2.0 SITE BACKGROUND

This section provides a brief history of the Facility and summarizes remedial actions and investigations conducted to address releases or potential releases.

2.1 Facility History

The Facility originally occupied approximately 380 acres in south King County, Washington, within the city limits of Auburn and Algona. The Facility is bounded by the U.S. General Services Administration (GSA) property to the east, 15th Street SW to the north, Perimeter Road to the west, and Ellingson Road and the Safeway property to the south (Figure 1-2). The Facility operated under a RCRA permit (No. 87-1) issued in August 1987 that specified the requirements for treatment, storage, and handling of hazardous waste and requirements for corrective action. Corrective action (to be completed under MTCA, including the RI, IRA, FS, cleanup, and public outreach) was implemented under the Agreed Order No. 01HWTRNR-3345, dated May 15, 2002 (Ecology 2002a) and the First Amended Agreed Order, dated April 7, 2006 (Ecology 2006b). A new State Dangerous Waste Management Permit solely for Corrective Action[1] was issued jointly to AMB (now Prologis after a merger in 2011) as owner of Area 1, and to Boeing. The new permit, No. WAD 041337130, became effective on the date of issuance of the First Amended Agreed Order on February 21, 2006. The new permit replaces the original permit No. 87-1.

Boeing purchased 380 acres From GSA in 1966 and later purchased an additional 98 acres adjacent to the southwest portion of the Site. Boeing has used the Facility for airplane skin and spar manufacturing, machine fabrication, tooling, emergent manufacturing, welding, sheet metal work, process assembly, and other work related to the manufacturing of airplane tools and parts. Boeing sold approximately 104 acres of the Facility to the Safeway Corporation in 2003, donated approximately 24.5 acres of the Facility to the YMCA and JA in 2004, and sold 0.71 acres of the Facility (Area 5) consisting of an electrical transfer station to PSE (shown as Area 5 on Figure 1-2) in 2005. All three of these areas were removed from the RCRA permit definition of the Facility prior to property transfer. Boeing sold Area 1, the northern 41.9 acres of the Facility, in December 2005 to AMB (now Prologis). A source of groundwater contamination is present in Area 1; therefore, Area 1 remains a part of the permit definition of Facility and the RCRA permit was issued jointly to Boeing and AMB. The locations of the Safeway parcel, the PSE (Area 5) parcel, the YMCA parcel, the JA parcel, and Area 1 are shown on Figure 1-2.

2.2 Corrective Actions

Various corrective actions have been performed at the Site since the RCRA permit was issued in 1987. Boeing worked with Ecology to refine the list of SWMUs and AOCs that required additional investigation during development of the RI work plan, which was finalized in 2003 (Geomatrix 2003b).

[1] At the Auburn Facility, Boeing no longer treats or stores dangerous waste in a manner that requires a Part B permit for treatment and storage of dangerous waste.

Documents related to the investigation of each SWMU and AOC are referenced in Table 2-1. Boeing also submitted quarterly status reports to Ecology that summarize RI activities as required by the First Amended Agreed Order[2]. The quarterly status reports presented the most recent analytical data, summarized project activities conducted in the previous quarter (including fieldwork, data reporting, agency communications, public outreach, and any occurrence of problems), and provided a projection of likely work for the following quarter.

The RI work plan identified corrective action needed for the SWMUs and AOCs under the Agreed Order. A number of supplemental work plans were completed for additional RI fieldwork activities. These work plans provided the scope of work, investigation objectives, and details of how the work was to be completed. Each work plan was submitted to Ecology for review and approval[3]. A general timeline for Site-wide corrective action activities including the timeline of fieldwork and reporting events is presented in Table 2-2. The Site-wide corrective action timeline also summarizes discoveries of other historical releases that were documented in memorandums and quarterly reports to Ecology.

Corrective action activities for Area 1 were completed in an expedited process to allow for the property sale in 2005. Area 1 activities included an environmental review (EPI 2005), an expedited RI (LAI 2004a), soil remediation activities (LAI 2005b, d, 2006d, 2007a), and indoor air evaluations (GeoEngineers 2005, LAI 2004d, f). An IRA for TCE releases to groundwater was also completed at the former Building 17-05 building; the IRA is discussed in Section 7.0. A summary of Area 1 activities is provided in Table 2-3. Supplemental information regarding the Area 1 expedited RI and soil remediation activities (chrome line, elevator shaft, and autoclave) is included in Appendix A.

Since receiving Ecology comments on the second revised draft RI Report in 2009, the majority of the additional investigations have sought to define the nature and extent of groundwater, surface water, and indoor air contamination at the Site. A summary of groundwater corrective action activities is provided in the general corrective action summary table (Table 2-2). Further discussion of Site-wide groundwater assessment is provided in Section 8.0.

Surface water investigation activities began in 2012 after volatile organic compounds (VOCs) were discovered in groundwater near wetlands and streams west and northwest of the Facility. A summary of surface water investigation activities is presented in Table 2-4. Further discussion of surface water assessment is provided in Section 9.0.

A comprehensive Site-wide vapor intrusion investigation began in 2011 to evaluate risks in all areas where VOCs of concern are present in shallow groundwater. A summary of vapor intrusion activities conducted as part of the RI is presented in Table 2-5. Vapor intrusion investigations were also

[2] The quarterly reports are not documented in the site-wide corrective action timeline.
[3] The supplemental work plans and Ecology's approvals are not documented in the Site-wide corrective action timeline.

conducted prior to the property transfers of the YMCA and JA (URS 2003 (URS 2003a) and AMB (LAI 2004a, f) properties. Further discussion of vapor intrusion assessment is provided in Section 10.0.

2.3 Public Outreach Activities

Public outreach activities have occurred at the Site throughout the project. Public outreach seeks to inform and engage surrounding municipalities, property owners, residents, and businesses who may be located at or near the Site. Outreach activities have occurred at the Site during all phases of the RI; however, the discovery that the groundwater plume extended off Boeing property in 2009 initiated a larger-scale and more intensive public outreach effort by Boeing and Ecology. Other agencies contributing to the outreach effort include the Washington State Department of Health (WDOH) and the federal Agency for Toxic Substances and Disease Registry.

Outreach activities have included the transmittal of analytical data. Letters are sent to individual property owners (or stakeholders and listed stakeholder representatives) regarding groundwater monitoring results for wells sampled on their respective properties. These letters are sent twice per year following the second and fourth quarter sampling events. Additional outreach activities have included fact sheets, public meetings, creating and updating the Ecology website, and providing in-person information to homeowners (door knocking). A summary of these public outreach activities is provided in Table 2-6.

2.4 Ongoing Work

Ongoing work at the Site includes an interim Site-wide groundwater monitoring program, currently Phase VII (seven); and surface water sampling activities (LAI 2015b). As the project moves into the FS phase, it is expected that additional work may be performed to refine remediation areas and to evaluate remediation technologies.

Table 2-1
References for Facility Solid Waste Management Units and Areas of Concern
Boeing Auburn Remedial Investigation
Auburn, Washington

Column IA SWMUs and AOCs		
Facility SWMU/AOC	**Description**	**References**
S-06	17-15 Rinsewater Treatment Plant	AGI 1997a AGI 1997b AGI 1998a AGI 1999a AGI 1999b AGI 1999c CDM 2001c CDM 2003a CDM 2003b Kennedy/Jenks 1991 Kennedy/Jenks 1993b Kennedy/Jenks 1994f LAI 2006b LAI 2010d Woodward-Clyde 1998c
S-12d	17-12 Former Vapor Degreaser; Former Metal Fabrication and Finishing	Boeing 1995d
S-15a/S-16/AOC A-13	17-06 Machine Sump: SAU06-12 (see attachment 7 of Agreed Order)/17-06 Active Aluminum Chip Briquetter and Chip Conveyance System/17-06 Petroleum Hydrocarbon Soil and Groundwater Contamination	AGI 2000 E.S.P. 1998 GeoEngineers 1992b LAI 2004e LAI 2009a LAI 2009b LAI 2010b LAI 2011a SECOR 1996b
S-15b	17-07 Machine Sumps: SAU07-024, -025,-028,-029	AGI 2000 E.S.P. 1998
S-15c	17-34 Chip Shed Sumps: SAU34-001 through -004	AGI 2000 E.S.P. 1998 Hart Crowser 1986a Hart Crowser 1986b
S-15d	17-52 Machine Sump: SAU52-001	AGI 2000 Ecology 2002b E.S.P. 1998 Hart Crowser 1987 LAI 2002a
S-17	17-29 Titanium Chip Bailer (shed and sump)	E.S.P. 1998 GeoEngineers 1991c GeoEngineers 1997
S-18	17-35 Miscellaneous sumps at chip shed	E.S.P. 1998 Hart Crowser 1986b
A-01	17-06 Former USTs TAU-01 and TAU-02	GeoEngineers 1991b GeoEngineers 1992b Kennedy/Jenks/Chilton 1989 LAI 2004a LAI 2004e Norton 1985

Table 2-1
References for Facility Solid Waste Management Units and Areas of Concern
Boeing Auburn Remedial Investigation
Auburn, Washington

Column IA SWMUs and AOCs (Continued)		
A-02c	17-08 Former UST (TAU-16) Diesel Product Storage	GeoEngineers 1986 Kennedy/Jenks/Chilton 1989 Norton 1985
A-02d	17-10 Former UST (TAU-6) Diesel Product Storage Tank	GeoEngineers 1986 Kennedy/Jenks/Chilton 1989 Norton 1985
A-03	17-35 Former Unregistered Waste Oil Tanks	Boeing 1990 GeoEngineers 1991a
A-09	17-07 Acid Scrubber Drain line Leak; Machine Fabrication	AGI 1996a AGI 1996b AGI 1996c AGI 1996d Boeing 1996 CDM 2000 Woodward-Clyde 1998b
A-12	Fuel Oil Spill; Southwest of	Boeing 1995a
Column IB SWMUs and AOCs		
Facility SWMU/AOC	**Description**	**References**
S-11	17-45 Aqueous Degreaser; Formerly Vapor Degreaser	ERT 1988 LAI 2008b
S-12a	17-03 Former Vapor Degreaser; Former Metal Fabrication and Finishing	Ecology 2004a Kennedy/Jenks 1992b Kennedy/Jenks 1993g Kennedy/Jenks 1997c LAI 2004a
S-12b	17-05 Former Vapor Degreaser (VD-01); Process Assembly, Metal Bonds and Composite Parts	Boeing 1976a Boeing 1994 Kennedy/Jenks 1994c Kennedy/Jenks 1994d Kennedy/Jenks 1994g Kennedy/Jenks 1995 Kennedy/Jenks 1996a Kennedy/Jenks 1997b Kennedy/Jenks 1997c Kennedy/Jenks 1997d LAI 2004a LAI 2004c LAI 2004f LAI 2005f LAI 2005g LAI 2008a
S-12c	17-05 Former Vapor Degreaser (VD-02); Process Assembly, Metal Bonds and Composite Parts	Boeing 1995b Ecology 2004a Kennedy/Jenks 1994g Kennedy/Jenks 1997b Kennedy/Jenks 1997c LAI 2004a LAI 2004f
S-12f	17-68 Former Vapor Degreaser	Boeing 1995d

Table 2-1
References for Facility Solid Waste Management Units and Areas of Concern
Boeing Auburn Remedial Investigation
Auburn, Washington

Column IB SWMUs and AOCs (Continued)		
S-13a/S-13b	17-07 Former Vapor Degreasers; Machine Fabrication	Boeing 1976b Boeing 1995b Boeing 1995c ERT 1988 Kennedy/Jenks 1993f Kennedy/Jenks 1996b LAI 2010a LAI 2012c
S-19	17-05 Former Waste Oil Tank (TAU-22); Process Assembly, Metal Bonds, and Composite Parts	Boeing 1994 Ecology 2004a Norton 1985 Kennedy/Jenks 1995 Kennedy/Jenks 1997b Kennedy/Jenks/Chilton 1989 LAI 2004a
S-30	Former Debris Pile and Burn Pit	Dames & Moore 1987 LAI 1990
A-02a	17-03 Former USTs (TAU-7 and TAU-8)	Ecology 2004a GeoEngineers 1986 Kennedy/Jenks/Chilton 1989 LAI 2004a Norton Corrosion Limited, Inc. 1985
A-02b	17-06 Former UST (TAU-23) Jet Fuel product storage	GeoEngineers 1986 Kennedy/Jenks/Chilton 1989 Norton Corrosion Limited, Inc. 1985
A-04	17-29 Former Underground Bailer Tank; PS300, cutting oil and solvents	GeoEngineers 1991c GeoEngineers 1997
A-05	17-64 Unleaded Gasoline UST (TAU-32); Transportation Building Fuel Island	Boeing 1993 Tank Tek 1997
A-06	Excavations for the expansion of 17-66	Kennedy/Jenks 1992a Kennedy/Jenks 1993b Kennedy/Jenks 1993c Kennedy/Jenks 1994f
A-07	17-08 Former Methyl Ethyl Ketone UST (TAU-18)	Dames&Moore 1988c GeoEngineers 1992c Kennedy/Jenks 1994a Norton 1985
A-08	17-05 Former Metalbond Tank Line; Process Assembly, Metal Bonds and Composite Parts	Boeing 1994 Kennedy/Jenks 1994d Kennedy/Jenks 1995 Kennedy/Jenks 1996c Kennedy/Jenks 1997d LAI 2004a LAI 2004c LAI 2004f LAI 2005f LAI 2005g LAI 2008a
A-10	17-10 G&L Post Mill; Tooling/Tool Fabrication	CDM 2001a CDM 2001b LAI 2001a SECOR 1996a

Table 2-1
References for Facility Solid Waste Management Units and Areas of Concern
Boeing Auburn Remedial Investigation
Auburn, Washington

Column IB SWMUs and AOCs (Continued)		
S-01	17-34 Permitted Container Storage Area	Ecology 1991 EPA 1992 Geomatrix 2006 Hart Crowser 1986a Hart Crowser 1986b Weston 1999 Woodward-Clyde 1997
Column II SWMUs and AOCs		
Facility SWMU/AOC	**Description**	**References**
S-02	17-32 and 17-33, Regulated Waste Material Staging Area	
S-03	Outdoor Hazardous Waste Accumulation Areas	Boeing 1986b Boeing 1990b
S-04	Indoor Satellite Accumulation Areas	Boeing 1986b Boeing 1990b
S-05	Nonhazardous Solid Waste Collection Sites	City of Auburn 1993 City of Auburn 1997
S-07a	Government Canal	Charlton/Leach 1995 ChemRisk 1992 Ecology 1995 GeoEngineers 1992a GeoEngineers 1995 TetraTech 1991 Tetra Tech 1992
S-07b	Storm Water Treatment Facility	TetraTech 1991
S-08	17-45 Active Wet Paint Spray Booths; Sheet Metal Center	AGI 1999d AMTEST 1993 AMTEST 1996 Ecology 1989 ERT 1988 Woodward-Clyde 1998a
S-09	17-62 Former Wet Paint Spray Booths	
S-10	17-66 Paint Storage Room, Mixing Area, and Testing Booth	
S-12e	17-62 Former Vapor Degreasers (2); Welded Duct Facility	
S-14	17-52 Battery Wash Area	Ecology 2002b Hart Crowser 1987 LAI 2002a
S-20	17-05 Former Waste Holding Tank (WHT-02)	Ecology 1994a Kennedy/Jenks 1994b Kennedy/Jenks 1995
S-21	17-06 Former Waste Holding Tank (WHT-01)	Weston 1997
S-22	17-08 Former Acid Waste Holding Tank (TAU-21)	Kennedy/Jenks 1993d

Table 2-1
References for Facility Solid Waste Management Units and Areas of Concern
Boeing Auburn Remedial Investigation
Auburn, Washington

Column II SWMUs and AOCs (Continued)		
S-23	17-07 Former Alkaline Waste Holding Tank	AGI 1996c Boeing 1995e Boeing 1996 Kennedy/Jenks 1993a Kennedy/Jenks 1994e Kennedy/Jenks 1994h Kennedy/Jenks 1994i
S-24	17-07 Former Cyanide Waste Holding Tank	AGI 1996c Boeing 1996
S-25	17-07 Former Acid Waste Holding Tank	AGI 1996c Boeing 1996
S-26	Former North Lagoon	Boeing 1986 Boeing 1987b Dames&Moore 1985 Dames&Moore 1986 Dames & Moore 1988a Kennedy/Jenks 1985
S-27	Former South Lagoon	Dames&Moore 1985 Dames&Moore 1986 Dames & Moore 1988b Kennedy/Jenks 1985
S-28	Former Waste Pile Sludge Delisting	AGI 1998b Boeing 1985a Boeing 1985b
S-29	Former Landfill	Dames and Moore 1985 Dames and Moore 1987a
S-31	17-05 Alodine Waste Holding Tank (WHT-01)	
S-32	17-05 Waste Holding Tank (WHT-03)	
S-33	17-06 Waste Holding Tanks (WHT-02 through 05); Skin and Spar Fabrication	
S-34	17-07 Tank Line Waste Holding Tanks (WHT-01 through 04)	
S-35	17-45 Tank Line Waste Holding Tanks (WHT-01 through 03); Sheet Metal Center	
S-36	17-62 Tank Line Waste Holding Tanks (WHT-01 through 04); Welded Duct Facility	
S-37	17-68 Tank Line Waste Holding Tanks (WHT-01 through 05); Emergent Manufacturing Facility	
S-38	Cyclones, Baghouses, and Dust Collectors	
S-39	X-ray and Photographic Laboratories	
A-02e	17-57 Former USTs (TAU-12, TAU-13) Heating Oil Tanks	GeoEngineers 1986 Kennedy/Jenks/Chilton 1989 Norton 1985

Table 2-1
References for Facility Solid Waste Management Units and Areas of Concern
Boeing Auburn Remedial Investigation
Auburn, Washington

Column II SWMUs and AOCs (Continued)		
A-02f	17-58 Former UST (TAU-10) PS300 Product Storage Tank	GeoEngineers 1986 Kennedy/Jenks/Chilton 1989 Norton 1985
A-11	17-66 Methyl Phenyl Ketone UST	Kennedy/Jenks 1994j

Note:
For reference listings, see Section 13.0 in the Final RI Report.
Sources of references for SWMUs and AOCs included those listed in the RCRA Facility Assessment (Tetra Tech 1992)

Abbreviations/Acronyms:
AOC = area of concern
SWMU = stormwater management unit

Table 2-2
Site-Wide Activities
Boeing Auburn Remedial Investigation
Auburn, Washington

Date	Site-Wide Activities
1966 - 1976	TCE used in degreasers at the Facility (Boeing 1976a,b).
1987 - 1997	General investigation and cleanup at selected areas at the Facility is conducted.
1995	No further action determination (Ecology 1995) for Governmental Canal remediation (SWMU S-07a).
1997	Comprehensive Site-wide groundwater monitoring program is implemented.
June 1998	RFA is completed by Tetra Tech, Inc. (1998) for the EPA.
1998 - 2002	Continued pre-RI or remedial actions at select SWMUs and AOCs are conducted.
2001 - 2003	Investigation of the Boeing Auburn South Site and sale of the South Site to the Safeway Corporation (LAI 2001b, 2002c; Ecology 2002b). Included the following independent cleanups or investigations: • November 2002: Confirmation soil samples collected beneath the former battery wash pad located within 17-52 (LAI 2002a). • December 2002: Hydraulic oil spills from demolition equipment cleaned up at former Buildings 17-54 and 17-58 (LAI 2002b, 2003b). • December 2003: Petroleum hydrocarbon-impacted soil beneath buildings 17-56 and 17-58 discovered and cleaned up (LAI 2003a)
August 2002	Agreed Order between Boeing and Ecology is complete (Ecology 2002a). RIs begin and are now covered by the Agreed Order.
February 2003	Auburn North Parcel: Donation to YMCA of Greater Seattle (Boeing 2003b,c, Ecology 2003b,c, Harrover 2003, URS 2003a,b,c).
October 2003	First RI work plan (Geomatrix 2003b) is finalized and submitted to Ecology.
June 2003	Petroleum hydrocarbon impacted soil at a location west of Building 17-15 in the WWPTP area was discovered and cleaned up (CDM 2003c, Boeing 2003a)
2003 - 2008	Expedited Area 1 RI and Area 1 Interim Remedial Action are completed (See Table 2-3 for Area 1 specific activities).
April 2004	Area 5 property transfer: PSE Substation (Geomatrix 2004). Included the following independent cleanups: • Petroleum hydrocarbon-impacted soil discovered at the PSE Substation and cleaned up (CDM 2004).
August 2004 - December 2015	Comprehensive Site-wide groundwater level measurements are conducted to evaluate spatial and temporal groundwater flow patterns.
September 2005	First draft RI report (LAI 2005a) is submitted to Ecology.
2005 - Current	Interim Site-wide groundwater monitoring for VOCs and other constituents of concern occurs quarterly supplemented with additional groundwater monitoring as needed (e.g., new monitoring well initial sampling).
February 2006	First Amended Agreed Order (Ecology 2006b) between Boeing and Ecology is updated to include AMB as a potentially liable party.
September - October 2006	Petroleum hydrocarbon-impacted soil removal during Building 17-07 machine foundation excavations (LAI 2006b).
October 2006	Building 17-10 petroleum hydrocarbon soil cleanup is conducted (LAI 2006a).
December 2007	Revised RI report (LAI 2007c) is submitted to Ecology.
August 2008	Draft supplemental RI work plan (LAI 2008b) is submitted to Ecology.

Table 2-2
Site-Wide Activities
Boeing Auburn Remedial Investigation
Auburn, Washington

Date	Site-Wide Activities
January 2009	Review of Building 17-06 sump and briquetter is summarized in a memorandum to Ecology (LAI 2009b).
February 2009	Five new intermediate and deep zone wells are installed north of Area 1 as part of ongoing RI activities.
April 2009	2nd Revised RI report (LAI 2009d) is submitted to Ecology.
September 2009 - January 2010	Removal of petroleum-contaminated soil during WWPTP excavations (LAI 2010d).
September - October 2009	First off Boeing property groundwater monitoring wells (AGW143 through AGW153) are installed and soil borings ASB0179 and ASB0180 are advanced on Boeing property (LAI 2009c).
February - March 2010	Groundwater monitoring wells AGW154 through AGW162 are installed (LAI 2010f).
April 2010	Critical Area/Wellhead Protection Ordinance Review (LAI 2010c) is submitted to Ecology.
June - December 2010	Building 17-06 sump cleaning, inspection, and repairs are completed (LAI 2010b, 2011a).
August - November 2010	Groundwater monitoring wells AGW163 through AGW180 are installed (LAI 2010g).
July 2010 - September 2011	Building 17-07 source evaluation is completed (LAI 2010a). Employee interview technical memorandum (LAI 2011b) is submitted to Ecology.
2011 - Current	Vapor intrusion activities are conducted (see Table 2-4 for specific vapor intrusion investigation activities).
April - October 2011	Groundwater monitoring wells AGW181 through AGW199 are installed and additional groundwater investigation is completed (LAI 2012c).
October - November 2011	Groundwater monitoring wells AGW200 through AGW221 are installed (LAI 2012a).
2012 - Current	Surface water sampling activities are completed (see Table 2-5 for specific surface water investigation activities).
December 2012 - September 2013	Groundwater monitoring wells AGW222 through AGW239 are installed (LAI 2014j).
January 2013	Minor spill of coolant through hole in concrete to soil beneath Building 17-07 at Column CC-5 (ERTS #638840). The minor contamination was left in place beneath the concrete and will be cleaned up when the concrete is removed.
April 2013	First off Boeing property soil borings (ASB0181 through ASB0229) are advanced to monitor groundwater concentrations in residential Algona (LAI 2014a).
2014	Review of private wells is conducted near the Site (LAI 2014i, k).
March 2014	On-Boeing property utility tunnel groundwater intrusion investigation at Buildings 17-06 and 17-07 is conducted (LAI 2014h).
June - July 2014	Groundwater monitoring wells AGW240 through AGW251 are installed and soil borings ASB0230 - ASB0243 are advanced (LAI 2015a).
November 2014 - February 2015	Groundwater monitoring wells AGW252 - AGW259 are installed. WSDOT wells APP-057, APP-058, and APP-069 are added to the monitoring plan (LAI 2016g).
December 2014	Analytical sampling is conducted for natural attenuation parameters (LAI 2015c).
2015 - Current	Site-wide numerical groundwater flow model (LAI 2016h).
March - October 2015	Groundwater monitoring wells AGW260 - AGW276 are installed (LAI 2016a).

Table 2-2
Site-Wide Activities
Boeing Auburn Remedial Investigation
Auburn, Washington

Date	Site-Wide Activities
May 2015	Minor historical release of petroleum hydrocarbons discovered and cleaned up during construction activities in Building 17-68 (LAI 2015d).
July - October 2015	Algona enhanced natural attenuation pilot test is conducted.
December 2015	Additional investigation work is conducted at Building 17-06 chip collection system during winter/spring 2015/2016 (LAI 2016i).

Note:

For reference listings, see Section 13.0 in the Final RI Report.

Abbreviations/Acronyms:

AOC = area of concern
Boeing = The Boeing Company
Ecology = Washington State Department of Ecology
EPA = US Environmental Protection Agency
LAI = Landau Associates, Inc.
RCRA = Resources Conservation Recovery Act
RFA = RCRA Facility Assessment
RI = remedial investigation
SWMU = solid waste management unit
TCE = trichloroethene
TPH = total petroleum hydrocarbon
WSDOT = Washington State Department of Ecology
WWPTP = wastewater pre-treatment plant

Table 2-3
Area 1 Activities
Boeing Auburn Remedial Investigation
Auburn, Washington

Date	Area 1 Activity
November 2003	Area 1 RI work plan (Geomatrix 2003a) is submitted to Ecology.
January 2004	Area 1 RI report (LAI 2004a) is submitted to Ecology.
March 2004	Supplemental Area 1 RI report (LAI 2004f) is submitted to Ecology.
April 2004	Ecology Letter of Determination and NFA is issued for all AOCs/SWMUs within Area 1 with the exception of SWMU S-12b and AOC A-08 (Ecology 2004a).
May 2004	Final Area 1 IRA work plan (LAI 2004b) is submitted to Ecology.
December 2004	First Area 1 IRA report (LAI 2004c) is submitted to Ecology.
June 2005	Area 1 indoor air evaluation is conducted (GeoEngineers 2005).
June 2005	Second Area 1 IRA report (LAI 2005f) is submitted to Ecology.
September 2005	Area 1 PCB cleanup is conducted at Building 17-05 south elevator shaft (LAI 2005c, EPA 2005).
October 2005	Supplement to the final IRA work plan (LAI 2005g) is submitted to Ecology.
December 2005	Area 1 sale to AMB is completed.
February 2006	First Amended Agreed Order is updated to include AMB as a potentially liable party (Ecology 2006b).
February 2006	Area 1 groundwater action levels for the protection of indoor air are established as part of the Agreed Order (Ecology 2006b).
June 2006	Petroleum hydrocarbon soil removal in the Area 1 autoclave (LAI 2006c) and the Area 1 chrome line abandonment areas (LAI 2007a) is completed.
August 2007	Area 1 well abandonment and re-installations are conducted as part of building demolition and new building construction (LAI 2007b).
April 2008	IRA report (LAI 2008a) is submitted to Ecology.

Note:
For reference listings, see Section 13.0 in the RI Report.

Abbreviations/Acronyms:
AOC = area of concern
Ecology = Washington State Department of Ecology
IRA = interim remedial action
NFA = no further action
PCB = polychlorinated biphenyl
RI = remedial investigation
SWMU = solid waste management unit
TPH = total petroleum hydrocarbons

Table 2-4
Surface Water Investigation Activities
Boeing Auburn Remedial Investigation
Auburn, Washington

Date	Surface Water Activity
June 2012	2012 surface water sampling is conducted in Auburn and Algona (LAI 2012f).
September 2012	Surface water sampling is conducted at the Chicago Avenue ditch (LAI 2012e).
July 2013	2013 Auburn surface water samples are collected (LAI 2014g).
November 2013	Algona neighborhood ditch sampling is conducted (LAI 2014b).
January - March 2014	Algona neighborhood yard water sampling is conducted (LAI 2014c).
December 2013 - September 2014	Quarterly Algona surface water sampling is conducted at the Chicago Avenue ditch (LAI 2015b).
March - September 2014	2014 Auburn surface water sampling is conducted (LAI 2015b).
September 2015	2015 surface water sampling is conducted in Auburn and Algona including pore water sampling at Mill Creek (LAI 2016b).

Note:
For reference listings, see Section 13.0 in the RI Report.

Abbreviations/Acronyms:
LAI = Landau Associates, Inc.

Table 2-5
Vapor Intrusion Investigation Activities
Boeing Auburn Remedial Investigation
Auburn, Washington

Date	Vapor Intrusion Activity
April - October 2011	Sub-slab soil gas sampling is conducted on Boeing property at Buildings 17-07 and 17-12 (LAI 2012b).
March 2012	Vapor intrusion assessment is conducted at Boeing Building 17-07, AMB (now Prologis), Fana West, YMCA, and JA (LAI 2012g).
May 2013	Sewer worker exposure assessment is conducted for City of Auburn (LAI 2013e)
February 2012 - December 2013	YMCA and JA vapor intrusion assessment is conducted (LAI 2013b, c, 2014f).
Summer 2013 -Winter 2014	Phase I residential vapor intrusion sampling is completed in summer 2013 and Phase II residential vapor intrusion sampling is completed in winter 2014 (LAI 2014d).
August 2014	Chicago Avenue ditch over-water air and surface water sampling is conducted (LAI 2014e).
March - June 2015	Soil gas borings ASB0244 through ASB0263 (Tier I vapor intrusion assessment) are advanced in Auburn and Algona (LAI 2016c).
April - June 2015	Tier II vapor intrusion assessments are completed at Boeing Building 17-70 and at The Outlet Collection (LAI 2016d).
June 2016	Tier II vapor intrusion assessment is conducted at the Los Cabos property (LAI 2017a).

Note:
For reference listings, see Section 13.0 in the RI Report.

Abbreviations/Acronyms:
Boeing = The Boeing Company
LAI = Landau Associates, Inc.
JA = Junior Achievement

Table 2-6
Public Outreach Activities
Boeing Auburn Remedial Investigation
Auburn, Washington

Date	Public Outreach Activity
December 2005 - February 2006	Public comment period for State Dangerous Waste Permit, Modified Agreed Order, and Modified Interim Action work plan completed (Ecology 2005).
November 2011	Officials from the Cities of Algona, Auburn, and Pacific and from nearby water districts attend a meeting with Ecology and Boeing to discuss the extent of the groundwater contamination.
November 2011	WDOH releases a health consultation regarding evaluation of groundwater contamination and an associated Fact Sheet (WDOH 2011).
November 2011 - Current	A series of flyers and mailers sent and/or hand delivered to residents and property owners.
January - February 2012	WDOH releases a health consultation called Evaluation of Groundwater Contamination in Auburn/Algona and an associated Fact Sheet (WDOH 2012)
February 2013	City of Algona public meeting.
March - April 2013	WDOH releases a health consultation called Exposures to Surface Water in Chicago Avenue Ditch and Government Canal in Algona and an associated Fact Sheet (WDOH 2013).
2013 - Current	Ecology and Boeing conduct regularly scheduled conference calls with the City of Algona's consultant.
June 2013	City of Algona Open House.
January 2014	WDOH releases a health consultation regarding Algona residential indoor air results (WDOH 2014c).
Spring 2014 - Current	APAC was formed. APAC participated in door knocking, festival informational booths, public meetings, and other outreach activities in Algona.
2014 - Current	Ecology, WDOH, and APAC hold a series of drop-in sessions in Algona.
Spring 2014 and Fall 2015	Ecology conducts updates to the Auburn and Algona City Councils.
August 2014	WDOH releases a second health consultation regarding Exposures to Surface Water (WDOH 2014b).
February 2016	Ecology and APAC sponsore another Open House for the City of Algona.

Note:

For reference listings, see Section 13.0 in the RI Report.

Abbreviations/Acronyms:

APAC = Algona Public Awareness Coalition
Boeing = The Boeing Company
Ecology = Washington State Department of Ecology
WDOH = Washington State Department of Health