April 15, 2022

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. 78, January through March 2022 Activity Period
Boeing Auburn Facility
WAD 041337130, RCRA Corrective Action Agreed Order No. 01HWTRNR-3345
Auburn, Washington
Project No. 0025164.190.501

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. (Landau) is providing Status Report No. 78 on behalf of The Boeing Company (Boeing), which covers the 3-month activity period of January through March 2022.

References

1. January 3, 2022. Email: Permit. From Li Ma, Ecology, to Sarah Fees, Landau.
2. January 6, 2022. Email: Re: Permit. From Sarah Fees, Landau, to Li Ma, Ecology.
3. January 14, 2022. Letter: Status Report No. 77, October through December 2021 Activity Period, Boeing Auburn Facility, WAD 041337130, RCRA Correction Action Agreed Order No. 01HWTRNR-3345, Auburn, Washington. From Sarah Fees, Landau, to Li Ma, Ecology.
4. January 19, 2022. Email: Boeing Fabrication Auburn Site – Status Report 77, October through December 2021 Activity Period. From Li Ma, Ecology; to Representatives of City of Algona, City of Auburn, City of Pacific, Ecology, and Boeing.
5. January 20, 2022. Report: Draft Cleanup Action Plan, Boeing Auburn Facility, Auburn, Washington.
6. March 10, 2022. Email: Word Version of Boeing Auburn dCAP. From Sarah Fees, Landau, to Li Ma, Ecology.
7. March 10, 2022. Email: Boeing Auburn CAP implementation. From Christa Colouzis, Ecology to Debbie Taege, Boeing, Li Ma, Ecology, and Sarah Fees, Landau.
8. March 11, 2022. Email: RE: Boeing Auburn CAP implementation. From Debbie Taege, Boeing to Christa Colouzis and Li Ma, Ecology and Sarah Fees, Landau.

Work Conducted

General Site-wide Corrective Action Activities

On January 14, 2022, Landau submitted Status Report No. 77 regarding fourth quarter 2021 activities to Washington State Department of Ecology (Ecology) and other stakeholders[1] for their records (Reference #3). Boeing and Ecology project managers continue to have monthly technical conference calls to discuss current project items.

Chicago Avenue Ditch Water Sampling

Sampling occurs semiannually at one location (SW-CD4) in the Chicago Avenue ditch. Chicago Avenue ditch water sampling was completed on March 7, 2022 and the analytical data are provided in Table 1-1 of Attachment 1. The Chicago Avenue ditch sampling location, along with the annual stormwater and surface water sampling locations, are shown on Figure 1-1 of Attachment 1. The laboratory data package is provided in Attachment 2.

Cleanup Action Plan Reporting

In a letter dated November 29, 2021, Ecology determined that the feasibility study (FS) for the Boeing Auburn Site was complete and provided a timeline for submittal of the draft cleanup action plan (dCAP). Boeing submitted the dCAP to Ecology on January 20, 2022 (Reference #5). Boeing and Ecology discussed initial Ecology comments on the dCAP and next steps for the project during monthly technical meetings. During the March monthly technical meeting, Ecology requested a Microsoft Word version of the dCAP text for revisions. Boeing sent the Microsoft Word version of the dCAP on March 10, 2022 (Reference #6). Boeing expects to receive Ecology comments on the dCAP in the second quarter 2022.

Project Next Steps

Ecology requested a summary of permits coming up in the next 6 months in an email on January 3, 2022 (Reference #1). Boeing responded with information about upcoming Resource Conservation and Recovery Act (RCRA) permit revisions to incorporate final cleanup remedies and the State Environmental Policy Act (SEPA) for cleanup actions (Reference #2). During monthly technical meetings, Ecology and Boeing have been discussing the type of administrative order that will be needed for cleanup actions at the Site. Boeing and Ecology have agreed on the use of an Enforcement Order for implementation of the cleanup actions at the Site (Reference #7 and #8). Boeing and Ecology are working to complete documentation that will be required for the upcoming public comment period for the Site cleanup actions. Ecology is completing updates to the RCRA permit and drafting the Enforcement Order. Boeing is also completing the cleanup action SEPA checklist.

[1] A list of stakeholders that receive copies of the quarterly status reports is provided 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 #4).

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. Status conference calls occur quarterly to provide general updates on the project schedule, reporting, and public outreach. These quarterly calls are attended by technical and communication personnel from Ecology, Boeing, Landau, City of Auburn, and the City of Algona's environmental consultant, ICF International.

Occurrence of Problems

None to report.

Projected Work for Next Reporting Period April through June 2022

Activities projected for the next reporting period pertain to dCAP preparation and annual groundwater monitoring. Tasks anticipated during second quarter 2022 include:

- Ecology will provide comments on the dCAP; Boeing and Ecology will finalize the public-review version of the dCAP for the public comment period.
- Ecology will prepare and Boeing will review the Enforcement Order for cleanup actions.
- Boeing will submit the cleanup action SEPA checklist to Ecology for determination of non-significance.
- Ecology will revise the RCRA permit for corrective action implementation.
- Boeing and Ecology will update public communications documentation for the cleanup action public comment period.
- Boeing will conduct annual 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 Landau.

LANDAU ASSOCIATES, INC.

Sarah Fees

Sarah Fees, LG
Associate Geologist

KMG/SEF/kjg
[\\TACOMA3\PROJECT\025\164\R\QUARTERLY PROGRESS RPTS\2022\1Q22\LANDAU_BOA_1Q2022 STATUS RPT NO. 78 LETTER_DRAFT.DOCX)

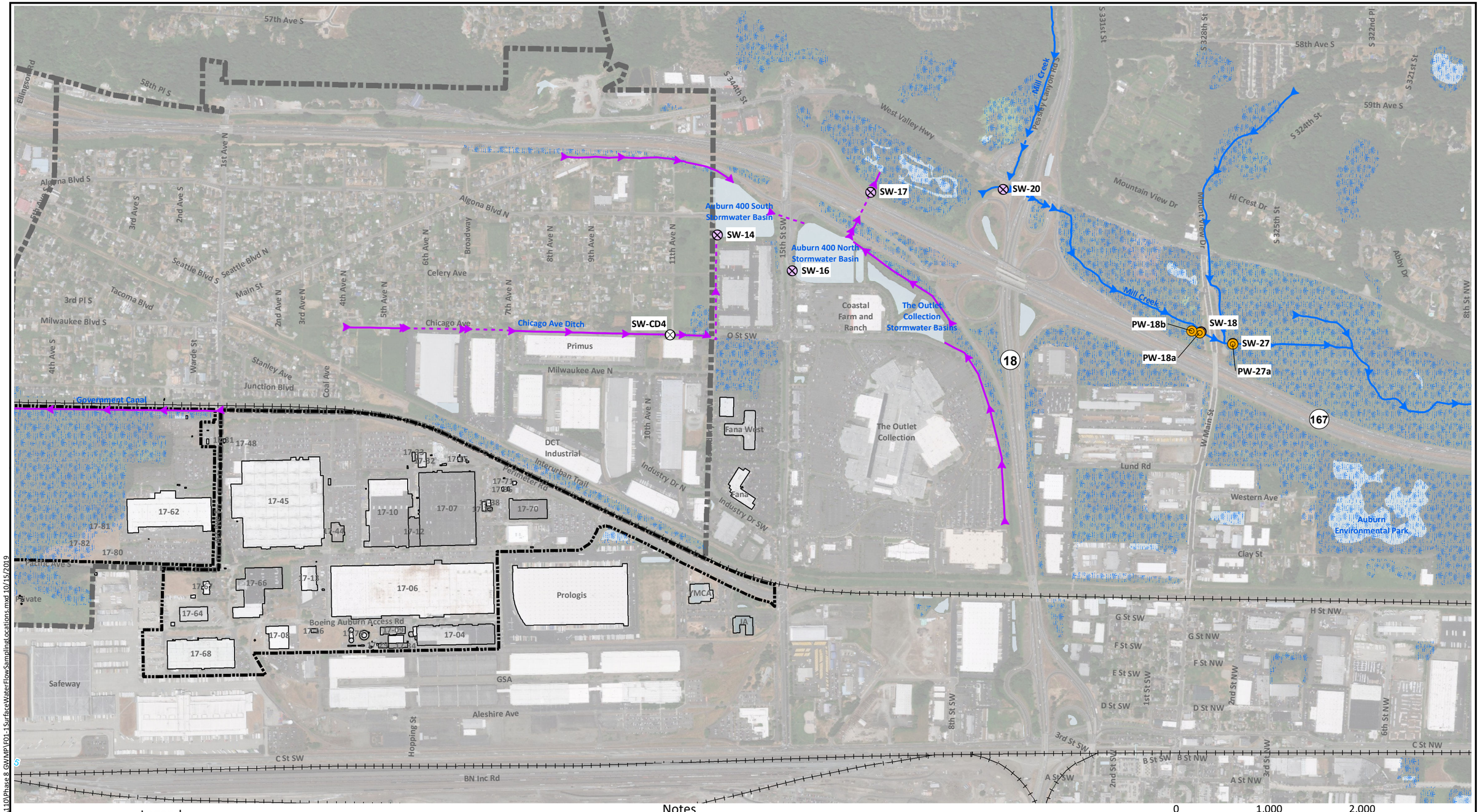
cc: Debbie Taege (email only)
Thomas MacMannis, Boeing (email only)
Kamara Sams, Boeing (email only)

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: Chicago Avenue Ditch Water Sampling Results
Attachment 2: Laboratory Data Packages

ATTACHMENT 1

Chicago Avenue Ditch 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.

LANDAU ASSOCIATES

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
1Q2022 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-CD4	22C0141	3/7/2022	N	0.200 U	**0.492**	0.200 U	0.200 U	**0.417**	**0.162**
SW-CD4	22C0141	3/7/2022	FD	0.200 U	**0.508**	0.200 U	0.200 U	**0.420**	**0.169**

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
SIM = selected ion monitoring
VOC = volatile organic compound

ATTACHMENT 2

Laboratory Data Package

Analytical Resources, LLC
Analytical Chemists and Consultants

14 March 2022

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

RE: Boeing Auburn 1Q SW Sampling (0025164.190.101)

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)
22C0141	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, LLC

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

22C0141

LANDAU ASSOCIATES

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 3/7/2022

Page 1 of 1

Turnaround Time:
(Standard)
Accelerated

Project Name BoA SW 1Q2022 Project No. 00251641.190.101

Project Location/Event BoA / SW 1Q2022

Sampler's Name SDB

Project Contact Sarah Fees, Debbie Trego

Send Results To SFees@landauinc.com, Djorgensen@landauinc.com

Special Handling Requirements:

Shipment Method:

Stored on ice: (Yes) / No

Sample I.D.	Date	Time	Matrix	No. of Containers	Testing Parameters: SIM	BTEX by VOCs	MS/MSD	Observations/Comments
Trip blank - 20220307	—	—	Aq	3	X			
SW-CD4-20220307	3/7/22	0952	Aq	9	X	X		
SW-900-20220307	3/7/22	0955	Aq	3	X			

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 VOA HCl preserved

Relinquished by	Received by	Relinquished by	Received by
Signature	Signature Arden Paist	Signature	Signature
Printed Name Joshua Burbach	Printed Name Arden Paist	Printed Name	Printed Name
Company Landau Associates	Company APL	Company	Company
Date 3/7/2022 Time 1103	Date 3/07/22 Time 1103	Date Time	Date Time

WHITE COPY - Laboratory YELLOW COPY - Project File PINK COPY - Client Re

The Boeing Company	Project: Boeing Auburn 1Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.190.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	14-Mar-2022 18:11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Tripblank-20220307	22C0141-01	Water	07-Mar-2022 09:52	07-Mar-2022 11:03
SW-CD4-20220307	22C0141-02	Water	07-Mar-2022 09:52	07-Mar-2022 11:03
SW-900-20220307	22C0141-03	Water	07-Mar-2022 09:55	07-Mar-2022 11:03

The Boeing Company	Project: Boeing Auburn 1Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.190.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	14-Mar-2022 18:11

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 outside advisory control limits and flagged on the associated forms.

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Landau Tacoma / Boeing? Project Name: BOA SW 1Q2022

COC No(s): NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: 22C0141 Tracking No: NA

Preliminary Examination Phase:

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

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

Time 1103 128

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 1009708

Cooler Accepted by: AP Date: 3/07/22 Time: 1103

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:			
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA	02/20/2022	

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

Samples Logged by: Date: 03/09/2022 Time: 1359 Labels checked by: SLT

***** 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:

By: Date:

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

ARI Work Order: 22C0141

Cooler#: _____ **Temperature(°C):** 12.8

Sample ID	Bottle Count	Bottle Type
Samples received		
above 6°C		

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Completed by: AP Date: 3/07/22 Time: 1103

The Boeing Company	Project: Boeing Auburn 1Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.190.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	14-Mar-2022 18:11

Tripblank-20220307

22C0141-01 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 03/07/2022 09:52

Instrument: NT16 Analyst: KOTT — Analyzed: 03/10/2022 15:50

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 22C0141-01 A

Preparation Batch: BKC0250 — Sample Size: 10 mL

Prepared: 03/10/2022 — 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 %*	*97.6*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*98.7*	*%*	

The Boeing Company	Project: Boeing Auburn 1Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.190.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	14-Mar-2022 18:11

SW-CD4-20220307

22C0141-02 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 03/07/2022 09:52

Instrument: NT16 Analyst: KOTT — Analyzed: 03/10/2022 16:11

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 22C0141-02 A

Preparation Batch: BKC0250 — Sample Size: 10 mL

Prepared: 03/10/2022 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.162	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	0.492	ug/L	
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	0.417	ug/L	
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*95.4*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*96.3*	*%*	

The Boeing Company	Project: Boeing Auburn 1Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.190.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	14-Mar-2022 18:11

SW-900-20220307

22C0141-03 (Water)

Volatile Organic Compounds - SIM

Method: EPA 8260D-SIM — Sampled: 03/07/2022 09:55

Instrument: NT16 Analyst: KOTT — Analyzed: 03/10/2022 17:14

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) — Extract ID: 22C0141-03 A

Preparation Batch: BKC0250 — Sample Size: 10 mL

Prepared: 03/10/2022 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Vinyl chloride	75-01-4	1	0.0200	0.169	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	0.508	ug/L	
trans-1,2-Dichloroethene	156-60-5	1	0.200	ND	ug/L	U
Trichloroethene	79-01-6	1	0.200	0.420	ug/L	
Tetrachloroethene	127-18-4	1	0.200	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*96.6*	*%*	
Surrogate: 4-Bromofluorobenzene			*75-125 %*	*97.2*	*%*	

The Boeing Company	Project: Boeing Auburn 1Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.190.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	14-Mar-2022 18:11

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - SIM - Quality Control

Batch BKC0250 - 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 (BKC0250-BLK1)				Prepared: 10-Mar-2022 Analyzed: 10-Mar-2022 14:25						
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	5040		ug/L	*5000*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4910		ug/L	*5000*		*98.2*	*75-125*			
LCS (BKC0250-BS1)				Prepared: 10-Mar-2022 Analyzed: 10-Mar-2022 13:05						
Vinyl chloride	2.28	0.0200	ug/L	2.00		114	62-141			
1,1-Dichloroethene	2.16	0.200	ug/L	2.00		108	80-125			
cis-1,2-Dichloroethene	2.17	0.200	ug/L	2.00		109	74-120			
trans-1,2-Dichloroethene	2.18	0.200	ug/L	2.00		109	80-122			
Trichloroethene	1.96	0.200	ug/L	2.00		98.2	75-122			
Tetrachloroethene	2.01	0.200	ug/L	2.00		101	76-127			
Surrogate: Toluene-d8	5100		ug/L	*5000*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5170		ug/L	*5000*		*103*	*75-125*			
LCS Dup (BKC0250-BSD1)				Prepared: 10-Mar-2022 Analyzed: 10-Mar-2022 13:43						
Vinyl chloride	2.23	0.0200	ug/L	2.00		112	62-141	2.15	30	
1,1-Dichloroethene	2.16	0.200	ug/L	2.00		108	80-125	0.18	30	
cis-1,2-Dichloroethene	2.18	0.200	ug/L	2.00		109	74-120	0.28	30	
trans-1,2-Dichloroethene	2.18	0.200	ug/L	2.00		109	80-122	0.01	30	
Trichloroethene	1.89	0.200	ug/L	2.00		94.6	75-122	3.75	30	
Tetrachloroethene	1.92	0.200	ug/L	2.00		96.0	76-127	4.57	30	
Surrogate: Toluene-d8	5080		ug/L	*5000*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5200		ug/L	*5000*		*104*	*75-125*			
Matrix Spike (BKC0250-MS1)	**Source: 22C0141-02**			Prepared: 10-Mar-2022 Analyzed: 10-Mar-2022 16:32						
Vinyl chloride	1.95	0.0200	ug/L	2.00	0.162	89.4	62-141			
1,1-Dichloroethene	1.77	0.200	ug/L	2.00	ND	88.2	80-125			
cis-1,2-Dichloroethene	2.31	0.200	ug/L	2.00	0.492	90.8	74-120			
trans-1,2-Dichloroethene	1.77	0.200	ug/L	2.00	ND	86.4	80-122			

The Boeing Company	Project: Boeing Auburn 1Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.190.101	**Reported:**
Renton WA, 98055-1409	Project Manager: Debbie Taege	14-Mar-2022 18:11

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - SIM - Quality Control

Batch BKC0250 - 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 (BKC0250-MS1)	**Source: 22C0141-02**		Prepared: 10-Mar-2022 Analyzed: 10-Mar-2022 16:32							
Trichloroethene	2.16	0.200	ug/L	2.00	0.417	87.0	75-122			
Tetrachloroethene	1.77	0.200	ug/L	2.00	ND	87.9	76-127			
Surrogate: Toluene-d8	5000		ug/L	*5000*	*4770*	*99.9*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5250		ug/L	*5000*	*4820*	*105*	*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 (BKC0250-MSD1)	**Source: 22C0141-02**		Prepared: 10-Mar-2022 Analyzed: 10-Mar-2022 16:53							
Vinyl chloride	2.53	0.0200	ug/L	2.00	0.162	118	62-141	25.90	30	
1,1-Dichloroethene	2.38	0.200	ug/L	2.00	ND	118	80-125	29.10	30	
cis-1,2-Dichloroethene	2.99	0.200	ug/L	2.00	0.492	125	74-120	25.70	30	*
trans-1,2-Dichloroethene	2.40	0.200	ug/L	2.00	ND	118	80-122	30.20	30	*
Trichloroethene	2.73	0.200	ug/L	2.00	0.417	115	75-122	23.30	30	
Tetrachloroethene	2.31	0.200	ug/L	2.00	ND	115	76-127	26.70	30	
Surrogate: Toluene-d8	5000		ug/L	*5000*	*4770*	*100*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5220		ug/L	*5000*	*4820*	*104*	*75-125*			

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

The Boeing Company	Project: Boeing Auburn 1Q SW Sampling	
Bldg 10-20, MC 9U4-26	Project Number: 0025164.190.101	**Reported:**
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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
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

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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.