LANDAU ASSOCIATES

October 15, 2021

Washington State Department of Ecology
Northwest Regional Office
3190 160th Avenue Southeast
Bellevue, Washington 98008-5452

Attn: Li Ma

Transmitted via email to: *lima461@ecy.wa.gov*

Re: Status Report No. 76, July through September 2021 Activity Period
Boeing Auburn Facility
WAD 041337130, RCRA Corrective Action Agreed Order No. 01HWTRNR-3345
Auburn, Washington
Project No. 0025164.180.501

Dear Mr. Ma:

The Resource Conservation and Recovery Act (RCRA) Corrective Action Agreed Order (Auburn Agreed Order) became effective on August 14, 2002. As required under Section VI.13 of the Auburn Agreed Order, Landau Associates, Inc. (LAI) is providing Status Report No. 76 on behalf of The Boeing Company (Boeing), which covers the 3-month activity period of July through September 2021.

References

1. July 15, 2021. Letter: Status Report No. 75, April through June 2021 Activity Period, Boeing Auburn Facility, WAD 041337130, RCRA Correction Action Agreed Order No. 01HWTRNR-3345, Auburn, Washington. From Sarah Fees, LAI; to Li Ma, Washington State Department of Ecology (Ecology).
2. July 23, 2021. Email: Boeing Fabrication Auburn Site – Status Report 75, April through June 2021 Activity Period. From Li Ma, Ecology; to Representatives of City of Algona, City of Auburn, City of Pacific, Ecology, and Boeing.
3. August 19, 2021. Letter: Groundwater Monitoring Results: Fourth Quarter 2020 and Second Quarter 2021 Auburn School District Warehouse Property Wells, Auburn, Washington. From Sarah Fees, LAI, to Cindi Blansfield, Assistant Superintendent of Business and Operations, Auburn School District.
4. August 19, 2021. Letter: Groundwater and Stormwater Feature Monitoring Results, Third and Fourth Quarter 2020, First and Second Quarter 2021, City of Algona Right-Of-Way, Algona, Washington. From Sarah Fees, LAI, to David Hill, Mayor, City of Algona.
5. August 19, 2021. Letter: Groundwater Monitoring Results: Fourth Quarter 2020 and Second Quarter 2021, City of Auburn Wells, Auburn, Washington. From Sarah Fees, LAI, to Chris Thorn, Water Quality Program Coordinator, City of Auburn.

6. August 19, 2021. Letter: Groundwater Monitoring Results: Second Quarter 2021, Sentry Wells, Auburn, Washington. From Sarah Fees, LAI, to Jim Morgan, Public Works Manager, City of Pacific.
7. August 19, 2021. Letter: Groundwater Monitoring Results: Second Quarter 2021, Coastal Farm and Ranch Well, Auburn, Washington. From Sarah Fees, LAI, to Byron Baule, Operations Manager, Coastal Farm and Ranch.
8. August 19, 2021. Letter: Groundwater Monitoring Results: Fourth Quarter 2020 and Second Quarter 2021, Boeing Wells on Fana Auburn 234 LLC Property, Auburn, Washington. From Sarah Fees, LAI to John Powers, Fana Group of Companies.
9. August 19, 2021. Letter: Groundwater Monitoring Results: Fourth Quarter 2020 and Second Quarter 2021, Boeing Wells on Fana Auburn LLC Property, Auburn, Washington. From Sarah Fees, LAI to John Powers, Fana Group of Companies.
10. August 19, 2021. Letter: Groundwater Monitoring Results: Second Quarter 2021, US General Services Administration Wells, Auburn, Washington. From Sarah Fees, LAI, to Dwayne Smith, US General Services Administration (GSA).
11. August 19, 2021. Letter: Groundwater Monitoring Results: Fourth Quarter 2020 and Second Quarter 2021, Primus Wells, Algona, Washington. From Sarah Fees, LAI, to Peter Wazlawek, Primus International, Inc (Primus).
12. August 19, 2021. Letter: Groundwater Monitoring Results: Fourth Quarter 2020 and Second Quarter 2021, 840 Industry Drive North Well, Algona, Washington. From Sarah Fees, LAI, to Janet Frentzel, Vice President, Global Environmental and Engineering, Prologis.
13. August 19, 2021. Letter: Groundwater Monitoring Results: Fourth Quarter 2020 and Second Quarter 2021, Boeing Well along the Interurban Trail, Auburn and Algona, Washington. From Sarah Fees, LAI, to Kurt Krebs, Puget Sound Energy (PSE).
14. August 19, 2021. Letter: Groundwater Monitoring Results: Fourth Quarter 2020 and Second Quarter 2021, WP Glimcher Wells, Auburn Washington. From Sarah Fees, LAI, to Christian Faltenberger, General Manager, WP Glimcher.
15. August 19, 2021. Letter: Groundwater Monitoring Program Update, Washington State Department of Transportation Wells, Auburn, Washington. From Sarah Fees, LAI, to Amir Ahmadi, Regional Materials Engineer, Washington State Department of Transportation (WSDOT).
16. August 26, 2021. Email: Boeing Auburn - Historical Release Reporting - Building 17-07. From Sarah Fees, LAI, to Li Ma, Ecology.
17. August 26, 2021. Email: RE: Boeing Auburn – Historical Release Reporting – Building 17-07. From Li Ma, Ecology, to Sarah Fees, LAI.
18. August 26, 2021. Email: Boeing CPOC Request - All Service West. From Li Ma, Ecology, to Sarah Fees, LAI.
19. August 30, 2021. Email: RE: Boeing CPOC Request - All Service West. From Sarah Fees, LAI, to Li Ma, Ecology.
20. September 1, 2021. Email: EIM Data Submission - Study ID FS2018. From Gaylen Sinclair, Ecology, to Kristi Schultz, LAI.

21. September 8, 2021. Conference Call: Boeing Auburn CPOC. Attendees: Li Ma and Christa Colouzis, Ecology, Debbie Taege, Boeing, and Sarah Fees, LAI.
22. September 8, 2021. Email: Boeing Auburn CPOC. From Li Ma, Ecology, to Debbie Taege, Boeing, and Sarah Fees, LAI.
23. September 14, 2021. Letter: Conditional Point of Compliance Request, Boeing Auburn Facility, Agreed Order No. 01HWTRNR-3345. From Li Ma, Ecology to Debbie, Taege, Boeing.
24. September 16, 2021. Email: Auburn CPOC. From Debbie Taege, Boeing, to Christa Colouzis, Ecology.
25. September 17, 2021. Conference Call: Boeing Auburn Monitoring Plan. Attendees: Li Ma, Ecology; Debbie Taege, Boeing, and Sarah Fees, LAI.
26. September 17, 2021. Email: Extension Request for Invoking Dispute Resolution – Ecology's Response to CPOC Request at Auburn. From Debbie Taege, Boeing, to Li Ma, Ecology.
27. September 17, 2021. Email: RE: Extension Request for Invoking Dispute Resolution – Ecology's Response to CPOC Request at Auburn. From Li Ma, Ecology, to Debbie Taege, Boeing.
28. September 20, 2021. Email: Summary of September 17 Meeting. From Sarah Fees, LAI, to Li Ma, Ecology.
29. September 23, 2021. Email: RE: Summary of September 17 Meeting. From Li Ma, Ecology, to Christa Colouzis, Ecology, and Sarah Fees, LAI.
30. September 23, 2021. Email: Update on Area-wide CPOC research. From Christa Colouzis, Ecology, to Debbie Taege, Boeing.
31. September 27, 2021. Email: RE: Update on Area-wide CPOC research. From Christa Colouzis, Ecology, to Debbie Taege, Boeing.
32. September 27, 2021. Email: RE: Ecology's response to Boeing Auburn CPOC Request. From Debbie Taege, Boeing, to Li Ma, Ecology.

Work Conducted

General Site-wide Corrective Action Activities

On July 15, 2021, LAI submitted Status Report No. 75 regarding second quarter 2021 activities to Washington State Department of Ecology (Ecology) and other stakeholders[1] for their records (Reference #1). Regularly scheduled conference calls with project managers, technical, and communication personnel from Ecology, Boeing, LAI, City of Auburn, and the City of Algona's environmental consultant, ICF International (ICF) were held monthly in the third quarter and are planned to be adjusted to quarterly meetings moving forward. The primary purpose of these calls is to provide a status update on the project schedule, reporting, and public outreach.

[1] A list of stakeholders that receive copies of the quarterly status reports are listed at the end of this document. Ecology also forwards quarterly status reports via email to representatives of the cities of Algona, Auburn, and Pacific (Reference #2).

As part of various off-site monitoring well access agreement and right-of-way (ROW) permits, Boeing provides annual individualized letters with groundwater monitoring results. The following groundwater data letters were distributed during the third quarter 2021:

- Data for AGW237(D), AGW238(I), and AGW239(S) located on the Auburn School District warehouse property to the Auburn School District (Reference #3).
- Data for 30 wells and one stormwater feature located on City of Algona ROW to the City of Algona (Reference #4).
- Data for 24 wells located on City of Auburn ROW and City of Auburn property to the City of Auburn (Reference #5)
- Sentry well data to the City of Pacific (Reference #6)
- AGW236(S) data to Coastal Farm and Ranch (Reference #7)
- AGW179(I) and AGW180(D) data to Fana Auburn 234 LLC (Reference #8)
- AGW177(I) and AGW178(D) data to Fana Auburn LLC (Reference #9)
- Data for AGW256(I) and AGW257(S) to GSA (Reference #10)
- Data for 10 wells to Primus (Reference #11)
- AGW276(M) data to Prologis (Reference #12)
- Data for 14 wells located on the Interurban Trail to PSE (Reference #13)
- Data for 17 wells located on The Outlet Collection property to WP Glimcher (Reference 14).
- Groundwater monitoring update to WSDOT (Reference #15)

Surface Water and Stormwater Feature Sampling

Dry season surface water sampling in Mill Creek and sampling of stormwater conveyance, treatment, and control structures (Chicago Avenue Ditch and Auburn 400 stormwater basins) took place on September 8 and 9, 2021. The dry season sampling data are provided in Attachment 1. The current surface water and stormwater feature sample locations are shown on Figure 1-1. A complete summary of analytical results is presented in Table 1-1.

Pore Water Sampling

Dry season pore water sampling beneath Mill Creek occurred on September 8, 2021. Pore water samples are considered groundwater, but sampling occurs during dry season surface water sampling in Mill Creek for comparison to co-located surface water sampling locations. The dry season pore water sampling data are provided in Attachment 1. Pore water sample locations are shown on Figure 1-1. Analytical results are presented in Table 1-2.

Building 17-07 Historical Release Reporting

In August 2021, Boeing encountered localized petroleum contamination in soil during construction activities taking place inside Building 17-07. Construction activities are occurring to support

installation of new equipment between columns F2/F3 and J2/J3 in Building 17-07. These construction activities include removal of former mill foundations, concrete slab, and soil in order to install new equipment. Localized petroleum hydrocarbon impacted soil was identified in the area as part of soil sampling conducted by Boeing for waste disposal purposes. In accordance with the project release reporting guidelines,[2] Boeing provided Ecology with written notice on August 26, 2021 (Reference #16) of a moderate release of petroleum hydrocarbons to soil associated with the former mill foundations. Ecology responded requesting to be kept informed about the progress of excavation and confirmation soil sampling (Reference #17). LAI conducted additional soil sampling on September 3, 2021 to support construction activities for waste disposal purposes. Construction activities, including soil excavation for installation of new equipment, are ongoing. Boeing expects to conduct confirmation soil sampling after soil excavation activities are completed and will coordinate with Ecology prior to backfilling and construction in the area. A technical memorandum including information about the nature and extent of contamination, soil removal, and confirmation sampling will be prepared and submitted to Ecology within 90 days of receipt of final laboratory data packages after excavation activities are completed for the project.

Feasibility Study Reporting

The draft feasibility study (FS) report was submitted to Ecology in the fourth quarter 2019. The draft supplemental feasibility study (SFS) was submitted to Ecology in the fourth quarter 2020. A summary document giving an overview of final decisions for the FS and SFS was prepared for the public comment period, which occurred in the second quarter 2021. Boeing expects to receive a notification from Ecology that the FS is final and a submittal schedule for the draft cleanup action plan (dCAP) report in the fourth quarter 2021.

Cleanup Action Plan Reporting

Prior to dCAP preparations, Boeing requested Ecology concurrence for an off-Property conditional point of compliance (CPOC) at the Site. In June 2021, Boeing submitted a letter to Ecology detailing how the Site meets regulatory requirements for an off-Property CPOC. On August 23, 2021, Ecology asked Boeing for clarification on part of the CPOC request letter (Reference #18) and Boeing provided the requested information on August 30, 2021 (Reference #19). On September 8, 2021, Ecology and Boeing had a conference call to discuss the CPOC request (Reference #21). Ecology and Boeing communicated a few follow-up items over email regarding the CPOC request (References #22, #24, #30, and #31). Ecology provided a decision that the CPOC would be at the property boundary in a letter dated September 14, 2021 (Reference #23). On September 17, 2021, Boeing requested, and Ecology approved, a 7-day extension for determining whether to invoke dispute resolution on Ecology's September 14 CPOC decision (References #26 and 27). On September 27, 2021, Boeing

[2] LAI. 2009. Memorandum: Boeing Auburn Facility Corrective Action Release Reporting Guidelines. To James Bet, Boeing, from Eric Weber and Jennifer Wynkoop, Landau Associates, Inc. March 5.

indicated that dispute resolution would not be invoked, but that a letter response would be submitted to document Boeing's position (Reference #32).

As part of its September 14 letter, Ecology indicated that it would work with Boeing to develop a reasonable monitoring plan. On September 17, 2021, Ecology and Boeing had a meeting to discuss the groundwater monitoring plan for the Site (Reference #25). A summary of items discussed during the meeting, including an outline of the approach to designing a groundwater monitoring plan for the Site, was provided to Ecology on September 20, 2021 (Reference #28). On September 23, 2021, Ecology confirmed that it agreed with Boeing's general strategy for the groundwater monitoring plan on a conceptual level (Reference #29). Boeing and Ecology plan to meet in the fourth quarter to discuss details of the groundwater monitoring plan. A general summary of the groundwater monitoring plan will be included in the dCAP.

After Boeing and Ecology agree to a plan for groundwater monitoring, Boeing expects to receive notification for the submittal schedule of the dCAP from Ecology. Boeing expects to submit the dCAP to Ecology in the fourth quarter 2021.

Data Management

Boeing and Ecology have agreed on annual submittals of data to Ecology's Environmental Information Management (EIM) database. On August 3, 2020, Boeing submitted required EIM data for the past year of data collected (July 2020 through June 2021). The data was reviewed by the Ecology EIM coordinator and was loaded to the EIM database on September 1, 2021 (Reference #20).

Communications

Ecology and Boeing are working together to ensure that all stakeholders are aware of the progress of investigation and cleanup activities at the Boeing Auburn Site. The City of Algona continues to be notified of all fieldwork occurring in Algona. The City of Algona's consultant, ICF, continues to participate in project conference calls with Boeing and Ecology and continues to review Algona-related deliverables (e.g., work plans and reports). Boeing and Ecology also continue to update the City of Auburn on activities periodically.

Building 17-06 Ongoing Monitoring

Boeing is conducting semiannual (June and September) monitoring for petroleum hydrocarbons in wells AGW128, AGW277, and AGW281, located in Building 17-06. Monitoring was completed on September 9, 2021. Free-phase product has been periodically detected in well AGW128; the thickness during the September 2021 monitoring event was 0.04 feet. Free-phase product has not been detected in any of the other wells in Building 17-06. Boeing maintains a sorbent sock in AGW128 to remove the product. The sorbent sock is replaced during monitoring.

Occurrence of Problems

None to report.

Projected Work for Next Reporting Period October through December 2021

Activities projected for the next reporting period pertain to CAP preparation and ongoing groundwater monitoring. Tasks during fourth quarter 2021 are expected to include:

- Receipt of Ecology approval of the FS and its submittal timeline for the dCAP, both of which are anticipated to occur following completion of the FS public comment period, determination of the CPOC, and agreement of a groundwater monitoring plan between Boeing and Ecology.
- Submittal of Boeing's CPOC response letter to Ecology's September 14 letter.
- Continued discussions with Ecology regarding the groundwater monitoring plan.
- Submittal of the draft cleanup action plan to Ecology.
- Oversight of excavation activities and confirmation soil sampling associated with historical release reporting at Building 17-07.
- Conducting semiannual groundwater monitoring.

Other Significant Findings, Changes, and Contacts

None to report.

If you have any questions regarding this status report, or need any other information, please do not hesitate to contact Boeing or LAI.

LANDAU ASSOCIATES, INC.

Sarah Fees, LG
Associate Geologist

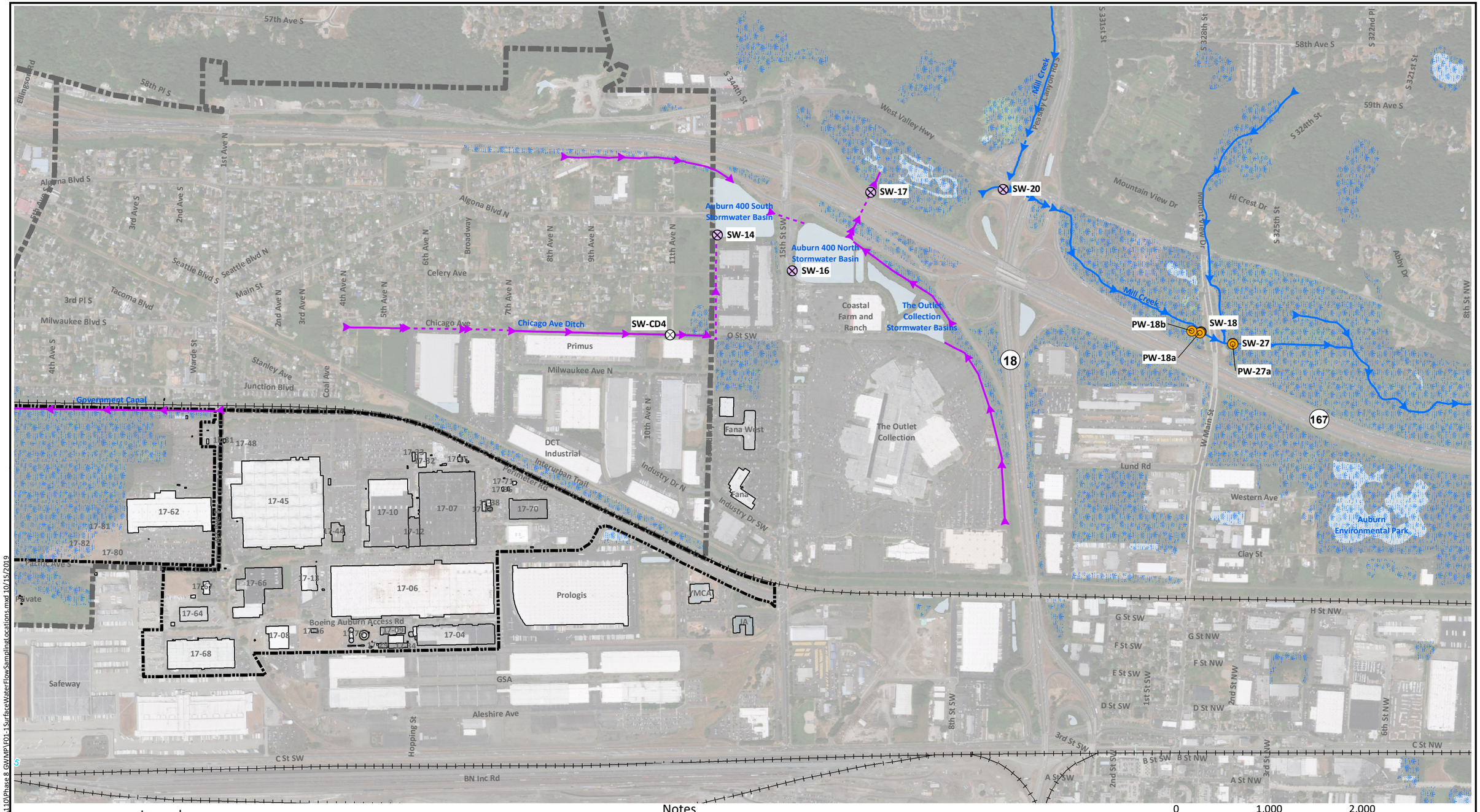
KMG/SEF/kjg
[Y:\025\164\R\QUARTERLY PROGRESS RPTS\2021\3Q21\LAI_BOA_3Q2021 STATUS RPT NO. 76 LETTER_DRAFT.DOCX

cc: Debbie Taege (email only)
Thomas MacMannis, Boeing (email only)
Kamara Sams, Boeing (email only)
James Swortz, Boeing (email only)
Kathryn Moxley, Boeing (email only)
Patrick McCabe, Boeing Realty (email only)
Brett Richer, Prologis (email only)
Steve Campbell, Prologis (email only)
Jason Berry, YMCA Auburn (email only)
Christa Colouzis, Ecology (email only)
Janelle Anderson, Ecology (email only)

Attachments: Attachment 1: Surface Water, Stormwater Feature, and Pore Water Sampling Results
Attachment 2: Laboratory Data Packages

ATTACHMENT 1

Surface Water, Stormwater Feature, and Pore Water Sampling Results



Legend

- Annual Stormwater/Surface Water Sample Location
- Semiannual Stormwater/Surface Water Sampling Location
- Annual Pore Water Sample Location
- Boeing Property
- City Limits
- Wetland Areas
- Open Surface Water Waterway
- Open Stormwater Waterway
- Piped Surface Water Waterway
- Piped Stormwater Waterway

Notes

1. Stormwater/surface water sampling locations are designated by SW. Pore water sampling locations are designated by PW.
2. The locations of surface water features are approximate.
3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

N

0 1,000 2,000

Scale in Feet

Base Map Source: Geometrix 2003; Parcel Data Source: King County 2015; Aerial Photo Source: Esri World Imagery.

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Boeing Auburn Remedial Investigation Auburn, Washington	**Stormwater and Surface Water Features and Pore Water Sampling Locations**	Figure 1-1

G:\Project\s\025\164\150\110\Phase B GWMP\F01-1SurfaceWaterFlowSamplingLocations.mxd 10/15/2019

Table 1-1
3Q2021 Surface Water and Stormwater Feature Analytical Results
Boeing Auburn Facility
Auburn, Washington

Sample Location:	Laboratory SDG:	Sample Date:	Sample Type:	Select VOCs by SW-846 8260D-SIM (µg/L)					
				1,1-Dichloroethene	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride
SW-14	21I0128	9/9/2021	N	0.200 U	**0.483**	0.200 U	0.200 U	**0.409**	**0.0915**
SW-16	21I0128	9/9/2021	N	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.0200 U
SW-17	21I0128	9/9/2021	N	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.0200 U
SW-18	21I0128	9/8/2021	N	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.0200 U
SW-18	21I0128	9/8/2021	FD	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.0200 U
SW-20	21I0128	9/9/2021	N	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.0200 U
SW-27	21I0128	9/8/2021	N	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.0200 U
SW-CD4	21I0128	9/8/2021	N	0.200 U	**1.52**	0.200 U	0.200 U	**1.90**	**0.186**

Notes:

Bold text indicates detected analyte.

U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

Abbreviations/Acronyms:

FD = field duplicate
µg/L = micrograms per liter
N = primary sample
SDG = sample delivery group
VOC = volatile organic compound

Table 1-2
3Q2021 Pore Water Analytical Results
Boeing Auburn Facility
Auburn, Washington

Sample Location:	Laboratory SDG:	Sample Date:	Sample Type:	Select VOCs by SW-846 8260D-SIM (µg/L)					
				1,1-Dichloroethene	cis-1,2-Dichloroethene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Vinyl Chloride
PW-18a-2.5	21I0128	9/8/2021	N	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.0200 U
PW-18a-5	21I0128	9/8/2021	N	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	**0.0227**
PW-18b-2.5	21I0128	9/8/2021	N	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.0200 U
PW-18b-5	21I0128	9/8/2021	N	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.0200 U
PW-27a-2.5	21I0128	9/8/2021	N	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.0200 U
PW-27a-5	21I0128	9/8/2021	N	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.0200 U

Notes:

Bold text indicates detected analyte.

U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

Abbreviations/Acronyms:

FD = field duplicate
µg/L = micrograms per liter
N = primary sample
SDG = sample delivery group
VOC = volatile organic compound

ATTACHMENT 2

Laboratory Data Packages

Analytical Resources, Incorporated
Analytical Chemists and Consultants

15 September 2021

Debbie Taege
The Boeing Company
Bldg 10-20, MC 9U4-26
Renton, WA 98055-1409

RE: Boeing Auburn 3Q SW Sampling

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
21I0128	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Kelly Bottem, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

21I0128

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Chain-of-Custody Record

- [ ] North Seattle (206) 631-8660
- [x] Tacoma (253) 926-2493
- [ ] Olympia (360) 791-3178
- [ ] Spokane (509) 327-9737
- [ ] Portland (503) 542-1080
- [ ] _____

Date 9/8/21

Page 1 of 1

Turnaround Time: (Standard) / Accelerated

Project Name Boeing Auburn Project No. 0025164.180.101

Project Location/Event Boeing of Auburn / 30 SW sampling

Sampler's Name KMG/SMR

Project Contact S. Fees (Landau) D. Tuege (Boeing)

Send Results To D. Jorgensen; see LIMS list

Special Handling Requirements:

Shipment Method: ARI P/U

Stored on ice: (Yes) / No

Testing Parameters: Boeing 6 VOCs 8260D SIM; MSMSD

Sample I.D.	Date	Time	Matrix	No. of Containers													
PW-27a-5-20210908	9/8/21	~~9:47~~ 1033 SMR	Aq	3	X												
PW-27a-2.5-20210908	9/8/21	9:47	Aq	3	X												
SW-27-20210908	9/8/21	10:26	Aq	3	X												
PW-18a-2.5-20210908	9/8/21	11:34	Aq	3	X												
PW-18a-5-20210908	9/8/21	11 [illegible]	Aq	3	X												
PW-18b-5-20210908	9/8/21	13:10	Aq	3	X												
PW-18b-2.5-20210908	9/8/21	1330	Aq	3	X												
SW-18-20210908	9/8/21	1150	Aq	3	X												
SW-900-20210908	9/8/21	1153	Aq	3	X												
SW-CD4-20210908	9/8/21	1440	Aq	9	X	X											
SW-16-20210909	9/9/21	842	Aq	3	X												
SW-14-20210909	9/9/21	950	Aq	3	X												
SW-20-20210909	9/9/21	1042	Aq	3	X												
SW-17-20210909	9/9/21	1124	Aq	3	X												
TripBlank1-20210908	—	—	Aq	3	X												

Observations/Comments

- ___ Allow water samples to settle, collect aliquot from clear portion ☐
- ___ NWTPH-Dx - Acid wash cleanup ☐ - Silica gel cleanup ☐
- ___ Dissolved metal samples were field filtered

Other

Relinquished by	Received by	Relinquished by	Received by
Signature Katie M. Gunglitz	Signature	Signature	Signature
Printed Name Katie Gunglitz	Printed Name	Printed Name	Printed Name
Company Landau Associates	Company ARI	Company	Company
Date 9/9/21 Time 1148	Date 09/09/2021 Time 1318	Date Time	Date Time

WHITE COPY - Laboratory YELLOW COPY - Project File PINK COPY - Client Representative 10/2018

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PW-27a-5-20210908	21I0128-01	Water	08-Sep-2021 10:33	09-Sep-2021 13:18
PW-27a-2.5-20210908	21I0128-02	Water	08-Sep-2021 09:47	09-Sep-2021 13:18
SW-27-20210908	21I0128-03	Water	08-Sep-2021 10:26	09-Sep-2021 13:18
PW-18a-2.5-20210908	21I0128-04	Water	08-Sep-2021 11:34	09-Sep-2021 13:18
PW-18a-5-20210908	21I0128-05	Water	08-Sep-2021 11:47	09-Sep-2021 13:18
PW-18b-5-20210908	21I0128-06	Water	08-Sep-2021 13:10	09-Sep-2021 13:18
PW-18b-2.5-20210908	21I0128-07	Water	08-Sep-2021 13:30	09-Sep-2021 13:18
SW-18-20210908	21I0128-08	Water	08-Sep-2021 11:50	09-Sep-2021 13:18
SW-900-20210908	21I0128-09	Water	08-Sep-2021 11:53	09-Sep-2021 13:18
SW-CD4-20210908	21I0128-10	Water	08-Sep-2021 14:40	09-Sep-2021 13:18
SW-16-20210909	21I0128-11	Water	09-Sep-2021 08:42	09-Sep-2021 13:18
SW-14-20210909	21I0128-12	Water	09-Sep-2021 09:50	09-Sep-2021 13:18
SW-20-20210909	21I0128-13	Water	09-Sep-2021 10:42	09-Sep-2021 13:18
SW-17-20210909	21I0128-14	Water	09-Sep-2021 11:24	09-Sep-2021 13:18
TripBlank1-20210908	21I0128-15	Water	08-Sep-2021 09:47	09-Sep-2021 13:18

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

Work Order Case Narrative

Volatiles - EPA Method 8260D-SIM (Selected Ion Monitoring)

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits with the exception of analytes flagged on the associated forms.

WORK ORDER

21I0128

Samples will be discarded 90 days after submission of a final report unless other instructions are received.

Client: The Boeing Company | **Project Manager:** Kelly Bottem

Project: Boeing Auburn 3Q SW Sampling | **Project Number:** 0025164.180.101

Preservation Confirmation

Container ID	Container Type	pH
21I0128-01 A	VOA Vial, Clear, 40 mL, HCL	Bubble
21I0128-01 B	VOA Vial, Clear, 40 mL, HCL	
21I0128-01 C	VOA Vial, Clear, 40 mL, HCL	
21I0128-02 A	VOA Vial, Clear, 40 mL, HCL	
21I0128-02 B	VOA Vial, Clear, 40 mL, HCL	
21I0128-02 C	VOA Vial, Clear, 40 mL, HCL	
21I0128-03 A	VOA Vial, Clear, 40 mL, HCL	
21I0128-03 B	VOA Vial, Clear, 40 mL, HCL	
21I0128-03 C	VOA Vial, Clear, 40 mL, HCL	
21I0128-04 A	VOA Vial, Clear, 40 mL, HCL	
21I0128-04 B	VOA Vial, Clear, 40 mL, HCL	
21I0128-04 C	VOA Vial, Clear, 40 mL, HCL	
21I0128-05 A	VOA Vial, Clear, 40 mL, HCL	
21I0128-05 B	VOA Vial, Clear, 40 mL, HCL	
21I0128-05 C	VOA Vial, Clear, 40 mL, HCL	
21I0128-06 A	VOA Vial, Clear, 40 mL, HCL	
21I0128-06 B	VOA Vial, Clear, 40 mL, HCL	
21I0128-06 C	VOA Vial, Clear, 40 mL, HCL	
21I0128-07 A	VOA Vial, Clear, 40 mL, HCL	
21I0128-07 B	VOA Vial, Clear, 40 mL, HCL	
21I0128-07 C	VOA Vial, Clear, 40 mL, HCL	
21I0128-08 A	VOA Vial, Clear, 40 mL, HCL	
21I0128-08 B	VOA Vial, Clear, 40 mL, HCL	
21I0128-08 C	VOA Vial, Clear, 40 mL, HCL	
21I0128-09 A	VOA Vial, Clear, 40 mL, HCL	
21I0128-09 B	VOA Vial, Clear, 40 mL, HCL	
21I0128-09 C	VOA Vial, Clear, 40 mL, HCL	
21I0128-10 A	VOA Vial, Clear, 40 mL, HCL	Bubble
21I0128-10 B	VOA Vial, Clear, 40 mL, HCL	Bubble
21I0128-10 C	VOA Vial, Clear, 40 mL, HCL	Bubble
21I0128-10 D	VOA Vial, Clear, 40 mL, HCL	
21I0128-10 E	VOA Vial, Clear, 40 mL, HCL	
21I0128-10 F	VOA Vial, Clear, 40 mL, HCL	
21I0128-10 G	VOA Vial, Clear, 40 mL, HCL	

Reviewed By _____ Date _____

WORK ORDER

21I0128

Samples will be discarded 90 days after submission of a final report unless other instructions are received.

Client: The Boeing Company **Project Manager: Kelly Bottem**

Project: Boeing Auburn 3Q SW Sampling **Project Number: 0025164.180.101**

21I0128-10 H	VOA Vial, Clear, 40 mL, HCL	
21I0128-10 I	VOA Vial, Clear, 40 mL, HCL	
21I0128-11 A	VOA Vial, Clear, 40 mL, HCL	Bubble
21I0128-11 B	VOA Vial, Clear, 40 mL, HCL	
21I0128-11 C	VOA Vial, Clear, 40 mL, HCL	
21I0128-12 A	VOA Vial, Clear, 40 mL, HCL	
21I0128-12 B	VOA Vial, Clear, 40 mL, HCL	
21I0128-12 C	VOA Vial, Clear, 40 mL, HCL	
21I0128-13 A	VOA Vial, Clear, 40 mL, HCL	
21I0128-13 B	VOA Vial, Clear, 40 mL, HCL	
21I0128-13 C	VOA Vial, Clear, 40 mL, HCL	
21I0128-14 A	VOA Vial, Clear, 40 mL, HCL	
21I0128-14 B	VOA Vial, Clear, 40 mL, HCL	
21I0128-14 C	VOA Vial, Clear, 40 mL, HCL	
21I0128-15 A	VOA Vial, Clear, 40 mL, HCL	
21I0128-15 B	VOA Vial, Clear, 40 mL, HCL	
21I0128-15 C	VOA Vial, Clear, 40 mL, HCL	

Preservation Confirmed By

09/10/2021
Date

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Boeing Auburn

Project Name: 3Q SW Sampling

COC No(s): ______ (NA circled)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: ______ (Courier circled)

Assigned ARI Job No: 21I0128

Tracking No: ______ (NA circled)

Preliminary Examination Phase:

Question		
Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES (circled)	NO
Were custody papers included with the cooler?	YES (circled)	NO
Were custody papers properly filled out (ink, signed, etc.)	YES (circled)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1425 — 2.4

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: D002565

Cooler Accepted by: JB Date: 09/09/2021 Time: 1318

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES **NO** (circled)

What kind of packing material used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: ______ (Wet Ice and Foam Block circled)

Question			
Was sufficient ice used (if appropriate)?	NA	YES (circled)	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not (circled)
Did all bottles arrive in good condition (unbroken)?		YES (circled)	NO
Were all bottle labels complete and legible?		YES (circled)	NO
Did the number of containers listed on COC match with the number of containers received?		YES (circled)	NO
Did all bottle labels and tags agree with custody papers?		YES (circled)	NO
Were all bottles used correct for the requested analyses?		YES (circled)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA (circled)	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO (circled)
Was sufficient amount of sample sent in each bottle?		YES (circled)	NO
Date VOC Trip Blank was made at ARI	NA	08/25/2021	

Were the sample(s) split by ARI? NA (circled) YES Date/Time: ______ Equipment: ______ Split by: ______

Samples Logged by: JB Date: 09/10/2021 Time: 0735 Labels checked by: JB

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

vials w/ air bubbles marked on preservation sheet, lab to determine sizes.

By: JB Date: 09/10/2021

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

PW-27a-5-20210908

21I0128-01 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 09/08/2021 10:33

Instrument: NT16 Analyst: KOTT — Analyzed: 09/13/2021 15:46

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 21I0128-01 C

Preparation Batch: BJI0358 — Sample Size: 10 mL

Prepared: 09/13/2021 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.200	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.200	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*91.9*	*%*	

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

PW-27a-2.5-20210908

21I0128-02 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 09/08/2021 09:47

Instrument: NT16 Analyst: KOTT — Analyzed: 09/13/2021 16:06

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 21I0128-02 C

Preparation Batch: BJI0358 — Sample Size: 10 mL

Prepared: 09/13/2021 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.200	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.200	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*99.2*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*91.7*	*%*	

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

SW-27-20210908

21I0128-03 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 09/08/2021 10:26

Instrument: NT16 Analyst: KOTT — Analyzed: 09/13/2021 16:27

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 21I0128-03 C

Preparation Batch: BJI0358 — Sample Size: 10 mL

Prepared: 09/13/2021 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.200	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.200	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*99.9*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*91.4*	*%*	

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

PW-18a-2.5-20210908

21I0128-04 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 09/08/2021 11:34

Instrument: NT16 Analyst: KOTT — Analyzed: 09/13/2021 16:48

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 21I0128-04 A

Preparation Batch: BJI0358 — Sample Size: 10 mL

Prepared: 09/13/2021 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.200	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.200	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*99.3*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*91.8*	*%*	

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

PW-18a-5-20210908

21I0128-05 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 09/08/2021 11:47

Instrument: NT16 Analyst: KOTT — Analyzed: 09/13/2021 17:08

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 21I0128-05 B

Preparation Batch: BJI0358 — Sample Size: 10 mL

Prepared: 09/13/2021 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.0227	ug/L	
1,1-Dichloroethene	75-35-4	1	0.200	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.200	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*97.5*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*91.1*	*%*	

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

PW-18b-5-20210908

21I0128-06 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 09/08/2021 13:10

Instrument: NT16 Analyst: KOTT — Analyzed: 09/13/2021 17:29

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 21I0128-06 A

Preparation Batch: BJI0358 — Sample Size: 10 mL

Prepared: 09/13/2021 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.200	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.200	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*98.7*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*91.4*	*%*	

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

PW-18b-2.5-20210908

21I0128-07 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 09/08/2021 13:30

Instrument: NT16 Analyst: KOTT — Analyzed: 09/13/2021 17:49

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 21I0128-07 B

Preparation Batch: BJI0358 — Sample Size: 10 mL

Prepared: 09/13/2021 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.200	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.200	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*99.1*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*90.9*	*%*	

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

SW-18-20210908

21I0128-08 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 09/08/2021 11:50

Instrument: NT16 Analyst: KOTT — Analyzed: 09/13/2021 18:09

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 21I0128-08 A

Preparation Batch: BJI0358 — Sample Size: 10 mL

Prepared: 09/13/2021 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.200	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.200	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*99.3*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*90.0*	*%*	

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

SW-900-20210908

21I0128-09 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 09/08/2021 11:53

Instrument: NT16 Analyst: KOTT — Analyzed: 09/13/2021 18:29

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 21I0128-09 A

Preparation Batch: BJI0358 — Sample Size: 10 mL

Prepared: 09/13/2021 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.200	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.200	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*98.9*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*90.2*	*%*	

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

SW-CD4-20210908

21I0128-10 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 09/08/2021 14:40

Instrument: NT16 Analyst: KOTT — Analyzed: 09/13/2021 18:49

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 21I0128-10 A

Preparation Batch: BJI0358 — Sample Size: 10 mL

Prepared: 09/13/2021 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.186	ug/L	
1,1-Dichloroethene	75-35-4	1	0.200	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.200	1.52	ug/L	
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	1.90	ug/L	
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*98.1*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*90.4*	*%*	

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

SW-16-20210909

21I0128-11 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 09/09/2021 08:42

Instrument: NT16 Analyst: KOTT — Analyzed: 09/13/2021 19:50

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 21I0128-11 B

Preparation Batch: BJI0358 — Sample Size: 10 mL

Prepared: 09/13/2021 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.200	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.200	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*94.6*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*88.7*	*%*	

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

SW-14-20210909

21I0128-12 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 09/09/2021 09:50

Instrument: NT16 Analyst: KOTT — Analyzed: 09/13/2021 20:10

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 21I0128-12 B

Preparation Batch: BJI0358 — Sample Size: 10 mL

Prepared: 09/13/2021 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.0915	ug/L	
1,1-Dichloroethene	75-35-4	1	0.200	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.200	0.483	ug/L	
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	0.409	ug/L	
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*96.1*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*89.0*	*%*	

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

SW-20-20210909

21I0128-13 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 09/09/2021 10:42

Instrument: NT16 Analyst: KOTT — Analyzed: 09/13/2021 20:30

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 21I0128-13 C

Preparation Batch: BJI0358 — Sample Size: 10 mL

Prepared: 09/13/2021 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.200	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.200	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*95.7*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*89.2*	*%*	

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

SW-17-20210909

21I0128-14 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 09/09/2021 11:24

Instrument: NT16 Analyst: KOTT — Analyzed: 09/13/2021 20:51

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 21I0128-14 A

Preparation Batch: BJI0358 — Sample Size: 10 mL

Prepared: 09/13/2021 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.200	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.200	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*95.8*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*88.9*	*%*	

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

TripBlank1-20210908

21I0128-15 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 09/08/2021 09:47
Instrument: NT16 Analyst: KOTT — Analyzed: 09/13/2021 21:11

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 21I0128-15 A
Preparation Batch: BJI0358 — Sample Size: 10 mL
Prepared: 09/13/2021 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	ND	ug/L	U
1,1-Dichloroethene	75-35-4	1	0.200	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.200	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*96.1*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*88.7*	*%*	

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

Volatile Organic Compounds - SIM - Quality Control

Batch BJI0358 - EPA 5030C (Purge and Trap)

Instrument: NT16 Analyst: KOTT

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJI0358-BLK1)			Prepared: 13-Sep-2021 Analyzed: 13-Sep-2021 14:30							
Vinyl chloride	ND	0.0200	ug/L							U
1,1-Dichloroethene	ND	0.200	ug/L							U
cis-1,2-Dichloroethene	ND	0.200	ug/L							U
trans-1,2-Dichloroethene	ND	0.200	ug/L							U
Trichloroethene	ND	0.200	ug/L							U
Tetrachloroethene	ND	0.200	ug/L							U
Surrogate: Toluene-d8	4960		ug/L	*5000*		*99.1*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4600		ug/L	*5000*		*92.1*	*75-125*			
LCS (BJI0358-BS1)			Prepared: 13-Sep-2021 Analyzed: 13-Sep-2021 13:14							
Vinyl chloride	2.35	0.0200	ug/L	2.00		118	62-141			
1,1-Dichloroethene	2.13	0.200	ug/L	2.00		107	80-125			
cis-1,2-Dichloroethene	1.96	0.200	ug/L	2.00		97.8	74-120			
trans-1,2-Dichloroethene	2.23	0.200	ug/L	2.00		111	80-122			
Trichloroethene	1.86	0.200	ug/L	2.00		92.9	75-122			
Tetrachloroethene	1.84	0.200	ug/L	2.00		92.1	76-127			
Surrogate: Toluene-d8	5140		ug/L	*5000*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4820		ug/L	*5000*		*96.4*	*75-125*			
LCS Dup (BJI0358-BSD1)			Prepared: 13-Sep-2021 Analyzed: 13-Sep-2021 14:10							
Vinyl chloride	1.96	0.0200	ug/L	2.00		98.1	62-141	18.20	30	
1,1-Dichloroethene	1.76	0.200	ug/L	2.00		88.0	80-125	19.10	30	
cis-1,2-Dichloroethene	1.65	0.200	ug/L	2.00		82.7	74-120	16.70	30	
trans-1,2-Dichloroethene	1.85	0.200	ug/L	2.00		92.4	80-122	18.60	30	
Trichloroethene	1.69	0.200	ug/L	2.00		84.6	75-122	9.31	30	
Tetrachloroethene	1.63	0.200	ug/L	2.00		81.7	76-127	11.90	30	
Surrogate: Toluene-d8	5070		ug/L	*5000*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4860		ug/L	*5000*		*97.1*	*75-125*			
Matrix Spike (BJI0358-MS1)	**Source: 21I0128-10**		Prepared: 13-Sep-2021 Analyzed: 13-Sep-2021 19:10							
Vinyl chloride	2.75	0.0200	ug/L	2.00	0.186	128	62-141			
1,1-Dichloroethene	2.25	0.200	ug/L	2.00	ND	110	80-125			
cis-1,2-Dichloroethene	3.34	0.200	ug/L	2.00	1.52	91.1	74-120			
trans-1,2-Dichloroethene	2.37	0.200	ug/L	2.00	ND	114	80-122			

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

Volatile Organic Compounds - SIM - Quality Control

Batch BJI0358 - EPA 5030C (Purge and Trap)

Instrument: NT16 Analyst: KOTT

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BJI0358-MS1)	**Source: 21I0128-10**		Prepared: 13-Sep-2021 Analyzed: 13-Sep-2021 19:10							
Trichloroethene	4.47	0.200	ug/L	2.00	1.90	128	75-122			*
Tetrachloroethene	2.21	0.200	ug/L	2.00	ND	109	76-127			
Surrogate: Toluene-d8	4890		ug/L	*5000*	*4910*	*97.7*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4870		ug/L	*5000*	*4520*	*97.4*	*75-125*			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (BJI0358-MSD1)	**Source: 21I0128-10**		Prepared: 13-Sep-2021 Analyzed: 13-Sep-2021 19:30							
Vinyl chloride	2.43	0.0200	ug/L	2.00	0.186	112	62-141	12.40	30	
1,1-Dichloroethene	1.98	0.200	ug/L	2.00	ND	96.7	80-125	12.90	30	
cis-1,2-Dichloroethene	3.18	0.200	ug/L	2.00	1.52	83.1	74-120	4.95	30	
trans-1,2-Dichloroethene	2.09	0.200	ug/L	2.00	ND	99.4	80-122	13.00	30	
Trichloroethene	4.15	0.200	ug/L	2.00	1.90	112	75-122	7.34	30	
Tetrachloroethene	1.93	0.200	ug/L	2.00	ND	94.8	76-127	13.50	30	
Surrogate: Toluene-d8	4880		ug/L	*5000*	*4910*	*97.7*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4840		ug/L	*5000*	*4520*	*96.9*	*75-125*			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

Certified Analyses included in this Report

Analyte	Certifications
EPA 8260D-SIM in Water	
Acrylonitrile	NELAP,WADOE
Vinyl chloride	NELAP,WADOE
1,1-Dichloroethene	NELAP,WADOE
cis-1,2-Dichloroethene	NELAP,WADOE
trans-1,2-Dichloroethene	NELAP,WADOE
Trichloroethene	NELAP,WADOE
Tetrachloroethene	NELAP,WADOE
1,1,2,2-Tetrachloroethane	NELAP,WADOE
1,2-Dichloroethane	NELAP,WADOE
Benzene	NELAP,WADOE

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2023
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/28/2022
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2022
WADOE	WA Dept of Ecology	C558	06/30/2022
WA-DW	Ecology - Drinking Water	C558	06/30/2022

The Boeing Company	Project: Boeing Auburn 3Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.180.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	15-Sep-2021 15:39

Notes and Definitions

*	Flagged value is not within established control limits.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.