Periodic Review
Boeing Renton

737 Logan Ave North, Renton, King County
Facility Site ID: 2097, Cleanup Site ID: 820

Hazardous Waste and Toxics Reduction, Northwest Region

Washington State Department of Ecology
Shoreline, Washington

May 2026

Document Information

This document is available on the Department of Ecology's Boeing Renton cleanup site page.[1]

Related Information

- Facility Site ID: 2097
- Cleanup Site ID: 820

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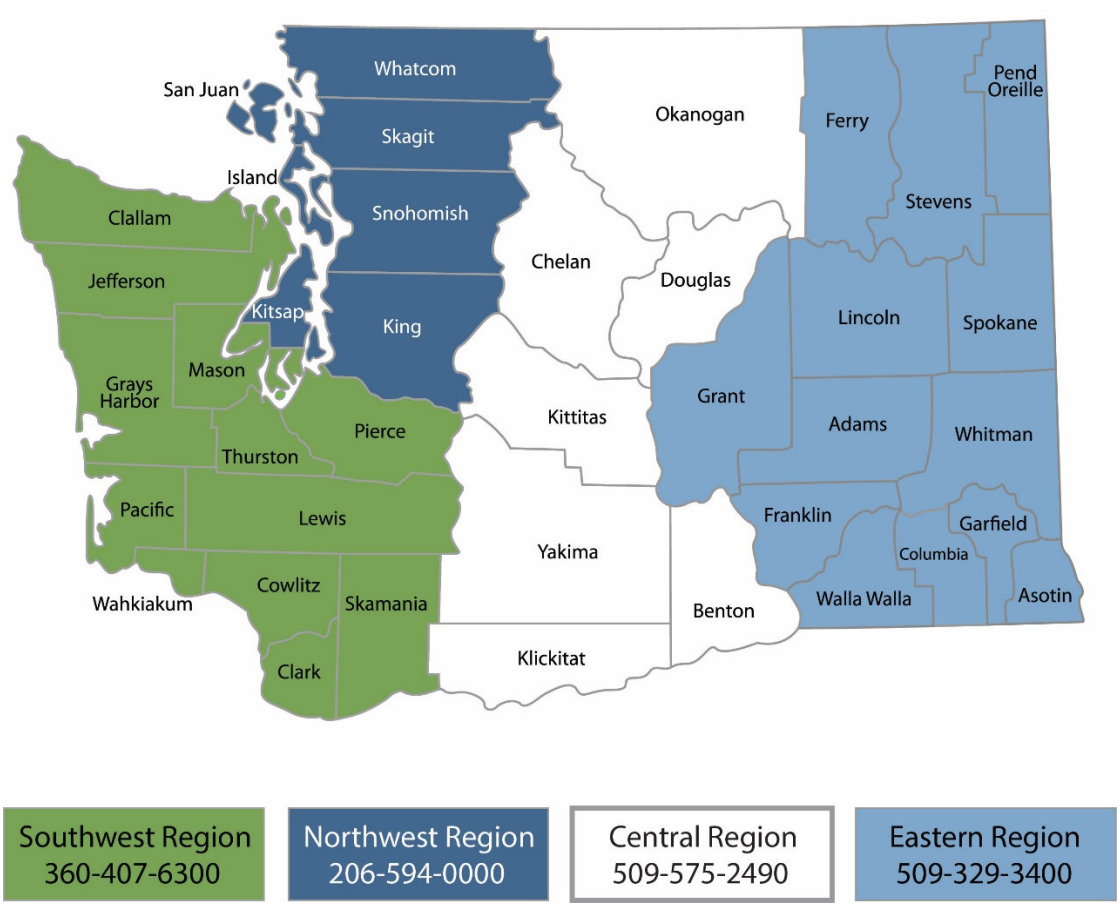
[1] https://apps.ecology.wa.gov/cleanupsearch/site/820
[2] https://ecology.wa.gov/About-us/Who-we-are/Our-Programs/Toxics-Cleanup
[3] https://ecology.wa.gov/About-us/Accountability-transparency/Our-website/Accessibility

Department of Ecology's Regional Offices

Map of Counties Served



Southwest Region 360-407-6300	Northwest Region 206-594-0000	Central Region 509-575-2490	Eastern Region 509-329-3400

Region	Counties served	Mailing Address	Phone
Southwest	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	PO Box 47775 Olympia, WA 98504	360-407-6300
Northwest	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	PO Box 330316 Shoreline, WA 98133	206-594-0000
Central	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 W Alder St Union Gap, WA 98903	509-575-2490
Eastern	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 N Monroe Spokane, WA 99205	509-329-3400
Headquarters	Across Washington	PO Box 46700 Olympia, WA 98504	360-407-6000

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Introduction

The Washington State Department of Ecology (Ecology) reviewed cleanup phase site conditions and monitoring data to ensure human health and the environment are being protected at The Boeing Company's (Boeing's) Renton cleanup site (Site). Site cleanup is being implemented under Sections 3004 and 3005 of Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6924 and 6925, regulations promulgated thereunder, including authorized State regulations in Chapter 173-303 Washington Administrative Code (WAC), and the Model Toxics Control Act (MTCA) regulations, Chapter 173-340 WAC.

Cleanup activities at this Site are being completed under Agreed Order No. 8191. Concentrations of vinyl chloride (VC), tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-Dichloroethene (cDCE), arsenic, copper, lead, benzene, and petroleum hydrocarbons that exceed MTCA cleanup levels remain on the property. The MTCA cleanup levels for soil and groundwater are established under WAC 173-340-740[4] and WAC 173-340-720,[5] respectively.

In Agreed Order No. 8191, Ecology determined institutional controls in the form of an environmental covenant will be required as part of the cleanup action for the Site, to be recorded with the office of the King County Recorder within ten (10) days of Boeing's receipt of written notice from Ecology of completion of the remedial action.

WAC 173-340-420(2)[6] requires Ecology to conduct a periodic review of certain sites every five years. For this Site, a periodic review is required because institutional controls and financial assurance are required as part of the cleanup action and two cleanup levels set in the Draft Cleanup Action Plan (CAP; AMEC, 2012) were based on practical quantitation limits (PQLs), as provided for under WAC 173-340-707.

When evaluating whether human health and the environment are being protected, Ecology must consider the following factors (WAC 173-340-420(4)):

a) The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the site

b) New scientific information for individual hazardous substances or mixtures present at the site

c) New applicable state and federal laws for hazardous substances present at the site

[4] https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-740
[5] https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-720
[6] https://app.leg.wa.gov/wac/default.aspx?cite=173-340-420

d) Current and projected site and resource uses

e) The availability and practicability of more permanent remedies

f) The availability of improved analytical techniques to evaluate compliance with cleanup levels

Ecology publishes a notice of all periodic reviews in the Site Register and provides an opportunity for public comment.

Summary of Site Conditions

Site description and history

The Site is located at 737 Logan Ave N, Renton Wahington and consists of the Boeing Renton Facility and a portion of the Renton Municipal Airport. The Site is approximately 180 acres owned by the Boeing Company (Boeing) and 18 acres leased from the City of Renton on the western side of the Cedar River waterway, at the City of Renton Municipal Airport. The surrounding area is a mix of commercial, residential, and industrial zoning. The Site is bordered by Lake Washington to the north; a hotel, parking garage, and retail to the east; residential buildings to the southeast; a high school sports stadium to the south; and retail buildings, residential buildings, and the Renton Municipal Airport to the west. The Site is transected by Cedar River and the Cedar River Trail Park in the western portion of the Site.

The lower parts of Cedar River and Lake Washington are used as migration pathways for many anadromous (fish that come up rivers from the sea to breed) salmonids. These two water bodies are also heavily used for recreation. Twenty miles upstream from Boeing Renton, the Cedar River is used as a municipal water supply by the City of Seattle. Both Cedar River and Lake Washington must be protected for use as drinking water, recreation, and salmon and trout spawning, rearing and migration. (WAC 173-201A).

Boeing Renton is about 0.5 miles from the City of Renton's downtown drinking water wells. Five of the Site's groundwater cleanup areas are located within the City of Renton's 5- and 10-year capture zones for the drinking water wells (City of Renton, 2021). Groundwater must be protected for use as drinking water (WAC 173-200).

The Boeing Renton Plant is located on property that was selected by the U.S. government for construction of a seaplane facility in 1941. Construction was initiated in that year on a 95-acre portion of the property that was originally a swampy marsh. In 1945, a 5,000-foot runway was constructed west of the original 95 acres on land reclaimed from Lake Washington which became the City of Renton Municipal Airport. Boeing began producing aircraft at the site in

1955 and purchased the site from the U.S. government in 1962. Boeing is and has been the owner and operator of the Boeing Renton Plant since at least November 18, 1980.

During the operation of the Boeing Renton Plant, the primary activity has been the manufacture of the Boeing 737 and 757 commercial airplanes. At the time of this periodic review, only the Boeing 737 model is currently manufactured at the plant. The major operations at the Boeing Renton Plant continue to be the preparation of parts, mechanical assembly, coating, testing, and support operations for the final assembly of jet airplanes.

A vicinity map is in Appendix A, and a Site plan that shows the Site cleanup area locations is in Appendix B.

Site investigation

In 2001, a Remedial Investigation (RI) was conducted to investigate the nature and extent of contamination at the site in 37 areas of concern (AOCs) and solid waste management units (SWMUs) (Weston, 2001). This RI included a historical review of waste management practices and documented hazardous releases, the sampling and analysis of soil and groundwater from identified AOCs and SWMUs, and a hydrogeological study that measured groundwater elevations, determined groundwater flow and potential migration pathways. Site contaminants of potential concern were identified as volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH), and metals.

A conceptual site model was established in the RI that identified several exposure pathways for site media. Exposure pathways were identified for the following receptors: temporary construction workers, resident/water supply customers, fishers, recreational users, small aquatic mammals, benthos, fish, piscivorous birds, and raptors. Exposure pathways were identified as:

- Ingestion, dermal contact, inhalation of particulates, and inhalation of volatile emissions from on-site soil;
- Dermal contact and inhalation of volatile emissions from groundwater;
- Ingestion, dermal contact, and inhalation of surface water; and
- Ingestion of aquatic biota.

AOCs and SWMUs were evaluated in the RI and many were determined to require no further action, based on the following criteria:

- Contaminants of potential concern detections did not exceed the preliminary cleanup levels (PCULs) at the standard point of compliance (POC);

- Contaminants of potential concern detections did not exceed the natural background levels for the Puget Sound Basin, suggesting that detections were likely not a result of releases at the Site;
- Contaminants of potential concern detections did not exceed the practical quantitation limits (PQLs);
- Area had undergone past remedial actions and it was determined that no further action was required to meet regulatory requirements; or
- Area was not determined to pose a risk to human health or the environment, based on the current and expected future land use.

The following 12 AOCs and SWMUs were ultimately included in the CAP: SWMU-168, SWMU-172/174, Building 4-78/79 SWMU/AOC Group, Former Fuel Farm, AOC-001/002, AOC-003, AOC-004, AOC-060, AOC-090, AOC-034/035, AOC-092, and AOC-093.

Additional investigations have occurred to address data gaps in AOCs identified in the CAP. In addition, additional areas of concern were identified during construction-related sampling, or during real property transaction due diligence sampling at the Renton Facility, after the CAP was approved by Ecology. These investigations include, but are not limited to:

- 1999: Outfall, Shoreline, and Nearshore Sediments Sampling Report
- 2003: Lot 13 B Addendum Investigation Results, Voluntary Cleanup Program
- 2004: Additional Investigation of AOCs-001, -002, and -003
- 2006: Additional Investigation of AOC-092, Building 4-20 Addition
- 2007: Additional Investigation of AOC-034 and -035, Building 4-41
- 2008: Comparison of Passive Diffusion Bag (PDB) and Low-flow Groundwater Sampling Results - SWMU 172/174
- 2009: CAP Investigation Results Memorandum
- 2009: Building 4-82 Investigation Results Memorandum
- 2009: SWMU-168, Former Fuel Farm, and Building 4-78/79 Investigation Results
- 2010: C-2 Transformer Characterization Results
- 2012: Former Fuel Farm Cleanup Action Investigation Memo
- 2013: Soil Characterization for Building 5-50 Electrical Upgrade Excavation
- 2016: Apron A Investigation Results Report
- 2016: AOC-001/002 Groundwater Investigation/Monitoring Technical Memorandum
- 2024: Apron R Investigation Results Technical Memorandum

Copies of these reports can be found in the Documents section of the Ecology Site webpage.[7]

Cleanup actions

State regulations (WAC 173-303-400(3)(a)(i) and WAC 173-303-646) require that all dangerous waste treatment, storage and disposal (TSD) facilities operating under interim status must conduct corrective action, as necessary, to protect human health and the environment for all releases of dangerous wastes and dangerous constituents at or from the TSD facility. Since the Boeing Renton Plant has been operating a TSD facility under interim status, it is subject to corrective action requirements under WAC 173-303-646.

Boeing owned and operated the Boeing Renton Plant as a dangerous waste management facility on or after November 19, 1980, the date that subjects facilities to RCRA permitting requirements, including interim status requirements pursuant to Section 3005 of RCRA, 42 U.S.C. § 6925, and implementing regulations thereunder, and including authorized State regulations promulgated in Chapter 173-303 WAC. On August 8, 1980, Boeing notified the United States Environmental Protection Agency (EPA) Region 10 of its dangerous waste management activities. Pursuant to the August 8, 1980 notification, Boeing was issued the site identification number WAD009262171 by EPA Region 10.

On November 18, 1980, Boeing submitted to EPA Region 10 the original Part A of the RCRA permit application for the storage of dangerous wastes in a container storage area and in dangerous waste tanks at the Boeing Renton Plant. Since that time, Boeing has submitted to EPA Region 10 and Ecology various revisions to Part A of its RCRA Dangerous Waste Permit application. Ecology has approved closures for all of the interim status tanks at the Boeing Renton Plant. Currently, the Boeing Renton Plant's container storage area at Building 4-78 is subject to RCRA interim status requirements pursuant to Section 3005 of RCRA and implementing regulations including the authorized Washington State Dangerous Waste Regulations promulgated in Chapter 173-303 WAC.

Remedial actions have been implemented at the Boeing Renton Facility under an Agreed Order (AO No. 8191) with Ecology. The AO was issued to Boeing on January 2, 2013 to implement the site-wide CAP (AMEC, 2012) for the 12 AOCs and SWMUs determined to require cleanup action. Constituents of concern (COCs) and cleanup levels (CULs) identified and approved in the CAP are presented in Table 1.

[7] https://apps.ecology.wa.gov/cleanupsearch/site/820

Table 1 Soil and groundwater constituents of concern and cleanup levels for cleanup areas identified in the Ecology-approved CAP, as reported in the CAP. Revisions to constituents of concern or cleanup levels since the CAP was published are noted, with supplementary details provided in the table footnotes.

Constituent of Concern	CAP Soil Cleanup Level (mg/kg)	CAP Groundwater Cleanup Level[1] (µg/L)	Notes
SWMU-168			
Vinyl chloride	--	0.11	
Methylene chloride	0.024	--	Conditions met. Removed from monitoring.[2]
SWMU-172/174			
1,1-Dichloroethene	0.001	0.057	Conditions met. Removed from monitoring.[2]
Benzene	0.009	0.8	Conditions met. Removed from monitoring.[2]
Chloromethane	--	0.5	Conditions met. Removed from monitoring.[2]
cis-1,2-Dichloroethene	0.003	0.03	
Methylene chloride	0.024	4.6	Conditions met. Removed from monitoring.[2]
Tetrachloroethene	0.01	0.02	
Trichloroethene	0.006	0.02	
Vinyl chloride	0.004	0.11	
bis (2-Ethylhexyl) phthalate	--	1.2	Conditions met. Removed from monitoring.[2]
Arsenic	--	1[3]	Cleanup level adjusted to 8.0 µg/L to reflect natural background.[3]
Chromium, total, as Cr(III)	--	57	Conditions met. Removed from monitoring.[2]
Chromium, total, as Cr(VI)	--	10	Conditions met. Removed from monitoring.[2]
Copper	36	3.5	
Lead	--	1	
Thallium	0.34	--	Conditions met. Removed from monitoring.[2]
Zinc	39.8	--	Conditions met. Removed from monitoring.[2]
Building 4-78/79 SWMU/AOC Group			
Vinyl chloride	0.1	0.2	
Trichloroethene	0.1	0.23	

Constituent of Concern	CAP Soil Cleanup Level (mg/kg)	CAP Groundwater Cleanup Level[1] (µg/L)	Notes
Tetrachloroethene	0.16	--	Conditions met. Removed from monitoring.[2]
cis-1,2-Dichloroethene	0.2	0.7	
Carbon Disulfide	11	--	Conditions met. Removed from monitoring.[2]
Benzene	19	0.8	
TPH-Gasoline with benzene	30	800	
Former Fuel Farm SWMU/AOC Group			
TPH-Jet Fuel (Jet A)	2000	500	
TPH-Diesel	2000	500	
Benzene	0.012	--	Conditions met. Removed from monitoring.[2]
2-Methylnaphthalene	45.8	--	Conditions met. Removed from monitoring.[2]
AOC-001/002			
Benzene	--	0.8	
Trichloroethene	0.02	0.02	
cis-1,2-Dichloroethene	0.01	0.02	
trans-1,2-Dichloroethene	--	24	Conditions met. Removed from monitoring.[2]
1,1-Dichloroethene	--	0.057	
Chloroform	--	5.7	Conditions met. Removed from monitoring.[2]
Vinyl chloride	0.02	0.05	
Naphthalene	--	119	Conditions met. Removed from monitoring.[2]
TPH-Gasoline with benzene	30	--	Conditions met. Removed from monitoring.[2]
AOC-003			
Tetrachloroethene	--	0.02	Conditions met. Removed from monitoring.[2]
Trichloroethene	0.09	0.16	Conditions met. Removed from monitoring.[2]
Vinyl Chloride	--	0.24	
cis-1,2-Dichloroethene	--	0.78	Conditions met. Removed from monitoring.[2]
AOC-004			
Benzene	9.5	5	Conditions met. Removed from monitoring.[2]
Lead	--	1	

Constituent of Concern	CAP Soil Cleanup Level (mg/kg)	CAP Groundwater Cleanup Level[1] (µg/L)	Notes
TPH-Gasoline with benzene	30	800	Conditions met. Removed from monitoring.[2]
Ethylbenzene	21.5	--	Conditions met. Removed from monitoring.[2]
Acetone	3.3	--	Conditions met. Removed from monitoring.[2]
Toluene	19	--	Conditions met. Removed from monitoring.[2]
AOC-034/035			
Vinyl chloride	0.04	0.29	Conditions met. Removed from monitoring.[2]
cis-1,2-Dichloroethene	0.05	0.65	Conditions met. Removed from monitoring.[2]
AOC-060			
Vinyl chloride	--	0.26	
Trichloroethene	--	0.02	
cis-1,2-Dichloroethene	--	0.08	
AOC-090			
1,1-Dichloroethene	0.001	0.057	
1,1,2-Trichloroethane	0.01	0.2	
1,1,2,2-Tetrachloroethane	--	0.17	
Acetone	--	300	
Benzene	0.7	0.8	
Toluene	19	75	
Carbon tetrachloride	0.008	0.23	
Chloroform	0.079	2	
cis-1,2-Dichloroethene	0.006	2.4	
trans-1,2-Dichloroethene	--	53.9	
Methylene chloride	0.027	2	
Vinyl chloride	0.006	0.13	
Tetrachloroethene	0.03	0.05	
Trichloroethene	0.01	0.08	
TPH-Gasoline with benzene	30	800	
TPH-Diesel	2000	500	
TPH-Motor Oil	2000	500	
2-Methylnaphthalene	45.8	--	
Isophorone	0.1	--	
Phenanthrene	0.009	--	

Constituent of Concern	CAP Soil Cleanup Level (mg/kg)	CAP Groundwater Cleanup Level[1] (µg/L)	Notes
Antimony	5.06	--	
Arsenic	7	--	
Cadmium	1	--	
Chromium, total, as Cr(III)	1140	--	
Chromium, total, as Cr(VI)	3.84	--	
Copper	36	--	
Mercury	0.013	--	
Selenium	0.52	--	
Silver	13.6	--	
AOC-092			
Benzene	0.15	5	Conditions met. Removed from monitoring.[2]
TPH-Gasoline with benzene	30	800	Conditions met. Removed from monitoring.[2]
AOC-093			
TPH-Gasoline without benzene	100	1,000	Conditions met. Removed from monitoring.[2]

mg/kg = milligrams per kilogram
µg/L = micrograms per liter
AOC = area of concern
CAP = Cleanup Action Plan
Cr(III) = trivalent chromium
Cr(VI) = trivalent chromium
SWMU = solid waste management unit
TPH = total petroleum hydrocarbons
Notes:

1. Groundwater cleanup level applicable at the conditional point of compliance for the designated cleanup area.
2. Constituent of concern was removed from the Compliance Monitoring Plan (CMP) after compliance monitoring showed the required conditions were met. CMP addendums indicate revisions to the monitoring program based on evaluations of available data. Each CMP addendum was approved by Ecology prior to implementation.
3. In 2022, Ecology published a study on Natural Background Groundwater Arsenic Concentrations in Washington State (Ecology, 2022). The study calculated a background threshold value for arsenic in groundwater in the Puget Sound Basin of 8 µg/L. Arsenic was adjusted in 2023 to reflect 8 µg/L, as detailed in the New scientific information for individual hazardous substances or mixtures present at the Site section.

Four additional remediation areas were identified after the 2012 CAP. Each of these areas were identified during construction-related sampling or property due diligence sampling at the Renton Facility. One of these areas, Apron R, has been identified as an additional remediation area and is undergoing further investigation. The other three areas, Lot 20/Building 10-71 Parcel, 4-70 Area, and Apron A, have been investigated and subsequently included in the

Boeing Renton Corrective Action Program. At the time of this review, no documentation has been found identifying releases in these areas or potential contaminant sources. At the time of this review, CULs have not yet been established for the four subject sites; therefore, confirmed CULs are not available. COCs identified for Lot 20/Building 10-71 Parcel, 4-70 Area, and Apron A are presented in Table 2. Apron R is not included in Table 2 because investigation is ongoing and COCs have not been finalized.

Table 2 Soil and groundwater constituents of concern for cleanup areas identified after the CAP.

Constituent of Concern	Notes
Apron A	
cis-1,2-Dichloroethene	
Vinyl chloride	
Building 4-70	
cis-1,2-Dichloroethene	Conditions met. Removed from monitoring.[1]
Trichloroethene	Conditions met. Removed from monitoring.[1]
Vinyl chloride	Conditions met. Removed from monitoring.[1]
Lot 20/Former Building 10-71	
Vinyl chloride	Conditions met. Removed from monitoring.[1]
cis-1,2-Dichloroethene	Conditions met. Removed from monitoring.[1]
Trichloroethene	Conditions met. Removed from monitoring.[1]
Toluene	Conditions met. Removed from monitoring.[1]

Notes:

1. Constituent of concern was removed from the Compliance Monitoring Plan (CMP) after compliance monitoring showed the required conditions were met. CMP addendums indicate revisions to the monitoring program based on evaluations of available data. Each CMP addendum is approved by Ecology prior to implementation.

Cleanup Areas Identified in the Cleanup Action Plan

SWMU-168

SWMU-168 is located near the northeast corner of Building 5-50 on leased property at the Renton Municipal Airport and consists of the area around a former underground storage tank (UST) that was removed in September 1985. There is no documented information regarding a release from this SWMU. A monitored natural attenuation (MNA) remedy was selected in the CAP, followed by institutional controls.

SWMU-172/174

SWMU-172/174 is located on the eastern side of the Renton Municipal Airport near the west side of the Cedar River Waterway. SWMU-172 and SWMU-174 are the locations of former wastewater USTs located adjacent to Buildings 5-09 and 5-08; both USTs were removed in 1987. Soil vapor extraction (SVE) and enhanced bioremediation remedies were selected in the CAP, followed by a transition to monitored attenuation (MA) with institutional controls.

BUILDING 4-78/79 SWMU/AOC GROUP

The Building 4-78/79 SWMU/AOC Group is located in the west-central portion of the Facility near the east side of the Cedar River Waterway. This SWMU/AOC group includes a former dangerous waste storage area (SWMU-181), four former gasoline USTs and a former gasoline dispenser, and two former methyl ethyl ketone (MEK) USTs. All USTs and the gasoline pump dispenser island and associated piping were removed from this area in the 1980s. These units were located within the capture zone for the Interim Action groundwater hydraulic containment system (pump & treat) installed in this area in 1999 and operated for approximately 5 years. SVE and enhanced bioremediation remedies were selected in the CAP, with a transition to MA with institutional controls. Additionally, a TPH source area soil excavation was conducted in September 2021.

FORMER FUEL FARM

The Former Fuel Farm consisted of three steel USTs used to store Jet A fuel located near the south end of the Renton Municipal Airport, about 200 feet southeast of Building 5-02. All three of the USTs were removed in 1993. In May 1995, an Interim Action using bioventing and biosparging wells was initiated to mitigate the residual hydrocarbons at the site. An MNA remedy was selected in the CAP, followed by institutional controls.

AOC-001/002

AOC-001/002 was originally associated with former USTs located approximately 350 feet southeast of Lake Washington in the northern portion of the Facility. Two Interim Actions were conducted for AOCs-001 and -002. The first was implemented in 1986 when the USTs in the source areas were removed and the second was started in 2005 with soil excavation followed by injection of 4,800 pounds of lactate and 6,300 pounds of emulsified vegetable oil to initiate biological treatment. Subsequent groundwater monitoring, beneath and downgradient of the areas where the substrate was placed, indicated degradation of TCE in groundwater and an increase in the concentration of the final, nontoxic biodegradation products. An enhanced bioremediation remedy with performance monitoring from the two Interim Actions was selected in the CAP, followed by a transition to MA with institutional controls.

AOC-003

AOC-003 is located at the north side of the Facility, between Buildings 4-20 and 4-81. The AOC-003 UST was removed in 1986. An enhanced bioremediation remedy was selected in the CAP, followed by a transition to MA with institutional controls.

AOC-004

AOC-004 is the location of former UST URE-04 – a 250-gallon steel UST located approximately 10 feet east of Building 4-21 that was removed in December 1986. An enhanced bioremediation remedy was selected in the CAP, followed by a transition to MA and institutional controls.

AOC-034/035

AOC-034/035 is the location of former USTs near the south side of Building 4-41. The USTs were removed in September 1987. An MNA remedy was selected in the CAP, followed by institutional controls.

AOC-060

AOC-060 is located in and around Building 4-42. A secondary containment sump for a former vapor degreaser was removed in December 1993. An MNA remedy was selected in the CAP, followed by institutional controls. Boeing has elected to also include enhanced bioremediation at this site to accelerate the restoration time frame. In March 2024, Boeing installed two additional injection wells for the bioremediation program, B060-01 and B060-02. These wells, and the existing RGW147S, are injected with substrate.

AOC-090

AOC-090 is located near the southwest corner of former Building 4-64 and just east of the Cedar River Trail Park. The source of the contamination is unknown but was identified during the installation of a fire protection water line and fire hydrant in July 1999. An Interim Action was started in 2005 with 1,500 cubic yards of TPH/solvent -impacted soil excavated to the water table. In 2005, following soil removal, approximately 17 tons of molasses were added to the excavation area to initiate biotreatment and serve as an organic carbon source for biodegradation of VOCs. Subsequent groundwater monitoring, beneath and downgradient of the areas where the substrate was placed, indicated degradation of TCE in groundwater and an increase in the concentration of the final, nontoxic biodegradation products. An enhanced bioremediation remedy with performance monitoring from the Interim Action was selected in the CAP, followed by transition to MA and institutional controls. In March 2024, Boeing installed two additional injection wells for the bioremediation program, B090-01 and B090-02.

AOC-092

AOC-092 is located along the east side of Building 4-20. Soil impacted with petroleum hydrocarbons was discovered at this location during 2001 construction activities. Source-area excavation and enhanced bioremediation remedies were selected in the CAP, followed by a transition to MA and institutional controls.

AOC-093

AOC-093 is an area located north of Building 4-20, near Lake Washington. Sampling in 2003 identified fuel residues in one push probe while delineating affected groundwater for AOC-001/002. MNA was the selected CAP remedy, followed by a transition to institutional controls.

Cleanup Areas Identified After the Cleanup Action Plan

Lot 20/BUILDING 10-71 PARCEL

The Lot 20/Building 10-71 Parcel consists of approximately 4 acres within the southern portion of the Renton Facility. Building 10-71 was demolished in 2008 and additional soil, soil vapor, and groundwater samples were collected. Localized, low-level concentrations of chlorinated VOCs were discovered in groundwater underlying portions of the Building 10-71 parcel during a Phase II Environmental Site Assessment, after the CAP was approved by Ecology. The cleanup action implemented for the Building 10-71 Parcel was enhanced bioremediation and MA. Groundwater cleanup activities occurred from 2015 to 2016.

BUILDING 4-70

The 4-70 area represents a localized groundwater plume located west of Building 4-70 that was identified after the CAP was approved by Ecology. No source was identified for this area. The cleanup action implemented for the 4-70 Area was enhanced bioremediation and MA. Groundwater cleanup activities occurred from 2014 to 2016.

APRON A

The Apron A area is located within the Boeing-leased portion of Renton Municipal Airport. In 2015, VOCs were encountered in groundwater during pre-construction sampling in 2015 and a follow-up investigation was conducted in 2016 to delineate the extent of VOCs exceeding MTCA screening levels. Four groundwater monitoring wells were installed in the immediate area. During April 2016 site investigation activities, groundwater monitoring well results indicated VC levels from 0.42 to 8.7 µg/L. The cleanup action currently being implemented for the Apron A area is enhanced bioremediation and MA.

APRON R

The Apron R area is located on the northeast portion of the Renton Facility, in the location of a removed historical fueling pipeline that was active before Boeing used the property. In June 2021, a sheen was observed in shallow water within an excavation trench during Apron R construction work. At the time of this review, there is no evidence that Boeing has had a release in this location. It appears contamination may have resulted from a former fueling pipeline used by the Shuffleton Power Plant, prior to Boeing's use of the property (WSP, 2024). The area is scheduled for further investigation in 2026.

Groundwater monitoring

Under Agreed Order No. 8191, Boeing is required to conduct long-term groundwater monitoring. The original monitoring plan was presented in Appendix D of the draft Engineering Design Report (EDR; AMEC, 2014). Monitoring reports were to be prepared on a quarterly basis and document results from groundwater monitoring, operation of the SVE systems, and maintenance of bioremediation systems.

The review of remedial progress, current conditions, and the evaluation of the compliance monitoring program has been an integral part of the Site cleanup action. The approach for amending the groundwater monitoring plan as needed to ensure adequate monitoring of the cleanup actions is noted in the CAP, which states that site conditions will be reevaluated to adequately monitor onsite groundwater and determine compliance.

Cleanup standards

Cleanup standards include cleanup levels (CULs), the location where these cleanup levels must be met (point of compliance; POC), and any other regulatory requirements that apply to the Site. WAC 173-340-704[8] states that the MTCA Method A screening level may be used to establish CULs at sites that have few hazardous substances, are undergoing a routine cleanup action, and where numerical standards are available for all indicator hazardous substances in the media for which the Method A screening level is being used. The Method B screening level may be used at any site and is the most common method for setting CULs at sites contaminated with substances not listed under Method A. The Method C screening level may be used to set soil and air CULs at industrial sites.

Site CULs and POCs for areas identified in the RI and the FS started were detailed in the Feasibility Study Work Plan (FSWP; Geomatrix, 2004; Geomatrix, 2008) and were established in the CAP. The point of compliance (POC) is the area where the cleanup levels must be attained.

[8] https://app.leg.wa.gov/WAC/default.aspx?cite=173-340-704

For soil CULs based on the protection of groundwater, as they are for this Site, the POC is established as soils throughout the Site (standard POC). For groundwater CULs, it was determined that groundwater conditional points of compliance (CPOCs) would be appropriate and a CPOC was established for each individual AOC and SWMU.

Soil Cleanup Levels

The Site land use is zoned as industrial land use. As a result, most soil cleanup levels for specific COCs were established using the Model Toxics Control Act (MTCA) 2007 Cleanup Level and Risk Calculation (CLARC) during the FS. The MTCA Method C soil screening levels must be protective of human health and the environment and protective of groundwater.

The soil cleanup levels for the COCs at each SWMU or AOC are summarized in Table 1. The soil cleanup levels in Table 1 are either (1) Industrial MTCA Method A cleanup levels for TPH or (2) standard or modified MTCA Method C cleanup levels developed in accordance with WAC 173-340-745, as discussed in detail in the FS. The modified MTCA Method C soil cleanup levels for each site are protective of groundwater at the CPOC established for the respective site and were developed to specifically apply to the designated SWMUs or AOCs.

Groundwater Cleanup Levels

Cleanup levels for groundwater were established for each SWMU and AOC addressed in the CAP. The groundwater cleanup levels are applicable at the CPOC for each SWMU and AOC. Both Lake Washington and the Cedar River Waterway are classified as potential sources for public drinking water. Therefore, the groundwater cleanup levels were established to be protective of both human health and ecological receptors within the surface water bodies.

Groundwater cleanup levels were established in the CAP using the following steps:

1) For petroleum hydrocarbons, the MTCA Method A cleanup levels were selected.
2) Initially, the MTCA, Method B screening level published by Ecology in CLARC were selected.
3) If the COCs present within an AOC/area were expected to discharge to surface water, criteria for protection of surface water were developed. The surface water protection criteria applicable at the point of discharge to surface water were based on protection of human exposure to COCs through drinking the surface water and consumption of fish from the surface water; the potential for ecological impacts in the surface water were also considered. Based on the criteria developed, the FS determined that these cleanup levels were either technically infeasible to achieve and/or the criteria could not be achieved across the Site within a reasonable restoration time frame. Based on these conditions, the CAP established the use of

conditional points of compliance (CPOCs), following the MTCA procedures in WAC 173-340-720(8)(c).

4) For organic COCs amenable to degradation processes, such as benzene, tetrachloroethene (PCE), trichloroethene (TCE), *cis*-1,2-dichloroethene (cDCE), and vinyl chloride (VC), the risk-based calculation was adjusted using a modeled attenuation factor in groundwater between the CPOCs and the nearest surface water. This approach was detailed in the FSWP and FS for the Site (Geomatrix, 2004 and 2008). Initial attenuation modeling was completed as part of the FSWP in 2004. For the modeling analysis, literature values of the degradation half-life for the Site COCs were used; for example, a half-life for VC was assumed to be 7.8 years, based on the literature studies cited in the FSWP.

5) At each CPOC location, the lowest of the values from the steps above were initially considered. Subsequently the cumulative site risk from all chemicals listed as COCs at each AOC/SWMU area was calculated and the initial cleanup levels were adjusted downward as necessary so that the cumulative hazard index (HI) was less than or equal to 1 and cumulative cancer risk was less than or equal to 1×10^{-5}, as per the MTCA requirements in WAC 173-340-705(5) and 173-340-708(5).

6) If the calculated values were lower than the practical quantitation limit (PQL), the cleanup levels were adjusted upward to the PQL (as per the MTCA requirements in WAC 173-340-707). This adjustment included arsenic and lead, for which the cleanup levels were set to the PQL of 1 µg/L. For these naturally occurring compounds, the natural background risk was included in the cumulative risk calculations rather than the excess risk (i.e., the risk above background) as specified by the MTCA procedures for CULs.

7) Cleanup levels were established for CPOC locations. Cleanup levels were not specified for areas upgradient of CPOC locations.

Two key assumptions used in developing this approach include the following:

1) The COCs initially listed for each AOC and SWMU were accurate and representative of the contaminants present in groundwater at each area.

2) The treatment effectiveness (i.e., percent reduction from the baseline concentration towards the cleanup level) would be similar for all COCs.

Several of the AOCs included common lab contaminants in the COC list from the RI (i.e., acetone, bis (2-ethylhexyl) phthalate, methylene chloride). Although present in at least one sample collected for the RI, they were not found in subsequent groundwater monitoring and were therefore not included in the CULs established in the CAP.

The groundwater CULs developed using this approach are presented in Table 1.

Future Environmental Covenants

Ecology determined that institutional controls would be required as part of the cleanup action to document remaining contamination following cleanup action completion, protect the cleanup action, and protect human health and the environment.

As recorded in Agreed Order No. 8191, an environmental covenant will be required because:

- The Remedial Action was conducted to meet the Model Toxics Control Act (MTCA) Method C Soil Cleanup Levels for Industrial Properties which may result in residual concentrations of tetrachloroethylene, trichloroethylene, cis-1,2-dichloroethylene, vinyl chloride, methylene, benzene, ethylbenzene toluene, 2-methylnaphthalene 1, 1,2-trichloethane, 1, 1-dichloroethene, carbon tetrachloride, chloroform, acetone, isophorone, phenanthrene, copper, thallium, zinc, antimony, arsenic, cadmium, chromium (III), chromium (VI), mercury, selenium, silver and total petroleum hydrocarbon which exceed the MTCA Method B screening levels for SOIL established under WAC 173-340-740.
- Conditional points of compliance have been established for groundwater.

As determined in Agreed Order No. 8191, the timing for recording the environmental covenants will be as follows:

- For those portions of the Facility owned by Boeing, Boeing shall record an Environmental Restrictive Covenant (Exhibit D) with the office of the King County Recorder within ten (10) days of Boeing's receipt of written notice from Ecology of completion of the remedial action.
- For those portions of the Facility not owned by Boeing, Boeing shall use its reasonable best efforts to obtain the consent of the property owner to record an Environmental Restrictive Covenant with the office of the King County Recorder within thirty (30) days of Boeing's receipt of written notice from Ecology of completion of the remedial action.
- Boeing shall provide Ecology with a copy of the recorded Environmental Restrictive Covenant within thirty (30) days of the recording date.

As established in Agreed Order No. 8191, future institutional controls recorded in the environmental covenants will likely include the following:

Section 1.

- The Property shall be used only for traditional industrial uses, as described in RCW 70.105D.020(23) and defined in and allowed under the City of Renton's zoning regulations codified in the Renton Municipal Code, Title IV Development Regulations as of the date of this Restrictive Covenant.

- No groundwater may be taken for domestic, agricultural or any use from the Property.
- Soil under Building 4-78 contains tetrachloroethylene, trichloroethylene, vinyl chloride and total petroleum hydrocarbon. The Owner shall not alter, modify, or remove the existing structure[s] in any manner that may result in the release or exposure to the environment of that contaminated soil or create a new exposure pathway without prior written approval from Ecology.
- Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited. Some examples of activities that are prohibited in the capped areas include: drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork.

Section 2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Prope1iy as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 4. The Owner of the property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action.

Section 5. The Owner must restrict leases to uses and activities consistent with the Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take samples; to inspect remedial actions conducted at the property; to determine compliance with this Covenant; and to inspect records that are related to the Remedial Action.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

An environmental covenant, once recorded with the county, prohibits activities that would result in the release of contaminants contained as part of the cleanup, and prohibits any use of the property that is inconsistent with the covenant (unless with Ecology's advanced approval). A covenant serves to assure the long-term integrity of the remedy. However, because the covenants have not yet been recorded, the protections afforded by a covenant are not present at the Site at this time.

Periodic Review

Effectiveness of completed cleanup actions

Ecology conducted a Site visit on 16 May 2024 (Ecology, 2024). The Site is currently operating as a commercial jetliner manufacturing facility and also conducts certain, limited operations on the adjacent municipal airport via a real property lease, which is consistent with the site use at the time that the CAP and EDR were approved. A photo log from the 2024 Site visit is available in Appendix C.

Direct contact

Soils with COCs at concentrations exceeding MTCA Method B screening levels remain at the Site; Site concrete cover and buildings in areas of known contamination provide a barrier that is intended to eliminate incidental ingestion and direct contact exposure to soils that exceed MTCA Method B screening levels. During the 2024 Ecology Site visit, Site concrete cover in areas of known contamination appeared to be in satisfactory condition. Other than routine maintenance of monitoring wells, no other repair, maintenance, or contingency actions are required at this time.

Protection of groundwater

Groundwater treatment at the Site is ongoing, with active cleanup areas undergoing enhanced bioremediation, monitored attenuation, or monitored natural attenuation. Groundwater with COCs at concentrations exceeding MTCA Method B screening levels remain at the Site. Current Site use does not include the use of groundwater as drinking water. Institutional controls in the form of a Covenant will be implemented at the Site following completion of remedial action (see the *Future Environmental Covenant* section of this periodic review for more details), which will prohibit the future use of groundwater as drinking water.

Boeing Renton is about 0.5 miles northwest of the City of Renton's downtown wells. The city's downtown wells supplied 64% of Renton's drinking water in 2024 (City of Renton, 2025). A 2012 planning update revised the capture zones for the downtown wells. Five areas of site groundwater contamination are now are within the 5-10 year wellcapture zones (City of Renton, 2021). These five cleanup areas include:

- The Former Fuel Farm AOC Group;
- SWMU-172/-174;
- SWMU-168;
- AOC-090; and
- Apron A.

In August 2025, the compliance contaminant concentrations for four of these cleanup areas were below the Maximum Contaminant Levels (MCLs) for drinking water. One areas had petroleum hydrocarbons (diesel and jet fuel) above cleanup levels. The City of Renton monitors the downtown wells, sampling for VOCs every 6 years and arsenic every 9 years. Ecology recommends that Boeing evaluate potential impacts of their contamination on Renton's downtown wells.

Site Groundwater monitoring and reporting is ongoing and is currently conducted semiannually. Boeing and Ecology routinely evaluate contaminant trends at the Site for each AOC and SWMU. This ongoing evaluation process has led to the modification and reduction of COCs for many AOCs and SWMUs and the elimination of certain AOCs and SWMUs from the Site compliance monitoring program. The original monitoring plan was superseded by the Compliance Monitoring Plan (CMP; AMEC, 2016), which was subsequently revised in the first addendum to the CMP (CMP Addendum #1; AMEC, 2017). The groundwater monitoring program was further revised in 2019 in the second addendum to the CMP (CMP Addendum #2; Wood, 2019) and in 2020 in the third addendum to the CMP (CMP Addendum #3; CALIBRE, 2020). At the time of this periodic review, CMP Addendum #3 is the current, approved version of the CMP.

The Dry Season 2025 Groundwater Monitoring Report presented an update on the current conditions of each cleanup area (WSP, 2025a). Current conditions for each cleanup area are outlined below. Analytical data tables for each cleanup area are provided in Appendix D.

SWMU-168

SWMU-168 is currently in the MNA remedial phase. Three CPOC wells were initially included in the CMP. Two CPOC wells were removed from the CMP through addendums because all COCs were below the site-specific CULs for multiple years. In the August 2025 monitoring event, monitoring well GW230I was the remaining CPOC well at SWMU-168.

During the August 2025 monitoring event, vinyl chloride (VC) at monitoring well GW230I was detected at a concentration of 0.0810 µg/L, below the CUL of 0.11 µg/L. VC is the sole SWMU-168 COC. VC concentrations have generally shown an apparent historical seasonal pattern, with higher concentrations in the dry season, with the exception of a consistently decreasing VC concentration trend from the dry season of 2022 to the wet season of 2025. Detections of VC at the remaining CPOC well at this location have remained below the CUL in the last 5 monitoring events.

SWMU-172/174

The SWMU-172/174 SVE system operated between April 2015 to October 2022. In 2022, the VOC removal rate from the SVE system reached an asymptotic level. Ecology approved the SVE system shutdown in 2022. Permanent discontinuation of SVE and decommissioning of the SVE system are subject to Ecology's evaluation of the results of the sub-slab vapor sampling. SWMU-172/174 is currently in the enhanced bioremediation remedial phase.

The initial SWMU-172/174 COC list included: 1,1-dichloroethene (1,1-DCE), benzene, chloromethane, cDCE, methylene chloride, PCE, TCE, VC, bis(2-ethylhexyl) phthalate, arsenic, total chromium, hexavalent chromium, copper, and lead. Based on performance monitoring data, the COC list has been revised to include PCE, TCE, VC, cDCE, arsenic, copper, and lead. The removed COCs at SWMU-172/174 were all less than the site-specific CULs for multiple years and their deletion from the CMP was approved by Ecology in several addendums to the CMP.

The initial SWMU-172/174 CPOC monitoring well list included GW-233I, GW-232S, GW-234S, GW-235I, and GW-236S. Based on performance monitoring data, GW-233I was removed from the CMP because the COCs at this well were below the site-specific CULs for multiple years.

In the August 2025 sampling event, cDCE was detected above the CUL (0.03 µg/L) in the groundwater from all active CPOC area wells. VC and TCE were detected above their CULs (0.11 and 0.02 µg/L, respectively) in one CPOC monitoring well each (GW232S and GW236S, respectively). PCE was not detected in any CPOC wells in August 2025.

Arsenic exceeded the CUL at monitoring well GW232S. No other metals were detected above their respective CULs in CPOC wells during the August 2025 monitoring event.

BUILDING 4-78/79 SWMU/AOC GROUP

The initial list of seven CPOC wells have been reduced to three (GW-237S, GW-240D, and GW-143S) through CMP addendums, as several wells consistently demonstrated compliance with CULs and were removed from the plan.

The Building 4-78/79 SWMU/AOC Group is currently in the enhanced bioremediation remedial phase. The remaining CPOC wells were below the CULs for CDCE, TCE, benzene, and TPH as Gasoline in August 2025. VC was detected above the CUL (0.20 µg/L) in one CPOC well at 0.280 µg/L in GW-237S. Benzene and cDCE have been sporadically detected above the CUL in CPOC area wells GW237S and GW143S, respectively. A seasonal trend appears to be present for benzene in GW237S with higher concentrations detected during the wet season. Recent monitoring events show VC concentrations fluctuating between <0.2 µg/L and 0.4 µg/L since 2015.

FORMER FUEL FARM

The initial list of eight CPOC wells have been reduced to three (GW-221S, GW-211S, and GW-224S) through CMP addendums, as several wells consistently demonstrated compliance with CULs and were removed from the plan.

The Former Fuel Farm is currently in the MNA remedial phase. In the August 2025 monitoring event, GW211S was not sampled, as groundwater was not recoverable at the time of the sampling event. This well will be redeveloped prior to the wet season 2026 sampling event. In the two wells sampled in the August 2025 monitoring event, TPH as diesel was detected above the CUL of 0.5 mg/L at both CPOC wells, with detected concentrations ranging from 0.865 J to 1.84 mg/L. TPH as Jet A was detected above the CUL of 0.5 mg/L at both sampled CPOC wells, with detected concentrations ranging from 1.47 to 1.48 mg/L. Concentrations of TPH as Jet A in GW211S have been below the CUL and/or non-detect since the wet season of 2017. TPH as motor oil has not historically been detected in CPOC wells, no motor oil CULs were established.

AOC-001/002

The initial AOC-001/002 COC list included: benzene, TCE, cDCE, trans-1,2-dichloroethene, 1,1-DCE, chloroform, VC, and naphthalene. Based on performance monitoring data, the COC list has been revised to include benzene, 1,1-DCE, TCE, VC, and cDCE. The removed COCs at AOC-001/002 were all less than the site-specific CULs for multiple years and their deletion from the CMP was approved by Ecology in several revisions to the CMP. No changes have been made to the AOC-001/002 CPOC monitoring well list, apart from the substitution of replacement wells.

AOC-001/002 is currently in the enhanced bioremediation remedial phase. In the August 2025 monitoring event, cDCE was detected above the CUL of 0.02 µg/L at all remaining CPOC wells, with detected concentrations ranging from 0.0428 J to 11.2 µg/L. VC was detected above the CUL of 0.05 µg/L at four of the remaining CPOC wells (GW185S-R, GW195S-R, GW197S-R, and GW245S-R), with detected concentrations ranging from 0.103 to 5.00 µg/L. TCE was detected above the CUL of 0.02 µg/L at one of the remaining CPOC wells (GW197S-R), with a reported detection of 0.161 µg/L. Benzene was detected above the CUL of 0.80 µg/L at one of the

remaining CPOC wells (GW197S-R), with a reported detection of 0.97 µg/L. 1,1-DCE concentrations in groundwater collected from all remaining CPOC wells were either below the respective CUL of 0.057 µg/L or not detected.

AOC-003

The initial AOC-003 COC list included: PCE, TCE, VC and cDCE. Based on performance monitoring data, the COC list has been revised to include only VC. The removed COCs at AOC-003 were all less than the site-specific CULs for multiple years and their deletion from the CMP was approved by Ecology in revisions to the CMP. No changes have been made to the AOC-003 CPOC monitoring well list, apart from the substitution of the replacement well at GW247S (GW247S-R).

AOC-003 is currently in the enhanced bioremediation remedial phase. In the August 2025 monitoring event, VC was detected above the CUL (0.24 µg/L) in CPOC area wells GW247S-R (0.519 µg/L) and GW248I (0.478 J µg/L). No other COCs were detected in groundwater collected from any CPOC area wells.

AOC-004

The initial AOC-004 COC list included: benzene, lead, and TPH-Gasoline w/benzene. Based on performance monitoring data, the COC list has been revised to include only lead. The removed COCs at AOC-004 were all less than the site-specific CULs for multiple years and their deletion from the CMP was approved by Ecology in revisions to the CMP.

In February 2015, the concentrations were deemed too low to benefit from further injections and AOC-004 transitioned into MA, with Ecology approval. In the August 2025 monitoring event, lead was not detected above the CUL of 1 µg/L in the single source area monitoring well. Lead has been detected below the CUL since the wet season of 2023.

AOC-034/035

AOC-034/035 is the location of former USTs near the south side of Building 4-41. The USTs were removed in September 1987. An MNA remedy was selected in the CAP, followed by institutional controls. COCs at the CPOC wells were not detected at concentrations above the CULs between May 2015 and November 2018. Based on groundwater performance monitoring, Ecology approved the conclusion of monitoring in this area in April 2019. AOC-034/035 wells were subsequently decommissioned in 2022.

AOC-060

The CMP has been adjusted over time to reflect performance monitoring data. The initial list of five CPOC wells have been reduced to two (GW-253I and GW-150S), as several wells consistently demonstrated compliance with CULs and were removed from the plan. The initial and current COC list is TCE, VC, and cDCE.

AOC-060 is currently in the enhanced bioremediation remedial phase. In the August 2025 monitoring event, cDCE was detected above the CUL of 0.08 µg/L at both remaining CPOC wells, with detected concentrations ranging from 0.122 to 0.150 µg/L. TCE and VC were detected below the respective CULs at both remaining CPOC wells. Considerable fluctuation is still present for cDCE and VC in GW150S; some stabilization appears to have occurred over the past five monitoring events for these COCs at GW253I. TCE appears to be stabilized below the CUL in both CPOC area wells.

AOC-090

The initial AOC-090 COC list included: 1,1-DCE, 1,1,2-trichloroethane, 1,1,2,2-tetrachloroethane, acetone, benzene, toluene, carbon tetrachloride, chloroform, cDCE, trans-1,2-dichloroethene, methylene chloride, VC, PCE, TCE, TPH-Gasoline w/benzene, TPH as Diesel, and TPH as Motor Oil. Based on performance monitoring data, the downgradient plume and CPOC COC list have been revised to include only VC. The removed COCs at AOC-090 were all less than the site-specific CULs in CPOC wells for multiple years and their deletion from the CMP was approved by Ecology in revisions to the CMP.

The CMP has been adjusted over time to reflect performance monitoring data. The initial list of eight CPOC wells have been reduced to three (GW207S, GW178S, and GW208S), as several wells consistently demonstrated compliance with CULs and were removed from the plan.

AOC-090 is currently in the enhanced bioremediation remedial phase. In August 2025, VC was detected above the CUL of 0.13 µg/L in CPOC area wells GW178S (0.463 µg/L), GW207S (0.233 µg/L), and GW208S (0.250 µg/L).

AOC-092

The cleanup action implemented in AOC-092 was source-area excavation and enhanced bioremediation remedies, followed by a transition to MA and institutional controls. The sole CPOC well installed was GW261S. The COCs were benzene and TPH-G with benzene. COCs at CPOC well GW261S were not detected at concentrations above the CULs between August 2015 and August 2017. Based on groundwater performance monitoring, Ecology approved the conclusion of monitoring in this area in 2017. CPOC well GW261S was approved by Ecology for decommissioning in 2022.

AOC-093

The cleanup action implemented for AOC-093 was MNA remedy was selected in the CAP, followed by a transition to institutional controls. Groundwater monitoring was conducted in this location from 2015 to 2017. The sole COC was TPH-Gasoline without benzene. TPH-Gasoline at CPOC well GW245S was not detected at concentrations above the CUL between February 2015 and November 2017. Based on groundwater performance monitoring, Ecology approved the conclusion of monitoring in this area in 2017.

Lot 20/Former 10-71

The cleanup action implemented for the Building 10-71 Parcel was enhanced bioremediation and MA. Cleanup activities occurred from 2015 to 2016. The Lot 20/Former 10-71 cleanup area was identified after the CAP and, as a result, did not have CULs set. Compliance monitoring well results were compared to the Method B screening levels, with the screening levels reduced such that the excess cancer risk does not exceed 1×10^{-5} or a hazard index (HI) of 1. COCs at compliance monitoring wells 10-71-MW1 and 10-71-MW2 were not detected at concentrations above the Method B screening levels between May 2016 and November 2019. COCs at compliance monitoring well 10-71-MW-4 were not detected at concentrations above the Method B screening levels between May 2016 and November 2019, with the exception of two vinyl chloride detections of 0.30 µg/L in May 2016 and November 2016, which exceeded the Method B screening level of 0.29 µg/L. Based on groundwater performance monitoring, Ecology approved the conclusion of monitoring in this area in 2020. All wells were approved by Ecology for decommissioning in 2022.

Building 4-70

The cleanup action implemented for the 4-70 Area was enhanced bioremediation and MA. Groundwater cleanup activities occurred from 2014 through 2016. The Building 4-70 cleanup area was identified after the CAP and, as a result, did not have CULs set. CPOC results were compared to the Method B screening levels, with the screening levels reduced such that the excess cancer risk does not exceed 1×10^{-5} or an HI of 1. COCs at compliance monitoring well GW259S were not detected at concentrations above the Method B screening levels between August 2016 and March 2020. COCs at compliance monitoring well GW260S were not detected at concentrations above the Method B screening levels between August 2016 and March 2020, with the exception of one vinyl chloride detection of 0.30 µg/L in March 2017, which exceeded the screening level of 0.29 µg/L. Based on groundwater performance monitoring, Ecology approved the conclusion of monitoring in this area in 2020. All wells were approved by Ecology for decommissioning in 2022.

Apron A

The cleanup remedy for the Apron A area is enhanced bioremediation and MA. Apron A is currently in the MA remedial phase. Apron A COCs include cDCE and VC. Due to the downward trend in COCs this area, no substrate injections are currently planned. Depending on future performance, substrate injections may be scheduled in the future. The Apron A cleanup area was identified after the CAP and, as a result, does not have CULs set. Ecology recommends that CULs be set for Apron A in an amendment to the CAP. This will aid in the future evaluation of CPOC performance monitoring.

Institutional controls

Institutional controls in the form of a Covenant will be implemented at the Site following completion of remedial action (see the *Future Environmental Covenant* section of this periodic review for more details). This Covenant will ensure the long-term protectiveness of the cleanup remedy.

Other institutional controls that are incorporated into the selected cleanup remedy are the continuation of the controls that have historically been implemented at Boeing Renton and are understood to be effective. Site security limits access to the Facility by the public. Restrictions on site use prohibit use that would result in the exposure of visitors or employees to access contaminated soil or groundwater. These institutional controls are required during implementation of cleanup actions and will continue until cleanup levels are attained throughout the site. Ecology found no evidence a new instrument has been recorded that limits the effectiveness or applicability of the institutional controls.

New scientific information for individual hazardous substances or mixtures present at the Site

Apron R

In June 2021, contamination was encountered during excavation work for a stormwater system installation at Apron R, near the northwest corner of Building 4-82 (CALIBRE, 2021). Apron R is located on the northern Site boundary, near a Department of Natural Resources (DNR) ecological restoration area and Lake Washington. Groundwater in this area is generally understood to flow to the north, towards Lake Washington. Construction crews observed a sheen in shallow groundwater, prompting an immediate halt to work and subsequent environmental sampling. Preliminary analyses had detections of total petroleum hydrocarbons heavy oil and diesel (TPH) and semi-volatile organic compounds (SVOCs). Initial mitigation efforts included skimming hydrocarbons from the water surface, treating water on-site before discharge, and using granular activated carbon (GAC) in backfill to adsorb dissolved hydrocarbons. Impacted soil was transported to a licensed disposal facility. Visual inspections confirmed that no sheen or oil was observed in Lake Washington along the shoreline or at the nearest outfall to the excavation site.

Subsequent investigation sought to assess the extent of contamination. Soil and groundwater were found to exceed screening levels at depths of 4 and 8 feet below ground surface, northwest of the 2021 excavation location (WSP, 2024). In 2026, Boeing will develop an Apron R delineation work plan to define the vertical and horizontal extent of contamination, both onsite and on the DNR parcel. Boeing will need to coordinate this work with DNR to organize site access and minimize impact to the ecological restoration efforts taking place on the DNR parcel. Ecology recommends that CULs be set for Apron R in an amendment to the CAP. This will aid in the future evaluation of CPOC performance monitoring.

Arsenic

In January 2022, Ecology published a study on *Natural Background Groundwater Arsenic Concentrations in Washington State* (Ecology, 2022). A statistical analysis was conducted on groundwater arsenic data from public supply wells throughout the state. The study calculated a background threshold value for arsenic in groundwater in the Puget Sound Basin of 8 µg/L.

In the 2012 Boeing Renton CAP, the arsenic groundwater cleanup level of 1 µg/L was established for SWMU-172 and SWMU-174 (AMEC, 2012). In a 2023 email, Boeing requested that the Puget Sound Basin natural background level of 8 µg/L replace the arsenic cleanup levels established in the CAP. In 2023, Ecology approved this request, and the groundwater cleanup level of 8 µg/L was adopted for SWMU-172/174 (Ecology, 2023a).

Lake Washington PFAS Survey

In July 2025, Ecology's Environmental Assessment Program published a Survey of per- and polyfluoroalkyl substances (PFAS) in the Greater Lake Washington Watershed Study (Ecology, 2025). The study's goal was to characterize, identify, and prioritize major pathways and sources of PFAS to Lake Washington. As a part of this survey, Ecology conducted limited groundwater sampling on the eastern bank of the Cedar River near its mouth, in the Cedar River Trail Park, between the river and the Boeing Renton facility and near the Boeing Renton Fire Station. Results indicated elevated total PFAS concentrations, ranging from 206–946 nanograms per liter (ng/L). Firefighting activities at the Boeing facility, particularly the historical use of aqueous film-forming foams, are a possible source of PFAS groundwater contamination in this area. Other facilities with documented or likely PFAS use are located in the area on adjacent properties. The sampling conducted by Ecology was limited in scope, and the currently available data are not adequate to evaluate a possible link between PFAS in groundwater and in Lake Washington, or to define possible sources of detected PFAS.

Compass Rose Aqueous Fire Fighting Foam Spill

An inadvertent release of aqueous film-forming foam (AFFF) occurred on August 12, 2025, at the Compass Rose area within the Renton Facility while water was being drained from an Aircraft Rescue and Firefighting vehicle prior to transport for AFFF removal and disposal (Boeing, 2025). The release happened when a water cannon was activated for approximately one minute, discharging an estimated 600 gallons of water containing residual AFFF (CHEMGUARD C301MS). The discharge affected roughly 13,000 square feet of paved surface and less than 400 square feet of adjacent grassy area.

Cleanup of paved surfaces included application of defoamer, pressure washing of pavement, and vacuum recovery of liquids. Cleanup of affected grassy area included excavation and offsite disposal of impacted soil along the pavement edge and backfill with controlled-density fill. Groundwater was determined to be approximately seven feet below ground surface, below the excavation depth.

Confirmation soil sampling conducted after excavation of adjacent grassy area detected several PFAS compounds including, but not limited to, PFOS and PFOA, at concentrations exceeding at least one applicable regulatory screening level. Boeing will coordinate with Ecology to evaluate the need for any further investigation as part of ongoing regulatory review processes.

New applicable state and federal laws for hazardous substances present at the Site

In 2023, Ecology released its *Guidance for Investigating and Remediating PFAS Contamination in Washington State* (Ecology, 2023b), which recommended further investigations at known high-risk sites, including airports and industrial facilities. The guidance emphasized the need for site-specific assessments to manage PFAS contamination effectively. Ecology recommends an investigation of PFAS at the Site, prompted by the *Guidance for Investigating and Remediating PFAS Contamination in Washington State.* Site sampling is advised where historical PFAS-containing substance use occurred or where PFAS contamination is suspected. The Site's historical firefighting operations and training, as well as the PFAS detections in groundwater adjacent to the Site and in soils in the Compass Rose location, as detailed in the *New scientific information for individual hazardous substances or mixtures present at the Site* section of this periodic review, indicate that PFAS must be further investigated at the Site, consistent with the 2023 guidance. Currently available data are not adequate to evaluate a possible link between PFAS in groundwater and Lake Washington or any other possible receptors, or to define possible sources of detected PFAS.

In April 2024, the EPA finalized a National Primary Drinking Water Regulation (NPDWR) for the following six PFAS: PFOA, PFOS, HFPO-DA, PFBS, PFHxS, and PFNA (EPA, 2024). Both Maximum Contaminant Levels (MCLs; for carcinogens and noncarcinogens) and Maximum Contaminant Level Goals (MCLGs; for noncarcinogens) are identified as Applicable or Relevant and Appropriate Requirements (ARARs) under MTCA (as defined in WAC 173-340-720(3)(b)). In addition, EPA set an MCLG and MCL based on a HI of 1 for mixtures of two or more of the following PFAS chemicals: HFPO-DA, PFBS, PFHxS, and PFNA. That is, the sum of the individual hazard quotients for these PFAS in a water sample cannot exceed an HI of 1.

EPA and Ecology MCLs were incorporated into the CLARC database as the PFAS Method B potable groundwater screening level. Unless it can be demonstrated that groundwater is not a current or potential source of drinking water based on the criteria set forth in WAC 173-340-720(2), groundwater is classified as potable to protect drinking water beneficial uses. Additionally, PFAS soil cleanup levels have been included in the CLARC database for Method B,

Method C, and Protective of Groundwater screening levels. Results from the recommended Site PFAS investigation must be compared to these soil and groundwater screening levels.

Current and projected Site and resource uses

At the time of this periodic review, the Site use is commercial airplane manufacturing and the zoning is industrial. There have been no changes in current or projected future Site or resource uses. The current Site use is not likely to have a negative impact on the protectiveness of the cleanup action.

Availability and practicability of more permanent remedies

The remedy implemented includes destroying onsite hazardous substances, which is a permanent remedy. These remedies continue to be protective of human health and the environment. No alternate permanent remedies are recommended at this time.

Availability of improved analytical techniques to evaluate compliance with cleanup levels

The analytical methods used at the time of the FS and the CAP were capable of detection below selected MTCA CULs, with the exception of lead and arsenic groundwater CULs at SWMU-172/174 and AOC-004. Aside from lead and arsenic, the presence of improved analytical techniques is unlikely to affect decisions or recommendations made for the Site.

Preliminary CULs were considered at the available MTCA Method B screening level from the CLARC database (Ecology 2007) for lead and arsenic at 0.54 microgram per liter (µg/L) and 0.018 µg/L, respectively. The CULs were then adjusted upward to the available EPA Method 6020 practical quantitation limits (PQLs) available at the time of the 2008 FS at 1.0 µg/L for both lead and arsenic, as provided for under WAC 173-340-707[9]. In 2023, Ecology approved the additional arsenic CUL adjustment to the natural groundwater background level of 8.0 µg/L, the value specific to the Puget Sound Basin, as published in Ecology's *Natural Background Groundwater Arsenic Concentrations in Washington State*[10] study (Ecology, 2022; Ecology, 2023a).

The lead PQL has decreased since the 2008 FS and the 2012 CAP. The PQL available for EPA Method 6020 at the time of this periodic review is 0.10 µg/L, which is below the 2007 CLARC database MTCA Method B screening level for lead of 0.54 µg/L. When initially determined in the 2008 FS, the groundwater CUL for lead at SWMU-172/174 and AOC-004 was adjusted up to the PQL of 1.0 µg/L. If site CULs are revised in the future, Ecology recommends that the updated PQL be considered when computing the updated lead CUL.

[9] https://app.leg.wa.gov/wac/default.aspx?cite=173-340-707
[10] https://apps.ecology.wa.gov/publications/documents/1409044.pdf

Conclusions

- The ongoing Site cleanup actions appear to be effective and are protective of human health and the environment.
- Boeing Renton is about 0.5 miles northwest of the City of Renton's downtown drinking water wells. Five of the Site's groundwater cleanup areas are located within Renton's published 5- and 10-year capture zones. In August 2025, the compliance contaminant concentrations for four of these cleanup areas were below the MCLs for drinking water. One of these areas had petroleum hydrocarbons (diesel and jet fuel) above cleanup levels. Ecology recommends that Boeing evaluate the potential impacts of their site contamination on Renton's downtown wells.
- Apron A was identified after the CAP and, as a result, does not have CULs set. Ecology recommends that CULs be set for Apron A in an amendment to the CAP to aid in future evaluation of Apron A performance monitoring.
- Additional investigation will be conducted to define the vertical and horizontal extent of contamination at Apron R. Ecology recommends that CULs be set for Apron R in an amendment to the CAP to aid in future evaluation of Apron R performance monitoring.
- The PQL for lead has decreased since the 2008 FS and the 2012 CAP. The current lead PQL is now below the MTCA Method B screening level cited in the FS and CAP, which was 0.54 µg/L. If site CULs are revised in the future, Ecology recommends that the updated PQL be considered when computing the updated lead CUL.
- PFAS has been found adjacent to the Site, just downgradient of the Site and just upgradient of Cedar River. Additionally, confirmation soil sampling conducted following excavation in response to the August 12, 2025 inadvertent release of AFFF at the Compass Rose location detected several PFAS compounds including, but not limited to, PFOS and PFOA, at concentrations exceeding at least one applicable regulatory screening or cleanup level. Furthermore, the Ecology document *Guidance for Investigating and Remediating PFAS Contamination in Washington State* advises PFAS investigation at sites where historical use of PFAS-containing substances has occurred or where PFAS contamination is suspected. The Site's historical firefighting operations and training, as well as the PFAS detections in groundwater adjacent to the Site and in soils in the Compass Rose location indicate a need for further investigation, consistent with the 2023 guidance. Ecology recommends an investigation of PFAS at the Site.

The property owner is responsible for continuing to follow the Site CMP and to inspect physical conditions at the Site to ensure continued effective contaminant cleanup.

Next review

Ecology will schedule the next review for the Site five years from the date of this periodic review. If additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years after those activities are completed.

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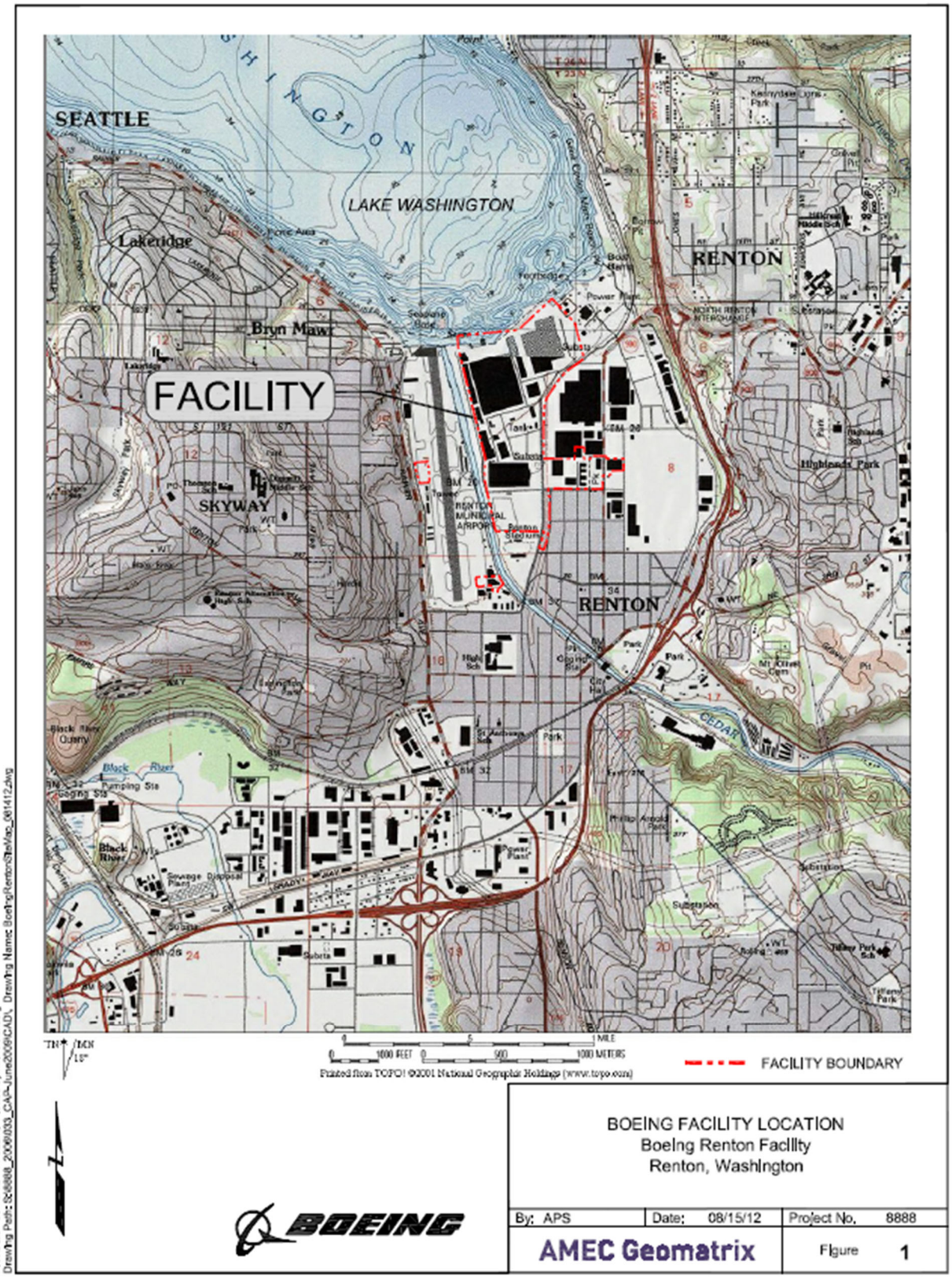
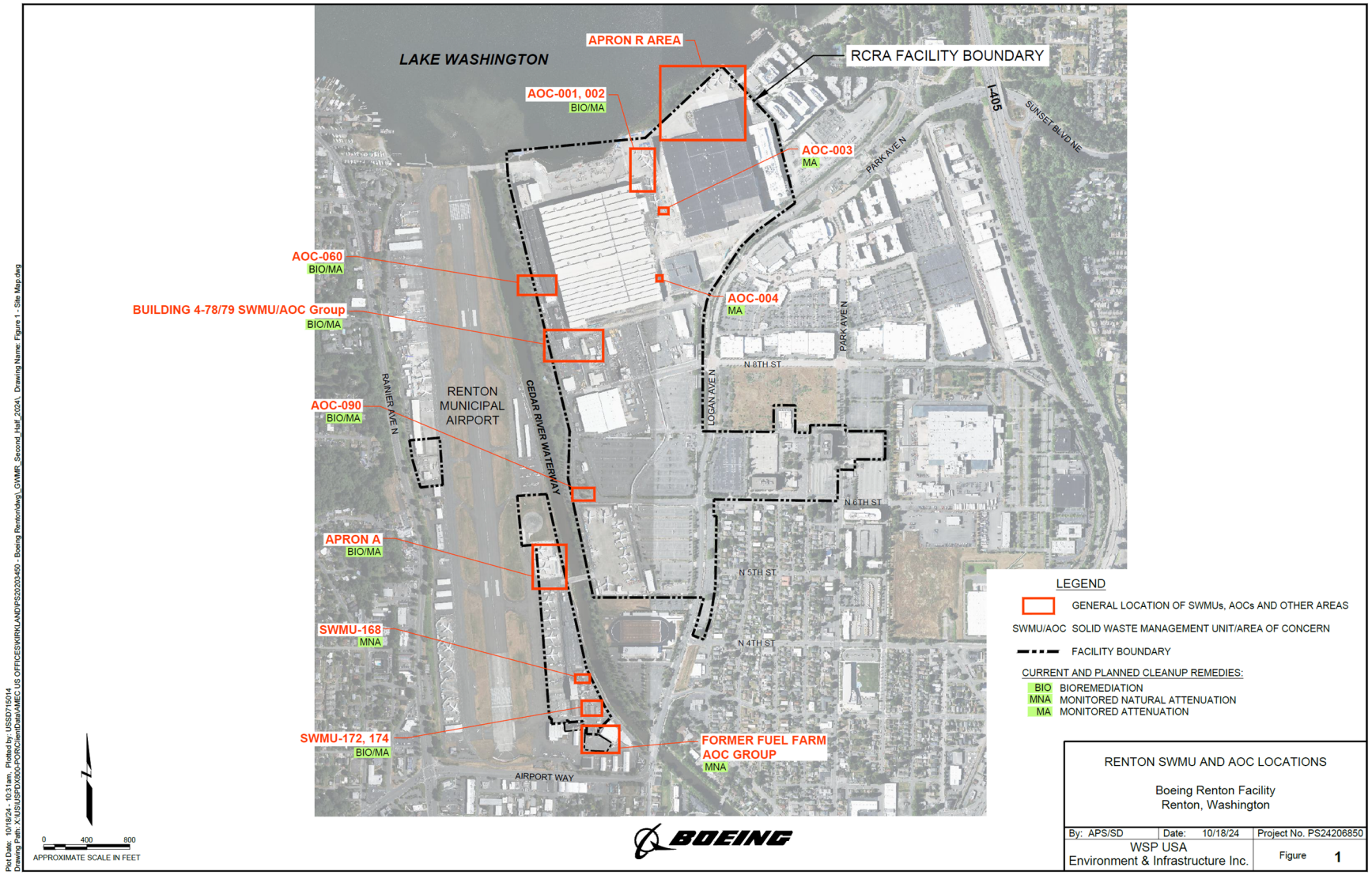
Appendix A. Vicinity Map (AMEC, 2012)



Appendix B. Site Plan (Boeing, 2024)



Appendix C. Photo Log

Photo 1: Boeing Renton facility entrance at Park Ave N and Logan Ave N.

Photo 2: Renton Municipal Airport entrance at Shattuck Ave S and Airport Way.

Photo 3: AOC-001/002 cleanup area.

Photo 4: AOC-060, looking west towards the Cedar River Trail Park.

Photo 5: SWMU-172/174 SVE system trailer, adjacent to Building 5-09.

Photo 6: SWMU-172/174 SVE system trailer with piping shown.

Photo 7: SWMU 172/174 Vapor Pin # 2 looking east towards Cedar River Waterway.

Appendix D. Data Tables

TABLE D-1: SWMU-168 HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN [1, 2]

Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level[4]	Well ID[3] CPOC Area GW229S							
		11/7/2016	3/1/2017	8/14/2017	3/5/2018	8/13/2018	3/4/2019	8/12/2019	3/9/2020
Volatile Organic Compounds (µg/L)									
Vinyl Chloride	0.11	0.020 U	0.020 U	0.021	0.0273	0.020 U	0.0211	0.020 U	0.020 U

Analyte	Current Cleanup Level[4]	Well ID[3] CPOC Area GW230I							
		2/21/2022	8/17/2022	2/9/2023	8/24/2023	2/6/2024	8/13/2024	2/11/2025	8/13/2025
Volatile Organic Compounds (µg/L)									
Vinyl Chloride	0.11	**0.164**	**0.539 J**	**0.146**	0.101	0.087	0.0784	0.0428	0.0810

Analyte	Current Cleanup Level[4]	Well ID[3] CPOC Area GW231S							
		11/7/2016	3/1/2017	8/14/2017	3/5/2018	8/13/2018	3/4/2019	8/12/2019	3/9/2020
Volatile Organic Compounds (µg/L)									
Vinyl Chloride	0.11	0.020 U	0.020 U	0.020 U	0.039	0.033	0.033	0.026	0.020 U

Notes:

1. Data qualifiers are as follows:
   U = The analyte was not detected at the reporting limit indicated.
2. **Bolded** values exceed the cleanup levels.
3. S = shallow well; I = intermediate well.
4. Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations:

µg/L = micrograms per liter
AOC = area of concern
CPOC = conditional point of compliance
SWMU = solid waste management unit

TABLE D-2: SWMU-172 AND SWMU-174 GROUP HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN [1, 2]
Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level[4]	Well ID[3] Source Area																
		GW152S									GW153S							
		2/21/2022	2/21/2022	8/24/2022	2/8/2023	8/15/2023	2/5/2024	8/15/2024	2/14/2025	8/13/2025	8/10/2021	2/21/2022	8/24/2022	2/8/2023	8/15/2023	2/2/2024	8/13/2024	2/13/2025	8/13/2025
Volatile Organic Compounds (µg/L)																		
cis-1,2-Dichloroethene	0.03	**1.57**	**1.59**	**0.877**	**3.16 J**	**1.46**	**4.59**	**1.41**	**1.57**	**1.41**	**0.0582 J**	**0.0517**	**0.100**	**0.0569 J**	**0.053**	**0.068**	**0.0574**	**0.167**	**0.302**
Tetrachloroethene	0.02	**1.84**	**1.71**	**1.05**	**0.234 J**	**1.06**	**0.238**	**0.848**	**0.188**	**0.288**	0.020 UJ	0.0200 U	0.0200 U	0.0200 UJ	0.0161 J	**0.198**	0.0200 U	**0.352**	0.0200 U
Trichloroethene	0.02	**0.522**	**0.497**	**0.534**	**0.101 J**	**0.412**	**0.104**	**0.303**	**0.0673**	**0.119**	0.020 UJ	0.0200 U	**0.0525**	0.0200 UJ	0.0172 J	**0.049**	0.0200 U	**0.242**	**0.239**
Vinyl Chloride	0.11	**0.200**	**0.219**	**0.346**	**0.195 J**	**0.209**	**0.264**	**0.152**	0.0675	**0.364**	**0.193 J**	**0.174**	**0.214**	**0.148 J**	0.0881	0.108	**0.153**	0.0768	0.0748
Total Metals (µg/L)																		
Arsenic	8.0	2.88	2.34	**47.7**	6.92	**39.8**	7.95	**62.4**	6.72	**66.2**	5.47	4.98	2.85	4.76	2.39	4.12	4.11	1.75	2.57
Copper	3.5	**5.07**	**3.88**	**9.17**	**6.61**	**4.98 J**	2.44	**131**	**5.36**	**210**	2.37	1.45	0.641	1.14	0.408 J	1.00 U	1.11	1.00 U	0.558
Lead	1.0	**2.78 J**	**1.90 J**	**5.75**	**4.24 J**	**32.2**	**1.18**	**74.4**	**1.58 J**	**138**	0.448	0.302	0.123	0.256	0.200 U	0.232	0.271	0.400 U	0.148 J

Analyte	Current Cleanup Level[4]	Well ID[3] Downgradient Plume Area																
		GW172S									GW173S							
		8/10/2021	2/21/2022	8/24/2022	2/8/2023	8/16/2023	2/5/2024	8/13/2024	2/13/2025	8/13/2025	8/10/2021	2/21/2022	8/24/2022	2/8/2023	8/17/2023	2/5/2024	8/15/2024	2/13/2025	8/13/2025
Volatile Organic Compounds (µg/L)																		
cis-1,2-Dichloroethene	0.03	**0.0746**	**0.0532**	**0.0436**	**0.155 J**	**0.528**	**0.877**	**0.585**	**0.362**	**0.635**	**0.0424 J**	0.0280	**0.168**	**0.0909 J**	**0.107**	**0.145**	**0.226**	**0.224**	**0.227**
Tetrachloroethene	0.02	0.020 U	**0.0677**	0.0200 U	0.0200 UJ	**0.0237**	0.0200 U	**0.0417**	**0.0302**	0.0200 U	0.020 UJ	0.0200 U	0.0200 U	**0.0429 J**	0.0102 J	**0.0543**	**0.0257**	**0.0206**	0.0200 U
Trichloroethene	0.02	0.020 U	**0.0201**	0.0200 U	0.0200 UJ	**0.199**	**0.266**	**0.185**	**0.135**	**0.0619**	0.020 UJ	0.0200 U	**0.0496**	**0.0479 J**	**0.0262**	**0.0307**	**0.0706**	**0.0973**	**0.0272**
Vinyl Chloride	0.11	**0.155**	**0.137**	0.0887	**0.601 J**	**0.277**	**0.907**	**0.180**	0.0816	**0.156**	**0.176 J**	0.0696	**0.175**	**0.210 J**	**0.132**	**0.280**	**0.214**	0.0618	**0.201**
Total Metals (µg/L)																		
Arsenic	8.0	7.18	**11.2**	4.86	6.64	**23.6**	6.68	6.99	5.13	6.36	**11.4**	**13.8**	6.04	5.69	7.26	**9.51**	5.81	6.14	5.77
Copper	3.5	2.86	2.86	1.52	**6.17**	**17.70**	1.08	0.500 U	0.654 J	0.493 J	**5.96**	2.58	1.54	2.98	1.09	3.07	1.00 U	**4.67**	0.697
Lead	1.0	**1.33**	**1.37**	**1.32**	**3.80**	**14.7 J**	0.714	0.172 J	0.348 J	0.251	**1.65**	0.788	0.468	0.752	0.384	**1.41**	0.302	0.882	0.346

Analyte	Current Cleanup Level[4]	Well ID[3] Downgradient Plume Area									CPOC Area								
		GW226S									GW232S								
		8/10/2021	2/21/2022	8/24/2022	2/8/2023	8/16/2023	2/2/2024	8/13/2024	2/13/2025	8/13/2025	8/10/2021	2/21/2022	8/24/2022	2/8/2023	8/16/2023	2/5/2024	8/13/2024	2/14/2025	8/13/2025
Volatile Organic Compounds (µg/L)																			
cis-1,2-Dichloroethene	0.03	**0.0335 J**	**0.0363**	0.0255	**0.0431 J**	0.0169 J	**0.0465**	0.0232	**0.0412**	0.0288	**0.464 J**	**0.197**	**0.325**	**0.206 J**	**0.236**	**0.167**	**0.238**	**0.179**	**0.315**
Tetrachloroethene	0.02	**0.0202 J**	0.0200 U	0.0200 U	0.0200 UJ	0.0200 U	0.0200 U	**0.0248**	0.0200 U	**0.0328**	0.020 UJ	0.0200 U	0.0200 U	0.0200 UJ	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Trichloroethene	0.02	0.020 UJ	0.0200 U	0.0200 U	0.0200 UJ	0.00910 J	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.020 UJ	0.0200 U	0.0200 U	0.0200 UJ	0.0129 J	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Vinyl Chloride	0.11	0.0516 J	0.0414	**0.128**	0.0734 J	0.0886	0.0394	0.0923	0.0638	0.0900	**0.653 J**	**0.307**	**0.558**	**0.290 J**	**0.348**	**0.187**	**0.256**	**0.144**	**0.378**
Total Metals (µg/L)																			
Arsenic	8.0	5.57	7.33	3.09	4.28	5.22	**9.01**	6.74	3.55	3.27	6.19	3.75	3.83	3.51	6.16	2.19	6.92	2.29	**9.31**
Copper	3.5	1.48	2.40	0.500 U	0.500 U	1.31 J	**6.69**	2.17	0.492 J	0.485 J	1.79	1.09	0.500 U	0.915	1.26 J	1.00 U	2.04	1.00	0.655
Lead	1.0	0.124	0.237	0.100 U	0.100 U	0.500 U	0.95	0.324	0.400 U	0.200 U	0.262	0.234	0.122	0.124	0.285 J	0.200 U	0.680	0.362 J	0.153 J

TABLE D-2: SWMU-172 AND SWMU-174 GROUP HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN [1, 2]

Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level [4]	Well ID [3] CPOC Area GW234S									GW235I								
		8/10/2021	2/21/2022	8/24/2022	2/9/2023	8/16/2023	2/2/2024	8/13/2024	2/14/2025	8/13/2025	8/10/2021	2/21/2022	8/24/2022	2/9/2023	8/16/2023	2/2/2024	8/13/2024	2/14/2025	8/13/2025
Volatile Organic Compounds (µg/L)																			
cis-1,2-Dichloroethene	0.03	**0.0892**	**0.0591**	**0.134**	**0.0581 J**	**0.103**	**0.0495**	**0.114**	**0.0692**	**0.130**	**0.179**	**0.175**	**0.227**	**0.235 J**	**0.225**	**0.229**	**0.240**	**0.302**	**0.343**
Tetrachloroethene	0.02	0.020 U	0.0200 U	0.0200 U	0.0200 UJ	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.020 U	0.0200 U	0.0200 U	0.0200 UJ	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Trichloroethene	0.02	0.020 U	0.0200 U	0.0200 U	0.0200 UJ	0.0163 J	0.0200 U	0.0200 U	0.0200 U	0.0200 U	**0.0285**	**0.0253**	**0.0250**	**0.0296 J**	0.0189 J	**0.0207**	0.0200 U	**0.0239**	0.0200 U
Vinyl Chloride	0.11	0.0497	0.0318	**0.170**	0.0304 J	0.0726	0.0200 U	0.0981	0.0310	0.0998	**0.24**	0.0259	0.0280	0.0310 J	0.0313	0.0215	0.0258	0.0221	0.0633
Total Metals (µg/L)																			
Arsenic	8.0	1.18	1.76	0.974	5.90	0.93	0.626	1.05	0.876	0.985	0.200 U	0.200 U	0.200 U	0.283	0.318 J	0.400 U	0.200 U	0.232 J	0.163 J
Copper	3.5	2.58	2.13	2.31	**16.6**	1.3	2.26	0.639	1.76	0.396 J	0.689	0.687	0.500 U	1.23	0.676 J	1.00 U	0.500 U	1.00 U	0.518
Lead	1.0	**1.01**	0.930	0.830	**6.75**	0.27	0.876	0.256	0.522	0.102 J	0.179	0.159	0.100 U	0.332	0.224	0.200 U	0.100 U	0.400 U	0.200 U

Analyte	Current Cleanup Level [4]	Well ID [3] CPOC Area GW236S								
		8/10/2021	2/21/2022	8/24/2022	2/9/2023	8/17/2023	2/5/2024	8/13/2024	2/14/2025	8/13/2025
Volatile Organic Compounds (µg/L)										
cis-1,2-Dichloroethene	0.03	**0.0791**	0.0200 U	**0.0572**	**0.0364 J**	**0.0473**	0.020 U	**0.0523**	0.0299	**0.0575**
Tetrachloroethene	0.02	0.020 U	**0.0206**	0.0200 U	0.0200 UJ	0.0200 U	**0.0262**	0.0200 U	0.0200 U	0.0200 U
Trichloroethene	0.02	0.020 U	0.0200 U	0.0200 U	0.0200 UJ	0.0187 J	0.0200 U	0.0200 U	0.0200 U	**0.0215**
Vinyl Chloride	0.11	0.0223	0.0200 U	0.0200 U	0.0200 UJ	0.0128 J	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Total Metals (µg/L)										
Arsenic	8.0	5.49	1.97	0.995	1.64	1.55	1.00 U	4.17	1.33	3.15
Copper	3.5	2.47	**5.27**	1.22	2.07	1.00 U	2.50 U	1.63	1.16	1.18
Lead	1.0	**1.79**	**3.32**	0.798	**1.38**	0.160 J	0.795	**1.29**	0.420	0.951

Notes

1. Data qualifiers are as follows:
   U = The analyte was not detected at the reporting limit indicated.
   J = The value is an estimate.
2. **Bolded** values exceed the cleanup levels.
3. S = shallow well; I = intermediate well.
4. Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations

µg/L = micrograms per liter
AOC = area of concern
CPOC = conditional point of compliance
SWMU = solid waste management unit

TABLE D-3: BUILDING 4-78/79 SWMU/AOC GROUP HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN[1, 2]

Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level[4]	Well ID[3] Source Area																
		GW031S									GW033S							
		2/15/2021	8/11/2021	8/23/2022	2/7/2023	8/22/2023	2/6/2024	8/14/2024	2/13/2025	8/14/2025	2/22/2022	2/22/2022	8/17/2022	2/7/2023	8/18/2023	2/6/2024	8/14/2024	2/13/2025	8/14/2025
Volatile Organic Compounds (µg/L)																			
Benzene	0.80	0.200 U	**1.08**	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	**8.41**	**8.57**	**14.2 J**	0.20 U	**8.85**	**6.49**	**7.27**	**6.39**	**3.70**
cis-1,2-Dichloroethene	0.70	0.200 U	0.20 U	0.26	0.18 J	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	**3.82**	**4.04**	0.45 J	0.09 J	0.42	0.480	0.610	**1.14**	0.210
Trichloroethene	0.23	0.200 U	0.20 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Vinyl Chloride	0.20	**0.510**	0.20 U	**0.39**	**0.26**	**0.28**	**0.230**	**0.290**	**0.260**	**0.260**	**8.90**	**9.28**	**1.53 J**	**0.24**	**0.94**	**0.830**	0.200 U	**1.49**	**0.540**
Total Petroleum Hydrocarbons (µg/L)																			
TPH-G (C7-C12)	800	100.0 U	**1,540**	100 U	100 U	100 U	100 U	100.0 U	100 U	100 U	168	166	300 J	100 U	223	141	202	193	247

Analyte	Current Cleanup Level[4]	Well ID[3] Source Area																
		GW034S									GW244S							
		8/11/2021	2/22/2022	8/17/2022	2/8/2023	8/18/2023	2/6/2024	8/14/2024	2/13/2025	8/14/2025	2/15/2021	8/11/2021	8/23/2022	2/7/2023	8/22/2023	1/30/2024	8/14/2024	2/13/2025	8/14/2025
Volatile Organic Compounds (µg/L)																			
Benzene	0.80	0.20 U	0.200 U	**1.47**	**9.62**	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.46	0.20 U	0.25	0.12 J	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
cis-1,2-Dichloroethene	0.70	0.20 U	0.200 U	**2.03**	**0.74**	0.110 J	0.200 U	0.200 U	0.200 U	0.200 U	0.68	0.22	0.25	0.25	0.22	0.340	0.520	0.200 U	0.200 U
Trichloroethene	0.23	0.20 U	0.200 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	**0.29**	0.20 U	0.20 U	0.20 U	0.200 U	0.200 U	**0.330**	0.200 U	0.200 U
Vinyl Chloride	0.20	**1.20**	**0.330**	**1.45**	**4.12**	**0.47**	**0.260**	0.200 U	0.200 U	**0.400**	**0.64**	**0.37**	**0.46**	**0.55**	**0.28**	**0.610**	**0.330**	0.200 U	**0.340**
Total Petroleum Hydrocarbons (µg/L)																			
TPH-G (C7-C12)	800	100 U	100 U	100 U	350	100 U	100 U	100.0 U	100 U	100.0 U	100 U	100 U	100 U	100 U	100 U	100 U	100.0 U	100 U	100.0 U

Analyte	Current Cleanup Level[4]	Well ID[3] CPOC Area																
		GW143S									GW237S							
		8/11/2021	2/22/2022	8/17/2022	2/7/2023	8/18/2023	2/5/2024	8/14/2024	2/13/2025	8/14/2025	8/11/2021	2/22/2022	8/17/2022	2/6/2023	8/18/2023	2/5/2024	8/14/2024	2/13/2025	8/14/2025
Volatile Organic Compounds (µg/L)																			
Benzene	0.80	0.20 U	0.200 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.20 U	**3.73**	0.20 U	**4.18**	0.150 J	**6.47**	0.200 U	**3.78**	0.200 U
cis-1,2-Dichloroethene	0.70	0.65	0.430	**0.76 J**	0.36	0.30	0.280	**0.980**	0.200 U	0.390	0.20 U	0.200 U	0.20 U	0.22	0.0900 J	0.200 U	0.200 U	0.200 U	0.200 U
Trichloroethene	0.23	0.20 U	0.200 U	**0.53 J**	0.10 J	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.20 U	0.200 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Vinyl Chloride	0.20	0.20 U	0.200 U	0.20 U	0.09 J	0.120 J	0.200 U	0.200 U	0.200 U	0.200 U	0.20	0.200 U	0.20 U	**0.26**	**0.25**	**0.290**	**0.210**	**0.230**	**0.280**
Total Petroleum Hydrocarbons (µg/L)																			
TPH-G (C7-C12)	800	100 U	100 U	100 U	100 U	100 U	100 U	100.0 U	100 U	100.0 U	360	664	100 U	**805**	100 U	**915**	100.0 U	576	301

Analyte	Current Cleanup Level[4]	Well ID[3] CPOC Area								
		GW240D								
		8/11/2021	2/22/2022	8/17/2022	2/7/2023	8/18/2023	2/5/2024	8/14/2024	2/13/2025	8/14/2025
Volatile Organic Compounds (µg/L)										
Benzene	0.80	0.20 U	0.200 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
cis-1,2-Dichloroethene	0.70	0.20 U	0.200 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Trichloroethene	0.23	0.20 U	0.200 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Vinyl Chloride	0.20	0.20 U	0.200 U	0.20 U	0.13 J	0.150 J	0.200 U	0.200 U	0.200 U	0.200 U
Total Petroleum Hydrocarbons (µg/L)										
TPH-G (C7-C12)	800	100 U	100 U	100 U	100 U	100 U	100 U	100.0 U	100 U	100.0 U

Notes

1. Data qualifiers are as follows:
   U = The analyte was not detected at the reporting limit indicated.
   UJ = The result is estimated and was not detected at the reporting limit indicated.
   J = The value is an estimate.
2. **Bolded** values exceed the cleanup levels.
3. S = shallow well; D = deep well.
4. Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations

µg/L = micrograms per liter
AOC = area of concern
CPOC = conditional point of compliance
SWMU = solid waste management unit
TPH-G = total petroleum hydrocarbons as gasoline

TABLE D-4: FORMER FUEL FARM HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN[1]

Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level[3]	Well ID[2] CPOC Area																	
		GW211S									GW221S								
		2/15/2021	8/10/2021	2/21/2022	8/19/2022	2/9/2023	8/15/2023	2/8/2024	8/15/2024	2/11/2025	8/10/2021	2/21/2022	8/19/2022	2/9/2023	8/15/2023	2/6/2024	8/15/2024	2/11/2025	8/15/2025
Total Petroleum Hydrocarbons (mg/L)																			
TPH-D (C12-C24)	0.5	0.284	0.140	1.00 U	0.100 U	0.100 U	0.100 U	0.100 U	**0.548**	0.321	**1.02**	**0.575**	**0.940**	**1.75**	0.258	**3.57**	**0.974**	0.422	**1.84**
TPH-O (C24-C38)	NE	0.225 U	0.200 U	2.00 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Jet A	0.5	0.262	0.100 U	1.00 U	0.100 U	0.100 U	0.100 U	0.100 U	0.408	0.312	**0.718**	0.460	**0.562**	**1.20**	0.229	**2.65**	**0.637**	0.341	**1.47**

Analyte	Current Cleanup Level[3]	Well ID[2] CPOC Area								
		GW224S								
		2/21/2022	2/21/2022	8/19/2022	2/9/2023	8/15/2023	2/6/2024	8/15/2024	2/11/2025	8/15/2025
Total Petroleum Hydrocarbons (mg/L)										
TPH-D (C12-C24)	0.5	**0.682**	**1.01**	**0.881**	**1.15**	**0.526 J**	**0.764**	**0.686 J**	**0.850**	**0.865 J**
TPH-O (C24-C38)	NE	0.200 U	0.200 U	0.200 U	0.200 U	0.324	0.200 U	0.200 U	0.200 U	0.200 U
Jet A	0.5	**1.04**	**1.76**	**1.25**	**1.61**	**0.913 J**	**1.27**	**0.943**	**1.43**	**1.48**

Notes

1. **Bolded** values exceed the cleanup levels.
2. S = shallow well.
3. Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations

AOC = area of concern
CPOC = conditional point of compliance
mg/L = milligrams per liter
NE = not established
SWMU = solid waste management unit
TPH-D = total petroleum hydrocarbons as diesel

TABLE D-5: AOC-003 HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN[1, 2]

Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level[4]	Well ID[3]																	
		Source Area									Downgradient Plume Area								
		GW249S									GW188S								
		8/12/2021	2/23/2022	8/24/2022	2/6/2023	8/22/2023	2/1/2024	8/13/2024	2/11/2025	8/12/2025	8/12/2021	2/22/2022	8/23/2022	2/6/2023	8/23/2023	2/2/2024	8/13/2024	2/11/2025	8/12/2025
Volatile Organic Compounds (µg/L)																			
cis-1,2-Dichloroethene	0.78	NA	NA	NA	NA	0.0529	0.0576	0.0566	0.0541	**0.0632 J**	NA	NA	NA	NA	0.0408	0.0315	0.0293	0.0373	**0.0301 J**
Tetrachloroethene	0.02	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	**0.0390**	0.0200 U
Trichloroethene	0.16	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0353	0.0200 U
Vinyl Chloride	0.24	**0.517**	**0.359 J**	**0.404 J**	0.217	**0.263**	0.214	**0.291**	**0.243**	**0.338 J**	**0.698**	0.141 J	**0.404**	0.104	0.197	0.207	0.229	0.0669	**0.198 J**

Analyte	Current Cleanup Level[4]	Well ID[3] CPOC Area																	
		GW247S									GW248I								
		8/11/2021	2/23/2022	8/23/2022	2/6/2023	8/22/2023	2/2/2024	8/13/2024	2/11/2025	8/12/2025	8/11/2021	2/23/2022	8/23/2022	2/6/2023	8/22/2023	2/2/2024	8/13/2024	2/11/2025	8/12/2025
Volatile Organic Compounds (µg/L)																			
cis-1,2-Dichloroethene	0.78	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U	NA	NA	NA	NA	0.0219	0.0207	0.0200 U	0.0200 U	0.0200 U
Tetrachloroethene	0.02	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Trichloroethene	0.16	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U	NA	NA	NA	NA	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U
Vinyl Chloride	0.24	**0.678**	0.127 J	**0.379**	NA	**0.715**	**0.467**	**0.581**	**0.483**	**0.519**	**0.711**	**0.598 J**	**0.742**	**0.588**	**0.482**	**0.383**	**0.458**	**0.445**	**0.478 J**

Notes

1. Data qualifiers are as follows:
   U = The analyte was not detected at the reporting limit indicated.
2. **Bolded** values exceed the cleanup levels.
3. S = shallow well; I = intermediate well.
4. Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations
µg/L = micrograms per liter
AOC = area of concern
CPOC = conditional point of compliance
NA = not analyzed
SWMU = solid waste management unit

TABLE D-6: AOC-004 HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN[1]

Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level[3]	Well ID[2] Source Area							
		2/22/2022	8/23/2022	2/7/2023	8/14/2023	2/6/2024	8/12/2024	2/11/2025	8/15/2025
Metals (mg/L)									
Lead	0.001	0.000588	**0.00131**	0.000820	0.0000570 J	0.000112	0.000062 J	0.0006	0.200 U

Notes

1. **Bolded** values exceed the cleanup levels.
2. S = shallow well.
3. Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations

AOC = area of concern

CPOC = conditional point of compliance

mg/L = milligrams per liter

SWMU = solid waste management unit

TABLE D-7: AOC-060 HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN[1, 2]

Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Levels[4]	Well ID[3]																	
		Source Area									Downgradient Plume Area								
		GW009S									GW012S								
		8/11/2021	2/22/2022	8/19/2022	2/6/2023	8/18/2023	2/7/2024	8/15/2024	2/12/2025	8/15/2025	8/11/2021	2/22/2022	8/18/2022	2/6/2023	8/17/2023	2/7/2024	8/15/2024	2/12/2025	8/15/2025
Volatile Organic Compounds (µg/L)																			
cis -1,2-Dichloroethene	0.08	**0.368**	**0.15**	**0.229**	**0.231**	**0.157**	**0.165**	**0.170**	**0.169**	**0.188**	**2.210**	**0.693**	**1.91 J**	**2.78**	**2.46**	**1.45**	**1.83**	**0.696**	**0.489**
Trichloroethene	0.02	**0.0316**	**0.0284**	**0.0288**	**0.0409**	**0.0292**	**0.0336**	**0.0346**	**0.0328**	**0.0372**	**0.0908**	**0.0506**	**1.02 J**	**0.208**	**1.61**	**0.143**	**0.0990**	**0.0604**	**0.0537**
Vinyl Chloride	0.26	0.160	**0.434**	**0.570**	**0.550**	**0.371**	**0.353**	**0.439**	**0.333**	**0.399**	**0.795**	**1.57**	**0.294 J**	**0.881**	**0.625**	**0.632**	**0.936**	**0.911**	**0.984**

Analyte	Current Cleanup Levels[4]	Well ID[3] Downgradient Plume Area																	
		GW014S									GW147S								
		8/11/2021	2/22/2022	8/18/2022	2/6/2023	8/17/2023	2/7/2024	8/15/2024	2/12/2025	8/15/2025	8/11/2021	2/22/2022	8/19/2022	2/6/2023	8/17/2023	2/7/2024	8/15/2024	2/12/2025	8/15/2025
Volatile Organic Compounds (µg/L)																			
cis -1,2-Dichloroethene	0.08	**0.147**	**0.133**	**0.134 J**	**0.137**	**0.179**	**0.207**	**0.189**	**0.180**	**0.193**	**0.180**	**0.679**	**8.37**	**0.766**	**4.46**	**0.442**	**5.10**	**2.86**	**4.88**
Trichloroethene	0.02	**0.0227**	0.020 U	**0.0246 J**	0.0200 U	0.0158 J	**0.0247**	0.0144 J	0.0193 J	**0.0202**	**0.498**	**0.425**	**0.937**	**0.376**	**2.76**	**0.0802**	**2.76**	**1.68**	**0.239**
Vinyl Chloride	0.26	**0.367**	**0.276**	**0.514 J**	0.231	**0.551**	**0.380**	**0.410**	0.209	**0.324**	0.020 U	0.0623	**3.39**	0.0215	**0.928**	0.0638	**1.61**	**0.395**	**0.497**

Analyte	Current Cleanup Levels[4]	Well ID[3] CPOC Area																	
		GW150S									GW253I								
		8/11/2021	2/22/2022	8/22/2022	2/6/2023	8/17/2023	2/7/2024	8/15/2024	2/12/2025	8/15/2025	8/11/2021	2/22/2022	8/22/2022	2/6/2023	8/17/2023	2/7/2024	8/15/2024	2/12/2025	8/15/2025
Volatile Organic Compounds (µg/L)																			
cis -1,2-Dichloroethene	0.08	**0.0991**	0.0547	**0.126**	**0.0849**	**0.0901**	0.0509	**0.105**	**0.0859**	**0.122**	**0.106**	**0.0846**	**0.138**	**0.0991**	**0.0997**	**0.0929**	**0.0934**	**0.122**	**0.15**
Trichloroethene	0.02	0.020 U	0.020 U	**0.0212**	0.0200 U	0.0115 J	0.0200 U	0.0106 J	0.0132 J	0.0158 J	**0.0202**	0.020 U	**0.0205**	0.0200 U	0.0147 J	0.0145 J	0.0137 J	0.013 J	0.0142 J
Vinyl Chloride	0.26	0.122	0.0969	0.100	0.138	0.15	0.0608	0.165	0.109	0.111	0.146	0.177	0.255	0.156	0.17	0.133	0.146	0.149	0.186

Notes:

1. Data qualifiers are as follows:
   U = The analyte was not detected at the reporting limit indicated.
   J = The value is an estimate.
2. **Bolded** values exceed the cleanup levels.
3. S = shallow well; I = intermediate well.
4. Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations:

µg/L = micrograms per liter
AOC = area of concern
CPOC = conditional point of compliance
SWMU = solid waste management unit

TABLE D-8: AOC-090 HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN[1, 2]

Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Levels[4]	Well ID[3]																	
		Source Area									Downgradient Plume Area								
		GW189S[5]									GW176S								
		8/12/2021	2/23/2022	8/24/2022	2/7/2023	8/24/2023	2/8/2024	8/14/2024	2/12/2025	8/14/2025	8/17/2021	2/23/2022	8/23/2022	2/7/2023	8/24/2023	2/8/2024	8/14/2024	2/12/2025	8/14/2025
Volatile Organic Compounds (µg/L)																			
1,1,2,2-Tetrachloroethane	0.17	0.020 U	0.24 U	0.158	0.153	0.153	0.158	**0.181**	0.131	0.0200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	0.2	0.20 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	0.057	0.020 U	0.0200 U	0.0432	0.0200 U	0.0322	0.0200 U	0.0338	0.0288	0.0200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	300	5.00 U	5.00 U	6.28	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.8	0.20 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	0.23	0.20 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	2	0.20 U	0.20 U	0.20 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	2.4	**3.15**	0.20 U	1.78	0.230	1.7	0.200 U	1.15	1.60	1.77	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	2	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	0.05	0.020 U	0.0200 U	0.0206	0.200 U	**17.2 J**	0.0200 U	0.0200 U	0.0200 U	0.0200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	75	2.42	0.47 J	43.7	0.690 J	0.200 U	0.200 U	1.34	0.220	1.68	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	53.9	0.20 U	0.20 U	0.20 U	0.200 U	0.0200 U	0.200 U	0.200 U	0.200 U	0.200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	0.08	**0.386**	0.0505 UJ	**0.43**	0.0593	**0.511**	0.0200 U	**0.109**	**0.100**	0.0746	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	0.13	**0.575**	0.0867 J	**0.460**	0.0230	**0.438**	0.0200 U	0.121	**0.162**	**1.53**	**0.431**	**0.311 J**	**0.364**	**0.349**	**0.314**	**0.21**	**0.287**	**0.287**	**0.321**
Total Petroleum Hydrocarbons (µg/L)																			
TPH-G (C7-C12)	800	504	370 J	555	246	288	100 U	470	170	150.0 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH-D (C12-C24)	500	390	192 J	**521**	**648 J**	100.0 U	100 U	427	100 U	144.0 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH-O (C24-C40)	500	**689**	263 J	**586**	**1,120**	211	200 U	**838**	200 U	200.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA

Analyte	Current Cleanup Levels[4]	Well ID[3]																													
		Shallow Zone CPOC Area																													
		GW178S									GW207S								GW208S												
		8/12/2021	2/23/2022	8/24/2022	2/7/2023	8/24/2023	2/8/2024	8/14/2024	2/12/2025	8/14/2025	2/23/2022	8/23/2022	2/7/2023	8/24/2023	2/8/2024	8/14/2024	2/12/2025	8/14/2025	2/17/2021	8/12/2021	2/23/2022	8/24/2022	2/7/2023	8/24/2023	2/8/2024	8/14/2024	2/12/2025	8/14/2025
Volatile Organic Compounds (µg/L)																															
1,1,2,2-Tetrachloroethane	0.17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	0.057	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	0.23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	2.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	53.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	0.08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	0.13	**0.182**	**0.361 J**	**0.390**	**0.531**	**0.343**	**0.27**	**0.395**	**0.395**	**0.463**	**0.356 J**	**0.326**	0.0200 U	**0.293**	0.111	**0.313**	**0.313**	**0.233**	**0.349**	**0.313**	**0.404 J**	**0.400**	**0.419**	**0.242**	**0.298**	**0.359**	**0.359**	**0.25**
Total Petroleum Hydrocarbons (µg/L)																															
TPH-G (C7-C12)	800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH-D (C12-C24)	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH-O (C24-C40)	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1. Data qualifiers are as follows:
   U = The analyte was not detected at the reporting limit indicated.
   J = The value is an estimate.
   UJ = The analyte was not detected at the estimated reporting limit indicated.
2. **Bolded** values exceed the cleanup levels.
3. S = shallow well.
4. Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.
5. GW189S is the replacement well for GW168S.

Abbreviations:

µg/L = micrograms per liter
AOC = area of concern
CPOC = conditional point of compliance
NA = Not analyzed
SWMU = solid waste management unit
TPH-D = total petroleum hydrocarbons as diesel
TPH-G = total petroleum hydrocarbons as gasoline
TPH-O = total petroleum hydrocarbons as oil

TABLE D-9: APRON A HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN[1]

Boeing Renton Facility, Renton, Washington

Analyte	Well ID[2] GW264S								
	8/10/2021	2/21/2022	8/24/2022	2/8/2023	8/14/2023	2/7/2024	8/15/2024	2/13/2025	8/14/2025
Volatile Organic Compounds (µg/L)									
cis-1,2-Dichloroethene	0.20 U	0.200 U	0.200 U	2.00 U	2.00 U	0.200 U	0.200 U	0.200 U	0.200 U
Vinyl Chloride	1.37	2.54	1.41	2.00 U	2.00 U	0.810	0.480	0.200 U	0.460

Notes:

1. Data qualifiers are as follows:
   U = The analyte was not detected at the reporting limit indicated.
2. S = shallow well

Abbreviations:

µg/L = micrograms per liter

TABLE D-10: AOC-001,-002 HISTORICAL CONCENTRATIONS OF CONSTITUENTS OF CONCERN [1, 2]

Boeing Renton Facility, Renton, Washington

Analyte	Current Cleanup Level[4]	Well ID [3]											
		AOC-001 / AOC-002 Source Area			AOC-001 / AOC-002 Cross-Gradient Wells								
		GW193S-R			GW213S-R			GW214S-R			GW215S-R		
		8/12/2024	2/10/2025	8/11/2025	8/12/2024	2/10/2025	8/12/2025	8/12/2024	2/10/2025	8/12/2025	8/12/2024	2/10/2025	8/12/2025
Volatile Organic Compounds (µg/L)													
Benzene	0.80	0.200 U	0.200 U	0.2 U	1.00 U	1.00 U	0.2 U	1.00 U	1.00 U	0.2 U	1.00 U	1.00 U	0.37
1,1-Dichloroethene	0.057	0.0200 U	0.0200 U	0.02 U	0.0200 U	0.100 U	0.02 U	0.0200 U	0.100 U	0.02 U	0.0200 U	0.100 U	0.02 U
cis-1,2-Dichloroethene	0.020	**2.19**	**2.38**	**3.77**	**0.134**	**0.111**	**0.128**	0.0200 U	0.100 U	**0.0746**	**0.156**	0.100 U	**0.0814**
Trichloroethene	0.02	**1.51**	**0.844**	**0.142**	**0.0266**	0.100 U	**0.0364**	0.0200 U	0.100 U	0.02 U	0.0200 U	0.100 U	0.02 U
Vinyl Chloride	0.05	**1.21**	**0.460**	**0.575**	0.0482	0.100 U	0.0333	0.0200 U	0.100 U	0.02 U	0.0200 U	0.100 U	0.02 U

Analyte	Current Cleanup Level[4]	Well ID [3]											
		CPOC Area											
		AOC-001 / AOC-002 Downgradient Plume Wells											
		GW190S-R			GW191D-R			GW192S-R			GW246S-R		
		8/12/2024	2/10/2025	8/11/2025	8/12/2024	2/10/2025	8/12/2025	8/12/2024	2/10/2025	8/12/2025	8/12/2024	2/10/2025	8/11/2025
Volatile Organic Compounds (µg/L)													
Benzene	0.80	0.200 U	0.200 U	0.2 UJ	0.200 U	0.200 U	0.2 U	0.200 U	0.200 U	0.2 U	0.200 U	0.200 U	0.2 UJ
1,1-Dichloroethene	0.057	0.0200 U	0.0200 U	0.02 UJ	0.0200 U	0.0200 U	0.02 U	0.0200 U	0.0200 U	0.02 U	0.0200 U	0.0200 U	0.02 UJ
cis-1,2-Dichloroethene	0.020	**0.194**	**0.0934**	**0.188 J**	0.0200 U	**0.0309**	**0.0298**	**1.78**	**0.359**	**2.12**	**0.176**	**0.0932**	**0.224 J**
Trichloroethene	0.02	0.0200 U	0.0200 U	0.02 UJ	0.0200 U	0.0200 U	0.02 U	**0.0538**	**0.0273**	**0.0678**	0.0200 U	0.0200 U	0.02 UJ
Vinyl Chloride	0.05	**0.0818**	0.0458	**0.0777 J**	**0.0934**	**0.0574**	**0.079**	**1.07**	**0.0842**	**1.17**	**0.181**	**0.122**	**0.106 J**

Analyte	Current Cleanup Level[4]	Well ID [3]															
		AOC-001 / AOC-002 CPOC Wells															
		GW185S-R			GW195S-R			GW196D-R			GW197S-R			GW245S-R			
		8/12/2024	2/10/2025	8/11/2025	8/12/2024	2/10/2025	8/11/2025	8/12/2024	2/11/2025	8/11/2025	8/12/2024	2/10/2025	8/11/2025	8/12/2024	2/10/2025	8/12/2025	
Volatile Organic Compounds (µg/L)																	
Benzene	0.80	0.200 U	0.200 U	0.2 UJ	0.200 U	0.200 U	0.2 U	0.200 U	0.200 U	0.2 UJ	0.760	0.650	**0.97**	0.390	1.00 U	0.5	
1,1-Dichloroethene	0.057	0.0200 U	0.0200 U	0.02 UJ	0.0200 U	0.0200 U	0.02 U	0.0200 U	0.0200 U	0.02 UJ	0.0468	**0.107**	0.0233	0.0200 U	0.100 U	0.02 U	
cis-1,2-Dichloroethene	0.020	**0.240**	**0.172**	**0.265 J**	**0.102**	**0.0878**	**0.0909**	**0.0250**	**0.0279**	**0.0428 J**	**18.9**	**39.9**	**11.2**	**0.204**	**0.190**	**0.219**	
Trichloroethene	0.02	0.0200 U	0.0200 U	0.02 UJ	0.0200 U	0.0200 U	0.02 U	0.0200 U	0.0200 U	0.02 UJ	**0.268**	**0.181**	**0.161**	**0.0252**	0.100 U	0.02 U	
Vinyl Chloride	0.05	**0.124**	**0.156**	**0.144 J**	**0.117**	**0.0936**	**0.103**	0.0213	0.0200 U	0.02 UJ	**12.6**	**26.3**	**5.00**	**0.141**	0.100 U	**0.119**	

Notes

1. Data qualifiers are as follows:
   U = The analyte was not detected at the reporting limit indicated.
   UJ = The result is estimated and was not detected at the reporting limit indicated.
2. **Bolded** values exceed the cleanup levels.
3. S = shallow well; I = intermediate well.
4. Current cleanup levels obtained from Table 2 of the Cleanup Action Plan and are based on each individual SWMU or AOC.

Abbreviations

µg/L = micrograms per liter
AOC = area of concern
CPOC = conditional point of compliance
NA = not analyzed