



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

*Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000
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December 13, 2018

Boeing Company
PO Box 3707 M/C 20-59
Seattle, WA 98124

RE: Site Hazard Assessment – Boeing Developmental Center
Ecology FSID: 2101 / CSID: 5059

Dear Boeing Company:

The Washington State Department of Ecology (Ecology) will conduct a Site Hazard Assessment (SHA) for the following site:

Boeing Developmental Center
9725 E Marginal Way S
Tukwila WA 98108
Tax Parcels: 5624200990, 5624200985, 5624200980, 5624200992, 5624201032,
5624201036, 5624201038, 0003400018, 0003400023, 0003400026, 0003400028,
0003400048, 0423049016, & 0423049183

This site has been on Ecology's Confirmed and Suspected Contaminated Sites List (CSCSL) since 1988 for a reported release of petroleum hydrocarbons, halogenated organics and non-halogenated organics to soil and groundwater, and PCBs to sediment. Ecology combined the Boeing Development Center Norfolk (PCB) site with the Boeing A & M Developmental Center (LUST) site. See attached site summary.

SHAs are conducted under the Model Toxics Control Act (MTCA), Chapter 173-340-320 WAC. The purpose of an SHA is to gather information on past and present waste management activities and other basic site-specific environmental data to assess the site for its potential environmental hazard. Threats to human health and the environment are evaluated for potential contaminant exposure routes; resulting in a hazard ranking determination.

Sites are ranked on a scale of 1 to 5, with 1 representing the highest level of concern and 5 the lowest, relative to other ranked sites in the state. Ranked sites are placed on the state Hazardous Sites List (HSL). In some cases, the assessment may determine that no further action is warranted. In these cases, the site is not placed on the HSL and it is removed from Ecology's CSCSL.



Boeing Company
December 13, 2018
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Information contained in Ecology's site files will be considered in evaluating and scoring this site. Ecology wants to use the most recent and accurate data.

Please submit any additional environmental information regarding this site as follows:

Kim Wooten
NWRO Toxics Cleanup Program
Washington Department of Ecology
Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008

Additional data could include the results of any environmental assessments or laboratory analyses that have not previously been submitted to Ecology. A copy of our Integrated Site Information System (ISIS) Site Data Summary Sheet is enclosed. You may review the contents of Ecology's file on your site by completing a Request for Public Record form (<https://www.ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests>) and emailing it to PublicRecordsOfficer@ecy.wa.gov, or contacting the Public Records Officer at 360-407-6040. Your active participation in the assessment and scoring process is important to ensure that the best data available are used for scoring.

Fact sheets describing SHAs, the Washington Ranking Method and the HSL are enclosed for your information. A copy of the final SHA report and the scoring results will be sent to you.

If you have any questions, contact Kim Wooten at (425) 649-7040 or kim.wooten@ecy.wa.gov.

Sincerely,



Donna Musa
Site Hazard Assessment Coordinator
Toxics Cleanup Program

Enclosures: 4

cc: Desimone Trust Boeing
D & T Enterprises
Byung Maeng, Ecology HWTR
Kim Wooten, Ecology TCP

CS ID: 5059 **Boeing Developmental Center** FS ID: 2101 [Site Page](#) [Site Docs](#) [Vicinity Map](#)

Alternate Names: BOEING BAS DEVELOPMNT CTR, BOEING DEVELOPMENTAL CENTER, DEVELOPMENTAL CENTER

LOCATION

Address: 9725 E MARGINAL WAY S **Lat/Long:** 47.515471 -122.297455 **UST ID:**
TUKWILA 98108 **WRIA:** 9 **Legislative District:** 11
County: King **TRS:** 23N 4E 4 **Congressional District:** 9

DETAIL

Status: Cleanup Started **RANK:** **NFA Received?** No **NFA Date:**
Site Manager: Maeng, Byung **Statute:** MTCA **NFA Reason:**
Responsible Unit: Hazardous Waste Toxics **Has VCP/In VCP:** Yes/Yes **Has Institutional Control?** No **Is PSI Site?** No

Alternate Names: BOEING BAS DEVELOPMNT CTR, BOEING DEVELOPMENTAL CENTER, DEVELOPMENTAL CENTER

LOCATION

Address: 9725 E MARGINAL WAY S **Lat/Long:** 47.515471 -122.297455 **UST ID: 10408**
TUKWILA 98108 **WRIA:** 9 **Legislative District:** 11
County: King **TRS:** 23N 4E 4 **Congressional District:** 9

DETAIL

Status: Cleanup Started **RANK:** **NFA Received?** No **NFA Date:**
Site Manager: Maeng, Byung **Statute:** MTCA **NFA Reason:**
Responsible Unit: Hazardous Waste Toxics **Has VCP/In VCP:** Yes/Yes **Has Institutional Control?** No **Is PSI Site?** No

CLEANUP UNITS

Unit ID	Cleanup Unit Name	Unit Status	Resp Unit	Unit Manager	Current Process
4875	Boeing Developmental Center	Cleanup Complete-Active O&M/Monitoring ongoing	SWRO	Maeng, Byung	Voluntary Cleanup Program
15590	Boeing DC South Storm Drain System	Cleanup Started	SWRO	Maeng, Byung	Voluntary Cleanup Program

AFFECTED MEDIA & CONTAMINANTS

CONTAMINANT	MEDIA					
	Soil	Ground Water	Surface Water	Sediment	Air	Bedrock
Halogenated Organics	C	C	S		S	
Metals Priority Pollutants	S	S	S		S	
Non-Halogenated Solvents	C	C	S		S	
Petroleum Products-Unspecified			S		S	
Petroleum-Gasoline	C	C				
Polychlorinated biPhenyls (PCB)	B					

Key:
B--Below Cleanup Level C--Confirmed Above Cleanup Level RA--Remediated-Above
S--Suspected R--Remediated RB--Remediated-Below

SITE ACTIVITIES

Area	Activity	Status	Start Date	End Date	Activity Lead
Admin	Site Discovery/Release Report Received	Completed	1988-03-01	1988-03-01	Northwest Region
LUST	LUST - Notification	Completed	1989-07-20	1989-07-20	
LUST	LUST - Report Received	Completed	1990-12-05	1990-12-05	
LUST	LUST - Report Received	Completed	1993-02-26	1993-02-26	
LUST	LUST - Report Received	Completed	1993-02-26	1993-02-26	
VCP	VCP Opinion on Cleanup Action	Completed	1999-09-22	2009-12-24	Maeng, Byung
VCP	VCP Opinion on Site Cleanup	Completed	2003-03-25	2009-12-24	Helland, Brad
Admin	Site Hazard Assessment/Federal Site Inspection	In Process	2018-10-12	2019-01-31	Wooten, Kim

Site Hazardous Assessment is a First Step

Under the Model Toxics Control Act, one of the first steps in the process for cleaning up a hazardous waste site is a Site Hazard Assessment (SHA). During a site hazard assessment, the Department of Ecology collects environmental data about a site to determine the type and extent of contamination. If further action is needed, Ecology ranks the site using the Washington Ranking Method (WARM) and places it on the *Hazardous Sites List*.

Assessing the Potential Hazard

A site hazard assessment provides preliminary data regarding the potential hazard of a site. The main purpose of a site hazard assessment is to provide sufficient sampling data and other information to:

- Confirm or rule out contamination
- Identify the hazardous substance(s)
- Identify environmental characteristics associated with the site
- Evaluate the potential threats to human health and the environment

In addition, the site hazard assessment provides enough information to allow Ecology to rank the site's potential hazard relative to other sites on the *Hazardous Sites List*. This helps Ecology determine which sites should be worked on first. It is important to note that a hazard assessment is not intended to be a detailed site study or assessment of the health risk posed by a site.

Is a Site Hazard Assessment Always Necessary?

No, for a variety of reasons, a site hazard assessment may not always be necessary at a site. For example, sites doing independent cleanups and requesting Ecology consultation under the voluntary cleanup program would not normally need a site hazard assessment. In general, Ecology will conduct a site hazard assessment on sites that are anticipated to require significant future staff resources, since the assessment helps in setting workload priorities.

What Information Is Needed To Accurately Assess a Site?

Although a site hazard assessment is not intended to be a detailed site characterization, it includes sampling results from various locations on and around the site, site observations, maps and historical information. Specifically, a site hazard assessment should include:

1. Evidence confirming a release or threatened release of a hazardous substance.
2. Identification of the hazardous substances and their location, including what was or may be released and, if applicable, what products of decomposition, recombination or chemical reaction are currently present at the site.
3. A description of the facilities containing the substances and their condition.
4. Consideration of surface water run-on or run-off and the possibility of contaminants seeping through the surface and contaminating ground water.

5. Characterization of sub-surface and ground water, including the depth to ground water and distance to nearby wells, bodies of surface water and drinking water supplies.
6. An evaluation of human population, food crops, recreation areas, sensitive environments, irrigated areas and aquatic resources.
7. Any other factors which may be significant in estimating exposure of sensitive environments to hazardous waste.

What Happens After the Hazard Assessment?

The environmental information collected through the site hazard assessment process is used to “score” the primary exposure routes through which contaminants could pose a risk to human health and the environment. These include surface water, air and ground water. Each exposure route is then evaluated to determine the relative risk at each site and the final ranking for each site. Sites are ranked on a scale of 1 to 5 using the Washington Ranking Method, with a ranking of 1 representing the highest level of potential risk and 5 the lowest. The rankings represent an estimation of the potential threat posed by a site compared to all other assessed/ranked sites in the state.

Ecology will provide results from the site hazard assessment to site owners, operators and other potentially liable persons. If the department determines, after the assessment, that no further action is required at the site, it will notify the public through Ecology’s *Site Register*.

How Can I Get More Information?

If you are interested in finding out more about a specific site or to find out which sites in your area will be assessed in the near future, call the regional office in which the site is located:

Central Region (<i>Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima</i>)	15 West Yakima Ave, Suite 200 Yakima WA 98902-3452	509/575-2490
Eastern Region (<i>Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman</i>)	N. 4601 Monroe, Suite 100 Spokane WA 99205-1295	509/329-3400
Northwest Region (<i>Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom</i>)	3190 160 th Ave SE Bellevue WA 98008-5452	425/649-7000
Southwest Region (<i>Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Lewis, Mason, Pacific, Pierce, Skamania, Thurston, Wahkiakum</i>)	P O Box 47775 Olympia WA 98504-7775	360/407-6300

For additional information on the Site Hazard Assessment/WARM Ranking process, or to receive the Site Register, contact: Department of Ecology, Toxics Cleanup Program, P. O. Box 47600, Olympia WA 98504-7600. Or call 360/407-7170 or visit the Ecology website at: www.ecy.wa.gov and click on *Programs* then *Toxics Cleanup*. For information on the cleanup process and cleanup definitions, visit this site:

http://www.ecy.wa.gov/programs/tcp/cu_support/cu_process_steps_defns.htm

This focus sheet is intended to help the user understand the Model Toxics Control Act (MTCA) Cleanup Regulation, Chapter 173-340 WAC. It does not establish or modify regulatory requirements.

MTCA Requires Hazardous Waste Sites be Ranked

Every hazardous waste site in Washington is unique and poses a potentially different type and level of risk to human health and the environment. The Model Toxics Control Act (MTCA) requires these sites to be ranked relative to each other to guide Ecology's use of cleanup resources. Working with the Science Advisory Board, Ecology developed a ranking system for hazardous sites known as the Washington Ranking Method (WARM).

Ecology ranks a site after the agency gathers enough information to complete a site hazard assessment (SHA). Owners and operators and any other potentially liable persons (PLPs) known to the agency are notified when their site is ranked and placed on Ecology's Hazardous Sites List. Additions to the list are announced twice each year.

What Does the Washington Ranking Method Do?

A site's potential threat to human health and the environment is estimated using the data gathered during the SHA. The WARM categorizes sites on the basis of this information. Sites are ranked on a scale of one to five, with a score of one representing the highest relative level of concern, and five the lowest.

The WARM is designed to:

- Provide a consistent, objective means of assessing sites.
- Establish a scientifically defensible method of evaluating sites.
- Maximize accuracy with minimum data.
- Provide adequate distinction between sites.

How Will the Rankings be Used?

It is important to keep in mind that hazardous site ranking is not the same as risk assessment. Rather, it is an estimation of the potential threat posed by a site relative to all other ranked sites in the state. An actual assessment of a site's health risk is determined after detailed data has been gathered through a remedial investigation.

The WARM provides a framework in which to organize and compare sites. However, it is not the only factor used to determine which sites receive priority for Ecology's resources. Other considerations include the availability of funds, the potential cost of cleanup, the level of cooperation shown by a responsible party, and public concern about a site.

How Does the Washington Ranking Method Work?

When ranking a site, Ecology considers the primary routes through which humans or the environment could be exposed to hazardous substances found on that site. These routes include air, surface water and ground water. For each "exposure route," the following information is evaluated to determine the relative risk posed by each site.

<u>Substance Characteristics</u>	<u>Site Characteristics</u>	<u>Exposure Potential</u>
Toxicity of substance	Migration potential	Population
Quantity of substance	Soil permeability	Sensitive environment
Mobility of substance	Average rainfall	Surface water uses (drinking water, irrigation, fisheries)
Containment	Flood plain	
	Terrain slope	
	Distance to ground water	Ground water uses

What is the Relationship Between the WARM and the Federal Hazard Ranking System?

The Federal Hazard Ranking System’s purpose is to nominate hazardous waste sites with high federal scores to the National Priorities List (NPL). The federal system is used to set cleanup priorities for the Environmental Protection Agency. The WARM is not intended to duplicate the Federal Hazard Ranking System model. The purpose of WARM is to help Ecology set priorities for sites not on the federal list.

How Can I Get More Information?

For additional information on the Washington Ranking Method, contact the Department of Ecology, (360) 407-7170), Toxics Cleanup Program, P.O. box 47600, Olympia, WA 98504-7600. You may also visit the Ecology website at www.ecy.wa.gov and click on *Programs* then *Toxics Cleanup*. For information on the cleanup process and cleanup definitions visit:

http://www.ecy.wa.gov/programs/tcp/cu_support/cu_process_steps_defns.htm, or for information on a specific site, please contact the appropriate regional office listed below.

Central Region (<i>Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima</i>)	15 West Yakima Ave, Suite 200 Yakima WA 98902-3452	509/575-2490
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What is the Hazardous Sites List?

The Hazardous Sites List is a list of sites that have been assessed and ranked using the Washington Ranking Method (WARM). The list, which is a requirement of the Model Toxics Control Act (MTCA) Cleanup Regulation, Chapter 173-340 WAC, helps the Department of Ecology (Ecology) target where to spend cleanup funds. The list is updated twice a year.

How Are Sites Ranked?

Once Ecology receives a complaint about a piece of property or the practices of an owner or operator of a piece of property, an Ecology inspector or other delegated agency representative will go to the site and conduct an initial investigation. This involves looking at the present conditions of the site for signs of possible spills or discharges and the use and storage of hazardous waste. If Ecology determines further work is required after the initial investigation, a site hazard assessment (SHA) will be conducted. An SHA provides Ecology with basic information about a site.

Once an SHA has been conducted, Ecology then uses the WARM to estimate the potential threat the site poses if not cleaned up. Sites are ranked on a scale of one to five, with one representing the highest level of concern and five the lowest. When ranking a site, the primary exposure routes that could pose a risk to the public and the environment are taken into consideration. These are air, surface water, any release to sediments, and groundwater.

Hazard ranking is not an evaluation of the absolute risk a site poses to human health and the environment. Rather, a site's rank is relative to all other similarly assessed and ranked sites in the state. Information gathered during the SHA is used to determine the pathway scores of all applicable routes of exposure at the site

How Does a Site Get on the List?

Once a site goes through the ranking method and is ranked, it will appear on the Hazardous Sites List. Updates to the list occur at the end of February and August, twice yearly.

How Does the Site Ranking Affect Cleanup?

Ranking a site helps Ecology determine where to spend funds. However, public concern, a need for immediate response, and the availability of funding and cleanup staff also affect which sites get first priority for cleanup.

Can Site Rankings Change?

Ecology generally does not rerank sites, although a site's rank can change. Ecology may re-think a site if new or additional information is discovered that changes the site's relative health and environmental risk. The ranking system works similar to grading on a curve. The highest scoring sites are ranked as "ones" and the lowest as "fives." Thus, adding or removing sites from the list over time may also affect a site's rank.

How Does a Site Get Removed from the List?

A site may be removed from the list only if the site is cleaned up. In some cases, long-term monitoring and periodic reviews may be required to ensure the cleanup is adequate to protect the public and the environment. Ecology will provide public notice for any site it proposes to remove from the Hazardous Sites List.

Definitions

Each site on the Hazardous Sites List is categorized according to the status of the cleanup at the site. The site status categories used by Ecology are intended to give a general indication of the progress at the site. Typical categories include:

Awaiting further remedial action. This means cleanup work has not yet started at the site. Only a site hazardous assessment (SHA) has been done on the property.

Remedial action in progress. These are sites at which Ecology or the responsible party (with Ecology’s oversight) has started investigations, active construction, or actual cleanup work.

Construction complete. At these sites all major cleanup work has been completed, but conformational monitoring or operation and maintenance may continue to be performed at the site.

Independent remedial action. This indicates that the site owner/operator or the responsible party has independently conducted cleanup at the site.

How Can I Get More Information?

You can receive a copy of the Hazardous Sites List by calling (360) 407-7170 or by going to Ecology’s website at <http://www.ecy.wa.gov/programs/tcp/sites/SiteLists.htm>. For more information on a specific site, please contact the appropriate regional office listed below.

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