LANDAU ASSOCIATES

October 23, 2015

Washington State Department of Ecology
3190 160th Avenue Southwest
Bellevue, Washington 98008

Attn: Robin Harrover and Neal Hines

Re: Surface Water Data, September 2015
Boeing Auburn Facility
Auburn, Washington
Project No. 0025164.120.110

Dear Ms. Harrover and Mr. Hines:

The Boeing Company completed the annual surface water monitoring event for the Boeing Auburn remedial investigation on September 23 and 24, 2015. This monitoring event included the locations selected for continued evaluation and the one-time co-located surface water and pore water samples outlined in the 2015 surface water work plan[1]. Sample results are presented in Table 1. We have also attached figures showing a vicinity map (Figure 1) and the sample locations (Figure 2). Laboratory data packages are presented in Attachment 1.

If you have any questions or comments regarding these data or need any other information, please do not hesitate to call me at (253) 284-4879.

LANDAU ASSOCIATES, INC.

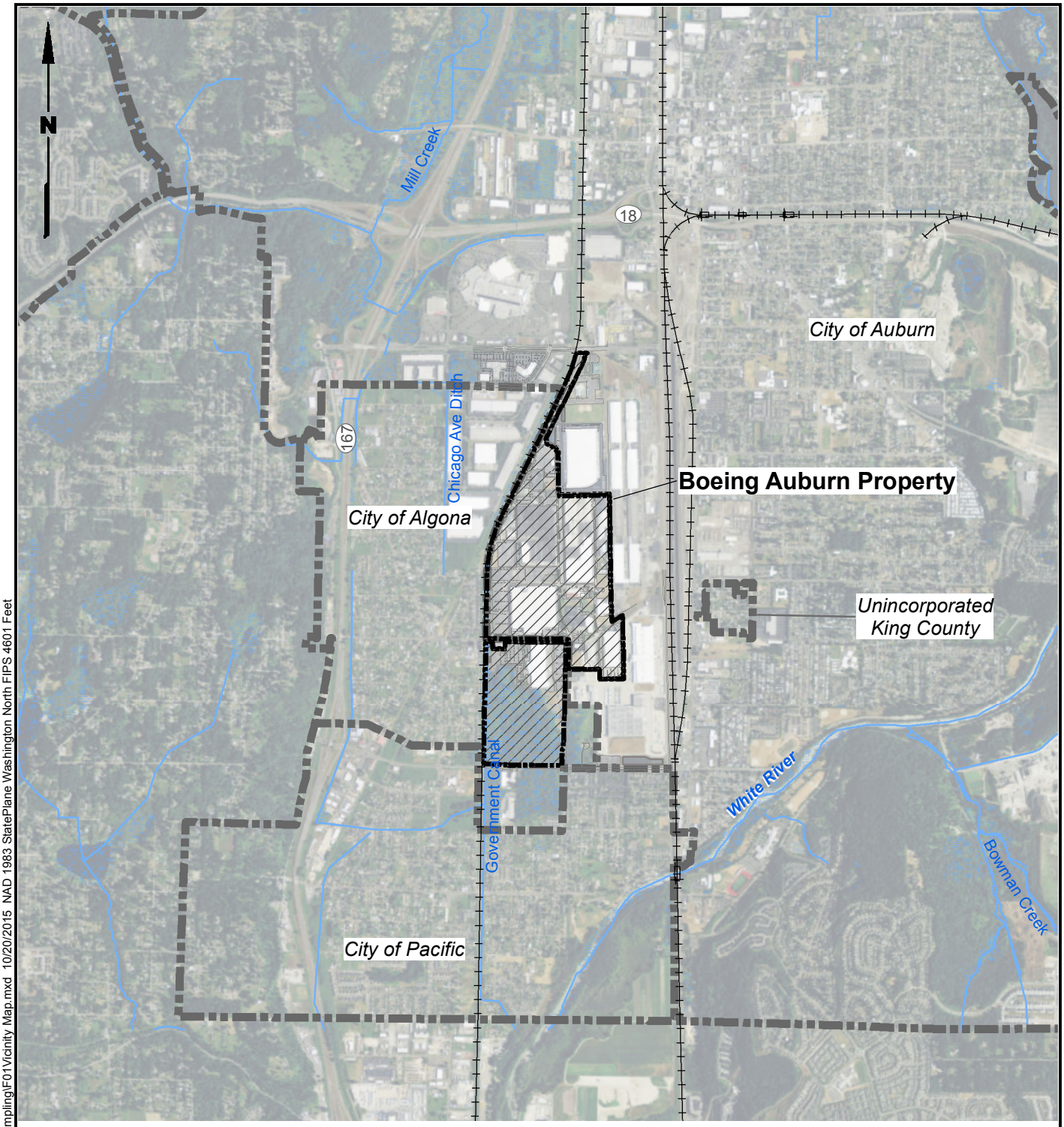
Jennifer W. Wynkoop
Senior Associate Scientist

JWW/jrc
[Y:\025\164\C\2015\TRANSLTRSTOECY\2015 SW DATA\SW_LETTER_OCT15.DOCX]

Attachments: Figure 1: Vicinity Map
Figure 2: Surface Water Sampling Locations, Pore Water Sampling Locations, and Surface Water Flow
Table 1: Surface Water Data
Attachment 1: Laboratory Data Packages

cc: James Bet, The Boeing Company (email only)
James Swortz, The Boeing Company

[1] Landau Associates. 2015. *Surface Water Monitoring Work Plan, Boeing Auburn Facility, Auburn, Washington*. Prepared for The Boeing Company. August 28.



Legend

- Waterways
- Wetland Areas
- City Limits
- Boeing Property

0 3,000 6,000

Feet

Base map source: Geometrix 2003; Aerial Photo Source: ESRI World Imagery; Parcel Data Source: King County GIS 2012

G:\Projects\025\164\120101\Surface Water Sampling\F01Vicinity Map.mxd 10/20/2015 NAD 1983 StatePlane Washington North FIPS 4601 Feet

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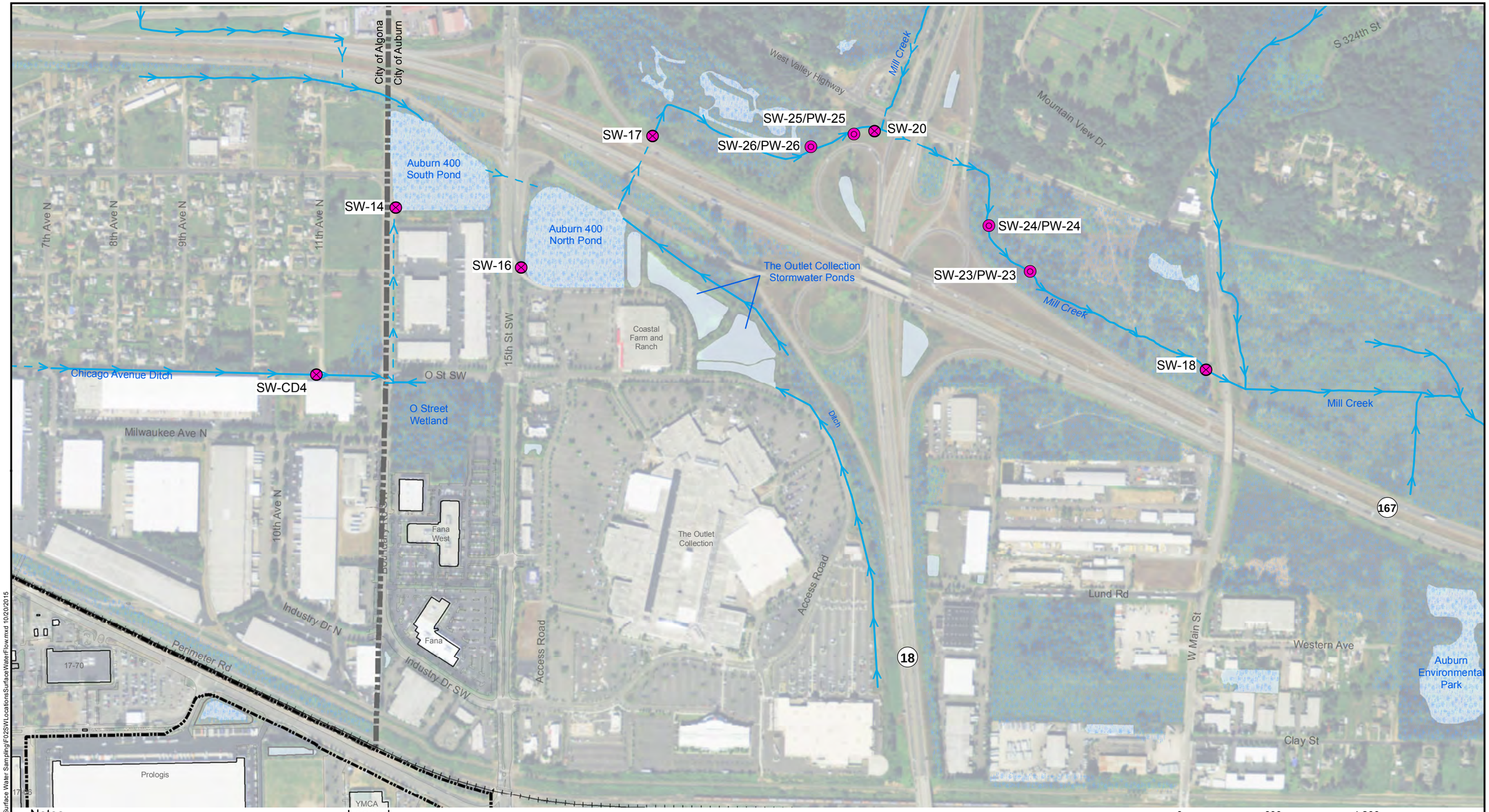
Boeing Auburn Auburn, Washington	**Vicinity Map**	Figure 1



G:\Projects\025\164\120\101\Surface Water Sampling\F025WLocationsSurfaceWaterFlow.mxd 10/20/2015

Notes

1. The locations of surface water features are approximate.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- September 2015 Surface Water Sample Location
- September 2015 Co-Located Surface Water and Sediment Pore Water Sampling Location
- Open Waterways
- Piped Waterways
- Wetland Areas
- Water Bodies
- Boeing Property
- City Limits

N

0 600 1,200

Scale in Feet

Base map source: Geometrix 2003; Aerial Photo Source: ESRI World Imagery; Parcel Data Source: King County GIS 2013.

LANDAU ASSOCIATES

Boeing Auburn
Auburn, Washington

Surface Water Sampling Locations, Pore Water Sampling Locations, and Surface Water Flow

Figure 2

Table 1
Surface Water and Pore Water Analytical Results
Boeing Auburn

		Dup of SW-CD4							Dup of SW-23								
	SW-CD4	SW-900	SW-14	SW-16	SW-17	SW-18	SW-20	SW-23	SW-901	PW-23	SW-24	PW-24	SW-25	PW-25	SW-26	PW-26
	1595897	1595897	1595897	1595897	1595897	1595897	1595897	1595949	1595949	1595949	1595949	1595949	1595949	1595949	1595949	1595949
	8063460	8063459	8063458	8063457	8063462	8063461	8063463	8063775	8063774	8063773	8063771	8063772	8063769	8063770	8063777	8063776
VOLATILES (µg/L)																
Method SW8260C																
Acetone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**17**	5.0 U	**19**	5.0 U	**14**	5.0 U	**19**
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.2 U	0.2 U	1.9 U	0.2 U	1.6 U	0.2 U	1.7 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	**0.8**	**0.8**	**0.5**	**0.4**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.3 U	0.2 U	0.3 U	0.2 U	0.3 U	0.2 U	0.2 U
Toluene	0.2 U	0.2 U	**0.2**	**0.8**	**2.0**	**0.3**	**2.4**	**0.8**	**0.8**	23 U	0.2 U	2.8 U	**6.3**	2.8 U	**4.0**	1.4 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	**1.3**	**1.3**	**0.8**	**0.2**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Acetate	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
Vinyl Chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
VOLATILES (µg/L)																
Method 8260C SIM																
Vinyl Chloride	**0.088**	**0.090**	**0.056**	**0.023**	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U

Bold = Detected compound.
U = Indicates the compound was not detected at the reported concentration.
UJ = The analyte was not detected in the sample; the reported sample reporting limit is an estimate.

ATTACHMENT 1

Laboratory Data Packages

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

October 12, 2015

Project: Boeing Auburn

Submittal Date: 09/25/2015
Group Number: 1595897
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LL) #
Trip Blank Water	8063456
SW-16-20150923 Water	8063457
SW-14-20150923 Water	8063458
SW-900-20150923 Water	8063459
SW-CD4-20150923 Water	8063460
SW-18-20150923 Water	8063461
SW-17-20150923 Water	8063462
SW-20-20150923 Water	8063463

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	Landau Associates	Attn: Dani Jorgensen
ELECTRONIC COPY TO	Landau Associates	Attn: Beth Roberts
ELECTRONIC COPY TO	Landau Associates	Attn: Sarah Fees
ELECTRONIC COPY TO	Landau Associates	Attn: Jennifer Wynkoop
ELECTRONIC COPY TO	The Boeing Company	Attn: Jim Bet
ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen

Respectfully Submitted,

Kay Hower
Manager

(510) 672-3979

Project Name: Boeing Auburn
LL Group #: 1595897

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8260C, GC/MS Volatiles

Sample #s: 8063457, 8063458, 8063459, 8063460, 8063462, 8063463

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-37%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample #s: 8063456, 8063461

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-43

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

SW-846 8260C SIM, GC/MS Volatiles

Batch #: E152721AA (Sample number(s): 8063456-8063460, 8063462-8063463 UNSPK: 8063462)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Vinyl chloride

Batch #: E152731AA (Sample number(s): 8063461 UNSPK: P63769)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Vinyl chloride

Sample Description: Trip Blank Water
Boeing Auburn

LL Sample # WW 8063456
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/03/2015

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AUBUT

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	Tetrachloroethene	127-18-4	0.2	U	0.2	1
11996	Toluene	108-88-3	0.2	U	0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.

The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-43

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

Sample Description: Trip Blank Water
Boeing Auburn

LL Sample # WW 8063456
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/03/2015

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AUBUT

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152731AA	09/30/2015 12:16	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152721AA	09/30/2015 00:52	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E152721AA	09/30/2015 00:52	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H152731AA	09/30/2015 12:16	Kerri E Legerlotz	1

Sample Description: SW-16-20150923 Water
Boeing Auburn

LL Sample # WW 8063457
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/23/2015 10:01 by SMM

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AUB16

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	**cis-1,2-Dichloroethene**	156-59-2	**0.4**		0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	Tetrachloroethene	127-18-4	0.2	U	0.2	1
11996	**Toluene**	108-88-3	**0.8**		0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	**Trichloroethene**	79-01-6	**0.2**		0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-37%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below

Sample Description: SW-16-20150923 Water
Boeing Auburn

LL Sample # WW 8063457
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/23/2015 10:01 by SMM

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AUB16

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		ug/l	ug/l	
12030	**Vinyl chloride**	75-01-4	**0.023**	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152722AA	09/29/2015 17:37	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152721AA	09/30/2015 01:32	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152722AA	09/29/2015 17:37	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152721AA	09/30/2015 01:32	Sara E Johnson	1

Sample Description: SW-14-20150923 Water
Boeing Auburn

LL Sample # WW 8063458
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/23/2015 09:36 by SMM

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AUB14

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	**cis-1,2-Dichloroethene**	156-59-2	**0.5**		0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	Tetrachloroethene	127-18-4	0.2	U	0.2	1
11996	**Toluene**	108-88-3	**0.2**		0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	**Trichloroethene**	79-01-6	**0.8**		0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-37%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below

Sample Description: SW-14-20150923 Water
Boeing Auburn

LL Sample # WW 8063458
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/23/2015 09:36 by SMM

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AUB14

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		ug/l	ug/l	
12030	**Vinyl chloride**	75-01-4	**0.056**	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152722AA	09/29/2015 17:59	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152721AA	09/30/2015 01:52	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152722AA	09/29/2015 17:59	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152721AA	09/30/2015 01:52	Sara E Johnson	1

Sample Description: SW-900-20150923 Water
Boeing Auburn

LL Sample # WW 8063459
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/23/2015 08:58 by SMM

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AU900

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	**cis-1,2-Dichloroethene**	156-59-2	**0.8**		0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	Tetrachloroethene	127-18-4	0.2	U	0.2	1
11996	Toluene	108-88-3	0.2	U	0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	**Trichloroethene**	79-01-6	**1.3**		0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-37%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below

Sample Description: SW-900-20150923 Water
Boeing Auburn

LL Sample # WW 8063459
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/23/2015 08:58 by SMM

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AU900

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
the reporting limit.					
GC/MS Volatiles	**SW-846 8260C SIM**		ug/l	ug/l	
12030	**Vinyl chloride**	75-01-4	**0.090**	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152722AA	09/29/2015 18:20	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152721AA	09/30/2015 02:12	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152722AA	09/29/2015 18:20	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152721AA	09/30/2015 02:12	Sara E Johnson	1

Sample Description: SW-CD4-20150923 Water
Boeing Auburn

LL Sample # WW 8063460
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/23/2015 08:55 by SMM

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AUCD4

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	**cis-1,2-Dichloroethene**	156-59-2	**0.8**		0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	Tetrachloroethene	127-18-4	0.2	U	0.2	1
11996	Toluene	108-88-3	0.2	U	0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	**Trichloroethene**	79-01-6	**1.3**		0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-37%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below

Sample Description: SW-CD4-20150923 Water
Boeing Auburn

LL Sample # WW 8063460
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/23/2015 08:55 by SMM

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AUCD4

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		ug/l	ug/l	
12030	**Vinyl chloride**	75-01-4	**0.088**	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152722AA	09/29/2015 18:42	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152721AA	09/30/2015 02:32	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152722AA	09/29/2015 18:42	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152721AA	09/30/2015 02:32	Sara E Johnson	1

Sample Description: SW-18-20150923 Water
Boeing Auburn

LL Sample # WW 8063461
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/23/2015 12:03 by SMM

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AUB18

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	Tetrachloroethene	127-18-4	0.2	U	0.2	1
11996	**Toluene**	108-88-3	**0.3**		0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.

The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-43

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

Sample Description: SW-18-20150923 Water
Boeing Auburn

LL Sample # WW 8063461
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/23/2015 12:03 by SMM

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AUB18

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152731AA	09/30/2015 15:07	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152731AA	09/30/2015 20:07	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152731AA	09/30/2015 15:07	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152731AA	09/30/2015 20:07	Sara E Johnson	1

Sample Description: SW-17-20150923 Water
Boeing Auburn

LL Sample # WW 8063462
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/23/2015 11:23 by SMM

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AUB17

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	Tetrachloroethene	127-18-4	0.2	U	0.2	1
11996	**Toluene**	108-88-3	**2.0**		0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-37%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below

Sample Description: SW-17-20150923 Water
Boeing Auburn

LL Sample # WW 8063462
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/23/2015 11:23 by SMM

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AUB17

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152722AA	09/29/2015 15:07	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152721AA	09/30/2015 03:12	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152722AA	09/29/2015 15:07	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152721AA	09/30/2015 03:12	Sara E Johnson	1

Sample Description: SW-20-20150923 Water
Boeing Auburn

LL Sample # WW 8063463
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/23/2015 10:42 by SMM

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AUB20

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	Tetrachloroethene	127-18-4	0.2	U	0.2	1
11996	**Toluene**	108-88-3	**2.4**		0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-37%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below

Sample Description: SW-20-20150923 Water
Boeing Auburn

LL Sample # WW 8063463
LL Group # 1595897
Account # 13419

Project Name: Boeing Auburn

Collected: 09/23/2015 10:42 by SMM

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

AUB20

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152722AA	09/29/2015 19:03	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152721AA	09/30/2015 02:52	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152722AA	09/29/2015 19:03	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152721AA	09/30/2015 02:52	Sara E Johnson	1

Quality Control Summary

Client Name: The Boeing Company Group Number: 1595897
Reported: 10/12/2015 20:12

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result		Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: E152721AA	Sample number(s): 8063456-8063460,8063462-8063463								
Vinyl chloride	0.020	U	0.020	ug/l	119	117	80-120	2	30
Batch number: E152731AA	Sample number(s): 8063461								
Vinyl chloride	0.020	U	0.020	ug/l	105		80-120		
Batch number: H152722AA	Sample number(s): 8063457-8063460,8063462-8063463								
Acetone	5.0	U	5.0	ug/l	105		55-136		
Benzene	0.2	U	0.2	ug/l	103		80-120		
Bromodichloromethane	0.5	U	0.5	ug/l	96		80-120		
Bromoform	0.5	U	0.5	ug/l	91		64-134		
Bromomethane	0.5	U	0.5	ug/l	95		71-126		
2-Butanone	5.0	U	5.0	ug/l	97		66-135		
Carbon Disulfide	0.5	U	0.5	ug/l	92		70-128		
Carbon Tetrachloride	0.2	U	0.2	ug/l	103		79-129		
Chlorobenzene	0.5	U	0.5	ug/l	100		80-120		
Chloroethane	0.5	U	0.5	ug/l	98		71-122		
Chloroform	0.2	U	0.2	ug/l	102		80-120		
Chloromethane	0.5	U	0.5	ug/l	97		63-121		
Dibromochloromethane	0.5	U	0.5	ug/l	96		80-126		
1,1-Dichloroethane	0.5	U	0.5	ug/l	107		80-120		
1,2-Dichloroethane	0.2	U	0.2	ug/l	106		80-125		
1,1-Dichloroethene	0.2	U	0.2	ug/l	104		80-120		
cis-1,2-Dichloroethene	0.2	U	0.2	ug/l	102		80-120		
trans-1,2-Dichloroethene	0.2	U	0.2	ug/l	104		80-120		
1,2-Dichloropropane	0.5	U	0.5	ug/l	109		80-120		
cis-1,3-Dichloropropene	0.2	U	0.2	ug/l	101		80-124		
trans-1,3-Dichloropropene	0.2	U	0.2	ug/l	100		76-132		
Ethylbenzene	0.5	U	0.5	ug/l	101		80-120		
2-Hexanone	5.0	U	5.0	ug/l	97		71-138		
4-Methyl-2-pentanone	5.0	U	5.0	ug/l	102		73-135		
Methylene Chloride	0.5	U	0.5	ug/l	102		80-120		
Styrene	0.5	U	0.5	ug/l	100		80-122		
1,1,2,2-Tetrachloroethane	0.2	U	0.2	ug/l	90		80-120		
Tetrachloroethene	0.2	U	0.2	ug/l	108		80-120		
Toluene	0.2	U	0.2	ug/l	100		80-120		
112Trichloro122Trifluoroethane	0.5	U	0.5	ug/l	111		75-120		
1,1,1-Trichloroethane	0.5	U	0.5	ug/l	101		80-120		
1,1,2-Trichloroethane	0.2	U	0.2	ug/l	98		80-120		
Trichloroethene	0.2	U	0.2	ug/l	103		80-120		
Trichlorofluoromethane	0.5	U	0.5	ug/l	103		69-133		
Vinyl Acetate	0.5	U	0.5	ug/l	110		10-183		
Vinyl Chloride	0.2	U	0.2	ug/l	105		71-123		
m+p-Xylene	0.5	U	0.5	ug/l	101		80-120		

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: The Boeing Company Group Number: 1595897
Reported: 10/12/2015 20:12

Analysis Name	Blank Result		Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
o-Xylene	0.5	U	0.5	ug/l	98		80-120		
Batch number: H152731AA	Sample number(s): 8063456,8063461								
Acetone	5.0	U	5.0	ug/l	106		55-136		
Benzene	0.2	U	0.2	ug/l	104		80-120		
Bromodichloromethane	0.5	U	0.5	ug/l	97		80-120		
Bromoform	0.5	U	0.5	ug/l	89		64-134		
Bromomethane	0.5	U	0.5	ug/l	102		71-126		
2-Butanone	5.0	U	5.0	ug/l	93		66-135		
Carbon Disulfide	0.5	U	0.5	ug/l	99		70-128		
Carbon Tetrachloride	0.2	U	0.2	ug/l	103		79-129		
Chlorobenzene	0.5	U	0.5	ug/l	99		80-120		
Chloroethane	0.5	U	0.5	ug/l	105		71-122		
Chloroform	0.2	U	0.2	ug/l	103		80-120		
Chloromethane	0.5	U	0.5	ug/l	112		63-121		
Dibromochloromethane	0.5	U	0.5	ug/l	95		80-126		
1,1-Dichloroethane	0.5	U	0.5	ug/l	108		80-120		
1,2-Dichloroethane	0.2	U	0.2	ug/l	110		80-125		
1,1-Dichloroethene	0.2	U	0.2	ug/l	107		80-120		
cis-1,2-Dichloroethene	0.2	U	0.2	ug/l	102		80-120		
trans-1,2-Dichloroethene	0.2	U	0.2	ug/l	107		80-120		
1,2-Dichloropropane	0.5	U	0.5	ug/l	107		80-120		
cis-1,3-Dichloropropene	0.2	U	0.2	ug/l	99		80-124		
trans-1,3-Dichloropropene	0.2	U	0.2	ug/l	97		76-132		
Ethylbenzene	0.5	U	0.5	ug/l	99		80-120		
2-Hexanone	5.0	U	5.0	ug/l	92		71-138		
4-Methyl-2-pentanone	5.0	U	5.0	ug/l	96		73-135		
Methylene Chloride	0.5	U	0.5	ug/l	104		80-120		
Styrene	0.5	U	0.5	ug/l	98		80-122		
1,1,2,2-Tetrachloroethane	0.2	U	0.2	ug/l	89		80-120		
Tetrachloroethene	0.2	U	0.2	ug/l	111		80-120		
Toluene	0.2	U	0.2	ug/l	99		80-120		
112Trichloro122Trifluoroethane	0.5	U	0.5	ug/l	114		75-120		
1,1,1-Trichloroethane	0.5	U	0.5	ug/l	104		80-120		
1,1,2-Trichloroethane	0.2	U	0.2	ug/l	98		80-120		
Trichloroethene	0.2	U	0.2	ug/l	105		80-120		
Trichlorofluoromethane	0.5	U	0.5	ug/l	114		69-133		
Vinyl Acetate	0.5	U	0.5	ug/l	120		10-183		
Vinyl Chloride	0.2	U	0.2	ug/l	114		71-123		
m+p-Xylene	0.5	U	0.5	ug/l	101		80-120		
o-Xylene	0.5	U	0.5	ug/l	98		80-120		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: E152721AA	Sample number(s): 8063456-8063460,8063462-8063463 UNSPK: 8063462								
Vinyl chloride	109	123*	80-120	12	30				
Batch number: E152731AA	Sample number(s): 8063461 UNSPK: P063769								

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: The Boeing Company Group Number: 1595897
Reported: 10/12/2015 20:12

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Vinyl chloride	120	124*	80-120	3	30				
Batch number: H152722AA	Sample number(s): 8063457-8063460,8063462-8063463 UNSPK: 8063462								
Acetone	110	117	55-136	6	30				
Benzene	101	103	80-120	1	30				
Bromodichloromethane	96	99	80-120	2	30				
Bromoform	88	89	64-134	1	30				
Bromomethane	88	94	71-126	6	30				
2-Butanone	98	107	66-135	8	30				
Carbon Disulfide	92	95	70-128	3	30				
Carbon Tetrachloride	99	101	79-129	2	30				
Chlorobenzene	100	103	80-120	3	30				
Chloroethane	97	100	71-122	4	30				
Chloroform	101	103	80-120	2	30				
Chloromethane	96	99	63-121	4	30				
Dibromochloromethane	94	97	80-126	3	30				
1,1-Dichloroethane	104	106	80-120	2	30				
1,2-Dichloroethane	106	110	80-125	3	30				
1,1-Dichloroethene	102	102	80-120	0	30				
cis-1,2-Dichloroethene	98	99	80-120	1	30				
trans-1,2-Dichloroethene	103	103	80-120	0	30				
1,2-Dichloropropane	107	109	80-120	1	30				
cis-1,3-Dichloropropene	97	99	80-124	2	30				
trans-1,3-Dichloropropene	98	95	76-132	3	30				
Ethylbenzene	101	105	80-120	3	30				
2-Hexanone	102	110	71-138	7	30				
4-Methyl-2-pentanone	105	111	73-135	6	30				
Methylene Chloride	98	97	80-120	0	30				
Styrene	100	103	80-122	3	30				
1,1,2,2-Tetrachloroethane	95	100	80-120	5	30				
Tetrachloroethene	108	111	80-120	3	30				
Toluene	98	99	80-120	1	30				
112Trichloro122Trifluoroethane	109	111	75-120	1	30				
1,1,1-Trichloroethane	101	103	80-120	2	30				
1,1,2-Trichloroethane	101	102	80-120	1	30				
Trichloroethene	104	105	80-120	1	30				
Trichlorofluoromethane	101	107	69-133	5	30				
Vinyl Acetate	110	114	10-183	4	30				
Vinyl Chloride	103	107	71-123	4	30				
m+p-Xylene	101	104	80-120	4	30				
o-Xylene	98	99	80-120	1	30				
Batch number: H152731AA	Sample number(s): 8063456,8063461 UNSPK: P063769								
Acetone	109	106	55-136	2	30				
Benzene	100	100	80-120	0	30				
Bromodichloromethane	99	100	80-120	1	30				
Bromoform	94	95	64-134	1	30				
Bromomethane	97	98	71-126	1	30				
2-Butanone	110	103	66-135	6	30				
Carbon Disulfide	92	93	70-128	0	30				
Carbon Tetrachloride	98	98	79-129	0	30				
Chlorobenzene	102	104	80-120	2	30				

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: The Boeing Company Group Number: 1595897
Reported: 10/12/2015 20:12

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Chloroethane	105	100	71-122	5	30				
Chloroform	103	102	80-120	1	30				
Chloromethane	110	111	63-121	0	30				
Dibromochloromethane	100	100	80-126	0	30				
1,1-Dichloroethane	103	103	80-120	0	30				
1,2-Dichloroethane	106	106	80-125	0	30				
1,1-Dichloroethene	99	99	80-120	0	30				
cis-1,2-Dichloroethene	100	100	80-120	0	30				
trans-1,2-Dichloroethene	99	101	80-120	3	30				
1,2-Dichloropropane	108	110	80-120	1	30				
cis-1,3-Dichloropropene	99	100	80-124	1	30				
trans-1,3-Dichloropropene	97	98	76-132	1	30				
Ethylbenzene	101	105	80-120	4	30				
2-Hexanone	111	106	71-138	5	30				
4-Methyl-2-pentanone	114	110	73-135	3	30				
Methylene Chloride	98	98	80-120	0	30				
Styrene	101	105	80-122	3	30				
1,1,2,2-Tetrachloroethane	100	99	80-120	1	30				
Tetrachloroethene	107	110	80-120	3	30				
Toluene	92	83	80-120	4	30				
112Trichloro122Trifluoroethane	109	109	75-120	0	30				
1,1,1-Trichloroethane	100	100	80-120	0	30				
1,1,2-Trichloroethane	105	104	80-120	1	30				
Trichloroethene	105	104	80-120	0	30				
Trichlorofluoromethane	111	111	69-133	0	30				
Vinyl Acetate	113	119	10-183	4	30				
Vinyl Chloride	116	115	71-123	1	30				
m+p-Xylene	102	104	80-120	2	30				
o-Xylene	99	101	80-120	1	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C SIM VC Only
Batch number: E152721AA

	Toluene-d8	1,4-Difluorobenzene
8063456	99	99
8063457	98	97
8063458	99	98
8063459	98	98
8063460	98	99
8063462	98	99
8063463	98	98
Blank	99	98
LCS	100	98
LCSD	100	98
MS	98	97

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: The Boeing Company Group Number: 1595897
Reported: 10/12/2015 20:12

Surrogate Quality Control

MSD	98	98
Limits:	80-120	80-120

Analysis Name: 8260C SIM VC Only
Batch number: E152731AA

	Toluene-d8	1,4-Difluorobenzene
8063461	97	97
Blank	98	98
LCS	98	96
MS	98	97
MSD	98	97
Limits:	80-120	80-120

Analysis Name: 8260C Boeing 38
Batch number: H152722AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8063457	100	101	98	96
8063458	101	104	99	97
8063459	100	102	99	96
8063460	101	101	98	96
8063462	101	101	100	97
8063463	100	102	99	97
Blank	101	104	99	97
LCS	102	103	99	97
MS	101	101	98	95
MSD	101	100	99	96
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Boeing 38
Batch number: H152731AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8063456	101	103	98	97
8063461	101	104	98	96
Blank	101	105	98	95
LCS	102	104	98	95
MS	102	102	98	97
MSD	100	103	98	96
Limits:	77-114	74-113	77-110	78-110

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Boeing Chain of Custody

eurofins | Lancaster Laboratories

Acct. # 13419 For Eurofins Lancaster Laboratories use only Group # 1595897 Sample # 806345 6-63
Please print. Instructions on reverse side correspond.

1 Client Information

Site Location: Auburn, WA
Site Project: Boeing Auburn
Site Program/#: 0025164.120.101
Boeing PM: Jim Bet
Consultant Contact: Jennifer Wynkoop
Report To: Anne Halvorsen etc. (see LIMs list)
Invoice To: ☒ Boeing EHS ☐ Other (specify): _____
Sampler: SMM / NTD # of Coolers: 1

2 Sample Identification	Collected Date	Collected Time	3 Matrix	No. of Containers	4 Analyses Requested: Boeing 39 VOCs	Vinyl Chloride	VOCs SIM - Chloroethene	MS/MSD	5 Remarks/Comments
Trip Blanks	9/3/15	—	H2O	4	X	X			Please allow samples to settle and collect aliquot from clear portion.
SW16-20150923	9/23/15	1001		5	X	X			
SW14-20150923	"	936		5	X	X			
SW900-20150923	"	858		5	X	X			
SWCD4-20150923	"	855		5	X	X			
SW18-20150923	"	1203		5	X	X			
SW17-20150923	"	1123		15	X	X	X		
SW20-20150923	"	1042	"	5	X	X			

6 Turnaround Time Requested (please circle)

Standard | 5 day | 4 day
72 hour | 48 hour | 24 hour
Date needed: _____

Relinquished by:	Date/Time	Received by:	Date/Time (7)
Sharon Mott	9/23/15/1240		
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time 9/25/15 1000

Relinquished by commercial carrier (circle): UPS FedEx Other: _____
Temperature upon Receipt: 1.5 °C
Custody Seals Intact?: Yes No

Page 26 of 30

Boeing Chain of Custody

eurofins | Lancaster Laboratories

Acct. # 13419 For Eurofins Lancaster Laboratories use only Group # 1595897 Sample # 8063456-63

Please print. Instructions on reverse side correspond.

① Client Information

Site Location: [illegible]
Site Project: [illegible]
Site Program/#: [illegible]
Boeing PM: [illegible]
Consultant Contact: [illegible]
Report To: [illegible] (see CMs list)
Invoice To: ☒ Boeing EHS ☐ Other (specify):
Sampler: [illegible]/MTD # of Coolers: 1

② Sample Identification / ③ Matrix / ④ Analyses Requested

Sample Identification	Collected Date	Collected Time	Matrix	No. of Containers	Boeing 38 VOCs	VOC SIM - [illegible]	MS/MSD
T[illegible]	9/3/15	—	H2O	4	X	X	
SW-16-20150923	9/23/15	1001	|	5	X	X	
SW-14-20150923	|	936	|	4	X	X	
SW-900-20150923	|	858	|	5	X	X	
SW-C04-20150923	|	855	|	5	X	X	
SW-18-20150923	|	1203	|	5	X	X	
SW-17-20150923	|	1123	|	15	X	X	X
SW-20-20150923	⊥	1042	⊥	5	X	X	

⑤ Remarks/Comments

Please allow samples to settle and collect aliquot from clear portion.

⑥ Turnaround Time Requested (please circle)

(Standard) 5 day 4 day
72 hour 48 hour 24 hour
Date needed:

⑦

Relinquished by:	Date/Time	Received by:	Date/Time
[signature]	9/23/15 1440		
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by: [signature] 9/25/15 Brandy Barclay	9/25/15 1000

Relinquished by commercial carrier (circle): (UPS) FedEx Other:
Temperature upon Receipt: 1.5 °C
Custody Seals Intact?: (Yes) No

Eurofins Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 717-656-2300
The white copy should accompany samples to Eurofins Lancaster Laboratories. The yellow copy should be retained by the client.

Issued by Dept. 40 Management
7063.02

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 108299

Group Number(s): 1595897

Client: Boeing

Delivery and Receipt Information

Delivery Method:	SeaTac	Arrival Timestamp:	09/25/2015 10:00
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	WA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	4
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Brandy Barclay (2299) at 12:44 on 09/25/2015

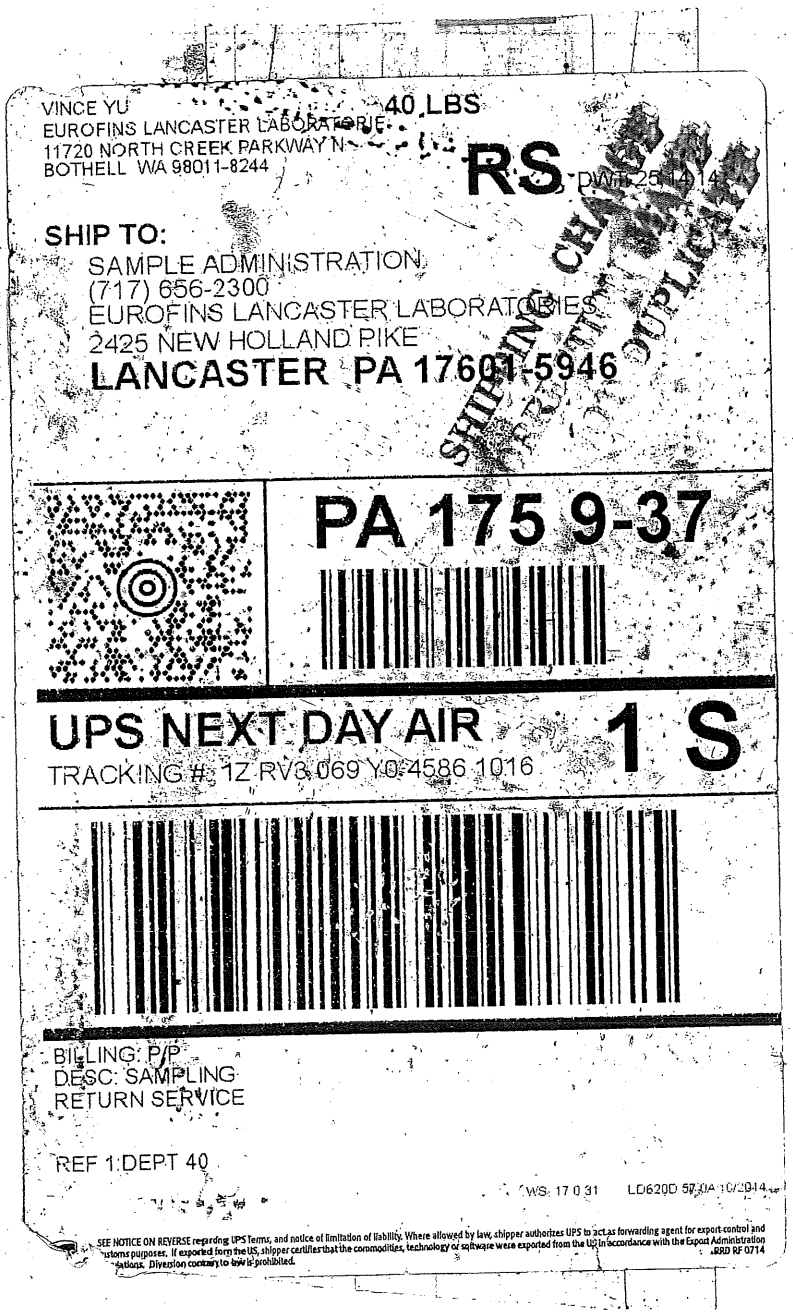
Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.5	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

1595897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EUROFINS LANCASTER LABORATORIE
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BOTHELL WA 98011-8244
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ARRD RF 0714

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

October 12, 2015

Project: Boeing Auburn

Submittal Date: 09/25/2015
Group Number: 1595949
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LL) #
Trip Blank Water	8063768
SW-25-20150924 Water	8063769
PW-25-20150924 Water	8063770
SW-24-20150924 Water	8063771
PW-24-20150924 Water	8063772
PW-23-20150924 Water	8063773
SW-901-20150924 Water	8063774
SW-23-20150924 Water	8063775
PW-26-20150924 Water	8063776
SW-26-20150924 Water	8063777

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	Landau Associates	Attn: Dani Jorgensen
ELECTRONIC COPY TO	Landau Associates	Attn: Beth Roberts
ELECTRONIC COPY TO	Landau Associates	Attn: Sarah Fees
ELECTRONIC COPY TO	Landau Associates	Attn: Jennifer Wynkoop
ELECTRONIC COPY TO	The Boeing Company	Attn: Jim Bet
ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen

Respectfully Submitted,

Kay Hower
Manager

(510) 672-3979

Project Name: Boeing Auburn
LL Group #: 1595949

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8260C, GC/MS Volatiles

Sample #s: 8063768, 8063770, 8063771

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-37%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample #s: 8063769, 8063772, 8063773, 8063774, 8063775, 8063776, 8063777

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-43

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

SW-846 8260C SIM, GC/MS Volatiles

Batch #: E152721AA (Sample number(s): 8063768 UNSPK: P63462)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Vinyl chloride

Batch #: E152731AA (Sample number(s): 8063769-8063777 UNSPK: 8063769)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Vinyl chloride

Sample Description: Trip Blank Water
Boeing Auburn

LL Sample # WW 8063768
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/03/2015

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

SW25T

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	Tetrachloroethene	127-18-4	0.2	U	0.2	1
11996	Toluene	108-88-3	0.2	U	0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-37%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below

Sample Description: Trip Blank Water
Boeing Auburn

LL Sample # WW 8063768
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/03/2015

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

SW25T

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152722AA	09/29/2015 14:46	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152721AA	09/30/2015 01:12	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152722AA	09/29/2015 14:46	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152721AA	09/30/2015 01:12	Sara E Johnson	1

Sample Description: SW-25-20150924 Water
Boeing Auburn

LL Sample # WW 8063769
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 12:15 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

SW-25

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	Tetrachloroethene	127-18-4	0.2	U	0.2	1
11996	**Toluene**	108-88-3	**6.3**		0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.

The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-43

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

Sample Description: SW-25-20150924 Water
Boeing Auburn

LL Sample # WW 8063769
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 12:15 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

SW-25

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152731AA	09/30/2015 13:20	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152731AA	09/30/2015 18:46	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152731AA	09/30/2015 13:20	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152731AA	09/30/2015 18:46	Sara E Johnson	1

Sample Description: PW-25-20150924 Water
Boeing Auburn

LL Sample # WW 8063770
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 12:23 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

PW-25

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	**Acetone**	67-64-1	**14**		5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	**1,2-Dichloroethane**	107-06-2	**1.6**		0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	**Tetrachloroethene**	127-18-4	**0.3**		0.2	1
11996	**Toluene**	108-88-3	**2.8**		0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-37%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below

Sample Description: PW-25-20150924 Water
Boeing Auburn

LL Sample # WW 8063770
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 12:23 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

PW-25

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152722AA	09/29/2015 19:25	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152731AA	09/30/2015 18:06	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152722AA	09/29/2015 19:25	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152731AA	09/30/2015 18:06	Sara E Johnson	1

Sample Description: SW-24-20150924 Water
Boeing Auburn

LL Sample # WW 8063771
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 10:45 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

SW-24

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	Tetrachloroethene	127-18-4	0.2	U	0.2	1
11996	Toluene	108-88-3	0.2	U	0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-37%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below

Sample Description: SW-24-20150924 Water
Boeing Auburn

LL Sample # WW 8063771
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 10:45 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

SW-24

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152722AA	09/29/2015 19:46	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152731AA	09/30/2015 18:26	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152722AA	09/29/2015 19:46	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152731AA	09/30/2015 18:26	Sara E Johnson	1

Sample Description: PW-24-20150924 Water
Boeing Auburn

LL Sample # WW 8063772
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 10:55 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

PW-24

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	**Acetone**	67-64-1	**19**		5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	**1,2-Dichloroethane**	107-06-2	**1.9**		0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	**Tetrachloroethene**	127-18-4	**0.3**		0.2	1
11996	**Toluene**	108-88-3	**2.8**		0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.

The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-43

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

Sample Description: PW-24-20150924 Water
Boeing Auburn

LL Sample # WW 8063772
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 10:55 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

PW-24

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152731AA	09/30/2015 15:28	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152731AA	09/30/2015 20:26	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152731AA	09/30/2015 15:28	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152731AA	09/30/2015 20:26	Sara E Johnson	1

Sample Description: PW-23-20150924 Water
Boeing Auburn

LL Sample # WW 8063773
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 10:12 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

PW-23

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	**Acetone**	67-64-1	**17**		5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	**1,2-Dichloroethane**	107-06-2	**1.2**		0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	**Tetrachloroethene**	127-18-4	**0.3**		0.2	1
11996	**Toluene**	108-88-3	**23**		0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.

The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-43

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

Sample Description: PW-23-20150924 Water
Boeing Auburn

LL Sample # WW 8063773
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 10:12 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

PW-23

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152731AA	09/30/2015 15:50	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152731AA	09/30/2015 20:47	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152731AA	09/30/2015 15:50	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152731AA	09/30/2015 20:47	Sara E Johnson	1

Sample Description: SW-901-20150924 Water
Boeing Auburn

LL Sample # WW 8063774
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 10:07 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

SW901

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	Tetrachloroethene	127-18-4	0.2	U	0.2	1
11996	**Toluene**	108-88-3	**0.8**		0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.

The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-43

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

Sample Description: SW-901-20150924 Water
Boeing Auburn

LL Sample # WW 8063774
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 10:07 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

SW901

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152731AA	09/30/2015 16:11	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152731AA	09/30/2015 21:07	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152731AA	09/30/2015 16:11	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152731AA	09/30/2015 21:07	Sara E Johnson	1

Sample Description: SW-23-20150924 Water
Boeing Auburn

LL Sample # WW 8063775
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 10:06 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

SW-23

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	Tetrachloroethene	127-18-4	0.2	U	0.2	1
11996	**Toluene**	108-88-3	**0.8**		0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.

The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-43

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

Sample Description: SW-23-20150924 Water
Boeing Auburn

LL Sample # WW 8063775
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 10:06 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

SW-23

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152731AA	09/30/2015 16:32	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152731AA	09/30/2015 21:27	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152731AA	09/30/2015 16:32	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152731AA	09/30/2015 21:27	Sara E Johnson	1

Sample Description: PW-26-20150924 Water
Boeing Auburn

LL Sample # WW 8063776
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 13:40 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

PW-26

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	**Acetone**	67-64-1	**19**		5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	**1,2-Dichloroethane**	107-06-2	**1.7**		0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	**Tetrachloroethene**	127-18-4	**0.2**		0.2	1
11996	**Toluene**	108-88-3	**1.4**		0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.

The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-43

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

Sample Description: PW-26-20150924 Water
Boeing Auburn

LL Sample # WW 8063776
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 13:40 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

PW-26

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152731AA	09/30/2015 16:54	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152731AA	09/30/2015 21:47	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152731AA	09/30/2015 16:54	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152731AA	09/30/2015 21:47	Sara E Johnson	1

Sample Description: SW-26-20150924 Water
Boeing Auburn

LL Sample # WW 8063777
LL Group # 1595949
Account # 13419

Project Name: Boeing Auburn

Collected: 09/24/2015 13:20 by NTD

Submitted: 09/25/2015 10:00
Reported: 10/12/2015 20:12

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

SW-26

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	Tetrachloroethene	127-18-4	0.2	U	0.2	1
11996	**Toluene**	108-88-3	**4.0**		0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.

The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Vinyl Acetate	-43

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside

Sample Description: SW-26-20150924 Water
Boeing Auburn

LL Sample # WW 8063777
LL Group # 1595949
Account # 13419

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Seattle WA 98124

SW-26

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	H152731AA	09/30/2015 17:15	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152731AA	09/30/2015 22:07	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H152731AA	09/30/2015 17:15	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	E152731AA	09/30/2015 22:07	Sara E Johnson	1

Quality Control Summary

Client Name: The Boeing Company Group Number: 1595949
Reported: 10/12/2015 20:12

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result		Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: E152721AA	Sample number(s): 8063768								
Vinyl chloride	0.020	U	0.020	ug/l	119	117	80-120	2	30
Batch number: E152731AA	Sample number(s): 8063769-8063777								
Vinyl chloride	0.020	U	0.020	ug/l	105		80-120		
Batch number: H152722AA	Sample number(s): 8063768,8063770-8063771								
Acetone	5.0	U	5.0	ug/l	105		55-136		
Benzene	0.2	U	0.2	ug/l	103		80-120		
Bromodichloromethane	0.5	U	0.5	ug/l	96		80-120		
Bromoform	0.5	U	0.5	ug/l	91		64-134		
Bromomethane	0.5	U	0.5	ug/l	95		71-126		
2-Butanone	5.0	U	5.0	ug/l	97		66-135		
Carbon Disulfide	0.5	U	0.5	ug/l	92		70-128		
Carbon Tetrachloride	0.2	U	0.2	ug/l	103		79-129		
Chlorobenzene	0.5	U	0.5	ug/l	100		80-120		
Chloroethane	0.5	U	0.5	ug/l	98		71-122		
Chloroform	0.2	U	0.2	ug/l	102		80-120		
Chloromethane	0.5	U	0.5	ug/l	97		63-121		
Dibromochloromethane	0.5	U	0.5	ug/l	96		80-126		
1,1-Dichloroethane	0.5	U	0.5	ug/l	107		80-120		
1,2-Dichloroethane	0.2	U	0.2	ug/l	106		80-125		
1,1-Dichloroethene	0.2	U	0.2	ug/l	104		80-120		
cis-1,2-Dichloroethene	0.2	U	0.2	ug/l	102		80-120		
trans-1,2-Dichloroethene	0.2	U	0.2	ug/l	104		80-120		
1,2-Dichloropropane	0.5	U	0.5	ug/l	109		80-120		
cis-1,3-Dichloropropene	0.2	U	0.2	ug/l	101		80-124		
trans-1,3-Dichloropropene	0.2	U	0.2	ug/l	100		76-132		
Ethylbenzene	0.5	U	0.5	ug/l	101		80-120		
2-Hexanone	5.0	U	5.0	ug/l	97		71-138		
4-Methyl-2-pentanone	5.0	U	5.0	ug/l	102		73-135		
Methylene Chloride	0.5	U	0.5	ug/l	102		80-120		
Styrene	0.5	U	0.5	ug/l	100		80-122		
1,1,2,2-Tetrachloroethane	0.2	U	0.2	ug/l	90		80-120		
Tetrachloroethene	0.2	U	0.2	ug/l	108		80-120		
Toluene	0.2	U	0.2	ug/l	100		80-120		
112Trichloro122Trifluoroethane	0.5	U	0.5	ug/l	111		75-120		
1,1,1-Trichloroethane	0.5	U	0.5	ug/l	101		80-120		
1,1,2-Trichloroethane	0.2	U	0.2	ug/l	98		80-120		
Trichloroethene	0.2	U	0.2	ug/l	103		80-120		
Trichlorofluoromethane	0.5	U	0.5	ug/l	103		69-133		
Vinyl Acetate	0.5	U	0.5	ug/l	110		10-183		
Vinyl Chloride	0.2	U	0.2	ug/l	105		71-123		
m+p-Xylene	0.5	U	0.5	ug/l	101		80-120		

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: The Boeing Company Group Number: 1595949
Reported: 10/12/2015 20:12

Analysis Name	Blank Result		Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
o-Xylene	0.5	U	0.5	ug/l	98		80-120		
Batch number: H152731AA	Sample number(s): 8063769,8063772-8063777								
Acetone	5.0	U	5.0	ug/l	106		55-136		
Benzene	0.2	U	0.2	ug/l	104		80-120		
Bromodichloromethane	0.5	U	0.5	ug/l	97		80-120		
Bromoform	0.5	U	0.5	ug/l	89		64-134		
Bromomethane	0.5	U	0.5	ug/l	102		71-126		
2-Butanone	5.0	U	5.0	ug/l	93		66-135		
Carbon Disulfide	0.5	U	0.5	ug/l	99		70-128		
Carbon Tetrachloride	0.2	U	0.2	ug/l	103		79-129		
Chlorobenzene	0.5	U	0.5	ug/l	99		80-120		
Chloroethane	0.5	U	0.5	ug/l	105		71-122		
Chloroform	0.2	U	0.2	ug/l	103		80-120		
Chloromethane	0.5	U	0.5	ug/l	112		63-121		
Dibromochloromethane	0.5	U	0.5	ug/l	95		80-126		
1,1-Dichloroethane	0.5	U	0.5	ug/l	108		80-120		
1,2-Dichloroethane	0.2	U	0.2	ug/l	110		80-125		
1,1-Dichloroethene	0.2	U	0.2	ug/l	107		80-120		
cis-1,2-Dichloroethene	0.2	U	0.2	ug/l	102		80-120		
trans-1,2-Dichloroethene	0.2	U	0.2	ug/l	107		80-120		
1,2-Dichloropropane	0.5	U	0.5	ug/l	107		80-120		
cis-1,3-Dichloropropene	0.2	U	0.2	ug/l	99		80-124		
trans-1,3-Dichloropropene	0.2	U	0.2	ug/l	97		76-132		
Ethylbenzene	0.5	U	0.5	ug/l	99		80-120		
2-Hexanone	5.0	U	5.0	ug/l	92		71-138		
4-Methyl-2-pentanone	5.0	U	5.0	ug/l	96		73-135		
Methylene Chloride	0.5	U	0.5	ug/l	104		80-120		
Styrene	0.5	U	0.5	ug/l	98		80-122		
1,1,2,2-Tetrachloroethane	0.2	U	0.2	ug/l	89		80-120		
Tetrachloroethene	0.2	U	0.2	ug/l	111		80-120		
Toluene	0.2	U	0.2	ug/l	99		80-120		
112Trichloro122Trifluoroethane	0.5	U	0.5	ug/l	114		75-120		
1,1,1-Trichloroethane	0.5	U	0.5	ug/l	104		80-120		
1,1,2-Trichloroethane	0.2	U	0.2	ug/l	98		80-120		
Trichloroethene	0.2	U	0.2	ug/l	105		80-120		
Trichlorofluoromethane	0.5	U	0.5	ug/l	114		69-133		
Vinyl Acetate	0.5	U	0.5	ug/l	120		10-183		
Vinyl Chloride	0.2	U	0.2	ug/l	114		71-123		
m+p-Xylene	0.5	U	0.5	ug/l	101		80-120		
o-Xylene	0.5	U	0.5	ug/l	98		80-120		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: E152721AA	Sample number(s): 8063768 UNSPK: P063462								
Vinyl chloride	109	123*	80-120	12	30				
Batch number: E152731AA	Sample number(s): 8063769-8063777 UNSPK: 8063769								

*- Outside of specification
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Quality Control Summary

Client Name: The Boeing Company Group Number: 1595949
Reported: 10/12/2015 20:12

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Vinyl chloride	120	124*	80-120	3	30				
Batch number: H152722AA	Sample number(s): 8063768,8063770-8063771 UNSPK: P063462								
Acetone	110	117	55-136	6	30				
Benzene	101	103	80-120	1	30				
Bromodichloromethane	96	99	80-120	2	30				
Bromoform	88	89	64-134	1	30				
Bromomethane	88	94	71-126	6	30				
2-Butanone	98	107	66-135	8	30				
Carbon Disulfide	92	95	70-128	3	30				
Carbon Tetrachloride	99	101	79-129	2	30				
Chlorobenzene	100	103	80-120	3	30				
Chloroethane	97	100	71-122	4	30				
Chloroform	101	103	80-120	2	30				
Chloromethane	96	99	63-121	4	30				
Dibromochloromethane	94	97	80-126	3	30				
1,1-Dichloroethane	104	106	80-120	2	30				
1,2-Dichloroethane	106	110	80-125	3	30				
1,1-Dichloroethene	102	102	80-120	0	30				
cis-1,2-Dichloroethene	98	99	80-120	1	30				
trans-1,2-Dichloroethene	103	103	80-120	0	30				
1,2-Dichloropropane	107	109	80-120	1	30				
cis-1,3-Dichloropropene	97	99	80-124	2	30				
trans-1,3-Dichloropropene	98	95	76-132	3	30				
Ethylbenzene	101	105	80-120	3	30				
2-Hexanone	102	110	71-138	7	30				
4-Methyl-2-pentanone	105	111	73-135	6	30				
Methylene Chloride	98	97	80-120	0	30				
Styrene	100	103	80-122	3	30				
1,1,2,2-Tetrachloroethane	95	100	80-120	5	30				
Tetrachloroethene	108	111	80-120	3	30				
Toluene	98	99	80-120	1	30				
112Trichloro122Trifluoroethane	109	111	75-120	1	30				
1,1,1-Trichloroethane	101	103	80-120	2	30				
1,1,2-Trichloroethane	101	102	80-120	1	30				
Trichloroethene	104	105	80-120	1	30				
Trichlorofluoromethane	101	107	69-133	5	30				
Vinyl Acetate	110	114	10-183	4	30				
Vinyl Chloride	103	107	71-123	4	30				
m+p-Xylene	101	104	80-120	4	30				
o-Xylene	98	99	80-120	1	30				
Batch number: H152731AA	Sample number(s): 8063769,8063772-8063777 UNSPK: 8063769								
Acetone	109	106	55-136	2	30				
Benzene	100	100	80-120	0	30				
Bromodichloromethane	99	100	80-120	1	30				
Bromoform	94	95	64-134	1	30				
Bromomethane	97	98	71-126	1	30				
2-Butanone	110	103	66-135	6	30				
Carbon Disulfide	92	93	70-128	0	30				
Carbon Tetrachloride	98	98	79-129	0	30				
Chlorobenzene	102	104	80-120	2	30				

*- Outside of specification
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Quality Control Summary

Client Name: The Boeing Company Group Number: 1595949
Reported: 10/12/2015 20:12

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Chloroethane	105	100	71-122	5	30				
Chloroform	103	102	80-120	1	30				
Chloromethane	110	111	63-121	0	30				
Dibromochloromethane	100	100	80-126	0	30				
1,1-Dichloroethane	103	103	80-120	0	30				
1,2-Dichloroethane	106	106	80-125	0	30				
1,1-Dichloroethene	99	99	80-120	0	30				
cis-1,2-Dichloroethene	100	100	80-120	0	30				
trans-1,2-Dichloroethene	99	101	80-120	3	30				
1,2-Dichloropropane	108	110	80-120	1	30				
cis-1,3-Dichloropropene	99	100	80-124	1	30				
trans-1,3-Dichloropropene	97	98	76-132	1	30				
Ethylbenzene	101	105	80-120	4	30				
2-Hexanone	111	106	71-138	5	30				
4-Methyl-2-pentanone	114	110	73-135	3	30				
Methylene Chloride	98	98	80-120	0	30				
Styrene	101	105	80-122	3	30				
1,1,2,2-Tetrachloroethane	100	99	80-120	1	30				
Tetrachloroethene	107	110	80-120	3	30				
Toluene	92	83	80-120	4	30				
112Trichloro122Trifluoroethane	109	109	75-120	0	30				
1,1,1-Trichloroethane	100	100	80-120	0	30				
1,1,2-Trichloroethane	105	104	80-120	1	30				
Trichloroethene	105	104	80-120	0	30				
Trichlorofluoromethane	111	111	69-133	0	30				
Vinyl Acetate	113	119	10-183	4	30				
Vinyl Chloride	116	115	71-123	1	30				
m+p-Xylene	102	104	80-120	2	30				
o-Xylene	99	101	80-120	1	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C SIM VC Only
Batch number: E152721AA

	Toluene-d8	1,4-Difluorobenzene
8063768	98	98
Blank	99	98
LCS	100	98
LCSD	100	98
MS	98	97
MSD	98	98
Limits:	80-120	80-120

Analysis Name: 8260C SIM VC Only
Batch number: E152731AA

	Toluene-d8	1,4-Difluorobenzene

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(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: The Boeing Company Group Number: 1595949
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Surrogate Quality Control

8063769	98	97
8063770	97	97
8063771	98	99
8063772	98	96
8063773	97	97
8063774	97	98
8063775	97	97
8063776	97	97
8063777	97	97
Blank	98	98
LCS	98	96
MS	98	97
MSD	98	97
Limits:	80-120	80-120

Analysis Name: 8260C Boeing 38
Batch number: H152722AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8063768	100	102	99	96
8063770	99	104	99	96
8063771	101	103	98	96
Blank	101	104	99	97
LCS	102	103	99	97
MS	101	101	98	95
MSD	101	100	99	96
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Boeing 38
Batch number: H152731AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8063769	101	103	98	97
8063772	101	104	98	97
8063773	102	103	98	95
8063774	101	103	98	96
8063775	101	104	98	95
8063776	102	105	99	97
8063777	101	103	98	96
Blank	101	105	98	95
LCS	102	104	98	95
MS	102	102	98	97
MSD	100	103	98	96
Limits:	77-114	74-113	77-110	78-110

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Boeing Chain of Custody

eurofins | Lancaster Laboratories

Acct. # 13419 For Eurofins Lancaster Laboratories use only Group # 1595949 Sample # 806768-77
Please print. Instructions on reverse side correspond.

1 Client Information

Site Location: Auburn, WA
Site Project: Boeing Auburn
Site Program/#: 0025164.120.101
Boeing PM: Jim Bet
Consultant Contact: Jennifer Wynkoop
Report To: Anne Halvorsen ect. (see LIMS list)
Invoice To: ☒ Boeing EHS ☐ Other (specify): _____
Sampler: NTD/KMG # of Coolers: 1

4 Analyses Requested

2 Sample Identification	Collected Date	Collected Time	3 Matrix	No. of Containers	VOC 8260	SIM VC	MS/MSD
Trip Blanks	9/3/15	—	H_2O	4	X	X	
SW-25-20150924	9/24/15	1215	H_2O	15	X	X	X
PW-25-20150924	9/24/15	1223	H_2O	5	X	X	
SW-24-20150924	9/24/15	1045	H_2O	5	X	X	
PW-24-20150924	9/24/15	1055	H_2O	5	X	X	
PW-23-20150924	9/24/15	1012	H_2O	5	X	X	
SW-901-20150924	9/24/15	1007	H_2O	5	X	X	
SW-23-20150924	9/24/15	1006	H_2O	5	X	X	
PW-26-20150924	9/24/15	1340	H_2O	5	X	X	
SW-26-20150924	9/24/15	1320	H_2O	5	X	X	

5 Remarks/Comments

In All Samples: let particulate settle out and collect aliquot from clear portion of sample

6 Turnaround Time Requested (please circle)

Standard 5 day 4 day
72 hour 48 hour 24 hour
Date needed: _____

7

Relinquished by:	Date/Time	Received by:	Date/Time
[signature]	9/24/15 1500		
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by: [signature]	Date/Time 9.25.15 / 1000

Relinquished by commercial carrier (circle): UPS FedEx Other: _____
Temperature upon Receipt: 3.3 °C
Custody Seals Intact?: Yes No

Eurofins Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 717-656-2300
The white copy should accompany samples to Eurofins Lancaster Laboratories. The yellow copy should be retained by the client.
Issued by Dept. 40 Management
7063.02

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 108378

Group Number(s): 1595949

Client: Boeing

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	09/25/2015 10:00
Number of Packages:	1	Number of Projects:	1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	4
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Timothy Cubberley (6520) at 14:32 on 09/25/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	3.3	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

1595949

VINCE YU
EUROFINS LANCASTER LABORATORIE
11720 NORTH CREEK PARKWAY N
BOTHELL WA 98011-8244

40 LBS

RS DWT: 25,14,14

SHIP TO:
SAMPLE ADMINISTRATION
(717) 656-2300
EUROFINS LANCASTER LABORATORIES
2425 NEW HOLLAND PIKE
LANCASTER PA 17601-5946

PA 175 9-37

UPS NEXT DAY AIR

TRACKING #: 1Z RV3 069 Y0 4344 8833

1 S

BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1: DEPT 40

WS 16 0 31 45 0A 10/2013

SEE NOTICE ON REVERSE regarding UPS Terms, and notice of limitation of liability. Where allowed by law, shipper authorizes UPS to act as forwarding agent for export control and customs purposes. If exported from the US, shipper certifies that the commodities, technology or software were exported from the US in accordance with the Export Administration Regulations. Diversion contrary to law is prohibited.

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Technical Memorandum

TO: Jennifer Wynkoop, Project Manager

FROM: Kristi Schultz

DATE: October 23, 2015

RE: **September 2015 Pore Water Passive Sampling**
Bag Blank Contamination Data Qualification
Boeing Auburn Facility
Auburn, Washington
Project No. 0025164.120.110

This technical memorandum discusses the impacts of detections of contaminants in the polyethylene diffusion bag (PDB) bag blank associated with four pore water samples collected on September 24, 2015 at the Boeing Auburn facility. The bag blank and the pore water samples were submitted to Eurofins Lancaster Laboratory (LLI) and were analyzed for 38 target volatile organic compounds (VOCs) by US Environmental Protection Agency (EPA) Method 8260C and for vinyl chloride by EPA Method 8260C with Selected Ion Monitoring (SIM). The VOC results for the bag blank (PDB-Blank-20150910) and the pore water samples (PW-23-20150924, PW-24-20150924, PW-25-20150924, and PW-26-20150924) are included in LLI data packages identified as 1592310 and 1595949.

Landau Associates performed EPA-equivalent Stage 2A validation on LLI data packages 1592310 and 1595949, in accordance with guidance from applicable portions of the *National Functional Guidelines (NFG) for Organic Data Review* (US Environmental Protection Agency 1999, 2008) and the *Quality Assurance Project Plan (QAPP) for Boeing Auburn Facility* (Landau Associates May 9, 2013).

Bag Blank Results

PDB sampling materials were supplied by EON Products, Inc. To determine whether contaminants of concern were present in the de-ionized water matrix of the PDBs prior to deployment of the samplers, a sample (bag blank) was collected from a spare PDB that was filled, handled, and shipped with the batch of PDBs that were deployed for sampling. In accordance with the NFG for Organic Data Review (US Environmental Protection Agency 1999, 2008) and the project QAPP (Landau Associates 2013), target analytes detected in blanks at concentrations greater than the method reporting limit are compared to the concentrations of the target analyte detected in the associated samples. If the detected concentration in the associated sample is less than five times (ten times for common laboratory contaminants methylene chloride, 2-butanone, and acetone) the amount in the blank then the sample result is qualified as non-detect due to possible blank contamination. If the detected concentration in the associated sample is greater than five times (ten times for common aforementioned common laboratory contaminants) the amount in the blank, then qualification of the data is not warranted.

Low concentrations of 1,2-dichloroethane (1,2-DCA), tetrachloroethene (PCE), and toluene were detected in the bag blank associated with pore water samples PW-23-20150924, PW-24-20150924, PW-25-20150924, and PW-26-20150924. 1,2-DCA, PCE, and toluene were detected in the pore water samples at concentrations less than five times the concentrations detected in the associated bag blank, therefore; the detected pore water samples results for these analytes were qualified as non-detect (U) at the method reporting limit due to possible blank contamination.

No other qualification of the pore water analytical data was necessary due to the results of the PDB bag blank and data usability is not adversely impacted.

LANDAU ASSOCIATES, INC.

Kristi Schultz
Assistant Scientist

DRJ/kes
[Y:\025\164\T\DATA\DATA VALIDATION\AUBURN PDB SEPT 2015 MEMO.DOCX]

References

US Environmental Protection Agency. 1999. USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. edited by Office of Emergency and Remedial Response. Washington, D.C.

US Environmental Protection Agency. 2008. USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review. edited by Office of Superfund Remediation and Technology Innovation. Washington, D.C.

Landau Associates. 2013. *Quality Assurance Project Plan for Boeing Auburn Facility*. May 9.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

September 23, 2015

Project: Boeing Auburn 0025164.120.101

Submittal Date: 09/12/2015
Group Number: 1592310
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LL) #
PDB-Blank-20150910 Water	8044812
Trip Blank Water	8044813

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	Landau Associates	Attn: Dani Jorgensen
ELECTRONIC COPY TO	Landau Associates	Attn: Beth Roberts
ELECTRONIC COPY TO	Landau Associates	Attn: Sarah Fees
ELECTRONIC COPY TO	Landau Associates	Attn: Jennifer Wynkoop
ELECTRONIC COPY TO	The Boeing Company	Attn: Jim Bet
ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen

Respectfully Submitted,

Kay Hower
Manager

(510) 672-3979

Project Name: Boeing Auburn 0025164.120.101
LL Group #: 1592310

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8260C, GC/MS Volatiles

Sample #s: 8044812, 8044813

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Trichlorofluoromethane	29%
Vinyl Acetate	-31%
Carbon Tetrachloride	23%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample Description: PDB-Blank-20150910 Water
Boeing Auburn

LL Sample # WW 8044812
LL Group # 1592310
Account # 13419

Project Name: Boeing Auburn 0025164.120.101

Collected: 09/10/2015 09:15 by JWW

Submitted: 09/12/2015 09:45
Reported: 09/23/2015 16:53

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

BAPDB

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	**1,2-Dichloroethane**	107-06-2	**5.9**		0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	**Tetrachloroethene**	127-18-4	**0.3**		0.2	1
11996	**Toluene**	108-88-3	**4.9**		0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.

The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Trichlorofluoromethane	29%
Vinyl Acetate	-31%
Carbon Tetrachloride	23%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of

Sample Description: PDB-Blank-20150910 Water
Boeing Auburn

LL Sample # WW 8044812
LL Group # 1592310
Account # 13419

Project Name: Boeing Auburn 0025164.120.101

Collected: 09/10/2015 09:15 by JWW

Submitted: 09/12/2015 09:45
Reported: 09/23/2015 16:53

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

BAPDB

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		ug/l	ug/l	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	I152582AA	09/15/2015 15:20	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152571AA	09/14/2015 22:59	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E152571AA	09/14/2015 22:59	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	I152582AA	09/15/2015 15:20	Kerri E Legerlotz	1

Sample Description: Trip Blank Water
Boeing Auburn

LL Sample # WW 8044813
LL Group # 1592310
Account # 13419

Project Name: Boeing Auburn 0025164.120.101

Collected: 08/17/2015

Submitted: 09/12/2015 09:45
Reported: 09/23/2015 16:53

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

BA-TB

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Acetone	67-64-1	5.0	U	5.0	1
11996	Benzene	71-43-2	0.2	U	0.2	1
11996	Bromodichloromethane	75-27-4	0.5	U	0.5	1
11996	Bromoform	75-25-2	0.5	U	0.5	1
11996	Bromomethane	74-83-9	0.5	U	0.5	1
11996	2-Butanone	78-93-3	5.0	U	5.0	1
11996	Carbon Disulfide	75-15-0	0.5	U	0.5	1
11996	Carbon Tetrachloride	56-23-5	0.2	U	0.2	1
11996	Chlorobenzene	108-90-7	0.5	U	0.5	1
11996	Chloroethane	75-00-3	0.5	U	0.5	1
11996	Chloroform	67-66-3	0.2	U	0.2	1
11996	Chloromethane	74-87-3	0.5	U	0.5	1
11996	Dibromochloromethane	124-48-1	0.5	U	0.5	1
11996	1,1-Dichloroethane	75-34-3	0.5	U	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.2	U	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.2	U	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2	U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5	U	0.5	1
11996	cis-1,3-Dichloropropene	10061-01-5	0.2	U	0.2	1
11996	trans-1,3-Dichloropropene	10061-02-6	0.2	U	0.2	1
11996	Ethylbenzene	100-41-4	0.5	U	0.5	1
11996	2-Hexanone	591-78-6	5.0	U	5.0	1
11996	4-Methyl-2-pentanone	108-10-1	5.0	U	5.0	1
11996	Methylene Chloride	75-09-2	0.5	U	0.5	1
11996	Styrene	100-42-5	0.5	U	0.5	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.2	U	0.2	1
11996	Tetrachloroethene	127-18-4	0.2	U	0.2	1
11996	Toluene	108-88-3	0.2	U	0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5	U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.5	U	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2	U	0.2	1
11996	Trichloroethene	79-01-6	0.2	U	0.2	1
11996	Trichlorofluoromethane	75-69-4	0.5	U	0.5	1
11996	Vinyl Acetate	108-05-4	0.5	U	0.5	1
11996	Vinyl Chloride	75-01-4	0.2	U	0.2	1
11996	m+p-Xylene	179601-23-1	0.5	U	0.5	1
11996	o-Xylene	95-47-6	0.5	U	0.5	1

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The Analyte(s) exceeding 20% Drift is not detected in this sample.

The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Trichlorofluoromethane	29%
Vinyl Acetate	-31%
Carbon Tetrachloride	23%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of

Sample Description: Trip Blank Water
Boeing Auburn

LL Sample # WW 8044813
LL Group # 1592310
Account # 13419

Project Name: Boeing Auburn 0025164.120.101

Collected: 08/17/2015

Submitted: 09/12/2015 09:45
Reported: 09/23/2015 16:53

The Boeing Company
PO Box 3707 MC 9U4-26
Seattle WA 98124

BA-TB

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
	the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Vinyl chloride	75-01-4	0.020 U	0.020	1

General Sample Comments

State of Washington Lab Certification No. C457

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 38	SW-846 8260C	1	I152582AA	09/15/2015 15:41	Kerri E Legerlotz	1
12030	8260C SIM VC Only	SW-846 8260C SIM	1	E152571AA	09/14/2015 23:19	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E152571AA	09/14/2015 23:19	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	I152582AA	09/15/2015 15:41	Kerri E Legerlotz	1

Quality Control Summary

Client Name: The Boeing Company Group Number: 1592310
Reported: 09/23/2015 16:53

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result		Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: E152571AA	Sample number(s): 8044812-8044813								
Vinyl chloride	0.020	U	0.020	ug/l	106	100	80-120	6	30
Batch number: I152582AA	Sample number(s): 8044812-8044813								
Acetone	5.0	U	5.0	ug/l	94	85	55-136	10	30
Benzene	0.2	U	0.2	ug/l	98	91	80-120	7	30
Bromodichloromethane	0.5	U	0.5	ug/l	112	105	80-120	6	30
Bromoform	0.5	U	0.5	ug/l	101	96	64-134	5	30
Bromomethane	0.5	U	0.5	ug/l	122	113	71-126	7	30
2-Butanone	5.0	U	5.0	ug/l	87	81	66-135	6	30
Carbon Disulfide	0.5	U	0.5	ug/l	95	87	70-128	9	30
Carbon Tetrachloride	0.2	U	0.2	ug/l	124	111	79-129	12	30
Chlorobenzene	0.5	U	0.5	ug/l	98	93	80-120	5	30
Chloroethane	0.5	U	0.5	ug/l	106	98	71-122	8	30
Chloroform	0.2	U	0.2	ug/l	110	103	80-120	7	30
Chloromethane	0.5	U	0.5	ug/l	97	93	63-121	5	30
Dibromochloromethane	0.5	U	0.5	ug/l	104	98	80-126	6	30
1,1-Dichloroethane	0.5	U	0.5	ug/l	97	90	80-120	7	30
1,2-Dichloroethane	0.2	U	0.2	ug/l	116	107	80-125	8	30
1,1-Dichloroethene	0.2	U	0.2	ug/l	101	93	80-120	8	30
cis-1,2-Dichloroethene	0.2	U	0.2	ug/l	102	96	80-120	6	30
trans-1,2-Dichloroethene	0.2	U	0.2	ug/l	105	96	80-120	9	30
1,2-Dichloropropane	0.5	U	0.5	ug/l	93	90	80-120	4	30
cis-1,3-Dichloropropene	0.2	U	0.2	ug/l	102	95	80-124	7	30
trans-1,3-Dichloropropene	0.2	U	0.2	ug/l	103	98	76-132	4	30
Ethylbenzene	0.5	U	0.5	ug/l	97	92	80-120	6	30
2-Hexanone	5.0	U	5.0	ug/l	89	83	71-138	6	30
4-Methyl-2-pentanone	5.0	U	5.0	ug/l	86	80	73-135	7	30
Methylene Chloride	0.5	U	0.5	ug/l	88	83	80-120	6	30
Styrene	0.5	U	0.5	ug/l	100	96	80-122	5	30
1,1,2,2-Tetrachloroethane	0.2	U	0.2	ug/l	90	87	80-120	3	30
Tetrachloroethene	0.2	U	0.2	ug/l	104	95	80-120	8	30
Toluene	0.2	U	0.2	ug/l	95	90	80-120	5	30
112Trichloro122Trifluoroethane	0.5	U	0.5	ug/l	105	95	75-120	11	30
1,1,1-Trichloroethane	0.5	U	0.5	ug/l	117	107	80-120	9	30
1,1,2-Trichloroethane	0.2	U	0.2	ug/l	93	90	80-120	3	30
Trichloroethene	0.2	U	0.2	ug/l	109	101	80-120	8	30
Trichlorofluoromethane	0.5	U	0.5	ug/l	132	119	69-133	10	30
Vinyl Acetate	0.5	U	0.5	ug/l	104	103	10-183	1	30
Vinyl Chloride	0.2	U	0.2	ug/l	111	103	71-123	8	30
m+p-Xylene	0.5	U	0.5	ug/l	101	94	80-120	7	30
o-Xylene	0.5	U	0.5	ug/l	97	92	80-120	6	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: The Boeing Company Group Number: 1592310
Reported: 09/23/2015 16:53

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C SIM VC Only
Batch number: E152571AA

	Toluene-d8	1,4-Difluorobenzene
8044812	100	97
8044813	100	97
Blank	100	96
LCS	101	98
LCSD	100	97
Limits:	80-120	80-120

Analysis Name: 8260C Boeing 38
Batch number: I152582AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8044812	112	101	94	98
8044813	113	86	95	97
Blank	111	103	96	98
LCS	109	97	95	100
LCSD	107	98	96	100
Limits:	77-114	74-113	77-110	78-110

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Boeing Chain of Custody

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Acct. # 13419 For Eurofins Lancaster Laboratories use only Group # 1592310 Sample # 8044812-13

Please print. Instructions on reverse side correspond.

1 Client Information

Site Location: Mill Creek PDB Blanks
Site Project: Boeing Auburn
Site Program/#: 0753164.120.101
Boeing PM: Jon Bet
Consultant Contact: Jennifer Wynkoop
Report To: Anne Halvorsen (ehs: See LIMS list)
Invoice To: ☒ Boeing EHS ☐ Other (specify): _____
Sampler: JWW/NTD # of Coolers: 1

2 Sample Identification	Collected Date	Collected Time	3 Matrix	No. of Containers	4 Boeing 39 VOCs	4 8260 SIM (Vinyl Cl)	5 Remarks/Comments
PDB-Blank-20150910	9/10/15	9:15	Water	3	X	X	2 empty VOA's included in foam cube
Trip Blank	8/17/15	—	Water	4	X	X	

6 Turnaround Time Requested (please circle)

Standard | 5 day | 4 day
72 hour | 48 hour | 24 hour
Date needed: _____

7

Relinquished by:	Date/Time	Received by:	Date/Time
[signature]	9/11/15 8:00am	[signature]/ELLE	9/11/15 10:20
[signature]/ELLE	8/11/15		
		[signature]	9/12/15 945

Relinquished by commercial carrier (circle): UPS FedEx Other: _____
Temperature upon Receipt: 1-3° °C
Custody Seals Intact?: (Yes) No

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Sample Administration Receipt Documentation Log

Doc Log ID: 104603

Group Number(s): 1592310

Client: Boeing

Delivery and Receipt Information

Delivery Method:	SeaTac	Arrival Timestamp:	09/12/2015 9:45
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	WA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	4
Paperwork Enclosed:	Yes	Trip Blank Type:	HCl
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Wesley Miller (2308) at 10:14 on 09/12/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	1.3	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

FedEx Expanded Billable Stamp

FedEx Express

Use only for shipments within the U.S.
Saturday delivery available.

1 From

ORDER: 0078222 6

( ) -

FedEx Priority Overnight®

Package Weight

Release Signature
For nonresidential deliveries.

Sign within this area. Please do not initial.

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

For FedEx Use Only

Employee Number

Base Charges

Other

Total Charges

M-10091 Rev. 3/10

2 To Shipment will not be accepted if address below is altered.

SAMPLE RECEIVING
LANCASTER LABORATORIES
2425 NEW HOLLAND PIKE
LANCASTER, PA 17601
(717) 656-2300

NONREDEEMABLE

Please see the back of the receipt for important terms and conditions.

SATURDAY 12:00P
PRIORITY OVERNIGHT

17601
PA-US
MDT

FedEx
TRK# 0667 8013 1776 4962

XØ LNSA

FID 6049853 11SEP15 PAEA 5372/CB89/EE4B

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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