November 18, 2015

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

Attn: Robin Harrover

Transmitted via email to: *rhar461@ecy.wa.gov*

Re: 2015 Groundwater Investigation Data Submittal - October
Boeing Auburn Facility
Auburn, Washington
Project No. 0025164.120.103

Dear Ms. Harrover:

The Boeing Company (Boeing) has completed additional groundwater investigation activities to the west and north of the Boeing Auburn Facility as described in the Supplemental Remedial Investigation Work Plan (Work Plan)[1]. The Work Plan included drilling, installation, and development of 10 new monitoring wells in Algona and Auburn, Washington. Nine wells (AGW260 through AGW268) were completed between March 23 and April 3, 2015. Initial data results for these wells were provided to you in a data submittal dated May 6, 2015[2]. Due to delays in completing an access agreement, the final well (AGW276) was drilled and installed between October 5 and 7, 2015 at the DCT Industrial property at 840 Industry Drive in Algona. AGW276 is a continuous multi-channel tubing well with screens at seven depths below ground surface. Table 1 identifies the well screen intervals and corresponding channel numbers. AGW276 was developed on October 8 and 9, 2015 and sampled on October 23, 2015. The well location is shown along with the current monitoring well network on Figure 1.

The initial sample results for AGW276 are provided in Table 2. The laboratory data package for all analytical results is included as Attachment 1. A draft report summarizing the findings of the complete 2015 supplemental remedial investigation will be submitted to Washington State Department of Ecology for review in accordance with the Work Plan (Landau Associates 2015a).

[1] Landau Associates. 2015. Supplemental Remedial Investigation Work Plan, Winter 2015, Boeing Auburn Facility, Auburn, Washington.
[2] Landau Associates. 2015."Subject: 2015 Groundwater Investigation Data Submittal." Landau Associates. May 6.

If you have any questions about the information in this letter, please contact Jennifer Wynkoop at (253) 284-4879 or Jim Bet at (206) 679-0433.

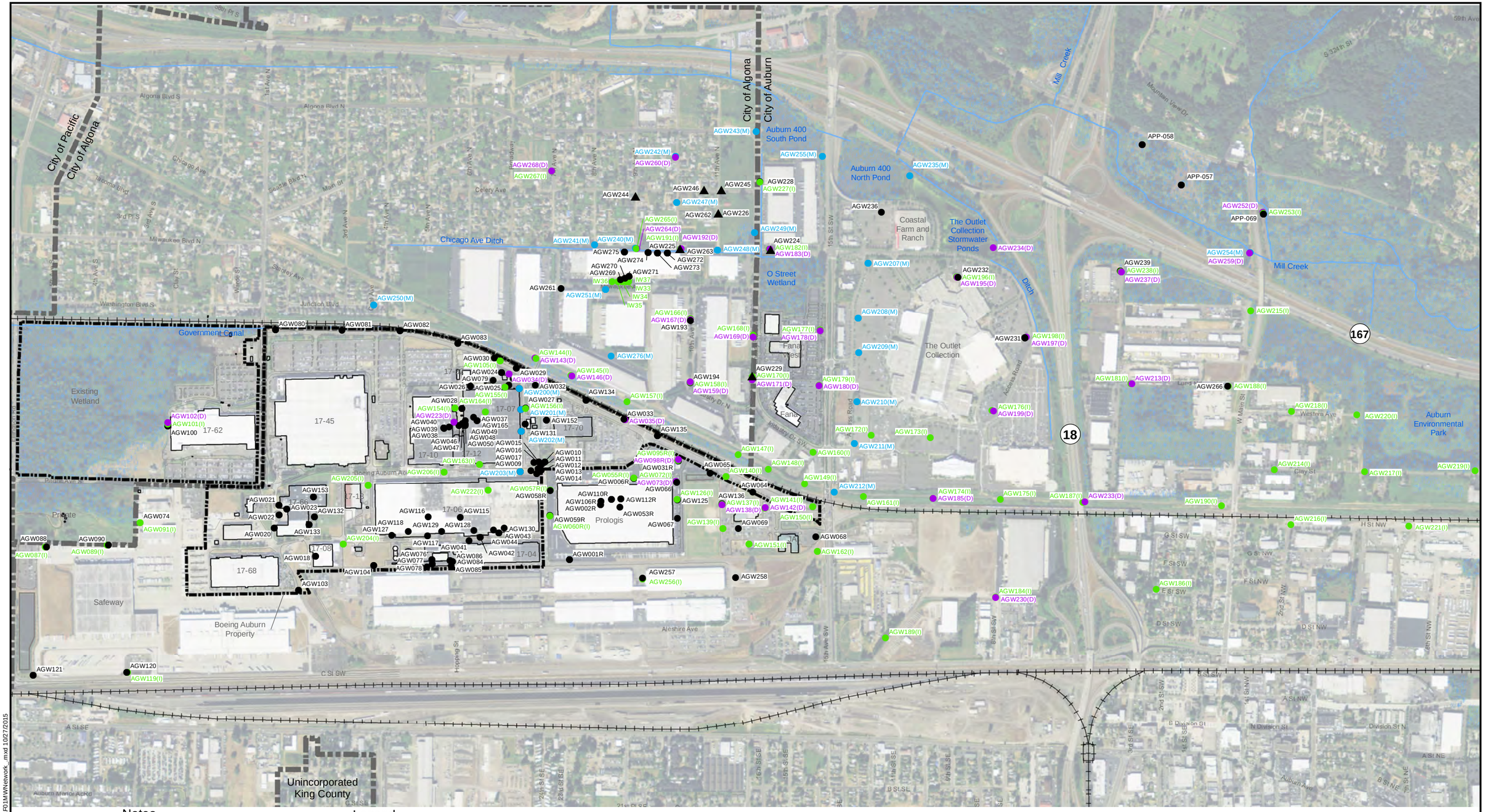
LANDAU ASSOCIATES, INC.

Jennifer Wynkoop
Senior Associate

SMM/JWW/jrc
[Y:\025\164\R\RI REPORT\2015 DRILLING REPORT\ECY DATA SUBMITTAL_AGW276\COVER LETTER.DOCX]

Attachments: Figure 1: New Well Location and Current Monitoring Well Network
Table 1: Well Installation Details – AGW276
Table 2: Initial Sample Results – AGW276
Attachment 1: Laboratory Data Package

cc: James Bet, The Boeing Company (email only)
James Swortz, The Boeing Company, one copy
Neal Hines, Washington State Department of Ecology (email only)



Notes

1. Well designations beginning with APP are installed and owned by WSDOT.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Legend

- ▲ Offsite Water Table Well
- ● Shallow Monitoring Well (2 to 30 ft BGS)
- (I) ● Intermediate Monitoring Well (40 to 60 ft BGS)
- (D) ● Deep Monitoring Well (80 to 100 ft BGS)
- (M) ● Multi-Level Well
- Wetland Areas
- Water Bodies
- Waterways

N

0 1,000 2,000

Scale in Feet

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

LANDAU ASSOCIATES

Boeing Auburn Auburn, Washington	**Current Monitoring Well Network**	Figure 1

G:\Projects\025\164120\501\F01MWNetwork_.mxd 10/27/2015

Table 1
Well Installation Details - AGW276
Boeing Auburn

Well ID	Well Type	Coordinates		Well Rim Elevation	Top of Casing Elevation (ft)	Date of Installation	Groundwater Zone	Well Permanent Screen Depth ft bgs (bottom)	Screen Length (ft)
		Northing	Easting						
AGW276	Multilevel	108771.0	1289999.5	79.11		10/7/2015			
AGW276-1					78.74		S(WT)	15	5
AGW276-2					78.74		S	25	0.5
AGW276-3					78.74		S	35	0.5
AGW276-4					78.73		I	48	0.5
AGW276-5					78.73		I	60	0.5
AGW276-6					78.74		D	80	0.5
AGW276-7					78.74		D	100	0.5

bgs = below ground surface
ft = feet

Groundwater Zone
D = deep
I = intermediate
S = shallow
WT = water table

Notes
Coordinate System and Zone: Washington State Plane, North Zone Coordinates
Horizontal Datum: North American Datum of 1983 (91), North Zone, U.S. Feet.
Vertical Datum: National Geodetic Vertical Datum of 1929, U.S. Feet.
To convert elevations shown hereon to North American Vertical Datum of 1988 elevations please add 3.49 feet.

Table 2
Initial Sample Results - AGW276
Boeing Auburn

Sample ID:	AGW276-1-15	AGW276-2-25	AGW276-3-35	AGW276-4-48	AGW276-5-60
Zone:	Water Table	Shallow	Shallow	Int.	Int.
SDG:	8104029	8104028	8104026	8104025	8104027
Lab ID:	1603637	1603637	1603637	1603637	1603637
Sample Date:	10/23/2015	10/23/2015	10/23/2015	10/23/2015	10/23/2015
VOLATILES (µg/L) Method SW8260C					
Acetone	**12**	5.0 U	5.0 UJ	**5.8** J	5.0 U
Benzene	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
Bromodichloromethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
Bromoform	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
2-Butanone	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 U
Carbon Disulfide	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
Chloroform	0.2 U	0.2 U	0.2 UJ	**0.3** J	0.2 U
Chloromethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
cis-1,2-Dichloroethene	**0.8**	**1.9**	**2.1** J	**0.6** J	**6.7**
trans-1,2-Dichloroethene	0.2 U	**0.2**	0.2 UJ	0.2 UJ	**0.5**
1,2-Dichloropropane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
Ethylbenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
2-Hexanone	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 U
Methylene Chloride	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
Styrene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
Tetrachloroethene	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
Toluene	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U
Trichloroethene	0.2 U	**0.4**	0.2 UJ	0.2 UJ	0.2 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
Vinyl Chloride	0.2 U	**1.2**	**2.6** J	0.2 UJ	**0.8**
m,p-Xylene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 U
VOLATILES (µg/L) Method 8260C SIM					
Tetrachloroethene	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Vinyl Chloride	**0.037**	**1.4**	**3.2**	**0.094**	**0.96** J

Table 2
Initial Sample Results - AGW276
Boeing Auburn

Sample ID:	AGW276-6-80	AGW276-7-100	Dup of AGW276-7-100 AGW900
Zone:	Deep	Deep	Deep
SDG:	8104024	8104022	8104023
Lab ID:	1603637	1603637	1603637
Sample Date:	10/23/2015	10/23/2015	10/23/2015
VOLATILES (µg/L) Method SW8260C			
Acetone	5.0 UJ	5.0 UJ	5.0 U
Benzene	0.2 UJ	0.2 UJ	0.2 U
Bromodichloromethane	0.5 UJ	0.5 UJ	0.5 U
Bromoform	0.5 UJ	0.5 UJ	0.5 U
Bromomethane	0.5 UJ	0.5 UJ	0.5 U
2-Butanone	5.0 UJ	5.0 UJ	5.0 U
Carbon Disulfide	0.5 UJ	0.5 UJ	0.5 U
Carbon Tetrachloride	0.2 UJ	0.2 UJ	0.2 U
Chlorobenzene	0.5 UJ	0.5 UJ	0.5 U
Chloroethane	0.5 UJ	0.5 UJ	0.5 U
Chloroform	0.2 UJ	0.2 UJ	0.2 U
Chloromethane	0.5 UJ	0.5 UJ	0.5 U
Dibromochloromethane	0.5 UJ	0.5 UJ	0.5 U
1,1-Dichloroethane	0.5 UJ	0.5 UJ	0.5 U
1,2-Dichloroethane	0.2 UJ	0.2 UJ	0.2 U
1,1-Dichloroethene	0.2 UJ	0.2 UJ	0.2 U
cis-1,2-Dichloroethene	**1.1** J	0.2 UJ	0.2 U
trans-1,2-Dichloroethene	0.2 UJ	0.2 UJ	0.2 U
1,2-Dichloropropane	0.5 UJ	0.5 UJ	0.5 U
cis-1,3-Dichloropropene	0.2 UJ	0.2 UJ	0.2 U
trans-1,3-Dichloropropene	0.2 UJ	0.2 UJ	0.2 U
Ethylbenzene	0.5 UJ	0.5 UJ	0.5 U
2-Hexanone	5.0 UJ	5.0 UJ	5.0 U
4-Methyl-2-Pentanone (MIBK)	5.0 UJ	5.0 UJ	5.0 U
Methylene Chloride	0.5 UJ	0.5 UJ	0.5 U
Styrene	0.5 UJ	0.5 UJ	0.5 U
1,1,2,2-Tetrachloroethane	0.2 UJ	0.2 UJ	0.2 U
Tetrachloroethene	0.2 UJ	0.2 UJ	0.2 U
Toluene	0.2 UJ	0.2 UJ	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 UJ	0.5 UJ	0.5 U
1,1,1-Trichloroethane	0.5 UJ	0.5 UJ	0.5 U
1,1,2-Trichloroethane	0.2 UJ	0.2 UJ	0.2 U
Trichloroethene	**1.9** J	0.2 UJ	0.2 U
Trichlorofluoromethane	0.5 UJ	0.5 UJ	0.5 U
Vinyl Acetate	0.5 UJ	0.5 UJ	0.5 U
Vinyl Chloride	0.2 UJ	0.2 UJ	0.2 U
m,p-Xylene	0.5 UJ	0.5 UJ	0.5 U
o-Xylene	0.5 UJ	0.5 UJ	0.5 U
VOLATILES (µg/L) Method 8260C SIM			
Tetrachloroethene	0.020 U	0.020 U	0.020 U
Vinyl Chloride	**0.092**	**0.024**	**0.026**

U = Indicates the compound was not detected at the reported concentration.
J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected in the sample; the reported sample reporting limit is an estimate.
Bold = Detected compound.

ATTACHMENT 1

Laboratory Data Package

REVISED

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

November 12, 2015

Project: Boeing Auburn

Submittal Date: 10/24/2015
Group Number: 1603637
State of Sample Origin: WA

Client Sample Description	Lancaster Labs (LL) #
Trip Blank Water	8104021
AGW276-7-100-20151023 Water	8104022
AGW900-20151023 Water	8104023
AGW276-6-80-20151023 Water	8104024
AGW276-4-48-20151023 Water	8104025
AGW276-3-35-20151023 Water	8104026
AGW276-5-60-20151023 Water	8104027
AGW276-2-25-20151023 Water	8104028
AGW276-1-15-20151023 Water	8104029

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

REVISED

Respectfully Submitted,

Kay Hower
Manager

(510) 672-3979

Project Name: Boeing Auburn
LL Group #: 1603637

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: 8104022, 8104024, 8104025

The holding time was not met for Trial #1. Sample was originally analyzed at a DF 5 (Trial #2) within the method specified holding time. Sample was re-analyzed at a DF 1 (Trial #1), per client request, outside of the method specified holding time. Reported data is from both trials.

Sample #s: 8104026

The holding time was not met for Trial #1. Sample was originally analyzed at a DF 5 (Trial #2) within the method specified holding time. Sample was re-analyzed at a DF 1 (Trial #1), per client request, outside of the method specified holding time. Reported data is from both trials.
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(in Trial #2) is not detected in this sample.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
Chloromethane	-24%
4-Methyl-2-Pentanone	27%
2-Hexanone	25%

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 #: E153081AA (Sample number(s): 8104021-8104029 UNSPK: 8104027)

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

eurofins | Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

REVISED

Sample Description: Trip Blank Water
Boeing Auburn

LL Sample # WW 8104021
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/13/2015

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

AGWTB

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
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**		**ug/l**	
12030	Tetrachloroethene	127-18-4	0.020	U	0.020	1
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.

eurofins | Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

REVISED

Sample Description: Trip Blank Water
Boeing Auburn

LL Sample # WW 8104021
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/13/2015

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

AGWTB

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	H153092AA	11/05/2015 19:51	Kerri E Legerlotz	1
12030	8260C SIM VC and PCE	SW-846 8260C SIM	1	E153081AA	11/04/2015 17:34	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E153081AA	11/04/2015 17:34	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H153092AA	11/05/2015 19:51	Kerri E Legerlotz	1

REVISED

Sample Description: AGW276-7-100-20151023 Water
Boeing Auburn

LL Sample # WW 8104022
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 10:25 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-7

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
Trial ID: RE						
11996	Acetone	67-64-1	25	U	25	5
11996	Benzene	71-43-2	1.0	U	1.0	5
11996	Bromodichloromethane	75-27-4	2.5	U	2.5	5
11996	Bromoform	75-25-2	2.5	U	2.5	5
11996	Bromomethane	74-83-9	2.5	U	2.5	5
11996	2-Butanone	78-93-3	25	U	25	5
11996	Carbon Disulfide	75-15-0	2.5	U	2.5	5
11996	Carbon Tetrachloride	56-23-5	1.0	U	1.0	5
11996	Chlorobenzene	108-90-7	2.5	U	2.5	5
11996	Chloroethane	75-00-3	2.5	U	2.5	5
11996	Chloroform	67-66-3	1.0	U	1.0	5

eurofins | Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

REVISED

Sample Description: AGW276-7-100-20151023 Water
Boeing Auburn

LL Sample # WW 8104022
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 10:25 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-7

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Chloromethane	74-87-3	2.5	U	2.5	5
11996	Dibromochloromethane	124-48-1	2.5	U	2.5	5
11996	1,1-Dichloroethane	75-34-3	2.5	U	2.5	5
11996	1,2-Dichloroethane	107-06-2	1.0	U	1.0	5
11996	1,1-Dichloroethene	75-35-4	1.0	U	1.0	5
11996	cis-1,2-Dichloroethene	156-59-2	1.0	U	1.0	5
11996	trans-1,2-Dichloroethene	156-60-5	1.0	U	1.0	5
11996	1,2-Dichloropropane	78-87-5	2.5	U	2.5	5
11996	cis-1,3-Dichloropropene	10061-01-5	1.0	U	1.0	5
11996	trans-1,3-Dichloropropene	10061-02-6	1.0	U	1.0	5
11996	Ethylbenzene	100-41-4	2.5	U	2.5	5
11996	2-Hexanone	591-78-6	25	U	25	5
11996	4-Methyl-2-pentanone	108-10-1	25	U	25	5
11996	Methylene Chloride	75-09-2	2.5	U	2.5	5
11996	Styrene	100-42-5	2.5	U	2.5	5
11996	1,1,2,2-Tetrachloroethane	79-34-5	1.0	U	1.0	5
11996	Tetrachloroethene	127-18-4	1.0	U	1.0	5
11996	Toluene	108-88-3	1.0	U	1.0	5
11996	112Trichloro122Trifluoroethane	76-13-1	2.5	U	2.5	5
11996	1,1,1-Trichloroethane	71-55-6	2.5	U	2.5	5
11996	1,1,2-Trichloroethane	79-00-5	1.0	U	1.0	5
11996	Trichloroethene	79-01-6	1.0	U	1.0	5
11996	Trichlorofluoromethane	75-69-4	2.5	U	2.5	5
11996	Vinyl Acetate	108-05-4	2.5	U	2.5	5
11996	Vinyl Chloride	75-01-4	1.0	U	1.0	5
11996	m+p-Xylene	179601-23-1	2.5	U	2.5	5
11996	o-Xylene	95-47-6	2.5	U	2.5	5

The holding time was not met for Trial #1. Sample was originally analyzed at a DF 5 (Trial #2) within the method specified holding time. Sample was re-analyzed at a DF 1 (Trial #1), per client request, outside of the method specified holding time. Reported data is from both trials.

GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**		**ug/l**	
12030	Tetrachloroethene	127-18-4	0.020	U	0.020	1
12030	**Vinyl chloride**	75-01-4	**0.024**		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	H153141AA	11/10/2015 18:12	Kerri E Legerlotz	1
11996	8260C Boeing 38	SW-846 8260C	2-RE	H153092AA	11/05/2015 23:04	Kerri E Legerlotz	5

REVISED

Sample Description: AGW276-7-100-20151023 Water
Boeing Auburn

LL Sample # WW 8104022
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 10:25 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-7

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12030	8260C SIM VC and PCE	SW-846 8260C SIM	1	E153081AA	11/04/2015 17:54	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E153081AA	11/04/2015 17:54	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H153092AA	11/05/2015 23:04	Kerri E Legerlotz	5
01163	GC/MS VOA Water Prep	SW-846 5030B	3	H153141AA	11/10/2015 18:12	Kerri E Legerlotz	1

REVISED

Sample Description: AGW900-20151023 Water
Boeing Auburn

LL Sample # WW 8104023
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 10:26 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

AG900

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
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**		**ug/l**	
12030	Tetrachloroethene	127-18-4	0.020	U	0.020	1
12030	**Vinyl chloride**	75-01-4	**0.026**		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.

eurofins | Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 •717-656-2300 Fax:717-656-2681• www.lancasterlabs.com

Analysis Report

REVISED

Sample Description: AGW900-20151023 Water
Boeing Auburn

LL Sample # WW 8104023
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 10:26 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

AG900

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	H153092AA	11/05/2015 21:59	Kerri E Legerlotz	1
12030	8260C SIM VC and PCE	SW-846 8260C SIM	1	E153081AA	11/04/2015 18:14	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E153081AA	11/04/2015 18:14	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H153092AA	11/05/2015 21:59	Kerri E Legerlotz	1

REVISED

Sample Description: AGW276-6-80-20151023 Water
Boeing Auburn

LL Sample # WW 8104024
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 10:57 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-6

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	**1.1**		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	**1.9**		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
Trial ID: RE						
11996	Acetone	67-64-1	25	U	25	5
11996	Benzene	71-43-2	1.0	U	1.0	5
11996	Bromodichloromethane	75-27-4	2.5	U	2.5	5
11996	Bromoform	75-25-2	2.5	U	2.5	5
11996	Bromomethane	74-83-9	2.5	U	2.5	5
11996	2-Butanone	78-93-3	25	U	25	5
11996	Carbon Disulfide	75-15-0	2.5	U	2.5	5
11996	Carbon Tetrachloride	56-23-5	1.0	U	1.0	5
11996	Chlorobenzene	108-90-7	2.5	U	2.5	5
11996	Chloroethane	75-00-3	2.5	U	2.5	5
11996	Chloroform	67-66-3	1.0	U	1.0	5

REVISED

Sample Description: AGW276-6-80-20151023 Water
Boeing Auburn

LL Sample # WW 8104024
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 10:57 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-6

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Chloromethane	74-87-3	2.5	U	2.5	5
11996	Dibromochloromethane	124-48-1	2.5	U	2.5	5
11996	1,1-Dichloroethane	75-34-3	2.5	U	2.5	5
11996	1,2-Dichloroethane	107-06-2	1.0	U	1.0	5
11996	1,1-Dichloroethene	75-35-4	1.0	U	1.0	5
11996	cis-1,2-Dichloroethene	156-59-2	1.0	U	1.0	5
11996	trans-1,2-Dichloroethene	156-60-5	1.0	U	1.0	5
11996	1,2-Dichloropropane	78-87-5	2.5	U	2.5	5
11996	cis-1,3-Dichloropropene	10061-01-5	1.0	U	1.0	5
11996	trans-1,3-Dichloropropene	10061-02-6	1.0	U	1.0	5
11996	Ethylbenzene	100-41-4	2.5	U	2.5	5
11996	2-Hexanone	591-78-6	25	U	25	5
11996	4-Methyl-2-pentanone	108-10-1	25	U	25	5
11996	Methylene Chloride	75-09-2	2.5	U	2.5	5
11996	Styrene	100-42-5	2.5	U	2.5	5
11996	1,1,2,2-Tetrachloroethane	79-34-5	1.0	U	1.0	5
11996	Tetrachloroethene	127-18-4	1.0	U	1.0	5
11996	Toluene	108-88-3	1.0	U	1.0	5
11996	112Trichloro122Trifluoroethane	76-13-1	2.5	U	2.5	5
11996	1,1,1-Trichloroethane	71-55-6	2.5	U	2.5	5
11996	1,1,2-Trichloroethane	79-00-5	1.0	U	1.0	5
11996	**Trichloroethene**	79-01-6	**1.6**		1.0	5
11996	Trichlorofluoromethane	75-69-4	2.5	U	2.5	5
11996	Vinyl Acetate	108-05-4	2.5	U	2.5	5
11996	Vinyl Chloride	75-01-4	1.0	U	1.0	5
11996	m+p-Xylene	179601-23-1	2.5	U	2.5	5
11996	o-Xylene	95-47-6	2.5	U	2.5	5

The holding time was not met for Trial #1. Sample was originally analyzed at a DF 5 (Trial #2) within the method specified holding time. Sample was re-analyzed at a DF 1 (Trial #1), per client request, outside of the method specified holding time. Reported data is from both trials.

GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**		**ug/l**	
12030	Tetrachloroethene	127-18-4	0.020	U	0.020	1
12030	**Vinyl chloride**	75-01-4	**0.092**		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	H153141AA	11/10/2015 18:34	Kerri E Legerlotz	1
11996	8260C Boeing 38	SW-846 8260C	2-RE	H153092AA	11/05/2015 23:47	Kerri E Legerlotz	5

REVISED

Sample Description: AGW276-6-80-20151023 Water
Boeing Auburn

LL Sample # WW 8104024
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 10:57 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-6

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12030	8260C SIM VC and PCE	SW-846 8260C SIM	1	E153081AA	11/04/2015 18:34	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E153081AA	11/04/2015 18:34	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H153092AA	11/05/2015 23:47	Kerri E Legerlotz	5
01163	GC/MS VOA Water Prep	SW-846 5030B	3	H153141AA	11/10/2015 18:34	Kerri E Legerlotz	1

REVISED

Sample Description: AGW276-4-48-20151023 Water
Boeing Auburn

LL Sample # WW 8104025
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 12:07 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-4

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	**5.8**		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	**0.3**		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	**0.6**		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
Trial ID: RE						
11996	Acetone	67-64-1	25	U	25	5
11996	Benzene	71-43-2	1.0	U	1.0	5
11996	Bromodichloromethane	75-27-4	2.5	U	2.5	5
11996	Bromoform	75-25-2	2.5	U	2.5	5
11996	Bromomethane	74-83-9	2.5	U	2.5	5
11996	2-Butanone	78-93-3	25	U	25	5
11996	Carbon Disulfide	75-15-0	2.5	U	2.5	5
11996	Carbon Tetrachloride	56-23-5	1.0	U	1.0	5
11996	Chlorobenzene	108-90-7	2.5	U	2.5	5
11996	Chloroethane	75-00-3	2.5	U	2.5	5
11996	Chloroform	67-66-3	1.0	U	1.0	5

eurofins | Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 •717-656-2300 Fax:717-656-2681• www.lancasterlabs.com

Analysis Report

REVISED

Sample Description: AGW276-4-48-20151023 Water
Boeing Auburn

LL Sample # WW 8104025
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 12:07 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-4

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Chloromethane	74-87-3	2.5	U	2.5	5
11996	Dibromochloromethane	124-48-1	2.5	U	2.5	5
11996	1,1-Dichloroethane	75-34-3	2.5	U	2.5	5
11996	1,2-Dichloroethane	107-06-2	1.0	U	1.0	5
11996	1,1-Dichloroethene	75-35-4	1.0	U	1.0	5
11996	cis-1,2-Dichloroethene	156-59-2	1.0	U	1.0	5
11996	trans-1,2-Dichloroethene	156-60-5	1.0	U	1.0	5
11996	1,2-Dichloropropane	78-87-5	2.5	U	2.5	5
11996	cis-1,3-Dichloropropene	10061-01-5	1.0	U	1.0	5
11996	trans-1,3-Dichloropropene	10061-02-6	1.0	U	1.0	5
11996	Ethylbenzene	100-41-4	2.5	U	2.5	5
11996	2-Hexanone	591-78-6	25	U	25	5
11996	4-Methyl-2-pentanone	108-10-1	25	U	25	5
11996	Methylene Chloride	75-09-2	2.5	U	2.5	5
11996	Styrene	100-42-5	2.5	U	2.5	5
11996	1,1,2,2-Tetrachloroethane	79-34-5	1.0	U	1.0	5
11996	Tetrachloroethene	127-18-4	1.0	U	1.0	5
11996	Toluene	108-88-3	1.0	U	1.0	5
11996	112Trichloro122Trifluoroethane	76-13-1	2.5	U	2.5	5
11996	1,1,1-Trichloroethane	71-55-6	2.5	U	2.5	5
11996	1,1,2-Trichloroethane	79-00-5	1.0	U	1.0	5
11996	Trichloroethene	79-01-6	1.0	U	1.0	5
11996	Trichlorofluoromethane	75-69-4	2.5	U	2.5	5
11996	Vinyl Acetate	108-05-4	2.5	U	2.5	5
11996	Vinyl Chloride	75-01-4	1.0	U	1.0	5
11996	m+p-Xylene	179601-23-1	2.5	U	2.5	5
11996	o-Xylene	95-47-6	2.5	U	2.5	5

The holding time was not met for Trial #1. Sample was originally analyzed at a DF 5 (Trial #2) within the method specified holding time. Sample was re-analyzed at a DF 1 (Trial #1), per client request, outside of the method specified holding time. Reported data is from both trials.

GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**		**ug/l**	
12030	Tetrachloroethene	127-18-4	0.020	U	0.020	1
12030	**Vinyl chloride**	75-01-4	**0.094**		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	H153141AA	11/10/2015 17:29	Kerri E Legerlotz	1
11996	8260C Boeing 38	SW-846 8260C	2-RE	H153092AA	11/06/2015 00:30	Kerri E Legerlotz	5

REVISED

Sample Description: AGW276-4-48-20151023 Water
Boeing Auburn

LL Sample # WW 8104025
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 12:07 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-4

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12030	8260C SIM VC and PCE	SW-846 8260C SIM	1	E153081AA	11/04/2015 18:54	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E153081AA	11/04/2015 18:54	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H153092AA	11/06/2015 00:30	Kerri E Legerlotz	5
01163	GC/MS VOA Water Prep	SW-846 5030B	3	H153141AA	11/10/2015 17:29	Kerri E Legerlotz	1

eurofins | Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 •717-656-2300 Fax:717-656-2681• www.lancasterlabs.com

Analysis Report

REVISED

Sample Description: AGW276-3-35-20151023 Water
Boeing Auburn

LL Sample # WW 8104026
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 12:36 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-3

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	**2.1**		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	**2.6**		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
Trial ID: RE						
11996	Acetone	67-64-1	25	U	25	5
11996	Benzene	71-43-2	1.0	U	1.0	5
11996	Bromodichloromethane	75-27-4	2.5	U	2.5	5
11996	Bromoform	75-25-2	2.5	U	2.5	5
11996	Bromomethane	74-83-9	2.5	U	2.5	5
11996	2-Butanone	78-93-3	25	U	25	5
11996	Carbon Disulfide	75-15-0	2.5	U	2.5	5
11996	Carbon Tetrachloride	56-23-5	1.0	U	1.0	5
11996	Chlorobenzene	108-90-7	2.5	U	2.5	5
11996	Chloroethane	75-00-3	2.5	U	2.5	5
11996	Chloroform	67-66-3	1.0	U	1.0	5

REVISED

Sample Description: AGW276-3-35-20151023 Water
Boeing Auburn

LL Sample # WW 8104026
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 12:36 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-3

CAT No.	Analysis Name	CAS Number	Result		Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11996	Chloromethane	74-87-3	2.5	U	2.5	5
11996	Dibromochloromethane	124-48-1	2.5	U	2.5	5
11996	1,1-Dichloroethane	75-34-3	2.5	U	2.5	5
11996	1,2-Dichloroethane	107-06-2	1.0	U	1.0	5
11996	1,1-Dichloroethene	75-35-4	1.0	U	1.0	5
11996	**cis-1,2-Dichloroethene**	156-59-2	**1.8**		1.0	5
11996	trans-1,2-Dichloroethene	156-60-5	1.0	U	1.0	5
11996	1,2-Dichloropropane	78-87-5	2.5	U	2.5	5
11996	cis-1,3-Dichloropropene	10061-01-5	1.0	U	1.0	5
11996	trans-1,3-Dichloropropene	10061-02-6	1.0	U	1.0	5
11996	Ethylbenzene	100-41-4	2.5	U	2.5	5
11996	2-Hexanone	591-78-6	25	U	25	5
11996	4-Methyl-2-pentanone	108-10-1	25	U	25	5
11996	Methylene Chloride	75-09-2	2.5	U	2.5	5
11996	Styrene	100-42-5	2.5	U	2.5	5
11996	1,1,2,2-Tetrachloroethane	79-34-5	1.0	U	1.0	5
11996	Tetrachloroethene	127-18-4	1.0	U	1.0	5
11996	Toluene	108-88-3	1.0	U	1.0	5
11996	112Trichloro122Trifluoroethane	76-13-1	2.5	U	2.5	5
11996	1,1,1-Trichloroethane	71-55-6	2.5	U	2.5	5
11996	1,1,2-Trichloroethane	79-00-5	1.0	U	1.0	5
11996	Trichloroethene	79-01-6	1.0	U	1.0	5
11996	Trichlorofluoromethane	75-69-4	2.5	U	2.5	5
11996	Vinyl Acetate	108-05-4	2.5	U	2.5	5
11996	**Vinyl Chloride**	75-01-4	**2.1**		1.0	5
11996	m+p-Xylene	179601-23-1	2.5	U	2.5	5
11996	o-Xylene	95-47-6	2.5	U	2.5	5

The holding time was not met for Trial #1. Sample was originally analyzed at a DF 5 (Trial #2) within the method specified holding time. Sample was re-analyzed at a DF 1 (Trial #1), per client request, outside of the method specified holding time. Reported data is from both trials.

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(in Trial #2) is not detected in this sample.

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

Analyte	Response (%Drift)
Chloromethane	-24%
4-Methyl-2-Pentanone	27%
2-Hexanone	25%

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.

GC/MS Volatiles	**SW-846 8260C SIM**	**ug/l**	**ug/l**

eurofins | Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 •717-656-2300 Fax:717-656-2681• www.lancasterlabs.com

Analysis Report

REVISED

Sample Description: AGW276-3-35-20151023 Water
Boeing Auburn

LL Sample # WW 8104026
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 12:36 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-3

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**	**ug/l**	
12030	Tetrachloroethene	127-18-4	0.020 U	0.020	1
12030	**Vinyl chloride**	75-01-4	**3.2**	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	H153141AA	11/10/2015 17:51	Kerri E Legerlotz	1
11996	8260C Boeing 38	SW-846 8260C	2-RE	H153092AB	11/06/2015 14:58	Kerri E Legerlotz	5
12030	8260C SIM VC and PCE	SW-846 8260C SIM	1	E153081AA	11/04/2015 19:14	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E153081AA	11/04/2015 19:14	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H153092AB	11/06/2015 14:58	Kerri E Legerlotz	5
01163	GC/MS VOA Water Prep	SW-846 5030B	3	H153141AA	11/10/2015 17:51	Kerri E Legerlotz	1

REVISED

Sample Description: AGW276-5-60-20151023 Water
Boeing Auburn

LL Sample # WW 8104027
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 11:27 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-5

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	**6.7**		0.2	1
11996	**trans-1,2-Dichloroethene**	156-60-5	**0.5**		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	**0.8**		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
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**		**ug/l**	
12030	Tetrachloroethene	127-18-4	0.020	U	0.020	1
12030	**Vinyl chloride**	75-01-4	**0.96**		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.

eurofins | Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 •717-656-2300 Fax:717-656-2681• www.lancasterlabs.com

Analysis Report

REVISED

Sample Description: AGW276-5-60-20151023 Water
Boeing Auburn

LL Sample # WW 8104027
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 11:27 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-5

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	H153092AA	11/05/2015 20:12	Kerri E Legerlotz	1
12030	8260C SIM VC and PCE	SW-846 8260C SIM	1	E153081AA	11/04/2015 16:34	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E153081AA	11/04/2015 16:34	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H153092AA	11/05/2015 20:12	Kerri E Legerlotz	1

eurofins | Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 •717-656-2300 Fax:717-656-2681• www.lancasterlabs.com

Analysis Report

REVISED

Sample Description: AGW276-2-25-20151023 Water
Boeing Auburn

LL Sample # WW 8104028
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 13:03 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-2

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	**1.9**		0.2	1
11996	**trans-1,2-Dichloroethene**	156-60-5	**0.2**		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	**0.4**		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	**1.2**		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
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**		**ug/l**	
12030	Tetrachloroethene	127-18-4	0.020	U	0.020	1
12030	**Vinyl chloride**	75-01-4	**1.4**		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.

eurofins | Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 •717-656-2300 Fax:717-656-2681• www.lancasterlabs.com

Analysis Report

REVISED

Sample Description: AGW276-2-25-20151023 Water
Boeing Auburn

LL Sample # WW 8104028
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 13:03 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-2

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	H153092AA	11/05/2015 22:21	Kerri E Legerlotz	1
12030	8260C SIM VC and PCE	SW-846 8260C SIM	1	E153081AA	11/04/2015 19:34	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E153081AA	11/04/2015 19:34	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H153092AA	11/05/2015 22:21	Kerri E Legerlotz	1

REVISED

Sample Description: AGW276-1-15-20151023 Water
Boeing Auburn

LL Sample # WW 8104029
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 13:28 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-1

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	**12**		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	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
GC/MS Volatiles	**SW-846 8260C SIM**		**ug/l**		**ug/l**	
12030	Tetrachloroethene	127-18-4	0.020	U	0.020	1
12030	**Vinyl chloride**	75-01-4	**0.037**		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.

REVISED

Sample Description: AGW276-1-15-20151023 Water
Boeing Auburn

LL Sample # WW 8104029
LL Group # 1603637
Account # 13419

Project Name: Boeing Auburn

Collected: 10/23/2015 13:28 by NTD

Submitted: 10/24/2015 10:30
Reported: 11/12/2015 08:25

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

276-1

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	H153092AA	11/05/2015 22:42	Kerri E Legerlotz	1
12030	8260C SIM VC and PCE	SW-846 8260C SIM	1	E153081AA	11/04/2015 19:54	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E153081AA	11/04/2015 19:54	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H153092AA	11/05/2015 22:42	Kerri E Legerlotz	1

REVISED

Quality Control Summary

Client Name: The Boeing Company Group Number: 1603637
Reported: 11/12/2015 08:25

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: E153081AA	Sample number(s): 8104021-8104029								
Tetrachloroethene	0.020	U	0.020	ug/l	101		80-120		
Vinyl chloride	0.020	U	0.020	ug/l	114		80-120		
Batch number: H153092AA	Sample number(s): 8104021-8104025,8104027-8104029								
Acetone	5.0	U	5.0	ug/l	95		55-136		
Benzene	0.2	U	0.2	ug/l	98		80-120		
Bromodichloromethane	0.5	U	0.5	ug/l	97		80-120		
Bromoform	0.5	U	0.5	ug/l	93		64-134		
Bromomethane	0.5	U	0.5	ug/l	85		71-126		
2-Butanone	5.0	U	5.0	ug/l	97		66-135		
Carbon Disulfide	0.5	U	0.5	ug/l	89		70-128		
Carbon Tetrachloride	0.2	U	0.2	ug/l	89		79-129		
Chlorobenzene	0.5	U	0.5	ug/l	95		80-120		
Chloroethane	0.5	U	0.5	ug/l	82		71-122		
Chloroform	0.2	U	0.2	ug/l	96		80-120		
Chloromethane	0.5	U	0.5	ug/l	76		63-121		
Dibromochloromethane	0.5	U	0.5	ug/l	93		80-126		
1,1-Dichloroethane	0.5	U	0.5	ug/l	96		80-120		
1,2-Dichloroethane	0.2	U	0.2	ug/l	103		80-125		
1,1-Dichloroethene	0.2	U	0.2	ug/l	93		80-120		
cis-1,2-Dichloroethene	0.2	U	0.2	ug/l	95		80-120		
trans-1,2-Dichloroethene	0.2	U	0.2	ug/l	95		80-120		
1,2-Dichloropropane	0.5	U	0.5	ug/l	106		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	96		76-132		
Ethylbenzene	0.5	U	0.5	ug/l	94		80-120		
2-Hexanone	5.0	U	5.0	ug/l	100		71-138		
4-Methyl-2-pentanone	5.0	U	5.0	ug/l	98		73-135		
Methylene Chloride	0.5	U	0.5	ug/l	97		80-120		
Styrene	0.5	U	0.5	ug/l	95		80-122		
1,1,2,2-Tetrachloroethane	0.2	U	0.2	ug/l	100		80-120		
Tetrachloroethene	0.2	U	0.2	ug/l	92		80-120		
Toluene	0.2	U	0.2	ug/l	93		80-120		
112Trichloro122Trifluoroethane	0.5	U	0.5	ug/l	95		75-120		
1,1,1-Trichloroethane	0.5	U	0.5	ug/l	90		80-120		
1,1,2-Trichloroethane	0.2	U	0.2	ug/l	102		80-120		
Trichloroethene	0.2	U	0.2	ug/l	96		80-120		
Trichlorofluoromethane	0.5	U	0.5	ug/l	85		69-133		
Vinyl Acetate	0.5	U	0.5	ug/l	100		10-183		
Vinyl Chloride	0.2	U	0.2	ug/l	84		71-123		

*- 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.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: The Boeing Company Group Number: 1603637
Reported: 11/12/2015 08:25

Analysis Name	Blank Result		Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
m+p-Xylene	0.5	U	0.5	ug/l	94		80-120		
o-Xylene	0.5	U	0.5	ug/l	89		80-120		
Batch number: H153092AB	Sample number(s): 8104026								
Acetone	5.0	U	5.0	ug/l	89		55-136		
Benzene	0.2	U	0.2	ug/l	94		80-120		
Bromodichloromethane	0.5	U	0.5	ug/l	90		80-120		
Bromoform	0.5	U	0.5	ug/l	89		64-134		
Bromomethane	0.5	U	0.5	ug/l	95		71-126		
2-Butanone	5.0	U	5.0	ug/l	88		66-135		
Carbon Disulfide	0.5	U	0.5	ug/l	88		70-128		
Carbon Tetrachloride	0.2	U	0.2	ug/l	87		79-129		
Chlorobenzene	0.5	U	0.5	ug/l	91		80-120		
Chloroethane	0.5	U	0.5	ug/l	93		71-122		
Chloroform	0.2	U	0.2	ug/l	91		80-120		
Chloromethane	0.5	U	0.5	ug/l	93		63-121		
Dibromochloromethane	0.5	U	0.5	ug/l	90		80-126		
1,1-Dichloroethane	0.5	U	0.5	ug/l	90		80-120		
1,2-Dichloroethane	0.2	U	0.2	ug/l	99		80-125		
1,1-Dichloroethene	0.2	U	0.2	ug/l	93		80-120		
cis-1,2-Dichloroethene	0.2	U	0.2	ug/l	92		80-120		
trans-1,2-Dichloroethene	0.2	U	0.2	ug/l	95		80-120		
1,2-Dichloropropane	0.5	U	0.5	ug/l	99		80-120		
cis-1,3-Dichloropropene	0.2	U	0.2	ug/l	94		80-124		
trans-1,3-Dichloropropene	0.2	U	0.2	ug/l	92		76-132		
Ethylbenzene	0.5	U	0.5	ug/l	90		80-120		
2-Hexanone	5.0	U	5.0	ug/l	88		71-138		
4-Methyl-2-pentanone	5.0	U	5.0	ug/l	90		73-135		
Methylene Chloride	0.5	U	0.5	ug/l	93		80-120		
Styrene	0.5	U	0.5	ug/l	91		80-122		
1,1,2,2-Tetrachloroethane	0.2	U	0.2	ug/l	88		80-120		
Tetrachloroethene	0.2	U	0.2	ug/l	92		80-120		
Toluene	0.2	U	0.2	ug/l	92		80-120		
112Trichloro122Trifluoroethane	0.5	U	0.5	ug/l	96		75-120		
1,1,1-Trichloroethane	0.5	U	0.5	ug/l	87		80-120		
1,1,2-Trichloroethane	0.2	U	0.2	ug/l	98		80-120		
Trichloroethene	0.2	U	0.2	ug/l	94		80-120		
Trichlorofluoromethane	0.5	U	0.5	ug/l	94		69-133		
Vinyl Acetate	0.5	U	0.5	ug/l	103		10-183		
Vinyl Chloride	0.2	U	0.2	ug/l	100		71-123		
m+p-Xylene	0.5	U	0.5	ug/l	92		80-120		
o-Xylene	0.5	U	0.5	ug/l	86		80-120		
Batch number: H153141AA	Sample number(s): 8104022,8104024-8104026								
Acetone	5.0	U	5.0	ug/l	85	88	55-136	4	30
Benzene	0.2	U	0.2	ug/l	99	92	80-120	7	30
Bromodichloromethane	0.5	U	0.5	ug/l	100	94	80-120	6	30
Bromoform	0.5	U	0.5	ug/l	97	90	64-134	7	30
Bromomethane	0.5	U	0.5	ug/l	96	88	71-126	8	30
2-Butanone	5.0	U	5.0	ug/l	90	89	66-135	0	30
Carbon Disulfide	0.5	U	0.5	ug/l	79	74	70-128	7	30
Carbon Tetrachloride	0.2	U	0.2	ug/l	91	85	79-129	8	30
Chlorobenzene	0.5	U	0.5	ug/l	98	93	80-120	5	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.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: The Boeing Company Group Number: 1603637
Reported: 11/12/2015 08:25

Analysis Name	Blank Result		Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Chloroethane	0.5	U	0.5	ug/l	94	87	71-122	7	30
Chloroform	0.2	U	0.2	ug/l	97	91	80-120	7	30
Chloromethane	0.5	U	0.5	ug/l	90	83	63-121	9	30
Dibromochloromethane	0.5	U	0.5	ug/l	97	95	80-126	3	30
1,1-Dichloroethane	0.5	U	0.5	ug/l	96	91	80-120	5	30
1,2-Dichloroethane	0.2	U	0.2	ug/l	106	99	80-125	7	30
1,1-Dichloroethene	0.2	U	0.2	ug/l	88	80	80-120	9	30
cis-1,2-Dichloroethene	0.2	U	0.2	ug/l	96	88	80-120	8	30
trans-1,2-Dichloroethene	0.2	U	0.2	ug/l	92	86	80-120	6	30
1,2-Dichloropropane	0.5	U	0.5	ug/l	110	102	80-120	8	30
cis-1,3-Dichloropropene	0.2	U	0.2	ug/l	107	102	80-124	5	30
trans-1,3-Dichloropropene	0.2	U	0.2	ug/l	103	100	76-132	3	30
Ethylbenzene	0.5	U	0.5	ug/l	98	91	80-120	7	30
2-Hexanone	5.0	U	5.0	ug/l	95	92	71-138	3	30
4-Methyl-2-pentanone	5.0	U	5.0	ug/l	95	92	73-135	3	30
Methylene Chloride	0.5	U	0.5	ug/l	95	89	80-120	6	30
Styrene	0.5	U	0.5	ug/l	98	94	80-122	5	30
1,1,2,2-Tetrachloroethane	0.2	U	0.2	ug/l	99	98	80-120	1	30
Tetrachloroethene	0.2	U	0.2	ug/l	96	89	80-120	8	30
Toluene	0.2	U	0.2	ug/l	96	90	80-120	6	30
112Trichloro122Trifluoroethane	0.5	U	0.5	ug/l	93	84	75-120	10	30
1,1,1-Trichloroethane	0.5	U	0.5	ug/l	91	85	80-120	8	30
1,1,2-Trichloroethane	0.2	U	0.2	ug/l	102	97	80-120	5	30
Trichloroethene	0.2	U	0.2	ug/l	99	93	80-120	6	30
Trichlorofluoromethane	0.5	U	0.5	ug/l	91	82	69-133	11	30
Vinyl Acetate	0.5	U	0.5	ug/l	110	110	10-183	0	30
Vinyl Chloride	0.2	U	0.2	ug/l	94	88	71-123	7	30
m+p-Xylene	0.5	U	0.5	ug/l	96	91	80-120	5	30
o-Xylene	0.5	U	0.5	ug/l	93	87	80-120	7	30

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: E153081AA	Sample number(s): 8104021-8104029 UNSPK: 8104027								
Tetrachloroethene	119	113	80-120	5	30				
Vinyl chloride	133*	124*	80-120	5	30				
Batch number: H153092AA	Sample number(s): 8104021-8104025,8104027-8104029 UNSPK: 8104027								
Acetone	98	105	55-136	7	30				
Benzene	99	104	80-120	4	30				
Bromodichloromethane	96	100	80-120	4	30				
Bromoform	95	99	64-134	4	30				
Bromomethane	88	95	71-126	8	30				
2-Butanone	102	107	66-135	5	30				
Carbon Disulfide	88	91	70-128	4	30				
Carbon Tetrachloride	93	98	79-129	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.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: The Boeing Company Group Number: 1603637
Reported: 11/12/2015 08:25

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
Chlorobenzene	102	102	80-120	0	30				
Chloroethane	89	92	71-122	4	30				
Chloroform	96	102	80-120	5	30				
Chloromethane	75	95	63-121	23	30				
Dibromochloromethane	96	101	80-126	6	30				
1,1-Dichloroethane	98	101	80-120	4	30				
1,2-Dichloroethane	97	106	80-125	8	30				
1,1-Dichloroethene	93	99	80-120	5	30				
cis-1,2-Dichloroethene	87	96	80-120	4	30				
trans-1,2-Dichloroethene	95	102	80-120	7	30				
1,2-Dichloropropane	105	108	80-120	4	30				
cis-1,3-Dichloropropene	96	103	80-124	6	30				
trans-1,3-Dichloropropene	94	99	76-132	5	30				
Ethylbenzene	102	104	80-120	3	30				
2-Hexanone	111	113	71-138	1	30				
4-Methyl-2-pentanone	107	110	73-135	3	30				
Methylene Chloride	94	97	80-120	3	30				
Styrene	102	103	80-122	2	30				
1,1,2,2-Tetrachloroethane	101	103	80-120	3	30				
Tetrachloroethene	101	105	80-120	4	30				
Toluene	101	102	80-120	1	30				
112Trichloro122Trifluoroethane	98	106	75-120	8	30				
1,1,1-Trichloroethane	94	97	80-120	3	30				
1,1,2-Trichloroethane	102	105	80-120	3	30				
Trichloroethene	102	107	80-120	4	30				
Trichlorofluoromethane	93	97	69-133	4	30				
Vinyl Acetate	96	97	10-183	2	30				
Vinyl Chloride	91	106	71-123	13	30				
m+p-Xylene	101	103	80-120	2	30				
o-Xylene	98	99	80-120	1	30				
Batch number: H153092AB	Sample number(s): 8104026 UNSPK: 8104027								
Acetone	98	105	55-136	7	30				
Benzene	99	104	80-120	4	30				
Bromodichloromethane	96	100	80-120	4	30				
Bromoform	95	99	64-134	4	30				
Bromomethane	88	95	71-126	8	30				
2-Butanone	102	107	66-135	5	30				
Carbon Disulfide	88	91	70-128	4	30				
Carbon Tetrachloride	93	98	79-129	6	30				
Chlorobenzene	102	102	80-120	0	30				
Chloroethane	89	92	71-122	4	30				
Chloroform	96	102	80-120	5	30				
Chloromethane	75	95	63-121	23	30				
Dibromochloromethane	96	101	80-126	6	30				
1,1-Dichloroethane	98	101	80-120	4	30				
1,2-Dichloroethane	97	106	80-125	8	30				
1,1-Dichloroethene	93	99	80-120	5	30				
cis-1,2-Dichloroethene	87	96	80-120	4	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.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: The Boeing Company Group Number: 1603637
Reported: 11/12/2015 08:25

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
trans-1,2-Dichloroethene	95	102	80-120	7	30				
1,2-Dichloropropane	105	108	80-120	4	30				
cis-1,3-Dichloropropene	96	103	80-124	6	30				
trans-1,3-Dichloropropene	94	99	76-132	5	30				
Ethylbenzene	102	104	80-120	3	30				
2-Hexanone	111	113	71-138	1	30				
4-Methyl-2-pentanone	107	110	73-135	3	30				
Methylene Chloride	94	97	80-120	3	30				
Styrene	102	103	80-122	2	30				
1,1,2,2-Tetrachloroethane	101	103	80-120	3	30				
Tetrachloroethene	101	105	80-120	4	30				
Toluene	101	102	80-120	1	30				
112Trichloro122Trifluoroethane	98	106	75-120	8	30				
1,1,1-Trichloroethane	94	97	80-120	3	30				
1,1,2-Trichloroethane	102	105	80-120	3	30				
Trichloroethene	102	107	80-120	4	30				
Trichlorofluoromethane	93	97	69-133	4	30				
Vinyl Acetate	96	97	10-183	2	30				
Vinyl Chloride	91	106	71-123	13	30				
m+p-Xylene	101	103	80-120	2	30				
o-Xylene	98	99	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 and PCE
Batch number: E153081AA

	Toluene-d8	1,4-Difluorobenzene
8104021	100	102
8104022	100	100
8104023	100	101
8104024	100	100
8104025	100	100
8104026	100	101
8104027	100	100
8104028	100	100
8104029	100	100
Blank	100	101
LCS	100	100
MS	100	99
MSD	100	100
Limits:	80-120	80-120

Analysis Name: 8260C Boeing 38

*- 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.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: The Boeing Company Group Number: 1603637
Reported: 11/12/2015 08:25

Surrogate Quality Control

Batch number: H153092AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8104021	99	109	96	90
8104022	96	106	98	93
RE				
8104023	94	102	97	93
8104024	96	106	97	92
RE				
8104025	95	104	97	92
RE				
8104027	97	109	96	93
8104028	95	106	96	91
8104029	96	104	96	92
Blank	97	106	97	92
LCS	97	107	96	94
MS	96	101	97	94
MSD	98	106	97	94
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Boeing 38
Batch number: H153092AB

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8104026	98	108	96	92
RE				
Blank	98	108	96	92
LCS	98	106	97	94
MS	96	101	97	94
MSD	98	106	97	94
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Boeing 38
Batch number: H153141AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8104022	97	104	96	96
8104024	96	108	95	94
8104025	98	105	94	95
8104026	96	105	96	95
Blank	98	110	96	95
LCS	98	107	96	96
LCSD	97	108	97	95
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.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Boeing Chain of Custody

eurofins | Lancaster Laboratories

Acct. # 13419 For Eurofins Lancaster Laboratories use only Group # 1603637 Sample # 8104021-29
Please print. Instructions on reverse side correspond.

1 Client Information

Site Location: Auburn, WA
Site Project: Boeing Auburn
Site Program/#: 0025149.130.109
Boeing PM: Jim Bet
Consultant Contact: Jennifer Wynkoop
Report To: Anne Halvorsen (see LIMS list ect.)
Invoice To: ☒ Boeing EHS ☐ Other (specify):
Sampler: NTD # of Coolers: 1

4 Analyses Requested

5 Remarks/Comments

5 empty VOA's included in cooler

2 Sample Identification	Collected Date	Collected Time	3 Matrix	No. of Containers	Boeing 38 VOCs	SIM TCE and VC	MC/AHCD	5 Remarks/Comments
Trip Blanks	10/13/15	—	H2O	4	X	X		
AGW276-7-100-20151023	10/23/15	1025		5	X	X		
AGW900-20151023		1026		5	X	X		
AGW276-6-80-20151023		1057		5	X	X		
AGW276-4-48-20151023		1207		5	X	X		
AGW276-3-35-20151023		1236		5	X	X		
AGW276-5-60-20151023		1127		15	X	X	X	
AGW276-2-25-20151023		1308		5	X	X		
AGW276-1-15-20151023		1317		5	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]	10/23/15 1500		
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by: Krista Abel	10/24/15 1030

Relinquished by commercial carrier (circle): (UPS) FedEx Other: ______
Temperature upon Receipt: 0.6 °C
Custody Seals Intact? (Yes) No

Eurofins Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 717-656-2300
Issued by Dept. 40 Management
7063.02

Boeing Chain of Custody

eurofins | Lancaster Laboratories

Acct. # 13419 For Eurofins Lancaster Laboratories use only Group # 1623637 Sample # 8104021-29

Please print. Instructions on reverse side correspond.

(1) Client Information

Site Location: Auburn, WA
Site Project: Boeing Auburn
Site Program/#: 0025169.120.109
Boeing PM: Jim Bet
Consultant Contact: Jennifer Wynkoop
Report To: Anne Halvorsen (see LIMS list eet.)
Invoice To: ☒ Boeing EHS ☐ Other (specify): _____
Sampler: NTD # of Coolers: 1

(4) Analyses Requested

(5) Remarks/Comments

5 empty VOA's included in cooler

(2) Sample Identification	Collected Date	Collected Time	(3) Matrix	No. of Containers	Boeing 38 VOC's	SIM PCE and VC	MS/MSD
Trip Blanks	10/13/15	—	H_2O	4	X	X	
AGW276-7-100-20151022	10/22/15	1025		5	X	X	
AGW900-20151022		1026		5	X	X	
AGW276-6-80-20151022		1057		5	X	X	
AGW276-4-48-20151022		1207		5	X	X	
AGW276-3-35-20151022		1236		5	X	X	
AGW276-5-60-20151022		1127		15	X	X	X
AGW276-2-25-20151022		1303		5	X	X	
AGW276-1-15-20151022		1328		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)
[signature]	10/22/15 1500		
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by: [signature] Abel	Date/Time 10/29/15 1080

Relinquished by commercial carrier (circle): (UPS) FedEx Other: _____
Temperature upon Receipt: 0.6 °C
Custody Seals Intact?: (Yes) No

Page 33 of 36

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 117235

Group Number(s): 1603637

Client: Boeing

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	10/24/2015 10:30
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 Krista Abel (3058) at 14:11 on 10/24/2015

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	0.6	DT	Wet	Y	Bagged	N

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

G# 1603637


VINCE YU
EUROFINS LANCASTER LABORATORIE
11720 NORTH CREEK PARKWAY N
BOTHELL WA 98011-8244
40 LBS
RS
DWT 25.14.14
SHIP TO:
SAMPLE ADMINASTRATION
(717) 656-2300
EUROFINS LANCASTER LABORATORIES
2425 NEW HOLLAND PIKE
LANCASTER PA 17601-5946
PA 175 9-37
UPS NEXT DAY AIR
1 S
TRACKING #: 1Z RV3 069 Y0 4404 9343
BILLING: P/P
DESC: SAMPLING
RETURN SERVICE
REF 1:DEPT 40
WS 17.0.31
LD620D 60.0A 01/2015

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, and ISO 17025) 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.