting approximately four to six weeks.
- Results posted on Ecology's website as available.

Activity	Estimated Timeframe
Set-up for pilot test injections	August 12-14
Initial well surveys	August 13-14
Pilot test injections	August 17-September 25
Monitoring of wells	Ongoing

Do you want regular updates about the Pilot Study and the project?

Visit the website and join our email list:

Bit.ly/EcyBoeingAuburn

What is bioremediation?

Bioremediation is the use of microbes to clean up contaminated soil or groundwater. Microbes are very small organisms, such as bacteria, that live naturally in the environment. Bioremediation stimulates the growth of certain microbes that use contaminants as a source of food and energy.

Some types of microbes are able to digest contaminants, usually changing them into small amounts of water and harmless gases like carbon dioxide. For bioremediation to be effective, the right temperature, nutrients, and food must be present. Proper conditions allow the right microbes to grow and multiply, and eat more contaminants. If conditions are not right, microbes grow too slowly or die. The pilot study will evaluate if conditions at this site will encourage effective bioremediation.

Contaminants treated using bioremediation include oil and other petroleum products, pesticides and solvents like TCE.

Why use bioremediation?

Bioremediation has the advantage of using natural processes to clean up sites. It may be less impactful as it often does not require as much equipment, labor or energy. Another advantage is that the contaminated groundwater is treated onsite. Because the microbes change the harmful chemicals into small amounts of water and gases, very few if any waste byproducts are created.

Bioremediation has successfully cleaned up many other polluted sites around the country.

(Source: Environmental Protection Agency)