

**Semiannual Data Report
Troutdale Gravel Aquifer Corrective Measure
January 1, 2014 through June 30, 2014
Boeing Portland Facility
Gresham, Oregon**

July 30, 2014

Prepared for

The Boeing Company



**LANDAU
ASSOCIATES**

130 2nd Avenue South
Edmonds, WA 98020
(425) 778-0907

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1-1
2.0 DOCUMENTATION	2-1
3.0 EXTRACTION AND TREATMENT SYSTEM	3-1
3.1 EXTRACTION RATES	3-1
4.0 REMEDY PERFORMANCE DATA ANALYSIS	4-1
4.1 GROUNDWATER ELEVATIONS	4-1
4.2 GROUNDWATER QUALITY	4-1
4.2.1 TGA Remedy Wells	4-1
4.2.2 Coolant Release Area	4-2
4.2.3 Former Vapor Degreaser Source Area-SVE System	4-2
5.0 PLANNED ACTIVITIES	5-1
6.0 USE OF REPORT	6-1
7.0 REFERENCES	7-1

FIGURES

<u>Figure</u>	<u>Title</u>
1	Boeing Portland Site Map
2	TGA Groundwater Performance Monitoring Locations
3	Groundwater Extraction and Treatment System Configuration
4	TGA Groundwater Elevation Contours and Capture Zone-August 2014
5	TCE Groundwater Results in TGA-August 2014
6	Coolant Release Groundwater Results January through June 2014
7	TCE Groundwater Results – Former Degreaser Source Area
8	TCE Vapor Results – SVE System

TABLES

<u>Table</u>	<u>Title</u>
1	Performance Monitoring Locations
2	Extraction Well Summary, Groundwater Treatment System
3	Groundwater Quality Summary, TGA and Select TSA Wells, January 1 through June 30, 2014
4	Groundwater Elevation Data, TGA Monitoring Wells, January 1 through June 30, 2014
5	Vapor Well Analytical Results, Former Vapor Degreaser Source Area
6	Water Analytical Results, TPH-Dx and Field Parameters, Coolant Release Investigation 2014
7	SVE System Analytical Results, Former Vapor Degreaser Source Area
8	Sub-Slab Vapor Well Analytical Results, Former Vapor Degreaser Source Area

APPENDICES

<u>Appendix</u>	<u>Title</u>
A	Data Validation and Laboratory Reports (CD)

1.0 INTRODUCTION

This semiannual data report has been submitted on behalf of The Boeing Company (Boeing) to summarize activities associated with the continued remedy of the Troutdale Gravel Aquifer (TGA) during the reporting period of January 1 through June 30, 2014 at the Boeing Portland facility in Gresham, Oregon, as shown on Figure 1. This report is submitted under the State of Oregon Department of Environmental Quality (DEQ) Order on Consent (Order) DEQ No. LQSR-NWR-04-12.

Corrective actions, as established in the Order, have been implemented at the Boeing Portland facility to address volatile organic compound (VOC) contamination in the TGA, specifically to provide protection of human health and the environment from exposure to the TGA VOC dissolved plume through ingestion, dermal contact, or inhalation pathways. The corrective actions established in the Order consist of Institutional Control Measures for portions of the site where workers may encounter potentially elevated VOC concentrations, active pump and treat of the impacted groundwater referred to as the Groundwater Treatment System (GWTS), and ongoing monitoring. Additional selected corrective actions, approved by DEQ to be implemented to augment the corrective actions established in the Order for the VOC dissolved plume, include *in situ* bioremediation and soil vapor extraction. Dual-phase extraction and soil vapor extraction were previously utilized at the facility; however, these systems have ceased to operate due to limited performance. An oil/water separator system operated between 2007 and 2012 to assist with remediation of a limited coolant release in the 85-105 building shallow footing drains system that routed water to the building sump. The oil/water separator treated water that accumulates in the footing drain sump for the 85-105 building and was referred to as the Sump Treatment System (STS).

The goal of the corrective actions is for TGA restoration to be obtained within 10 to 20 years from the completion of the Corrective Measure Implementation (CMI) construction in 1999. Corrective action objectives (CAOs) were developed in the Phase 2 Corrective Measures Study (CMS; Landau Associates 1996) to meet this goal. These CAOs were confirmed in the U.S. Environmental Protection Agency (EPA) Final Decision (EPA 1997) and provide the basis for corrective action implementation (Landau Associates 1997). The CAOs to be achieved by the corrective measures for the TGA, as presented in the Final Decision, are as follows:

CAO-a	Decrease VOC concentrations throughout the site to achieve maximum contaminant levels (MCLs). If this is not feasible, then minimize the areal extent of groundwater contamination that exceeds MCLs and provide long-term containment for those areas with concentrations above MCLs.
CAO-b	Prevent exposure to TGA groundwater that contains VOCs at concentrations above MCLs.
CAO-c	Protect environmental receptors by preventing discharge of TGA groundwater to surface water at VOC contaminant concentrations that may exceed ambient water quality criteria.
CAO-d	Prevent further spread of contamination in the TGA (i.e., prevent the migration of groundwater containing VOCs above MCLs).
CAO-e	Protect groundwater quality in the Troutdale Sandstone Aquifer (TSA).
CAO-f	Facilitate existing uses of groundwater resources in eastern Multnomah County.
CAO-g	Reduce concentrations of VOCs and minimize migration of VOCs from vadose zone soil to the TGA that could compromise satisfying CAO-a for groundwater.

The data presented in this report include significant site activities, water level, extraction rate, discharge compliance, and water quality information for the TGA remedy during the semiannual reporting period. Laboratory and validation reports for this period are presented on compact disc (Appendix A). The monitoring wells and groundwater extraction wells associated with the TGA and select Upper TSA remedies are shown on Figure 2. The TGA corrective measure system is shown on Figure 3. The current groundwater monitoring program is summarized in Table 1.

2.0 DOCUMENTATION

The following documents were submitted to DEQ during this reporting period as part of corrective measures implementation:

Landau Associates. 2014. Technical Memorandum re: *Addendum No. 1, Source Area Bioremediation Work Plan, Combined Treatment of Source Wells and Permeable Reactive Barrier, Building 85-001 Former Vapor Degreaser Source Area, Boeing Portland Facility, Gresham, Oregon*. From Christine Kimmel L.G., Clint Jacob, P.E., L.G., and Christophe Venot, Landau Associates, Inc., to Mr. Robert Williams, Oregon Department of Environmental Quality, and Mr. Ken Chaput, The Boeing Company. May 29.

Landau Associates. 2014. *2013 Progress and Performance Evaluation, Troutdale Gravel Aquifer, Boeing Portland Facility, Gresham, Oregon*. Prepared for The Boeing Company. March 28.

3.0 EXTRACTION AND TREATMENT SYSTEM

This section summarizes extraction and treatment system performance for the GWTS. The GWTS currently consists of a series of 14 active and non-pumping TGA extraction wells along with 2 shut down TSA extraction wells, as shown on Figure 3. The extracted groundwater is routed to an air stripper tower through conveyance piping, with treated water being transferred to the outfall at Storm Drain Creek and eventually the Columbia Slough. Monthly operation and maintenance activities are conducted to verify proper operation of the GWTS. The GWTS is also continuously monitored by a supervisory control and data acquisition (SCADA) system that either provides alarms when the system needs evaluations or shuts down the system in an emergency situation. The GWTS was operated near full-time during this reporting period with the following limited planned shutdown periods for monitoring and maintenance:

- GWTS was shut down on January 7 to replace worn belts on the blower.
- Extraction well E-3 was shut down between February 4 and 13 due to a malfunctioning pump. During the shutdown for the pump replacement, extraction wells E-2 (which was indicating a below target level pump rate) and E-3 were cleaned using sonar cleaning to remove biological buildup in the screen intervals.
- Extraction well E-16 was shut down between March 21 and 25 due to a malfunctioning pump, which was replaced.
- Between May 11 and 22, extraction wells E-2 and E-3 were shut down for sonar cleaning and new pump installation. Pumping was resumed May 23, 2014 after the wells were redeveloped by purging water to a temporary storage tank to allow for settlement of solids prior to routing water to the GWTS.

3.1 EXTRACTION RATES

The GWTS was designed to treat water extracted from a total of 17 TGA extraction wells (E-1 through E-16 and DP-1) and 3 TSA extraction wells (EW-3, EW-13, and EW-22). Extraction wells E-5 through E-9 have been shut down since 2002, with the exception of a brief operation time for sample collection and maintenance. Extraction well E-1 was decommissioned in June 2004, and E-10, E-14, and TSA extraction well EW-22 were decommissioned between February and April 2010. TGA extraction well E-11, E-15, and E-16 were temporarily shut down for the 2008 bioremediation activities in the West Corrective Action Area to enhance microbial biomass growth and attachment in the formation. Extraction wells E-15 and E-16 resumed operation in March 2013, while E-11 remains shut down. TSA extraction wells EW-3 and EW-13 were shut down and converted to monitoring well status with DEQ approval on April 15, 2013 and August 1, 2013, respectively.

During this reporting period, the following TGA extraction wells E-2, E-3, E-4, E-12, E-13, E-15, E-16 and DP-1 were operated in a continuous mode to provide hydraulic control of the dissolved plume. Extraction well pump rates are summarized in Table 2.

The GWTS operated within the National Pollutant Discharge Elimination System (NPDES) permit levels during this reporting period. The analytical results for the GWTS indicate that VOCs were not detected in the system effluent, as summarized in Table 3.

4.0 REMEDY PERFORMANCE DATA ANALYSIS

This section summarizes water level and water quality data collected from extraction and monitoring wells during the semiannual reporting period.

4.1 GROUNDWATER ELEVATIONS

Groundwater levels were measured in February 2014 and are summarized in Table 4. Groundwater elevations were calculated for each of the measured wells and are shown on Figure 4. The data continues to show that groundwater flow gradients are toward the north-northwest and the operating extraction wells maintain hydraulic capture.

4.2 GROUNDWATER QUALITY

Groundwater samples were collected at remedy monitoring wells during the reporting period and were analyzed for VOCs. Analytical results for this reporting period are summarized in Table 3. TCE concentrations for samples collected during the semiannual sampling event (February 2014) are shown on Figure 5 and Figure 7. Data from the coolant release investigation area are summarized in Table 5. The laboratory data packages and the data validation reports for the data are presented in Appendix A.

4.2.1 TGA REMEDY WELLS

Analytical results for the TGA remedy wells indicate TCE concentration trends have remained stable. The dissolved plume continues to decrease in size with some persistent areas of elevated concentrations. TCE concentrations above the MCL have persisted at well BOP-9(i) and BOP-10(i), located within the Southwest and Central Corrective Action Area(s), respectively. TCE concentrations at BOP-9(i) have decreased from the maximum concentration of 1,600 micrograms per liter ($\mu\text{g/L}$) (January 1989) to 24 $\mu\text{g/L}$ (February 2014). TCE concentrations have also generally decreased at BOP-10(i) since the maximum concentration of 2,900 $\mu\text{g/L}$ (August 1997) to 16 $\mu\text{g/L}$ (February 2014). The selected corrective measures for both areas in the vicinity of both wells has consisted of pump and treat and isolated timeframes for soil vapor extraction. The selected corrective measures have been effective at reducing concentrations; however, the remedy progress has been slow in these two areas of the site.

Persistently elevated TCE concentrations are also evident at TGA wells BOP-7(i), BOP-57(ia, ib), and BOP-73(i). TCE concentrations at BOP-7(i), located in the Downgradient Corrective Action Area, indicate a gradual decrease from the maximum concentration of 1,500 $\mu\text{g/L}$ (June 1990) to 180 $\mu\text{g/L}$ (February and May 2014). Well BOP-7(i) is screened within the lower portion of the TGA and the first low-permeable layer in the Confining Unit (CU1) separating the TGA from the underlying Upper TSA. TCE concentrations at nearby extraction well E-12 [located 100 ft northwest of BOP-7(i)] remained just above the MCL at 11 $\mu\text{g/L}$ in February 2014.

Well pair BOP-57(ia, ib) are located within the West Corrective Action Area near the former A-2 well, which was screened across the TGA and Upper TSA and was a former source of TCE contamination to the TGA and the Upper TSA. BOP-57(ia) is screened in the TGA and BOP-57(ib) is screened within the first low-permeable layer of the CU1. TCE concentrations at well BOP-57(ia) show a steady decrease from the maximum concentration of 1,400 µg/L (August 1994) to 16 µg/L (February 2014). However, TCE concentrations at well BOP-57(ib) indicate fluctuating concentrations with a general increase between 1994 (44 µg/L) to August 2000 (180 µg/L). Between August 2000 and August 2006, TCE concentrations ranged from 180 to 380 µg/L. Between 2006 and February 2014, TCE concentrations decreased to 42 µg/L.

Maximum TCE concentrations with the Former Vapor Degreaser Source Area (Building 85-001) continue to be exhibited at BOP-73(i). TCE concentrations at BOP-73(i) ranged from 8,400 to 340 µg/L during February and May 2014, respectively.

4.2.2 COOLANT RELEASE AREA

Groundwater data for the coolant release area collected during this reporting period are summarized in Table 6 and are shown on Figure 6. Monitoring well LAI-8 was dry in February; therefore, it was not sampled. A total diesel range and heavy oil range petroleum hydrocarbons (TPH-Dx) concentration of 2.1 milligrams per liter (mg/L) was reported above the site-specific cleanup level (1.35 mg/L) during February 2014. Total TPH-Dx was not detected above the reporting limit at LAI-7.

VOC concentrations are monitored at two coolant release monitoring wells (LAI-7 and LAI-4) on a semiannual basis, as summarized in Table 3. Analytical results for the February 2014 sampling event indicate a TCE concentration of 8.6 µg/L for the sample collected at LAI-7 and 0.5 µg/L for well LAI-4.

Upper TSA wells [BOP-61(ds), BOP-65(ds), and BOP-66(ds)] are monitored as part of the TGA remedy to evaluate if TGA impacts have migrated to the lower aquifer. Groundwater sample results from February 2014 indicate TCE concentrations were below the MCL for all Upper TSA wells, as summarized in Table 3.

4.2.3 FORMER VAPOR DEGREASER SOURCE AREA-SVE SYSTEM

The SVE system operated at the Former Vapor Degreaser Source Area between September 2012 and July 2, 2014, when the system was pilot shutdown with DEQ approval (DEQ 2014). During the operational timeline, the system operated at 100 percent with a temporary shutdown between June 21 and July 22, 2013 to conduct a bioremediation donor injection to the TGA groundwater in the source area. The analytical data for the SVE system are summarized in Table 7. The majority of the TCE mass removal (0.74 lbs) occurred within the first 2 months of operation. During this reporting period, the TCE mass removal rate was between 0.001 and 0.008 lbs/day. Due to low extraction rates, DEQ approved the

pilot shutdown of the system with the understanding that monitoring of the SVE wells, vapor observation wells, and sub-slab vapor pins would continue to evaluate potential rebound (DEQ 2014). During the SVE operation, approximately 4.3 lbs of TCE was removed from the vadose zone at the Former Vapor Degreaser Source Area.

Seven multiple purpose extraction wells [BOP-78(i), BOP-79(i), and BOP-84(i) through BOP-88(i)] were installed with saturated zone and vadose zone well screens. The vadose zone well screens are utilized as SVE extraction wells. In addition to the system extraction wells, three vapor observation wells (VOW-16, VOW-17, and VOW-18) were installed around the Former Vapor Degreaser Source Area. In April 2013, nine semi-permanent sub-slab vapor pins (VP-1 through VP-9) were installed around the Former Vapor Degreaser Source Area to monitor changes in the sub-slab interval as the SVE system continues to operate.

Baseline analytical data collected from the vadose screens section of the source area wells were collected prior to the startup of the SVE system. The baseline data indicate TCE vapor concentrations ranged from 340 to 230,000 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). After 1 month of operation, TCE vapor concentrations had decreased to only one well [BOP-86(i)] above the cleanup level. During this reporting period, TCE vapor concentrations were below the cleanup level for all at-depth vapor samples, as summarized in Table 5 and shown on Figure 8.

Sub-slab vapor samples were collected from the vapor pins locations in February and May 2014. The vapor pins analytical results, along with the vadose zone source area well screens are summarized in Table 8. Baseline analytical results for the vapor pins indicate TCE concentrations ranging from 3,200 to 170,000 $\mu\text{g}/\text{m}^3$. TCE concentration results from the May 2014 event at the nine vapor pins ranged from non detect at the laboratory reporting limit to 98 $\mu\text{g}/\text{m}^3$, which are below the screening level (2,900 $\mu\text{g}/\text{m}^3$), as summarized in Table 8 and shown on Figure 8. The sub-slab analytical results indicate the SVE system has effectively removed TCE vapors from the sub-slab interval.

5.0 PLANNED ACTIVITIES

This section presents remedy activities currently planned for the semiannual period of July 1 through December 31, 2014:

- Continued monitoring of the remedy as described in the Groundwater Monitoring Program (Table 1)
- Continued operation of the GWTS at optimal conditions
- Continued quarterly monitoring of the SVE pilot shutdown at the source area wells (vadose zone), vapor observation wells, and the sub-slab vapor pins.
- Conduct a source area injection for bioremediation within the multiple purpose wells and the permeable reactive barrier (PRB) associated with the Former Vapor Degreaser Source Area within the 85-001 building (July 2014).

6.0 USE OF REPORT

This report has been prepared for the exclusive use of The Boeing Company for specific application to the Portland property. No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of Landau Associates. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau Associates, shall be at the user's sole risk. Landau Associates warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. We make no other warranty, either express or implied.

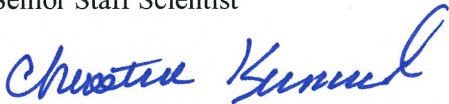
* * * * *

This document has been prepared under the supervision and direction of the following key staff.

LANDAU ASSOCIATES, INC.



Brett H. Borgeson
Senior Staff Scientist



Christine B. Kimmel, L.G.
Associate Geologist

BHB/CBK/tam

7.0 REFERENCES

DEQ. 2014. Email message from Robert K. Williams, Oregon Department of Environmental Quality, to Chris Kimmel, Landau Associates. Re: *Boeing Portland Injection Work Plan*. June 17.

EPA. 1997. *Final Decision and Response to Comments for the Boeing Portland Facility Troutdale Gravel Aquifer*. Prepared for The Boeing Company. November 26.

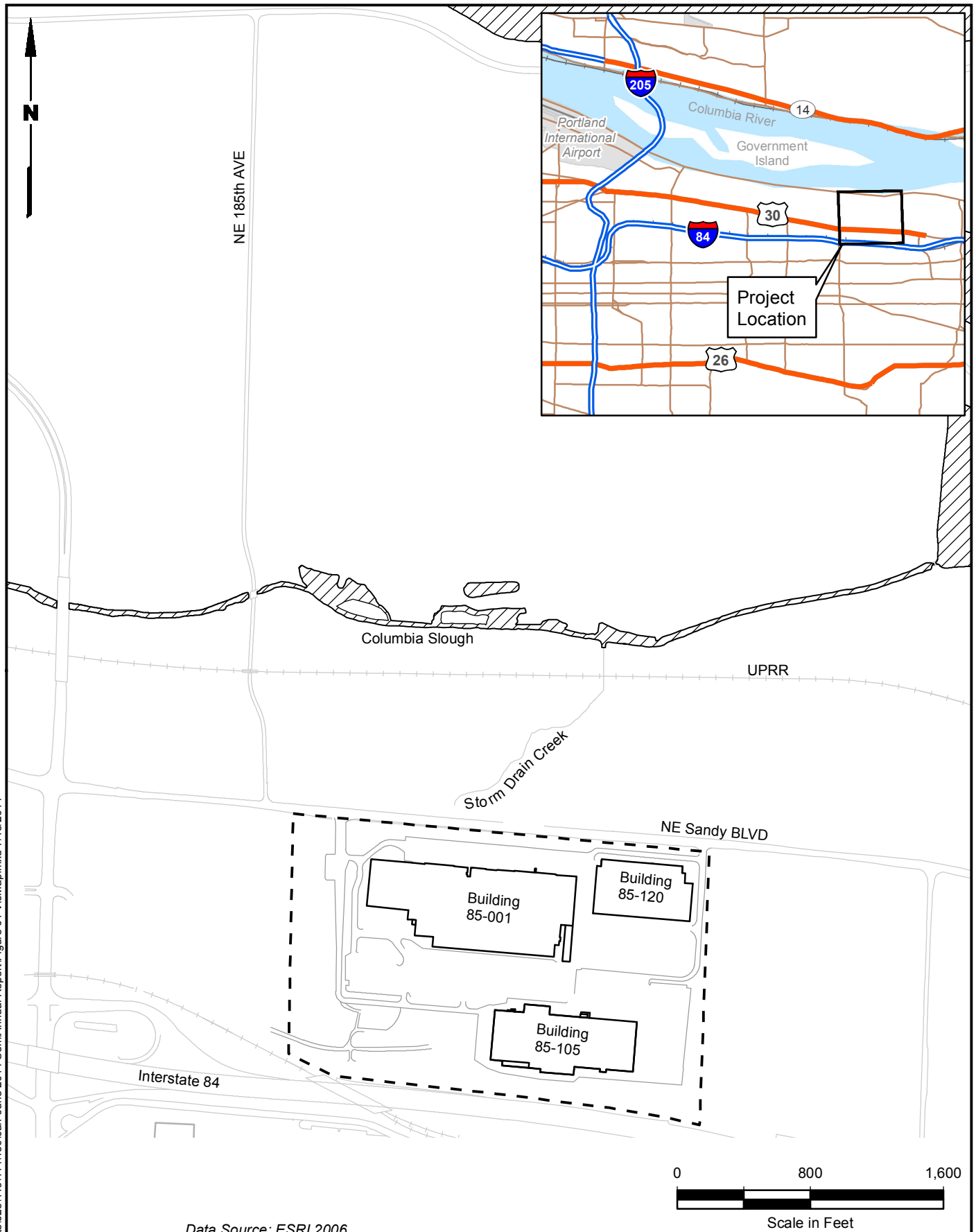
Landau Associates. 2012. *Troutdale Gravel Aquifer Corrective Measure, Five-Year Performance Evaluation 2006-2011, Boeing Portland Facility, Portland, Oregon*. Prepared for The Boeing Company. April 9.

Landau Associates. 2006. *Troutdale Gravel Aquifer Corrective Measure Five-Year Performance Evaluation, January 1, 2001 through December 31, 2005, Boeing Portland Facility, Gresham, Oregon*. Prepared for The Boeing Company. March 31.

Landau Associates. 1997. *Troutdale Gravel Aquifer Corrective Measures Implementation Work Plan, Gresham, Oregon. Phase 2 Corrective Measures Study, Boeing Portland, Gresham, Oregon*. Prepared for The Boeing Company. September 13.

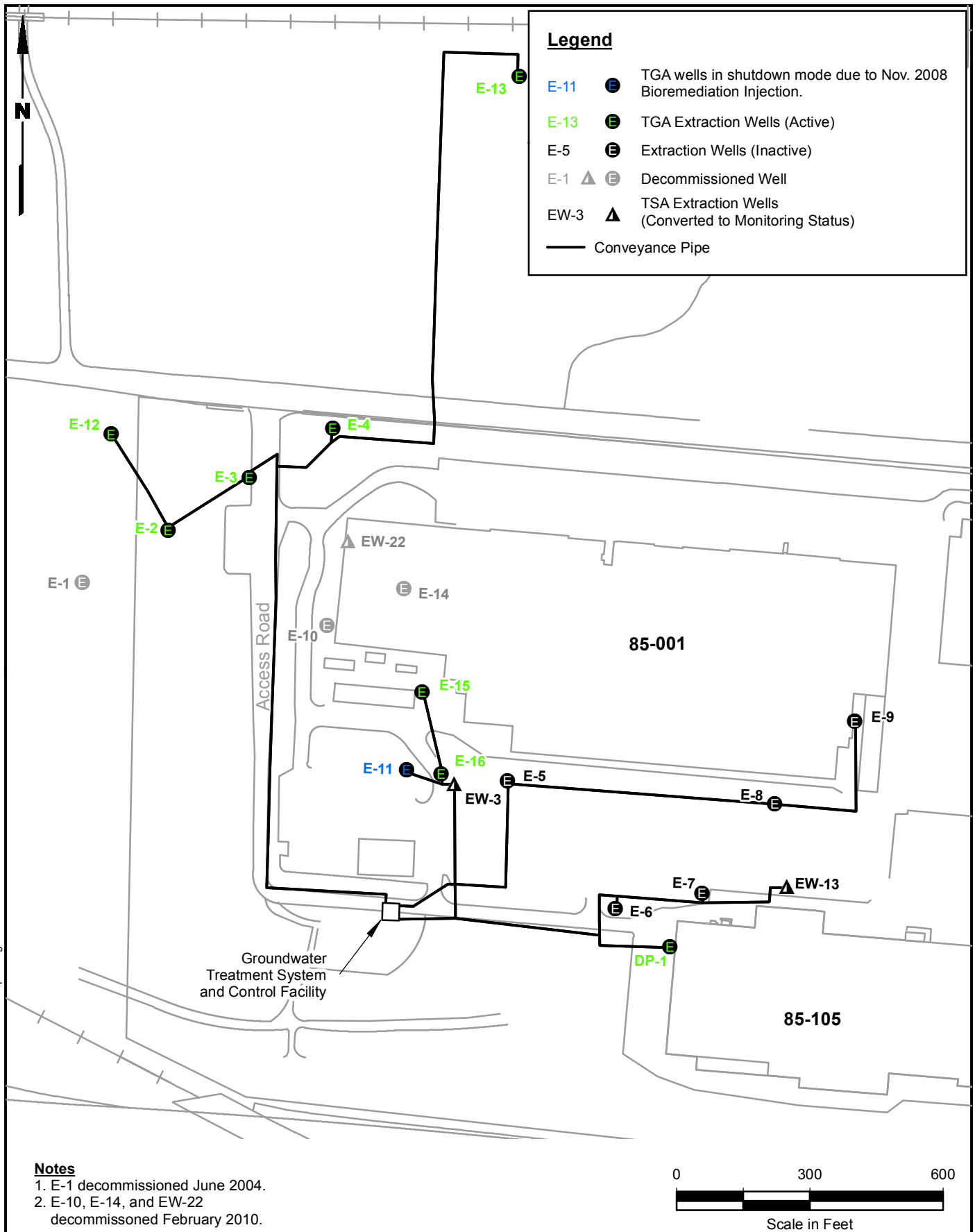
Landau Associates. 1996. *Phase 2 Corrective Measures Study, Boeing Portland, Gresham, Oregon*. Prepared for The Boeing Company. September 13.

G:\Projects\025116\114430 Jan-June 2014 SemiAnnual Report\Figure 01 VicMap.mxd 7/15/2014



Data Source: ESRI 2006

G:\Projects\025116\11430\Jan-June 2014 SemiAnnual Report\Figure 03 GW Extraction.mxd 7/21/2014



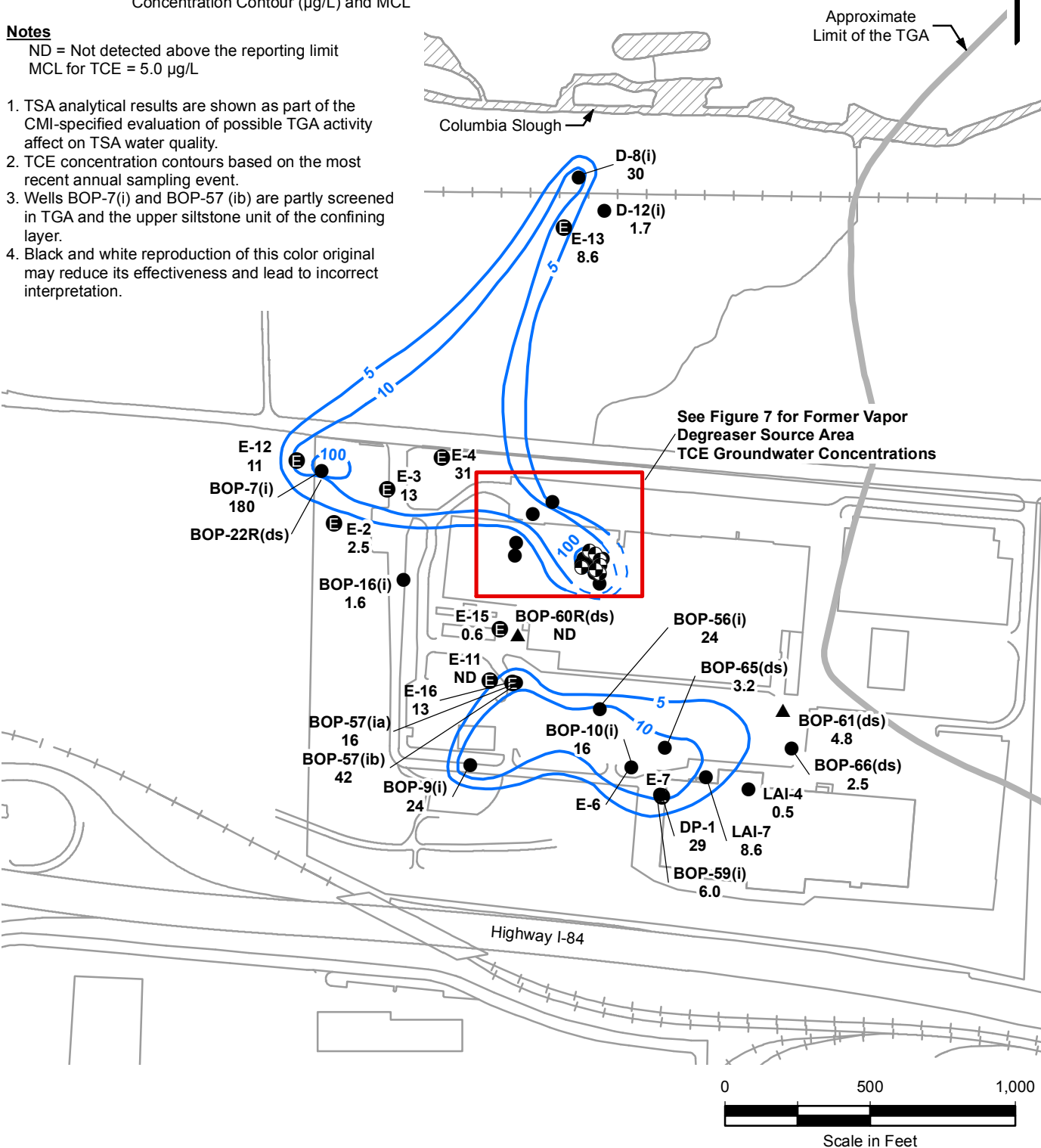
Legend

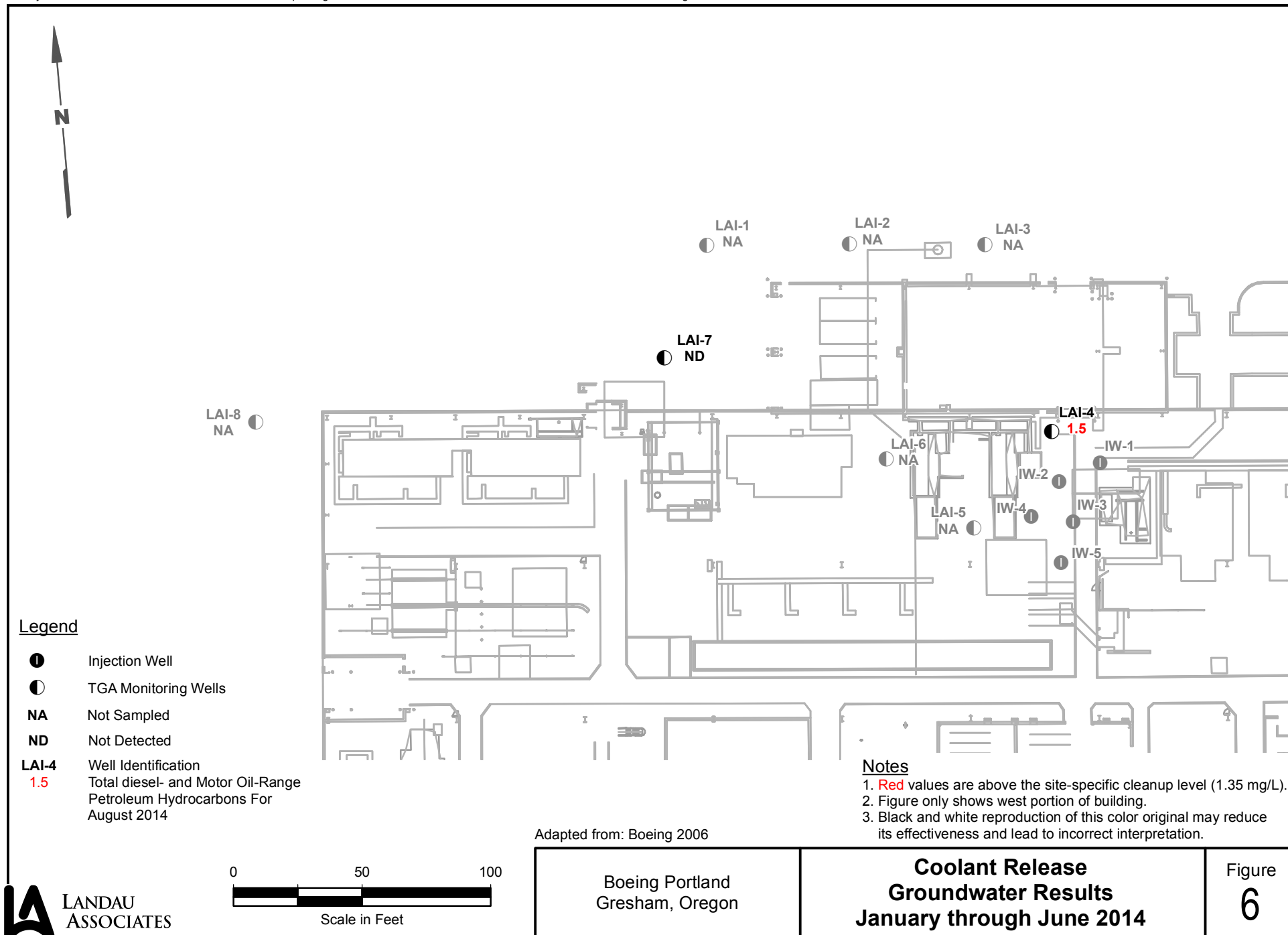
- ⊖ E-13 TGA Extraction Well
- D-12 TGA Monitoring Well
- ⊕ BOP-78(i) TGA Multiple Purpose Well
- ▲ BOP-62(ds) Upper TSA Monitoring Well
- 5— Approximate February 2014 TCE Concentration Contour (μg/L) and MCL

Notes

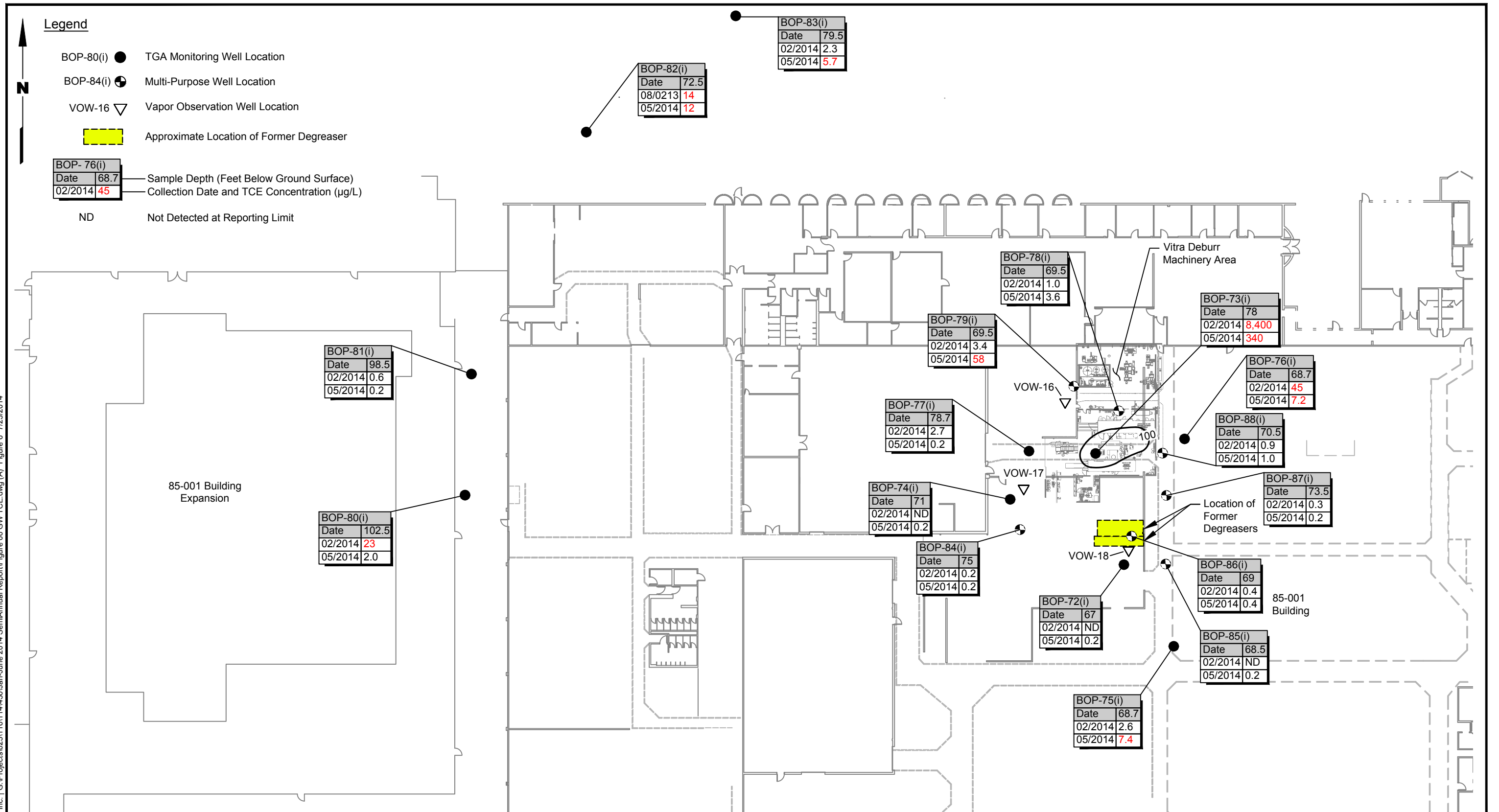
ND = Not detected above the reporting limit
MCL for TCE = 5.0 μg/L

1. TSA analytical results are shown as part of the CMI-specified evaluation of possible TGA activity affect on TSA water quality.
2. TCE concentration contours based on the most recent annual sampling event.
3. Wells BOP-7(i) and BOP-57 (ib) are partly screened in TGA and the upper siltstone unit of the confining layer.
4. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.





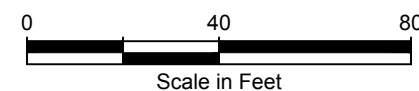
Landau Associates, Inc. | G:\Projects\025\116\114\430\Jan-June 2014 SemiAnnual Report\Figure 06 GW TCE.dwg (A) "Figure 6" 7/23/2014



Notes

- Values shown in **RED** are above the MCL (5 µg/L)
- Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Data Source: The Boeing Company



Boeing Portland
Gresham, Oregon

**TCE Groundwater Results
Former Degreaser Source Area**

Figure
7

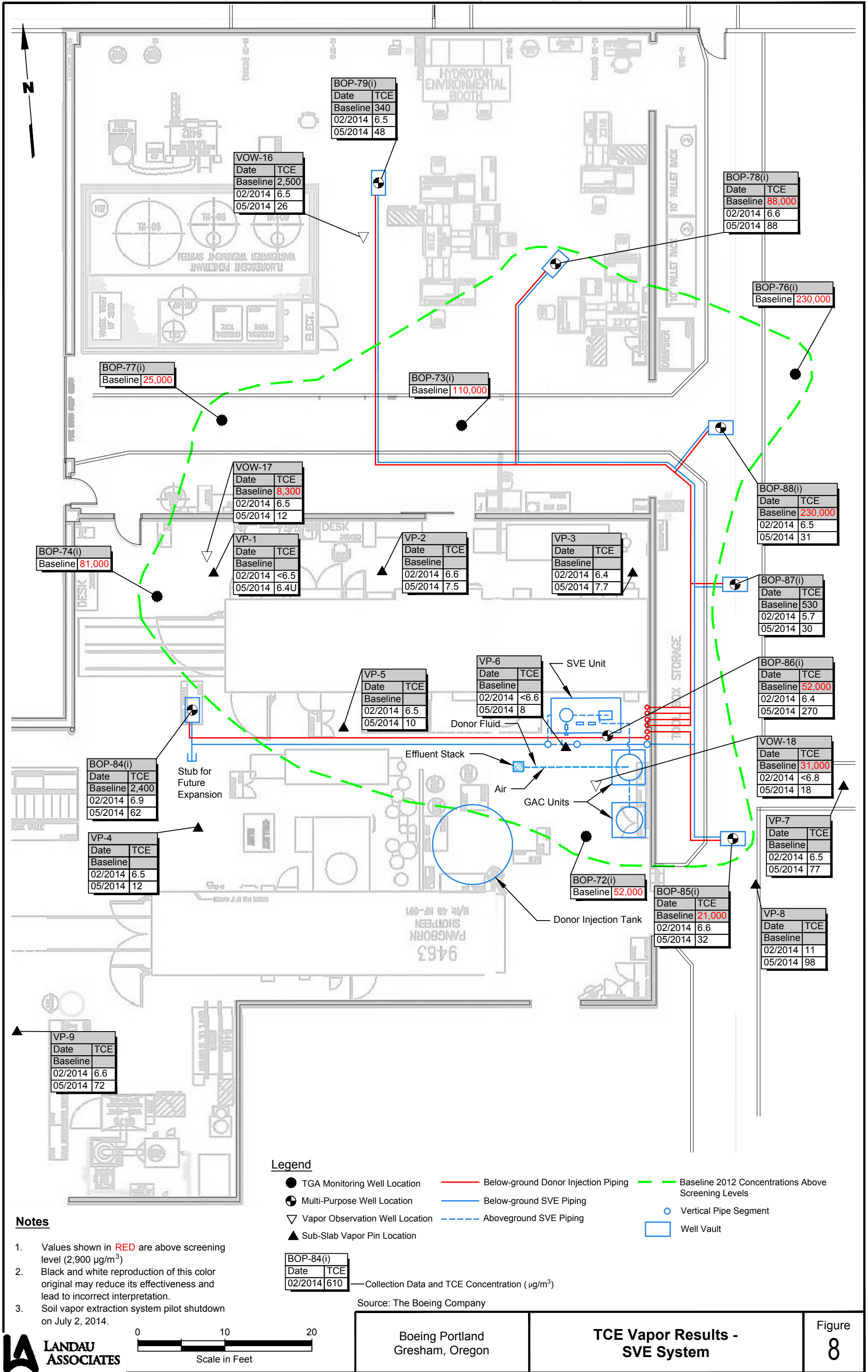


TABLE 1
GROUNDWATER PERFORMANCE MONITORING PLAN (a)

		Sampling Frequency January - June 2014		Sampling Frequency Proposed	
Aquifer and Well Use	Location	Groundwater Elevation	Groundwater Quality	Groundwater Elevation	Groundwater Quality
West Area					
TGA Well	BOP-16(i)	S	Q	S	Q
TGA Well	BOP-57(ia)	S	S	S	S
TGA Well	BOP-57(ib)	S	S	S	S
TGA Extraction Well	E-5	Q	A	Q	A
TGA Extraction Well	E-11	Q	Q	Q	Q
TGA Extraction Well	E-15	Q	Q	Q	Q
TGA Extraction Well	E-16	Q	Q	Q	Q
Upper TSA Well	BOP-60R(ds) (b)	A	A	A	A
Central Area					
TGA Well	BOP-10(i)	S	S	S	S
TGA Well	BOP-56(i)	S	S	S	S
TGA Well	BOP-59(i)	S	S	S	S
TGA Extraction Well	E-6	Q	A	Q	A
TGA Extraction Well	E-7	Q	A	Q	A
TGA Extraction Well	DP-1	Q	Q	Q	Q
Upper TSA Well	BOP-65(ds) (b)	S	S	S	S
East Yard					
TGA Well	BOP-48(i)	S	A	S	A
TGA Extraction Well	E-9	Q	A	Q	A
Upper TSA Well	BOP-61(ds) (b)	S	S	S	S
East Area					
TGA Extraction Well	E-8	Q	A	Q	A
Southwest Area					
TGA Well	BOP-9(i)	S	S	S	S
Upper TSA Well	BOP-62(ds) (b)	S	A	S	A
Downgradient Area					
TGA Well	BOP-7(i)	S	Q	S	Q
TGA Well	D-7(i)	S	A	S	A
TGA Well	D-8(i)	S	S	S	S
TGA Well	D-11(i)	S	A	S	A
TGA Well	D-12(i)	S	S	S	S
TGA Extraction Well	E-2	Q	Q	Q	Q
TGA Extraction Well	E-3	Q	Q	Q	Q
TGA Extraction Well	E-4	Q	Q	Q	Q
TGA Extraction Well	E-12	Q	Q	Q	Q
TGA Extraction Well	E-13	Q	Q	Q	Q
Upper TSA Well	BOP-22R(ds) (b)	A	A	A	A

TABLE 1
GROUNDWATER PERFORMANCE MONITORING PLAN (a)

		Sampling Frequency January - June 2014		Sampling Frequency Proposed	
Aquifer and Well Use	Location	Groundwater Elevation	Groundwater Quality	Groundwater Elevation	Groundwater Quality
Former Degreaser Source Control Area					
	BOP-72(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-73(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-74(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-75(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-76(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-77(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-78(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-79(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-80(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-81(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-82(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-83(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-84(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-85(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-86(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-87(i)	Q (c)	Q (c)	Q (c)	Q (c)
	BOP-88(i)	Q (c)	Q (c)	Q (c)	Q (c)
Coolant Release					
	LAI-1	Q	C-A	A	C-A
	LAI-2	Q	C-A	A	C-A
	LAI-3	Q	C-A	A	C-A
	LAI-4	Q	S/C-S	S	S/C-S
	LAI-5	Q	C-A	A	C-A
	LAI-6	Q	C-A	A	C-A
	LAI-7	Q	S/C-S	S	S/C-S
	LAI-8	Q	S/C-S	S	S/C-S

S = Semiannual; Q = Quarterly; A = Annual; D = Discontinue Monitoring; -- = No Data; C = Coolant
S/C-A = Well sampled for multiple purposes. First abbreviation indicates sampling frequency for VOC remedy/second
abbreviation indicates sampling frequency for coolant release.

Shaded cells indicate wells with proposed modification to monitoring frequency.

TGA = Troutdale Gravel Aquifer

TSA = Troutdale Sandstone Aquifer

- (a) From Table 3-3 of Five-Year Performance Evaluation, January 2001 through December 2005 (Landau Associates 2006), based on Phase 2 Corrective Measures Study (Landau Associates 1996).
- (b) TSA water quality data collected to evaluate remedy performance as part of TGA corrective measure performance. Diffusion Bag Samples (DBS) to be utilized for TSA sample collection.
- (c) Well monitored routinely on a quarterly basis or increased to monthly for post-bioremediation injection monitoring purposes.

TABLE 2
EXTRACTION WELL SUMMARY
GROUNDWATER TREATMENT SYSTEM

Location	January 2014				February 2014				March 2014			
	Gallons Pumped	Run Time Operational Minutes	Pump Rate (gpm)	Avg. Yield (gpm)	Gallons Pumped	Run Time Operational Minutes	Pump Rate (gpm)	Avg. Yield (gpm)	Gallons Pumped	Run Time Operational Minutes	Pump Rate (gpm)	Avg. Yield (gpm)
E-2	223,907	39,574	5.66	5.02	546,027	36,481	14.97	13.54	900,102	44,340	20.30	20.16
E-3	26,052	39,532	0.66	0.58	133,750	36,621	3.65	3.32	181,794	44,340	4.10	4.07
E-4	31,644	39,582	0.80	0.71	29,952	39,682	0.75	0.74	44,400	44,400	1.00	0.99
E-5	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-6	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-7	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-8	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-9	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-11	0	0	0.00	0.00	1	9	0.13	0.00	0	0	0.00	0.00
E-12	223,187	39,582	5.64	5.00	208,415	39,682	5.25	5.17	213,120	44,400	4.80	4.77
E-13	4,853,442	39,582	122.62	108.72	4,861,405	39,680	122.51	120.57	5,511,462	44,340	124.30	123.46
E-15	13,270	39,540	0.02	0.30	15,850	39,600	0.02	0.39	17,760	44,400	0.40	0.40
E-16	59,310	39,576	1.50	1.33	44,928	37,440	1.20	1.11	47,376	39,480	1.20	1.06
EW-3	0	0	0.00	0.00	0	7	0.00	0.00	0	0	0.00	0.00
EW-13	0	0	0.00	0.00	0	5	0.00	0.00	0	0	0.00	0.00
DP-1	104,324	39,581	2.64	2.34	106,189	39,682	2.68	2.63	117,660	44,400	2.65	2.64
Total	5,535,135				5,946,518				7,033,674			

TABLE 2
EXTRACTION WELL SUMMARY
GROUNDWATER TREATMENT SYSTEM

Location	April 2014				May 2014				June 2014			
	Gallons Pumped	Run Time Operational Minutes	Pump Rate (gpm)	Avg. Yield (gpm)	Gallons Pumped	Run Time Operational Minutes	Pump Rate (gpm)	Avg. Yield (gpm)	Gallons Pumped	Run Time Operational Minutes	Pump Rate (gpm)	Avg. Yield (gpm)
E-2	348,139	43,140	8.07	8.06	358,459	40,920	8.76	8.03	867,114	43,140	20.10	20.07
E-3	85,849	43,140	1.99	1.99	92,466	28,020	3.30	2.07	237,270	43,140	5.50	5.49
E-4	33,649	43,140	0.78	0.78	44,100	44,100	1.00	0.99	47,454	43,140	1.10	1.10
E-5	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-6	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-7	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-8	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-9	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-11	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
E-12	221,308	43,140	5.13	5.12	216,090	44,100	4.90	4.84	189,816	43,140	4.40	4.39
E-13	5,281,630	43,140	122.43	122.26	4,852,764	44,100	110.04	108.71	4,710,888	43,140	109.20	109.05
E-15	17,256	43,140	0.40	0.40	30,138	44,100	0.68	0.68	28,014	43,140	0.65	0.65
E-16	219,708	43,080	5.10	5.09	127,376	43,980	2.90	2.85	66,004	43,080	1.53	1.53
EW-3	0	0	0.00	0.00	124,023	0	0.00	2.78	0	0	0.00	0.00
EW-13	0	0	0.00	0.00	0	0	0.00	0.00	0	0	0.00	0.00
DP-1	126,831	43,140	2.94	2.94	129,654	44,100	2.94	2.90	120,792	43,140	2.80	2.80
Total	6,334,370				5,975,070				6,267,352			

Notes:

1. Average yield reflects total gallons pumped divided by total minutes for the measuring period.
2. Well E-1 was abandoned in June 2004 and is no longer shown.
3. EW-3 and EW-13 are TSA extraction wells.
4. Wells E-5 through E-9 were not operated this quarter except for sampling.
5. Well E-10 was abandoned on 3/29/10 and is no longer shown.
6. Well E-14 was abandoned on 4/1/10 and is no longer shown.
7. DEQ approved the pilot shutdown of EW-3. The pump was shut off on 12/12/09. The well will remain in pilot shutdown.
8. DEQ approved the pilot shutdown of EW-13. The pump was shut off on 11/25/09. The well will remain in pilot shutdown.
9. Well EW-22 was converted to a monitoring well, abandoned on 3/26/10, and is no longer shown.

TABLE 3
GROUNDWATER QUALITY SUMMARY
TGA AND SELECT TSA WELLS
JANUARY 1 THROUGH JUNE 30, 2014

Area	Location	Sample Type	Date	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl chloride
MCL Cleanup Level:				7	70	70	200	5	5	2
<u>Central Area-TGA</u>										
	BOP-10(i)	Purge	2/11/2014	ND	2.2	ND	ND	7.8	16	ND
	BOP-56(i)	Purge	2/11/2014	0.3	3.3	ND	ND	5.5	24	ND
	BOP-59(i)	Purge	2/11/2014	0.2	2.1	ND	ND	ND	5.4	ND
	BOP-59(i)-Dup	Purge	2/11/2014	0.2	2.3	ND	ND	ND	6.0	ND
	DP-1	Grab	2/13/2014	0.4	86	1.1	ND	23	29	ND
	DP-1	Grab	5/5/2014	0.4	79	3.6	ND	19	25	ND
<u>West Area-TGA</u>										
	BOP-16(i)	Purge	2/21/2014	ND	0.4	ND	0.6 J	ND	1.6	7.7
	BOP-16(i)	Purge	5/7/2014	0.4	1.3	ND	ND	ND	4.6	4.9
	BOP-57(ia) (a)	Purge	2/11/2014	0.5	3.2	ND	ND	3.0	16	ND
	BOP-57(ib) (a)	Purge	2/11/2014	41	11	ND	24	0.7	42	0.7
	E-11	Grab	2/14/2014	ND	3.9	ND	ND	ND	ND	ND
	E-11	Grab	5/5/2014	ND	5.0	ND	ND	ND	0.2	ND
	E-15	Grab	2/14/2014	0.4	2.2	ND	ND	ND	0.6	1.9
	E-15	Grab	5/5/2014	0.3	2.6	ND	ND	ND	0.4	2.5
	E-16	Grab	2/20/2014	0.4	1.7	ND	ND	2.6	13	ND
	E-16	Grab	5/5/2014	2.1	2.5	ND	1.4	2.4	15	ND
<u>Southwest Area - TGA</u>										
	BOP-9(i)	Purge	2/13/2014	1.5	6.2	ND	0.6	3.2	24	ND
<u>Downgradient Area TGA</u>										
	BOP-7(i)	Purge	2/21/2014	12 J	9.7	ND	2.6 J	4.5 J	180	ND
	BOP-7(i)-Dup	Purge	2/21/2014	15 J	10	ND	3.7 J	5.8 J	200	ND
	BOP-7(i)	Purge	5/7/2014	12 J	9.0	ND	2.7	3.7	180	ND
	BOP-7(i)-Dup	Purge	5/7/2014	15 J	11	ND	3.3	4.5	160	ND
	D-8(i)	Purge	2/13/2014	2.5	1.5	ND	0.6	0.9	30	ND
	D-12(i)	Purge	2/13/2014	ND	ND	ND	ND	ND	1.7	ND
	E-2	Grab	2/14/2014	0.6	0.5	ND	ND	0.5	2.5	ND
	E-2	Grab	5/5/2014	0.4	0.5	ND	ND	0.4	2.2	0.5
	E-2-Dup	Grab	5/5/2014	0.4	0.5	ND	ND	0.4	2.4	0.5
	E-3	Grab	2/14/2014	1.3	2.2	ND	ND	1.1	13	0.8
	E-3	Grab	5/5/2014	1.8	3.7	ND	ND	0.7	15	3.1
	E-4	Grab	2/14/2014	5.6	1.1	ND	ND	1.7	31	ND
	E-4	Grab	5/5/2014	5.9	1.3	ND	ND	1.6	29	ND
	E-12	Grab	2/13/2014	1.0	ND	ND	ND	0.4	11	ND
	E-12	Grab	5/5/2014	1.1	0.4	ND	ND	0.4	10	ND
	E-13	Grab	2/13/2014	1.7	0.9	ND	ND	0.4	8.6	ND
	E-13	Grab	5/5/2014	1.8	0.9	ND	ND	0.3	8.6	ND

TABLE 3
GROUNDWATER QUALITY SUMMARY
TGA AND SELECT TSA WELLS
JANUARY 1 THROUGH JUNE 30, 2014

Area	Location	Sample Type	Date	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl chloride
MCL Cleanup Level:				7	70	70	200	5	5	2
<u>GWTS Influent/Effluent</u>										
	Tower Influent	Grab	2/13/2014	1.9	0.8	ND	ND	0.4	9.1	ND
	Tower Influent Dup	Grab	2/13/2014	1.8	0.8	ND	ND	0.4	8.9	ND
	Tower Influent	Grab	5/5/2014	1.9	0.9	ND	ND	0.4	9.2	ND
	Tower Influent Dup	Grab	5/5/2014	1.9	0.9	ND	ND	0.4	9.1	ND
	Tower Effluent	Grab	2/13/2014	ND	ND	ND	ND	ND	ND	ND
	Tower Effluent Dup	Grab	2/13/2014	ND	ND	ND	ND	ND	ND	ND
	Tower Effluent	Grab	5/5/2014	ND	ND	ND	ND	ND	ND	ND
	Tower Effluent Dup	Grab	5/5/2014	ND	ND	ND	ND	ND	ND	ND
<u>TSA Monitoring Wells</u>										
	BOP-61(ds)	Purge	2/19/2014	ND	0.6	ND	ND	ND	4.8	ND
	BOP-65(ds)	Purge	2/19/2014	ND	0.8	ND	ND	ND	3.2	ND
	BOP-66(ds)	Purge	2/19/2014	ND	ND	ND	ND	ND	2.5	ND
<u>Coolant Release Wells</u>										
	LAI-4	Purge	2/24/2014	ND	0.2	ND	ND	0.2	0.5	ND
	LAI-7	Purge	2/24/2014	ND	4.5	ND	ND	8.5	8.6	ND
<u>Former Degreaser Source Control Area</u>										
	BOP-72(i)	DBS	2/5/2014	ND	0.2	ND	ND	ND	ND	1.9
	BOP-72(i)	DBS	5/7/2014	ND	ND	ND	ND	ND	ND	1.5
	BOP-73(i)	DBS	2/20/2014	ND	13000	190	ND	ND	8400	610
	BOP-73(i)	DBS	5/8/2014	21	20000	230	ND	ND	340	5600
	BOP-74(i)	DBS	2/20/2014	ND	2.4	0.3	ND	ND	ND	0.9
	BOP-74(i)	DBS	5/8/2014	ND	2.8	0.4	ND	ND	ND	3.3
	BOP-75(i)	DBS	2/5/2014	0.2	1.3	ND	ND	ND	2.6	18
	BOP-75(i)	DBS	5/7/2014	0.5	2.7	ND	ND	ND	7.4	14
	BOP-76(i)	DBS	2/5/2014	0.3	5.8	ND	ND	1.0	45	8.5
	BOP-76(i)	DBS	5/7/2014	0.2	1.2	ND	ND	ND	7.2	4.6
	BOP-77(i)	DBS	2/20/2014	ND	6.1	0.5	ND	ND	2.7	7.6
	BOP-77(i)	DBS	5/8/2014	ND	5.1	1.0	ND	ND	0.2	14
	BOP-78 (i)	DBS	2/5/2014	ND	1.3	0.5	ND	ND	1.0	3.0
	BOP-78 (i)	DBS	5/7/2014	0.5	2.7	ND	ND	ND	3.6	1.7
	BOP-79(i)	DBS	2/5/2014	ND	17	0.7	ND	ND	3.4	7.2
	BOP-79(i)	DBS	5/7/2014	0.3	43	1.9	ND	0.9	58	15
	BOP-80(i)	DBS	2/21/2014	10	0.4	ND	ND	2.7	23	ND
	BOP-80(i)	DBS	5/7/2014	1.2	ND	0.7	ND	ND	2.0	ND
	BOP-81(i)	DBS	2/21/2014	1.6	ND	ND	ND	0.6	0.6	ND
	BOP-81(i)	DBS	5/7/2014	ND	ND	ND	ND	ND	0.2	ND

TABLE 3
GROUNDWATER QUALITY SUMMARY
TGA AND SELECT TSA WELLS
JANUARY 1 THROUGH JUNE 30, 2014

Area	Location	Sample Type	Date	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	1,1,1-TCA	PCE	TCE	Vinyl chloride
MCL Cleanup Level:				7	70	70	200	5	5	2
	BOP-82(i)	DBS	2/21/2014	0.5	0.4	0.2	ND	1.0	14	ND
	BOP-82(i)	DBS	5/7/2014	0.6	0.5	0.3	ND	0.7	12	ND
	BOP-83(i)	DBS	2/21/2014	ND	ND	ND	ND	ND	2.3	ND
	BOP-83(i)	DBS	5/7/2014	ND	0.4	ND	ND	0.4	5.7	ND
	BOP-84(i)	DBS	2/5/2014	ND	2.5	ND	ND	ND	0.2	0.6
	BOP-84(i)	DBS	5/8/2014	ND	2.0	0.6	ND	ND	ND	1.9
	BOP-85(i)	DBS	2/5/2014	ND	ND	ND	ND	ND	ND	1.3
	BOP-85(i)	DBS	5/7/2014	ND	ND	ND	ND	ND	ND	1.5
	BOP-86(i)	DBS	2/5/2014	ND	0.4	ND	ND	0.3	0.4	0.6
	BOP-86(i)	DBS	5/7/2014	ND	1.3	ND	ND	ND	0.4	0.8
	BOP-87(i)	DBS	2/5/2014	ND	1.2	ND	ND	ND	0.3	1.0
	BOP-87(i)	DBS	5/7/2014	ND	0.3	ND	ND	ND	ND	0.5
	BOP-88(i)	DBS	2/5/2014	ND	3.0	ND	ND	ND	0.9	27
	BOP-88(i)	DBS	5/7/2014	0.3	3.5	ND	ND	ND	1.0	7.7

MCL = Maximum Contaminant Level

DCE = dichloroethene

TCA = trichloroethane

PCE = tetrachloroethene

TCE = trichloroethene

DBS = Diffusion Bag Sampler Type.

ND = Not detected.

J = Indicates the analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Boxed value indicates concentration above the cleanup level.

(a) West Area wells BOP-57(ia, ib) are installed with short (5 ft) screens. BOP-57(ia) is screened at the base of the TGA, while BOP-57(ib) is screened within the first layer of the Confining Unit 1 (CU1).

Notes:

1. TSA water quality data collected as part of the TGA remedy implementation.
2. Data are parts per billion (µg/L).
3. Box indicates exceedance of MCL Cleanup Level.

TABLE 4
GROUNDWATER ELEVATION DATA
TGA MONITORING WELLS
JANUARY 1 THROUGH JUNE 30, 2014

	Date	Time	Reference Elev. (a) (ft, MSL)	Depth to Water (ft)	Groundwater Elevation (ft)
<u>TGA WELLS</u>					
BOP-7(i)	2/4/2014	16:40	83.08	63.40	19.68
BOP-9(i)	2/4/2014	16:30	114.74	80.38	34.36
BOP-10(i)	2/4/2014	16:10	109.19	39.82	69.37
BOP-16(i)	2/4/2014	16:20	89.08	57.90	31.18
BOP-48(i)	2/4/2014	16:05	94.17	11.56	82.61
BOP-56(i)	2/4/2014	15:55	99.07	59.83	39.24
BOP-57(ia)	2/4/2014	15:30	95.45	61.88	33.57
BOP-57(ib)	2/4/2014	15:35	94.57	62.05	32.52
BOP-59(i)	2/4/2014	15:45	110.20	40.34	69.86
D-7(i)	2/4/2014	15:20	45.38	31.23	14.15
D-8(i)	2/4/2014	15:15	29.30	18.32	10.98
D-11(i)	2/4/2014	15:00	77.11	58.76	18.35
D-12(i)	2/4/2014	15:05	33.51	22.64	10.87
<u>COOLANT RELEASE WELLS</u>					
LAI-4	2/4/2014	8:40	110.71	17.05	93.66
LAI-7	2/4/2014	8:45	109.90	27.60	82.30
LAI-8	2/4/2014	8:50	110.59	Dry	Dry
<u>TSA WELLS</u>					
BOP-13(ds)	2/4/2014	9:50	128.94	121.84	7.10
BOP-13(ds)	5/2/2014	11:55	128.94	118.80	10.14
BOP-13(dg)	2/4/2014	9:55	128.71	122.47	6.24
BOP-20(ds)	2/4/2014	11:30	77.45	66.05	11.40
BOP-20(dg)	2/4/2014	11:35	77.32	65.82	11.50
BOP-21(ds)	2/4/2014	11:50	78.02	66.34	11.68
BOP-22R(ds)	2/4/2014	10:40	82.91	70.34	12.57
BOP-22(dg)	2/4/2014	10:30	81.05	66.80	14.25
BOP-23(dg)	2/4/2014	10:10	76.96	64.38	12.58
BOP-31(ds)	2/4/2014	10:20	99.04	87.88	11.16
BOP-31(ds)	5/2/2014	11:45	99.04	86.52	12.52
BOP-31(dg)	2/4/2014	10:15	98.51	87.26	11.25
BOP-42(ds)	2/4/2014	10:05	130.74	119.10	11.64
BOP-42(dg)	2/4/2014	10:00	130.71	119.42	11.29
BOP-60(dg)	2/4/2014	9:35	93.59	80.95	12.64
BOP-61(ds)	2/4/2014	9:40	94.64	84.82	9.82
BOP-61(dg)	2/4/2014	9:45	94.43	84.70	9.73
BOP-62(ds)	2/4/2014	9:20	112.29	100.44	11.85
BOP-65(ds)	2/4/2014	9:10	104.22	92.34	11.88
BOP-66(ds)	2/4/2014	9:05	102.97	91.57	11.40

TABLE 4
GROUNDWATER ELEVATION DATA
TGA MONITORING WELLS
JANUARY 1 THROUGH JUNE 30, 2014

	Date	Time	Reference Elev. (a) (ft, MSL)	Depth to Water (ft)	Groundwater Elevation (ft)
FORMER DEGREASER AREA WELLS					
BOP-72(i)	2/4/2014	12:40	83.64	47.46	36.18
BOP-72(i)	5/2/2014	13:30	83.64	44.23	39.41
BOP-73(i)	2/4/2014	12:35	83.65	47.59	36.06
BOP-73(i)	5/2/2014	13:50	83.65	47.62	36.03
BOP-74(i)	2/4/2014	12:32	83.69	48.66	35.03
BOP-74(i)	5/2/2014	13:55	83.69	46.74	36.95
BOP-75(i)	2/4/2014	12:21	83.70	46.90	36.80
BOP-75(i)	5/2/2014	13:35	83.70	46.15	37.55
BOP-76(i)	2/4/2014	12:25	83.65	46.53	37.12
BOP-76(i)	5/2/2014	13:40	83.65	46.61	37.04
BOP-77(i)	2/4/2014	12:28	83.68	47.68	36.00
BOP-77(i)	5/2/2014	13:45	83.68	45.28	38.40
BOP-78(i)	2/4/2014	13:23	83.16	47.32	35.84
BOP-78(i)	5/2/2014	13:03	83.16	46.56	36.60
BOP-79(i)	2/4/2014	13:28	83.34	48.28	35.06
BOP-79(i)	5/2/2014	13:10	83.34	46.57	36.77
BOP-80(i)	2/4/2014	17:10	83.60	52.64	30.96
BOP-80(i)	5/2/2014	9:48	83.60	51.12	32.48
BOP-81(i)	2/4/2014	17:05	83.57	53.21	30.36
BOP-81(i)	5/2/2014	9:54	83.57	51.31	32.26
BOP-82(i)	2/4/2014	16:55	81.10	54.10	27.00
BOP-82(i)	5/2/2014	9:58	81.10	52.33	28.77
BOP-83(i)	2/4/2014	16:50	80.42	53.91	26.51
BOP-83(i)	5/2/2014	14:37	80.42	52.64	27.78
BOP-84(i)	2/4/2014	13:30	83.67	48.87	34.80
BOP-84(i)	5/2/2014	13:18	83.67	47.86	35.81
BOP-85(i)	2/4/2014	13:18	83.69	46.13	37.56
BOP-85(i)	5/2/2014	12:40	83.69	45.57	38.12
BOP-86(i)	2/4/2014	13:15	83.70	47.21	36.49
BOP-86(i)	5/2/2014	12:30	83.70	46.64	37.06
BOP-87(i)	2/4/2014	13:21	83.68	45.90	37.78
BOP-87(i)	5/2/2014	12:48	83.68	45.13	38.55
BOP-88(i)	2/4/2014	13:23	83.67	46.20	37.47
BOP-88(i)	5/2/2014	12:58	83.67	45.63	38.04

ft = feet

MSL = mean sea level

- (a) Reference Elevation for the top of PVC well casing.
- (b) West Area wells BOP-57(ia, ib) are installed with short (5 ft) screens. BOP-57(ia) is screened at the base of the TGA, while BOP-57(ib) is screened within the first layer of the Confining Unit 1 (CU1).

TABLE 5
VAPOR WELL ANALYTICAL RESULTS
FORMER VAPOR DEGREASER SOURCE AREA
BOEING PORTLAND

VOLATILES (Method TO-15)													Operational Days (since previous sample collection)	Mass Removal (lbs)
Location	Lab ID	Date Collected	Days since startup	Days of Shutdown	Vinyl Chloride (µg/m3)	1,1-DCE (µg/m3)	1,1,1-TCA (µg/m3)	cis-DCE (µg/m3)	TCE (µg/m3)	PCE (µg/m3)	1,1-DCA (µg/m3)	VOC Removal Rate (lbs/day)		
		Screening Level (a)			2,800	880,000	22,000,000		2,900	47,000				
VOW-16	1209159-03A	9/10/2012			4.8 U	7.4 U	190	7.4 U	2,500	480	NA			
VOW-16	1211190-08A	11/6/2012	50		3.2 U	4.9 U	6.7 U	4.9 U	52	97	NA	---		
VOW-16	1302153-04A	2/6/2013	142		2.9 U	4.4 U	20	4.4 U	120	50	NA			
VOW-16	1305217-08A	5/8/2013	233		3.0 U	4.7 U	6.5 U	4.7 U	16	14	NA			
VOW-16	1308248-08A	8/8/2013	325		3.1 U	4.8 U	6.6 U	4.8 U	16	44	NA			
VOW-16	1311232-08A	11/8/2013	417		3.0 U	4.6 U	6.4 U	4.6 U	9.6	22	NA			
VOW-16	1402186-11A	2/6/2014	507		3.1 U	4.8	6.6	4.8 U	6.5	8.2	NA			
VOW-16	1405264-11A	5/9/2014	599		3.0 U	4.6 U	6.4 U	4.6 U	26	33	NA			
VOW-17	1209159-05A	9/10/2012			13 U	20 U	87	20 U	8,300	1800	NA			
VOW-17	1211190-09A	11/6/2012	50		3.0 U	4.6 U	6.4 U	4.6 U	6.3 U	84	NA	---		
VOW-17	1302153-05A	2/6/2013	142		120	8.0	25	56	200	62	NA			
VOW-17	1305217-09A	5/8/2013	233		2.9 U	4.5 U	6.2 U	4.5 U	28	96	NA			
VOW-17	1308248-09A	8/8/2013	325		2.9 U	4.5 U	6.2 U	4.5 U	11	120	NA			
VOW-17	1311232-09A	11/8/2013	417		2.9 U	4.4 U	6.1 U	4.4 U	15	96	NA			
VOW-17	1402186-12A	2/6/2014	507		3.1 U	4.8 U	6.6	4.8 U	6.5	8.2	NA			
VOW-17	1405264-12A	5/9/2014	599		3.1 U	4.8 U	6.6 U	4.8 U	12	59	NA			
VOW-18	1209159-01A	9/10/2012			62 U	450	7900	740	31,000	8,800	NA			
VOW-18	1211190-10A	11/6/2012	50		3.3 U	5.1 U	7.0 U	5.1 U	80	110	NA	---		
VOW-18	1302153-06A	2/6/2013	142		3.2 U	5.0 U	6.9 U	5.0 U	43	61	NA			
VOW-18	1305217-10A	5/8/2013	233		2.9 U	4.4 U	6.1 U	4.4 U	22	66	NA			
VOW-18	1308248-10A	8/8/2013	325		3.0 U	4.7 U	6.4 U	4.7 U	17	130	NA			
VOW-18	1311232-10A	11/8/2013	417		3.0 U	4.7 U	6.5 U	4.7 U	9.9	81	NA			
VOW-18	1402186-13A	2/6/2014	507		3.2 U	5.0 U	6.9 U	5.0 U	6.8 U	8.5	NA			
VOW-18	1405264-13A	5/9/2014	599		3.0 U	4.6 U	6.4 U	4.6 U	18	140	NA			
BOP-78(i)	1001038-05A Startup	12/28/2009 9/17/2012			110 U	410	360	420	88,000	NA	170 U			
BOP-78(i)	1210340-01A	10/11/2012	24	0	6.2	4.4 U	20	15	850	62	NA	0.0515		
BOP-78(i)	1211190-01A	11/6/2012	50	0	3.0 U	4.7 U	14	15	480	240	NA	0.0016	24	0.637
BOP-78(i)	1302153-07A	2/6/2013	142	2	2.8 U	4.3 U	6.9	4.3 U	96	51	NA	0.0013	26	0.037
BOP-78(i)	1305217-01A	5/8/2013	233	0	2.9 U	4.5 U	6.9	4.5 U	96	51	NA	0.0007	92	0.089
BOP-78(i)	1308248-01A	8/8/2013	325	30	2.9 U	4.5 U	6.2 U	4.5 U	21	24	NA	0.0002	91	0.041
BOP-78(i)	1308248-01A	8/8/2013	325	30	2.8 U	4.3 U	5.9 U	4.3 U	45	56	NA	0.0004	92	0.019
BOP-78(i)	1311232-01A	11/8/2013	417	0	3.1 U	4.8 U	6.6 U	4.8 U	64	25	NA	0.0002	92	0.031
BOP-78(i)	1402186-04A	2/6/2014	507	0	3.2 U	4.9 U	6.7	4.9 U	6.6	8.4	NA	0.0001	90	0.015
BOP-78(i)	1405264-04A	5/9/2014	599	0	3.2 U	4.9 U	6.7 U	4.9 U	88	37	NA			
BOP-79(i)	1101028-17A Startup	01/03/2011 9/17/2012			3.1 U	90	NA	15	340	NA	10			
BOP-79(i)	1210340-02A	10/11/2012	24	0	4.5	4.6 U	6.3 U	7.0	130	30	NA	0.00063		
BOP-79(i)	1211190-02A	11/6/2012	50	0	3.0 U	4.6 U	13	14	400	200	NA	0.00051	24	0.014
BOP-79(i)	1302153-08A	2/6/2013	142	2	2.8 U	4.4 U	18	4.4 U	68	56	NA	0.00176	26	0.029
BOP-79(i)	1305217-02A	5/8/2013	233	0	2.8 U	4.3 U	18	4.4 U	68	56	NA	0.00045	92	0.099
BOP-79(i)	1308248-02A	8/8/2013	325	30	2.8 U	4.3 U	5.9 U	4.3 U	10	14	NA	0.00012	91	0.026
BOP-79(i)	1308248-02A	8/8/2013	325	30	3.0 U	4.7 U	6.5 U	4.7 U	32	58	NA	0.00082	92	0.029
BOP-79(i)	1311232-02A	11/8/2013	417	0	3.1 U	4.8 U	6.6 U	4.8 U	32	24	NA	0.00057	92	0.064
BOP-79(i)	1402186-05A	2/6/2014	507	0	3.1	4.8 U	6.6	4.8	6.5	8.2	NA	0.00026	90	0.037
BOP-79(i)	1405264-05A	5/9/2014	599	0	3.0 U	4.7 U	6.5 U	4.7 U	48	26	NA			
BOP-84(i)	1001038-13A Startup	12/30/2009 9/17/2012			5.8 U	9.1 U	12 U	9.1 U	2,400	NA	9.3 U			
BOP-84(i)	1210340-03A	10/11/2012	24	0	3.1 U	7.7	31	11	350	59	NA	0.00101		
BOP-84(i)	1211190-03A	11/6/2012	50	0	3.2 U	4.9 U	13	14	440	240	NA	0.00193	24	0.035
BOP-84(i)	1302153-09A	2/6/2013	142	2	3.2 U	4.9 U	13	14	440	240	NA	0.00298	26	0.064
BOP-84(i)	1305217-03A	5/8/2013	233	0	3.1 U	4.8 U	6.6 U	4.8 U	230	65	NA	0.00138	92	0.197
BOP-84(i)	1308248-03A	8/8/2013	325	30	3.0 U	4.7 U	6.5 U	4.7 U	100	70	NA	0.00079	91	0.099
BOP-84(i)	1308248-03A	8/8/2013	325	30	2.8 U	4.3 U	5.9 U	4.3 U	610	160	NA	0.00288	92	0.114
BOP-84(i)	1311232-03A	11/8/2013	417	0	3.1 U	4.8 U	6.5 U	4.8 U	380	120	NA	0.00206	92	0.227
BOP-84(i)	1402186-06A	2/6/2014	507	0	3.3 U	5.1 U	7.0	5.1 U	6.9	8.8	NA	0.00016	90	0.100
BOP-84(i)	1405264-06A	5/9/2014	599	0	3.0 U	4.6 U	6.4 U	4.6 U	62	56	NA			
BOP-85(i)	1101028-05A Startup	12/28/2010 9/17/2012			37 U	350	NA	400	21,000	NA	72			
BOP-85(i)	1210340-04A	10/11/2012	24	0	3.0 U	4.6 U	6.4 U	6.0	360	150	NA	0.04362		
BOP-85(i)	1211190-04A	11/7/2012	51	0	3.2 U	4.9 U	6.7 U	4.9 U	150	98	NA	0.00381	24	0.569
BOP-85(i)	1302153-10A	2/6/2013	142	2	3.2 U	4.9 U	6.7 U	4.9 U	150	98	NA	0.00193	27	0.077
BOP-85(i)	1305217-04A	5/8/2013	233	0	3.2 U	4.9 U	8.0	29	85	87	NA	0.00134	91	0.145
BOP-85(i)	1308248-04A	8/8/2013	325	30	3.1 U	4.8 U	6.5 U	4.8 U	15	46	NA	0.00038	91	0.078
BOP-85(i)	1308248-04A	8/8/2013	325	30	3.0 U	4.7 U	6.5 U	7.8	47	150	NA	0.00077	92	0.036
BOP-85(i)	1311232-04A	11/8/2013	417	0	3.1 U	4.9 U	6.7 U	4.9 U	9.4	48	NA	0.00056	92	0.061
BOP-85(i)	1402186-07A	2/6/2014	507	0	3.2 U	4.9	6.7	4.9	6.6	8.4	NA	0.00024	90	0.036
BOP-85(i)	1405264-07A	5/9/2014	599	0	3.1 U	4.8 U	6.6 U	4.8 U	32	100	NA			
BOP-86(i)	1001038-17A Startup	01/02/2010 9/17/2012			91 U	510	340	850	52,000	NA	530			
BOP-86(i)	1210340-05A	10/11/2012	24	0	32	74	53	310	4,200	310	NA	0.01519		
BOP-86(i)	1211190-05A	11/7/2012	51	0	3.1 U	4.8 U	6.6 U	4.8 U	130	88	NA	0.01441	24	0.355
BOP-86(i)	1302153-11A	2/6/2013	142	2	3.0 U	4.7 U	13	4.7 U	78	62	NA	0.00069	27	0.204
BOP-86(i)	1305217-05A	5/8/2013	233	0	3.0 U	4.6 U	13	4.7 U	78	62	NA	0.00049	91	0.052
BOP-86(i)	1308248-05A	8/8/2013	325	30	3.0 U	4.6 U	6.4 U	4.6 U	30	44	NA	0.00035	91	0.038
BOP-86(i)	1308248-05A	8/8/2013	325	30	2.8 U	4.4 U	6.0 U	4.4 U	110	83	NA	0.00141	92	0.054
BOP-86(i)	1311232-05A	11/8/2013	417	0	3.0 U	4.7 U	6.9	4.7 U	63	96	NA	Off	92	0.130
BOP-86(i)	1402186-08A	2/6/2014	507	0	3.0 U	4.7 U	6.5 U	4.7 U	6.4	8.1	NA	0.00019	90	0.017
BOP-86(i)	1405264-08A	5/9/2014	599	0	3.0 U	4.7 U	7.2	4.7 U	270	89	NA			
BOP-87(i)	1210340-06A	10/11/2012	24	0	2.9 U	4.4 U	24	15	530	55	NA	0.00437	24	0.105
BOP-87(i)	1211190-06A	11/7/2012	51	0	3.0 U	4.6 U	6.4 U	5.3	230	140	NA	0.00269	27	0.095
BOP-87(i)	1302153-12A	2/6/2013	142	2	2.8 U	4.4 U	14	4.4 U	100	58	NA	0.00109	91	0.168
BOP-87(i)	1305217-06A	5/8/2013	233	0	3.1 U	4.8 U	6.6 U	4.8 U	14	38	NA	0.00052	91	0.073
BOP-87(i)	1308248-06A	8/8/2013	325	30	3.2 U	4.9 U	11	4.9 U	54	140	NA	0.00135	92	0.058
BOP-87(i)	1311232-06A	11/8/2013	417	0	3.0 U	4.6 U	8.0	4.6 U	54	53	NA	0.00088	92	0.103
BOP-87(i)	1402186-09A	2/6/2014	507	0	2.7 U	4.2 U	5.8 U	4.2 U	5.7	7.2	NA	0.00021	90	0.049
BOP-87(i)	1405264-09A	5/9/2014	599	0	3.0 U	4.7 U	6.5 U	4.7 U	30	71	NA			
BOP-88(i)	1101028B-12A Startup	12/30/2010 9/17/2012			150 U	450	NA	230 U	230,000	NA	240 U			
BOP-88(i)	1210340-07A	10/11/2012	24	0	3.0 U	4.7 U	6.5 U	5.4	220	12	NA	0.13606		
BOP-88(i)	1211190-07A	11/7/2012	51	0	22 U	35 U	48 U	35 U	350	190	NA	0.00070	24	1.641
BOP-88(i)	1302153-13A	2/6/2013	142	2	3.1 U	4.8 U	27	4.8 U	200	62	NA	0.00188	27	0.035
BOP-88(i)	1305217-07A	5/8/2013	233	0	3.0 U	4.7 U	27	4.8 U	200	62	NA	0.00218	91	0.181
BOP-88(i)	1308248-07A	8/8/2013	325	30	3.1 U	4.7 U	15	4.7 U	31</					

TABLE 6
WATER ANALYTICAL RESULTS
TPH-Dx AND FIELD PARAMETERS
COOLANT RELEASE INVESTIGATION, 2014
BOEING PORTLAND FACILITY

		NWTPH-Dx (mg/L) (a)			Field Parameters		
		Diesel	Motor Oil	Total TPH-Dx	pH	Dissolved Oxygen (mg/L)	ORP (mV)
TGA Wells							
LAI-4	2/24/2014	0.59	1.5	2.1	6.64	3.10	124.7
LAI-7	2/24/2014	0.097 U	0.24 U	ND	6.27	2.74	123.2
Cleanup Level (b)				1.35			

TPH-Dx = total petroleum hydrocarbons-diesel range

ORP = oxygen reduction potential

mg/L = milligrams per liter

mV = millivolts

U = Indicates compound was analyzed for, but was not detected at the given reporting limit.

ND = Not detected.

DEQ = Oregon Department of Environmental Quality

(a) Samples analyzed after September 27, 2006 had silica gel and acid wash preparation steps conducted.

(b) Site-specific DEQ Risk-Based cleanup standard based on sum of diesel and motor oil components.

TABLE 7
SVE SYSTEM ANALYTICAL RESULTS
FORMER VAPOR DEGREASER SOURCE AREA
BOEING PORTLAND

			Days since startup	Days of Shutdown	Influent Flow Rate (SCFM)	VOLATILES (Method TO-15)								Running Total Mass Removal (lbs)	
Location	Lab ID	Date Collected				Vinyl Chloride (µg/m3)	1,1-DCE (µg/m3)	1,1,1-TCA (µg/m3)	cis-DCE (µg/m3)	TCE (µg/m3)	PCE (µg/m3)	1,1-DCA (µg/m3)	Mass Removal (lbs/day)		
9/17/2012						SYSTEM STARTUP									
Inf	1210340-08A	10/12/2012	25	0	260	4.9	9.3	34	32	1000	180	NA	0.029	0.736	
Gac1	1210340-09A	10/12/2012	25	0	---	3.2	4.8 U	6.6 U	4.8 U	6.5 U	19	NA	---	---	
Eff	1210340-10A	10/12/2012	25	0	---	3.0 U	4.7 U	6.5 U	4.7 U	6.4 U	26	NA	---	---	
Inf	1211190-11A	11/6/2012	50	0	260	3.2 U	4.9 U	14	15	450	140	NA	0.015	1.103	
Gac1	1211190-13A	11/6/2012	50	0	---	3.2 U	4.9 U	6.7 U	4.9 U	6.6 U	24	NA	---	---	
Eff	1211190-12A	11/6/2012	50	0	---	3.2 U	4.9 U	6.7 U	4.9 U	6.6 U	28	NA	---	---	
Inf	1212183-01A	12/5/2012	79	0	255	3.0 U	4.7 U	11	9.6	320	98	NA	0.010	1.399	
Gac1	1212183-02A	12/5/2012	79	0	---	3.1 U	4.8	6.6 U	4.8 U	6.5 U	35	NA	---	---	
Eff	1212183-03A	12/5/2012	79	0	---	3.0 U	4.7 U	6.5 U	4.7 U	6.4 U	40	NA	---	---	
Inf	1301053-01A	1/3/2013	108	2	260	3.0 U	4.7 U	11	8.1	270	150	NA	0.010	1.681	
Gac1	1301053-02A	1/3/2013	108	2	---	3.1 U	5.9	6.6 U	6.5	6.5 U	27	NA	---	---	
Eff	1301053-03A	1/3/2013	108	2	---	3.0 U	4.7 U	6.5 U	4.7 U	6.4 U	27	NA	---	---	
Inf	1302153-01A	2/4/2013	140	0	260	3.0 U	4.7 U	12	6.0	240	74	NA	0.008	1.935	
Gac1	1302153-03A	2/4/2013	140	0	---	3.2 U	5.0 U	6.9 U	19	6.8 U	27	NA	---	---	
Eff	1302153-02A	2/4/2013	140	0	---	2.6 U	4.1 U	5.6 U	4.1 U	5.5 U	34	NA	---	---	
Inf	1303111-01A	3/4/2013	168	0	260	2.9 U	4.5 U	11	4.5 U	190	79	NA	0.007	2.127	
Gac1	1303111-02A	3/4/2013	168	0	---	2.9 U	4.5 U	6.1 U	15	6.0 U	30	NA	---	---	
Eff	1303111-03A	3/4/2013	168	0	---	3.0 U	4.6 U	6.4 U	4.6 U	6.3 U	33	NA	---	---	
Inf	1304124-01A	4/1/2013	196	0	260	3.1 U	4.8 U	11	4.8 U	180	130	NA	0.008	2.345	
Gac1	1304124-02A	4/1/2013	196	0	---	3.1 U	4.8 U	6.6 U	13	6.5 U	48	NA	---	---	
Eff	1304124-03A	4/1/2013	196	0	---	3.1 U	4.9 U	6.7 U	4.9 U	6.6 U	34	NA	---	---	
Inf	1305217-20A	5/6/2013	231	0	260	3.0 U	4.6 U	12	4.6 U	210	85	NA	0.007	2.606	
Gac1	1305217-21A	5/6/2013	231	0	---	2.9 U	4.5 U	6.2 U	7.2	6.1 U	33	NA	---	---	
Eff	1305217-22A	5/6/2013	231	0	---	3.0 U	4.7 U	6.5 U	4.7 U	6.4 U	36	NA	---	---	
Inf	1306064-01A	6/3/2013	259	0	260	2.9 U	4.5 U	10	4.5 U	200	100	NA	0.008	2.817	
Gac1	1306064-02A	6/3/2013	259	0	---	2.8 U	4.3 U	5.9 U	14	5.8 U	50	NA	---	---	
Eff	1306064-03A	6/3/2013	259	0	---	3.0 U	4.7 U	6.5 U	4.7 U	6.4 U	56	NA	---	---	
Inf		7/1/2013			---	SVE not operating or sampled in July due to injection							---	---	
Gac1		7/1/2013			---								---	---	
Eff		7/1/2013			---								---	---	
Inf	1308248-20A	8/7/2013	293	30	165	3.0 U	4.6 U	9.9	4.6 U	210	140	NA	0.006	2.839	
Gac1	1308248-21A	8/7/2013	293	30	---	3.0 U	4.6 U	6.3 U	7.5	6.2 U	22	NA	---	---	
Eff	1308248-20A	8/7/2013	293	30	---	2.9 U	4.5 U	6.2 U	4.5 U	6.1 U	86	NA	---	---	
Inf	1309137-01A	9/6/2013	323	0	265	2.7 U	4.2 U	6.8	4.2 U	120	84	NA	0.005	2.997	
Gac1	1309137-02A	9/6/2013	323	0	---	3.0 U	4.6 U	6.3 U	5.3	6.2 U	53	NA	---	---	
Eff	1309137-03A	9/6/2013	323	0	---	3.0 U	4.7 U	6.4 U	4.7 U	6.3 U	72	NA	---	---	
Inf	1311232-20A	11/6/2013	384	0	265	3.1 U	4.8 U	10	4.8 U	210	100	NA	0.008	3.481	
Gac1	1311232-21A	11/6/2013	384	0	---	3.0 U	4.6 U	6.4 U	5.1	6.3 U	47	NA	---	---	
Eff	1311232-22A	11/6/2013	384	0	---	3.0 U	4.7 U	6.5 U	9.4	6.4 U	58	NA	---	---	
Inf	1402186-01A	2/7/2014	477	2	260	3.1 U	4.8 U	6.6	4.8 U	6.5	8.2	NA	0.001	3.553	
Gac1	1402186-02A	2/7/2014	477	2	---	3.2 U	4.9 U	6.7	4.9 U	6.6 U	8.4	NA	---	---	
Eff	1402186-03A	2/7/2014	477	2	---	2.8 U	4.4 U	6.0 U	4.4	5.9 U	7.5	NA	---	---	
Inf	1405264-01A	5/9/2014	568	2	260	2.9 U	4.5 U	17	4.5 U	230	100	NA	0.008	4.300	
Gac1	1405264-02A	5/9/2014	568	2	---	3.0 U	4.7 U	6.5 U	4.7 U	6.4 U	78	NA	---	---	
Fff	1405264-03A	5/9/2014	568	2	---	3.1 U	4.8 U	6.6 U	4.8 U	6.5 U	53	NA	---	---	

(a) Soil gas screening levels were developed by the Oregon Department of Environmental Quality (DEQ) by multiplying the Risk Based

Concentration for air in an occupational setting by an attenuation factor of 1,000 to account for vapor intrusion through building slab. Screening levels updated June 7, 2012.

(b) SVE system monitored quarterly starting November 2013.

TABLE 8
SUBSLAB VAPOR WELL ANALYTICAL RESULTS
FORMER VAPOR DEGREASER SOURCE AREA
BOEING PORTLAND

Page 1 of 1

Location	Lab ID	Date Collected	VOLATILES (Method TO-15)						VOC Concentration Reduction
			Vinyl Chloride (µg/m3)	1,1-DCE (µg/m3)	1,1,1-TCA (µg/m3)	cis-DCE (µg/m3)	TCE (µg/m3)	PCE (µg/m3)	
		Screening Level (a)	2,800	880,000	22,000,000		2,900	47,000	
VP-1 (SG-44)	1105502-05A	05/23/2011	29 U	44 U	61 U	44 U	15000	NA	45 U
VP-1	1305217-11A	5/8/2013	3.0 U	4.7 U	6.5 U	4.7 U	49	64	NA 99.13%
VP-1	1308248-11A	8/8/2013	3.0 U	4.7 U	6.4 U	4.7 U	6.3 U	48	NA 99.52%
VP-1	1311232-11A	11/8/2013	2.8 U	4.3 U	5.9 U	4.3 U	5.8 U	66	NA 99.41%
VP-1	1402186-14A	2/6/2014	3.1 U	4.8 U	6.6 U	4.8 U	6.5 U	8.2	NA 99.78%
VP-1	1405264-14A	5/9/2014	3.0 U	4.7 U	6.5 U	4.7 U	6.4 U	57	NA 99.46%
VP-2 (SG-34)	1101089-07A	01/06/2011	200 U	310 U	NA	1100	280,000	NA	310 U
VP-2	1305217-12A	5/8/2013	3.0 U	4.6 U	6.4 U	4.6 U	64	29	NA 99.96%
VP-2	1308248-12A	8/8/2013	3.0 U	4.7 U	6.4 U	4.7 U	110	74	NA 99.93%
VP-2	1311232-12A	11/8/2013	3.1 U	4.8 U	6.6 U	4.8 U	19	30	NA 99.98%
VP-2	1402186-15A	2/6/2014	3.2 U	4.9 U	6.7 U	4.9 U	6.6	8.4	NA 99.99%
VP-2	1405264-15A	5/9/2014	3.1 U	4.8 U	6.6 U	4.8 U	7.5	46	NA 99.97%
VP-3 (SG-42)	1105502-03A	05/23/2011	14 U	90	4700	27	7400	NA	240
VP-3	1305217-13A	5/8/2013	2.8 U	4.3 U	22	4.3 U	11	26	NA 99.44%
VP-3	1308248-13A	8/8/2013	3.0 U	4.6 U	27	4.6 U	19	110	NA 98.65%
VP-3	1311232-13A	11/8/2013	2.8 U	4.3 U	22	4.3 U	10	26	NA 99.44%
VP-3	1402186-16A	2/6/2014	3.0 U	4.7 U	6.5	4.7 U	6.4	8.1	NA 99.73%
VP-3	1405264-16A	5/9/2014	3.0 U	4.6 U	19	4.6 U	7.7	42	NA 99.35%
VP-4 (SG-45)	1105502-06A	05/23/2011	290 U	440 U	610 U	660	170,000	NA	450 U
VP-4	1305217-14A	5/8/2013	2.9 U	4.6 U	6.3 U	4.6 U	52	70	NA 99.92%
VP-4	1308248-14A	8/8/2013	2.9 U	4.5 U	6.2 U	4.5 U	50	140	NA 99.88%
VP-4	1311232-14A	11/8/2013	3.0 U	4.7 U	6.5 U	4.7 U	25	90	NA 99.92%
VP-4	1402186-17A	2/6/2014	3.1 U	4.8 U	6.6 U	4.8 U	6.5	8.2	NA 99.98%
VP-4	1405264-17A	5/9/2014	2.9 U	4.4 U	6.1 U	4.4 U	12	70	NA 99.94%
VP-5 (SG-46)	1105502-07A	05/23/2011	1100	1700	2400	3800	850,000	NA	1800 U
VP-5	1305217-15A	5/8/2013	3.0 U	4.6 U	6.4 U	4.6 U	110	52	NA 99.98%
VP-5	1308248-15A	8/8/2013	3.1 U	4.8 U	6.6 U	4.8 U	69	120	NA 99.98%
VP-5	1311232-15A	11/8/2013	3.0 U	4.6 U	6.3 U	4.6 U	26	66	NA 99.99%
VP-5	1402186-18A	2/6/2014	3.1 U	4.8 U	6.6 U	4.8 U	6.5	8.2	NA 100.00%
VP-5	1405264-18A	5/9/2014	3.0 U	4.6 U	6.4 U	4.6 U	10	66	NA 99.99%
VP-6 (SG-1)	0912565-01A	12/17/2009	13 U	59	7600	160	3200	NA	440
VP-6	1305217-16A	5/8/2013	3.0 U	4.6 U	20	4.6 U	22	53	NA 99.07%
VP-6	1308248-16A	8/8/2013	3.2 U	4.9 U	28	4.9 U	30	180	NA 97.81%
VP-6	1311232-16A	11/8/2013	3.2 U	4.9 U	13	4.9 U	10	150	NA 98.38%
VP-6	1402186-19A	2/6/2014	3.2 U	4.9 U	6.7	4.9 U	6.6 U	8.4	NA 99.70%
VP-6	1405264-19A	5/9/2014	3.1 U	4.8 U	9.8	4.8 U	8.0	100	NA 98.86%
VP-7 (SG-28B)	1101089-01A	01/06/2011	30 U	3200	NA	1900	5200	NA	4900
VP-7	1305217-17A	5/8/2013	2.9 U	56	1600	59	130	56	NA 87.50%
VP-7	1308248-17A	8/8/2013	3.1 U	47	1600	56	120	82	NA 87.47%
VP-7	1311232-17A	11/8/2013	3.1 U	43	1100	40	92	42	NA 91.33%
VP-7	1402186-20A	2/6/2014	3.1 U	4.8	6.6	4.8	6.5	8.2	NA 99.78%
VP-7	1405264-20A	5/9/2014	3.0 U	41	1100	29	77	61	NA 91.39%
VP-8 (SG-11)	L100217	2/17/2010	100 U	14273	190975	7414	20743	NA	22099
VP-8	1305217-18A	5/8/2013	13 U	380	7600	120	300	100	NA 96.67%
VP-8	1308248-18A	8/8/2013	5.7 U	190	4500	83	180	150	NA 98.00%
VP-8	1311232-18A	11/8/2013	7.3 U	200	3800	43	150	110	NA 98.31%
VP-8	1402186-21A	2/6/2014	5.2 U	8.0	11	8.0	11	14	NA 99.98%
VP-8	1405264-21A	5/9/2014	3.0 U	99	2500	17	98	110	NA 98.89%
VP-9 (SG-24)	L100217	2/18/2010	100 U	103 U	186	103 U	8007	NA	101 U
VP-9	1305217-19A	5/8/2013	3.1 U	4.8 U	17	4.8 U	340	390	NA 91.17%
VP-9	1308248-19A	8/8/2013	3.0 U	4.6 U	39	4.6 U	570	360	NA 88.59%
VP-9	1311232-19A	11/8/2013	3.0 U	4.6 U	9.5	4.6 U	160	170	NA 95.91%
VP-9	1402186-22A	2/6/2014	3.2 U	4.9 U	6.7 U	4.9 U	6.6	8.4	NA 99.60%
VP-9	1405264-22A	5/9/2014	3.0 U	4.6 U	6.5	4.6 U	72	100	NA 97.78%

Boxed results exceed the screening level.

(a) Soil gas screening levels were developed by the Oregon Department of Environmental Quality (DEQ) by multiplying the Risk Based Concentration for air in an occupational setting by an attenuation factor of 1,000 to account for vapor intrusion through building slab. Screening levels updated June 7, 2012. Baseline samples collected during pilot tests.

Data Validation and Laboratory Reports

Corrective Measures Implementation

TECHNICAL MEMORANDUM

TO: Chris Kimmel, Project Manager

FROM: Terry McGourty and Anne Halvorsen

DATE: April 4, 2014

RE: **BOEING PORTLAND (TGA)
FIRST QUARTER 2014 GROUNDWATER QUALITY SAMPLING
LABORATORY DATA QUALITY EVALUATION**

This technical memorandum provides the results of a focused data validation associated with 42 groundwater samples, including 4 field duplicates, and 5 trip blanks, and 22 vapor samples collected during the first quarter 2014 TGA water quality sampling event at Boeing Portland. Samples were analyzed by Eurofins Lancaster Laboratories Environmental (LLI), located in Lancaster, Pennsylvania, and Eurofins Air Toxics located in Folsom, California. This data quality evaluation covers LLI data packages 1450637, 1452630, 1452631, 1452784, 1454157, and 1454465, and Air Toxics data package 1402186. Samples submitted to LLI were analyzed for volatile organic compounds [(VOCs) U.S. Environmental Protection Agency (EPA) Method SW8260C]; conventional inorganic parameters including N-Nitrate, N-Nitrite, ortho-phosphate as P, and sulfate (EPA Method 300.0); total phosphorous (EPA Method 365.1); N-Ammonia (Method SM 4500 NH₃ D); total organic carbon (Method SM 5310 C); and methane, ethane, ethane, and acetylene (MEEA; Modified RSK 175). Samples submitted to Air Toxics were analyzed for VOCs (Method TO-15). Sample data were evaluated in accordance with the *Quality Assurance Project Plan, Troutdale Gravel Aquifer, Boeing Portland Facility, Gresham, Oregon* (QAPP; Landau Associates 2012); portions of the *National Functional Guidelines for Organic Data Review* (EPA 1999); and portions of the *National Functional Guidelines for Inorganic Data Review* (EPA 2004). The following parameters were evaluated:

- Chain-of-custody records
- Holding times
- Blank results (laboratory method and field trip)
- Surrogate recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) and laboratory replicate results
- Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) results
- Blind field duplicate results
- Quantitation limits
- Audit/corrective action records
- Completeness and overall data quality.

Data validation qualifiers are added to sample analytical results based on the evaluation of data quality. The absence of a data qualifier indicates that the reported result is acceptable without qualification. The data quality evaluation is summarized below. Data qualifiers are summarized in Table 1.

CHAIN-OF-CUSTODY RECORDS

A signed chain-of-custody record was attached to each data package. The laboratory received all samples in good condition and all analyses were performed as requested.

Upon receipt by LLI, the sample container information was compared to the associated chain-of-custody and the cooler temperatures were recorded. With the exception of data package 1402186, all coolers associated with all data packages were received with a temperature below the EPA-recommended limit of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ (ranging from 0.1°C to 1.6°C). Data were not qualified based upon the cooler temperatures.

HOLDING TIMES

For all analyses and all samples, the time between sample collection, extraction (if applicable), and analysis was determined to be within EPA- and project-specified holding times, except as follows:

- For sample GWTSEFF, associated with data package 1452630, the original analysis calibration for orthophosphorus was out of compliance. The laboratory reanalyzed [GWTSEFF(trial 2)] out of holding with calibration within compliance limits. Orthophosphate as P for sample GWTSEFF(trial 2) was qualified as estimated (UJ), as indicated in Table 1.
- Upon receipt at the laboratory, sample E-15-0214 associated with data package 1452784 had a pH reading of 7. This reduces the holding time from 14 days to 7 days. MEEA for sample E-15-0214 is qualified as estimated (J/UJ), as indicated in Table 1.

BLANK RESULTS

Laboratory Method Blanks

At least one method blank was analyzed with each batch of samples for each analysis. No contamination was detected in the method blanks. No qualification of the data is necessary.

Field Trip Blanks and Field Equipment Blanks

Trip blanks were submitted to the laboratory for VOC analysis with data packages 1450637, 1452631, 1452784, 1454157, and 1454465. No contamination was detected in the trip blanks. No qualification of the data is necessary. No field equipment blanks were submitted for analysis with this batch of samples.

SURROGATE RECOVERIES

Appropriate compounds were used as surrogate spikes for the VOC analyses for each data package and MEEA analyses for data packages 1450637, 1452630, 1452631, 1452784, 1454157, and 1454465. Recovery values for the surrogate spikes were within the current laboratory-specified control limits. No qualification of the data is necessary.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) AND LABORATORY REPLICATE RESULTS

A matrix spike and/or a laboratory duplicate sample were analyzed with the conventional parameters in data package 1452630, 1452784, and 1454465. A matrix spike and matrix spike duplicate were analyzed with the MEEA parameters in data package 1450637. The recovery values for each required spiking compound and/or the relative percent differences (RPDs) between the laboratory replicate results were within the current project-specified and/or laboratory-specified control limits for all project samples with the following exceptions:

- The matrix spike recovery of methane in sample BOP-84(i)-0214 associated with data package 1450637 was below the laboratory-specified RPD and the matrix spike exceeded the laboratory-specified RPD. Since the original sample concentration is greater than four times the spike concentration, no qualification of the data is necessary.
- The recovery of ortho-phosphate as P in project sample GWTSEFF(trial 2) in data package 1452630 was above the laboratory-specified control limits in the MS. Since the associated sample is not detected, no qualification of the data is necessary.

LABORATORY CONTROL SAMPLE AND LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD) RESULTS

At least one laboratory control sample and/or laboratory control sample duplicate (LCS/LCSD) was analyzed with each batch of samples for each analysis. Recoveries RPDs for the laboratory control samples and associated duplicates were within the current laboratory-specified control limits except as follows:

- The percent recovery value for both the LCS/LCSD associated with the VOC analyses for trichlorofluoromethane in data package 1450637 was slightly above the laboratory-specified control limits. Since the associated samples are not detected, no qualification of the data is necessary.
- The percent recovery value for both the LCS/LCSD associated with the VOC analyses for trichlorofluoromethane in data package 1452630 exceeded the laboratory-specified control limits. Since the associated samples are not detected, no qualification of the data is necessary.
- The percent recovery values for the LCS/LCSD associated with the VOC analyses for trichlorofluoromethane in data package 1452631 exceeded the laboratory-specified control limits. Since the associated samples are not detected, no qualification of the data is necessary.

- The percent recovery values for the LCS associated with the VOC analyses for 1,2-dichloroethane and 1,1,1-trichloroethane in data package 1454465 exceeded the laboratory-specified control limits. 1,2-dichloroethene and 1,1,1-trichloroethane were qualified as estimated (J), as indicated in Table 1.

BLIND FIELD DUPLICATE RESULTS

As specified in the QAPP, blind field duplicate samples were collected at a rate of one blind field duplicate sample per 20 samples, but not less than one blind field duplicate per sampling round. Four pairs of blind field duplicate water samples [GWTSInf-0214/GWTSInf-0214, GWTSEff-014/GWTSEff-0214, BOP-X-0214/BOP-7(i), and BOP-Y-0214/BOP-59(i)-0214] were submitted for analysis with data packages 1452630, 1452631, and 1454465.

A project-specified control limit of 20 percent was used to evaluate the RPDs between the duplicate samples except when the sample results were within five times the reporting limit. In these cases, a project-specified control limit of plus or minus the reporting limit was used. RPDs for the duplicate sample pairs submitted for analysis were within the project-specified control limits except as follows:

- The RPD between the freon-TF, 1,1-dichloroethene, 1,1,1-trichloroethane, and tetrachloroethene results associated with the VOC analysis for field duplicate pair BOP-7(i)/BOP-X in data package 1454465 exceeded the project-specified control limit. The results for these samples are qualified as estimated (J), as indicated in Table 1.

QUANTITATION LIMITS

Project-specified quantitation limits were met for all samples except for instances where high concentrations or presence of high level target species required dilution of the sample extracts.

AUDIT/CORRECTIVE ACTION RECORDS

No audits were performed or required. No corrective action records were generated for this sample batch.

Continuing calibration (CCAL) recovery results are provided associated with each of these data packages. All project samples results associated with the high CCAL recovery of trichlorofluoromethane, in data packages 1452784 and 1454157 are not detected and, therefore, no qualification of the data is necessary. Based upon the specifics below, some project sample results associated with the high CCAL recoveries for 1,1,1-trichloroethane, 1,2-dichloroethane in data package 1454465 and were qualified as estimated (J), as indicated in Table 1. Also based upon the specifics below, all project sample results associated with the low CCAL recoveries in data packages 1450637, 1452631, 1452784, 1454157, and 1454465 were qualified as estimated (UJ), as indicated in Table 1.

- Chloromethane and vinyl acetate were below the laboratory-specified control limits for sample BOP-84(i)-0214 reported in data package 1450637. Results for this sample associated with the low CCAL recoveries for chloromethane and vinyl acetate is qualified as estimated (UJ), as indicated in Table 1.
- CCAL results were out of limits low for chloromethane and chloroethane associated with data package 1452631. The results for these samples are qualified as estimated (UJ), as indicated in Table 1.
- Chloromethane and chloroethane were below the laboratory-specified control limits for samples reported in data package 1452784. Results for samples associated with the low CCAL recoveries for chloromethane and chloroethane are qualified as estimated (UJ), as indicated in Table 1.
- Chloroethane was below the laboratory-specified control limits for samples reported in data package 1454157. Results for samples associated with the low CCAL recoveries for chloroethane are qualified as estimated (J/UJ), as indicated in Table 1.
- Chloromethane and chloroethane were below the laboratory-specified control limits for several samples reported in data package 1454465. Results for samples associated with the low CCAL recoveries for chloromethane and chloroethane are qualified as estimated (UJ), as indicated in Table 1.
- 1,1,1-trichloroethane and 1,2-dichloroethane were above the laboratory-specified control limits for samples reported in data package 1454465. Results for samples associated with the low CCAL recoveries for 1,1,1-trichloroethane and 1,2-dichloroethane in data package 1454465 are qualified as estimated (UJ), as indicated in Table 1.

COMPLETENESS AND OVERALL DATA QUALITY

The completeness for this data set is 100 percent, which meets the project-specified goal of 90 percent minimum.

Data precision was evaluated through field duplicates, laboratory replicates, matrix spike duplicates, and laboratory control sample duplicates. Data accuracy was evaluated through matrix spikes, laboratory control samples, and surrogate spikes. No data were rejected.

REFERENCES

EPA. 2004. *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*. U.S. Environmental Protection Agency. October.

EPA. 1999. *Contract Laboratory Program National Functional Guidelines for Organic Data Review*. U.S. Environmental Protection Agency. October.

Landau Associates. 2012. *Quality Assurance Project Plan, Troutdale Gravel Aquifer, Boeing Portland Facility, Gresham, Oregon*. Prepared for The Boeing Company. July 6; revised September 26.

TABLE 1
SUMMARY OF DATA QUALIFIERS
BOEING PORTLAND TGA PHASE I

Data Package	Analyte	Result	Qualifier	Sample Number	Reason
1452631	Chloromethane	0.5 U	UJ	BOP-56(i)-0214	Low continuing calibration recovery
1452631	Chloromethane	0.5 U	UJ	BOP-57(ib)-0214	Low continuing calibration recovery
1452631	Chloromethane	0.5 U	UJ	BOP-9(i)-0214	Low continuing calibration recovery
1452631	Chloromethane	0.5 U	UJ	D-8(i)-0214	Low continuing calibration recovery
1452631	Chloromethane	0.5 U	UJ	DP-1-0214	Low continuing calibration recovery
1452631	Chloroethane	0.5 U	UJ	BOP-56(i)-0214	Low continuing calibration recovery
1452631	Chloroethane	0.5 U	UJ	BOP-57(ib)-0214	Low continuing calibration recovery
1452631	Chloroethane	0.5 U	UJ	BOP-9(i)-0214	Low continuing calibration recovery
1452631	Chloroethane	0.5 U	UJ	D-8(i)-0214	Low continuing calibration recovery
1452631	Chloroethane	0.5 U	UJ	DP-1-0214	Low continuing calibration recovery
1450637	Chloromethane	0.5 U	UJ	BOP-84(i)-0214	Low continuing calibration recovery
1450637	Vinyl acetate	0.5 U	UJ	BOP-84(i)-0214	Low continuing calibration recovery
1452630	Ortho-phosphate as P	0.5 U	UJ	GWTSEFF-0214 (trial 2)	Analyzed outside hold time
1452630	Ortho-phosphate as P	0.52	DNR	GWTSEFF-0214 (trial 1)	Analyzed outside hold time; calibration was out of compliance on original trial
1452784	Chloromethane	0.5 U	UJ	E-2-0214	Low continuing calibration recovery
1452784	Chloromethane	0.5 U	UJ	E-3-0214	Low continuing calibration recovery
1452784	Chloromethane	0.5 U	UJ	E-4-0214	Low continuing calibration recovery
1452784	Chloromethane	0.5 U	UJ	E-11-0214	Low continuing calibration recovery
1452784	Chloromethane	0.5 U	UJ	E-15-0214	Low continuing calibration recovery
1452784	Chloroethane	0.5 U	UJ	E-2-0214	Low continuing calibration recovery
1452784	Chloroethane	0.5 U	UJ	E-3-0214	Low continuing calibration recovery
1452784	Chloroethane	0.5 U	UJ	E-4-0214	Low continuing calibration recovery
1452784	Chloroethane	0.5 U	UJ	E-11-0214	Low continuing calibration recovery
1452784	Chloroethane	0.5 U	UJ	E-15-0214	Low continuing calibration recovery
1452784	Methane	11000	J	E-15-0214	Analyzed outside hold time
1452784	Ethane	5.0 U	UJ	E-15-0214	Analyzed outside hold time
1452784	Ethene	5.0 U	UJ	E-15-0214	Analyzed outside hold time
1452784	Acetylene	5.0 U	UJ	E-15-0214	Analyzed outside hold time
1454157	Chloroethane	0.5 U	UJ	BOP-77(i)-0214	Low continuing calibration recovery
1454157	Chloroethane	0.5	J	BOP-774(i)-0214	Low continuing calibration recovery
1454157	Chloroethane	0.5 U	UJ	E-16-0214	Low continuing calibration recovery
1454465	Chloromethane	0.5 U	UJ	BOP-X-0214	Low continuing calibration recovery
1454465	Chloromethane	0.5 U	UJ	BOP-16(i)-0214	Low continuing calibration recovery
1454465	Chloromethane	0.5 U	UJ	BOP-80(i)-0214	Low continuing calibration recovery
1454465	Chloromethane	0.5 U	UJ	BOP-81(i)-0214	Low continuing calibration recovery
1454465	Chloroethane	0.5 U	UJ	BOP-X-0214	Low continuing calibration recovery
1454465	Chloroethane	0.5 U	UJ	BOP-16(i)-0214	Low continuing calibration recovery
1454465	Chloroethane	0.5 U	UJ	BOP-80(i)-0214	Low continuing calibration recovery
1454465	Chloroethane	0.5 U	UJ	BOP-81(i)-0214	Low continuing calibration recovery
1454465	1,1,1-trichloroethane	3.7	J	BOP-X-0214	High continuing calibration recovery
1454465	1,1,1-trichloroethane	0.6	J	BOP-16(i)-0214	High continuing calibration recovery
1454465	1,2-dichloroethane	0.2	J	BOP-80(i)-0214	High continuing calibration recovery
1454465	1,1-dichloroethene	15	J	BOP-7(i)-0214	High field duplicate recovery
1454465	1,1-dichloroethene	12	J	BOP-X-0214	High field duplicate recovery
1454465	Tetrachloroethene	4.5	J	BOP-7(i)-0214	High field duplicate recovery
1454465	Tetrachloroethene	5.8	J	BOP-X-0214	High field duplicate recovery
1454465	1,1,1-trichloroethane	2.6	J	BOP-7(i)-0214	High field duplicate recovery
1454465	1,1,1-trichloroethane	3.7	J	BOP-X-0214	High field duplicate recovery
1454465	Freon TF	1.6	J	BOP-7(i)-0214	High field duplicate recovery
1454465	Freon TF	2.2	J	BOP-X-0214	High field duplicate recovery
1454465	1,1,1-trichloroethane	0.6	J	BOP-16(i)-0214	High LCS recovery
1454465	1,1,1-trichloroethane	3.7	J	BOP-X-0214	High LCS recovery
1454465	1,2-dichloroethane	0.2	J	BOP-80(i)-0214	High LCS recovery

DNR = Do Not Report

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.

U = Indicates the compound was undetected at the reported concentration.

TECHNICAL MEMORANDUM

TO: Chris Kimmel, Project Manager

FROM: Terry McGourty and Anne Halvorsen

DATE: June 18, 2014

RE: **BOEING PORTLAND (TGA)
SECOND QUARTER 2014 GROUNDWATER QUALITY SAMPLING
LABORATORY DATA QUALITY EVALUATION**

This technical memorandum provides the results of a focused data validation associated with 34 groundwater samples, including 4 field duplicates, and 3 trip blanks, and 22 vapor samples collected during the second quarter 2014 TGA water quality sampling event at Boeing Portland. Samples were analyzed by Eurofins Lancaster Laboratories Environmental (LLI), located in Lancaster, Pennsylvania, and Eurofins Air Toxics located in Folsom, California. This data quality evaluation covers LLI data packages 1472111, 1472156, 1472837, and 1473180, and Air Toxics data package 1405264. Samples submitted to LLI were analyzed for volatile organic compounds [(VOCs) U.S. Environmental Protection Agency (EPA) Method SW8260C]; conventional inorganic parameters including N-Nitrate, N-Nitrite, ortho-phosphate as P, and sulfate (EPA Method 300.0); total phosphorous (EPA Method 365.1); N-Ammonia (Method SM 4500 NH₃ D); total organic carbon (Method SM 5310 C); and methane, ethane, and acetylene (MEEA; Modified RSK 175). Samples submitted to Air Toxics were analyzed for VOCs (Method TO-15).

The verification and validation check was conducted with guidance from applicable portions of EPA's *National Functional Guidelines for Organic Data Review* (EPA 1999, 2008) and the *National Functional Guidelines for Inorganic Data Review* (EPA 2004, 2010). The verification and validation check for each laboratory data package included the following:

- Verification that the laboratory data package contained all necessary documentation (including chain-of-custody records; identification of samples received by the laboratory; date and time of receipt of the samples at the laboratory; sample conditions upon receipt at the laboratory; date and time of sample analysis; explanation of any significant corrective actions taken by the laboratory during the analytical process; and, if applicable, date of extraction, definition of laboratory data qualifiers, all sample-related quality control data, and quality control acceptance criteria).
- Verification that all requested analyses, special cleanups, and special handling methods were performed.
- Evaluation of sample holding times.
- Evaluation of quality control data compared to acceptance criteria, including method blanks, surrogate recoveries, matrix spike results, laboratory duplicate and/or replicate results, and laboratory control sample results.
- Evaluation of overall data quality and completeness of analytical data.

Data validation qualifiers are added to the sample results, as appropriate, based on the verification and validation check. The absence of a data qualifier indicates that the reported result is acceptable without qualification. The data quality evaluation is summarized below. The data quality evaluation is summarized below. Data qualifiers are summarized in Table 1.

CHAIN-OF-CUSTODY RECORDS

A signed chain-of-custody record was attached to each data package. The laboratory received all samples in good condition and all analyses were performed as requested.

Upon receipt by LLI, the sample container information was compared to the associated chain-of-custody and the cooler temperatures were recorded. The cooler associated with data package 1473180 was received with a temperature (0.7°) below the EPA-recommended limit of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. Data were not qualified based upon the cooler temperatures.

HOLDING TIMES

For all analyses and all samples, the time between sample collection, extraction (if applicable), and analysis was determined to be within EPA- and project-specified holding times, except as follows:

- Sample GWTSEFF-0514, associated with data package 1472111, was analyzed outside the 48-hour hold time for orthophosphorus. Orthophosphorus for sample GWTSEFF-0514 was qualified as estimated (J/UJ), as indicated in Table 1.

BLANK RESULTS

Laboratory Method Blanks

At least one method blank was analyzed with each batch of samples for each analysis. No contamination was detected in the method blanks. No qualification of the data is necessary.

Field Trip Blanks and Field Equipment Blanks

Trip blanks were submitted to the laboratory for VOC analysis with data packages 1472837, 1472156, and 1473180. No contamination was detected in the trip blanks. No qualification of the data is necessary. No field equipment blanks were submitted for analysis with this batch of samples.

SURROGATE RECOVERIES

Appropriate compounds were used as surrogate spikes for the VOC analyses for each data package and MEEA analyses for data packages 1472156, 1472837, and 1473180. Recovery values for the surrogate spikes were within the current laboratory-specified control limits. No qualification of the data is necessary.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) AND LABORATORY REPLICATE RESULTS

A matrix spike and/or a laboratory duplicate sample were analyzed with the conventional parameters in data packages 1472111, 1472156, 1472837, and 1473180. A matrix spike and matrix spike duplicate were analyzed with the MEEA parameters in data packages 1472156 and 1473180. The recovery values for each required spiking compound and/or the relative percent differences (RPDs) between the laboratory replicate results were within the current project-specified and/or laboratory-specified control limits for all project samples with the following exceptions:

- The RPD for total phosphorus in project sample GWTSEFF-0514 in data package 1472111 was above the laboratory-specified RPD in the laboratory duplicate. The difference between the reported concentrations for the original sample and the laboratory duplicate sample is less than 5 times the reporting limit; therefore, no qualification of the data is necessary.
- The matrix spike and matrix spike duplicate recovery of methane in sample E2-0514 associated with data package 1472156 were below the laboratory-specified control limits. Since the original sample concentration is greater than four times the spike concentration, no qualification of the data is necessary.
- The matrix spike and matrix spike duplicate recovery of methane in sample BOP-73(i)-0514 associated with data package 1473180 were below the laboratory-specified control limits. Since the original sample concentration is greater than four times the spike concentration, no qualification of the data is necessary.
- The matrix spike recovery of sulfate in project sample BOP-84(i)-0514 in data package 1473180 was above the laboratory-specified control limits. Since the associated sample result is not detected, no qualification of the data is necessary.

LABORATORY CONTROL SAMPLE AND LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD) RESULTS

At least one laboratory control sample and/or laboratory control sample duplicate (LCS/LCSD) was analyzed with each batch of samples for each analysis. Recoveries and relative percent differences (RPDs) for the laboratory control samples and associated duplicates were within the current laboratory-specified control limits. No qualification of the data is necessary.

BLIND FIELD DUPLICATE RESULTS

As specified in the QAPP, blind field duplicate samples were collected at a rate of one blind field duplicate sample per 20 samples, but not less than one blind field duplicate per sampling round. Four pairs of blind field duplicate water samples [GWTSInf-0514/GWTSInf-0514, GWTSEff-0514/GWTSEff-0514, BOP-W-0514/E2-0514, and BOP-X(i)-0514/BOP-7(i)-0514] were submitted for analysis with data packages 1472111, 1472156, and 1472837.

A project-specified control limit of 20 percent was used to evaluate the RPDs between the duplicate samples except when the sample results were within five times the reporting limit. In these cases, a project-specified control limit of plus or minus the reporting limit was used. RPDs for the

duplicate sample pairs submitted for analysis were within the project-specified control limits except as follows:

- The RPD between the 1,1-dichloroethene results associated with the VOC analysis for field duplicate pair BOP-7(i)-0514/BOP-X(i)-0514 in data package 1472837 exceeded the project-specified control limit. The results for these samples are qualified as estimated (J), as indicated in Table 1.

QUANTITATION LIMITS

Project-specified quantitation limits were met for all samples except for instances where high concentrations or presence of high level target species required dilution of the sample extracts.

AUDIT/CORRECTIVE ACTION RECORDS

No audits were performed or required. No corrective action records were generated for this sample batch.

Continuing calibration (CCAL) recovery was discussed by the laboratories for all data packages. All project sample results associated with the high CCAL recovery of acetylene in data package 1472156 are not detected and, therefore, no qualification of the data is necessary. Based upon the specifics below, some project sample results associated with the low CCAL recoveries for chloromethane in data packages 1472111 and 1472156 and were qualified as estimated (UJ), as indicated in Table 1.

- CCAL results were out of limits low for chloromethane associated with data packages 1472111 and 1472156. The results for these samples are qualified as estimated (UJ), as indicated in Table 1.

COMPLETENESS AND OVERALL DATA QUALITY

The completeness for this data set is 100 percent, which meets the project-specified goal of 90 percent minimum.

Data precision was evaluated through field duplicates, laboratory replicates, matrix spike duplicates, and laboratory control sample duplicates. Data accuracy was evaluated through matrix spikes, laboratory control samples, and surrogate spikes. No data were rejected.

REFERENCES

EPA. 2010. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review*. USEPA-540-R-10-011. U.S. Environmental Protection Agency. Office of Superfund Remediation and Technology Innovation. Washington, D.C. January.

EPA. 2008. *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*. USEPA-540-R-08-01. U.S. Environmental Protection Agency. Office of Superfund Remediation and Technology Innovation. Washington, D.C. June.

EPA. 2004. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*. EPA 540-R-04-004. U.S. Environmental Protection Agency. Office of Superfund Remediation and Technology Innovation. October.

EPA. 1999. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*. EPA-540/R-99-008. U.S. Environmental Protection Agency. Office of Emergency and Remedial Response. Washington, D.C. October.

Landau Associates. 2012. *Quality Assurance Project Plan, Troutdale Gravel Aquifer, Boeing Portland Facility, Gresham, Oregon*. Prepared for The Boeing Company. July 6; revised September 26.

TABLE 1
SUMMARY OF DATA QUALIFIERS
BOEING PORTLAND TGA PHASE I

Data Package	Analyte	Result	Qualifier	Sample Number	Reason
1472111	Chloromethane	0.5 U	UJ	GWTSEFF-0514	Low continuing calibration recovery
1472111	Chloromethane	0.5 U	UJ	GWTSEFFd-0514	Low continuing calibration recovery
1472111	Chloromethane	0.5 U	UJ	GWTSINF-0514	Low continuing calibration recovery
1472111	Chloromethane	0.5 U	UJ	GWTSINFd-0514	Low continuing calibration recovery
1472111	Orthophosphorus	0.50 U	UJ	GWTSEFF-0514	Analyzed outside hold time
1472156	Chloromethane	0.5 U	UJ	E-2-0514	Low continuing calibration recovery
1472156	Chloromethane	0.5 U	UJ	E-3-0514	Low continuing calibration recovery
1472156	Chloromethane	0.5 U	UJ	E-4-0514	Low continuing calibration recovery
1472156	Chloromethane	0.5 U	UJ	E-12-0514	Low continuing calibration recovery
1472837	1,1-dichloroethene	12	J	BOP-7(i)-0514	High field duplicate recovery
1472837	1,1-dichloroethene	15	J	BOP-X(i)-0514	High field duplicate recovery

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.

U = Indicates the compound was undetected at the reported concentration.

2/24/2014

Ms. Chris Kimmel
Landau Associates, Inc.
130 2nd Avenue South

Edmonds WA 98020

Project Name: Boeing of Portland
Project #: 025116.114.412
Workorder #: 1402186

Dear Ms. Chris Kimmel

The following report includes the data for the above referenced project for sample(s) received on 2/13/2014 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner
Project Manager

WORK ORDER #: 1402186

Work Order Summary

CLIENT: Ms. Chris Kimmel
Landau Associates, Inc.
130 2nd Avenue South
Edmonds, WA 98020

BILL TO: Robert Large
Eurofins Lancaster Laboratories
Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17605-2425

PHONE: 800-552-5957

P.O. # 025116.114.412

FAX: 425-778-6409

PROJECT # 025116.114.412 Boeing of Portland

DATE RECEIVED: 02/13/2014

CONTACT: Kelly Buettner

DATE COMPLETED: 02/24/2014

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SVEInf-0214	TO-15	5.0 "Hg	15 psi
02A	SVEGAC1-0214	TO-15	5.5 "Hg	15 psi
03A	SVEEff-0214	TO-15	2.5 "Hg	15 psi
04A	BOP-78(i)-0214	TO-15	5.5 "Hg	15 psi
05A	BOP-79(i)-0214	TO-15	5.0 "Hg	15 psi
06A	BOP-84(i)-0214	TO-15	6.5 "Hg	15 psi
07A	BOP-85(i)-0214	TO-15	5.5 "Hg	15 psi
08A	BOP-86(i)-0214	TO-15	4.5 "Hg	15 psi
09A	BOP-87(i)-0214	TO-15	1.5 "Hg	15 psi
10A	BOP-88(i)-0214	TO-15	5.0 "Hg	15 psi
11A	VOW-16-0214	TO-15	5.0 "Hg	15 psi
12A	VOW-17-0214	TO-15	5.0 "Hg	15 psi
13A	VOW-18-0214	TO-15	6.0 "Hg	15 psi
14A	VP-1-0214	TO-15	5.0 "Hg	15 psi
15A	VP-2-0214	TO-15	5.5 "Hg	15 psi
16A	VP-3-0214	TO-15	4.5 "Hg	15 psi
17A	VP-4-0214	TO-15	5.0 "Hg	15 psi
18A	VP-5-0214	TO-15	5.0 "Hg	15 psi
19A	VP-6-0214	TO-15	5.5 "Hg	15 psi
20A	VP-7-0214	TO-15	5.0 "Hg	15 psi
21A	VP-8-0214	TO-15	5.0 "Hg	15 psi
22A	VP-9-0214	TO-15	5.5 "Hg	15 psi
23A	Lab Blank	TO-15	NA	NA

Continued on next page

WORK ORDER #: 1402186

Work Order Summary

CLIENT:	Ms. Chris Kimmel Landau Associates, Inc. 130 2nd Avenue South Edmonds, WA 98020	BILL TO:	Robert Large Eurofins Lancaster Laboratories Environmental, LLC 2425 New Holland Pike Lancaster, PA 17605-2425
PHONE:	800-552-5957	P.O. #	025116.114.412
FAX:	425-778-6409	PROJECT #	025116.114.412 Boeing of Portland
DATE RECEIVED:	02/13/2014	CONTACT:	Kelly Buettner
DATE COMPLETED:	02/24/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
23B	Lab Blank	TO-15	NA	NA
24A	CCV	TO-15	NA	NA
24B	CCV	TO-15	NA	NA
25A	LCS	TO-15	NA	NA
25AA	LCSD	TO-15	NA	NA
25B	LCS	TO-15	NA	NA
25BB	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 02/24/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020



LABORATORY NARRATIVE
EPA Method TO-15
Landau Associates, Inc.
Workorder# 1402186

Twenty-two 1 Liter Summa Canister samples were received on February 13, 2014. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Dilution was performed on sample VP-8-0214 due to the presence of high level target species.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SVEInf-0214

Lab ID#: 1402186-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	1.7	6.6	9.5
Trichloroethene	1.2	36	6.5	190
Tetrachloroethene	1.2	47	8.2	320

Client Sample ID: SVEGAC1-0214

Lab ID#: 1402186-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	1.8	6.7	10
Tetrachloroethene	1.2	8.1	8.4	55

Client Sample ID: SVEEff-0214

Lab ID#: 1402186-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	1.1	1.5	4.4	6.0
Tetrachloroethene	1.1	27	7.5	180

Client Sample ID: BOP-78(i)-0214

Lab ID#: 1402186-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	6.9	6.7	38
Trichloroethene	1.2	80	6.6	430
Tetrachloroethene	1.2	15	8.4	100

Client Sample ID: BOP-79(i)-0214

Lab ID#: 1402186-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	2.4	3.1	6.0
1,1,1-Trichloroethane	1.2	8.7	6.6	47

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: BOP-79(i)-0214

Lab ID#: 1402186-05A

cis-1,2-Dichloroethene	1.2	1.7	4.8	6.8
Trichloroethene	1.2	50	6.5	270
Tetrachloroethene	1.2	12	8.2	82

Client Sample ID: BOP-84(i)-0214

Lab ID#: 1402186-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.3	4.3	7.0	24
Trichloroethene	1.3	68	6.9	360
Tetrachloroethene	1.3	30	8.8	200

Client Sample ID: BOP-85(i)-0214

Lab ID#: 1402186-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	3.4	4.9	14
1,1,1-Trichloroethane	1.2	2.6	6.7	14
cis-1,2-Dichloroethene	1.2	2.9	4.9	12
Trichloroethene	1.2	30	6.6	160
Tetrachloroethene	1.2	47	8.4	320

Client Sample ID: BOP-86(i)-0214

Lab ID#: 1402186-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	26	6.4	140
Tetrachloroethene	1.2	54	8.1	360

Client Sample ID: BOP-87(i)-0214

Lab ID#: 1402186-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.1	13	5.7	68

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: BOP-87(i)-0214

Lab ID#: 1402186-09A

Tetrachloroethene	1.1	30	7.2	200

Client Sample ID: BOP-88(i)-0214

Lab ID#: 1402186-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	6.2	3.1	16
1,1,1-Trichloroethane	1.2	1.7	6.6	9.5
Trichloroethene	1.2	56	6.5	300
Tetrachloroethene	1.2	27	8.2	180

Client Sample ID: VOW-16-0214

Lab ID#: 1402186-11A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	1.4	4.8	5.4
1,1,1-Trichloroethane	1.2	10	6.6	57
Trichloroethene	1.2	76	6.5	410
Tetrachloroethene	1.2	6.6	8.2	44

Client Sample ID: VOW-17-0214

Lab ID#: 1402186-12A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	5.9	6.6	32
Trichloroethene	1.2	32	6.5	170
Tetrachloroethene	1.2	6.7	8.2	45

Client Sample ID: VOW-18-0214

Lab ID#: 1402186-13A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	1.3	32	8.5	210

Summary of Detected Compounds

EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VP-1-0214

Lab ID#: 1402186-14A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	1.2	7.8	8.2	53

Client Sample ID: VP-2-0214

Lab ID#: 1402186-15A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	1.9	6.6	10
Tetrachloroethene	1.2	16	8.4	110

Client Sample ID: VP-3-0214

Lab ID#: 1402186-16A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	2.2	6.5	12
Trichloroethene	1.2	1.3	6.4	6.8
Tetrachloroethene	1.2	17	8.1	120

Client Sample ID: VP-4-0214

Lab ID#: 1402186-17A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	3.6	6.5	19
Tetrachloroethene	1.2	12	8.2	82

Client Sample ID: VP-5-0214

Lab ID#: 1402186-18A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	2.7	6.5	14
Tetrachloroethene	1.2	10	8.2	71

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VP-6-0214

Lab ID#: 1402186-19A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	1.3	6.7	7.3
Tetrachloroethene	1.2	20	8.4	140

Client Sample ID: VP-7-0214

Lab ID#: 1402186-20A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	6.6	4.8	26
1,1,1-Trichloroethane	1.2	160	6.6	900
cis-1,2-Dichloroethene	1.2	6.5	4.8	26
Trichloroethene	1.2	12	6.5	64
Tetrachloroethene	1.2	16	8.2	110

Client Sample ID: VP-8-0214

Lab ID#: 1402186-21A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	2.0	28	8.0	110
1,1,1-Trichloroethane	2.0	510	11	2800
cis-1,2-Dichloroethene	2.0	5.0	8.0	20
Trichloroethene	2.0	14	11	75
Tetrachloroethene	2.0	26	14	180

Client Sample ID: VP-9-0214

Lab ID#: 1402186-22A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	9.4	6.6	51
Tetrachloroethene	1.2	17	8.4	110

Client Sample ID: SVEInf-0214

Lab ID#: 1402186-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021907	Date of Collection:	2/7/14 9:15:00 AM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 11:05 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	1.7	6.6	9.5
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	36	6.5	190
Tetrachloroethene	1.2	47	8.2	320

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	85	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: SVEGAC1-0214

Lab ID#: 1402186-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021908	Date of Collection:	2/7/14 9:35:00 AM
Dil. Factor:	2.47	Date of Analysis:	2/19/14 11:26 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
1,1,1-Trichloroethane	1.2	1.8	6.7	10
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	8.1	8.4	55

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	85	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: SVEff-0214

Lab ID#: 1402186-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021909	Date of Collection:	2/7/14 10:00:00 AM
Dil. Factor:	2.20	Date of Analysis:	2/19/14 11:48 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.4	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.0	Not Detected
cis-1,2-Dichloroethene	1.1	1.5	4.4	6.0
Trichloroethene	1.1	Not Detected	5.9	Not Detected
Tetrachloroethene	1.1	27	7.5	180

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: BOP-78(i)-0214

Lab ID#: 1402186-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021910	Date of Collection:	2/6/14 12:30:00 PM
Dil. Factor:	2.47	Date of Analysis:	2/19/14 12:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
1,1,1-Trichloroethane	1.2	6.9	6.7	38
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	80	6.6	430
Tetrachloroethene	1.2	15	8.4	100

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	83	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: BOP-79(i)-0214

Lab ID#: 1402186-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021911	Date of Collection:	2/6/14 12:55:00 PM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 12:31 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	2.4	3.1	6.0
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	8.7	6.6	47
cis-1,2-Dichloroethene	1.2	1.7	4.8	6.8
Trichloroethene	1.2	50	6.5	270
Tetrachloroethene	1.2	12	8.2	82

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: BOP-84(i)-0214

Lab ID#: 1402186-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021912	Date of Collection:	2/6/14 3:20:00 PM
Dil. Factor:	2.58	Date of Analysis:	2/19/14 12:53 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
1,1,1-Trichloroethane	1.3	4.3	7.0	24
cis-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Trichloroethene	1.3	68	6.9	360
Tetrachloroethene	1.3	30	8.8	200

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: BOP-85(i)-0214

Lab ID#: 1402186-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021913	Date of Collection:	2/6/14 11:10:00 AM
Dil. Factor:	2.47	Date of Analysis:	2/19/14 01:14 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.2	3.4	4.9	14
1,1,1-Trichloroethane	1.2	2.6	6.7	14
cis-1,2-Dichloroethene	1.2	2.9	4.9	12
Trichloroethene	1.2	30	6.6	160
Tetrachloroethene	1.2	47	8.4	320

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: BOP-86(i)-0214

Lab ID#: 1402186-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021914	Date of Collection:	2/6/14 9:30:00 AM
Dil. Factor:	2.38	Date of Analysis:	2/19/14 02:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	26	6.4	140
Tetrachloroethene	1.2	54	8.1	360

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: BOP-87(i)-0214

Lab ID#: 1402186-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021915	Date of Collection:	2/6/14 11:30:00 AM
Dil. Factor:	2.13	Date of Analysis:	2/19/14 03:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.7	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.2	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	5.8	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.2	Not Detected
Trichloroethene	1.1	13	5.7	68
Tetrachloroethene	1.1	30	7.2	200

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	85	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: BOP-88(i)-0214

Lab ID#: 1402186-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021916	Date of Collection:	2/6/14 11:50:00 AM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 03:35 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	6.2	3.1	16
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	1.7	6.6	9.5
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	56	6.5	300
Tetrachloroethene	1.2	27	8.2	180

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	85	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: VOW-16-0214

Lab ID#: 1402186-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021917	Date of Collection:	2/6/14 1:20:00 PM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 03:57 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	1.4	4.8	5.4
1,1,1-Trichloroethane	1.2	10	6.6	57
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	76	6.5	410
Tetrachloroethene	1.2	6.6	8.2	44

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: VOW-17-0214

Lab ID#: 1402186-12A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021918	Date of Collection:	2/6/14 2:50:00 PM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 04:18 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	5.9	6.6	32
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	32	6.5	170
Tetrachloroethene	1.2	6.7	8.2	45

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: VOW-18-0214

Lab ID#: 1402186-13A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021919	Date of Collection:	2/6/14 10:15:00 AM
Dil. Factor:	2.52	Date of Analysis:	2/19/14 04:40 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.3	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.0	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	6.9	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.0	Not Detected
Trichloroethene	1.3	Not Detected	6.8	Not Detected
Tetrachloroethene	1.3	32	8.5	210

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	83	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: VP-1-0214

Lab ID#: 1402186-14A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021920	Date of Collection:	2/6/14 2:30:00 PM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 05:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	Not Detected	6.5	Not Detected
Tetrachloroethene	1.2	7.8	8.2	53

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: VP-2-0214

Lab ID#: 1402186-15A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021921	Date of Collection:	2/6/14 2:00:00 PM
Dil. Factor:	2.47	Date of Analysis:	2/19/14 05:23 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.7	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	1.9	6.6	10
Tetrachloroethene	1.2	16	8.4	110

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: VP-3-0214

Lab ID#: 1402186-16A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021922	Date of Collection:	2/6/14 1:40:00 PM
Dil. Factor:	2.38	Date of Analysis:	2/19/14 05:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	1.2	2.2	6.5	12
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	1.3	6.4	6.8
Tetrachloroethene	1.2	17	8.1	120

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	85	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: VP-4-0214

Lab ID#: 1402186-17A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021906	Date of Collection:	2/6/14 4:00:00 PM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 11:38 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	3.6	6.5	19
Tetrachloroethene	1.2	12	8.2	82

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	91	70-130

Client Sample ID: VP-5-0214

Lab ID#: 1402186-18A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021907	Date of Collection:	2/6/14 3:45:00 PM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 12:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	2.7	6.5	14
Tetrachloroethene	1.2	10	8.2	71

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	91	70-130

Client Sample ID: VP-6-0214

Lab ID#: 1402186-19A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021908	Date of Collection:	2/6/14 9:50:00 AM
Dil. Factor:	2.47	Date of Analysis:	2/19/14 12:27 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
1,1,1-Trichloroethane	1.2	1.3	6.7	7.3
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	20	8.4	140

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	92	70-130

Client Sample ID: VP-7-0214

Lab ID#: 1402186-20A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021909	Date of Collection:	2/6/14 10:50:00 AM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 12:51 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	6.6	4.8	26
1,1,1-Trichloroethane	1.2	160	6.6	900
cis-1,2-Dichloroethene	1.2	6.5	4.8	26
Trichloroethene	1.2	12	6.5	64
Tetrachloroethene	1.2	16	8.2	110

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	91	70-130

Client Sample ID: VP-8-0214

Lab ID#: 1402186-21A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021911	Date of Collection:	2/6/14 10:35:00 AM
Dil. Factor:	4.04	Date of Analysis:	2/19/14 02:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	2.0	Not Detected	5.2	Not Detected
1,1-Dichloroethene	2.0	28	8.0	110
1,1,1-Trichloroethane	2.0	510	11	2800
cis-1,2-Dichloroethene	2.0	5.0	8.0	20
Trichloroethene	2.0	14	11	75
Tetrachloroethene	2.0	26	14	180

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: VP-9-0214

Lab ID#: 1402186-22A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021922	Date of Collection:	2/6/14 4:20:00 PM
Dil. Factor:	2.47	Date of Analysis:	2/19/14 07:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.7	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	9.4	6.6	51
Tetrachloroethene	1.2	17	8.4	110

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402186-23A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021906	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 10:30 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: Lab Blank

Lab ID#: 1402186-23B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021905	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 10:32 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: CCV

Lab ID#: 1402186-24A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021905	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 09:54 AM

Compound	%Recovery
Vinyl Chloride	96
1,1-Dichloroethene	93
1,1,1-Trichloroethane	86
cis-1,2-Dichloroethene	85
Trichloroethene	91
Tetrachloroethene	103

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: CCV

Lab ID#: 1402186-24B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 08:55 AM

Compound	%Recovery

Vinyl Chloride	108
1,1-Dichloroethene	91
1,1,1-Trichloroethane	104
cis-1,2-Dichloroethene	96
Trichloroethene	102
Tetrachloroethene	93

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: LCS

Lab ID#: 1402186-25A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 09:09 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	90	70-130
1,1-Dichloroethene	96	70-130
1,1,1-Trichloroethane	81	70-130
cis-1,2-Dichloroethene	88	70-130
Trichloroethene	83	70-130
Tetrachloroethene	92	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: LCSD

Lab ID#: 1402186-25AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 09:31 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	88	70-130
1,1-Dichloroethene	94	70-130
1,1,1-Trichloroethane	78	70-130
cis-1,2-Dichloroethene	86	70-130
Trichloroethene	81	70-130
Tetrachloroethene	92	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: LCS

Lab ID#: 1402186-25B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 09:19 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	102	70-130
1,1-Dichloroethene	102	70-130
1,1,1-Trichloroethane	109	70-130
cis-1,2-Dichloroethene	114	70-130
Trichloroethene	104	70-130
Tetrachloroethene	95	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: LCSD

Lab ID#: 1402186-25BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 09:44 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	100	70-130
1,1-Dichloroethene	102	70-130
1,1,1-Trichloroethane	111	70-130
cis-1,2-Dichloroethene	116	70-130
Trichloroethene	106	70-130
Tetrachloroethene	96	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	96	70-130



eurofins

Air Toxics

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 3

Project Manager Chris Kimmel
 Collected by: (Print and Sign) Brett Borgeson
 Company Landau Associates Email bborgeson@landau.com
 Address 333 SW 4th Ave City Portland State OR Zip 97204
 Phone (503) 542-1080 Fax (503) 542-1081

Project Info:
 P.O. # 025116, 114, 412
 Project # 025116, 114, 412
 Project Name Boeing of Portland

Turn Around Time:
☒ Normal
☐ Rush
 specify _____

Lab Use Only
 Pressurized by: _____
 Date: _____
 Pressurization Gas: _____
 N₂ He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum		
						Initial	Final	Receipt
01A	SVElnf-0214	37394	2-7-14	0915	TO-15 (6 Lst)	30	5	
02A	SVEGAC1-0214	34656	2-7-14	0935	TO-15 (6 Lst)	30	5	
03A	SVEEff-0214	34642	2-7-14	1000	TO-15 (6 Lst)	30	5	
04A	BOP-786(-0214	37337	2-6-14	1230	TO-15 (6 Lst)	30	5	
05A	BOP-796(-0214	34123	2-6-14	1255	TO-15 (6 Lst)	30	5	
06A	BOP-846(-0214	37689	2-6-14	1520	TO-15 (6 Lst)	30	5	
07A	BOP-856(-0214	13392	2-6-14	1110	TO-15 (6 Lst)	30	5	
08A	BOP-866(-0214	1359	2-6-14	0930	TO-15 (6 Lst)	29	5	
09A	BOP-876(-0214	12391	2-6-14	1130	TO-15 (6 Lst)	29	5	
10A	BOP-886(-0214	37311	2-6-14	1150	TO-15 (6 Lst)	28	5	

Relinquished by: (signature) Brett Borgeson Date/Time 2-7-14 1100
 Relinquished by: (signature) _____ Date/Time _____
 Relinquished by: (signature) _____ Date/Time _____

Notes:
21216 1255
21216 1255
21216 1255

Shipper Name Landau Associates Air Bill # _____ Temp (°C) 14 Condition Good Custody Seals Intact? Yes No (None) Work Order # 1402186

Lab Use Only



Air Toxics

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline: (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 2 of 3

Project Manager Chris Kimmel

Collected by: (Print and Sign) Brett Boggeson

Company Landan Associates Email bboggeson@landanix.com

Address 333 So 5th Ave City Portland State OR Zip 97204

Phone (503) 542-1680 Fax (503) 542-1081

Project Info:

P.O. # 025116.114.412

Project # 025116.114.412

Project Name Being of Portland

Turn Around Time:

☒ Normal

☐ Rush

Lab Use Only
Pressurized by:

Date:

Pressurization Gas:

specify N₂ He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum			
						Initial	Final	Receipt	Final (psi)
11A	NOV-16-0214	36394	2-6-14	1320	TO-15 (6 list)	28	5		
12A	NOV-17-0214	36534	2-6-14	1450	TO-15 (6 list)	30	5		
13A	NOV-18-0214	2040	2-6-14	1615	TO-15 (6 list)	28	5		
14A	VP-1-0214	2222	2-6-14	1430	TO-15 (7 list)	28	5		
15A	VP-2-0214	34662	2-6-14	1400	TO-15 (7 list)	30	5		
16A	VP-3-0214	37306	2-6-14	1340	TO-15 (7 list)	28	5		
17A	VP-4-0214	15742	2-6-14	1600	TO-15 (7 list)	29	5		
18A	VP-5-0214	2062	2-6-14	1545	TO-15 (7 list)	29	5		
19A	VP-6-0214	1681	2-6-14	0950	TO-15 (7 list)	29	5		
20A	VP-7-0214	15733	2-6-14	1050	TO-15 (7 list)	27	5		
Notes:									
Relinquished by: (signature) <u>Chris Kimmel</u>	Date/Time <u>2-7-14</u>	Received by: (signature) <u>[Signature]</u>	Date/Time <u>21314</u>						
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time						
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time						
Lab Shipper Name <u>Landan Associates</u>	Air Bill #	Temp (°C) <u>14</u>	Condition <u>Good</u>	Custody Seals Intact? <u>Yes</u>	No	None	Work Order # <u>1402186</u>		

5/29/2014

Ms. Chris Kimmel
Landau Associates, Inc.
130 2nd Avenue South

Edmonds WA 98020

Project Name: Boeing of Portland
Project #: 025116.114.412
Workorder #: 1405264

Dear Ms. Chris Kimmel

The following report includes the data for the above referenced project for sample(s) received on 5/14/2014 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner
Project Manager

WORK ORDER #: 1405264

Work Order Summary

CLIENT:	Ms. Chris Kimmel Landau Associates, Inc. 130 2nd Avenue South Edmonds, WA 98020	BILL TO:	Robert Large Eurofins Lancaster Laboratories Environmental, LLC 2425 New Holland Pike Lancaster, PA 17605-2425
PHONE:	800-552-5957	P.O. #	025116.114.412
FAX:	425-778-6409	PROJECT #	025116.114.412 Boeing of Portland
DATE RECEIVED:	05/14/2014	CONTACT:	Kelly Buettner
DATE COMPLETED:	05/29/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SVE Inf-0514	TO-15	3.5 "Hg	15 psi
02A	SVE GAC1-0514	TO-15	4.5 "Hg	15 psi
03A	SVE Eff-0514	TO-15	5.0 "Hg	15 psi
04A	BOP-78(i)-0514	TO-15	5.5 "Hg	15 psi
05A	BOP-79(i)-0514	TO-15	4.5 "Hg	15 psi
06A	BOP-84(i)-0514	TO-15	4.0 "Hg	15 psi
07A	BOP-85(i)-0514	TO-15	5.0 "Hg	15 psi
08A	BOP-86(i)-0514	TO-15	4.5 "Hg	15 psi
09A	BOP-87(i)-0514	TO-15	4.5 "Hg	15 psi
10A	BOP-88(i)-0514	TO-15	3.0 "Hg	15 psi
11A	VOW-16-0514	TO-15	4.0 "Hg	15 psi
12A	VOW-17-0514	TO-15	5.0 "Hg	15 psi
13A	VOW-18-0514	TO-15	4.0 "Hg	15 psi
14A	VP-1-0514	TO-15	4.5 "Hg	15 psi
15A	VP-2-0514	TO-15	5.0 "Hg	15 psi
16A	VP-3-0514	TO-15	4.0 "Hg	15 psi
17A	VP-4-0514	TO-15	3.0 "Hg	15 psi
18A	VP-5-0514	TO-15	4.0 "Hg	15 psi
19A	VP-6-0514	TO-15	5.0 "Hg	15 psi
20A	VP-7-0514	TO-15	4.0 "Hg	15 psi
21A	VP-8-0514	TO-15	4.0 "Hg	15 psi
22A	VP-9-0514	TO-15	4.0 "Hg	15 psi
23A	Lab Blank	TO-15	NA	NA

Continued on next page

WORK ORDER #: 1405264

Work Order Summary

CLIENT:	Ms. Chris Kimmel Landau Associates, Inc. 130 2nd Avenue South Edmonds, WA 98020	BILL TO:	Robert Large Eurofins Lancaster Laboratories Environmental, LLC 2425 New Holland Pike Lancaster, PA 17605-2425
PHONE:	800-552-5957	P.O. #	025116.114.412
FAX:	425-778-6409	PROJECT #	025116.114.412 Boeing of Portland
DATE RECEIVED:	05/14/2014	CONTACT:	Kelly Buettner
DATE COMPLETED:	05/29/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
23B	Lab Blank	TO-15	NA	NA
23C	Lab Blank	TO-15	NA	NA
24A	CCV	TO-15	NA	NA
24B	CCV	TO-15	NA	NA
24C	CCV	TO-15	NA	NA
25A	LCS	TO-15	NA	NA
25AA	LCSD	TO-15	NA	NA
25B	LCS	TO-15	NA	NA
25BB	LCSD	TO-15	NA	NA
25C	LCS	TO-15	NA	NA
25CC	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 05/29/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
Landau Associates, Inc.
Workorder# 1405264

Twenty-two 1 Liter Summa Canister samples were received on May 14, 2014. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SVE Inf-0514

Lab ID#: 1405264-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.1	3.2	6.2	17
Trichloroethene	1.1	44	6.2	230
Tetrachloroethene	1.1	15	7.8	100

Client Sample ID: SVE GAC1-0514

Lab ID#: 1405264-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	1.2	12	8.1	78

Client Sample ID: SVE Eff-0514

Lab ID#: 1405264-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	1.2	7.8	8.2	53

Client Sample ID: BOP-78(i)-0514

Lab ID#: 1405264-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	16	6.6	88
Tetrachloroethene	1.2	5.4	8.4	37

Client Sample ID: BOP-79(i)-0514

Lab ID#: 1405264-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	8.9	6.4	48
Tetrachloroethene	1.2	3.8	8.1	26

Client Sample ID: BOP-84(i)-0514

Lab ID#: 1405264-06A

Summary of Detected Compounds

EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: BOP-84(i)-0514

Lab ID#: 1405264-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	12	6.3	62
Tetrachloroethene	1.2	8.3	7.9	56

Client Sample ID: BOP-85(i)-0514

Lab ID#: 1405264-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	5.9	6.5	32
Tetrachloroethene	1.2	15	8.2	100

Client Sample ID: BOP-86(i)-0514

Lab ID#: 1405264-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	1.3	6.5	7.2
Trichloroethene	1.2	50	6.4	270
Tetrachloroethene	1.2	13	8.1	89

Client Sample ID: BOP-87(i)-0514

Lab ID#: 1405264-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	5.6	6.4	30
Tetrachloroethene	1.2	10	8.1	71

Client Sample ID: BOP-88(i)-0514

Lab ID#: 1405264-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.1	2.2	6.1	12
Trichloroethene	1.1	5.8	6.0	31
Tetrachloroethene	1.1	6.2	7.6	42

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VOW-16-0514

Lab ID#: 1405264-11A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	4.8	6.3	26
Tetrachloroethene	1.2	4.9	7.9	33

Client Sample ID: VOW-17-0514

Lab ID#: 1405264-12A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	2.2	6.5	12
Tetrachloroethene	1.2	8.8	8.2	59

Client Sample ID: VOW-18-0514

Lab ID#: 1405264-13A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	3.3	6.3	18
Tetrachloroethene	1.2	20	7.9	140

Client Sample ID: VP-1-0514

Lab ID#: 1405264-14A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	1.2	8.4	8.1	57

Client Sample ID: VP-2-0514

Lab ID#: 1405264-15A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	1.4	6.5	7.5
Tetrachloroethene	1.2	6.8	8.2	46

Client Sample ID: VP-3-0514

Lab ID#: 1405264-16A

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VP-3-0514

Lab ID#: 1405264-16A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	3.4	6.4	19
Trichloroethene	1.2	1.4	6.3	7.7
Tetrachloroethene	1.2	6.3	7.9	42

Client Sample ID: VP-4-0514

Lab ID#: 1405264-17A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.1	2.2	6.0	12
Tetrachloroethene	1.1	10	7.6	70

Client Sample ID: VP-5-0514

Lab ID#: 1405264-18A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	1.9	6.3	10
Tetrachloroethene	1.2	9.7	7.9	66

Client Sample ID: VP-6-0514

Lab ID#: 1405264-19A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	1.8	6.6	9.8
Trichloroethene	1.2	1.5	6.5	8.0
Tetrachloroethene	1.2	15	8.2	100

Client Sample ID: VP-7-0514

Lab ID#: 1405264-20A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	10	4.6	41
1,1,1-Trichloroethane	1.2	200	6.4	1100

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VP-7-0514

Lab ID#: 1405264-20A

cis-1,2-Dichloroethene	1.2	7.4	4.6	29
Trichloroethene	1.2	14	6.3	77
Tetrachloroethene	1.2	8.9	7.9	61

Client Sample ID: VP-8-0514

Lab ID#: 1405264-21A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	25	4.6	99
1,1,1-Trichloroethane	1.2	460	6.4	2500
cis-1,2-Dichloroethene	1.2	4.3	4.6	17
Trichloroethene	1.2	18	6.3	98
Tetrachloroethene	1.2	17	7.9	110

Client Sample ID: VP-9-0514

Lab ID#: 1405264-22A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	1.2	6.4	6.5
Trichloroethene	1.2	14	6.3	72
Tetrachloroethene	1.2	15	7.9	100



Air Toxics

Client Sample ID: SVE Inf-0514

Lab ID#: 1405264-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052709	Date of Collection:	5/9/14 3:10:00 PM
Dil. Factor:	2.29	Date of Analysis:	5/27/14 01:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.5	Not Detected
1,1,1-Trichloroethane	1.1	3.2	6.2	17
cis-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Trichloroethene	1.1	44	6.2	230
Tetrachloroethene	1.1	15	7.8	100

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: SVE GAC1-0514

Lab ID#: 1405264-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052710	Date of Collection:	5/9/14 3:15:00 PM
Dil. Factor:	2.38	Date of Analysis:	5/27/14 01:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	12	8.1	78

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: SVE Eff-0514

Lab ID#: 1405264-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052711	Date of Collection:	5/9/14 3:20:00 PM
Dil. Factor:	2.42	Date of Analysis:	5/27/14 02:03 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	Not Detected	6.5	Not Detected
Tetrachloroethene	1.2	7.8	8.2	53

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: BOP-78(i)-0514

Lab ID#: 1405264-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052712	Date of Collection:	5/9/14 1:20:00 PM
Dil. Factor:	2.47	Date of Analysis:	5/27/14 02:29 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.7	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	16	6.6	88
Tetrachloroethene	1.2	5.4	8.4	37

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: BOP-79(i)-0514

Lab ID#: 1405264-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052713	Date of Collection:	5/9/14 1:35:00 PM
Dil. Factor:	2.38	Date of Analysis:	5/27/14 02:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	8.9	6.4	48
Tetrachloroethene	1.2	3.8	8.1	26

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: BOP-84(i)-0514

Lab ID#: 1405264-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052714	Date of Collection:	5/9/14 2:05:00 PM
Dil. Factor:	2.33	Date of Analysis:	5/27/14 03:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	12	6.3	62
Tetrachloroethene	1.2	8.3	7.9	56

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: BOP-85(i)-0514

Lab ID#: 1405264-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052721	Date of Collection:	5/9/14 12:45:00 PM
Dil. Factor:	2.42	Date of Analysis:	5/27/14 09:37 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	5.9	6.5	32
Tetrachloroethene	1.2	15	8.2	100

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: BOP-86(i)-0514

Lab ID#: 1405264-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052722	Date of Collection:	5/9/14 2:15:00 PM
Dil. Factor:	2.38	Date of Analysis:	5/27/14 10:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	1.2	1.3	6.5	7.2
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	50	6.4	270
Tetrachloroethene	1.2	13	8.1	89

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: BOP-87(i)-0514

Lab ID#: 1405264-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052723	Date of Collection:	5/9/14 1:00:00 PM
Dil. Factor:	2.38	Date of Analysis:	5/27/14 10:30 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	5.6	6.4	30
Tetrachloroethene	1.2	10	8.1	71

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: BOP-88(i)-0514

Lab ID#: 1405264-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052724	Date of Collection:	5/9/14 1:10:00 PM
Dil. Factor:	2.24	Date of Analysis:	5/27/14 10:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.4	Not Detected
1,1,1-Trichloroethane	1.1	2.2	6.1	12
cis-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Trichloroethene	1.1	5.8	6.0	31
Tetrachloroethene	1.1	6.2	7.6	42

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: VOW-16-0514

Lab ID#: 1405264-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052817	Date of Collection:	5/9/14 1:40:00 PM
Dil. Factor:	2.33	Date of Analysis:	5/28/14 06:01 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	4.8	6.3	26
Tetrachloroethene	1.2	4.9	7.9	33

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: VOW-17-0514

Lab ID#: 1405264-12A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052808	Date of Collection:	5/9/14 1:55:00 PM
Dil. Factor:	2.42	Date of Analysis:	5/28/14 01:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	2.2	6.5	12
Tetrachloroethene	1.2	8.8	8.2	59

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: VOW-18-0514

Lab ID#: 1405264-13A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052807	Date of Collection: 5/9/14 11:50:00 AM
Dil. Factor:	2.33	Date of Analysis: 5/28/14 01:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	3.3	6.3	18
Tetrachloroethene	1.2	20	7.9	140

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: VP-1-0514

Lab ID#: 1405264-14A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052809	Date of Collection:	5/9/14 10:50:00 AM
Dil. Factor:	2.38	Date of Analysis:	5/28/14 02:27 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	8.4	8.1	57

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: VP-2-0514

Lab ID#: 1405264-15A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052810	Date of Collection: 5/9/14 10:45:00 AM
Dil. Factor:	2.42	Date of Analysis: 5/28/14 03:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	1.4	6.5	7.5
Tetrachloroethene	1.2	6.8	8.2	46

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: VP-3-0514

Lab ID#: 1405264-16A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052811	Date of Collection:	5/9/14 10:30:00 AM
Dil. Factor:	2.33	Date of Analysis:	5/28/14 03:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1,1-Trichloroethane	1.2	3.4	6.4	19
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	1.4	6.3	7.7
Tetrachloroethene	1.2	6.3	7.9	42

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: VP-4-0514

Lab ID#: 1405264-17A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052812	Date of Collection:	5/9/14 10:55:00 AM
Dil. Factor:	2.24	Date of Analysis:	5/28/14 04:26 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.4	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.1	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Trichloroethene	1.1	2.2	6.0	12
Tetrachloroethene	1.1	10	7.6	70

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: VP-5-0514

Lab ID#: 1405264-18A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052813	Date of Collection:	5/9/14 11:25:00 AM
Dil. Factor:	2.33	Date of Analysis:	5/28/14 05:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	1.9	6.3	10
Tetrachloroethene	1.2	9.7	7.9	66

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: VP-6-0514

Lab ID#: 1405264-19A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052814	Date of Collection:	5/9/14 11:35:00 AM
Dil. Factor:	2.42	Date of Analysis:	5/28/14 05:38 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	1.8	6.6	9.8
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	1.5	6.5	8.0
Tetrachloroethene	1.2	15	8.2	100

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: VP-7-0514

Lab ID#: 1405264-20A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052815	Date of Collection:	5/9/14 10:15:00 AM
Dil. Factor:	2.33	Date of Analysis:	5/28/14 06:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	10	4.6	41
1,1,1-Trichloroethane	1.2	200	6.4	1100
cis-1,2-Dichloroethene	1.2	7.4	4.6	29
Trichloroethene	1.2	14	6.3	77
Tetrachloroethene	1.2	8.9	7.9	61

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: VP-8-0514

Lab ID#: 1405264-21A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052816	Date of Collection:	5/9/14 10:00:00 AM
Dil. Factor:	2.33	Date of Analysis:	5/28/14 06:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	25	4.6	99
1,1,1-Trichloroethane	1.2	460	6.4	2500
cis-1,2-Dichloroethene	1.2	4.3	4.6	17
Trichloroethene	1.2	18	6.3	98
Tetrachloroethene	1.2	17	7.9	110

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: VP-9-0514

Lab ID#: 1405264-22A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052817	Date of Collection:	5/9/14 11:10:00 AM
Dil. Factor:	2.33	Date of Analysis:	5/28/14 07:55 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1,1-Trichloroethane	1.2	1.2	6.4	6.5
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	14	6.3	72
Tetrachloroethene	1.2	15	7.9	100

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1405264-23A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052707	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/27/14 11:58 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: Lab Blank

Lab ID#: 1405264-23B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052807	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/28/14 12:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1405264-23C

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052806	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/28/14 12:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: CCV

Lab ID#: 1405264-24A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/27/14 08:07 AM

Compound	%Recovery
Vinyl Chloride	94
1,1-Dichloroethene	98
1,1,1-Trichloroethane	95
cis-1,2-Dichloroethene	97
Trichloroethene	124
Tetrachloroethene	92

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: CCV

Lab ID#: 1405264-24B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052802	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/28/14 09:07 AM

Compound	%Recovery
Vinyl Chloride	94
1,1-Dichloroethene	95
1,1,1-Trichloroethane	93
cis-1,2-Dichloroethene	95
Trichloroethene	123
Tetrachloroethene	89

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: CCV

Lab ID#: 1405264-24C

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052803	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/28/14 09:34 AM

Compound	%Recovery

Vinyl Chloride	125
1,1-Dichloroethene	93
1,1,1-Trichloroethane	96
cis-1,2-Dichloroethene	94
Trichloroethene	102
Tetrachloroethene	102

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	112	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1405264-25A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 3052703

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 5/27/14 08:32 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	106	70-130
1,1-Dichloroethene	123	70-130
1,1,1-Trichloroethane	111	70-130
cis-1,2-Dichloroethene	126	70-130
Trichloroethene	110	70-130
Tetrachloroethene	105	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405264-25AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 3052704

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 5/27/14 08:58 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	107	70-130
1,1-Dichloroethene	125	70-130
1,1,1-Trichloroethane	111	70-130
cis-1,2-Dichloroethene	127	70-130
Trichloroethene	107	70-130
Tetrachloroethene	105	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: LCS

Lab ID#: 1405264-25B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052803	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/28/14 09:33 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	105	70-130
1,1-Dichloroethene	119	70-130
1,1,1-Trichloroethane	104	70-130
cis-1,2-Dichloroethene	123	70-130
Trichloroethene	102	70-130
Tetrachloroethene	102	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: LCSD

Lab ID#: 1405264-25BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052804	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/28/14 09:59 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	109	70-130
1,1-Dichloroethene	123	70-130
1,1,1-Trichloroethane	110	70-130
cis-1,2-Dichloroethene	130	70-130
Trichloroethene	106	70-130
Tetrachloroethene	102	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1405264-25C

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052804	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/28/14 10:16 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	109	70-130
1,1-Dichloroethene	111	70-130
1,1,1-Trichloroethane	99	70-130
cis-1,2-Dichloroethene	114	70-130
Trichloroethene	98	70-130
Tetrachloroethene	102	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	109	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405264-25CC

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052805	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/28/14 10:55 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	91	70-130
1,1-Dichloroethene	104	70-130
1,1,1-Trichloroethane	94	70-130
cis-1,2-Dichloroethene	105	70-130
Trichloroethene	96	70-130
Tetrachloroethene	96	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	107	70-130



Air TOXICS LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 3

Project Manager <u>Chris Kimmel</u>	Project Info:	Turn Around Time:	Lab Use Only
Collected by: (Print and Sign) <u>James Raper</u>	P.O. # <u>025116-114-412</u>	☒ Normal	Pressurized by:
Company <u>Landau Associates</u> Email <u>borris@landau.com</u>	Project # <u>025116-114-412</u>	☐ Rush	Date:
Address <u>333 SW 5th Ave #100</u> City <u>Portland</u> State <u>OR</u> Zip <u>97204</u>	Project Name <u>Breing of Portland</u>	Specify	Pressurization Gas:
Phone <u>503 342 1080</u> Fax <u>503 342 1081</u>			N ₂ He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum		
						Initial	Final	Final (psi)
01A	SVE Int - 0514	14525	5/9/14	15:10	70-15 (6 list)	30	5	
02A	SVE GAC1 - 0514	37421		15:15		30	5	
03A	SVE EAF - 0514	37657		15:20		30	5	
04A	BOP-78(i) - 0514	35651		13:20		30	5	
05A	BOP-79(i) - 0514	37762		13:35		30	5	
06A	BOP-84(i) - 0514	34612		14:05		30	5	
07A	BOP-85(i) - 0514	36501		12:45		30	3.5	
08A	BOP-86(i) - 0514	36533		14:15		30	5	
09A	BOP-87(i) - 0514	34172		13:00		30	5	
10A	BOP-88(i) - 0514	31758		13:10		30	5	

Relinquished by: (signature) <u>[Signature]</u> Date/Time <u>5/12/14 17:00</u>	Received by: (signature) <u>David McPhall</u> Date/Time <u>5/14/14 0945</u>	Notes:
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	Donot analyze Canister #34673 -only clean
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FdEx	5865-8151-1681	NA	Good	Yes No <u>None</u>	1405264



CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 2 of 3

Project Manager Chris Kimmel
Collected by: (Print and Sign) Tamer Resan
Company Landau Associates Email bborgerson@landauinc.com
Address 333 SW 4th Ave #200 City Pittsford State OR Zip 97204
Phone 503.542.1080 Fax 503.542.1081

Project Info:	
P.O. #	<u>025116-114.412</u>
Project #	<u>025116-114.412</u>
Project Name	<u>Boeing of Portland</u>
Turn Around Time:	☒ Normal ☐ Rush
Pressurized by:	
Date:	
Pressurization Gas:	<u>N₂</u> <u>He</u>

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum	
						Initial	Final (psi)
11A	VOW-16-0514	161531	5/1/14	1340	70-15 (6.15t)	29.5	5
12A	VOW-17-0514	141594		1355		29.5	5
13A	VOW-18-0514	35652		1150		30	5
14A	VP-1-0514	36502		1050		29.5	5
15A	VP-2-0514	36425		1045		27.5	5
16A	VP-3-0514	34656		1030		30	5
17A	VP-4-0514	12360		1055		29.5	3
18A	VP-5-0514	12802		1125		28.5	3.5
19A	VP-6-0514	25285		1135		29	5
20A	VP-7-0514	37411		1015		29	5

Relinquished by: (signature) <u>[Signature]</u> Date/Time <u>5/12/14 17:00</u>	Received by: (signature) <u>[Signature]</u> Date/Time <u>5/14/14 0915</u>	Notes:
Relinquished by: (signature) <u>[Signature]</u> Date/Time <u></u>	Received by: (signature) <u></u> Date/Time <u></u>	
Relinquished by: (signature) <u></u> Date/Time <u></u>	Received by: (signature) <u></u> Date/Time <u></u>	

Lab Use Only	Shipper Name <u>FedEx</u>	Air Bill # <u>5865-8151-1681</u>	Temp (°C) <u>NA</u>	Condition <u>good</u>	Custody Seals Intact? <u>Yes</u> <u>No</u> <u>(None)</u>	Work Order # <u>1405264</u>

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

**180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020**

CHAIN-OF-CUSTODY RECORD

Page 3 of 3

Project Manager Chris Kimmel
 Collected by: (Print and Sign) James Rasper
 Company Landan Associates Email brngersm@landan.com
 Address 333 SW 19th Ave City Fort Lauderdale State FL Zip 33304
 Phone 503-542-1080 Fax 503-542-1081

Project Info: P.O. # <u>02516-114-412</u> Project # <u>02516-114-412</u> Project Name <u>Bocing of B. Mind</u>	Turn Around Time: ☐ Normal ☐ Rush _____ conclude	Lab Use Only Pressurized by: _____ Date: _____ Pressurization Gas: _____ N. He

[illegible]

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

February 14, 2014

Project: Boeing of Portland/025116.114.412

Submittal Date: 02/06/2014

Group Number: 1450637

PO Number: 0025116.111.140

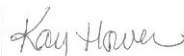
State of Sample Origin: OR

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
BOP-86(i)-0214 NA Water	7355967
BOP-85(i)-0214 NA Water	7355968
BOP-87(i)-0214 NA Water	7355969
BOP-88(i)-0214 NA Water	7355970
BOP-79(i)-0214 NA Water	7355971
BOP-78(i)-0214 NA Water	7355972
BOP-72(i)-0214 NA Water	7355973
BOP-75(i)-0214 NA Water	7355974
BOP-76(i)-0214 NA Water	7355975
BOP-84(i)-0214 NA Water	7355976
Trip Blank NA Water	7355977

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

ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen
ELECTRONIC COPY TO	Landau	Attn: Chris Kimmel
ELECTRONIC COPY TO	Landau Associates	Attn: Terry McGourty

Respectfully Submitted,



Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.114.412
LLI Group #: 1450637

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: 7355968, 7355969, 7355971, 7355972, 7355973, 7355974, 7355975

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and the target analyte(s) was not detected in the sample, the data is reported.

Sample #s: 7355970

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and the target analyte(s) was not detected in the sample, the data is reported.

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 the second trial is not detected in this sample.

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

Analyte	Response (%Drift)
chloromethane	-23%
vinyl acetate	-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 #s: 7355976, 7355977

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and the target analyte(s) was not detected in the sample, the data is reported.

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)
chloromethane	-23%
vinyl acetate	-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.

Batch #: H140421AA (Sample number(s): 7355967-7355975)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: Trichlorofluoromethane
Batch #: H140422AA (Sample number(s): 7355970, 7355976-7355977 UNSPK: P360310)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Trichlorofluoromethane, Tetrachloroethene
RSKSOP-175 modified, GC Miscellaneous

Batch #: 140420020A (Sample number(s): 7355976 UNSPK: 7355976)

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

Sample Description: BOP-86(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355967
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 10:45 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP86

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	6.9	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	0.3	0.2	1
11996	Toluene	108-88-3	0.2	0.2	1
11996	1,1,1,2,2-Pentafluoroethane	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	0.6	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

General Sample Comments

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

Sample Description: BOP-86(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355967
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 10:45 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP86

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	H140421AA	02/11/2014 16:37	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 16:37	Kerri E Legerlotz	1

Sample Description: BOP-85(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355968
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:00 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP85

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	6.6	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	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	1.3	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

General Sample Comments

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	H140421AA	02/11/2014 16:58	Kerri E Legerlotz	1

Sample Description: BOP-85(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355968
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:00 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP85

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 16:58	Kerri E Legerlotz	1

Sample Description: BOP-87(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355969
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:15 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP87

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	8.1	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	1.2	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	1,1,1,2,2-Pentafluoroethane	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	0.3	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	1	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

General Sample Comments

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

Sample Description: BOP-87(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355969
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:15 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP87

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	H140421AA	02/11/2014 17:19	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 17:19	Kerri E Legerlotz	1

Sample Description: BOP-88(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355970
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:30 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP88

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	7.5	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	3.0	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	2.8	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	0.9	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	32 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10
11996	Chloroethane	75-00-3	5.0 U	5.0	10

Sample Description: BOP-88(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355970
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:30 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP88

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.0 U	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	2.9	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.0 U	2.0	10
11996	Toluene	108-88-3	2.5	2.0	10
11996	1,1,1,2,2,2-Hexachloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	2.0 U	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	27	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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 the second trial is not detected in this sample.

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

Analyte	Response (%Drift)
chloromethane	-23%
vinyl acetate	-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.

General Sample Comments

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

Sample Description: BOP-88(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355970
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:30 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP88

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	H140421AA	02/11/2014 17:41	Kerri E Legerlotz	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140422AA	02/12/2014 00:07	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 17:41	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140422AA	02/12/2014 00:07	Kevin A Sposito	10

Sample Description: BOP-79(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355971
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:45 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP79

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	6.5	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	1.9	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	17	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.7	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	3.4	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	7.2	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

General Sample Comments

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

Sample Description: BOP-79(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355971
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:45 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP79

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	H140421AA	02/11/2014 18:01	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 18:01	Kerri E Legerlotz	1

Sample Description: BOP-78(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355972
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 12:00 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP78

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	7.7	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	1.9	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	1.3	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	0.3	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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	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	3.0	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

General Sample Comments

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

Sample Description: BOP-78(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355972
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 12:00 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP78

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	H140421AA	02/11/2014 18:22	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 18:22	Kerri E Legerlotz	1

Sample Description: BOP-72(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355973
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 13:00 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP72

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	8.7	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	1.1	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	2.6	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	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	1,1,1,2,2,2-Hexachloroethane	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	1.9	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

General Sample Comments

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

Sample Description: BOP-72(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355973
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 13:00 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP72

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	H140421AA	02/11/2014 18:43	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 18:43	Kerri E Legerlotz	1

Sample Description: BOP-75(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355974
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 13:15 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP75

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	10	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	5.1	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	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	1.3	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	2.6	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	18	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

General Sample Comments

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

Sample Description: BOP-75(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355974
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 13:15 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP75

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	H140421AA	02/11/2014 19:04	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 19:04	Kerri E Legerlotz	1

Sample Description: BOP-76(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355975
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 13:30 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP76

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	7.8	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	0.2 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	0.3	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	5.8	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	1	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	51 E	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	8.5	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10
11996	Chloroethane	75-00-3	5.0 U	5.0	10

Sample Description: BOP-76(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355975
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 13:30 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP76

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.0 U	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	5.4	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.0 U	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,2,2-Tetrachloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	45	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	7.1	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

General Sample Comments

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	H140421AA	02/11/2014 19:25	Kerri E Legerlotz	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140421AA	02/11/2014 19:45	Kerri E Legerlotz	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 19:25	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140421AA	02/11/2014 19:45	Kerri E Legerlotz	10

Sample Description: BOP-84(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355976
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 14:15 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP84

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	40	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	17	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	2.5	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	3.1	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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	0.6	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

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)
chloromethane	-23%
vinyl acetate	-23%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a

Sample Description: BOP-84(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355976
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 14:15 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP84

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
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 Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	12,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	500 U	500	100
07105	Ethane	74-84-0	500 U	500	100
07105	Ethene	74-85-1	500 U	500	100
07105	Methane	74-82-8	19,000	500	100
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	378	5.0	5

General Sample Comments

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	H140422AA	02/12/2014 04:56	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140422AA	02/12/2014 04:56	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140420020A	02/11/2014 23:09	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140420020A	02/12/2014 12:11	Elizabeth J Marin	100
00368	Nitrate Nitrogen	EPA 300.0	1	14037987601A	02/06/2014 18:26	Clinton M Wilson	1
00228	Sulfate	EPA 300.0	1	14037987601A	02/06/2014 18:26	Clinton M Wilson	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14042049501A	02/11/2014 01:52	James S Mathiot	5

Sample Description: Trip Blank NA Water
Boeing Portland

LL Sample # WW 7355977
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 01/15/2014 by

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP-T

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Trichloroethane	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)
chloromethane	-23%
vinyl acetate	-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

Sample Description: Trip Blank NA Water
Boeing Portland

LL Sample # WW 7355977
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 01/15/2014 by

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP-T

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				

General Sample Comments

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	H140422AA	02/11/2014 23:26	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140422AA	02/11/2014 23:26	Kevin A Sposito	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/14/14 at 04:44 PM

Group Number: 1450637

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: H140421AA Sample number(s): 7355967-7355975								
Acetone	5.0 U	5.0	ug/l	104	106	60-139	2	30
Benzene	0.2 U	0.2	ug/l	109	106	80-120	3	30
Bromodichloromethane	0.5 U	0.5	ug/l	107	105	80-120	2	30
Bromoform	0.5 U	0.5	ug/l	114	114	73-128	1	30
Bromomethane	0.5 U	0.5	ug/l	108	104	62-126	4	30
2-Butanone	5.0 U	5.0	ug/l	115	110	70-130	5	30
Carbon Disulfide	0.5 U	0.5	ug/l	117	111	80-128	6	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	116	111	80-129	5	30
Chlorobenzene	0.5 U	0.5	ug/l	107	104	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	104	97	68-120	7	30
Chloroform	0.2 U	0.2	ug/l	113	109	80-120	3	30
Chloromethane	0.5 U	0.5	ug/l	103	98	55-120	4	30
Dibromochloromethane	0.5 U	0.5	ug/l	109	105	80-126	4	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	113	110	80-120	3	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	109	108	80-127	1	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	115	108	80-123	7	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	105	101	80-120	4	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	110	107	80-120	3	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	112	110	80-120	2	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	109	106	80-123	3	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	105	104	80-120	2	30
Ethylbenzene	0.5 U	0.5	ug/l	106	103	80-120	3	30
2-Hexanone	5.0 U	5.0	ug/l	114	109	69-131	4	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	115	109	69-135	5	30
Methylene Chloride	0.5 U	0.5	ug/l	114	109	80-120	5	30
Styrene	0.5 U	0.5	ug/l	105	103	80-120	3	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	106	107	80-125	0	30
Tetrachloroethene	0.2 U	0.2	ug/l	112	107	80-120	5	30
Toluene	0.2 U	0.2	ug/l	108	103	80-120	4	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	121	113	78-132	7	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	112	108	80-120	4	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	109	105	80-120	4	30
Trichloroethene	0.2 U	0.2	ug/l	112	106	80-120	5	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	139*	138*	77-132	1	30
Vinyl Acetate	0.5 U	0.5	ug/l	97	95	45-132	3	30
Vinyl Chloride	0.2 U	0.2	ug/l	110	104	65-127	5	30
m+p-Xylene	0.5 U	0.5	ug/l	105	102	80-120	3	30
o-Xylene	0.5 U	0.5	ug/l	105	102	80-120	3	30
Batch number: H140422AA Sample number(s): 7355970,7355976-7355977								
Acetone	5.0 U	5.0	ug/l	114		60-139		
Benzene	0.2 U	0.2	ug/l	108		80-120		
Bromodichloromethane	0.5 U	0.5	ug/l	108		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 SummaryClient Name: The Boeing Company
Reported: 02/14/14 at 04:44 PM

Group Number: 1450637

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Bromoform	0.5 U	0.5	ug/l	116		73-128		
Bromomethane	0.5 U	0.5	ug/l	84		62-126		
2-Butanone	5.0 U	5.0	ug/l	112		70-130		
Carbon Disulfide	0.5 U	0.5	ug/l	115		80-128		
Carbon Tetrachloride	0.2 U	0.2	ug/l	120		80-129		
Chlorobenzene	0.5 U	0.5	ug/l	105		80-120		
Chloroethane	0.5 U	0.5	ug/l	80		68-120		
Chloroform	0.2 U	0.2	ug/l	113		80-120		
Chloromethane	0.5 U	0.5	ug/l	76		55-120		
Dibromochloromethane	0.5 U	0.5	ug/l	107		80-126		
1,1-Dichloroethane	0.5 U	0.5	ug/l	111		80-120		
1,2-Dichloroethane	0.2 U	0.2	ug/l	116		80-127		
1,1-Dichloroethene	0.2 U	0.2	ug/l	112		80-123		
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	104		80-120		
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	109		80-120		
1,2-Dichloropropane	0.5 U	0.5	ug/l	108		80-120		
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	102		80-123		
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	100		80-120		
Ethylbenzene	0.5 U	0.5	ug/l	104		80-120		
2-Hexanone	5.0 U	5.0	ug/l	110		69-131		
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	110		69-135		
Methylene Chloride	0.5 U	0.5	ug/l	113		80-120		
Styrene	0.5 U	0.5	ug/l	104		80-120		
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	101		80-125		
Tetrachloroethene	0.2 U	0.2	ug/l	111		80-120		
Toluene	0.2 U	0.2	ug/l	105		80-120		
1,1,2,2,4,4-Hexachloroethane	0.5 U	0.5	ug/l	116		78-132		
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	116		80-120		
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	107		80-120		
Trichloroethene	0.2 U	0.2	ug/l	110		80-120		
Trichlorofluoromethane	0.5 U	0.5	ug/l	122		77-132		
Vinyl Acetate	0.5 U	0.5	ug/l	67		45-132		
Vinyl Chloride	0.2 U	0.2	ug/l	83		65-127		
m+p-Xylene	0.5 U	0.5	ug/l	102		80-120		
o-Xylene	0.5 U	0.5	ug/l	103		80-120		
Batch number: 140420020A	Sample number(s): 7355976							
Acetylene	5.0 U	5.0	ug/l	95		58-136		
Ethane	5.0 U	5.0	ug/l	89		80-120		
Ethene	5.0 U	5.0	ug/l	89		80-120		
Methane	5.0 U	5.0	ug/l	91		80-120		
Batch number: 14037987601A	Sample number(s): 7355976							
Nitrate Nitrogen	0.10 U	0.10	mg/l	102		90-110		
Sulfate	1.0 U	1.0	mg/l	99		90-110		
Batch number: 14042049501A	Sample number(s): 7355976							
Total Organic Carbon	1.0 U	1.0	mg/l	101		91-113		

Sample Matrix Quality ControlUnspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

*- 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 SummaryClient Name: The Boeing Company
Reported: 02/14/14 at 04:44 PM

Group Number: 1450637

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Batch number: H140422AA	Sample number(s): 7355970, 7355976-7355977 UNSPK: P360310								
Acetone	97	91	57-163	7	30				
Benzene	120	118	87-126	2	30				
Bromodichloromethane	118	118	82-133	1	30				
Bromoform	126	124	60-138	2	30				
Bromomethane	118	118	66-130	0	30				
2-Butanone	144	142	56-160	1	30				
Carbon Disulfide	133	130	84-141	3	30				
Carbon Tetrachloride	139	136	81-148	3	30				
Chlorobenzene	118	115	78-133	3	30				
Chloroethane	114	110	70-139	3	30				
Chloroform	134	133	86-136	1	30				
Chloromethane	110	112	49-135	2	30				
Dibromochloromethane	116	113	79-125	3	30				
1,1-Dichloroethane	125	122	88-136	3	30				
1,2-Dichloroethane	123	122	82-135	1	30				
1,1-Dichloroethene	131	128	83-150	2	30				
cis-1,2-Dichloroethene	114	112	82-129	2	30				
trans-1,2-Dichloroethene	125	121	88-127	3	30				
1,2-Dichloropropane	123	119	91-126	4	30				
cis-1,3-Dichloropropene	118	116	74-132	1	30				
trans-1,3-Dichloropropene	113	111	71-128	2	30				
Ethylbenzene	119	116	80-140	3	30				
2-Hexanone	109	112	59-169	3	30				
4-Methyl-2-pentanone	111	112	69-149	1	30				
Methylene Chloride	124	122	77-135	2	30				
Styrene	117	115	63-151	2	30				
1,1,2,2-Tetrachloroethane	112	109	75-131	3	30				
Tetrachloroethene	130*	124	75-129	4	30				
Toluene	117	114	83-127	2	30				
1,1,2,2-Trichloroethane	140	137	77-147	2	30				
1,1,1-Trichloroethane	133	130	85-140	2	30				
1,1,2-Trichloroethane	117	113	85-129	4	30				
Trichloroethene	128	126	85-131	2	30				
Trichlorofluoromethane	167*	174*	73-139	5	30				
Vinyl Acetate	98	97	45-136	1	30				
Vinyl Chloride	121	124	62-135	2	30				
m+p-Xylene	117	113	81-137	4	30				
o-Xylene	117	114	81-137	2	30				
Batch number: 140420020A	Sample number(s): 7355976 UNSPK: 7355976								
Acetylene	87	86	38-121	1	20				
Ethane	94	93	32-129	1	20				
Ethene	124	123	35-162	0	20				
Methane	-999	1843	35-157	13	20				
	(2)	(2)							
Batch number: 14037987601A	Sample number(s): 7355976 UNSPK: P355986 BKG: P355986								
Nitrate Nitrogen	95		90-110		0.66	0.65		1 (1)	20
Sulfate	94		90-110		5.0	U 5.0	U	1 (1)	20
Batch number: 14042049501A	Sample number(s): 7355976 UNSPK: P358339 BKG: P358339								
Total Organic Carbon	101		63-142		19.4	19.6		1	4

*- 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
Reported: 02/14/14 at 04:44 PM

Group Number: 1450637

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 Water(25ml) Master
Batch number: H140421AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7355967	101	97	96	100
7355968	101	101	96	99
7355969	102	100	96	99
7355970	102	102	96	98
7355971	102	100	96	99
7355972	103	99	96	99
7355973	103	99	96	99
7355974	102	101	96	100
7355975	101	101	96	99
7355975	101	101	96	99
DL				
Blank	101	100	97	100
LCS	101	98	97	101
LCSD	101	100	97	100
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Water(25ml) Master
Batch number: H140422AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7355970	103	102	95	99
DL				
7355976	104	100	96	101
7355977	103	101	95	100
Blank	102	99	97	99
LCS	101	100	97	101
MS	101	100	97	101
MSD	102	98	96	101
Limits:	77-114	74-113	77-110	78-110

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 140420020A

Propene

7355976	66
7355976	98
DL	
Blank	90
LCS	92
MS	69
MSD	68
Limits:	42-131

*- 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
Reported: 02/14/14 at 04:44 PM

Group Number: 1450637

*- 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.

[illegible]

Client: BOEING**BOEING OF PORTLAND****Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>02/06/2014 9:15</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>OR</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Trip Blank Present:	<u>Yes</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Indicated on COC:	<u>Yes</u>
Custody Seal Intact:	<u>Yes</u>	Trip Blank Type:	<u>N/A</u>
Samples Chilled:	<u>Yes</u>	Trip Blank Qty:	<u>0</u>
Paperwork Enclosed:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Intact:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Missing Samples:	<u>No</u>	Flow Controller Quantity:	<u>0</u>
Extra Samples:	<u>No</u>	Air Quality Returns:	<u>N/A</u>
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Corey Eshleman (3647) at 09:51 on 02/06/2014

Samples Chilled Details: BOEING OF PORTLAND

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	0.1	0.1	DT	Wet	Y	Bagged	N

General Comments:

1450637

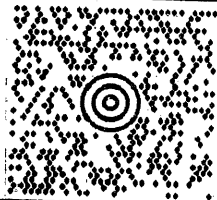
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATOIRE
940 HENSLEY
RICHMOND CA 94801-2106

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 4557 1848

1 S



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40



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.

WS 16.0.31

45.0A 10/2013

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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

February 20, 2014

Project: Boeing of Portland/025116.614.140

Submittal Date: 02/14/2014
Group Number: 1452630
PO Number: 0025116.113.140
State of Sample Origin: ORClient Sample DescriptionGWTSEFF-0214 Water
GWTSEFFd-0214 Water
GWTSINF-0214 Water
GWTSINFd-0214 WaterLancaster Labs (LL) #7364036
7364037
7364038
7364039

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

ELECTRONIC Landau Associates
COPY TO
ELECTRONIC Landau
COPY TO
ELECTRONIC Landau Associates
COPY TO
ELECTRONIC The Boeing Company
COPY TO

Attn: Anne Halvorsen

Attn: Chris Kimmel

Attn: Terry McGourty

Attn: John Rusoff

Respectfully Submitted,

Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.614.140
LLI Group #: 1452630

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**

Batch #: H140451AA (Sample number(s): 7364036-7364039)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: Trichlorofluoromethane

EPA 300.0, Wet Chemistry

Sample #s: 7364036

The calibration for the trial (ID Trial 2) analyzed on 2/15/2014 at 09:14 EST was out of compliance. The recovery of the LOQ calibration point was outside of the 50-150% recovery window with a recovery of 153%.

Batch #: 14046987601A (Sample number(s): 7364036 UNSPK: P364004 BKG: P364004)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Ortho-phosphate as P

Batch #: 14048347902A (Sample number(s): 7364036 UNSPK: 7364036 BKG: 7364036)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Ortho-phosphate as P

SM 4500-NH3 D-1997, Wet Chemistry

Batch #: 14050008201A (Sample number(s): 7364036 UNSPK: P364639 BKG: P364639)

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

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Ammonia-Nitrogen

Sample Description: GWTSEFF-0214 Water
Boeing Portland 0025116.114.140

LL Sample # WW 7364036
LL Group # 1452630
Account # 13419

Project Name: Boeing of Portland/025116.614.140

Collected: 02/13/2014 08:45 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 14:00

BOP01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Trichloroethane	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

Wet Chemistry	EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	2.5	0.10
01506	Nitrite Nitrogen	14797-65-0	0.10	0.10
07322	Ortho-phosphate as P	7723-14-0	0.50	0.50
The calibration for the trial (ID Trial 2) analyzed on 2/15/2014 at 09:14 EST was out of compliance. The recovery of the LOQ calibration point was outside of the 50-150% recovery window with a recovery of 153%.				
07322	Ortho-phosphate as P	7723-14-0	0.52	0.50
The calibration for the trial (ID Trial 2) analyzed on 2/15/2014 at 09:14 EST was out of compliance. The recovery of the LOQ calibration point was outside of the 50-150% recovery window with a recovery of 153%.				

Sample Description: GWTSEFF-0214 Water
Boeing Portland 0025116.114.140

LL Sample # WW 7364036
LL Group # 1452630
Account # 13419

Project Name: Boeing of Portland/025116.614.140

Collected: 02/13/2014 08:45 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 14:00

BOP01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Wet Chemistry					
00345	Total Phosphorus as PO4 water	EPA 365.1 14265-44-2	mg/l 0.38	mg/l 0.31	1
12677	Ammonia-Nitrogen	SM 4500-NH3 D-1997 7664-41-7	mg/l 0.86	mg/l 0.20	1

General Sample Comments

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	H140451AA	02/14/2014 21:02	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 21:02	Kevin A Sposito	1
00368	Nitrate Nitrogen	EPA 300.0	1	14046987601A	02/15/2014 09:14	Sandra J Miller	1
01506	Nitrite Nitrogen	EPA 300.0	1	14046987601A	02/15/2014 09:14	Sandra J Miller	1
07322	Ortho-phosphate as P	EPA 300.0	1	14048347902A	02/17/2014 17:46	Sandra J Miller	1
07322	Ortho-phosphate as P	EPA 300.0	2	14046987601A	02/15/2014 09:14	Sandra J Miller	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	14050110101B	02/20/2014 11:43	Joseph E McKenzie	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	14050110101B	02/19/2014 07:50	Nancy J Shoop	1
12677	Ammonia-Nitrogen	SM 4500-NH3 D-1997	1	14050008201A	02/19/2014 22:21	Michele L Graham	1

Sample Description: GWTSEFFd-0214 Water
Boeing Portland 0025116.114.140

LL Sample # WW 7364037
LL Group # 1452630
Account # 13419

Project Name: Boeing of Portland/025116.614.140

Collected: 02/13/2014 09:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 14:00

BOP02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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

General Sample Comments

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	H140451AA	02/14/2014 21:23	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 21:23	Kevin A Sposito	1

Sample Description: GWTSINF-0214 Water
Boeing Portland 0025116.114.140

LL Sample # WW 7364038
LL Group # 1452630
Account # 13419

Project Name: Boeing of Portland/025116.614.140

Collected: 02/13/2014 09:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 14:00

BOP03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.9	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	0.4	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	9.1	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

General Sample Comments

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	H140451AA	02/14/2014 21:44	Kevin A Sposito	1

Sample Description: GWTSINF-0214 Water
Boeing Portland 0025116.114.140

LL Sample # WW 7364038
LL Group # 1452630
Account # 13419

Project Name: Boeing of Portland/025116.614.140

Collected: 02/13/2014 09:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 14:00

BOP03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 21:44	Kevin A Sposito	1

Sample Description: GWTSINFd-0214 Water
Boeing Portland 0025116.114.140

LL Sample # WW 7364039
LL Group # 1452630
Account # 13419

Project Name: Boeing of Portland/025116.614.140

Collected: 02/13/2014 09:30 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 14:00

BOP04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.8	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	0.4	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	8.9	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

General Sample Comments

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	H140451AA	02/14/2014 22:05	Kevin A Sposito	1

Sample Description: GWTSINFd-0214 Water
Boeing Portland 0025116.114.140

LL Sample # WW 7364039
LL Group # 1452630
Account # 13419

Project Name: Boeing of Portland/025116.614.140

Collected: 02/13/2014 09:30 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 14:00

BOP04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 22:05	Kevin A Sposito	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/20/14 at 02:00 PM

Group Number: 1452630

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H140451AA	Sample number(s): 7364036-7364039							
Acetone	5.0 U	5.0	ug/l	111	103	60-139	7	30
Benzene	0.2 U	0.2	ug/l	110	109	80-120	1	30
Bromodichloromethane	0.5 U	0.5	ug/l	110	108	80-120	1	30
Bromoform	0.5 U	0.5	ug/l	115	114	73-128	1	30
Bromomethane	0.5 U	0.5	ug/l	104	103	62-126	2	30
2-Butanone	5.0 U	5.0	ug/l	108	106	70-130	2	30
Carbon Disulfide	0.5 U	0.5	ug/l	111	108	80-128	3	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	120	117	80-129	3	30
Chlorobenzene	0.5 U	0.5	ug/l	108	105	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	97	97	68-120	1	30
Chloroform	0.2 U	0.2	ug/l	115	113	80-120	2	30
Chloromethane	0.5 U	0.5	ug/l	94	94	55-120	0	30
Dibromochloromethane	0.5 U	0.5	ug/l	107	105	80-126	2	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	115	112	80-120	3	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	117	113	80-127	3	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	111	109	80-123	2	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	106	104	80-120	2	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	111	108	80-120	2	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	113	112	80-120	1	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	109	107	80-123	2	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	106	103	80-120	3	30
Ethylbenzene	0.5 U	0.5	ug/l	107	105	80-120	2	30
2-Hexanone	5.0 U	5.0	ug/l	106	106	69-131	0	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	107	108	69-135	1	30
Methylene Chloride	0.5 U	0.5	ug/l	114	111	80-120	3	30
Styrene	0.5 U	0.5	ug/l	108	106	80-120	2	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	105	102	80-125	4	30
Tetrachloroethene	0.2 U	0.2	ug/l	113	109	80-120	3	30
Toluene	0.2 U	0.2	ug/l	108	105	80-120	3	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	117	114	78-132	3	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	116	115	80-120	1	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	108	104	80-120	3	30
Trichloroethene	0.2 U	0.2	ug/l	112	111	80-120	1	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	144*	135*	77-132	6	30
Vinyl Acetate	0.5 U	0.5	ug/l	92	92	45-132	1	30
Vinyl Chloride	0.2 U	0.2	ug/l	105	104	65-127	1	30
m+p-Xylene	0.5 U	0.5	ug/l	106	104	80-120	2	30
o-Xylene	0.5 U	0.5	ug/l	105	103	80-120	1	30
Batch number: 14046987601A	Sample number(s): 7364036							
Nitrate Nitrogen	0.10 U	0.10	mg/l	101	101	90-110	1	20
Nitrite Nitrogen	0.10 U	0.10	mg/l	98	97	90-110	1	20
Ortho-phosphate as P	0.50 U	0.50	mg/l	95	94	90-110	1	20

*- 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
Reported: 02/20/14 at 02:00 PM

Group Number: 1452630

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 14048347902A Ortho-phosphate as P	Sample number(s): 7364036 0.50 U	0.50	mg/l	103		90-110		
Batch number: 14050110101B Total Phosphorus as PO ₄ water	Sample number(s): 7364036 0.31 U	0.31	mg/l	99		90-110		
Batch number: 14050008201A Ammonia-Nitrogen	Sample number(s): 7364036 0.20 U	0.20	mg/l	100		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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 14046987601A Nitrate Nitrogen	Sample number(s): 7364036 102		90-110	UNSPK: P364004	BKG: P364004	0.10	U 0.10	U 0 (1)	20
Nitrite Nitrogen	95		90-110			0.10	U 0.10	U 0 (1)	20
Ortho-phosphate as P	88*		90-110			0.53	0.55	3 (1)	20
Batch number: 14048347902A Ortho-phosphate as P	Sample number(s): 7364036 117*		90-110	UNSPK: 7364036	BKG: 7364036	0.50	U 0.50	U 0 (1)	20
Batch number: 14050110101B Total Phosphorus as PO ₄ water	Sample number(s): 7364036 104		90-110	UNSPK: P363861	BKG: P363861	0.31	U 0.31	U 0 (1)	4
Batch number: 14050008201A Ammonia-Nitrogen	Sample number(s): 7364036 38*	43*	52-144	9	10	0.74	0.59	23* (1)	20

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 Water(25ml) Master
Batch number: H140451AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7364036	103	101	96	101
7364037	103	101	95	99
7364038	103	97	96	98
7364039	103	97	96	98
Blank	102	101	96	100
LCS	102	97	97	102
LCSD	102	97	96	102
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.

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/20/14 at 02:00 PM

Group Number: 1452630

Surrogate Quality Control

*- 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.

[illegible]

Client: Boeing**Boeing of Portland****Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>02/14/2014 14:00</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>OR</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCI</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Wesley Miller (2308) at 15:00 on 02/14/2014

Samples Chilled Details: Boeing of Portland

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	1.2	1.2	DT	Wet	Y	Bagged	N

General Comments:

1452630

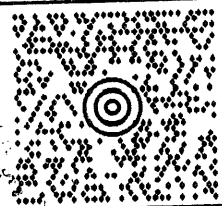
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

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 4507 5625

1 S



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40

WS 16.0.31 45 DA 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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

February 20, 2014

Project: Boeing of Portland/025116.614.640

Submittal Date: 02/14/2014

Group Number: 1452631

PO Number: 0025116.613.640

State of Sample Origin: OR

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
BOP-10(i)-0214 Water	7364040
BOP-56(i)-0214 Water	7364041
BOP-59(i)-0214 Water	7364042
BOP-Y-0214 Water	7364043
BOP-57(ia)-0214 Water	7364044
BOP-59(ib)-0214 Water	7364045
D-8(i)-0214 Water	7364046
D-12(i)-0214 Water	7364047
E-13-0214 Water	7364048
BOP-9(j)-0214 Water	7364049
E-12-0214 Water	7364050
DP-1-0214 Water	7364051
Trip Blank Water	7364052

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

ELECTRONIC Landau Associates
COPY TO
ELECTRONIC Landau
COPY TO
ELECTRONIC Landau Associates
COPY TO

Attn: Anne Halvorsen

Attn: Chris Kimmel

Attn: Terry McGourty

Respectfully Submitted,



Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.614.640
LLI Group #: 1452631

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: 7364041, 7364045, 7364046, 7364049, 7364051

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 the verification standard bracketing the sample on the second trial is outside the acceptance limits.

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

Analyte	Response (%Drift)
chloromethane	-22%
chloroethane	-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.

Batch #: H140451AA (Sample number(s): 7364040-7364052)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: Trichlorofluoromethane

Sample Description: BOP-10(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364040
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 12:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	7.7	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	1.1	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	2.2	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	7.8	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	16	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

General Sample Comments

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	H140451AA	02/14/2014 22:26	Kevin A Sposito	1

Sample Description: BOP-10(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364040
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 12:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 22:26	Kevin A Sposito	1

Sample Description: BOP-56(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364041
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 12:35 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	7.5	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	2.8	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	0.3	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	3.3	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	5.5	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,1,2,2,2-Tetrachloroethane	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	28 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10
11996	Chloroethane	75-00-3	5.0 U	5.0	10

Sample Description: BOP-56(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364041
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 12:35 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	2.6	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.0 U	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	3.0	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	4.7	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,1,2,2,2-Hexachloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	24	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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 the verification standard bracketing the sample on the second trial is outside the acceptance limits.

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

Analyte	Response (%Drift)
chloromethane	-22%
chloroethane	-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.

General Sample Comments

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

Sample Description: BOP-56(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364041
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 12:35 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP06

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	H140451AA	02/14/2014 22:47	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140492AA	02/19/2014 00:13	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 22:47	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140492AA	02/19/2014 00:13	Kevin A Sposito	10

Sample Description: BOP-59(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364042
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 13:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	8.0	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	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	5.4	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	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

General Sample Comments

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	H140451AA	02/14/2014 23:08	Kevin A Sposito	1

Sample Description: BOP-59(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364042
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 13:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 23:08	Kevin A Sposito	1

Sample Description: BOP-Y-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364043
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 12:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	9.1	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	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	2.3	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	6.0	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

General Sample Comments

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	H140451AA	02/14/2014 23:29	Kevin A Sposito	1

Sample Description: BOP-Y-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364043
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 12:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP08

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 23:29	Kevin A Sposito	1

Sample Description: BOP-57(ia)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364044
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 13:35 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	8.0	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	0.6	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	0.5	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	3.2	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	3.0	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	16	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

General Sample Comments

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

Sample Description: BOP-57(ia)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364044
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 13:35 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP09

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	H140451AA	02/14/2014 23:50	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 23:50	Kevin A Sposito	1

Sample Description: BOP-59(ib)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364045
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 14:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	9.6	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	0.4	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	2.9	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	50 E	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	11	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	0.7	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	27 E	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	49 E	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	0.7	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10

Sample Description: BOP-59(ib)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364045
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 14:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroethane	75-00-3	5.0 U	5.0	10
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	41	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	9.7	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.0 U	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,2-Trichloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	24	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	42	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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 the verification standard bracketing the sample on the second trial is outside the acceptance limits.

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

Analyte	Response (%Drift)
chloromethane	-22%
chloroethane	-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.

General Sample Comments

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

Sample Description: BOP-59(ib)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364045
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 14:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP10

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	H140451AA	02/15/2014 01:14	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140492AA	02/19/2014 00:34	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/15/2014 01:14	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140492AA	02/19/2014 00:34	Kevin A Sposito	10

Sample Description: D-8(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364046
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 11:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	8.0	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	2.5	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	1.5	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	0.9	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	0.6	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	35 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10
11996	Chloroethane	75-00-3	5.0 U	5.0	10

Sample Description: D-8(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364046
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 11:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.1	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	2.0 U	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.0 U	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,2,2-Trichloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	30	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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 the verification standard bracketing the sample on the second trial is outside the acceptance limits.

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

Analyte	Response (%Drift)
chloromethane	-22%
chloroethane	-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.

General Sample Comments

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

Sample Description: D-8(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364046
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 11:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP11

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	H140451AA	02/15/2014 01:35	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140492AA	02/19/2014 00:55	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/15/2014 01:35	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140492AA	02/19/2014 00:55	Kevin A Sposito	10

Sample Description: D-12(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364047
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 11:45 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	7.9	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	1.7	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

General Sample Comments

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	H140451AA	02/15/2014 00:11	Kevin A Sposito	1

Sample Description: D-12(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364047
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 11:45 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP12

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/15/2014 00:11	Kevin A Sposito	1

Sample Description: E-13-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364048
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 12:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.7	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.9	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	0.4	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	8.6	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

General Sample Comments

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	H140451AA	02/15/2014 00:32	Kevin A Sposito	1

Sample Description: E-13-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364048
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 12:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP13

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/15/2014 00:32	Kevin A Sposito	1

Sample Description: BOP-9(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364049
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 13:30 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	7.8	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	1.3	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	1.5	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	6.2	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	3.2	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	0.6	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	29 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10
11996	Chloroethane	75-00-3	5.0 U	5.0	10

Sample Description: BOP-9(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364049
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 13:30 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.0 U	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	5.2	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.8	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,1,2,2,2-Hexachloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	24	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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 the verification standard bracketing the sample on the second trial is outside the acceptance limits.

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

Analyte	Response (%Drift)
chloromethane	-22%
chloroethane	-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.

General Sample Comments

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

Sample Description: BOP-9(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364049
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 13:30 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP14

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	H140451AA	02/15/2014 02:18	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140492AA	02/19/2014 01:16	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/15/2014 02:18	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140492AA	02/19/2014 01:16	Kevin A Sposito	10

Sample Description: E-12-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364050
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 13:45 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1	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	0.4	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	11	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

General Sample Comments

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	H140451AA	02/15/2014 00:53	Kevin A Sposito	1

Sample Description: E-12-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364050
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 13:45 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/15/2014 00:53	Kevin A Sposito	1

Sample Description: DP-1-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364051
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 14:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP16

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.3	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	0.4	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	100 E	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	1.1	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	23	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	36 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10
11996	Chloroethane	75-00-3	5.0 U	5.0	10

Sample Description: DP-1-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364051
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 14:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP16

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.0 U	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	86	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	19	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,1,2,2,2-Hexachloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	29	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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 the verification standard bracketing the sample on the second trial is outside the acceptance limits.

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

Analyte	Response (%Drift)
chloromethane	-22%
chloroethane	-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.

General Sample Comments

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

Sample Description: DP-1-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364051
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 14:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP16

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	H140451AA	02/15/2014 03:00	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140492AA	02/19/2014 01:37	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/15/2014 03:00	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140492AA	02/19/2014 01:37	Kevin A Sposito	10

Sample Description: Trip Blank Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364052
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 01/15/2014

The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP17

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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

General Sample Comments

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	H140451AA	02/14/2014 20:41	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 20:41	Kevin A Sposito	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/20/14 at 05:01 PM

Group Number: 1452631

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H140451AA	Sample number(s): 7364040-7364052							
Acetone	5.0 U	5.0	ug/l	111	103	60-139	7	30
Benzene	0.2 U	0.2	ug/l	110	109	80-120	1	30
Bromodichloromethane	0.5 U	0.5	ug/l	110	108	80-120	1	30
Bromoform	0.5 U	0.5	ug/l	115	114	73-128	1	30
Bromomethane	0.5 U	0.5	ug/l	104	103	62-126	2	30
2-Butanone	5.0 U	5.0	ug/l	108	106	70-130	2	30
Carbon Disulfide	0.5 U	0.5	ug/l	111	108	80-128	3	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	120	117	80-129	3	30
Chlorobenzene	0.5 U	0.5	ug/l	108	105	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	97	97	68-120	1	30
Chloroform	0.2 U	0.2	ug/l	115	113	80-120	2	30
Chloromethane	0.5 U	0.5	ug/l	94	94	55-120	0	30
Dibromochloromethane	0.5 U	0.5	ug/l	107	105	80-126	2	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	115	112	80-120	3	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	117	113	80-127	3	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	111	109	80-123	2	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	106	104	80-120	2	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	111	108	80-120	2	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	113	112	80-120	1	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	109	107	80-123	2	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	106	103	80-120	3	30
Ethylbenzene	0.5 U	0.5	ug/l	107	105	80-120	2	30
2-Hexanone	5.0 U	5.0	ug/l	106	106	69-131	0	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	107	108	69-135	1	30
Methylene Chloride	0.5 U	0.5	ug/l	114	111	80-120	3	30
Styrene	0.5 U	0.5	ug/l	108	106	80-120	2	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	105	102	80-125	4	30
Tetrachloroethene	0.2 U	0.2	ug/l	113	109	80-120	3	30
Toluene	0.2 U	0.2	ug/l	108	105	80-120	3	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	117	114	78-132	3	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	116	115	80-120	1	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	108	104	80-120	3	30
Trichloroethene	0.2 U	0.2	ug/l	112	111	80-120	1	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	144*	135*	77-132	6	30
Vinyl Acetate	0.5 U	0.5	ug/l	92	92	45-132	1	30
Vinyl Chloride	0.2 U	0.2	ug/l	105	104	65-127	1	30
m+p-Xylene	0.5 U	0.5	ug/l	106	104	80-120	2	30
o-Xylene	0.5 U	0.5	ug/l	105	103	80-120	1	30
Batch number: H140492AA	Sample number(s): 7364041,7364045-7364046,7364049,7364051							
Acetone	5.0 U	5.0	ug/l	108	102	60-139	5	30
Benzene	0.2 U	0.2	ug/l	102	100	80-120	2	30
Bromodichloromethane	0.5 U	0.5	ug/l	106	102	80-120	3	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
Reported: 02/20/14 at 05:01 PM

Group Number: 1452631

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Bromoform	0.5 U	0.5	ug/l	111	111	73-128	0	30
Bromomethane	0.5 U	0.5	ug/l	82	82	62-126	0	30
2-Butanone	5.0 U	5.0	ug/l	106	106	70-130	0	30
Carbon Disulfide	0.5 U	0.5	ug/l	91	89	80-128	3	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	113	110	80-129	2	30
Chlorobenzene	0.5 U	0.5	ug/l	105	104	80-120	1	30
Chloroethane	0.5 U	0.5	ug/l	75	74	68-120	2	30
Chloroform	0.2 U	0.2	ug/l	110	109	80-120	1	30
Chloromethane	0.5 U	0.5	ug/l	77	77	55-120	1	30
Dibromochloromethane	0.5 U	0.5	ug/l	105	102	80-126	3	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	106	103	80-120	3	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	116	111	80-127	4	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	94	91	80-123	4	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	97	95	80-120	2	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	99	95	80-120	4	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	107	103	80-120	4	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	100	99	80-123	2	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	103	101	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	105	103	80-120	2	30
2-Hexanone	5.0 U	5.0	ug/l	106	106	69-131	0	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	105	106	69-135	1	30
Methylene Chloride	0.5 U	0.5	ug/l	106	104	80-120	2	30
Styrene	0.5 U	0.5	ug/l	105	104	80-120	1	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	98	101	80-125	3	30
Tetrachloroethene	0.2 U	0.2	ug/l	109	105	80-120	4	30
Toluene	0.2 U	0.2	ug/l	104	102	80-120	2	30
1,1,2,2-Tetrachloroethane	0.5 U	0.5	ug/l	100	99	78-132	1	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	111	108	80-120	3	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	106	104	80-120	2	30
Trichloroethene	0.2 U	0.2	ug/l	105	103	80-120	2	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	117	114	77-132	2	30
Vinyl Acetate	0.5 U	0.5	ug/l	84	82	45-132	3	30
Vinyl Chloride	0.2 U	0.2	ug/l	82	83	65-127	1	30
m+p-Xylene	0.5 U	0.5	ug/l	103	102	80-120	1	30
o-Xylene	0.5 U	0.5	ug/l	103	102	80-120	2	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 Water(25ml) Master
Batch number: H140451AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7364040	103	100	95	98
7364041	104	101	95	99
7364042	103	101	96	98
7364043	103	101	96	99
7364044	104	101	97	99

*- 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
Reported: 02/20/14 at 05:01 PM

Group Number: 1452631

Surrogate Quality Control

7364045	104	100	95	98
7364046	104	97	97	100
7364047	104	101	97	100
7364048	103	100	95	97
7364049	103	99	96	99
7364050	104	99	96	99
7364051	104	101	95	98
7364052	103	101	95	99
Blank	102	101	96	100
LCS	102	97	97	102
LCSD	102	97	96	102

Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Water(25ml) Master
Batch number: H140492AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7364041	101	95	98	99
DL				
7364045	102	99	99	100
DL				
7364046	102	102	97	99
DL				
7364049	102	98	98	99
DL				
7364051	102	99	98	98
DL				
Blank	102	99	98	99
LCS	102	97	99	101
LCSD	101	98	100	101

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.

Client: Boeing**Boeing of Portland****Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>02/14/2014 14:00</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>OR</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCl</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Wesley Miller (2308) at 15:00 on 02/14/2014

Samples Chilled Details: Boeing of Portland

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	1.2	1.2	DT	Wet	Y	Bagged	N

General Comments:

1452631

HARRY STARKEY
(612) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

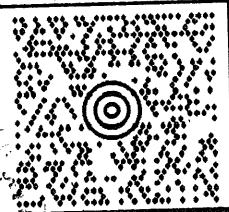
40 LBS

RS

DWT: 25,14,14

SHIP TO:

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



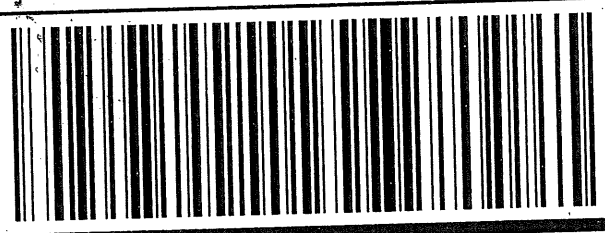
PA 175 9-37



UPS NEXT DAY AIR

1 S

TRACKING #: 1Z RV3 069 Y0 4507 5625



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40

WS 16.D.31 45 DA 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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

February 26, 2014

Project: Boeing of Portland/025116.114.412

Submittal Date: 02/15/2014
Group Number: 1452784
PO Number: 0025116.114.412
State of Sample Origin: OR

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
E-2-0214 NA Water	7364956
E-3-0214 NA Water	7364957
E-4-0214 NA Water	7364958
E-11-0214 NA Water	7364959
E-15-0214 NA Water	7364960
Trip Blank NA Water	7364961

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

ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen
ELECTRONIC COPY TO	Landau	Attn: Chris Kimmel
ELECTRONIC COPY TO	Landau Associates	Attn: Terry McGourty

Respectfully Submitted,

Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.114.412
LLI Group #: 1452784

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: 7364956, 7364957, 7364958, 7364959, 7364960, 7364961

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.

Analyte	Response(s) are: Response (%Drift)
chloromethane	-21%
chloroethane	-22%
trichlorofluoromethane	26%

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.

RKSOP-175 modified, GC Miscellaneous

Sample #s: 7364960

A preserved vial was submitted for analysis. However, the pH at the time of the Ethane, Ethene and Acetylene analysis was 7.

Batch #: 140550002A (Sample number(s): 7364956-7364960 UNSPK: P370861)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Methane, Ethane, Ethene

SM 5310 C-2000, Wet Chemistry

Batch #: 14050049501A (Sample number(s): 7364956-7364960 UNSPK: P364639 BKG: P364639)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Total Organic Carbon

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Total Organic Carbon

Sample Description: E-2-0214 NA Water
Boeing Portland

LL Sample # WW 7364956
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 09:00 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.6	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	0.5	0.2	1
11996	Toluene	108-88-3	5.3	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	2.5	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)
chloromethane	-21%
chloroethane	-22%
trichlorofluoromethane	26%

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

Sample Description: E-2-0214 NA Water
Boeing Portland

LL Sample # WW 7364956
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 09:00 by BB The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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 Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	8,800 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	500 U	500	100
07105	Ethane	74-84-0	500 U	500	100
07105	Ethene	74-85-1	500 U	500	100
07105	Methane	74-82-8	11,000	500	100
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	1.3	0.10	1
00228	Sulfate	14808-79-8	7.5	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	1.0 U	1.0	1

General Sample Comments

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	H140501AA	02/19/2014 19:22	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140501AA	02/19/2014 19:22	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 09:50	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 18:50	Elizabeth J Marin	100
00368	Nitrate Nitrogen	EPA 300.0	1	14046987601B	02/15/2014 13:22	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14046987601B	02/15/2014 13:22	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14050049501A	02/19/2014 06:54	James S Mathiot	1

Sample Description: E-3-0214 NA Water
Boeing Portland

LL Sample # WW 7364957
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 10:00 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.3	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	2.2	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	1.1	0.2	1
11996	Toluene	108-88-3	11	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	13	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

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)
chloromethane	-21%
chloroethane	-22%
trichlorofluoromethane	26%

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

Sample Description: E-3-0214 NA Water
Boeing Portland

LL Sample # WW 7364957
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 10:00 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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% criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
GC Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	2,100 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	100 U	100	20
07105	Ethane	74-84-0	100 U	100	20
07105	Ethene	74-85-1	100 U	100	20
07105	Methane	74-82-8	3,000	100	20
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	1.2	0.10	1
00228	Sulfate	14808-79-8	7.9	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	1.6	1.0	1

General Sample Comments

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	H140501AA	02/19/2014 19:43	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140501AA	02/19/2014 19:43	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 10:08	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 19:08	Elizabeth J Marin	20
00368	Nitrate Nitrogen	EPA 300.0	1	14046987601B	02/15/2014 13:38	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14046987601B	02/15/2014 13:38	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14050049501A	02/19/2014 07:09	James S Mathiot	1

Sample Description: E-4-0214 NA Water
Boeing Portland

LL Sample # WW 7364958
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 11:00 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	5.6	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	1.7	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,2,2-Trichloroethane	76-13-1	1.4	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	40 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10

Sample Description: E-4-0214 NA Water
Boeing Portland

LL Sample # WW 7364958
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 11:00 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroethane	75-00-3	5.0 U	5.0	10
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	4.2	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	2.0 U	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	5.0 U	5.0	10
11996	4-Methyl-2-pentanone	108-10-1	5.0 U	5.0	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.0 U	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,2,2-Trichloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	31	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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)
chloromethane	-21%
chloroethane	-22%
trichlorofluoromethane	26%

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 Miscellaneous	RSKSOP-175 modified	ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0
07105	Ethane	74-84-0	5.0 U	5.0
07105	Ethene	74-85-1	5.0 U	5.0
07105	Methane	74-82-8	5.0 U	5.0

Sample Description: E-4-0214 NA Water
Boeing Portland

LL Sample # WW 7364958
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 11:00 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Wet Chemistry			EPA 300.0	mg/l	
00368	Nitrate Nitrogen	14797-55-8	1.2	0.10	1
00228	Sulfate	14808-79-8	8.5	1.0	1
			SM 5310 C-2000	mg/l	
00273	Total Organic Carbon	n.a.	1.1	1.0	1

General Sample Comments

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	H140501AA	02/19/2014 20:04	Kerri E Legerlotz	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140501AA	02/19/2014 20:25	Kerri E Legerlotz	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140501AA	02/19/2014 20:04	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140501AA	02/19/2014 20:25	Kerri E Legerlotz	10
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 18:14	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14046987601B	02/15/2014 13:54	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14046987601B	02/15/2014 13:54	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14050049501A	02/19/2014 07:24	James S Mathiot	1

Sample Description: E-11-0214 NA Water
Boeing Portland

LL Sample # WW 7364959
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 11:30 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	79	5.0	1
11996	Benzene	71-43-2	0.5	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	15	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	3.9	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	21	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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)
chloromethane	-21%
chloroethane	-22%
trichlorofluoromethane	26%

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

Sample Description: E-11-0214 NA Water
Boeing Portland

LL Sample # WW 7364959
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 11:30 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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 Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	12	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	33,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	2,500 U	2,500	500
07105	Ethane	74-84-0	2,500 U	2,500	500
07105	Ethene	74-85-1	2,500 U	2,500	500
07105	Methane	74-82-8	37,000	2,500	500
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	19.4	1.0	1

General Sample Comments

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	H140501AA	02/19/2014 20:46	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140501AA	02/19/2014 20:46	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 10:44	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 19:26	Elizabeth J Marin	500
00368	Nitrate Nitrogen	EPA 300.0	1	14046987601B	02/15/2014 14:10	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14046987601B	02/15/2014 14:10	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14050049501A	02/19/2014 07:39	James S Mathiot	1

Sample Description: E-15-0214 NA Water
Boeing Portland

LL Sample # WW 7364960
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 12:15 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.2	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.4	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	2.2	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	0.6	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	1.9	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)
chloromethane	-21%
chloroethane	-22%
trichlorofluoromethane	26%

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

Sample Description: E-15-0214 NA Water
Boeing Portland

LL Sample # WW 7364960
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 12:15 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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 Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	7,200 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	500 U	500	100
07105	Ethane	74-84-0	500 U	500	100
07105	Ethene	74-85-1	500 U	500	100
07105	Methane	74-82-8	11,000	500	100
A preserved vial was submitted for analysis. However, the pH at the time of the Ethane, Ethene and Acetylene analysis was 7.					
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	1.5	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	2.8	1.0	1

General Sample Comments

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	H140501AA	02/19/2014 21:07	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140501AA	02/19/2014 21:07	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 11:02	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 19:45	Elizabeth J Marin	100
00368	Nitrate Nitrogen	EPA 300.0	1	14046987601B	02/15/2014 14:27	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14046987601B	02/15/2014 14:27	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14050049501A	02/19/2014 07:55	James S Mathiot	1

Sample Description: Trip Blank NA Water
Boeing Portland

LL Sample # WW 7364961
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 01/15/2014

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPETB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Trichloroethane	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)
chloromethane	-21%
chloroethane	-22%
trichlorofluoromethane	26%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a

Sample Description: Trip Blank NA Water
Boeing Portland

LL Sample # WW 7364961
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 01/15/2014

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPETB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				

General Sample Comments

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	H140501AA	02/19/2014 18:40	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140501AA	02/19/2014 18:40	Kerri E Legerlotz	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/26/14 at 12:18 PM

Group Number: 1452784

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H140501AA	Sample number(s): 7364956-7364961							
Acetone	5.0 U	5.0	ug/l	102	101	60-139	2	30
Benzene	0.2 U	0.2	ug/l	109	102	80-120	6	30
Bromodichloromethane	0.5 U	0.5	ug/l	108	103	80-120	4	30
Bromoform	0.5 U	0.5	ug/l	107	106	73-128	1	30
Bromomethane	0.5 U	0.5	ug/l	82	78	62-126	5	30
2-Butanone	5.0 U	5.0	ug/l	104	103	70-130	1	30
Carbon Disulfide	0.5 U	0.5	ug/l	119	111	80-128	7	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	124	116	80-129	6	30
Chlorobenzene	0.5 U	0.5	ug/l	105	102	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	75	72	68-120	4	30
Chloroform	0.2 U	0.2	ug/l	116	110	80-120	5	30
Chloromethane	0.5 U	0.5	ug/l	77	73	55-120	5	30
Dibromochloromethane	0.5 U	0.5	ug/l	104	101	80-126	3	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	114	109	80-120	5	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	118	112	80-127	5	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	113	106	80-123	6	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	102	98	80-120	5	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	110	104	80-120	6	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	109	104	80-120	5	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	104	99	80-123	4	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	103	102	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	107	103	80-120	4	30
2-Hexanone	5.0 U	5.0	ug/l	102	101	69-131	1	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	103	102	69-135	1	30
Methylene Chloride	0.5 U	0.5	ug/l	111	105	80-120	5	30
Styrene	0.5 U	0.5	ug/l	105	102	80-120	3	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	98	97	80-125	2	30
Tetrachloroethene	0.2 U	0.2	ug/l	114	108	80-120	5	30
Toluene	0.2 U	0.2	ug/l	108	103	80-120	4	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	123	113	78-132	8	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	120	111	80-120	8	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	104	103	80-120	1	30
Trichloroethene	0.2 U	0.2	ug/l	112	106	80-120	6	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	127	108	77-132	16	30
Vinyl Acetate	0.5 U	0.5	ug/l	77	78	45-132	1	30
Vinyl Chloride	0.2 U	0.2	ug/l	83	79	65-127	4	30
m+p-Xylene	0.5 U	0.5	ug/l	106	101	80-120	5	30
o-Xylene	0.5 U	0.5	ug/l	104	100	80-120	4	30
Batch number: 140550002A	Sample number(s): 7364956-7364960							
Acetylene	5.0 U	5.0	ug/l	104		58-136		
Ethane	5.0 U	5.0	ug/l	101		80-120		
Ethene	5.0 U	5.0	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 SummaryClient Name: The Boeing Company
Reported: 02/26/14 at 12:18 PM

Group Number: 1452784

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Methane	5.0 U	5.0	ug/l	104		80-120		
Batch number: 14046987601B	Sample number(s): 7364956-7364960							
Nitrate Nitrogen	0.10 U	0.10	mg/l	101	101	90-110	1	20
Sulfate	1.0 U	1.0	mg/l	100	100	90-110	1	20
Batch number: 14050049501A	Sample number(s): 7364956-7364960							
Total Organic Carbon	1.0 U	1.0	mg/l	101		91-113		

Sample Matrix Quality ControlUnspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 140550002A	Sample number(s): 7364956-7364960 UNSPK: P370861								
Acetylene	95	95	75-125	0	20				
Ethane	33 (2)	-47 (2)	34-153	5	20				
Ethene	57 (2)	-2 (2)	35-162	8	20				
Methane	-399 (2)	-1176 (2)	35-157	5	20				
Batch number: 14046987601B	Sample number(s): 7364956-7364960 UNSPK: 7364956 BKG: 7364956								
Nitrate Nitrogen	102		90-110			1.3	1.3	1	20
Sulfate	102		90-110			7.5	7.5	1	20
Batch number: 14050049501A	Sample number(s): 7364956-7364960 UNSPK: P364639 BKG: P364639								
Total Organic Carbon	46*		63-142			3.0	3.5	15* (1)	4

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 Water(25ml) Master
Batch number: H140501AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7364956	102	96	97	98
7364957	102	97	97	99
7364958	103	104	97	99
7364958	102	99	97	98
DL				
7364959	102	98	98	102
7364960	102	97	97	99
7364961	102	98	98	100
Blank	100	97	98	100
LCS	102	94	99	102
LCSD	101	97	99	102

*- 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
Reported: 02/26/14 at 12:18 PM

Group Number: 1452784

Surrogate Quality Control

Limits:	77-114	74-113	77-110	78-110

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 140550002A
Propene

7364956	80
7364956	98
DL	
7364957	77
7364957	101
DL	
7364958	77
7364959	94
7364959	97
DL	
7364960	84
7364960	98
DL	
Blank	95
LCS	96
MS	87
MSD	81

Limits: 42-131

*- 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.



Lancaster
Laboratories

Boeing Chain of Custody

For Eurofins Lancaster Laboratories use only
Group # 1453754 Sample # 7364956-61
Please print. Instructions on reverse side correspond.

Acct. # 13419

Client Information

Site Location: Gresham, Oregon
Site Project: Boeing of Portland
Site Program#: 02SITE.114.412
Boeing PM: Ken Chaput
Consultant Contact: Chris Kimmel
Report To: Chris Kimmel & Brett Borgeson
Invoice To: ☒ Boeing EHS ☐ Other (specify):
Sampler: Brett Borgeson # of Coolers: 1

Sample Identification

	Collected		Matrix	No. of Containers
	Date	Time		
E-2-0214	2-14-14	0900	H2O	9
E-3-0214	2-14-14	1000	H2O	9
E-4-0214	2-14-14	1100	H2O	9
E-11-0214	2-14-14	1130	H2O	9
E-15-0214	2-14-14	1215	H2O	9
Trip Blank	1-15-14	—	H2O	1

Analyses Requested

VOCs (38 Lit)									
TOC	X								
Sulfate	X								
Nitrate	X								
AMFE	X								

Remarks/Comments

Turnaround Time Requested (please circle)

Standard

72 hour
5 day
48 hour
4 day
24 hour

Date needed: _____

Relinquished by: Brett Borgeson Date/Time: 2-14-14/1500
Relinquished by: _____ Date/Time: _____
Relinquished by: _____ Date/Time: _____
Relinquished by commercial carrier (circle):
UPS FedEx Other: _____

Received by: _____ Date/Time: _____
Received by: _____ Date/Time: _____
Received by: _____ Date/Time: 2-15-14 1025
Temperature upon Receipt: 11.6 °C
Custody Seals Intact?: Yes No

Client: Boeing**Boeing of Portland****Delivery and Receipt Information**

Delivery Method: UPS Arrival Timestamp: 02/15/2014 10:25
Number of Packages: 1 Number of Projects: 1
State/Province of Origin: OR

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCl</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>Yes</u>		
VOA IDs ($\geq$ 6mm):	<u>E-11 1 HCl vial</u>		

Unpacked by Wesley Miller (2308) at 10:44 on 02/15/2014

Samples Chilled Details: Boeing of Portland

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	1.6	1.6	DT	Wet	Y	Bagged	N

General Comments:

Q#1452784

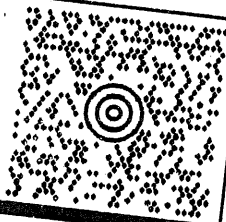
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIES
940 HENSLEY
RICHMOND CA 94801-2106

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 4475 0432

1 S



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40



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.

WS 16.0.31

45 0A 10/2013

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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

February 26, 2014

Project: Boeing of Portland 025116.112.140

Submittal Date: 02/21/2014
Group Number: 1454157
PO Number: 0025116.111.140
State of Sample Origin: ORClient Sample DescriptionBOP-73(i)-0214 NA Water
BOP-77(i)-0214 NA Water
BOP-74(i)-0214 NA Water
E-16-0214 NA Water
Trip Blank NA WaterLancaster Labs (LL) #7370505
7370506
7370507
7370508
7370509

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

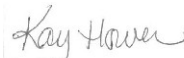
ELECTRONIC Landau Associates
COPY TO
ELECTRONIC Landau
COPY TO
ELECTRONIC Landau Associates
COPY TO

Attn: Anne Halvorsen

Attn: Chris Kimmel

Attn: Terry McGourty

Respectfully Submitted,

Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland 025116.112.140
LLI Group #: 1454157

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: 7370506, 7370507, 7370508, 7370509**

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)
chloroethane	-23%
trichlorofluoromethane	22%

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: 7370505

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%

Batch #: H140551AA (Sample number(s): 7370506-7370509 UNSPK: P369073)

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

RSKSOP-175 modified, GC Miscellaneous**Batch #: 140550002A (Sample number(s): 7370505-7370508 UNSPK: P370861)**

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Methane, Ethane, Ethene

EPA 300.0, Wet Chemistry

Batch #: 14052987901B (Sample number(s): 7370505-7370508 UNSPK: P370448 BKG: P370448)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Nitrate Nitrogen

Sample Description: BOP-73(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7370505
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 11:00 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

BOP73

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l		ug/l	
11996	Acetone	67-64-1	1,000	U	1,000	200
11996	Benzene	71-43-2	40	U	40	200
11996	Bromodichloromethane	75-27-4	100	U	100	200
11996	Bromoform	75-25-2	100	U	100	200
11996	Bromomethane	74-83-9	100	U	100	200
11996	2-Butanone	78-93-3	1,000	U	1,000	200
11996	Carbon Disulfide	75-15-0	100	U	100	200
11996	Carbon Tetrachloride	56-23-5	40	U	40	200
11996	Chlorobenzene	108-90-7	100	U	100	200
11996	Chloroethane	75-00-3	100	U	100	200
11996	Chloroform	67-66-3	40	U	40	200
11996	Chloromethane	74-87-3	100	U	100	200
11996	Dibromochloromethane	124-48-1	100	U	100	200
11996	1,1-Dichloroethane	75-34-3	100	U	100	200
11996	1,2-Dichloroethane	107-06-2	40	U	40	200
11996	1,1-Dichloroethene	75-35-4	40	U	40	200
11996	cis-1,2-Dichloroethene	156-59-2	13,000	E	40	200
11996	trans-1,2-Dichloroethene	156-60-5	190		40	200
11996	1,2-Dichloropropane	78-87-5	100	U	100	200
11996	cis-1,3-Dichloropropene	10061-01-5	40	U	40	200
11996	trans-1,3-Dichloropropene	10061-02-6	40	U	40	200
11996	Ethylbenzene	100-41-4	100	U	100	200
11996	2-Hexanone	591-78-6	1,000	U	1,000	200
11996	4-Methyl-2-pentanone	108-10-1	1,000	U	1,000	200
11996	Methylene Chloride	75-09-2	100	U	100	200
11996	Styrene	100-42-5	100	U	100	200
11996	1,1,2,2-Tetrachloroethane	79-34-5	40	U	40	200
11996	Tetrachloroethene	127-18-4	40	U	40	200
11996	Toluene	108-88-3	40	U	40	200
11996	112Trichloro122Trifluoroethane	76-13-1	100	U	100	200
11996	1,1,1-Trichloroethane	71-55-6	100	U	100	200
11996	1,1,2-Trichloroethane	79-00-5	40	U	40	200
11996	Trichloroethene	79-01-6	8,200	E	40	200
11996	Trichlorofluoromethane	75-69-4	100	U	100	200
11996	Vinyl Acetate	108-05-4	100	U	100	200
11996	Vinyl Chloride	75-01-4	610		40	200
11996	m+p-Xylene	179601-23-1	100	U	100	200
11996	o-Xylene	95-47-6	100	U	100	200
Trial ID: DL						
11996	Acetone	67-64-1	10,000	U	10,000	2000
11996	Benzene	71-43-2	400	U	400	2000
11996	Bromodichloromethane	75-27-4	1,000	U	1,000	2000
11996	Bromoform	75-25-2	1,000	U	1,000	2000
11996	Bromomethane	74-83-9	1,000	U	1,000	2000
11996	2-Butanone	78-93-3	10,000	U	10,000	2000
11996	Carbon Disulfide	75-15-0	1,000	U	1,000	2000
11996	Carbon Tetrachloride	56-23-5	400	U	400	2000
11996	Chlorobenzene	108-90-7	1,000	U	1,000	2000
11996	Chloroethane	75-00-3	1,000	U	1,000	2000

Sample Description: BOP-73(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7370505
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 11:00 by CK The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

BOP73

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	400 U	400	2000
11996	Chloromethane	74-87-3	1,000 U	1,000	2000
11996	Dibromochloromethane	124-48-1	1,000 U	1,000	2000
11996	1,1-Dichloroethane	75-34-3	1,000 U	1,000	2000
11996	1,2-Dichloroethane	107-06-2	400 U	400	2000
11996	1,1-Dichloroethene	75-35-4	400 U	400	2000
11996	cis-1,2-Dichloroethene	156-59-2	13,000	400	2000
11996	trans-1,2-Dichloroethene	156-60-5	400 U	400	2000
11996	1,2-Dichloropropane	78-87-5	1,000 U	1,000	2000
11996	cis-1,3-Dichloropropene	10061-01-5	400 U	400	2000
11996	trans-1,3-Dichloropropene	10061-02-6	400 U	400	2000
11996	Ethylbenzene	100-41-4	1,000 U	1,000	2000
11996	2-Hexanone	591-78-6	10,000 U	10,000	2000
11996	4-Methyl-2-pentanone	108-10-1	10,000 U	10,000	2000
11996	Methylene Chloride	75-09-2	1,000 U	1,000	2000
11996	Styrene	100-42-5	1,000 U	1,000	2000
11996	1,1,2,2-Tetrachloroethane	79-34-5	400 U	400	2000
11996	Tetrachloroethene	127-18-4	400 U	400	2000
11996	Toluene	108-88-3	400 U	400	2000
11996	1,1,2,2-Trichloroethane	76-13-1	1,000 U	1,000	2000
11996	1,1,1-Trichloroethane	71-55-6	1,000 U	1,000	2000
11996	1,1,2-Trichloroethane	79-00-5	400 U	400	2000
11996	Trichloroethene	79-01-6	8,400	400	2000
11996	Trichlorofluoromethane	75-69-4	1,000 U	1,000	2000
11996	Vinyl Acetate	108-05-4	1,000 U	1,000	2000
11996	Vinyl Chloride	75-01-4	620	400	2000
11996	m+p-Xylene	179601-23-1	1,000 U	1,000	2000
11996	o-Xylene	95-47-6	1,000 U	1,000	2000

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%

GC Miscellaneous	RSKSOP-175 modified	ug/l		ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	21	5.0	1
07105	Methane	74-82-8	1,700 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	100 U	100	20
07105	Ethane	74-84-0	100 U	100	20
07105	Ethene	74-85-1	100 U	100	20
07105	Methane	74-82-8	2,600	100	20

Wet Chemistry	EPA 300.0	mg/l	mg/l

Sample Description: BOP-73(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7370505
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 11:00 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

BOP73

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	6.9	1.0	1
		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	1.5	1.0	1

General Sample Comments

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	H140561AA	02/25/2014 14:49	Kerri E Legerlotz	200
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140561AA	02/25/2014 15:10	Kerri E Legerlotz	2000
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140561AA	02/25/2014 14:49	Kerri E Legerlotz	200
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140561AA	02/25/2014 15:10	Kerri E Legerlotz	2000
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 11:56	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 20:02	Elizabeth J Marin	20
00368	Nitrate Nitrogen	EPA 300.0	1	14052987901B	02/21/2014 22:10	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14052987901B	02/21/2014 22:10	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14056049501A	02/25/2014 05:18	James S Mathiot	1

Sample Description: BOP-77(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7370506
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 12:00 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

BOP77

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	10	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	0.6	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	6.1	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	0.9	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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	2.7	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	7.6	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

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)
chloroethane	-23%
trichlorofluoromethane	22%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a

Sample Description: BOP-77(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7370506
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 12:00 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

BOP77

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
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 Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	22	5.0	1
07105	Methane	74-82-8	15,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,300 U	1,300	250
07105	Ethane	74-84-0	1,300 U	1,300	250
07105	Ethene	74-85-1	1,300 U	1,300	250
07105	Methane	74-82-8	19,000	1,300	250
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	40.0	1.0	1

General Sample Comments

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	H140551AA	02/24/2014 17:41	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140551AA	02/24/2014 17:41	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 12:33	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 20:21	Elizabeth J Marin	250
00368	Nitrate Nitrogen	EPA 300.0	1	14052987901B	02/21/2014 22:26	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14052987901B	02/21/2014 22:26	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14056049501A	02/25/2014 05:34	James S Mathiot	1

Sample Description: BOP-74(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7370507
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 13:45 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

BOP74

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	24	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	7.1	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	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	2.4	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.3	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	1,1,2-Trichloroethane	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	0.9	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)
chloroethane	-23%
trichlorofluoromethane	22%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a

Sample Description: BOP-74(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7370507
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 13:45 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

BOP74

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
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 Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	16,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,300 U	1,300	250
07105	Ethane	74-84-0	1,300 U	1,300	250
07105	Ethene	74-85-1	1,300 U	1,300	250
07105	Methane	74-82-8	22,000	1,300	250
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	66.2	1.0	1

General Sample Comments

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	H140551AA	02/24/2014 18:02	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140551AA	02/24/2014 18:02	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 12:51	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 20:39	Elizabeth J Marin	250
00368	Nitrate Nitrogen	EPA 300.0	1	14052987901B	02/21/2014 22:42	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14052987901B	02/21/2014 22:42	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14056049501A	02/25/2014 05:49	James S Mathiot	1

Sample Description: E-16-0214 NA Water
Boeing Portland

LL Sample # WW 7370508
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 14:30 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

E-16-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.5	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	0.4	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	1.7	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	2.6	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	13	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)
chloroethane	-23%
trichlorofluoromethane	22%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a

Sample Description: E-16-0214 NA Water
Boeing Portland

LL Sample # WW 7370508
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 14:30 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

E-16-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
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 Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	8.0	5.0	1
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	2.6	0.10	1
00228	Sulfate	14808-79-8	6.7	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	2.4	1.0	1

General Sample Comments

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	H140551AA	02/24/2014 18:23	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140551AA	02/24/2014 18:23	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 18:32	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14052987901B	02/21/2014 22:58	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14052987901B	02/21/2014 22:58	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14056049501A	02/25/2014 06:04	James S Mathiot	1

Sample Description: Trip Blank NA Water
Boeing Portland

LL Sample # WW 7370509
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 01/15/2014

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

E-16T

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Trichloroethane	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)
chloroethane	-23%
trichlorofluoromethane	22%

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 NA Water
Boeing Portland

LL Sample # WW 7370509
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 01/15/2014

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

E-16T

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				

General Sample Comments

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	H140551AA	02/24/2014 12:05	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140551AA	02/24/2014 12:05	Kerri E Legerlotz	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/26/14 at 12:56 PM

Group Number: 1454157

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H140551AA	Sample number(s): 7370506-7370509							
Acetone	5.0 U	5.0	ug/l	99		60-139		
Benzene	0.2 U	0.2	ug/l	107		80-120		
Bromodichloromethane	0.5 U	0.5	ug/l	110		80-120		
Bromoform	0.5 U	0.5	ug/l	116		73-128		
Bromomethane	0.5 U	0.5	ug/l	80		62-126		
2-Butanone	5.0 U	5.0	ug/l	102		70-130		
Carbon Disulfide	0.5 U	0.5	ug/l	110		80-128		
Carbon Tetrachloride	0.2 U	0.2	ug/l	121		80-129		
Chlorobenzene	0.5 U	0.5	ug/l	105		80-120		
Chloroethane	0.5 U	0.5	ug/l	73		68-120		
Chloroform	0.2 U	0.2	ug/l	114		80-120		
Chloromethane	0.5 U	0.5	ug/l	72		55-120		
Dibromochloromethane	0.5 U	0.5	ug/l	107		80-126		
1,1-Dichloroethane	0.5 U	0.5	ug/l	111		80-120		
1,2-Dichloroethane	0.2 U	0.2	ug/l	117		80-127		
1,1-Dichloroethene	0.2 U	0.2	ug/l	109		80-123		
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	109		80-120		
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	106		80-123		
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	107		80-120		
Ethylbenzene	0.5 U	0.5	ug/l	106		80-120		
2-Hexanone	5.0 U	5.0	ug/l	98		69-131		
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	101		69-135		
Methylene Chloride	0.5 U	0.5	ug/l	109		80-120		
Styrene	0.5 U	0.5	ug/l	105		80-120		
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	101		80-125		
Tetrachloroethene	0.2 U	0.2	ug/l	112		80-120		
Toluene	0.2 U	0.2	ug/l	106		80-120		
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	118		78-132		
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	117		80-120		
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	107		80-120		
Trichloroethene	0.2 U	0.2	ug/l	109		80-120		
Trichlorofluoromethane	0.5 U	0.5	ug/l	113		77-132		
Vinyl Acetate	0.5 U	0.5	ug/l	96		45-132		
Vinyl Chloride	0.2 U	0.2	ug/l	78		65-127		
m+p-Xylene	0.5 U	0.5	ug/l	104		80-120		
o-Xylene	0.5 U	0.5	ug/l	103		80-120		
Batch number: H140561AA	Sample number(s): 7370505							
Acetone	5.0 U	5.0	ug/l	98		60-139		
Benzene	0.2 U	0.2	ug/l	100		80-120		
Bromodichloromethane	0.5 U	0.5	ug/l	103		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 SummaryClient Name: The Boeing Company
Reported: 02/26/14 at 12:56 PM

Group Number: 1454157

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Bromoform	0.5 U	0.5	ug/l	105		73-128		
Bromomethane	0.5 U	0.5	ug/l	76		62-126		
2-Butanone	5.0 U	5.0	ug/l	100		70-130		
Carbon Disulfide	0.5 U	0.5	ug/l	101		80-128		
Carbon Tetrachloride	0.2 U	0.2	ug/l	112		80-129		
Chlorobenzene	0.5 U	0.5	ug/l	99		80-120		
Chloroethane	0.5 U	0.5	ug/l	70		68-120		
Chloroform	0.2 U	0.2	ug/l	108		80-120		
Chloromethane	0.5 U	0.5	ug/l	70		55-120		
Dibromochloromethane	0.5 U	0.5	ug/l	101		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	114		80-127		
1,1-Dichloroethene	0.2 U	0.2	ug/l	100		80-123		
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	100		80-120		
1,2-Dichloropropane	0.5 U	0.5	ug/l	103		80-120		
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	99		80-123		
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	101		80-120		
Ethylbenzene	0.5 U	0.5	ug/l	100		80-120		
2-Hexanone	5.0 U	5.0	ug/l	99		69-131		
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	99		69-135		
Methylene Chloride	0.5 U	0.5	ug/l	103		80-120		
Styrene	0.5 U	0.5	ug/l	101		80-120		
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	98		80-125		
Tetrachloroethene	0.2 U	0.2	ug/l	100		80-120		
Toluene	0.2 U	0.2	ug/l	100		80-120		
1,1,2,2,2-Pentafluoroethane	0.5 U	0.5	ug/l	109		78-132		
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	110		80-120		
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	98		80-120		
Trichloroethene	0.2 U	0.2	ug/l	104		80-120		
Trichlorofluoromethane	0.5 U	0.5	ug/l	117		77-132		
Vinyl Acetate	0.5 U	0.5	ug/l	99		45-132		
Vinyl Chloride	0.2 U	0.2	ug/l	74		65-127		
m+p-Xylene	0.5 U	0.5	ug/l	99		80-120		
o-Xylene	0.5 U	0.5	ug/l	97		80-120		

Batch number: 140550002A	Sample number(s): 7370505-7370508				
Acetylene	5.0 U	5.0	ug/l	104	58-136
Ethane	5.0 U	5.0	ug/l	101	80-120
Ethene	5.0 U	5.0	ug/l	101	80-120
Methane	5.0 U	5.0	ug/l	104	80-120

Batch number: 14052987901B	Sample number(s): 7370505-7370508				
Nitrate Nitrogen	0.10 U	0.10	mg/l	103	103 90-110 0 20
Sulfate	1.0 U	1.0	mg/l	100	101 90-110 0 20

Batch number: 14056049501A	Sample number(s): 7370505-7370508				
Total Organic Carbon	1.0 U	1.0	mg/l	110	91-113

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

*- 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
Reported: 02/26/14 at 12:56 PM

Group Number: 1454157

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: H140551AA Sample number(s): 7370506-7370509 UNSPK: P369073									
Acetone	114	112	57-163	1	30				
Benzene	109	108	87-126	1	30				
Bromodichloromethane	114	115	82-133	1	30				
Bromoform	122	124	60-138	1	30				
Bromomethane	81	83	66-130	3	30				
2-Butanone	111	107	56-160	4	30				
Carbon Disulfide	115	114	84-141	1	30				
Carbon Tetrachloride	130	128	81-148	1	30				
Chlorobenzene	110	111	78-133	1	30				
Chloroethane	75	76	70-139	1	30				
Chloroform	119	118	86-136	0	30				
Chloromethane	72	75	49-135	4	30				
Dibromochloromethane	115	116	79-125	1	30				
1,1-Dichloroethane	114	113	88-136	1	30				
1,2-Dichloroethane	123	121	82-135	2	30				
1,1-Dichloroethene	114	112	83-150	2	30				
cis-1,2-Dichloroethene	101	94	82-129	1	30				
trans-1,2-Dichloroethene	110	108	88-127	2	30				
1,2-Dichloropropane	110	112	91-126	1	30				
cis-1,3-Dichloropropene	110	110	74-132	0	30				
trans-1,3-Dichloropropene	110	112	71-128	2	30				
Ethylbenzene	111	112	80-140	0	30				
2-Hexanone	115	113	59-169	1	30				
4-Methyl-2-pentanone	111	110	69-149	1	30				
Methylene Chloride	110	107	77-135	3	30				
Styrene	109	110	63-151	1	30				
1,1,2,2-Tetrachloroethane	109	109	75-131	1	30				
Tetrachloroethene	122 (2)	136 (2)	75-129	1	30				
Toluene	110	109	83-127	1	30				
1,1,2,2-Trichloroethane	123	122	77-147	0	30				
1,1,1-Trichloroethane	123	122	85-140	1	30				
1,1,2-Trichloroethane	111	111	85-129	1	30				
Trichloroethene	115 (2)	111 (2)	85-131	1	30				
Trichlorofluoromethane	133	127	73-139	4	30				
Vinyl Acetate	93	96	45-136	3	30				
Vinyl Chloride	81	84	62-135	3	30				
m+p-Xylene	109	110	81-137	1	30				
o-Xylene	107	109	81-137	2	30				
Batch number: H140561AA Sample number(s): 7370505 UNSPK: P370861									
Acetone	103	103	57-163	0	30				
Benzene	105	108	87-126	2	30				
Bromodichloromethane	107	115	82-133	7	30				
Bromoform	107	119	60-138	10	30				
Bromomethane	84	84	66-130	0	30				
2-Butanone	98	111	56-160	12	30				
Carbon Disulfide	111	113	84-141	2	30				
Carbon Tetrachloride	123	127	81-148	3	30				
Chlorobenzene	101	110	78-133	9	30				
Chloroethane	82	82	70-139	0	30				
Chloroform	112	118	86-136	5	30				
Chloromethane	78	81	49-135	3	30				
Dibromochloromethane	101	111	79-125	10	30				
1,1-Dichloroethane	112	115	88-136	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 SummaryClient Name: The Boeing Company
Reported: 02/26/14 at 12:56 PM

Group Number: 1454157

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

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
1,2-Dichloroethane	118	121	82-135	2	30				
1,1-Dichloroethene	108	110	83-150	2	30				
cis-1,2-Dichloroethene	98	101	82-129	3	30				
trans-1,2-Dichloroethene	104	106	88-127	2	30				
1,2-Dichloropropane	107	114	91-126	6	30				
cis-1,3-Dichloropropene	100	107	74-132	7	30				
trans-1,3-Dichloropropene	98	109	71-128	10	30				
Ethylbenzene	104	113	80-140	8	30				
2-Hexanone	99	118	59-169	17	30				
4-Methyl-2-pentanone	98	116	69-149	16	30				
Methylene Chloride	107	107	77-135	0	30				
Styrene	101	111	63-151	9	30				
1,1,2,2-Tetrachloroethane	101	113	75-131	11	30				
Tetrachloroethene	106	112	75-129	5	30				
Toluene	104	110	83-127	5	30				
1,1,2,2,2-Trifluoroethane	118	119	77-147	1	30				
1,1,1-Trichloroethane	119	123	85-140	3	30				
1,1,2-Trichloroethane	100	113	85-129	12	30				
Trichloroethene	108	115	85-131	6	30				
Trichlorofluoromethane	131	122	73-139	7	30				
Vinyl Acetate	98	95	45-136	3	30				
Vinyl Chloride	88	89	62-135	1	30				
m+p-Xylene	103	110	81-137	7	30				
o-Xylene	101	110	81-137	8	30				

Batch number: 140550002A Sample number(s): 7370505-7370508 UNSPK: P370861

Acetylene	95	95	75-125	0	20
Ethane	33 (2)	-47 (2)	34-153	5	20
Ethene	57 (2)	-2 (2)	35-162	8	20
Methane	-399	-1176	35-157	5	20
	(2)	(2)			

Batch number: 14052987901B Sample number(s): 7370505-7370508 UNSPK: P370448 BKG: P370448

Nitrate Nitrogen	122*	90-110	4.4	4.4	0	20
Sulfate	96	90-110	9.0	9.0	1	20

Batch number: 14056049501A Sample number(s): 7370505-7370508 UNSPK: P370457 BKG: P370457

Total Organic Carbon	103	63-142	2.7	2.8	4 (1)	4

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 Water(25ml) Master

Batch number: H140551AA

Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7370506	106	99	96
			102

*- 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
Reported: 02/26/14 at 12:56 PM

Group Number: 1454157

Surrogate Quality Control

7370507	107	104	96	100
7370508	105	98	96	99
7370509	105	101	96	99
Blank	102	101	96	100
LCS	102	101	97	104
MS	104	99	98	103
MSD	103	98	97	104

Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Water(25ml) Master
Batch number: H140561AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7370505	103	99	97	101
7370505	103	99	97	100
DL				
Blank	102	100	98	101
LCS	102	97	99	105
MS	103	99	97	104
MSD	102	97	98	104

Limits:	77-114	74-113	77-110	78-110

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 140550002A
Propene

7370505	81
7370505	100
DL	
7370506	68
7370506	90
DL	
7370507	68
7370507	96
DL	
7370508	87
Blank	95
LCS	96
MS	87
MSD	81

Limits: 42-131

*- 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.

Client: BOEING**BOEING OF PORTLAND****Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>02/21/2014 9:10</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>OR</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCL</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>No</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\leq$ 6mm):	<u>N/A</u>		

Unpacked by Corey Eshleman (3647) at 09:44 on 02/21/2014

Samples Chilled Details: BOEING OF PORTLAND

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	0.1	0.1	DT	Wet	Y	Bagged	N

Samples Not Intact Details: BOEING OF PORTLAND

Sample ID on Label	Bottle Code	Bottle Quantity	Container Salvageable?	Comments

~~BOP-13DS-0214~~	~~40 ml glass vial (GC/MS) - HCl~~	~~1~~	~~N~~	~~not applicable to this group~~

General Comments:

1454157

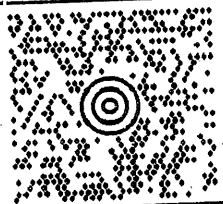
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

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



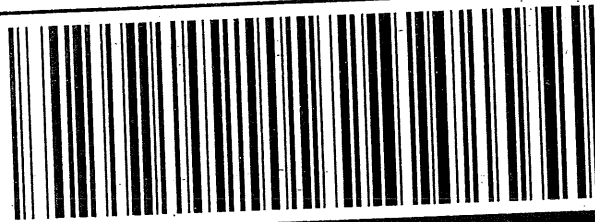
PA 175 9-37



UPS NEXT DAY AIR

TRACKING #: 1Z RV3 069 Y0 4483 3147

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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

March 07, 2014

Project: Boeing of Portland/025116.114.412

Submittal Date: 02/22/2014

Group Number: 1454465

PO Number: 0025116.114.412

State of Sample Origin: OR

Client Sample DescriptionBOP-7(i)-0214 Grab Water
BOP-X-0214 Grab Water
BOP-16(i)-0214 Grab Water
BOP-80(i)-0214 Grab Water
BOP-81(i)-0214 Grab Water
BOP-82(i)-0214 Grab Water
BOP-83(i)-0214 Grab Water
Trip_Blank WaterLancaster Labs (LL) #7371622
7371623
7371624
7371625
7371626
7371627
7371628
7371629

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

ELECTRONIC Landau Associates
COPY TO

Attn: Anne Halvorsen

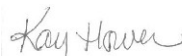
ELECTRONIC Landau
COPY TO

Attn: Chris Kimmel

ELECTRONIC Landau Associates
COPY TO

Attn: Terry McGourty

Respectfully Submitted,



Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.114.412
LLI Group #: 1454465

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: 7371625

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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%
carbon tetrachloride	26%
1,1,1-trichloroethane	21%

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.

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated: 1,2-dichloroethane.

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

Analyte	Response (%Drift)
1,2-dichloroethane	29%

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: 1,1,1-trichloroethane and 1,2-dichloroethane.

Sample #s: 7371626

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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%
carbon tetrachloride	26%
1,1,1-trichloroethane	21%

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.

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated:

1,2-dichloroethane.

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

Analyte	Response (%Drift)
1,2-dichloroethane	29%

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: 1,1,1-trichloroethane.

Sample #s: 7371623

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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%
carbon tetrachloride	26%
1,2-dichloroethane	29%

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.

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated:

1,1,1-trichloroethane.

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

Analyte	Response (%Drift)
1,1,1-trichloroethane	21%

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: 1,1,1-trichloroethane and 1,2-dichloroethane.

The analysis was repeated and the continuing calibration verification standard bracketing the sample on the second trial is within specification.

Sample #s: 7371624

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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%
carbon tetrachloride	26%
1,2-dichloroethane	29%

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.

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated:

1,1,1-trichloroethane.

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

Analyte	Response (%Drift)
1,1,1-trichloroethane	21%

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: 1,1,1-trichloroethane.

Batch #: H140572AA (Sample number(s): 7371623-7371626)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: 1,1,1-Trichloroethane, 1,2-Dichloroethane

RSKSOP-175 modified, GC Miscellaneous

Batch #: 140550002A (Sample number(s): 7371622, 7371624-7371626 UNSPK: P370861)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Methane, Ethane, Ethene

Batch #: 140600014A (Sample number(s): 7371627-7371628 UNSPK: P373594)

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

Sample Description: BOP-7(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371622
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 09:15 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

7I---

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	10 U	10	2
11996	Benzene	71-43-2	0.4 U	0.4	2
11996	Bromodichloromethane	75-27-4	1.0 U	1.0	2
11996	Bromoform	75-25-2	1.0 U	1.0	2
11996	Bromomethane	74-83-9	1.0 U	1.0	2
11996	2-Butanone	78-93-3	10 U	10	2
11996	Carbon Disulfide	75-15-0	1.0 U	1.0	2
11996	Carbon Tetrachloride	56-23-5	0.4 U	0.4	2
11996	Chlorobenzene	108-90-7	1.0 U	1.0	2
11996	Chloroethane	75-00-3	1.0 U	1.0	2
11996	Chloroform	67-66-3	0.4 U	0.4	2
11996	Chloromethane	74-87-3	1.0 U	1.0	2
11996	Dibromochloromethane	124-48-1	1.0 U	1.0	2
11996	1,1-Dichloroethane	75-34-3	1.0 U	1.0	2
11996	1,2-Dichloroethane	107-06-2	0.4 U	0.4	2
11996	1,1-Dichloroethene	75-35-4	12	0.4	2
11996	cis-1,2-Dichloroethene	156-59-2	9.7	0.4	2
11996	trans-1,2-Dichloroethene	156-60-5	0.4 U	0.4	2
11996	1,2-Dichloropropane	78-87-5	1.0 U	1.0	2
11996	cis-1,3-Dichloropropene	10061-01-5	0.4 U	0.4	2
11996	trans-1,3-Dichloropropene	10061-02-6	0.4 U	0.4	2
11996	Ethylbenzene	100-41-4	1.0 U	1.0	2
11996	2-Hexanone	591-78-6	10 U	10	2
11996	4-Methyl-2-pentanone	108-10-1	10 U	10	2
11996	Methylene Chloride	75-09-2	1.0 U	1.0	2
11996	Styrene	100-42-5	1.0 U	1.0	2
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.4 U	0.4	2
11996	Tetrachloroethene	127-18-4	4.5	0.4	2
11996	Toluene	108-88-3	0.4 U	0.4	2
11996	1,1,2,2-Trichloroethane	76-13-1	1.6	1.0	2
11996	1,1,1-Trichloroethane	71-55-6	2.6	1.0	2
11996	1,1,2-Trichloroethane	79-00-5	0.4 U	0.4	2
11996	Trichloroethene	79-01-6	220	0.4	2
11996	Trichlorofluoromethane	75-69-4	1.0 U	1.0	2
11996	Vinyl Acetate	108-05-4	1.0 U	1.0	2
11996	Vinyl Chloride	75-01-4	0.4 U	0.4	2
11996	m+p-Xylene	179601-23-1	1.0 U	1.0	2
11996	o-Xylene	95-47-6	1.0 U	1.0	2
Trial ID: DL					
11996	Acetone	67-64-1	100 U	100	20
11996	Benzene	71-43-2	4.0 U	4.0	20
11996	Bromodichloromethane	75-27-4	10 U	10	20
11996	Bromoform	75-25-2	10 U	10	20
11996	Bromomethane	74-83-9	10 U	10	20
11996	2-Butanone	78-93-3	100 U	100	20
11996	Carbon Disulfide	75-15-0	10 U	10	20
11996	Carbon Tetrachloride	56-23-5	4.0 U	4.0	20
11996	Chlorobenzene	108-90-7	10 U	10	20

REVISED

Sample Description: BOP-7(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371622
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 09:15 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

7I---

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
11996	Chloroethane	75-00-3	10 U	10 ug/l	20
11996	Chloroform	67-66-3	4.0 U	4.0	20
11996	Chloromethane	74-87-3	10 U	10	20
11996	Dibromochloromethane	124-48-1	10 U	10	20
11996	1,1-Dichloroethane	75-34-3	10 U	10	20
11996	1,2-Dichloroethane	107-06-2	4.0 U	4.0	20
11996	1,1-Dichloroethene	75-35-4	9.7	4.0	20
11996	cis-1,2-Dichloroethene	156-59-2	8.9	4.0	20
11996	trans-1,2-Dichloroethene	156-60-5	4.0 U	4.0	20
11996	1,2-Dichloropropane	78-87-5	10 U	10	20
11996	cis-1,3-Dichloropropene	10061-01-5	4.0 U	4.0	20
11996	trans-1,3-Dichloropropene	10061-02-6	4.0 U	4.0	20
11996	Ethylbenzene	100-41-4	10 U	10	20
11996	2-Hexanone	591-78-6	100 U	100	20
11996	4-Methyl-2-pentanone	108-10-1	100 U	100	20
11996	Methylene Chloride	75-09-2	10 U	10	20
11996	Styrene	100-42-5	10 U	10	20
11996	1,1,2,2-Tetrachloroethane	79-34-5	4.0 U	4.0	20
11996	Tetrachloroethene	127-18-4	4.0 U	4.0	20
11996	Toluene	108-88-3	4.0 U	4.0	20
11996	1,1,2,2-Trichloroethane	76-13-1	10 U	10	20
11996	1,1,1-Trichloroethane	71-55-6	10 U	10	20
11996	1,1,2-Trichloroethane	79-00-5	4.0 U	4.0	20
11996	Trichloroethene	79-01-6	180	4.0	20
11996	Trichlorofluoromethane	75-69-4	10 U	10	20
11996	Vinyl Acetate	108-05-4	10 U	10	20
11996	Vinyl Chloride	75-01-4	4.0 U	4.0	20
11996	m+p-Xylene	179601-23-1	10 U	10	20
11996	o-Xylene	95-47-6	10 U	10	20
GC Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0 ug/l	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	5.0 U	5.0	1
Wet Chemistry EPA 300.0					
00368	Nitrate Nitrogen	14797-55-8	2.4	0.10 mg/l	1
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1
00228	Sulfate	14808-79-8	8.1	1.0	1
SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	1.0 U	1.0 mg/l	1

General Sample Comments

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: BOP-7(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371622
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 09:15 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

7I---

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	H140631AA	03/04/2014 15:53	Kerri E Legerlotz	2
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140631AA	03/04/2014 16:14	Kerri E Legerlotz	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140631AA	03/04/2014 15:53	Kerri E Legerlotz	2
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140631AA	03/04/2014 16:14	Kerri E Legerlotz	20
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 16:29	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 16:46	Sandra J Miller	1
01506	Nitrite Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 16:46	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14053987901B	02/22/2014 16:46	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14057049502A	02/26/2014 04:18	James S Mathiot	1

REVISED

Sample Description: BOP-X-0214 Grab Water
Boeing Portland

LL Sample # WW 7371623
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 09:45 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

BOPX-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	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	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	15	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	10	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	5.8	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	2.2	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	3.7	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	250 E	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: DL					
11996	Acetone	67-64-1	100 U	100	20
11996	Benzene	71-43-2	4.0 U	4.0	20
11996	Bromodichloromethane	75-27-4	10 U	10	20
11996	Bromoform	75-25-2	10 U	10	20
11996	Bromomethane	74-83-9	10 U	10	20
11996	2-Butanone	78-93-3	100 U	100	20
11996	Carbon Disulfide	75-15-0	10 U	10	20
11996	Carbon Tetrachloride	56-23-5	4.0 U	4.0	20

REVISED

Sample Description: BOP-X-0214 Grab Water
Boeing Portland

LL Sample # WW 7371623
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 09:45 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

BOPX-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chlorobenzene	108-90-7	10 U	10	20
11996	Chloroethane	75-00-3	10 U	10	20
11996	Chloroform	67-66-3	4.0 U	4.0	20
11996	Chloromethane	74-87-3	10 U	10	20
11996	Dibromochloromethane	124-48-1	10 U	10	20
11996	1,1-Dichloroethane	75-34-3	10 U	10	20
11996	1,2-Dichloroethane	107-06-2	4.0 U	4.0	20
11996	1,1-Dichloroethene	75-35-4	12	4.0	20
11996	cis-1,2-Dichloroethene	156-59-2	9.3	4.0	20
11996	trans-1,2-Dichloroethene	156-60-5	4.0 U	4.0	20
11996	1,2-Dichloropropane	78-87-5	10 U	10	20
11996	cis-1,3-Dichloropropene	10061-01-5	4.0 U	4.0	20
11996	trans-1,3-Dichloropropene	10061-02-6	4.0 U	4.0	20
11996	Ethylbenzene	100-41-4	10 U	10	20
11996	2-Hexanone	591-78-6	100 U	100	20
11996	4-Methyl-2-pentanone	108-10-1	100 U	100	20
11996	Methylene Chloride	75-09-2	10 U	10	20
11996	Styrene	100-42-5	10 U	10	20
11996	1,1,2,2-Tetrachloroethane	79-34-5	4.0 U	4.0	20
11996	Tetrachloroethene	127-18-4	4.5	4.0	20
11996	Toluene	108-88-3	4.0 U	4.0	20
11996	112Trichloro122Trifluoroethane	76-13-1	10 U	10	20
11996	1,1,1-Trichloroethane	71-55-6	10 U	10	20
11996	1,1,2-Trichloroethane	79-00-5	4.0 U	4.0	20
11996	Trichloroethene	79-01-6	200	4.0	20
11996	Trichlorofluoromethane	75-69-4	10 U	10	20
11996	Vinyl Acetate	108-05-4	10 U	10	20
11996	Vinyl Chloride	75-01-4	4.0 U	4.0	20
11996	m+p-Xylene	179601-23-1	10 U	10	20
11996	o-Xylene	95-47-6	10 U	10	20

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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%
carbon tetrachloride	26%
1,2-dichloroethane	29%

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.

The referenced method allows a maximum of 20% of the analytes

REVISED

Sample Description: BOP-X-0214 Grab Water
Boeing Portland

LL Sample # WW 7371623
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 09:45 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

BOPX-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor

in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated:

1,1,1-trichloroethane.

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

Analyte	Response (%Drift)
1,1,1-trichloroethane	21%

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: 1,1,1-trichloroethane and 1,2-dichloroethane.

The analysis was repeated and the continuing calibration verification standard bracketing the sample on the second trial is within specification.

General Sample Comments

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	H140572AA	02/26/2014 23:01	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140631AA	03/04/2014 16:35	Kerri E Legerlotz	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140572AA	02/26/2014 23:01	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140631AA	03/04/2014 16:35	Kerri E Legerlotz	20

REVISED

Sample Description: BOP-16(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371624
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 10:30 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

16I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.2 U	0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5 U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.6	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	1.6	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	7.7	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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%
carbon tetrachloride	26%
1,2-dichloroethane	29%

Sample Description: BOP-16(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371624
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 10:30 by BB The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

16I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor

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.

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated:

1,1,1-trichloroethane.

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

Analyte	Response (%Drift)
1,1,1-trichloroethane	21%

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:1,1,1-trichloroethane.

GC Miscellaneous		RSKSOP-175 modified	ug/l		ug/l	
07105	Acetylene	74-86-2	5.0	U	5.0	1
07105	Ethane	74-84-0	5.0	U	5.0	1
07105	Ethene	74-85-1	5.0	U	5.0	1
07105	Methane	74-82-8	2,000	E	5.0	1
Trial ID: DL						
07105	Acetylene	74-86-2	100	U	100	20
07105	Ethane	74-84-0	100	U	100	20
07105	Ethene	74-85-1	100	U	100	20
07105	Methane	74-82-8	2,600		100	20
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10	U	0.10	1
01506	Nitrite Nitrogen	14797-65-0	0.10	U	0.10	1
00228	Sulfate	14808-79-8	6.5		1.0	1
		SM 5310 C-2000	mg/l		mg/l	
00273	Total Organic Carbon	n.a.	1.1		1.0	1

General Sample Comments

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: BOP-16(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371624
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 10:30 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

16I--

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	H140572AA	02/26/2014 23:22	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140572AA	02/26/2014 23:22	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 16:47	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 23:05	Elizabeth J Marin	20
00368	Nitrate Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 18:24	Sandra J Miller	1
01506	Nitrite Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 18:24	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14053987901B	02/22/2014 18:24	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14057049502A	02/26/2014 04:33	James S Mathiot	1

REVISED

Sample Description: BOP-80(i)-0214 Grab Water
Boeing PortlandLL Sample # WW 7371625
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 11:45 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

80I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	9.6	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	0.4	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	1.0	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	0.2	1
11996	1,1-Dichloroethene	75-35-4	10	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	2.7	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,2,2-Trichloroethane	76-13-1	2.6	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	0.2	1
11996	Trichloroethene	79-01-6	23	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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%

REVISED

Sample Description: BOP-80(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371625
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 11:45 by BB The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

80I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	carbon tetrachloride	26%			
	1,1,1-trichloroethane	21%			
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. The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated: 1,2-dichloroethane. The affected analyte(s) and response(s) are: Analyte Response (%Drift) 1,2-dichloroethane 29% The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: 1,1,1-trichloroethane and 1,2-dichloroethane.					
GC Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	450	5.0	1
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	3.8	1.0	10
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1
00228	Sulfate	14808-79-8	17.6	10.0	10
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	2.6	1.0	1

General Sample Comments

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	H140572AA	02/26/2014 23:43	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140572AA	02/26/2014 23:43	Kevin A Sposito	1

REVISED

Sample Description: BOP-80(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371625
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 11:45 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

80I--

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 17:05	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 19:45	Sandra J Miller	10
01506	Nitrite Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 19:28	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14053987901B	02/22/2014 19:45	Sandra J Miller	10
00273	Total Organic Carbon	SM 5310 C-2000	1	14057049502A	02/26/2014 05:05	James S Mathiot	1

REVISED

Sample Description: BOP-81(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371626
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 12:30 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

81I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	8.4	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	1.6	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	0.6	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,2,2-Trichloroethane	76-13-1	1.1	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	0.6	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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%
carbon tetrachloride	26%

REVISED

Sample Description: BOP-81(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371626
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 12:30 by BB The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

81I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	1,1,1-trichloroethane	21%			

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.

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated:
1,2-dichloroethane.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
1,2-dichloroethane	29%

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: 1,1,1-trichloroethane.

GC Miscellaneous		RSKSOP-175 modified	ug/l		ug/l	
07105	Acetylene	74-86-2	5.0	U	5.0	1
07105	Ethane	74-84-0	5.0	U	5.0	1
07105	Ethene	74-85-1	5.0	U	5.0	1
07105	Methane	74-82-8	330		5.0	1
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.61		0.10	1
01506	Nitrite Nitrogen	14797-65-0	0.10	U	0.10	1
00228	Sulfate	14808-79-8	13.5		1.0	1
		SM 5310 C-2000	mg/l		mg/l	
00273	Total Organic Carbon	n.a.	1.4		1.0	1

General Sample Comments

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	H140572AA	02/27/2014 00:04	Kevin A Sposito	1

REVISED

Sample Description: BOP-81(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371626
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 12:30 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

81I--

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140572AA	02/27/2014 00:04	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 17:24	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 20:01	Sandra J Miller	1
01506	Nitrite Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 20:01	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14053987901B	02/22/2014 20:01	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14057049502A	02/26/2014 05:20	James S Mathiot	1

REVISED

Sample Description: BOP-82(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371627
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 14:15 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

82I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
11996	Acetone	67-64-1	67	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	0.5	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	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	1.0	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	14	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 Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	1,100 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	50 U	50	10
07105	Ethane	74-84-0	50 U	50	10
07105	Ethene	74-85-1	50 U	50	10

REVISED

Sample Description: BOP-82(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371627
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 14:15 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

82I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 1,300	ug/l 50	10
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.88	mg/l 0.10	1
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1
00228	Sulfate	14808-79-8	9.2	1.0	1
SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	mg/l 2.5	mg/l 1.0	1

General Sample Comments

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	H140631AA	03/04/2014 16:56	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140631AA	03/04/2014 16:56	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140600014A	03/01/2014 13:02	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140600014A	03/03/2014 10:53	Elizabeth J Marin	10
00368	Nitrate Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 20:33	Sandra J Miller	1
01506	Nitrite Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 20:33	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14053987901B	02/22/2014 20:33	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14057049502A	02/26/2014 05:35	James S Mathiot	1

REVISED

Sample Description: BOP-83(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371628
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 15:15 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

83I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Tetrachloroethane	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	2.3	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
GC Miscellaneous RSKSOP-175 modified					
			ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	5.0 U	5.0	1
Wet Chemistry EPA 300.0					
			mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	5.4	1.0	10
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1
00228	Sulfate	14808-79-8	11.3	1.0	1

REVISED

Sample Description: BOP-83(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371628
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 15:15 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

83I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Wet Chemistry					
		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	1.0 U	1.0	1

General Sample Comments

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	H140631AA	03/04/2014 17:38	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140631AA	03/04/2014 17:38	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140600014A	03/01/2014 13:21	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 21:22	Sandra J Miller	10
01506	Nitrite Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 21:06	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14053987901B	02/22/2014 21:06	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14057049502A	02/26/2014 05:50	James S Mathiot	1

REVISED

Sample Description: Trip_Blank Water
Boeing Portland

LL Sample # WW 7371629
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 01/15/2014

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

TBPRT

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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

General Sample Comments

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	H140631AA	03/04/2014 14:29	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140631AA	03/04/2014 14:29	Kerri E Legerlotz	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 03/07/14 at 01:51 PM

Group Number: 1454465

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H140572AA Sample number(s): 7371623-7371626								
Acetone	5.0 U	5.0	ug/l	99	106	60-139	7	30
Benzene	0.2 U	0.2	ug/l	105	103	80-120	2	30
Bromodichloromethane	0.5 U	0.5	ug/l	112	110	80-120	2	30
Bromoform	0.5 U	0.5	ug/l	113	113	73-128	0	30
Bromomethane	0.5 U	0.5	ug/l	79	76	62-126	4	30
2-Butanone	5.0 U	5.0	ug/l	99	106	70-130	7	30
Carbon Disulfide	0.5 U	0.5	ug/l	105	105	80-128	0	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	127	125	80-129	2	30
Chlorobenzene	0.5 U	0.5	ug/l	102	102	80-120	1	30
Chloroethane	0.5 U	0.5	ug/l	69	70	68-120	1	30
Chloroform	0.2 U	0.2	ug/l	118	115	80-120	3	30
Chloromethane	0.5 U	0.5	ug/l	66	67	55-120	1	30
Dibromochloromethane	0.5 U	0.5	ug/l	104	105	80-126	1	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	112	108	80-120	3	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	133*	127	80-127	4	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	105	104	80-123	0	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	101	100	80-120	1	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	104	103	80-120	1	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	109	106	80-120	3	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	105	105	80-123	1	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	104	105	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	101	103	80-120	1	30
2-Hexanone	5.0 U	5.0	ug/l	98	110	69-131	11	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	98	108	69-135	9	30
Methylene Chloride	0.5 U	0.5	ug/l	108	107	80-120	1	30
Styrene	0.5 U	0.5	ug/l	102	101	80-120	1	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	99	99	80-125	0	30
Tetrachloroethene	0.2 U	0.2	ug/l	107	108	80-120	0	30
Toluene	0.2 U	0.2	ug/l	100	102	80-120	2	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	115	114	78-132	1	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	122*	119	80-120	2	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	104	104	80-120	0	30
Trichloroethene	0.2 U	0.2	ug/l	112	109	80-120	3	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	124	117	77-132	6	30
Vinyl Acetate	0.5 U	0.5	ug/l	91	94	45-132	3	30
Vinyl Chloride	0.2 U	0.2	ug/l	73	74	65-127	2	30
m+p-Xylene	0.5 U	0.5	ug/l	100	100	80-120	0	30
o-Xylene	0.5 U	0.5	ug/l	100	100	80-120	0	30
Batch number: H140631AA Sample number(s): 7371622-7371623, 7371627-7371629								
Acetone	5.0 U	5.0	ug/l	94		60-139		
Benzene	0.2 U	0.2	ug/l	97		80-120		
Bromodichloromethane	0.5 U	0.5	ug/l	88		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 SummaryClient Name: The Boeing Company
Reported: 03/07/14 at 01:51 PM

Group Number: 1454465

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Bromoform	0.5 U	0.5	ug/l	93		72-138		
Bromomethane	0.5 U	0.5	ug/l	101		62-126		
2-Butanone	5.0 U	5.0	ug/l	98		63-137		
Carbon Disulfide	0.5 U	0.5	ug/l	99		80-120		
Carbon Tetrachloride	0.2 U	0.2	ug/l	86		80-135		
Chlorobenzene	0.5 U	0.5	ug/l	95		80-120		
Chloroethane	0.5 U	0.5	ug/l	97		68-120		
Chloroform	0.2 U	0.2	ug/l	92		80-120		
Chloromethane	0.5 U	0.5	ug/l	97		55-120		
Dibromochloromethane	0.5 U	0.5	ug/l	88		80-126		
1,1-Dichloroethane	0.5 U	0.5	ug/l	97		80-120		
1,2-Dichloroethane	0.2 U	0.2	ug/l	89		80-127		
1,1-Dichloroethene	0.2 U	0.2	ug/l	95		80-123		
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	90		80-120		
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	93		80-120		
1,2-Dichloropropane	0.5 U	0.5	ug/l	100		80-120		
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	95		80-120		
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	92		80-120		
Ethylbenzene	0.5 U	0.5	ug/l	96		80-120		
2-Hexanone	5.0 U	5.0	ug/l	97		62-128		
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	99		65-125		
Methylene Chloride	0.5 U	0.5	ug/l	98		80-120		
Styrene	0.5 U	0.5	ug/l	96		80-120		
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	101		80-120		
Tetrachloroethene	0.2 U	0.2	ug/l	93		80-120		
Toluene	0.2 U	0.2	ug/l	98		80-120		
1,1,2,2-Tetrachloroethane	0.5 U	0.5	ug/l	97		80-120		
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	96		80-120		
Trichloroethene	0.2 U	0.2	ug/l	94		80-120		
Trichlorofluoromethane	0.5 U	0.5	ug/l	96		77-132		
Vinyl Acetate	0.5 U	0.5	ug/l	88		38-145		
Vinyl Chloride	0.2 U	0.2	ug/l	105		59-124		
m+p-Xylene	0.5 U	0.5	ug/l	95		80-120		
o-Xylene	0.5 U	0.5	ug/l	93		80-120		

Batch number: 140550002A Sample number(s): 7371622,7371624-7371626

Acetylene	5.0 U	5.0	ug/l	104		58-136		
Ethane	5.0 U	5.0	ug/l	101		80-120		
Ethene	5.0 U	5.0	ug/l	101		80-120		
Methane	5.0 U	5.0	ug/l	104		80-120		

Batch number: 140600014A Sample number(s): 7371627-7371628

Acetylene	5.0 U	5.0	ug/l	104		58-136		
Ethane	5.0 U	5.0	ug/l	100		80-120		
Ethene	5.0 U	5.0	ug/l	100		80-120		
Methane	5.0 U	5.0	ug/l	104		80-120		

Batch number: 14053987901B Sample number(s): 7371622,7371624-7371628

Nitrate Nitrogen	0.10 U	0.10	mg/l	105	104	90-110	1	20
Nitrite Nitrogen	0.10 U	0.10	mg/l	102	103	90-110	0	20
Sulfate	1.0 U	1.0	mg/l	102	100	90-110	1	20

Batch number: 14057049502A Sample number(s): 7371622,7371624-7371628

Total Organic Carbon	1.0 U	1.0	mg/l	108		91-113		

*- 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
Reported: 03/07/14 at 01:51 PM

Group Number: 1454465

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

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Batch number: H140631AA	Sample number(s): 7371622-7371623, 7371627-7371629 UNSPK: P377659								
Acetone	114	108	57-163	5	30				
Benzene	108	104	87-126	5	30				
Bromodichloromethane	105	99	82-133	6	30				
Bromoform	116	107	60-138	8	30				
Bromomethane	101	103	66-130	2	30				
2-Butanone	119	111	56-160	7	30				
Carbon Disulfide	112	108	84-141	4	30				
Carbon Tetrachloride	102	97	81-148	4	30				
Chlorobenzene	117	110	78-133	7	30				
Chloroethane	96	98	70-139	2	30				
Chloroform	106	102	86-136	4	30				
Chloromethane	90	95	49-135	5	30				
Dibromochloromethane	110	103	79-125	7	30				
1,1-Dichloroethane	108	103	81-126	5	30				
1,2-Dichloroethane	104	98	82-135	6	30				
1,1-Dichloroethene	108	105	86-132	3	30				
cis-1,2-Dichloroethene	103	97	82-129	5	30				
trans-1,2-Dichloroethene	106	101	88-127	4	30				
1,2-Dichloropropane	114	107	91-126	6	30				
cis-1,3-Dichloropropene	108	101	74-132	7	30				
trans-1,3-Dichloropropene	110	102	71-128	7	30				
Ethylbenzene	117	108	80-140	8	30				
2-Hexanone	128	119	51-149	7	30				
4-Methyl-2-pentanone	127	116	69-149	8	30				
Methylene Chloride	107	101	77-135	5	30				
Styrene	118	109	71-138	8	30				
1,1,2,2-Tetrachloroethane	130	120	75-131	8	30				
Tetrachloroethene	114	106	75-129	7	30				
Toluene	116	109	83-127	6	30				
1,1,2,2-Trichloroethane	113	109	84-136	4	30				
1,1,1-Trichloroethane	102	98	85-140	4	30				
1,1,2-Trichloroethane	120	112	85-129	7	30				
Trichloroethene	108	104	85-131	3	30				
Trichlorofluoromethane	105	107	73-139	2	30				
Vinyl Acetate	83	80	27-162	4	30				
Vinyl Chloride	102	106	62-135	3	30				
m+p-Xylene	115	107	81-137	7	30				
o-Xylene	115	107	81-137	7	30				
Batch number: 140550002A	Sample number(s): 7371622, 7371624-7371626 UNSPK: P370861								
Acetylene	95	95	75-125	0	20				
Ethane	33 (2)	-47 (2)	34-153	5	20				
Ethene	57 (2)	-2 (2)	35-162	8	20				
Methane	-399 (2)	-1176 (2)	35-157	5	20				
Batch number: 140600014A	Sample number(s): 7371627-7371628 UNSPK: P373594								

*- 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
Reported: 03/07/14 at 01:51 PM

Group Number: 1454465

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
Acetylene	95	93	38-121	2	20				
Ethane	92	89	32-129	3	20				
Ethene	100	94	35-162	6	20				
Methane	-16 (2)	-42 (2)	35-157	2	20				
Batch number: 14053987901B	Sample number(s): 7371622,7371624-7371628 UNSPK: 7371622 BKG: 7371622								
Nitrate Nitrogen	100		90-110			2.4	2.3	1	20
Nitrite Nitrogen	95		90-110			0.10 U	0.10 U	0 (1)	20
Sulfate	98		90-110			8.1	8.1	0	20
Batch number: 14057049502A	Sample number(s): 7371622,7371624-7371628 UNSPK: P371284 BKG: P371284								
Total Organic Carbon	104		63-142			12.2	12.4	2	4

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 Water(25ml) Master
Batch number: H140572AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7371623	106	103	96	101
7371624	106	102	95	102
7371625	106	99	95	100
7371626	107	102	95	100
Blank	106	103	96	101
LCS	105	101	96	104
LCSD	105	102	97	106
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Water(25ml) Master
Batch number: H140631AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7371622	92	97	99	98
7371622	93	99	99	97
DL				
7371623	92	97	98	96
DL				
7371627	93	98	98	98
7371628	92	99	99	97
7371629	92	98	99	98
Blank	91	97	99	99
LCS	91	98	100	98
MS	93	97	99	97
MSD	94	99	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
Reported: 03/07/14 at 01:51 PM

Group Number: 1454465

Surrogate Quality Control

Limits: 77-114 74-113 77-110 78-110

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 140550002A
Propene

7371622	78
7371624	81
7371624	99
DL	
7371625	74
7371626	78
Blank	95
LCS	96
MS	87
MSD	81

Limits: 42-131

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 140600014A
Propene

7371627	80
7371627	95
DL	
7371628	83
Blank	96
LCS	101
MS	87
MSD	82

Limits: 42-131

*- 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.

[illegible]

Client: Boeing**Boeing of Portland****Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>02/22/2014 10:20</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>WA</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCl</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Wesley Miller (2308) at 11:00 on 02/22/2014

Samples Chilled Details: Boeing of Portland

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	0.2	0.2	DT	Wet	Y	Bagged	N

General Comments:

G-1454465

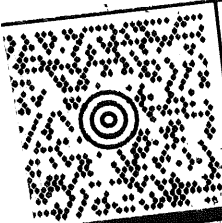
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

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



JPS NEXT DAY AIR

RACKING #: 1Z RV3 069 Y0 4349 5158

1 S



LING: P/R
SC: SAMPLING
TURN SERVICE

EF 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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

May 27, 2014

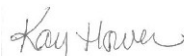
Project: Boeing of Portland/025116.114.412

Submittal Date: 05/06/2014
Group Number: 1472111
PO Number: 0025116.114.412
State of Sample Origin: ORClient Sample DescriptionGWTSEFF-0514 Grab Water
GWTSEFFd-0514 Grab Water
GWTSINF-0514 Grab Water
GWTSINFd-0514 Grab WaterLancaster Labs (LL) #7452774
7452775
7452776
7452777

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

ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen
ELECTRONIC COPY TO	Landau	Attn: Chris Kimmel
ELECTRONIC COPY TO	Landau Associates	Attn: Terry McGourty
ELECTRONIC COPY TO	The Boeing Company	Attn: John Rusoff
ELECTRONIC COPY TO	Landau	Attn: Brett Borgeson
ELECTRONIC COPY TO	Landau Associates	Attn: Kristi Schultz

Respectfully Submitted,



Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.114.412
LLI Group #: 1472111

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: 7452774, 7452775, 7452776, 7452777

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)
chloromethane -24%

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.

Batch #: H141291AA (Sample number(s): 7452774-7452777 UNSPK: P449068)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Acetone, 1,2-Dichloropropane, 1,1,2-Trichloroethane, Dibromochloromethane, 4-Methyl-2-pentanone

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Acetone, 2-Butanone, 4-Methyl-2-pentanone, 2-Hexanone, Bromoform, 1,1,2,2-Tetrachloroethane

EPA 300.0, Wet Chemistry

Sample #s: 7452774

The holding time was not met.

EPA 365.1, Wet Chemistry

Batch #: 14129110101A (Sample number(s): 7452774 UNSPK: 7452774 BKG: 7452774)

The duplicate RPD for the following analyte(s) exceeded the acceptance window:
Total Phosphorus as P04 water

From: Kay Hower [<mailto:KayHower@eurofinsus.com>]
Sent: Thursday, June 05, 2014 11:10 AM
To: Anne Halvorsen
Subject: RE: 1472111-Boeing of Portland-025116.114.412 05-06-2014 1

Hi Anne,

Below is the response from the chemist regarding the ortho-phosphate. I apologize for the delay in the second analysis. Please let me know if you need further information.

Kay

This one was analyzed on 5/7 at 09:20, but the calibration was out for ortho and the data couldn't be used. The analysis was missed by the analyst and verifier, that is why there was such a huge difference in the time it was analyzed.

From: Anne Halvorsen [<mailto:AHalvorsen@landauinc.com>]
Sent: Wednesday, June 04, 2014 6:08 PM
To: Kay Hower
Subject: FW: 1472111-Boeing of Portland-025116.114.412 05-06-2014 1

Hi Kay –

I am looking at SDG 1472111 for orthophosphate. The sample was collected on 5/5/14. The sample was analyzed on 5/23/14. It is noted in the case narrative that “That holding time was not met”. We use a holding time of 48 hours. This means this sample was out of hold by 16 days. Is there an explanation for this? Should we be using 14 days instead of 48 hours? That would make the sample out of hold by 4 days instead of 16.

Thanks, Anne

From: LLAutomatedReportingSystem@eurofins.com
[\[mailto:LLAutomatedReportingSystem@eurofins.com\]](mailto:LLAutomatedReportingSystem@eurofins.com)
Sent: Tuesday, May 27, 2014 6:05 AM
To: Anne Halvorsen
Subject: 1472111-Boeing of Portland-025116.114.412 05-06-2014 1

If you have questions, contact your client service representative, Kay G Hower.

This message has been scanned for malware by SurfControl plc. www.surfcontrol.com

Sample Description: GWTSEFF-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452774
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:25 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

EF514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Trichloroethane	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)
chloromethane	-24%

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: GWTSEFF-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452774
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:25 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

EF514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the reporting limit.				
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	2.2	0.10	1
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1
07322	Ortho-phosphate as P	7723-14-0	0.50 U	0.50	1
	The holding time was not met.				
		EPA 365.1	mg/l	mg/l	
00345	Total Phosphorus as PO4 water	14265-44-2	0.43	0.31	1
		SM 4500-NH3 D-1997	mg/l	mg/l	
12677	Ammonia-Nitrogen	7664-41-7	0.20 U	0.20	1

General Sample Comments

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	H141291AA	05/09/2014 15:27	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 15:27	Kerri E Legerlotz	1
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 09:20	Sandra J Miller	1
01506	Nitrite Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 09:20	Sandra J Miller	1
07322	Ortho-phosphate as P	EPA 300.0	1	14127347901A	05/23/2014 03:41	Clinton M Wilson	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	14129110101A	05/12/2014 15:03	Venia B McFadden	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	14129110101A	05/09/2014 13:00	Nancy J Shoop	1
12677	Ammonia-Nitrogen	SM 4500-NH3 D-1997	1	14133008202A	05/13/2014 20:17	Michelle L Lalli	1

Sample Description: GWTSEFFd-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452775
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:35 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

ED514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Trichloroethane	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)
chloromethane	-24%

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: GWTSEFFd-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452775
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:35 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

ED514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the reporting limit.				

General Sample Comments

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	H141291AA	05/09/2014 17:40	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 17:40	Kerri E Legerlotz	1

Sample Description: GWTSINF-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452776
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:15 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

IN514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.9	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.9	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	0.4	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	9.2	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)
chloromethane	-24%

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: GWTSINF-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452776
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:15 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

IN514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the reporting limit.				

General Sample Comments

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	H141291AA	05/09/2014 18:02	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 18:02	Kerri E Legerlotz	1

Sample Description: GWTSINFd-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452777
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:18 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

ID514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.9	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.9	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	0.4	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	9.1	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)
chloromethane	-24%

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: GWTSINFd-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452777
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:18 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

ID514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the reporting limit.				

General Sample Comments

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	H141291AA	05/09/2014 18:23	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 18:23	Kerri E Legerlotz	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/27/14 at 08:29 AM

Group Number: 1472111

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H141291AA	Sample number(s): 7452774-7452777							
Acetone	5.0 U	5.0	ug/l	103		60-139		
Benzene	0.2 U	0.2	ug/l	103		80-120		
Bromodichloromethane	0.5 U	0.5	ug/l	101		80-120		
Bromoform	0.5 U	0.5	ug/l	106		72-138		
Bromomethane	0.5 U	0.5	ug/l	85		62-126		
2-Butanone	5.0 U	5.0	ug/l	100		63-137		
Carbon Disulfide	0.5 U	0.5	ug/l	98		80-120		
Carbon Tetrachloride	0.2 U	0.2	ug/l	98		80-135		
Chlorobenzene	0.5 U	0.5	ug/l	101		80-120		
Chloroethane	0.5 U	0.5	ug/l	83		68-120		
Chloroform	0.2 U	0.2	ug/l	100		80-120		
Chloromethane	0.5 U	0.5	ug/l	79		55-120		
Dibromochloromethane	0.5 U	0.5	ug/l	108		80-126		
1,1-Dichloroethane	0.5 U	0.5	ug/l	103		80-120		
1,2-Dichloroethane	0.2 U	0.2	ug/l	101		80-127		
1,1-Dichloroethene	0.2 U	0.2	ug/l	99		80-123		
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	103		80-120		
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	101		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	104		80-120		
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	103		80-120		
Ethylbenzene	0.5 U	0.5	ug/l	98		80-120		
2-Hexanone	5.0 U	5.0	ug/l	101		62-128		
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	99		65-125		
Methylene Chloride	0.5 U	0.5	ug/l	103		80-120		
Styrene	0.5 U	0.5	ug/l	106		80-120		
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	101		80-120		
Tetrachloroethene	0.2 U	0.2	ug/l	97		80-120		
Toluene	0.2 U	0.2	ug/l	100		80-120		
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	95		80-120		
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	93		80-120		
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	101		80-120		
Trichloroethene	0.2 U	0.2	ug/l	101		80-120		
Trichlorofluoromethane	0.5 U	0.5	ug/l	85		77-132		
Vinyl Acetate	0.5 U	0.5	ug/l	70		38-145		
Vinyl Chloride	0.2 U	0.2	ug/l	83		59-124		
m+p-Xylene	0.5 U	0.5	ug/l	103		80-120		
o-Xylene	0.5 U	0.5	ug/l	104		80-120		
Batch number: 14127347901A	Sample number(s): 7452774							
Nitrate Nitrogen	0.10 U	0.10	mg/l	101	103	90-110	1	20
Nitrite Nitrogen	0.10 U	0.10	mg/l	99	103	90-110	3	20
Ortho-phosphate as P	0.50 U	0.50	mg/l	101	101	90-110	0	20

*- 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
Reported: 05/27/14 at 08:29 AM

Group Number: 1472111

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 14129110101A	Sample number(s): 7452774							
Total Phosphorus as PO4 water	0.31 U	0.31	mg/l	93		90-110		
Batch number: 14133008202A	Sample number(s): 7452774							
Ammonia-Nitrogen	0.20 U	0.20	mg/l	97		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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: H141291AA	Sample number(s): 7452774-7452777 UNSPK: P449068								
Acetone	30*	48*	57-163	47*	30				
Benzene	96	117	87-126	15	30				
Bromodichloromethane	96	124	82-133	26	30				
Bromoform	98	133	60-138	31*	30				
Bromomethane	80	96	66-130	17	30				
2-Butanone	66	103	56-160	44*	30				
Carbon Disulfide	98	112	84-141	13	30				
Carbon Tetrachloride	98	114	81-148	15	30				
Chlorobenzene	98	126	78-133	25	30				
Chloroethane	86	100	70-139	16	30				
Chloroform	98	119	86-136	20	30				
Chloromethane	77	91	49-135	17	30				
Dibromochloromethane	101	136*	79-125	29	30				
1,1-Dichloroethane	98	113	81-126	15	30				
1,2-Dichloroethane	88	112	82-135	24	30				
1,1-Dichloroethene	100	116	86-132	15	30				
cis-1,2-Dichloroethene	99	118	82-129	18	30				
trans-1,2-Dichloroethene	99	115	88-127	14	30				
1,2-Dichloropropane	104	130*	91-126	22	30				
cis-1,3-Dichloropropene	98	126	74-132	25	30				
trans-1,3-Dichloropropene	95	126	71-128	28	30				
Ethylbenzene	97	130	80-140	18	30				
2-Hexanone	68	107	51-149	45*	30				
4-Methyl-2-pentanone	61*	97	69-149	45*	30				
Methylene Chloride	97	113	77-135	16	30				
Styrene	102	135	71-138	28	30				
1,1,2,2-Tetrachloroethane	90	128	75-131	35*	30				
Tetrachloroethene	97	120	75-129	21	30				
Toluene	99	124	83-127	22	30				
1,1,2,2-Trichloroethane	99	114	84-136	14	30				
1,1,1-Trichloroethane	92	106	85-140	15	30				
1,1,2-Trichloroethane	108	140*	85-129	26	30				
Trichloroethene	101	123	85-131	20	30				
Trichlorofluoromethane	88	104	73-139	16	30				
Vinyl Acetate	75	72	27-162	3	30				
Vinyl Chloride	87	101	62-135	16	30				
m+p-Xylene	103	132	81-137	24	30				
o-Xylene	101	132	81-137	27	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
Reported: 05/27/14 at 08:29 AM

Group Number: 1472111

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: 14127347901A	Sample number(s): 7452774 UNSPK: P453734 BKG: P453734								
Nitrate Nitrogen	100		90-110			0.10	U 0.10	U 0 (1)	20
Nitrite Nitrogen	96		90-110			0.10	U 0.10	U 0 (1)	20
Batch number: 14129110101A	Sample number(s): 7452774 UNSPK: 7452774 BKG: 7452774								
Total Phosphorus as PO4 water	100		90-110			0.43	0.48	11* (1)	4
Batch number: 14133008202A	Sample number(s): 7452774 UNSPK: 7452774 BKG: 7452774								
Ammonia-Nitrogen	129	135	52-144	4	23	0.20	U 0.20	U 0 (1)	20

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 Water(25ml) Master
Batch number: H141291AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7452774	100	104	99	99
7452775	101	105	99	102
7452776	101	105	99	101
7452777	101	105	99	100
Blank	102	99	99	103
LCS	100	103	99	105
MS	99	103	101	109
MSD	99	102	100	109
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.

Carolyn Cyms

A# 13419, Gr# 147211

From: Rachel Kreamer
Sent: Tuesday, May 06, 2014 10:22 AM
To: !US19_SA Env Entry
Cc: Kay Hower
Subject: Boeing Portland

We should receive two Boeing Portland coolers today, per the sampler. He forgot to identify one of the samples as a duplicate. It is the last sample on one of the chains and its identification is GWTS INF-050514. It should say GWTS INF-D-050514.

Also he thinks he may have labeled 4 vials for voas and only one for AMEE for sample E16. If that is the case, please use one of the 4 voa vials for AMEE so there are 2 vials for this analysis.

Thanks
Rachel

Rachel Kreamer
Manager

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601
USA
Phone: +1 717-556-7221
Mobile: +1 717-368-8489

www.LancasterLabsEnv.com

Note that my email address has changed. It is now RachelKreamer@EurofinsUS.com. Please update my contact information.

Client: Boeing**Delivery and Receipt Information**

Delivery Method: UPS Arrival Timestamp: 05/06/2014 8:00
Number of Packages: 2 Number of Projects: 1
State/Province of Origin: WA

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCL</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>Yes</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Joseph Gruber (5200) at 09:39 on 05/06/2014

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	Samples Collected Same Day as Receipt?	Elevated Temp?
1	DT146	2.6	DT	Wet	Y	Bagged	N	N
2	DT146	3.8	DT	Wet	Y	Bagged	N	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
GWTSEFF-0514	7	9	

General Comments: Received 1 E12-0514 HCL pres. Vial empty

G-1472111

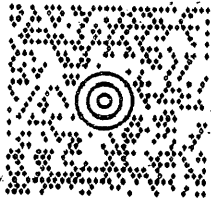
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

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



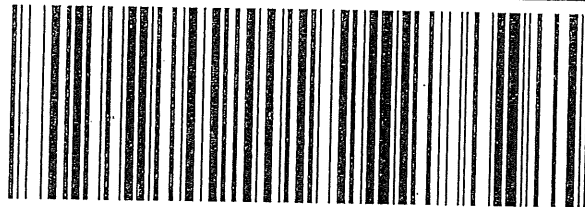
PA 175 9-37



UPS NEXT DAY AIR

TRACKING #: 1Z RV3 069 Y0 4509 6399

1 S



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40



SEE NOTICE ON REVERSE regarding UPS Term
customs purposes. If exported from the US, si
Regulations. Diversion contrary to law is pro

V/S. 17.0.25 LD620D 46 0A 01/2014

6-1472111

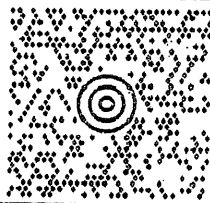
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE.
940 HENSLEY
RICHMOND CA 94801-2106

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 4499 1986

1 S



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 4



SEE NOTICE ON REVERSE regarding UPS Terms, and notice of limitation of liability. Where all customs purposes. If exported from the US, shipper certifies that the commodities, technology, and services are not controlled or restricted by U.S. export regulations. Diversion contrary to law is prohibited.

EUROFINS LANCASTER
2425 NEW HOLLAND PIKE
LANCASTER PA 17601-5946
01/2014

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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

May 15, 2014

Project: Boeing of Portland/025116.114.412

Submittal Date: 05/06/2014

Group Number: 1472156

PO Number: 0025116.114.412

State of Sample Origin: OR

Client Sample DescriptionE2-0514 Water
E3-0514 Water
E4-0514 Water
E12-0514 Water
E13-0514 Water
E11-0514 Water
E15-0514 Water
E16-0514 Water
DP-1-0514 Water
Trip Blanks Water
BOP-W-0514 WaterLancaster Labs (LL) #7452876
7452877
7452878
7452879
7452880
7452881
7452882
7452883
7452884
7452885
7452886

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

ELECTRONIC Landau Associates
COPY TO
ELECTRONIC Landau
COPY TO
ELECTRONIC Landau Associates
COPY TO
ELECTRONIC Landau
COPY TO

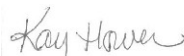
Attn: Anne Halvorsen

Attn: Chris Kimmel

Attn: Terry McGourty

Attn: Brett Borgeson

Respectfully Submitted,



Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.114.412
LLI Group #: 1472156

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: 7452876, 7452877, 7452878, 7452879, 7452885

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)
chloromethane -24%

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.

Batch #: H141291AA (Sample number(s): 7452876-7452879, 7452885 UNSPK: P449068)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Acetone, 1,2-Dichloropropane, 1,1,2-Trichloroethane, Dibromochloromethane, 4-Methyl-2-pentanone

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside acceptance windows: Acetone, 2-Butanone, 4-Methyl-2-pentanone, 2-Hexanone, Bromoform, 1,1,2,2-Tetrachloroethane

RSKSOP-175 modified, GC Miscellaneous

Sample #s: 7452876, 7452877, 7452878, 7452879, 7452880

The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported.

The affected analyte(s) and response(s) are:
Analyte Response (%Drift)
Acetylene 18%

Batch #: 141320030A (Sample number(s): 7452876-7452883 UNSPK: 7452876)

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

Sample Description: E2-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452876
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 13:15 by JR

The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E-2-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.4	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	0.4	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,1-Trichloroethane	76-13-1	0.5 U	0.5	1
11996	1,1,2-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	2.2	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	0.5	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)
chloromethane	-24%

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: E2-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452876
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 13:15 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E-2-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
GC Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.8	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	18,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,000 U	1,000	200
07105	Ethane	74-84-0	1,000 U	1,000	200
07105	Ethene	74-85-1	1,000 U	1,000	200
07105	Methane	74-82-8	25,000	1,000	200
The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported.					
The affected analyte(s) and response(s) are:					
Analyte	Response (%Drift)				
Acetylene	18%				
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.79	0.10	1
00228	Sulfate	14808-79-8	4.9	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	2.0	1.0	1

General Sample Comments

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	H141291AA	05/09/2014 18:45	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 18:45	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 18:27	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 16:26	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 08:16	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901A	05/07/2014 08:16	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 01:37	James S Mathiot	1

Sample Description: E3-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452877
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 15:35 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E-3-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.8	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	3.7	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	0.7	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	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	15	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	3.1	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)
chloromethane	-24%

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: E3-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452877
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 15:35 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E-3-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
GC Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	11,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,000 U	1,000	200
07105	Ethane	74-84-0	1,000 U	1,000	200
07105	Ethene	74-85-1	1,000 U	1,000	200
07105	Methane	74-82-8	14,000	1,000	200
The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported.					
The affected analyte(s) and response(s) are:					
Analyte	Response (%Drift)				
Acetylene	18%				
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.32	0.10	1
00228	Sulfate	14808-79-8	4.6	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	1.8	1.0	1

General Sample Comments

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	H141291AA	05/09/2014 19:07	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 19:07	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 19:21	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 16:44	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 09:37	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901A	05/07/2014 09:37	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 02:22	James S Mathiot	1

Sample Description: E4-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452878
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 14:20 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E4--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	5.9	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	1.3	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	1.6	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,2,2-Trichloroethane	76-13-1	1.3	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	38 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10

Sample Description: E4-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452878
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 14:20 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E4--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroethane	75-00-3	5.0 U	5.0	10
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	4.3	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	2.0 U	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	5.0 U	5.0	10
11996	4-Methyl-2-pentanone	108-10-1	5.0 U	5.0	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.0 U	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,2,2-Trichloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	29	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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)
chloromethane	-24%

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 Miscellaneous	RSKSOP-175 modified	ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0
07105	Ethane	74-84-0	5.0 U	5.0
07105	Ethene	74-85-1	5.0 U	5.0
07105	Methane	74-82-8	49	5.0

The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance

Sample Description: E4-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452878
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 14:20 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E4--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported. The affected analyte(s) and response(s) are:					
Analyte	Response (%Drift)				
Acetylene	18%				
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	1.2	0.10	1
00228	Sulfate	14808-79-8	7.9	1.0	1
		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	1.2	1.0	1

General Sample Comments

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	H141291AA	05/09/2014 19:29	Kerri E Legerlotz	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H141291AA	05/09/2014 19:51	Kerri E Legerlotz	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 19:29	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H141291AA	05/09/2014 19:51	Kerri E Legerlotz	10
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 19:39	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 09:53	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901A	05/07/2014 09:53	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 02:38	James S Mathiot	1

Sample Description: E12-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452879
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 15:55 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E12-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.1	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	0.4	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	10	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)
chloromethane	-24%

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: E12-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452879
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 15:55 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E12-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the reporting limit.				
GC Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	92	5.0	1

The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported.

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

Analyte	Response (%Drift)
Acetylene	18%

Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	2.6	0.10	1
00228	Sulfate	14808-79-8	10.2	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	2.7	1.0	1

General Sample Comments

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	H141291AA	05/09/2014 15:49	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 15:49	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 19:58	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 10:09	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901A	05/07/2014 10:09	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 02:53	James S Mathiot	1

Sample Description: E13-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452880
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 15:10 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E13-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.8	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.9	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	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	8.6	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	Miscellaneous	RSKSOP-175 modified	ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	5.0 U	5.0	1

The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported.

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

Sample Description: E13-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452880
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 15:10 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E13-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	Analyte	Response (%Drift)			
	Acetylene	18%			
	Wet Chemistry	EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	2.3	0.10	1
00228	Sulfate	14808-79-8	8.1	1.0	1
		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	1.0	1.0	1

General Sample Comments

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	H141331AA	05/13/2014 12:08	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 12:08	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 20:16	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 10:25	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901A	05/07/2014 10:25	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 03:24	James S Mathiot	1

Sample Description: E11-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452881
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 11:55 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E11-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
11996	Acetone	67-64-1	77	5.0	1
11996	Benzene	71-43-2	0.6	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	14	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	5.0	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	9.6	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	20	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
GC Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	7.3	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	22,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,000 U	1,000	200
07105	Ethane	74-84-0	1,000 U	1,000	200
07105	Ethene	74-85-1	1,000 U	1,000	200

Sample Description: E11-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452881
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 11:55 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E11-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 27,000	ug/l 1,000	200
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.10 U	mg/l 0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 24.3	mg/l 1.0	1

General Sample Comments

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	H141331AA	05/13/2014 12:30	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 12:30	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 20:52	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 17:02	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 07:43	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901A	05/07/2014 07:43	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 03:40	James S Mathiot	1

Sample Description: E15-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452882
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 13:50 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E15-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.2	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.3	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	2.6	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	0.4	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	2.5	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	Miscellaneous	RSKSOP-175 modified	ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	7,100 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	500 U	500	100
07105	Ethane	74-84-0	500 U	500	100
07105	Ethene	74-85-1	500 U	500	100

Sample Description: E15-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452882
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 13:50 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E15-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 11,000	ug/l 500	100
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.10 U	mg/l 0.10	1
00228	Sulfate	14808-79-8	1.2	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 3.4	mg/l 1.0	1

General Sample Comments

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	H141331AA	05/13/2014 12:52	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 12:52	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 21:10	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 17:20	Elizabeth J Marin	100
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901B	05/07/2014 08:32	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901B	05/07/2014 08:32	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 03:55	James S Mathiot	1

Sample Description: E16-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452883
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 12:10 by JR

The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E16-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
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	0.4	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	2.1	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	2.5	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	2.4	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	1.4	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	15	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 Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	170	5.0	1
Wet Chemistry EPA 300.0					
00368	Nitrate Nitrogen	14797-55-8	2.1	0.10	1
00228	Sulfate	14808-79-8	5.9	1.0	1

Sample Description: E16-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452883
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 12:10 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E16-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
00273	Wet Chemistry Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 1.3	mg/l 1.0	1

General Sample Comments

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	H141331AA	05/13/2014 13:14	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 13:14	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 21:29	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901B	05/07/2014 07:59	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901B	05/07/2014 07:59	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 04:10	James S Mathiot	1

Sample Description: DP-1-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452884
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 11:10 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

DP1--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.3	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	0.4	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	98 E	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	3.6	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	19	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	33 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10
11996	Chloroethane	75-00-3	5.0 U	5.0	10

Sample Description: DP-1-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452884
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 11:10 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

DP1--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.0 U	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	79	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	15	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,1,2,2,2-Hexachloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	25	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

General Sample Comments

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	H141331AA	05/13/2014 13:36	Kerri E Legerlotz	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H141332AA	05/13/2014 23:16	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 13:36	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H141332AA	05/13/2014 23:16	Kevin A Sposito	10

Sample Description: Trip Blanks Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452885
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 04/21/2014

The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

TBS--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Trichloroethane	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)
chloromethane	-24%

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 Blanks Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452885
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 04/21/2014

The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

TBS--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the reporting limit.				

General Sample Comments

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	H141291AA	05/09/2014 15:05	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 15:05	Kerri E Legerlotz	1

Sample Description: BOP-W-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452886
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 08:00 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

BOP--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.4	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	0.4	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	2.4	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	0.5	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

General Sample Comments

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	H141331AA	05/13/2014 13:58	Kerri E Legerlotz	1

Sample Description: BOP-W-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452886
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 08:00 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

BOP--

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 13:58	Kerri E Legerlotz	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/15/14 at 04:53 PM

Group Number: 1472156

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H141291AA	Sample number(s): 7452876-7452879,7452885							
Acetone	5.0 U	5.0	ug/l	103		60-139		
Benzene	0.2 U	0.2	ug/l	103		80-120		
Bromodichloromethane	0.5 U	0.5	ug/l	101		80-120		
Bromoform	0.5 U	0.5	ug/l	106		72-138		
Bromomethane	0.5 U	0.5	ug/l	85		62-126		
2-Butanone	5.0 U	5.0	ug/l	100		63-137		
Carbon Disulfide	0.5 U	0.5	ug/l	98		80-120		
Carbon Tetrachloride	0.2 U	0.2	ug/l	98		80-135		
Chlorobenzene	0.5 U	0.5	ug/l	101		80-120		
Chloroethane	0.5 U	0.5	ug/l	83		68-120		
Chloroform	0.2 U	0.2	ug/l	100		80-120		
Chloromethane	0.5 U	0.5	ug/l	79		55-120		
Dibromochloromethane	0.5 U	0.5	ug/l	108		80-126		
1,1-Dichloroethane	0.5 U	0.5	ug/l	103		80-120		
1,2-Dichloroethane	0.2 U	0.2	ug/l	101		80-127		
1,1-Dichloroethene	0.2 U	0.2	ug/l	99		80-123		
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	103		80-120		
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	101		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	104		80-120		
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	103		80-120		
Ethylbenzene	0.5 U	0.5	ug/l	98		80-120		
2-Hexanone	5.0 U	5.0	ug/l	101		62-128		
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	99		65-125		
Methylene Chloride	0.5 U	0.5	ug/l	103		80-120		
Styrene	0.5 U	0.5	ug/l	106		80-120		
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	101		80-120		
Tetrachloroethene	0.2 U	0.2	ug/l	97		80-120		
Toluene	0.2 U	0.2	ug/l	100		80-120		
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	95		80-120		
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	93		80-120		
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	101		80-120		
Trichloroethene	0.2 U	0.2	ug/l	101		80-120		
Trichlorofluoromethane	0.5 U	0.5	ug/l	85		77-132		
Vinyl Acetate	0.5 U	0.5	ug/l	70		38-145		
Vinyl Chloride	0.2 U	0.2	ug/l	83		59-124		
m+p-Xylene	0.5 U	0.5	ug/l	103		80-120		
o-Xylene	0.5 U	0.5	ug/l	104		80-120		
Batch number: H141331AA	Sample number(s): 7452880-7452884,7452886							
Acetone	5.0 U	5.0	ug/l	100	98	60-139	2	30
Benzene	0.2 U	0.2	ug/l	106	101	80-120	5	30
Bromodichloromethane	0.5 U	0.5	ug/l	107	102	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.

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/15/14 at 04:53 PM

Group Number: 1472156

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Bromoform	0.5 U	0.5	ug/l	101	102	72-138	1	30
Bromomethane	0.5 U	0.5	ug/l	96	90	62-126	7	30
2-Butanone	5.0 U	5.0	ug/l	93	91	63-137	2	30
Carbon Disulfide	0.5 U	0.5	ug/l	94	89	80-120	6	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	107	100	80-135	7	30
Chlorobenzene	0.5 U	0.5	ug/l	100	97	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	93	88	68-120	5	30
Chloroform	0.2 U	0.2	ug/l	103	99	80-120	5	30
Chloromethane	0.5 U	0.5	ug/l	86	80	55-120	8	30
Dibromochloromethane	0.5 U	0.5	ug/l	106	105	80-126	1	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	102	100	80-120	2	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	100	97	80-127	3	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	108	99	80-123	8	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	108	101	80-120	7	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	107	102	80-120	5	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	107	104	80-120	3	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	108	103	80-120	5	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	95	96	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	96	93	80-120	3	30
2-Hexanone	5.0 U	5.0	ug/l	91	88	62-128	2	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	90	88	65-125	2	30
Methylene Chloride	0.5 U	0.5	ug/l	105	102	80-120	4	30
Styrene	0.5 U	0.5	ug/l	103	99	80-120	4	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	93	92	80-120	1	30
Tetrachloroethene	0.2 U	0.2	ug/l	97	94	80-120	4	30
Toluene	0.2 U	0.2	ug/l	98	95	80-120	4	30
1,1,2,2-Tetrachloroethane	0.5 U	0.5	ug/l	96	91	80-120	6	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	98	93	80-120	5	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	95	94	80-120	1	30
Trichloroethene	0.2 U	0.2	ug/l	105	101	80-120	4	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	96	88	77-132	9	30
Vinyl Acetate	0.5 U	0.5	ug/l	64	63	38-145	2	30
Vinyl Chloride	0.2 U	0.2	ug/l	92	86	59-124	6	30
m+p-Xylene	0.5 U	0.5	ug/l	101	97	80-120	4	30
o-Xylene	0.5 U	0.5	ug/l	101	97	80-120	4	30

Batch number: H141332AA

Sample number(s): 7452884

Acetone	5.0 U	5.0	ug/l	101	100	60-139	2	30
Benzene	0.2 U	0.2	ug/l	106	103	80-120	3	30
Bromodichloromethane	0.5 U	0.5	ug/l	106	103	80-120	3	30
Bromoform	0.5 U	0.5	ug/l	103	102	72-138	0	30
Bromomethane	0.5 U	0.5	ug/l	94	91	62-126	4	30
2-Butanone	5.0 U	5.0	ug/l	94	91	63-137	3	30
Carbon Disulfide	0.5 U	0.5	ug/l	93	90	80-120	3	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	108	104	80-135	3	30
Chlorobenzene	0.5 U	0.5	ug/l	101	98	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	92	89	68-120	4	30
Chloroform	0.2 U	0.2	ug/l	103	102	80-120	1	30
Chloromethane	0.5 U	0.5	ug/l	82	79	55-120	4	30
Dibromochloromethane	0.5 U	0.5	ug/l	106	105	80-126	0	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	104	102	80-120	2	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	104	102	80-127	2	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	105	102	80-123	3	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	108	103	80-120	4	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	105	104	80-120	1	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	108	107	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 SummaryClient Name: The Boeing Company
Reported: 05/15/14 at 04:53 PM

Group Number: 1472156

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	105	105	80-120	1	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	95	94	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	95	94	80-120	1	30
2-Hexanone	5.0 U	5.0	ug/l	92	91	62-128	1	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	91	90	65-125	2	30
Methylene Chloride	0.5 U	0.5	ug/l	106	104	80-120	2	30
Styrene	0.5 U	0.5	ug/l	104	101	80-120	3	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	93	94	80-120	1	30
Tetrachloroethene	0.2 U	0.2	ug/l	99	96	80-120	3	30
Toluene	0.2 U	0.2	ug/l	99	96	80-120	3	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	95	94	80-120	1	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	100	97	80-120	3	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	99	97	80-120	3	30
Trichloroethene	0.2 U	0.2	ug/l	105	104	80-120	1	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	92	91	77-132	1	30
Vinyl Acetate	0.5 U	0.5	ug/l	69	68	38-145	2	30
Vinyl Chloride	0.2 U	0.2	ug/l	92	91	59-124	1	30
m+p-Xylene	0.5 U	0.5	ug/l	101	99	80-120	1	30
o-Xylene	0.5 U	0.5	ug/l	101	99	80-120	2	30

Batch number: 141320030A	Sample number(s): 7452876-7452883	
Acetylene	5.0 U	5.0 ug/l 114
Ethane	5.0 U	5.0 ug/l 98
Ethene	5.0 U	5.0 ug/l 96
Methane	5.0 U	5.0 ug/l 100

Batch number: 14127347901A	Sample number(s): 7452876-7452881	
Nitrate Nitrogen	0.10 U	0.10 mg/l 101
Sulfate	1.0 U	1.0 mg/l 101

Batch number: 14127347901B	Sample number(s): 7452882-7452883	
Nitrate Nitrogen	0.10 U	0.10 mg/l 101
Sulfate	1.0 U	1.0 mg/l 101

Batch number: 14129049501A	Sample number(s): 7452876-7452883	
Total Organic Carbon	1.0 U	1.0 mg/l 104

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: H141291AA	Sample number(s): 7452876-7452879,7452885 UNSPK: P449068								
Acetone	30*	48*	57-163	47*	30				
Benzene	96	117	87-126	15	30				
Bromodichloromethane	96	124	82-133	26	30				
Bromoform	98	133	60-138	31*	30				
Bromomethane	80	96	66-130	17	30				
2-Butanone	66	103	56-160	44*	30				
Carbon Disulfide	98	112	84-141	13	30				
Carbon Tetrachloride	98	114	81-148	15	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 SummaryClient Name: The Boeing Company
Reported: 05/15/14 at 04:53 PM

Group Number: 1472156

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

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Chlorobenzene	98	126	78-133	25	30			
Chloroethane	86	100	70-139	16	30			
Chloroform	98	119	86-136	20	30			
Chloromethane	77	91	49-135	17	30			
Dibromochloromethane	101	136*	79-125	29	30			
1,1-Dichloroethane	98	113	81-126	15	30			
1,2-Dichloroethane	88	112	82-135	24	30			
1,1-Dichloroethene	100	116	86-132	15	30			
cis-1,2-Dichloroethene	99	118	82-129	18	30			
trans-1,2-Dichloroethene	99	115	88-127	14	30			
1,2-Dichloropropane	104	130*	91-126	22	30			
cis-1,3-Dichloropropene	98	126	74-132	25	30			
trans-1,3-Dichloropropene	95	126	71-128	28	30			
Ethylbenzene	97	130	80-140	18	30			
2-Hexanone	68	107	51-149	45*	30			
4-Methyl-2-pentanone	61*	97	69-149	45*	30			
Methylene Chloride	97	113	77-135	16	30			
Styrene	102	135	71-138	28	30			
1,1,2,2-Tetrachloroethane	90	128	75-131	35*	30			
Tetrachloroethene	97	120	75-129	21	30			
Toluene	99	124	83-127	22	30			
1,1,2,2,2-Trifluoroethane	99	114	84-136	14	30			
1,1,1-Trichloroethane	92	106	85-140	15	30			
1,1,2-Trichloroethane	108	140*	85-129	26	30			
Trichloroethene	101	123	85-131	20	30			
Trichlorofluoromethane	88	104	73-139	16	30			
Vinyl Acetate	75	72	27-162	3	30			
Vinyl Chloride	87	101	62-135	16	30			
m+p-Xylene	103	132	81-137	24	30			
o-Xylene	101	132	81-137	27	30			

Batch number: 141320030A Sample number(s): 7452876-7452883 UNSPK: 7452876

Acetylene	100	103	38-121	3	20			
Ethane	88	95	32-129	7	20			
Ethene	101	104	35-162	3	20			
Methane	-326	-163	35-157	1	20			
	(2)	(2)						

Batch number: 14127347901A Sample number(s): 7452876-7452881 UNSPK: P453734 BKG: P453734

Nitrate Nitrogen	100	90-110	0.10	U	0.10	U	0 (1)	20
Sulfate	105	90-110	28.9		29.7		3	20

Batch number: 14127347901B Sample number(s): 7452882-7452883 UNSPK: 7452882 BKG: 7452882

Nitrate Nitrogen	95	90-110	0.10	U	0.10	U	0 (1)	20
Sulfate	94	90-110	1.2		1.2		1 (1)	20

Batch number: 14129049501A Sample number(s): 7452876-7452883 UNSPK: 7452876 BKG: 7452876

Total Organic Carbon	106	63-142	2.0		2.1		4 (1)	4

*- 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
Reported: 05/15/14 at 04:53 PM

Group Number: 1472156

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 Water(25ml) Master

Batch number: H141291AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7452876	103	108	99	100
7452877	102	107	99	100
7452878	102	103	100	102
7452878	101	105	99	99
DL				
7452879	101	106	99	101
7452885	100	105	99	101
Blank	102	99	99	103
LCS	100	103	99	105
MS	99	103	101	109
MSD	99	102	100	109

Limits: 77-114 74-113 77-110 78-110

Analysis Name: 8260C Water(25ml) Master

Batch number: H141331AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7452880	103	108	96	103
7452881	102	105	95	105
7452882	103	108	96	102
7452883	103	107	95	103
7452884	103	108	94	101
7452886	104	111	95	103
Blank	103	109	96	103
LCS	103	108	97	106
LCSD	101	104	96	105

Limits: 77-114 74-113 77-110 78-110

Analysis Name: 8260C Water(25ml) Master

Batch number: H141332AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7452884	105	109	95	102
DL				
Blank	105	110	96	102
LCS	102	105	96	106
LCSD	103	110	96	106

Limits: 77-114 74-113 77-110 78-110

Analysis Name: Volatile Headspace Hydrocarbon

Batch number: 141320030A

Propene

7452876	77
7452876	95
DL	

*- 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
Reported: 05/15/14 at 04:53 PM

Group Number: 1472156

Surrogate Quality Control

7452877	81
7452877	97
DL	
7452878	84
7452879	74
7452880	76
7452881	98
7452881	95
DL	
7452882	69
7452882	95
DL	
7452883	80
Blank	93
LCS	95
MS	78
MSD	81

Limits: 42-131

*- 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.

Client: Boeing**Delivery and Receipt Information**

Delivery Method: UPS Arrival Timestamp: 05/06/2014 8:00
 Number of Packages: 2 Number of Projects: 1
 State/Province of Origin: WA

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCL</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>Yes</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Joseph Gruber (5200) at 09:39 on 05/06/2014

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	Samples Collected Same Day as Receipt?	Elevated Temp?
1	DT146	2.6	DT	Wet	Y	Bagged	N	N
2	DT146	3.8	DT	Wet	Y	Bagged	N	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
GWTSEFF-0514	7	9	

General Comments: Received 1 E12-0514 HCL pres. Vial empty

G-1472156

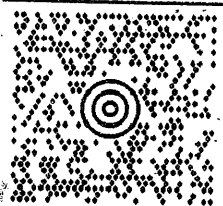
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

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

1 S

TRACKING #: 1Z RV3 069 Y0 4509 6399



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40



SEE NOTICE ON REVERSE regarding UPS Terms
customs purposes. If exported from the US, all
Regulations. Diversion contrary to law is prohibited.

WS 17.0.25 LD620D 48 0A 01/2014

G-1472156

LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

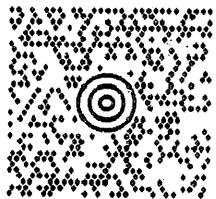
40 LBS

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 4499 1986

1 S



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 4



SEE NOTICE ON REVERSE regarding UPS Terms, and notice of limitation of liability. Where all customs purposes. If exported from the US, shipper certifies that the commodities, techno Regulations. Diversion contrary to law is prohibited.

EUROFINS LANCA
2425 NEW HOLLAND
LANCASTER PA 17601-5946

01/2014

trial and
tration

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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

May 15, 2014

Project: Boeing of Portland/025116.114.412

Submittal Date: 05/08/2014

Group Number: 1472837

PO Number: 0025116.114.412

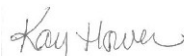
State of Sample Origin: OR

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
BOP-7(i)-0514 NA Water	7455814
BOP-16(i)-0514 NA Water	7455815
BOP-80(i)-0514 NA Water	7455816
BOP-81(i)-0514 NA Water	7455817
BOP-82(i)-0514 NA Water	7455818
BOP-x(i)-0514 NA Water	7455819
Trip Blank Water	7455820
BOP-83(i)-0514 NA Water	7455821

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

ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen
ELECTRONIC COPY TO	Landau	Attn: Chris Kimmel
ELECTRONIC COPY TO	Landau Associates	Attn: Terry McGourty
ELECTRONIC COPY TO	Landau	Attn: Brett Borgeson

Respectfully Submitted,



Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.114.412
LLI Group #: 1472837

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:**RSKSOP-175 modified, GC Miscellaneous**

Batch #: 141320030A (Sample number(s): 7455814-7455818, 7455821 UNSPK: P452876)

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

Sample Description: BOP-7(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455814
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 08:20 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
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
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	12	1.0	5
11996	cis-1,2-Dichloroethene	156-59-2	9.0	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	3.7	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	2.7	2.5	5
11996	1,1,2-Trichloroethane	79-00-5	1.0 U	1.0	5
11996	Trichloroethene	79-01-6	170	E	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
Trial ID: DL					
11996	Acetone	67-64-1	250 U	250	50
11996	Benzene	71-43-2	10 U	10	50
11996	Bromodichloromethane	75-27-4	25 U	25	50
11996	Bromoform	75-25-2	25 U	25	50
11996	Bromomethane	74-83-9	25 U	25	50
11996	2-Butanone	78-93-3	250 U	250	50
11996	Carbon Disulfide	75-15-0	25 U	25	50
11996	Carbon Tetrachloride	56-23-5	10 U	10	50
11996	Chlorobenzene	108-90-7	25 U	25	50
11996	Chloroethane	75-00-3	25 U	25	50

Sample Description: BOP-7(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455814
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 08:20 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
11996	Chloroform	67-66-3	10 U	10	50
11996	Chloromethane	74-87-3	25 U	25	50
11996	Dibromochloromethane	124-48-1	25 U	25	50
11996	1,1-Dichloroethane	75-34-3	25 U	25	50
11996	1,2-Dichloroethane	107-06-2	10 U	10	50
11996	1,1-Dichloroethene	75-35-4	13	10	50
11996	cis-1,2-Dichloroethene	156-59-2	12	10	50
11996	trans-1,2-Dichloroethene	156-60-5	10 U	10	50
11996	1,2-Dichloropropane	78-87-5	25 U	25	50
11996	cis-1,3-Dichloropropene	10061-01-5	10 U	10	50
11996	trans-1,3-Dichloropropene	10061-02-6	10 U	10	50
11996	Ethylbenzene	100-41-4	25 U	25	50
11996	2-Hexanone	591-78-6	250 U	250	50
11996	4-Methyl-2-pentanone	108-10-1	250 U	250	50
11996	Methylene Chloride	75-09-2	25 U	25	50
11996	Styrene	100-42-5	25 U	25	50
11996	1,1,2,2-Tetrachloroethane	79-34-5	10 U	10	50
11996	Tetrachloroethene	127-18-4	10 U	10	50
11996	Toluene	108-88-3	10 U	10	50
11996	112Trichloro122Trifluoroethane	76-13-1	25 U	25	50
11996	1,1,1-Trichloroethane	71-55-6	25 U	25	50
11996	1,1,2-Trichloroethane	79-00-5	10 U	10	50
11996	Trichloroethene	79-01-6	180	10	50
11996	Trichlorofluoromethane	75-69-4	25 U	25	50
11996	Vinyl Acetate	108-05-4	25 U	25	50
11996	Vinyl Chloride	75-01-4	10 U	10	50
11996	m+p-Xylene	179601-23-1	25 U	25	50
11996	o-Xylene	95-47-6	25 U	25	50
GC Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	5.0 U	5.0	1
Wet Chemistry EPA 300.0					
00368	Nitrate Nitrogen	14797-55-8	2.1	0.10	1
00228	Sulfate	14808-79-8	8.2	1.0	1
SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	1.0 U	1.0	1

General Sample Comments

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

Sample Description: BOP-7(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455814
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 08:20 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP07

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	H141331AA	05/13/2014 15:04	Kerri E Legerlotz	5
11996	8260C Boeing 38	SW-846 8260C	2-DL	H141332AA	05/13/2014 23:37	Kevin A Sposito	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 15:04	Kerri E Legerlotz	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H141332AA	05/13/2014 23:37	Kevin A Sposito	50
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 21:47	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14128347902B	05/08/2014 23:00	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14128347902B	05/08/2014 23:00	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14133049501A	05/13/2014 03:17	James S Mathiot	1

Sample Description: BOP-16(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455815
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 10:20 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP16

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
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	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.4	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	1.3	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	4.6	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	4.9	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 Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	2,700 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	100 U	100	20
07105	Ethane	74-84-0	100 U	100	20
07105	Ethene	74-85-1	100 U	100	20

Sample Description: BOP-16(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455815
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 10:20 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP16

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 3,100	ug/l 100	20
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.10 U	mg/l 0.10	1
00228	Sulfate	14808-79-8	5.6	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 1.2	mg/l 1.0	1

General Sample Comments

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	H141331AA	05/13/2014 16:46	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 16:46	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 22:05	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 17:38	Elizabeth J Marin	20
00368	Nitrate Nitrogen	EPA 300.0	1	14128347902B	05/08/2014 22:11	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14128347902B	05/08/2014 22:11	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14133049501A	05/13/2014 03:32	James S Mathiot	1

Sample Description: BOP-80(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455816
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 12:50 by JR

The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP80

CAT No.	Analysis Name	CAS Number	As Received Result		As Received 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	0.9		0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	1.2		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	0.7		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	1,1,2,2-Trichloroethane	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	2.0		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	Miscellaneous	RSKSOP-175 modified	ug/l		ug/l	
07105	Acetylene	74-86-2	5.0	U	5.0	1
07105	Ethane	74-84-0	17		5.0	1
07105	Ethene	74-85-1	5.0	U	5.0	1
07105	Methane	74-82-8	10,000	E	5.0	1
Trial ID: DL						
07105	Acetylene	74-86-2	1,000	U	1,000	200
07105	Ethane	74-84-0	1,000	U	1,000	200
07105	Ethene	74-85-1	1,000	U	1,000	200

Sample Description: BOP-80(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455816
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 12:50 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP80

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 16,000	ug/l 1,000	200
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.19	mg/l 0.10	1
00228	Sulfate	14808-79-8	1.0	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 3.8	mg/l 1.0	1

General Sample Comments

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	H141331AA	05/13/2014 17:08	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 17:08	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 22:23	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 17:56	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14128347902B	05/08/2014 23:32	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14128347902B	05/08/2014 23:32	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14133049501A	05/13/2014 03:48	James S Mathiot	1

Sample Description: BOP-81(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455817
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 13:50 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP81

CAT No.	Analysis Name	CAS Number	As Received Result		As Received 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		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	Miscellaneous	RSKSOP-175 modified	ug/l		ug/l	
07105	Acetylene	74-86-2	5.0	U	5.0	1
07105	Ethane	74-84-0	5.2		5.0	1
07105	Ethene	74-85-1	5.0	U	5.0	1
07105	Methane	74-82-8	15,000	E	5.0	1
Trial ID: DL						
07105	Acetylene	74-86-2	1,000	U	1,000	200
07105	Ethane	74-84-0	1,000	U	1,000	200
07105	Ethene	74-85-1	1,000	U	1,000	200
07105	Methane	74-82-8	24,000		1,000	200

Sample Description: BOP-81(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455817
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 13:50 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP81

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	2.3	1.0	1
		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	2.0	1.0	1

General Sample Comments

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	H141331AA	05/13/2014 17:30	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 17:30	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 22:42	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 18:14	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14128347902B	05/08/2014 23:48	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14128347902B	05/08/2014 23:48	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14133049501A	05/13/2014 04:03	James S Mathiot	1

Sample Description: BOP-82(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455818
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 15:20 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP82

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
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	0.6	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.5	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.3	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	0.7	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	12	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 Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	810 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	25 U	25	5
07105	Ethane	74-84-0	25 U	25	5
07105	Ethene	74-85-1	25 U	25	5

Sample Description: BOP-82(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455818
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 15:20 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP82

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 1,000	ug/l 25	5
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.30	mg/l 0.10	1
00228	Sulfate	14808-79-8	8.4	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 1.9	mg/l 1.0	1

General Sample Comments

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	H141331AA	05/13/2014 17:52	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 17:52	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 23:00	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 18:32	Elizabeth J Marin	5
00368	Nitrate Nitrogen	EPA 300.0	1	14128347902B	05/09/2014 00:05	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14128347902B	05/09/2014 00:05	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14133049501A	05/13/2014 04:35	James S Mathiot	1

Sample Description: BOP-x(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455819
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 08:00 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP-X

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	15	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	11	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	4.5	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,2,2-Trichloroethane	76-13-1	2.2	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	3.3	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	220	E	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: DL					
11996	Acetone	67-64-1	100 U	100	20
11996	Benzene	71-43-2	4.0 U	4.0	20
11996	Bromodichloromethane	75-27-4	10 U	10	20
11996	Bromoform	75-25-2	10 U	10	20
11996	Bromomethane	74-83-9	10 U	10	20
11996	2-Butanone	78-93-3	100 U	100	20
11996	Carbon Disulfide	75-15-0	10 U	10	20
11996	Carbon Tetrachloride	56-23-5	4.0 U	4.0	20
11996	Chlorobenzene	108-90-7	10 U	10	20

Sample Description: BOP-x(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455819
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 08:00 by JR

The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP-X

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroethane	75-00-3	10 U	10	20
11996	Chloroform	67-66-3	4.0 U	4.0	20
11996	Chloromethane	74-87-3	10 U	10	20
11996	Dibromochloromethane	124-48-1	10 U	10	20
11996	1,1-Dichloroethane	75-34-3	10 U	10	20
11996	1,2-Dichloroethane	107-06-2	4.0 U	4.0	20
11996	1,1-Dichloroethene	75-35-4	11	4.0	20
11996	cis-1,2-Dichloroethene	156-59-2	9.1	4.0	20
11996	trans-1,2-Dichloroethene	156-60-5	4.0 U	4.0	20
11996	1,2-Dichloropropane	78-87-5	10 U	10	20
11996	cis-1,3-Dichloropropene	10061-01-5	4.0 U	4.0	20
11996	trans-1,3-Dichloropropene	10061-02-6	4.0 U	4.0	20
11996	Ethylbenzene	100-41-4	10 U	10	20
11996	2-Hexanone	591-78-6	100 U	100	20
11996	4-Methyl-2-pentanone	108-10-1	100 U	100	20
11996	Methylene Chloride	75-09-2	10 U	10	20
11996	Styrene	100-42-5	10 U	10	20
11996	1,1,2,2-Tetrachloroethane	79-34-5	4.0 U	4.0	20
11996	Tetrachloroethene	127-18-4	4.0 U	4.0	20
11996	Toluene	108-88-3	4.0 U	4.0	20
11996	112Trichloro122Trifluoroethane	76-13-1	10 U	10	20
11996	1,1,1-Trichloroethane	71-55-6	10 U	10	20
11996	1,1,2-Trichloroethane	79-00-5	4.0 U	4.0	20
11996	Trichloroethene	79-01-6	160	4.0	20
11996	Trichlorofluoromethane	75-69-4	10 U	10	20
11996	Vinyl Acetate	108-05-4	10 U	10	20
11996	Vinyl Chloride	75-01-4	4.0 U	4.0	20
11996	m+p-Xylene	179601-23-1	10 U	10	20
11996	o-Xylene	95-47-6	10 U	10	20

General Sample Comments

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	H141331AA	05/13/2014 18:14	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H141331AA	05/13/2014 18:36	Kevin A Sposito	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 18:14	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H141331AA	05/13/2014 18:36	Kevin A Sposito	20

Sample Description: Trip Blank Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455820
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 04/21/2014

The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOPTB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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

General Sample Comments

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	H141331AA	05/13/2014 11:46	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 11:46	Kerri E Legerlotz	1

Sample Description: BOP-83(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455821
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 16:20 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP83

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.4	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	5.7	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 Miscellaneous RSKSOP-175 modified ug/l ug/l					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	190	5.0	1
Wet Chemistry EPA 300.0 mg/l mg/l					
00368	Nitrate Nitrogen	14797-55-8	4.3	1.0	10
00228	Sulfate	14808-79-8	11.1	1.0	1

Sample Description: BOP-83(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455821
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 16:20 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP83

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
00273	Wet Chemistry Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 1.2	mg/l 1.0	1

General Sample Comments

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	H141331AA	05/13/2014 18:58	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 18:58	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 23:18	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14128347902B	05/09/2014 00:21	Sandra J Miller	10
00228	Sulfate	EPA 300.0	1	14128347902B	05/09/2014 01:09	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14133049501A	05/13/2014 04:50	James S Mathiot	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/15/14 at 04:54 PM

Group Number: 1472837

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: H141331AA Sample number(s): 7455814-7455821								
Acetone	5.0 U	5.0	ug/l	100	98	60-139	2	30
Benzene	0.2 U	0.2	ug/l	106	101	80-120	5	30
Bromodichloromethane	0.5 U	0.5	ug/l	107	102	80-120	4	30
Bromoform	0.5 U	0.5	ug/l	101	102	72-138	1	30
Bromomethane	0.5 U	0.5	ug/l	96	90	62-126	7	30
2-Butanone	5.0 U	5.0	ug/l	93	91	63-137	2	30
Carbon Disulfide	0.5 U	0.5	ug/l	94	89	80-120	6	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	107	100	80-135	7	30
Chlorobenzene	0.5 U	0.5	ug/l	100	97	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	93	88	68-120	5	30
Chloroform	0.2 U	0.2	ug/l	103	99	80-120	5	30
Chloromethane	0.5 U	0.5	ug/l	86	80	55-120	8	30
Dibromochloromethane	0.5 U	0.5	ug/l	106	105	80-126	1	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	102	100	80-120	2	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	100	97	80-127	3	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	108	99	80-123	8	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	108	101	80-120	7	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	107	102	80-120	5	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	107	104	80-120	3	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	108	103	80-120	5	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	95	96	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	96	93	80-120	3	30
2-Hexanone	5.0 U	5.0	ug/l	91	88	62-128	2	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	90	88	65-125	2	30
Methylene Chloride	0.5 U	0.5	ug/l	105	102	80-120	4	30
Styrene	0.5 U	0.5	ug/l	103	99	80-120	4	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	93	92	80-120	1	30
Tetrachloroethene	0.2 U	0.2	ug/l	97	94	80-120	4	30
Toluene	0.2 U	0.2	ug/l	98	95	80-120	4	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	96	91	80-120	6	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	98	93	80-120	5	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	95	94	80-120	1	30
Trichloroethene	0.2 U	0.2	ug/l	105	101	80-120	4	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	96	88	77-132	9	30
Vinyl Acetate	0.5 U	0.5	ug/l	64	63	38-145	2	30
Vinyl Chloride	0.2 U	0.2	ug/l	92	86	59-124	6	30
m+p-Xylene	0.5 U	0.5	ug/l	101	97	80-120	4	30
o-Xylene	0.5 U	0.5	ug/l	101	97	80-120	4	30
Batch number: H141332AA Sample number(s): 7455814								
Acetone	5.0 U	5.0	ug/l	101	100	60-139	2	30
Benzene	0.2 U	0.2	ug/l	106	103	80-120	3	30
Bromodichloromethane	0.5 U	0.5	ug/l	106	103	80-120	3	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
Reported: 05/15/14 at 04:54 PM

Group Number: 1472837

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Bromoform	0.5 U	0.5	ug/l	103	102	72-138	0	30
Bromomethane	0.5 U	0.5	ug/l	94	91	62-126	4	30
2-Butanone	5.0 U	5.0	ug/l	94	91	63-137	3	30
Carbon Disulfide	0.5 U	0.5	ug/l	93	90	80-120	3	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	108	104	80-135	3	30
Chlorobenzene	0.5 U	0.5	ug/l	101	98	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	92	89	68-120	4	30
Chloroform	0.2 U	0.2	ug/l	103	102	80-120	1	30
Chloromethane	0.5 U	0.5	ug/l	82	79	55-120	4	30
Dibromochloromethane	0.5 U	0.5	ug/l	106	105	80-126	0	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	104	102	80-120	2	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	104	102	80-127	2	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	105	102	80-123	3	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	108	103	80-120	4	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	105	104	80-120	1	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	108	107	80-120	2	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	105	105	80-120	1	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	95	94	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	95	94	80-120	1	30
2-Hexanone	5.0 U	5.0	ug/l	92	91	62-128	1	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	91	90	65-125	2	30
Methylene Chloride	0.5 U	0.5	ug/l	106	104	80-120	2	30
Styrene	0.5 U	0.5	ug/l	104	101	80-120	3	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	93	94	80-120	1	30
Tetrachloroethene	0.2 U	0.2	ug/l	99	96	80-120	3	30
Toluene	0.2 U	0.2	ug/l	99	96	80-120	3	30
1,1,2,2-Tetrachloroethane	0.5 U	0.5	ug/l	95	94	80-120	1	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	100	97	80-120	3	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	99	97	80-120	3	30
Trichloroethene	0.2 U	0.2	ug/l	105	104	80-120	1	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	92	91	77-132	1	30
Vinyl Acetate	0.5 U	0.5	ug/l	69	68	38-145	2	30
Vinyl Chloride	0.2 U	0.2	ug/l	92	91	59-124	1	30
m+p-Xylene	0.5 U	0.5	ug/l	101	99	80-120	1	30
o-Xylene	0.5 U	0.5	ug/l	101	99	80-120	2	30

Batch number: 141320030A	Sample number(s): 7455814-7455818,7455821	
Acetylene	5.0 U 5.0	ug/l 114 58-136
Ethane	5.0 U 5.0	ug/l 98 80-120
Ethene	5.0 U 5.0	ug/l 96 80-120
Methane	5.0 U 5.0	ug/l 100 80-120

Batch number: 14128347902B	Sample number(s): 7455814-7455818,7455821	
Nitrate Nitrogen	0.10 U 0.10	mg/l 100 90-110
Sulfate	1.0 U 1.0	mg/l 99 90-110

Batch number: 14133049501A	Sample number(s): 7455814-7455818,7455821	
Total Organic Carbon	1.0 U 1.0	mg/l 103 91-113

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

*- 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
Reported: 05/15/14 at 04:54 PM

Group Number: 1472837

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 141320030A	Sample number(s): 7455814-7455818,7455821 UNSPK: P452876								
Acetylene	100	103	38-121	3	20				
Ethane	88	95	32-129	7	20				
Ethene	101	104	35-162	3	20				
Methane	-326 (2)	-163 (2)	35-157	1	20				
Batch number: 14128347902B	Sample number(s): 7455814-7455818,7455821 UNSPK: 7455815 BKG: 7455815								
Nitrate Nitrogen	96		90-110		0.10 U	0.10 U	0 (1)	20	
Sulfate	98		90-110		5.6	5.7	2	20	
Batch number: 14133049501A	Sample number(s): 7455814-7455818,7455821 UNSPK: P456927 BKG: P456927								
Total Organic Carbon	110		63-142		1.0 U	1.0 U	0 (1)	4	

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 Water(25ml) Master
Batch number: H141331AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7455814	104	106	96	101
7455815	105	105	95	102
7455816	105	109	96	102
7455817	106	109	94	103
7455818	105	107	95	102
7455819	106	111	95	103
7455819	105	110	95	100
DL				
7455820	103	108	95	101
7455821	105	112	95	102
Blank	103	109	96	103
LCS	103	108	97	106
LCSD	101	104	96	105
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Water(25ml) Master
Batch number: H141332AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7455814	104	108	95	102
DL				
Blank	105	110	96	102
LCS	102	105	96	106
LCSD	103	110	96	106
Limits:	77-114	74-113	77-110	78-110

Analysis Name: Volatile Headspace Hydrocarbon

*- 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
Reported: 05/15/14 at 04:54 PM

Group Number: 1472837

Surrogate Quality Control

Batch number: 141320030A
Propene

7455814	77
7455815	76
7455815	96
DL	
7455816	67
7455816	92
DL	
7455817	67
7455817	95
DL	
7455818	78
7455818	82
DL	
7455821	79
Blank	93
LCS	95
MS	78
MSD	81

Limits: 42-131

*- 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.

Site Location:

Site Project:

Site Program/#:

Boeing PM:

Consultant Contact:

Report To:

Invoice To: ☒ Boeing EHS ☐ Other (specify): ☐

Sampler: Tunes
of Coolers: 25

2

Sample Identification

ted	3

Time Matrix

Containers

BAD-711-0514

REF-1611-094

Bob - April 1990

2001/1/28

[illegible][illegible][illegible]

100

100 1000 100

100

6 Turnaround time request

Standard

72 hour

Date needed _____

bioRxiv preprint doi: <https://doi.org/10.1101/2019.05.20.246400>; this version posted May 20, 2019. The copyright holder for this preprint (which was not certified by peer review) is the author/funder, who has granted bioRxiv a license to display the preprint in perpetuity. It is made available under aCC-BY-NC-ND 4.0 International license.

Lancaster Laboratories Inc., 2425 New Holland Pike, Lancaster, PA 17601 (717-656-2300)

Issued by Dept. 40 Management
7063.02

Client: Boeing**Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>05/08/2014 9:40</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>OR</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCL</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Joseph Gruber (5200) at 10:28 on 05/08/2014

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	<u>Samples</u> <u>Collected Same</u> <u>Day as Receipt?</u>	Elevated Temp?
1	DT131	4.3	DT	Wet	Y	Bagged	N	N

1472837

LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

40 LBS

RS DWT: 25, 14, 14

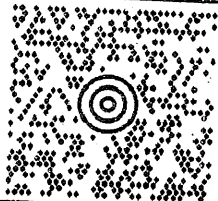
SHIP TO:

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

EUROFINS LANCASTER LABORATORIES
2425 NEW HOLLAND PIKE

LANCASTER, PA 17601-5946

P: YELLOW S: LEFT I: PD4
EURO - RDL
1ZRV3069Y04440 3405 1030
RJJIMAG 17601 HIP 13.1.1 ZEBRA24HP
MAY 08 (7:36:37 2014)



PA 175 9-37



UPS NEXT DAY AIR

TRACKING #: 1Z RV3 069 Y0 4440 3405

1 S



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40

WS 17.0.25 LD620D 48 0A.01/2014



*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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

May 21, 2014

Project: Boeing of Portland/025116.114.412

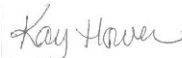
Submittal Date: 05/09/2014
Group Number: 1473180
PO Number: 0025116.114.412
State of Sample Origin: OR

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
BOP-72(i)-0514 Grab Water	7457670
BOP-73(i)-0514 Grab Water	7457671
BOP-74(i)-0514 Grab Water	7457672
BOP-75(i)-0514 Grab Water	7457673
BOP-76(i)-0514 Grab Water	7457674
BOP-77(i)-0514 Grab Water	7457675
BOP-78(i)-0514 Grab Water	7457676
BOP-79(i)-0514 Grab Water	7457677
BOP-84(i)-0514 Grab Water	7457678
BOP-85(i)-0514 Grab Water	7457679
BOP-86(i)-0514 Grab Water	7457680
BOP-87(i)-0514 Grab Water	7457681
BOP-88(i)-0514 Grab Water	7457682
Trip Blank Water	7457683

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

ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen
ELECTRONIC COPY TO	Landau	Attn: Chris Kimmel
ELECTRONIC COPY TO	Landau Associates	Attn: Terry McGourty
ELECTRONIC COPY TO	Landau	Attn: Brett Borgeson
ELECTRONIC COPY TO	Landau Associates	Attn: Kristi Schultz

Respectfully Submitted,



Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.114.412
LLI Group #: 1473180

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:**RSKSOP-175 modified, GC Miscellaneous**

Batch #: 141360014A (Sample number(s): 7457671-7457672, 7457675, 7457678 UNSPK: 7457671)

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

EPA 300.0, Wet Chemistry

Batch #: 14129373601A (Sample number(s): 7457675, 7457678 UNSPK: 7457678 BKG: 7457678)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Sulfate

Sample Description: BOP-72(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457670
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:50 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

72I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	29	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	1.2	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	3.0	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	0.4	0.2	1
11996	1,1,2,2-Trichloroethane	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	1.5	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

General Sample Comments

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	H141331AA	05/13/2014 19:20	Kevin A Sposito	1

Sample Description: BOP-72(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457670
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:50 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

72I--

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 19:20	Kevin A Sposito	1

Sample Description: BOP-73(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457671
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 10:40 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

73I--

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l		ug/l	
11996	Acetone	67-64-1	500	U	500	100
11996	Benzene	71-43-2	20	U	20	100
11996	Bromodichloromethane	75-27-4	50	U	50	100
11996	Bromoform	75-25-2	50	U	50	100
11996	Bromomethane	74-83-9	50	U	50	100
11996	2-Butanone	78-93-3	500	U	500	100
11996	Carbon Disulfide	75-15-0	50	U	50	100
11996	Carbon Tetrachloride	56-23-5	20	U	20	100
11996	Chlorobenzene	108-90-7	50	U	50	100
11996	Chloroethane	75-00-3	50	U	50	100
11996	Chloroform	67-66-3	20	U	20	100
11996	Chloromethane	74-87-3	50	U	50	100
11996	Dibromochloromethane	124-48-1	50	U	50	100
11996	1,1-Dichloroethane	75-34-3	50	U	50	100
11996	1,2-Dichloroethane	107-06-2	20	U	20	100
11996	1,1-Dichloroethene	75-35-4	21		20	100
11996	cis-1,2-Dichloroethene	156-59-2	21,000	E	20	100
11996	trans-1,2-Dichloroethene	156-60-5	230		20	100
11996	1,2-Dichloropropane	78-87-5	50	U	50	100
11996	cis-1,3-Dichloropropene	10061-01-5	20	U	20	100
11996	trans-1,3-Dichloropropene	10061-02-6	20	U	20	100
11996	Ethylbenzene	100-41-4	50	U	50	100
11996	2-Hexanone	591-78-6	500	U	500	100
11996	4-Methyl-2-pentanone	108-10-1	500	U	500	100
11996	Methylene Chloride	75-09-2	50	U	50	100
11996	Styrene	100-42-5	50	U	50	100
11996	1,1,2,2-Tetrachloroethane	79-34-5	20	U	20	100
11996	Tetrachloroethene	127-18-4	20	U	20	100
11996	Toluene	108-88-3	20	U	20	100
11996	112Trichloro122Trifluoroethane	76-13-1	50	U	50	100
11996	1,1,1-Trichloroethane	71-55-6	50	U	50	100
11996	1,1,2-Trichloroethane	79-00-5	20	U	20	100
11996	Trichloroethene	79-01-6	340		20	100
11996	Trichlorofluoromethane	75-69-4	50	U	50	100
11996	Vinyl Acetate	108-05-4	50	U	50	100
11996	Vinyl Chloride	75-01-4	5,600	E	20	100
11996	m+p-Xylene	179601-23-1	50	U	50	100
11996	o-Xylene	95-47-6	50	U	50	100
Trial ID: DL						
11996	Acetone	67-64-1	5,000	U	5,000	1000
11996	Benzene	71-43-2	200	U	200	1000
11996	Bromodichloromethane	75-27-4	500	U	500	1000
11996	Bromoform	75-25-2	500	U	500	1000
11996	Bromomethane	74-83-9	500	U	500	1000
11996	2-Butanone	78-93-3	5,000	U	5,000	1000
11996	Carbon Disulfide	75-15-0	500	U	500	1000
11996	Carbon Tetrachloride	56-23-5	200	U	200	1000
11996	Chlorobenzene	108-90-7	500	U	500	1000
11996	Chloroethane	75-00-3	500	U	500	1000

Sample Description: BOP-73(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457671
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 10:40 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

73I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
11996	Chloroform	67-66-3	200 U	200	1000
11996	Chloromethane	74-87-3	500 U	500	1000
11996	Dibromochloromethane	124-48-1	500 U	500	1000
11996	1,1-Dichloroethane	75-34-3	500 U	500	1000
11996	1,2-Dichloroethane	107-06-2	200 U	200	1000
11996	1,1-Dichloroethene	75-35-4	200 U	200	1000
11996	cis-1,2-Dichloroethene	156-59-2	20,000	200	1000
11996	trans-1,2-Dichloroethene	156-60-5	240	200	1000
11996	1,2-Dichloropropane	78-87-5	500 U	500	1000
11996	cis-1,3-Dichloropropene	10061-01-5	200 U	200	1000
11996	trans-1,3-Dichloropropene	10061-02-6	200 U	200	1000
11996	Ethylbenzene	100-41-4	500 U	500	1000
11996	2-Hexanone	591-78-6	5,000 U	5,000	1000
11996	4-Methyl-2-pentanone	108-10-1	5,000 U	5,000	1000
11996	Methylene Chloride	75-09-2	500 U	500	1000
11996	Styrene	100-42-5	500 U	500	1000
11996	1,1,2,2-Tetrachloroethane	79-34-5	200 U	200	1000
11996	Tetrachloroethene	127-18-4	200 U	200	1000
11996	Toluene	108-88-3	200 U	200	1000
11996	112Trichloro122Trifluoroethane	76-13-1	500 U	500	1000
11996	1,1,1-Trichloroethane	71-55-6	500 U	500	1000
11996	1,1,2-Trichloroethane	79-00-5	200 U	200	1000
11996	Trichloroethene	79-01-6	350	200	1000
11996	Trichlorofluoromethane	75-69-4	500 U	500	1000
11996	Vinyl Acetate	108-05-4	500 U	500	1000
11996	Vinyl Chloride	75-01-4	5,600	200	1000
11996	m+p-Xylene	179601-23-1	500 U	500	1000
11996	o-Xylene	95-47-6	500 U	500	1000
GC Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	180	5.0	1
07105	Methane	74-82-8	2,500 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,000 U	1,000	200
07105	Ethane	74-84-0	1,000 U	1,000	200
07105	Ethene	74-85-1	1,000 U	1,000	200
07105	Methane	74-82-8	3,400	1,000	200
Wet Chemistry EPA 300.0					
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	7.2	1.0	1

Sample Description: BOP-73(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457671
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 10:40 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

73I--

General Sample Comments

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	H141332AA	05/14/2014 02:09	Kevin A Sposito	100
11996	8260C Boeing 38	SW-846 8260C	2-DL	H141332AA	05/14/2014 02:32	Kevin A Sposito	1000
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 02:09	Kevin A Sposito	100
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H141332AA	05/14/2014 02:32	Kevin A Sposito	1000
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141360014A	05/16/2014 19:28	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141360014A	05/19/2014 17:03	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14129347601B	05/09/2014 17:19	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14129347601B	05/09/2014 17:19	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14134049502A	05/14/2014 03:25	James S Mathiot	1

Sample Description: BOP-74(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457672
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 08:40 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

74I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
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	0.8	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	2.8	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.4	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	3.3	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 Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.9	5.0	1
07105	Methane	74-82-8	14,000	E	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,000 U	1,000	200
07105	Ethane	74-84-0	1,000 U	1,000	200
07105	Ethene	74-85-1	1,000 U	1,000	200

Sample Description: BOP-74(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457672
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 08:40 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

74I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 19,000	ug/l 1,000	200
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.10 U	mg/l 0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 32.8	mg/l 1.0	1

General Sample Comments

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	H141332AA	05/13/2014 23:59	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/13/2014 23:59	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141360014A	05/16/2014 20:23	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141360014A	05/19/2014 17:22	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14129347601B	05/09/2014 17:35	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14129347601B	05/09/2014 17:35	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14134049502A	05/14/2014 04:05	James S Mathiot	1

Sample Description: BOP-75(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457673
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 17:30 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

75I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	22	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	4.8	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.5	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	2.7	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	7.4	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	14	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

General Sample Comments

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

Sample Description: BOP-75(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457673
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 17:30 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

75I--

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	H141332AA	05/14/2014 02:54	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 02:54	Kevin A Sposito	1

Sample Description: BOP-76(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457674
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:10 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

76I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	30	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	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	1	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	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	1.2	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	7.2	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	4.6	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

General Sample Comments

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

Sample Description: BOP-76(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457674
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:10 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

76I--

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	H141332AA	05/14/2014 03:37	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 03:37	Kevin A Sposito	1

Sample Description: BOP-77(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457675
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 09:50 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

77I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
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	0.9	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	5.1	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	1	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	1.8	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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	14	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 Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	6.4	5.0	1
07105	Ethene	74-85-1	58	5.0	1
07105	Methane	74-82-8	18,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,000 U	1,000	200
07105	Ethane	74-84-0	1,000 U	1,000	200
07105	Ethene	74-85-1	1,000 U	1,000	200

Sample Description: BOP-77(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457675
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 09:50 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

77I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 23,000	ug/l 1,000	200
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.10 U	mg/l 0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 36.4	mg/l 1.0	1

General Sample Comments

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	H141332AA	05/14/2014 00:20	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 00:20	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141360014A	05/16/2014 20:41	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141360014A	05/19/2014 17:40	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14129373601A	05/09/2014 22:42	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14129373601A	05/09/2014 22:42	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14134049502A	05/14/2014 04:18	James S Mathiot	1

Sample Description: BOP-78(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457676
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:20 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

78I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	39	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	0.4	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	1.7	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.5	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	2.7	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	3.6	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	1.7	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

General Sample Comments

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

Sample Description: BOP-78(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457676
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:20 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

78I--

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	H141332AA	05/14/2014 00:42	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 00:42	Kevin A Sposito	1

Sample Description: BOP-79(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457677
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:30 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

79I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	41	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	0.4	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	1.2	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.3	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	52 E	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	1.9	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	0.9	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,2,2-Trichloroethane	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	72 E	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	15	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10

Sample Description: BOP-79(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457677
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:30 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

79I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroethane	75-00-3	5.0 U	5.0	10
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.0 U	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	43	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.0 U	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,1,2-Trichloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	58	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	12	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

General Sample Comments

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	H141332AA	05/14/2014 04:21	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H141332AA	05/14/2014 04:43	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 04:21	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H141332AA	05/14/2014 04:43	Kevin A Sposito	10

Sample Description: BOP-84(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457678
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 11:30 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

84I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
11996	Acetone	67-64-1	39	ug/l	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	2.0	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.6	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	1,1,2,2-Trichloroethane	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	1.9	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 Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	7.4	5.0	1
07105	Methane	74-82-8	11,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,000 U	1,000	200
07105	Ethane	74-84-0	1,000 U	1,000	200
07105	Ethene	74-85-1	1,000 U	1,000	200

Sample Description: BOP-84(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457678
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 11:30 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

84I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 14,000	ug/l 1,000	200
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.10 U	mg/l 0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 40.1	mg/l 2.5	2.5

General Sample Comments

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	H141332AA	05/14/2014 01:04	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 01:04	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141360014A	05/16/2014 20:59	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141360014A	05/19/2014 17:58	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14129373601A	05/09/2014 21:54	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14129373601A	05/09/2014 21:54	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14134049502A	05/16/2014 05:41	James S Mathiot	2.5

Sample Description: BOP-85(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457679
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 17:40 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

85I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	38	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	1.5	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

General Sample Comments

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	H141332AA	05/14/2014 05:05	Kevin A Sposito	1

Sample Description: BOP-85(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457679
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 17:40 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

85I--

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 05:05	Kevin A Sposito	1

Sample Description: BOP-86(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457680
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:40 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

86I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	37	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	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	1.3	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	0.7	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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	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

General Sample Comments

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

Sample Description: BOP-86(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457680
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:40 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

86I--

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	H141332AA	05/14/2014 05:48	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 05:48	Kevin A Sposito	1

Sample Description: BOP-87(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457681
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 17:50 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

87I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	40	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	0.3	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	0.7	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	0.5	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

General Sample Comments

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	H141332AA	05/14/2014 01:26	Kevin A Sposito	1

Sample Description: BOP-87(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457681
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 17:50 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

87I--

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 01:26	Kevin A Sposito	1

Sample Description: BOP-88(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457682
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:00 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

88I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	39	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	0.9	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.3	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	3.5	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	1.5	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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	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	7.7	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

General Sample Comments

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

Sample Description: BOP-88(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457682
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:00 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

88I--

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	H141332AA	05/14/2014 01:47	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 01:47	Kevin A Sposito	1

Sample Description: Trip Blank Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457683
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 04/21/2014

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

PTTB-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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

General Sample Comments

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	H141332AA	05/13/2014 22:54	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/13/2014 22:54	Kevin A Sposito	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/21/14 at 09:40 AM

Group Number: 1473180

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: H141331AA Sample number(s): 7457670								
Acetone	5.0 U	5.0	ug/l	100	98	60-139	2	30
Benzene	0.2 U	0.2	ug/l	106	101	80-120	5	30
Bromodichloromethane	0.5 U	0.5	ug/l	107	102	80-120	4	30
Bromoform	0.5 U	0.5	ug/l	101	102	72-138	1	30
Bromomethane	0.5 U	0.5	ug/l	96	90	62-126	7	30
2-Butanone	5.0 U	5.0	ug/l	93	91	63-137	2	30
Carbon Disulfide	0.5 U	0.5	ug/l	94	89	80-120	6	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	107	100	80-135	7	30
Chlorobenzene	0.5 U	0.5	ug/l	100	97	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	93	88	68-120	5	30
Chloroform	0.2 U	0.2	ug/l	103	99	80-120	5	30
Chloromethane	0.5 U	0.5	ug/l	86	80	55-120	8	30
Dibromochloromethane	0.5 U	0.5	ug/l	106	105	80-126	1	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	102	100	80-120	2	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	100	97	80-127	3	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	108	99	80-123	8	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	108	101	80-120	7	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	107	102	80-120	5	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	107	104	80-120	3	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	108	103	80-120	5	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	95	96	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	96	93	80-120	3	30
2-Hexanone	5.0 U	5.0	ug/l	91	88	62-128	2	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	90	88	65-125	2	30
Methylene Chloride	0.5 U	0.5	ug/l	105	102	80-120	4	30
Styrene	0.5 U	0.5	ug/l	103	99	80-120	4	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	93	92	80-120	1	30
Tetrachloroethene	0.2 U	0.2	ug/l	97	94	80-120	4	30
Toluene	0.2 U	0.2	ug/l	98	95	80-120	4	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	96	91	80-120	6	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	98	93	80-120	5	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	95	94	80-120	1	30
Trichloroethene	0.2 U	0.2	ug/l	105	101	80-120	4	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	96	88	77-132	9	30
Vinyl Acetate	0.5 U	0.5	ug/l	64	63	38-145	2	30
Vinyl Chloride	0.2 U	0.2	ug/l	92	86	59-124	6	30
m+p-Xylene	0.5 U	0.5	ug/l	101	97	80-120	4	30
o-Xylene	0.5 U	0.5	ug/l	101	97	80-120	4	30
Batch number: H141332AA Sample number(s): 7457671-7457683								
Acetone	5.0 U	5.0	ug/l	101	100	60-139	2	30
Benzene	0.2 U	0.2	ug/l	106	103	80-120	3	30
Bromodichloromethane	0.5 U	0.5	ug/l	106	103	80-120	3	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
Reported: 05/21/14 at 09:40 AM

Group Number: 1473180

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Bromoform	0.5 U	0.5	ug/l	103	102	72-138	0	30
Bromomethane	0.5 U	0.5	ug/l	94	91	62-126	4	30
2-Butanone	5.0 U	5.0	ug/l	94	91	63-137	3	30
Carbon Disulfide	0.5 U	0.5	ug/l	93	90	80-120	3	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	108	104	80-135	3	30
Chlorobenzene	0.5 U	0.5	ug/l	101	98	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	92	89	68-120	4	30
Chloroform	0.2 U	0.2	ug/l	103	102	80-120	1	30
Chloromethane	0.5 U	0.5	ug/l	82	79	55-120	4	30
Dibromochloromethane	0.5 U	0.5	ug/l	106	105	80-126	0	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	104	102	80-120	2	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	104	102	80-127	2	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	105	102	80-123	3	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	108	103	80-120	4	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	105	104	80-120	1	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	108	107	80-120	2	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	105	105	80-120	1	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	95	94	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	95	94	80-120	1	30
2-Hexanone	5.0 U	5.0	ug/l	92	91	62-128	1	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	91	90	65-125	2	30
Methylene Chloride	0.5 U	0.5	ug/l	106	104	80-120	2	30
Styrene	0.5 U	0.5	ug/l	104	101	80-120	3	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	93	94	80-120	1	30
Tetrachloroethene	0.2 U	0.2	ug/l	99	96	80-120	3	30
Toluene	0.2 U	0.2	ug/l	99	96	80-120	3	30
1,1,2,2-Tetrachloroethane	0.5 U	0.5	ug/l	95	94	80-120	1	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	100	97	80-120	3	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	99	97	80-120	3	30
Trichloroethene	0.2 U	0.2	ug/l	105	104	80-120	1	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	92	91	77-132	1	30
Vinyl Acetate	0.5 U	0.5	ug/l	69	68	38-145	2	30
Vinyl Chloride	0.2 U	0.2	ug/l	92	91	59-124	1	30
m+p-Xylene	0.5 U	0.5	ug/l	101	99	80-120	1	30
o-Xylene	0.5 U	0.5	ug/l	101	99	80-120	2	30

Batch number: 141360014A	Sample number(s): 7457671-7457672, 7457675, 7457678
Acetylene	5.0 U 5.0 ug/l 110 58-136
Ethane	5.0 U 5.0 ug/l 96 80-120
Ethene	5.0 U 5.0 ug/l 96 80-120
Methane	5.0 U 5.0 ug/l 98 80-120

Batch number: 14129347601B	Sample number(s): 7457671-7457672
Nitrate Nitrogen	0.10 U 0.10 mg/l 99 99 90-110 0 20
Sulfate	1.0 U 1.0 mg/l 98 98 90-110 0 20

Batch number: 14129373601A	Sample number(s): 7457675, 7457678
Nitrate Nitrogen	0.10 U 0.10 mg/l 99 90-110
Sulfate	1.0 U 1.0 mg/l 99 90-110

Batch number: 14134049502A	Sample number(s): 7457671-7457672, 7457675, 7457678
Total Organic Carbon	1.0 U 1.0 mg/l 105 105 91-113 0 20

*- 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 SummaryClient Name: The Boeing Company
Reported: 05/21/14 at 09:40 AM

Group Number: 1473180

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

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Batch number: 141360014A	Sample number(s): 7457671-7457672, 7457675, 7457678 UNSPK: 7457671								
Acetylene	101	109	38-121	8	20				
Ethane	87	99	32-129	13	20				
Ethene	80	115	35-162	9	20				
Methane	-154 (2)	86 (2)	35-157	6	20				
Batch number: 14129347601B	Sample number(s): 7457671-7457672 UNSPK: P455712 BKG: P455712								
Nitrate Nitrogen	100		90-110		0.50 U	0.50 U	0 (1)		20
Sulfate	93		90-110		144	144	0		20
Batch number: 14129373601A	Sample number(s): 7457675, 7457678 UNSPK: 7457678 BKG: 7457678								
Nitrate Nitrogen	96		90-110		0.10 U	0.10 U	0 (1)		20
Sulfate	111*		90-110		1.0 U	1.0 U	1 (1)		20
Batch number: 14134049502A	Sample number(s): 7457671-7457672, 7457675, 7457678 UNSPK: 7457671 BKG: 7457671								
Total Organic Carbon	104		63-142		7.2	7.3	1		4

Surrogate Quality ControlSurrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.Analysis Name: 8260C Water(25ml) Master
Batch number: H141331AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7457670	107	111	94	102
Blank	103	109	96	103
LCS	103	108	97	106
LCSD	101	104	96	105
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Water(25ml) Master
Batch number: H141332AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7457671	107	111	96	102
7457671	105	108	95	101
DL				
7457672	105	108	95	103
7457673	106	107	95	100
7457674	106	108	94	102
7457675	107	110	95	103
7457676	106	102	95	101
7457677	105	107	96	103
7457677	106	104	94	102

*- 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
Reported: 05/21/14 at 09:40 AM

Group Number: 1473180

Surrogate Quality Control

DL				
7457678	105	106	94	102
7457679	105	110	94	102
7457680	108	110	95	102
7457681	106	110	94	101
7457682	106	109	95	101
7457683	105	107	96	102
Blank	105	110	96	102
LCS	102	105	96	106
LCSD	103	110	96	106

Limits:	77-114	74-113	77-110	78-110

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 141360014A
Propene

7457671	82
7457671	101
DL	
7457672	74
7457672	97
DL	
7457675	70
7457675	101
DL	
7457678	82
7457678	97
DL	
Blank	101
LCS	100
MS	80
MSD	90

Limits: 42-131

*- 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.

Sample Administration
Receipt Documentation Log

Doc Log ID: 14067

Group Number(s): 1473180

Client: Boeing

Delivery and Receipt Information

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>05/09/2014 9:35</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>OR</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCL</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Joseph Gruber (5200) at 10:14 on 05/09/2014

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	<u>Samples</u> Collected Same Day as Receipt?	Elevated Temp?
1	DT131	0.7	DT	Wet	Y	Bagged	N	N

G-1473180

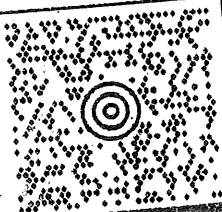
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND, CA 94801-2106

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

1 S

TRACKING #: 1Z RV3 069 Y0 4592 9220



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40

WS 17.0.25



SEE NOTICE ON REVERSE regarding UPS Terms, and notice of limitation of liability. Where allowed by law, shipper authorizes UPS to act as customs purposes. If exported from the US, shipper certifies that the commodities, technology or software were exported from the US in accordance with applicable export 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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

Coolant Release Monitoring

TECHNICAL MEMORANDUM

TO: Chris Kimmel, Project Manager

FROM: Terry McGourty and Anne Halvorsen

DATE: April 5, 2014

RE: **BOEING PORTLAND (TGA)
FIRST QUARTER 2014 GROUNDWATER QUALITY SAMPLING
BUILDING 85-105 COOLANT INVESTIGATION
LABORATORY DATA QUALITY EVALUATION**

This technical memorandum provides the results of a focused data validation associated with 2 water samples and 1 trip blank collected during the first quarter 2014 TGA Building 85-105 coolant investigation water quality sampling event at Boeing Portland. Samples were analyzed by Eurofins Lancaster Laboratories Environmental LLC (LLI) in Lancaster, Pennsylvania. This data quality evaluation covers LLI data package 1454924. Samples submitted to LLI were analyzed for volatile organic compounds [(VOCs) U.S. Environmental Protection Agency (EPA) Method SW8260C]; conventional inorganic parameters, including N-Nitrate and Sulfate (EPA Method 300.0); HEM (oil & grease) and silica gel treated non-polar HEM (TPH) (EPA Method 1664A); and total diesel-range petroleum hydrocarbons [(TPH-Dx) Method NWTPH-Dx]. Sample data were evaluated in accordance with the *Quality Assurance Project Plan, Troutdale Gravel Aquifer, Boeing Portland Facility Gresham Oregon* (QAPP; Landau Associates 2012), portions of the *National Functional Guidelines for Organic Data Review* (EPA 1999), and portions of the *National Functional Guidelines for Inorganic Data Review* (EPA 2004). The following parameters were evaluated:

- Chain-of-custody records
- Holding times
- Blank results (laboratory method and field trip)
- Surrogate recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) and laboratory replicate results
- Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) results
- Blind field duplicate results
- Quantitation limits
- Audit/corrective action records
- Completeness and overall data quality.

Data validation qualifiers are added to samples based on the evaluation of data quality. The absence of a data qualifier indicates that the reported result is acceptable without qualification. The data quality evaluation is summarized below. Data qualifiers are summarized in Table 1.

CHAIN-OF-CUSTODY RECORDS

A signed chain-of-custody (COC) record was attached to this data package. The laboratory received all samples in good condition. All analyses were performed as requested. No special cleanups or handling methods were requested. No qualification of the data is necessary.

Upon receipt by ARI, the sample container information was compared to the associated chain-of-custody and the cooler temperature was recorded. Both coolers were received with temperatures below the EPA-recommended limit of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ($0.2\text{--}1.1^{\circ}\text{C}$). Data were not qualified based upon the cooler temperatures.

HOLDING TIMES

For all analyses and all samples, the time between sample collection, extraction (if applicable), and analysis was determined to be within EPA- and project-specified holding times. No qualification of the data is necessary.

BLANK RESULTS

Laboratory Method Blanks

At least one method blank was analyzed with the batch of samples for each analysis. No contamination was detected in the method blanks. No qualification of the data is necessary.

Field Trip Blanks and Field Equipment Blanks

One trip blank was submitted to the laboratory for VOC analysis with this data package. No contamination was detected in the trip blank. No qualification of the data is necessary. No field equipment blanks were submitted for analysis with this batch of samples.

SURROGATE RECOVERIES

Appropriate compounds were used as surrogate spikes for the VOC and TPH-Dx analyses. Recovery values for the surrogate spikes were within the current laboratory-specified control limits. No qualification of the data is necessary.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) AND LABORATORY REPLICATE RESULTS

A matrix spike and laboratory replicate sample were analyzed with the conventional parameters in this data package. The recovery values for each required spiking compound and the relative percent differences (RPDs) between the laboratory replicate results were within the current project-specified and/or laboratory-specified control limits for all project samples with the following exception:

- The recovery of nitrate in project sample LAI-4 in this data package exceeded the laboratory-specified control limits in the MS. Nitrate was qualified as estimated (J), as indicated in Table 1.
- SGT-HEM (TPH) and HEM (oil & grease) were below the laboratory-specified control limits in the MS. SGT-HEM (TPH) and HEM (oil & grease) for sample LAI-4 were qualified as estimated (J/UJ), as indicated in Table 1.

LABORATORY CONTROL SAMPLE AND LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD) RESULTS

At least one laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) was analyzed with each batch of samples for analysis. Recoveries and RPDs for the laboratory control samples and associated duplicates were within the current laboratory-specified control limits. No qualification of the data is necessary.

BLIND FIELD DUPLICATE RESULTS

No blind field duplicate pairs were collected with this batch of samples.

QUANTITATION LIMITS

Project-specified quantitation limits were met for all samples except for instances where high concentrations required dilution of the sample extracts.

AUDIT/CORRECTIVE ACTION RECORDS

No audits were performed or required. No corrective action records were generated for this sample batch.

COMPLETENESS AND OVERALL DATA QUALITY

The completeness for this data set is 100 percent, which meets the project-specified goal of 90 percent minimum.

Data precision was evaluated through laboratory control sample duplicates and laboratory duplicate samples. Data accuracy was evaluated through laboratory control samples, matrix spikes, and surrogate spikes. No data were rejected.

REFERENCES

EPA. 2004. *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*. U.S. Environmental Protection Agency. October.

EPA. 1999. *Contract Laboratory Program National Functional Guidelines for Organic Data Review*. U.S. Environmental Protection Agency. October.

Landau Associates. 2012. *Quality Assurance Project Plan, Troutdale Gravel Aquifer, Boeing Portland Facility, Gresham, Oregon*. Prepared for The Boeing Company. July 6; revised September 26.

TABLE 1
SUMMARY OF DATA QUALIFIERS

Data Package	Analyte	Result	Qualifier	Sample Number	Reason
1454924	Nitrate	6.5	J	LAI-4-0214	High MS Recovery
1454924	SGT-HEM (TPH)	5.0 U	UJ	LAI-4-0214	Low MS Recovery
1454924	HEM (oil & grease)	5.0 U	UJ	LAI-4-0214	Low MS Recovery

UJ = The analyte was not detected in the sample; the reported sample reporting limit is an estimate.

U = Indicates the compound was undetected 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

March 07, 2014

Project: Boeing of Portland 0025116.146.149

Submittal Date: 02/25/2014
Group Number: 1454924
PO Number: 0025116.146.149
State of Sample Origin: OR

Client Sample Description

LAI-4-0214 Water
LAI-7-0214 Water
Trip Blank Water

Lancaster Labs (LL)

7373210
7373211
7373212

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

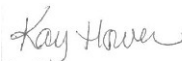
ELECTRONIC Landau Associates
COPY TO
ELECTRONIC Landau
COPY TO
ELECTRONIC Landau Associates
COPY TO

Attn: Anne Halvorsen

Attn: Chris Kimmel

Attn: Terry McGourty

Respectfully Submitted,



Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland 0025116.146.149
LLI Group #: 1454924

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:**EPA 300.0, Wet Chemistry**

Batch #: 14057347601B (Sample number(s): 7373210-7373211 UNSPK: 7373210 BKG: 7373210)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Nitrate Nitrogen

EPA 1664A, Wet Chemistry

Batch #: 14058807801A (Sample number(s): 7373210-7373211 UNSPK: 7373210)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: SGT-HEM (TPH)

Batch #: 14058807901A (Sample number(s): 7373210-7373211 UNSPK: 7373210)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: HEM (oil & grease)

Sample Description: LAI-4-0214 Water
Boeing of Portland 0025116.146.149

LL Sample # WW 7373210
LL Group # 1454924
Account # 13419

Project Name: Boeing of Portland 0025116.146.149

Collected: 02/24/2014 13:30 by BB The Boeing Company

Submitted: 02/25/2014 09:50

Reported: 03/07/2014 16:05

BPLA4

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	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	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	0.5	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 Petroleum ECY 97-602 NWTPH-Dx					
			mg/l	mg/l	
Hydrocarbons w/Si modified					
12094	Diesel/#2 Fuel w/Si Gel	68334-30-5	0.69	0.096	1
12094	DRO C12-C24 w/Si Gel	n.a.	0.59	0.096	1
12094	Motor Oil w/Si Gel	n.a.	1.5	0.24	1
Wet Chemistry EPA 300.0					
			mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	6.5	0.50	5
00228	Sulfate	14808-79-8	8.8	1.0	1

Sample Description: LAI-4-0214 Water
Boeing of Portland 0025116.146.149

LL Sample # WW 7373210
LL Group # 1454924
Account # 13419

Project Name: Boeing of Portland 0025116.146.149

Collected: 02/24/2014 13:30 by BB The Boeing Company

Submitted: 02/25/2014 09:50

Reported: 03/07/2014 16:05

BPLA4

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Wet Chemistry		EPA 1664A	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	5.0 U	5.0	1
08078	SGT-HEM (TPH)	n.a.	5.0 U	5.0	1

General Sample Comments

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	H140631AA	03/04/2014 17:59	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140631AA	03/04/2014 17:59	Kerri E Legerlotz	1
12094	TPH-Dx WW Fuel ID w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	140620004A	03/06/2014 21:21	Tracy A Cole	1
12120	TPH-Dx w/Fuel Water Ext. (SG)	ECY 97-602 NWTPH-Dx 06/97	1	140620004A	03/04/2014 08:30	Kerrie A Freeburn	1
00368	Nitrate Nitrogen	EPA 300.0	1	14057347601B	02/26/2014 09:59	Sandra J Miller	5
00228	Sulfate	EPA 300.0	1	14057347601B	02/26/2014 08:06	Sandra J Miller	1
08079	HEM (oil & grease)	EPA 1664A	1	14058807901A	02/27/2014 08:08	Yolunder Y Bunch	1
08078	SGT-HEM (TPH)	EPA 1664A	1	14058807801A	02/27/2014 08:12	Yolunder Y Bunch	1

Sample Description: LAI-7-0214 Water
Boeing of Portland 0025116.146.149

LL Sample # WW 7373211
LL Group # 1454924
Account # 13419

Project Name: Boeing of Portland 0025116.146.149

Collected: 02/24/2014 14:20 by BB The Boeing Company

Submitted: 02/25/2014 09:50

Reported: 03/07/2014 16:05

BPLA7

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	4.5	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	8.5	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	8.6	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 Petroleum ECY 97-602 NWTPH-Dx					
			mg/l	mg/l	
Hydrocarbons w/Si modified					
12094	Diesel/#2 Fuel w/Si Gel	68334-30-5	0.097 U	0.097	1
12094	DRO C12-C24 w/Si Gel	n.a.	0.097 U	0.097	1
12094	Motor Oil w/Si Gel	n.a.	0.24 U	0.24	1
Wet Chemistry EPA 300.0					
			mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.90	0.10	1
00228	Sulfate	14808-79-8	31.7	5.0	5

Sample Description: LAI-7-0214 Water
Boeing of Portland 0025116.146.149

LL Sample # WW 7373211
LL Group # 1454924
Account # 13419

Project Name: Boeing of Portland 0025116.146.149

Collected: 02/24/2014 14:20 by BB The Boeing Company

Submitted: 02/25/2014 09:50

Reported: 03/07/2014 16:05

BPLA7

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Wet Chemistry		EPA 1664A	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	5.0 U	5.0	1
08078	SGT-HEM (TPH)	n.a.	5.0 U	5.0	1

General Sample Comments

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	H140631AA	03/04/2014 18:21	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140631AA	03/04/2014 18:21	Kerri E Legerlotz	1
12094	TPH-Dx WW Fuel ID w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	140620004A	03/06/2014 20:32	Tracy A Cole	1
12120	TPH-Dx w/Fuel Water Ext. (SG)	ECY 97-602 NWTPH-Dx 06/97	1	140620004A	03/04/2014 08:30	Kerrie A Freeburn	1
00368	Nitrate Nitrogen	EPA 300.0	1	14057347601B	02/26/2014 08:54	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14057347601B	02/26/2014 14:50	Sandra J Miller	5
08079	HEM (oil & grease)	EPA 1664A	1	14058807901A	02/27/2014 08:08	Yolunder Y Bunch	1
08078	SGT-HEM (TPH)	EPA 1664A	1	14058807801A	02/27/2014 08:12	Yolunder Y Bunch	1

Sample Description: Trip Blank Water
Boeing of Portland 0025116.146.149

LL Sample # WW 7373212
LL Group # 1454924
Account # 13419

Project Name: Boeing of Portland 0025116.146.149

Collected: 01/15/2014

The Boeing Company

Submitted: 02/25/2014 09:50

Reported: 03/07/2014 16:05

BPLTB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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

General Sample Comments

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	H140631AA	03/04/2014 18:42	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140631AA	03/04/2014 18:42	Kerri E Legerlotz	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 03/07/14 at 04:05 PM

Group Number: 1454924

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H140631AA	Sample number(s): 7373210-7373212							
Acetone	5.0 U	5.0	ug/l	94		60-139		
Benzene	0.2 U	0.2	ug/l	97		80-120		
Bromodichloromethane	0.5 U	0.5	ug/l	88		80-120		
Bromoform	0.5 U	0.5	ug/l	93		72-138		
Bromomethane	0.5 U	0.5	ug/l	101		62-126		
2-Butanone	5.0 U	5.0	ug/l	98		63-137		
Carbon Disulfide	0.5 U	0.5	ug/l	99		80-120		
Carbon Tetrachloride	0.2 U	0.2	ug/l	86		80-135		
Chlorobenzene	0.5 U	0.5	ug/l	95		80-120		
Chloroethane	0.5 U	0.5	ug/l	97		68-120		
Chloroform	0.2 U	0.2	ug/l	92		80-120		
Chloromethane	0.5 U	0.5	ug/l	97		55-120		
Dibromochloromethane	0.5 U	0.5	ug/l	88		80-126		
1,1-Dichloroethane	0.5 U	0.5	ug/l	97		80-120		
1,2-Dichloroethane	0.2 U	0.2	ug/l	89		80-127		
1,1-Dichloroethene	0.2 U	0.2	ug/l	95		80-123		
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	90		80-120		
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	93		80-120		
1,2-Dichloropropane	0.5 U	0.5	ug/l	100		80-120		
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	95		80-120		
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	92		80-120		
Ethylbenzene	0.5 U	0.5	ug/l	96		80-120		
2-Hexanone	5.0 U	5.0	ug/l	97		62-128		
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	99		65-125		
Methylene Chloride	0.5 U	0.5	ug/l	98		80-120		
Styrene	0.5 U	0.5	ug/l	96		80-120		
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	101		80-120		
Tetrachloroethene	0.2 U	0.2	ug/l	93		80-120		
Toluene	0.2 U	0.2	ug/l	98		80-120		
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	97		80-120		
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	96		80-120		
Trichloroethene	0.2 U	0.2	ug/l	94		80-120		
Trichlorofluoromethane	0.5 U	0.5	ug/l	96		77-132		
Vinyl Acetate	0.5 U	0.5	ug/l	88		38-145		
Vinyl Chloride	0.2 U	0.2	ug/l	105		59-124		
m+p-Xylene	0.5 U	0.5	ug/l	95		80-120		
o-Xylene	0.5 U	0.5	ug/l	93		80-120		
Batch number: 140620004A	Sample number(s): 7373210-7373211							
Diesel/#2 Fuel w/Si Gel	0.10 U	0.10	mg/l					
DRO C12-C24 w/Si Gel	0.10 U	0.10	mg/l	68	62	60-120	9	20
Motor Oil w/Si Gel	0.25 U	0.25	mg/l					

*- 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
Reported: 03/07/14 at 04:05 PM

Group Number: 1454924

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 14057347601B	Sample number(s): 7373210-7373211							
Nitrate Nitrogen	0.10 U	0.10	mg/l	101		90-110		
Sulfate	1.0 U	1.0	mg/l	101		90-110		
Batch number: 14058807801A	Sample number(s): 7373210-7373211							
SGT-HEM (TPH)	5.0 U	5.0	mg/l	74	75	64-114	1	26
Batch number: 14058807901A	Sample number(s): 7373210-7373211							
HEM (oil & grease)	5.0 U	5.0	mg/l	87	97	78-114	11	16

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: H140631AA	Sample number(s): 7373210-7373212 UNSPK: P377659								
Acetone	114	108	57-163	5	30				
Benzene	108	104	87-126	5	30				
Bromodichloromethane	105	99	82-133	6	30				
Bromoform	116	107	60-138	8	30				
Bromomethane	101	103	66-130	2	30				
2-Butanone	119	111	56-160	7	30				
Carbon Disulfide	112	108	84-141	4	30				
Carbon Tetrachloride	102	97	81-148	4	30				
Chlorobenzene	117	110	78-133	7	30				
Chloroethane	96	98	70-139	2	30				
Chloroform	106	102	86-136	4	30				
Chloromethane	90	95	49-135	5	30				
Dibromochloromethane	110	103	79-125	7	30				
1,1-Dichloroethane	108	103	81-126	5	30				
1,2-Dichloroethane	104	98	82-135	6	30				
1,1-Dichloroethene	108	105	86-132	3	30				
cis-1,2-Dichloroethene	103	97	82-129	5	30				
trans-1,2-Dichloroethene	106	101	88-127	4	30				
1,2-Dichloropropane	114	107	91-126	6	30				
cis-1,3-Dichloropropene	108	101	74-132	7	30				
trans-1,3-Dichloropropene	110	102	71-128	7	30				
Ethylbenzene	117	108	80-140	8	30				
2-Hexanone	128	119	51-149	7	30				
4-Methyl-2-pentanone	127	116	69-149	8	30				
Methylene Chloride	107	101	77-135	5	30				
Styrene	118	109	71-138	8	30				
1,1,2,2-Tetrachloroethane	130	120	75-131	8	30				
Tetrachloroethene	114	106	75-129	7	30				
Toluene	116	109	83-127	6	30				
1,1,2-Trichloroethane	113	109	84-136	4	30				
1,1,1-Trichloroethane	102	98	85-140	4	30				
1,1,2-Trichloroethane	120	112	85-129	7	30				
Trichloroethene	108	104	85-131	3	30				
Trichlorofluoromethane	105	107	73-139	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 SummaryClient Name: The Boeing Company
Reported: 03/07/14 at 04:05 PM

Group Number: 1454924

Sample Matrix Quality ControlUnspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Vinyl Acetate	83	80	27-162	4	30				
Vinyl Chloride	102	106	62-135	3	30				
m+p-Xylene	115	107	81-137	7	30				
o-Xylene	115	107	81-137	7	30				

Batch number: 14057347601B	Sample number(s): 7373210-7373211 UNSPK: 7373210 BKG: 7373210
Nitrate Nitrogen	119* 90-110 6.5 6.5 0 20
Sulfate	109 90-110 8.8 8.7 2 20

Batch number: 14058807801A	Sample number(s): 7373210-7373211 UNSPK: 7373210
SGT-HEM (TPH)	50* 64-132

Batch number: 14058807901A	Sample number(s): 7373210-7373211 UNSPK: 7373210
HEM (oil & grease)	65* 78-114

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 Water(25ml) Master
Batch number: H140631AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7373210	93	98	99	97
7373211	93	97	98	97
7373212	94	99	99	97
Blank	91	97	99	99
LCS	91	98	100	98
MS	93	97	99	97
MSD	94	99	98	97
Limits:	77-114	74-113	77-110	78-110

Analysis Name: TPH-Dx WW Fuel ID w/Si Gel

Batch number: 140620004A

	Chlorobenzene	Orthoterphenyl
7373210	68	76
7373211	82	94
Blank	81	87
LCS	84	99
LCSD	79	92
Limits:	50-150	50-150

*- 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
Reported: 03/07/14 at 04:05 PM

Group Number: 1454924

*- 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.

[illegible]

Client: BOEING**BOEING OF PORTLAND****Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>02/25/2014 9:50</u>
Number of Packages:	<u>2</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>OR</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCL</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Corey Eshleman (3647) at 10:04 on 02/25/2014

Samples Chilled Details: BOEING OF PORTLAND

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	1.1	1.1	DT	Wet	Y	Bagged	N
2	DT121	0.2	0.2	DT	Wet	Y	Bagged	N

General Comments:

LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

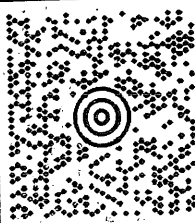
40 LBS

RS

DWT: 25, 14, 14

SHIP TO:

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



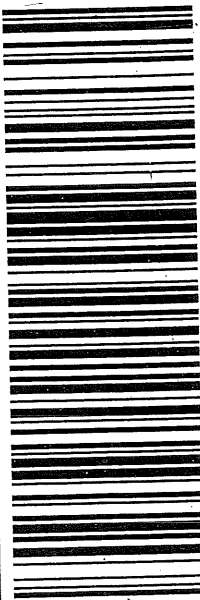
PA 175 9-37



UPS NEXT DAY AIR

1 S

TRACKING #: 1Z RV3 069 Y0 4566 1803



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40

SEE NOTICE ON REVERSE regarding UPS forms, and policies of handling liability. When shipped by law, please indicate to act as forwarding agent for export control and customs purposes. If shipped from the US, shipper certifies that the destination, technology or software was exported from the US in accordance with the Export Administration Regulations. Diversion contrary to law is prohibited.



EUROFINS LANCASTER LABORATORIES
2425 NEW HOLLAND PIKE
LANCASTER PA 17601-5946

P-YELLOW S: LEFT

1:39

081-1003

1ZRV3069Y04566

1803

FEB 25 07:46:56 2014

2425 NEW HOLLAND PIKE

LANCASTER PA 17601-5946

1ZRV3069Y04566

1803

LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

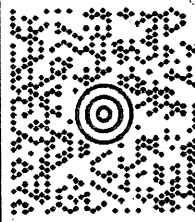
40 LBS

RS

DWT: 25, 14, 14

SHIP TO:

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



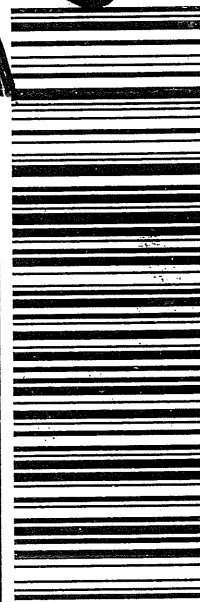
PA 175 9-37



UPS NEXT DAY AIR

1 S

TRACKING #: 1Z RV3 069 Y0 4597 0792



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40

WS 16.0.31

45.0A 102013

SEE NOTICE ON REVERSE regarding UPS forms, and policies of handling liability. When shipped by law, please indicate to act as forwarding agent for export control and customs purposes. If shipped from the US, shipper certifies that the destination, technology or software was exported from the US in accordance with the Export Administration Regulations. Diversion contrary to law is prohibited.



1454924

EUROFINS LANCASTER LABORATORIE
2425 NEW HOLLAND PIKE
LANCASTER PA 17601-5946
P-YELLOW
081

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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

Data Validation and Laboratory Reports

Corrective Measures Implementation

TECHNICAL MEMORANDUM

TO: Chris Kimmel, Project Manager

FROM: Terry McGourty and Anne Halvorsen

DATE: April 4, 2014

RE: **BOEING PORTLAND (TGA)
FIRST QUARTER 2014 GROUNDWATER QUALITY SAMPLING
LABORATORY DATA QUALITY EVALUATION**

This technical memorandum provides the results of a focused data validation associated with 42 groundwater samples, including 4 field duplicates, and 5 trip blanks, and 22 vapor samples collected during the first quarter 2014 TGA water quality sampling event at Boeing Portland. Samples were analyzed by Eurofins Lancaster Laboratories Environmental (LLI), located in Lancaster, Pennsylvania, and Eurofins Air Toxics located in Folsom, California. This data quality evaluation covers LLI data packages 1450637, 1452630, 1452631, 1452784, 1454157, and 1454465, and Air Toxics data package 1402186. Samples submitted to LLI were analyzed for volatile organic compounds [(VOCs) U.S. Environmental Protection Agency (EPA) Method SW8260C]; conventional inorganic parameters including N-Nitrate, N-Nitrite, ortho-phosphate as P, and sulfate (EPA Method 300.0); total phosphorous (EPA Method 365.1); N-Ammonia (Method SM 4500 NH₃ D); total organic carbon (Method SM 5310 C); and methane, ethane, ethane, and acetylene (MEEA; Modified RSK 175). Samples submitted to Air Toxics were analyzed for VOCs (Method TO-15). Sample data were evaluated in accordance with the *Quality Assurance Project Plan, Troutdale Gravel Aquifer, Boeing Portland Facility, Gresham, Oregon* (QAPP; Landau Associates 2012); portions of the *National Functional Guidelines for Organic Data Review* (EPA 1999); and portions of the *National Functional Guidelines for Inorganic Data Review* (EPA 2004). The following parameters were evaluated:

- Chain-of-custody records
- Holding times
- Blank results (laboratory method and field trip)
- Surrogate recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) and laboratory replicate results
- Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) results
- Blind field duplicate results
- Quantitation limits
- Audit/corrective action records
- Completeness and overall data quality.

Data validation qualifiers are added to sample analytical results based on the evaluation of data quality. The absence of a data qualifier indicates that the reported result is acceptable without qualification. The data quality evaluation is summarized below. Data qualifiers are summarized in Table 1.

CHAIN-OF-CUSTODY RECORDS

A signed chain-of-custody record was attached to each data package. The laboratory received all samples in good condition and all analyses were performed as requested.

Upon receipt by LLI, the sample container information was compared to the associated chain-of-custody and the cooler temperatures were recorded. With the exception of data package 1402186, all coolers associated with all data packages were received with a temperature below the EPA-recommended limit of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ (ranging from 0.1°C to 1.6°C). Data were not qualified based upon the cooler temperatures.

HOLDING TIMES

For all analyses and all samples, the time between sample collection, extraction (if applicable), and analysis was determined to be within EPA- and project-specified holding times, except as follows:

- For sample GWTSEFF, associated with data package 1452630, the original analysis calibration for orthophosphorus was out of compliance. The laboratory reanalyzed [GWTSEFF(trial 2)] out of holding with calibration within compliance limits. Orthophosphate as P for sample GWTSEFF(trial 2) was qualified as estimated (UJ), as indicated in Table 1.
- Upon receipt at the laboratory, sample E-15-0214 associated with data package 1452784 had a pH reading of 7. This reduces the holding time from 14 days to 7 days. MEEA for sample E-15-0214 is qualified as estimated (J/UJ), as indicated in Table 1.

BLANK RESULTS

Laboratory Method Blanks

At least one method blank was analyzed with each batch of samples for each analysis. No contamination was detected in the method blanks. No qualification of the data is necessary.

Field Trip Blanks and Field Equipment Blanks

Trip blanks were submitted to the laboratory for VOC analysis with data packages 1450637, 1452631, 1452784, 1454157, and 1454465. No contamination was detected in the trip blanks. No qualification of the data is necessary. No field equipment blanks were submitted for analysis with this batch of samples.

SURROGATE RECOVERIES

Appropriate compounds were used as surrogate spikes for the VOC analyses for each data package and MEEA analyses for data packages 1450637, 1452630, 1452631, 1452784, 1454157, and 1454465. Recovery values for the surrogate spikes were within the current laboratory-specified control limits. No qualification of the data is necessary.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) AND LABORATORY REPLICATE RESULTS

A matrix spike and/or a laboratory duplicate sample were analyzed with the conventional parameters in data package 1452630, 1452784, and 1454465. A matrix spike and matrix spike duplicate were analyzed with the MEEA parameters in data package 1450637. The recovery values for each required spiking compound and/or the relative percent differences (RPDs) between the laboratory replicate results were within the current project-specified and/or laboratory-specified control limits for all project samples with the following exceptions:

- The matrix spike recovery of methane in sample BOP-84(i)-0214 associated with data package 1450637 was below the laboratory-specified RPD and the matrix spike exceeded the laboratory-specified RPD. Since the original sample concentration is greater than four times the spike concentration, no qualification of the data is necessary.
- The recovery of ortho-phosphate as P in project sample GWTSEFF(trial 2) in data package 1452630 was above the laboratory-specified control limits in the MS. Since the associated sample is not detected, no qualification of the data is necessary.

LABORATORY CONTROL SAMPLE AND LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD) RESULTS

At least one laboratory control sample and/or laboratory control sample duplicate (LCS/LCSD) was analyzed with each batch of samples for each analysis. Recoveries RPDs for the laboratory control samples and associated duplicates were within the current laboratory-specified control limits except as follows:

- The percent recovery value for both the LCS/LCSD associated with the VOC analyses for trichlorofluoromethane in data package 1450637 was slightly above the laboratory-specified control limits. Since the associated samples are not detected, no qualification of the data is necessary.
- The percent recovery value for both the LCS/LCSD associated with the VOC analyses for trichlorofluoromethane in data package 1452630 exceeded the laboratory-specified control limits. Since the associated samples are not detected, no qualification of the data is necessary.
- The percent recovery values for the LCS/LCSD associated with the VOC analyses for trichlorofluoromethane in data package 1452631 exceeded the laboratory-specified control limits. Since the associated samples are not detected, no qualification of the data is necessary.

- The percent recovery values for the LCS associated with the VOC analyses for 1,2-dichloroethane and 1,1,1-trichloroethane in data package 1454465 exceeded the laboratory-specified control limits. 1,2-dichloroethene and 1,1,1-trichloroethane were qualified as estimated (J), as indicated in Table 1.

BLIND FIELD DUPLICATE RESULTS

As specified in the QAPP, blind field duplicate samples were collected at a rate of one blind field duplicate sample per 20 samples, but not less than one blind field duplicate per sampling round. Four pairs of blind field duplicate water samples [GWTSInf-0214/GWTSInf-0214, GWTSEff-014/GWTSEff-0214, BOP-X-0214/BOP-7(i), and BOP-Y-0214/BOP-59(i)-0214] were submitted for analysis with data packages 1452630, 1452631, and 1454465.

A project-specified control limit of 20 percent was used to evaluate the RPDs between the duplicate samples except when the sample results were within five times the reporting limit. In these cases, a project-specified control limit of plus or minus the reporting limit was used. RPDs for the duplicate sample pairs submitted for analysis were within the project-specified control limits except as follows:

- The RPD between the freon-TF, 1,1-dichloroethene, 1,1,1-trichloroethane, and tetrachloroethene results associated with the VOC analysis for field duplicate pair BOP-7(i)/BOP-X in data package 1454465 exceeded the project-specified control limit. The results for these samples are qualified as estimated (J), as indicated in Table 1.

QUANTITATION LIMITS

Project-specified quantitation limits were met for all samples except for instances where high concentrations or presence of high level target species required dilution of the sample extracts.

AUDIT/CORRECTIVE ACTION RECORDS

No audits were performed or required. No corrective action records were generated for this sample batch.

Continuing calibration (CCAL) recovery results are provided associated with each of these data packages. All project samples results associated with the high CCAL recovery of trichlorofluoromethane, in data packages 1452784 and 1454157 are not detected and, therefore, no qualification of the data is necessary. Based upon the specifics below, some project sample results associated with the high CCAL recoveries for 1,1,1-trichloroethane, 1,2-dichloroethane in data package 1454465 and were qualified as estimated (J), as indicated in Table 1. Also based upon the specifics below, all project sample results associated with the low CCAL recoveries in data packages 1450637, 1452631, 1452784, 1454157, and 1454465 were qualified as estimated (UJ), as indicated in Table 1.

- Chloromethane and vinyl acetate were below the laboratory-specified control limits for sample BOP-84(i)-0214 reported in data package 1450637. Results for this sample associated with the low CCAL recoveries for chloromethane and vinyl acetate is qualified as estimated (UJ), as indicated in Table 1.
- CCAL results were out of limits low for chloromethane and chloroethane associated with data package 1452631. The results for these samples are qualified as estimated (UJ), as indicated in Table 1.
- Chloromethane and chloroethane were below the laboratory-specified control limits for samples reported in data package 1452784. Results for samples associated with the low CCAL recoveries for chloromethane and chloroethane are qualified as estimated (UJ), as indicated in Table 1.
- Chloroethane was below the laboratory-specified control limits for samples reported in data package 1454157. Results for samples associated with the low CCAL recoveries for chloroethane are qualified as estimated (J/UJ), as indicated in Table 1.
- Chloromethane and chloroethane were below the laboratory-specified control limits for several samples reported in data package 1454465. Results for samples associated with the low CCAL recoveries for chloromethane and chloroethane are qualified as estimated (UJ), as indicated in Table 1.
- 1,1,1-trichloroethane and 1,2-dichloroethane were above the laboratory-specified control limits for samples reported in data package 1454465. Results for samples associated with the low CCAL recoveries for 1,1,1-trichloroethane and 1,2-dichloroethane in data package 1454465 are qualified as estimated (UJ), as indicated in Table 1.

COMPLETENESS AND OVERALL DATA QUALITY

The completeness for this data set is 100 percent, which meets the project-specified goal of 90 percent minimum.

Data precision was evaluated through field duplicates, laboratory replicates, matrix spike duplicates, and laboratory control sample duplicates. Data accuracy was evaluated through matrix spikes, laboratory control samples, and surrogate spikes. No data were rejected.

REFERENCES

EPA. 2004. *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*. U.S. Environmental Protection Agency. October.

EPA. 1999. *Contract Laboratory Program National Functional Guidelines for Organic Data Review*. U.S. Environmental Protection Agency. October.

Landau Associates. 2012. *Quality Assurance Project Plan, Troutdale Gravel Aquifer, Boeing Portland Facility, Gresham, Oregon*. Prepared for The Boeing Company. July 6; revised September 26.

TABLE 1
SUMMARY OF DATA QUALIFIERS
BOEING PORTLAND TGA PHASE I

Data Package	Analyte	Result	Qualifier	Sample Number	Reason
1452631	Chloromethane	0.5 U	UJ	BOP-56(i)-0214	Low continuing calibration recovery
1452631	Chloromethane	0.5 U	UJ	BOP-57(ib)-0214	Low continuing calibration recovery
1452631	Chloromethane	0.5 U	UJ	BOP-9(i)-0214	Low continuing calibration recovery
1452631	Chloromethane	0.5 U	UJ	D-8(i)-0214	Low continuing calibration recovery
1452631	Chloromethane	0.5 U	UJ	DP-1-0214	Low continuing calibration recovery
1452631	Chloroethane	0.5 U	UJ	BOP-56(i)-0214	Low continuing calibration recovery
1452631	Chloroethane	0.5 U	UJ	BOP-57(ib)-0214	Low continuing calibration recovery
1452631	Chloroethane	0.5 U	UJ	BOP-9(i)-0214	Low continuing calibration recovery
1452631	Chloroethane	0.5 U	UJ	D-8(i)-0214	Low continuing calibration recovery
1452631	Chloroethane	0.5 U	UJ	DP-1-0214	Low continuing calibration recovery
1450637	Chloromethane	0.5 U	UJ	BOP-84(i)-0214	Low continuing calibration recovery
1450637	Vinyl acetate	0.5 U	UJ	BOP-84(i)-0214	Low continuing calibration recovery
1452630	Ortho-phosphate as P	0.5 U	UJ	GWTSEFF-0214 (trial 2)	Analyzed outside hold time
1452630	Ortho-phosphate as P	0.52	DNR	GWTSEFF-0214 (trial 1)	Analyzed outside hold time; calibration was out of compliance on original trial
1452784	Chloromethane	0.5 U	UJ	E-2-0214	Low continuing calibration recovery
1452784	Chloromethane	0.5 U	UJ	E-3-0214	Low continuing calibration recovery
1452784	Chloromethane	0.5 U	UJ	E-4-0214	Low continuing calibration recovery
1452784	Chloromethane	0.5 U	UJ	E-11-0214	Low continuing calibration recovery
1452784	Chloromethane	0.5 U	UJ	E-15-0214	Low continuing calibration recovery
1452784	Chloroethane	0.5 U	UJ	E-2-0214	Low continuing calibration recovery
1452784	Chloroethane	0.5 U	UJ	E-3-0214	Low continuing calibration recovery
1452784	Chloroethane	0.5 U	UJ	E-4-0214	Low continuing calibration recovery
1452784	Chloroethane	0.5 U	UJ	E-11-0214	Low continuing calibration recovery
1452784	Chloroethane	0.5 U	UJ	E-15-0214	Low continuing calibration recovery
1452784	Methane	11000	J	E-15-0214	Analyzed outside hold time
1452784	Ethane	5.0 U	UJ	E-15-0214	Analyzed outside hold time
1452784	Ethene	5.0 U	UJ	E-15-0214	Analyzed outside hold time
1452784	Acetylene	5.0 U	UJ	E-15-0214	Analyzed outside hold time
1454157	Chloroethane	0.5 U	UJ	BOP-77(i)-0214	Low continuing calibration recovery
1454157	Chloroethane	0.5	J	BOP-774(i)-0214	Low continuing calibration recovery
1454157	Chloroethane	0.5 U	UJ	E-16-0214	Low continuing calibration recovery
1454465	Chloromethane	0.5 U	UJ	BOP-X-0214	Low continuing calibration recovery
1454465	Chloromethane	0.5 U	UJ	BOP-16(i)-0214	Low continuing calibration recovery
1454465	Chloromethane	0.5 U	UJ	BOP-80(i)-0214	Low continuing calibration recovery
1454465	Chloromethane	0.5 U	UJ	BOP-81(i)-0214	Low continuing calibration recovery
1454465	Chloroethane	0.5 U	UJ	BOP-X-0214	Low continuing calibration recovery
1454465	Chloroethane	0.5 U	UJ	BOP-16(i)-0214	Low continuing calibration recovery
1454465	Chloroethane	0.5 U	UJ	BOP-80(i)-0214	Low continuing calibration recovery
1454465	Chloroethane	0.5 U	UJ	BOP-81(i)-0214	Low continuing calibration recovery
1454465	1,1,1-trichloroethane	3.7	J	BOP-X-0214	High continuing calibration recovery
1454465	1,1,1-trichloroethane	0.6	J	BOP-16(i)-0214	High continuing calibration recovery
1454465	1,2-dichloroethane	0.2	J	BOP-80(i)-0214	High continuing calibration recovery
1454465	1,1-dichloroethene	15	J	BOP-7(i)-0214	High field duplicate recovery
1454465	1,1-dichloroethene	12	J	BOP-X-0214	High field duplicate recovery
1454465	Tetrachloroethene	4.5	J	BOP-7(i)-0214	High field duplicate recovery
1454465	Tetrachloroethene	5.8	J	BOP-X-0214	High field duplicate recovery
1454465	1,1,1-trichloroethane	2.6	J	BOP-7(i)-0214	High field duplicate recovery
1454465	1,1,1-trichloroethane	3.7	J	BOP-X-0214	High field duplicate recovery
1454465	Freon TF	1.6	J	BOP-7(i)-0214	High field duplicate recovery
1454465	Freon TF	2.2	J	BOP-X-0214	High field duplicate recovery
1454465	1,1,1-trichloroethane	0.6	J	BOP-16(i)-0214	High LCS recovery
1454465	1,1,1-trichloroethane	3.7	J	BOP-X-0214	High LCS recovery
1454465	1,2-dichloroethane	0.2	J	BOP-80(i)-0214	High LCS recovery

DNR = Do Not Report

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.

U = Indicates the compound was undetected at the reported concentration.

TECHNICAL MEMORANDUM

TO: Chris Kimmel, Project Manager

FROM: Terry McGourty and Anne Halvorsen

DATE: June 18, 2014

RE: **BOEING PORTLAND (TGA)
SECOND QUARTER 2014 GROUNDWATER QUALITY SAMPLING
LABORATORY DATA QUALITY EVALUATION**

This technical memorandum provides the results of a focused data validation associated with 34 groundwater samples, including 4 field duplicates, and 3 trip blanks, and 22 vapor samples collected during the second quarter 2014 TGA water quality sampling event at Boeing Portland. Samples were analyzed by Eurofins Lancaster Laboratories Environmental (LLI), located in Lancaster, Pennsylvania, and Eurofins Air Toxics located in Folsom, California. This data quality evaluation covers LLI data packages 1472111, 1472156, 1472837, and 1473180, and Air Toxics data package 1405264. Samples submitted to LLI were analyzed for volatile organic compounds [(VOCs) U.S. Environmental Protection Agency (EPA) Method SW8260C]; conventional inorganic parameters including N-Nitrate, N-Nitrite, ortho-phosphate as P, and sulfate (EPA Method 300.0); total phosphorous (EPA Method 365.1); N-Ammonia (Method SM 4500 NH₃ D); total organic carbon (Method SM 5310 C); and methane, ethane, and acetylene (MEEA; Modified RSK 175). Samples submitted to Air Toxics were analyzed for VOCs (Method TO-15).

The verification and validation check was conducted with guidance from applicable portions of EPA's *National Functional Guidelines for Organic Data Review* (EPA 1999, 2008) and the *National Functional Guidelines for Inorganic Data Review* (EPA 2004, 2010). The verification and validation check for each laboratory data package included the following:

- Verification that the laboratory data package contained all necessary documentation (including chain-of-custody records; identification of samples received by the laboratory; date and time of receipt of the samples at the laboratory; sample conditions upon receipt at the laboratory; date and time of sample analysis; explanation of any significant corrective actions taken by the laboratory during the analytical process; and, if applicable, date of extraction, definition of laboratory data qualifiers, all sample-related quality control data, and quality control acceptance criteria).
- Verification that all requested analyses, special cleanups, and special handling methods were performed.
- Evaluation of sample holding times.
- Evaluation of quality control data compared to acceptance criteria, including method blanks, surrogate recoveries, matrix spike results, laboratory duplicate and/or replicate results, and laboratory control sample results.
- Evaluation of overall data quality and completeness of analytical data.

Data validation qualifiers are added to the sample results, as appropriate, based on the verification and validation check. The absence of a data qualifier indicates that the reported result is acceptable without qualification. The data quality evaluation is summarized below. The data quality evaluation is summarized below. Data qualifiers are summarized in Table 1.

CHAIN-OF-CUSTODY RECORDS

A signed chain-of-custody record was attached to each data package. The laboratory received all samples in good condition and all analyses were performed as requested.

Upon receipt by LLI, the sample container information was compared to the associated chain-of-custody and the cooler temperatures were recorded. The cooler associated with data package 1473180 was received with a temperature (0.7°) below the EPA-recommended limit of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$. Data were not qualified based upon the cooler temperatures.

HOLDING TIMES

For all analyses and all samples, the time between sample collection, extraction (if applicable), and analysis was determined to be within EPA- and project-specified holding times, except as follows:

- Sample GWTSEFF-0514, associated with data package 1472111, was analyzed outside the 48-hour hold time for orthophosphorus. Orthophosphorus for sample GWTSEFF-0514 was qualified as estimated (J/UJ), as indicated in Table 1.

BLANK RESULTS

Laboratory Method Blanks

At least one method blank was analyzed with each batch of samples for each analysis. No contamination was detected in the method blanks. No qualification of the data is necessary.

Field Trip Blanks and Field Equipment Blanks

Trip blanks were submitted to the laboratory for VOC analysis with data packages 1472837, 1472156, and 1473180. No contamination was detected in the trip blanks. No qualification of the data is necessary. No field equipment blanks were submitted for analysis with this batch of samples.

SURROGATE RECOVERIES

Appropriate compounds were used as surrogate spikes for the VOC analyses for each data package and MEEA analyses for data packages 1472156, 1472837, and 1473180. Recovery values for the surrogate spikes were within the current laboratory-specified control limits. No qualification of the data is necessary.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) AND LABORATORY REPLICATE RESULTS

A matrix spike and/or a laboratory duplicate sample were analyzed with the conventional parameters in data packages 1472111, 1472156, 1472837, and 1473180. A matrix spike and matrix spike duplicate were analyzed with the MEEA parameters in data packages 1472156 and 1473180. The recovery values for each required spiking compound and/or the relative percent differences (RPDs) between the laboratory replicate results were within the current project-specified and/or laboratory-specified control limits for all project samples with the following exceptions:

- The RPD for total phosphorus in project sample GWTSEFF-0514 in data package 1472111 was above the laboratory-specified RPD in the laboratory duplicate. The difference between the reported concentrations for the original sample and the laboratory duplicate sample is less than 5 times the reporting limit; therefore, no qualification of the data is necessary.
- The matrix spike and matrix spike duplicate recovery of methane in sample E2-0514 associated with data package 1472156 were below the laboratory-specified control limits. Since the original sample concentration is greater than four times the spike concentration, no qualification of the data is necessary.
- The matrix spike and matrix spike duplicate recovery of methane in sample BOP-73(i)-0514 associated with data package 1473180 were below the laboratory-specified control limits. Since the original sample concentration is greater than four times the spike concentration, no qualification of the data is necessary.
- The matrix spike recovery of sulfate in project sample BOP-84(i)-0514 in data package 1473180 was above the laboratory-specified control limits. Since the associated sample result is not detected, no qualification of the data is necessary.

LABORATORY CONTROL SAMPLE AND LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD) RESULTS

At least one laboratory control sample and/or laboratory control sample duplicate (LCS/LCSD) was analyzed with each batch of samples for each analysis. Recoveries and relative percent differences (RPDs) for the laboratory control samples and associated duplicates were within the current laboratory-specified control limits. No qualification of the data is necessary.

BLIND FIELD DUPLICATE RESULTS

As specified in the QAPP, blind field duplicate samples were collected at a rate of one blind field duplicate sample per 20 samples, but not less than one blind field duplicate per sampling round. Four pairs of blind field duplicate water samples [GWTSInf-0514/GWTSInf-0514, GWTSEff-0514/GWTSEff-0514, BOP-W-0514/E2-0514, and BOP-X(i)-0514/BOP-7(i)-0514] were submitted for analysis with data packages 1472111, 1472156, and 1472837.

A project-specified control limit of 20 percent was used to evaluate the RPDs between the duplicate samples except when the sample results were within five times the reporting limit. In these cases, a project-specified control limit of plus or minus the reporting limit was used. RPDs for the

duplicate sample pairs submitted for analysis were within the project-specified control limits except as follows:

- The RPD between the 1,1-dichloroethene results associated with the VOC analysis for field duplicate pair BOP-7(i)-0514/BOP-X(i)-0514 in data package 1472837 exceeded the project-specified control limit. The results for these samples are qualified as estimated (J), as indicated in Table 1.

QUANTITATION LIMITS

Project-specified quantitation limits were met for all samples except for instances where high concentrations or presence of high level target species required dilution of the sample extracts.

AUDIT/CORRECTIVE ACTION RECORDS

No audits were performed or required. No corrective action records were generated for this sample batch.

Continuing calibration (CCAL) recovery was discussed by the laboratories for all data packages. All project sample results associated with the high CCAL recovery of acetylene in data package 1472156 are not detected and, therefore, no qualification of the data is necessary. Based upon the specifics below, some project sample results associated with the low CCAL recoveries for chloromethane in data packages 1472111 and 1472156 and were qualified as estimated (UJ), as indicated in Table 1.

- CCAL results were out of limits low for chloromethane associated with data packages 1472111 and 1472156. The results for these samples are qualified as estimated (UJ), as indicated in Table 1.

COMPLETENESS AND OVERALL DATA QUALITY

The completeness for this data set is 100 percent, which meets the project-specified goal of 90 percent minimum.

Data precision was evaluated through field duplicates, laboratory replicates, matrix spike duplicates, and laboratory control sample duplicates. Data accuracy was evaluated through matrix spikes, laboratory control samples, and surrogate spikes. No data were rejected.

REFERENCES

EPA. 2010. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review*. USEPA-540-R-10-011. U.S. Environmental Protection Agency. Office of Superfund Remediation and Technology Innovation. Washington, D.C. January.

EPA. 2008. *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*. USEPA-540-R-08-01. U.S. Environmental Protection Agency. Office of Superfund Remediation and Technology Innovation. Washington, D.C. June.

EPA. 2004. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*. EPA 540-R-04-004. U.S. Environmental Protection Agency. Office of Superfund Remediation and Technology Innovation. October.

EPA. 1999. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*. EPA-540/R-99-008. U.S. Environmental Protection Agency. Office of Emergency and Remedial Response. Washington, D.C. October.

Landau Associates. 2012. *Quality Assurance Project Plan, Troutdale Gravel Aquifer, Boeing Portland Facility, Gresham, Oregon*. Prepared for The Boeing Company. July 6; revised September 26.

TABLE 1
SUMMARY OF DATA QUALIFIERS
BOEING PORTLAND TGA PHASE I

Data Package	Analyte	Result	Qualifier	Sample Number	Reason
1472111	Chloromethane	0.5 U	UJ	GWTSEFF-0514	Low continuing calibration recovery
1472111	Chloromethane	0.5 U	UJ	GWTSEFFd-0514	Low continuing calibration recovery
1472111	Chloromethane	0.5 U	UJ	GWTSINF-0514	Low continuing calibration recovery
1472111	Chloromethane	0.5 U	UJ	GWTSINFd-0514	Low continuing calibration recovery
1472111	Orthophosphorus	0.50 U	UJ	GWTSEFF-0514	Analyzed outside hold time
1472156	Chloromethane	0.5 U	UJ	E-2-0514	Low continuing calibration recovery
1472156	Chloromethane	0.5 U	UJ	E-3-0514	Low continuing calibration recovery
1472156	Chloromethane	0.5 U	UJ	E-4-0514	Low continuing calibration recovery
1472156	Chloromethane	0.5 U	UJ	E-12-0514	Low continuing calibration recovery
1472837	1,1-dichloroethene	12	J	BOP-7(i)-0514	High field duplicate recovery
1472837	1,1-dichloroethene	15	J	BOP-X(i)-0514	High field duplicate recovery

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.

U = Indicates the compound was undetected at the reported concentration.

2/24/2014

Ms. Chris Kimmel
Landau Associates, Inc.
130 2nd Avenue South

Edmonds WA 98020

Project Name: Boeing of Portland
Project #: 025116.114.412
Workorder #: 1402186

Dear Ms. Chris Kimmel

The following report includes the data for the above referenced project for sample(s) received on 2/13/2014 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner
Project Manager

WORK ORDER #: 1402186

Work Order Summary

CLIENT: Ms. Chris Kimmel
Landau Associates, Inc.
130 2nd Avenue South
Edmonds, WA 98020

BILL TO: Robert Large
Eurofins Lancaster Laboratories
Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17605-2425

PHONE: 800-552-5957

P.O. # 025116.114.412

FAX: 425-778-6409

PROJECT # 025116.114.412 Boeing of Portland

DATE RECEIVED: 02/13/2014

CONTACT: Kelly Buettner

DATE COMPLETED: 02/24/2014

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SVEInf-0214	TO-15	5.0 "Hg	15 psi
02A	SVEGAC1-0214	TO-15	5.5 "Hg	15 psi
03A	SVEEff-0214	TO-15	2.5 "Hg	15 psi
04A	BOP-78(i)-0214	TO-15	5.5 "Hg	15 psi
05A	BOP-79(i)-0214	TO-15	5.0 "Hg	15 psi
06A	BOP-84(i)-0214	TO-15	6.5 "Hg	15 psi
07A	BOP-85(i)-0214	TO-15	5.5 "Hg	15 psi
08A	BOP-86(i)-0214	TO-15	4.5 "Hg	15 psi
09A	BOP-87(i)-0214	TO-15	1.5 "Hg	15 psi
10A	BOP-88(i)-0214	TO-15	5.0 "Hg	15 psi
11A	VOW-16-0214	TO-15	5.0 "Hg	15 psi
12A	VOW-17-0214	TO-15	5.0 "Hg	15 psi
13A	VOW-18-0214	TO-15	6.0 "Hg	15 psi
14A	VP-1-0214	TO-15	5.0 "Hg	15 psi
15A	VP-2-0214	TO-15	5.5 "Hg	15 psi
16A	VP-3-0214	TO-15	4.5 "Hg	15 psi
17A	VP-4-0214	TO-15	5.0 "Hg	15 psi
18A	VP-5-0214	TO-15	5.0 "Hg	15 psi
19A	VP-6-0214	TO-15	5.5 "Hg	15 psi
20A	VP-7-0214	TO-15	5.0 "Hg	15 psi
21A	VP-8-0214	TO-15	5.0 "Hg	15 psi
22A	VP-9-0214	TO-15	5.5 "Hg	15 psi
23A	Lab Blank	TO-15	NA	NA

Continued on next page

WORK ORDER #: 1402186

Work Order Summary

CLIENT:	Ms. Chris Kimmel Landau Associates, Inc. 130 2nd Avenue South Edmonds, WA 98020	BILL TO:	Robert Large Eurofins Lancaster Laboratories Environmental, LLC 2425 New Holland Pike Lancaster, PA 17605-2425
PHONE:	800-552-5957	P.O. #	025116.114.412
FAX:	425-778-6409	PROJECT #	025116.114.412 Boeing of Portland
DATE RECEIVED:	02/13/2014	CONTACT:	Kelly Buettner
DATE COMPLETED:	02/24/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
23B	Lab Blank	TO-15	NA	NA
24A	CCV	TO-15	NA	NA
24B	CCV	TO-15	NA	NA
25A	LCS	TO-15	NA	NA
25AA	LCSD	TO-15	NA	NA
25B	LCS	TO-15	NA	NA
25BB	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 02/24/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020



LABORATORY NARRATIVE
EPA Method TO-15
Landau Associates, Inc.
Workorder# 1402186

Twenty-two 1 Liter Summa Canister samples were received on February 13, 2014. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Dilution was performed on sample VP-8-0214 due to the presence of high level target species.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

- J - Estimated value.

- E - Exceeds instrument calibration range.

- S - Saturated peak.

- Q - Exceeds quality control limits.

- U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

- UJ- Non-detected compound associated with low bias in the CCV

- N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified

- b-File was quantified by a second column and detector

- r1-File was requantified for the purpose of reissue

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SVEInf-0214

Lab ID#: 1402186-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	1.7	6.6	9.5
Trichloroethene	1.2	36	6.5	190
Tetrachloroethene	1.2	47	8.2	320

Client Sample ID: SVEGAC1-0214

Lab ID#: 1402186-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	1.8	6.7	10
Tetrachloroethene	1.2	8.1	8.4	55

Client Sample ID: SVEEff-0214

Lab ID#: 1402186-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	1.1	1.5	4.4	6.0
Tetrachloroethene	1.1	27	7.5	180

Client Sample ID: BOP-78(i)-0214

Lab ID#: 1402186-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	6.9	6.7	38
Trichloroethene	1.2	80	6.6	430
Tetrachloroethene	1.2	15	8.4	100

Client Sample ID: BOP-79(i)-0214

Lab ID#: 1402186-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	2.4	3.1	6.0
1,1,1-Trichloroethane	1.2	8.7	6.6	47

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: BOP-79(i)-0214

Lab ID#: 1402186-05A

cis-1,2-Dichloroethene	1.2	1.7	4.8	6.8
Trichloroethene	1.2	50	6.5	270
Tetrachloroethene	1.2	12	8.2	82

Client Sample ID: BOP-84(i)-0214

Lab ID#: 1402186-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.3	4.3	7.0	24
Trichloroethene	1.3	68	6.9	360
Tetrachloroethene	1.3	30	8.8	200

Client Sample ID: BOP-85(i)-0214

Lab ID#: 1402186-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	3.4	4.9	14
1,1,1-Trichloroethane	1.2	2.6	6.7	14
cis-1,2-Dichloroethene	1.2	2.9	4.9	12
Trichloroethene	1.2	30	6.6	160
Tetrachloroethene	1.2	47	8.4	320

Client Sample ID: BOP-86(i)-0214

Lab ID#: 1402186-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	26	6.4	140
Tetrachloroethene	1.2	54	8.1	360

Client Sample ID: BOP-87(i)-0214

Lab ID#: 1402186-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.1	13	5.7	68

Summary of Detected Compounds

EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: BOP-87(i)-0214

Lab ID#: 1402186-09A

Tetrachloroethene	1.1	30	7.2	200

Client Sample ID: BOP-88(i)-0214

Lab ID#: 1402186-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	6.2	3.1	16
1,1,1-Trichloroethane	1.2	1.7	6.6	9.5
Trichloroethene	1.2	56	6.5	300
Tetrachloroethene	1.2	27	8.2	180

Client Sample ID: VOW-16-0214

Lab ID#: 1402186-11A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	1.4	4.8	5.4
1,1,1-Trichloroethane	1.2	10	6.6	57
Trichloroethene	1.2	76	6.5	410
Tetrachloroethene	1.2	6.6	8.2	44

Client Sample ID: VOW-17-0214

Lab ID#: 1402186-12A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	5.9	6.6	32
Trichloroethene	1.2	32	6.5	170
Tetrachloroethene	1.2	6.7	8.2	45

Client Sample ID: VOW-18-0214

Lab ID#: 1402186-13A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	1.3	32	8.5	210

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VP-1-0214

Lab ID#: 1402186-14A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	1.2	7.8	8.2	53

Client Sample ID: VP-2-0214

Lab ID#: 1402186-15A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	1.9	6.6	10
Tetrachloroethene	1.2	16	8.4	110

Client Sample ID: VP-3-0214

Lab ID#: 1402186-16A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	2.2	6.5	12
Trichloroethene	1.2	1.3	6.4	6.8
Tetrachloroethene	1.2	17	8.1	120

Client Sample ID: VP-4-0214

Lab ID#: 1402186-17A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	3.6	6.5	19
Tetrachloroethene	1.2	12	8.2	82

Client Sample ID: VP-5-0214

Lab ID#: 1402186-18A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	2.7	6.5	14
Tetrachloroethene	1.2	10	8.2	71

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VP-6-0214

Lab ID#: 1402186-19A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	1.3	6.7	7.3
Tetrachloroethene	1.2	20	8.4	140

Client Sample ID: VP-7-0214

Lab ID#: 1402186-20A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	6.6	4.8	26
1,1,1-Trichloroethane	1.2	160	6.6	900
cis-1,2-Dichloroethene	1.2	6.5	4.8	26
Trichloroethene	1.2	12	6.5	64
Tetrachloroethene	1.2	16	8.2	110

Client Sample ID: VP-8-0214

Lab ID#: 1402186-21A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	2.0	28	8.0	110
1,1,1-Trichloroethane	2.0	510	11	2800
cis-1,2-Dichloroethene	2.0	5.0	8.0	20
Trichloroethene	2.0	14	11	75
Tetrachloroethene	2.0	26	14	180

Client Sample ID: VP-9-0214

Lab ID#: 1402186-22A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	9.4	6.6	51
Tetrachloroethene	1.2	17	8.4	110



Air Toxics

Client Sample ID: SVEInf-0214

Lab ID#: 1402186-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021907	Date of Collection:	2/7/14 9:15:00 AM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 11:05 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	1.7	6.6	9.5
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	36	6.5	190
Tetrachloroethene	1.2	47	8.2	320

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	85	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: SVEGAC1-0214

Lab ID#: 1402186-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021908	Date of Collection:	2/7/14 9:35:00 AM
Dil. Factor:	2.47	Date of Analysis:	2/19/14 11:26 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
1,1,1-Trichloroethane	1.2	1.8	6.7	10
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	8.1	8.4	55

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	85	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: SVEEff-0214

Lab ID#: 1402186-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021909	Date of Collection:	2/7/14 10:00:00 AM
Dil. Factor:	2.20	Date of Analysis:	2/19/14 11:48 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.4	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.0	Not Detected
cis-1,2-Dichloroethene	1.1	1.5	4.4	6.0
Trichloroethene	1.1	Not Detected	5.9	Not Detected
Tetrachloroethene	1.1	27	7.5	180

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: BOP-78(i)-0214

Lab ID#: 1402186-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021910	Date of Collection:	2/6/14 12:30:00 PM
Dil. Factor:	2.47	Date of Analysis:	2/19/14 12:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
1,1,1-Trichloroethane	1.2	6.9	6.7	38
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	80	6.6	430
Tetrachloroethene	1.2	15	8.4	100

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	83	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: BOP-79(i)-0214

Lab ID#: 1402186-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021911	Date of Collection:	2/6/14 12:55:00 PM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 12:31 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	2.4	3.1	6.0
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	8.7	6.6	47
cis-1,2-Dichloroethene	1.2	1.7	4.8	6.8
Trichloroethene	1.2	50	6.5	270
Tetrachloroethene	1.2	12	8.2	82

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: BOP-84(i)-0214

Lab ID#: 1402186-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021912	Date of Collection:	2/6/14 3:20:00 PM
Dil. Factor:	2.58	Date of Analysis:	2/19/14 12:53 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
1,1,1-Trichloroethane	1.3	4.3	7.0	24
cis-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Trichloroethene	1.3	68	6.9	360
Tetrachloroethene	1.3	30	8.8	200

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: BOP-85(i)-0214

Lab ID#: 1402186-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021913	Date of Collection:	2/6/14 11:10:00 AM
Dil. Factor:	2.47	Date of Analysis:	2/19/14 01:14 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.2	3.4	4.9	14
1,1,1-Trichloroethane	1.2	2.6	6.7	14
cis-1,2-Dichloroethene	1.2	2.9	4.9	12
Trichloroethene	1.2	30	6.6	160
Tetrachloroethene	1.2	47	8.4	320

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: BOP-86(i)-0214

Lab ID#: 1402186-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021914	Date of Collection:	2/6/14 9:30:00 AM
Dil. Factor:	2.38	Date of Analysis:	2/19/14 02:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	26	6.4	140
Tetrachloroethene	1.2	54	8.1	360

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: BOP-87(i)-0214

Lab ID#: 1402186-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021915	Date of Collection:	2/6/14 11:30:00 AM
Dil. Factor:	2.13	Date of Analysis:	2/19/14 03:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.7	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.2	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	5.8	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.2	Not Detected
Trichloroethene	1.1	13	5.7	68
Tetrachloroethene	1.1	30	7.2	200

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	85	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: BOP-88(i)-0214

Lab ID#: 1402186-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021916	Date of Collection:	2/6/14 11:50:00 AM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 03:35 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	6.2	3.1	16
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	1.7	6.6	9.5
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	56	6.5	300
Tetrachloroethene	1.2	27	8.2	180

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	85	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: VOW-16-0214

Lab ID#: 1402186-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021917	Date of Collection:	2/6/14 1:20:00 PM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 03:57 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	1.4	4.8	5.4
1,1,1-Trichloroethane	1.2	10	6.6	57
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	76	6.5	410
Tetrachloroethene	1.2	6.6	8.2	44

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: VOW-17-0214

Lab ID#: 1402186-12A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021918	Date of Collection:	2/6/14 2:50:00 PM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 04:18 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	5.9	6.6	32
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	32	6.5	170
Tetrachloroethene	1.2	6.7	8.2	45

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: VOW-18-0214

Lab ID#: 1402186-13A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021919	Date of Collection:	2/6/14 10:15:00 AM
Dil. Factor:	2.52	Date of Analysis:	2/19/14 04:40 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.3	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.0	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	6.9	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.0	Not Detected
Trichloroethene	1.3	Not Detected	6.8	Not Detected
Tetrachloroethene	1.3	32	8.5	210

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	83	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: VP-1-0214

Lab ID#: 1402186-14A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021920	Date of Collection:	2/6/14 2:30:00 PM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 05:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	Not Detected	6.5	Not Detected
Tetrachloroethene	1.2	7.8	8.2	53

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: VP-2-0214

Lab ID#: 1402186-15A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021921	Date of Collection:	2/6/14 2:00:00 PM
Dil. Factor:	2.47	Date of Analysis:	2/19/14 05:23 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.7	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	1.9	6.6	10
Tetrachloroethene	1.2	16	8.4	110

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: VP-3-0214

Lab ID#: 1402186-16A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021922	Date of Collection:	2/6/14 1:40:00 PM
Dil. Factor:	2.38	Date of Analysis:	2/19/14 05:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	1.2	2.2	6.5	12
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	1.3	6.4	6.8
Tetrachloroethene	1.2	17	8.1	120

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	85	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: VP-4-0214

Lab ID#: 1402186-17A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021906	Date of Collection:	2/6/14 4:00:00 PM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 11:38 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	3.6	6.5	19
Tetrachloroethene	1.2	12	8.2	82

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	91	70-130

Client Sample ID: VP-5-0214

Lab ID#: 1402186-18A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021907	Date of Collection:	2/6/14 3:45:00 PM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 12:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	2.7	6.5	14
Tetrachloroethene	1.2	10	8.2	71

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	91	70-130

Client Sample ID: VP-6-0214

Lab ID#: 1402186-19A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021908	Date of Collection:	2/6/14 9:50:00 AM
Dil. Factor:	2.47	Date of Analysis:	2/19/14 12:27 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
1,1,1-Trichloroethane	1.2	1.3	6.7	7.3
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	20	8.4	140

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	92	70-130

Client Sample ID: VP-7-0214

Lab ID#: 1402186-20A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021909	Date of Collection:	2/6/14 10:50:00 AM
Dil. Factor:	2.42	Date of Analysis:	2/19/14 12:51 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	6.6	4.8	26
1,1,1-Trichloroethane	1.2	160	6.6	900
cis-1,2-Dichloroethene	1.2	6.5	4.8	26
Trichloroethene	1.2	12	6.5	64
Tetrachloroethene	1.2	16	8.2	110

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	91	70-130

Client Sample ID: VP-8-0214

Lab ID#: 1402186-21A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021911	Date of Collection:	2/6/14 10:35:00 AM
Dil. Factor:	4.04	Date of Analysis:	2/19/14 02:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	2.0	Not Detected	5.2	Not Detected
1,1-Dichloroethene	2.0	28	8.0	110
1,1,1-Trichloroethane	2.0	510	11	2800
cis-1,2-Dichloroethene	2.0	5.0	8.0	20
Trichloroethene	2.0	14	11	75
Tetrachloroethene	2.0	26	14	180

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: VP-9-0214

Lab ID#: 1402186-22A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021922	Date of Collection:	2/6/14 4:20:00 PM
Dil. Factor:	2.47	Date of Analysis:	2/19/14 07:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.7	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	9.4	6.6	51
Tetrachloroethene	1.2	17	8.4	110

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1402186-23A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021906	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 10:30 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: Lab Blank

Lab ID#: 1402186-23B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021905	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 10:32 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: CCV

Lab ID#: 1402186-24A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021905	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 09:54 AM

Compound	%Recovery
Vinyl Chloride	96
1,1-Dichloroethene	93
1,1,1-Trichloroethane	86
cis-1,2-Dichloroethene	85
Trichloroethene	91
Tetrachloroethene	103

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: CCV

Lab ID#: 1402186-24B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 08:55 AM

Compound	%Recovery

Vinyl Chloride	108
1,1-Dichloroethene	91
1,1,1-Trichloroethane	104
cis-1,2-Dichloroethene	96
Trichloroethene	102
Tetrachloroethene	93

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: LCS

Lab ID#: 1402186-25A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 09:09 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	90	70-130
1,1-Dichloroethene	96	70-130
1,1,1-Trichloroethane	81	70-130
cis-1,2-Dichloroethene	88	70-130
Trichloroethene	83	70-130
Tetrachloroethene	92	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: LCSD

Lab ID#: 1402186-25AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 09:31 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	88	70-130
1,1-Dichloroethene	94	70-130
1,1,1-Trichloroethane	78	70-130
cis-1,2-Dichloroethene	86	70-130
Trichloroethene	81	70-130
Tetrachloroethene	92	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: LCS

Lab ID#: 1402186-25B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 09:19 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	102	70-130
1,1-Dichloroethene	102	70-130
1,1,1-Trichloroethane	109	70-130
cis-1,2-Dichloroethene	114	70-130
Trichloroethene	104	70-130
Tetrachloroethene	95	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: LCSD

Lab ID#: 1402186-25BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	p021904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/19/14 09:44 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	100	70-130
1,1-Dichloroethene	102	70-130
1,1,1-Trichloroethane	111	70-130
cis-1,2-Dichloroethene	116	70-130
Trichloroethene	106	70-130
Tetrachloroethene	96	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	96	70-130



eurofins

Air Toxics

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 3

Project Manager Chris Kimmel
 Collected by: (Print and Sign) Brett Borgeson
 Company Landau Associates Email bborgeson@landau.com
 Address 333 SW 4th Ave City Portland State OR Zip 97204
 Phone (503) 542-1080 Fax (503) 542-1081

Project Info:
 P.O. # 025116, 114, 412
 Project # 025116, 114, 412
 Project Name Boeing of Portland

Turn Around Time:
☒ Normal
☐ Rush
 specify _____

Lab Use Only
 Pressurized by: _____
 Date: _____
 Pressurization Gas: _____
 N₂ He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum		
						Initial	Final	Receipt
01A	SVElnf-0214	37394	2-7-14	0915	TO-15 (6 Lst)	30	5	
02A	SVEGAC1-0214	34656	2-7-14	0935	TO-15 (6 Lst)	30	5	
03A	SVEEff-0214	34642	2-7-14	1000	TO-15 (6 Lst)	30	5	
04A	BOP-786(-0214	37337	2-6-14	1230	TO-15 (6 Lst)	30	5	
05A	BOP-796(-0214	34123	2-6-14	1255	TO-15 (6 Lst)	30	5	
06A	BOP-846(-0214	37689	2-6-14	1520	TO-15 (6 Lst)	30	5	
07A	BOP-856(-0214	13392	2-6-14	1110	TO-15 (6 Lst)	30	5	
08A	BOP-866(-0214	1359	2-6-14	0930	TO-15 (6 Lst)	29	5	
09A	BOP-876(-0214	12391	2-6-14	1130	TO-15 (6 Lst)	29	5	
10A	BOP-886(-0214	37311	2-6-14	1150	TO-15 (6 Lst)	28	5	

Relinquished by: (signature) Brett Borgeson Date/Time 2-7-14 1100
 Relinquished by: (signature) _____ Date/Time _____
 Relinquished by: (signature) _____ Date/Time _____

Notes:
21316 1255

Shipper Name Landau Air Bill # _____ Temp (°C) 14 Condition Good Custody Seals Intact? Yes No None Work Order # 1402186

Lab Use Only



Air Toxics

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline: (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 2 of 3

Project Manager Chris Kimmel

Collected by: (Print and Sign) Brett Boggeson

Company Landan Associates Email bboggeson@landanix.com

Address 333 So 5th Ave City Portland State OR Zip 97204

Phone (503) 542-1680 Fax (503) 542-1081

Project Info:

P.O. # 025116.114.412

Project # 025116.114.412

Project Name Being of Portland

Turn Around Time:

☒ Normal

☐ Rush

Lab Use Only
Pressurized by:

Date:

Pressurization Gas:

specify N₂ He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum			
						Initial	Final	Receipt	Final (psi)
11A	VOU-16-0214	36394	2-6-14	1320	TO-15 (6 list)	28	5		
12A	VOU-17-0214	36534	2-6-14	1450	TO-15 (6 list)	30	5		
13A	VOU-18-0214	2040	2-6-14	1615	TO-15 (6 list)	28	5		
14A	VP-1-0214	2222	2-6-14	1430	TO-15 (7 list)	28	5		
15A	VP-2-0214	34662	2-6-14	1400	TO-15 (7 list)	30	5		
16A	VP-3-0214	37306	2-6-14	1340	TO-15 (7 list)	28	5		
17A	VP-4-0214	15742	2-6-14	1600	TO-15 (7 list)	29	5		
18A	VP-5-0214	2062	2-6-14	1545	TO-15 (7 list)	29	5		
19A	VP-6-0214	1681	2-6-14	0950	TO-15 (7 list)	29	5		
20A	VP-7-0214	15733	2-6-14	1050	TO-15 (7 list)	27	5		
Notes:									
Relinquished by: (signature) <u>Chris Kimmel</u>	Date/Time <u>2-7-14</u>	Received by: (signature) <u>[Signature]</u>	Date/Time <u>2-13-14</u>						
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time						
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time						
Lab Shipper Name <u>Landan Associates</u>	Air Bill # <u>1160</u>	Temp (°C) <u>10</u>	Condition <u>Good</u>	Custody Seals Intact? <u>Yes</u>	No	None	Work Order # <u>1402186</u>		

5/29/2014

Ms. Chris Kimmel
Landau Associates, Inc.
130 2nd Avenue South

Edmonds WA 98020

Project Name: Boeing of Portland
Project #: 025116.114.412
Workorder #: 1405264

Dear Ms. Chris Kimmel

The following report includes the data for the above referenced project for sample(s) received on 5/14/2014 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner
Project Manager

WORK ORDER #: 1405264

Work Order Summary

CLIENT:	Ms. Chris Kimmel Landau Associates, Inc. 130 2nd Avenue South Edmonds, WA 98020	BILL TO:	Robert Large Eurofins Lancaster Laboratories Environmental, LLC 2425 New Holland Pike Lancaster, PA 17605-2425
PHONE:	800-552-5957	P.O. #	025116.114.412
FAX:	425-778-6409	PROJECT #	025116.114.412 Boeing of Portland
DATE RECEIVED:	05/14/2014	CONTACT:	Kelly Buettner
DATE COMPLETED:	05/29/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	SVE Inf-0514	TO-15	3.5 "Hg	15 psi
02A	SVE GAC1-0514	TO-15	4.5 "Hg	15 psi
03A	SVE Eff-0514	TO-15	5.0 "Hg	15 psi
04A	BOP-78(i)-0514	TO-15	5.5 "Hg	15 psi
05A	BOP-79(i)-0514	TO-15	4.5 "Hg	15 psi
06A	BOP-84(i)-0514	TO-15	4.0 "Hg	15 psi
07A	BOP-85(i)-0514	TO-15	5.0 "Hg	15 psi
08A	BOP-86(i)-0514	TO-15	4.5 "Hg	15 psi
09A	BOP-87(i)-0514	TO-15	4.5 "Hg	15 psi
10A	BOP-88(i)-0514	TO-15	3.0 "Hg	15 psi
11A	VOW-16-0514	TO-15	4.0 "Hg	15 psi
12A	VOW-17-0514	TO-15	5.0 "Hg	15 psi
13A	VOW-18-0514	TO-15	4.0 "Hg	15 psi
14A	VP-1-0514	TO-15	4.5 "Hg	15 psi
15A	VP-2-0514	TO-15	5.0 "Hg	15 psi
16A	VP-3-0514	TO-15	4.0 "Hg	15 psi
17A	VP-4-0514	TO-15	3.0 "Hg	15 psi
18A	VP-5-0514	TO-15	4.0 "Hg	15 psi
19A	VP-6-0514	TO-15	5.0 "Hg	15 psi
20A	VP-7-0514	TO-15	4.0 "Hg	15 psi
21A	VP-8-0514	TO-15	4.0 "Hg	15 psi
22A	VP-9-0514	TO-15	4.0 "Hg	15 psi
23A	Lab Blank	TO-15	NA	NA

Continued on next page

WORK ORDER #: 1405264

Work Order Summary

CLIENT: Ms. Chris Kimmel
Landau Associates, Inc.
130 2nd Avenue South
Edmonds, WA 98020

BILL TO: Robert Large
Eurofins Lancaster Laboratories
Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17605-2425

PHONE: 800-552-5957

P.O. # 025116.114.412

FAX: 425-778-6409

PROJECT # 025116.114.412 Boeing of Portland

DATE RECEIVED: 05/14/2014

CONTACT: Kelly Buettner

DATE COMPLETED: 05/29/2014

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
23B	Lab Blank	TO-15	NA	NA
23C	Lab Blank	TO-15	NA	NA
24A	CCV	TO-15	NA	NA
24B	CCV	TO-15	NA	NA
24C	CCV	TO-15	NA	NA
25A	LCS	TO-15	NA	NA
25AA	LCSD	TO-15	NA	NA
25B	LCS	TO-15	NA	NA
25BB	LCSD	TO-15	NA	NA
25C	LCS	TO-15	NA	NA
25CC	LCSD	TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 05/29/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
Landau Associates, Inc.
Workorder# 1405264

Twenty-two 1 Liter Summa Canister samples were received on May 14, 2014. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SVE Inf-0514

Lab ID#: 1405264-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.1	3.2	6.2	17
Trichloroethene	1.1	44	6.2	230
Tetrachloroethene	1.1	15	7.8	100

Client Sample ID: SVE GAC1-0514

Lab ID#: 1405264-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	1.2	12	8.1	78

Client Sample ID: SVE Eff-0514

Lab ID#: 1405264-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	1.2	7.8	8.2	53

Client Sample ID: BOP-78(i)-0514

Lab ID#: 1405264-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	16	6.6	88
Tetrachloroethene	1.2	5.4	8.4	37

Client Sample ID: BOP-79(i)-0514

Lab ID#: 1405264-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	8.9	6.4	48
Tetrachloroethene	1.2	3.8	8.1	26

Client Sample ID: BOP-84(i)-0514

Lab ID#: 1405264-06A

Summary of Detected Compounds

EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: BOP-84(i)-0514

Lab ID#: 1405264-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	12	6.3	62
Tetrachloroethene	1.2	8.3	7.9	56

Client Sample ID: BOP-85(i)-0514

Lab ID#: 1405264-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	5.9	6.5	32
Tetrachloroethene	1.2	15	8.2	100

Client Sample ID: BOP-86(i)-0514

Lab ID#: 1405264-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	1.3	6.5	7.2
Trichloroethene	1.2	50	6.4	270
Tetrachloroethene	1.2	13	8.1	89

Client Sample ID: BOP-87(i)-0514

Lab ID#: 1405264-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	5.6	6.4	30
Tetrachloroethene	1.2	10	8.1	71

Client Sample ID: BOP-88(i)-0514

Lab ID#: 1405264-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.1	2.2	6.1	12
Trichloroethene	1.1	5.8	6.0	31
Tetrachloroethene	1.1	6.2	7.6	42

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VOW-16-0514

Lab ID#: 1405264-11A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	4.8	6.3	26
Tetrachloroethene	1.2	4.9	7.9	33

Client Sample ID: VOW-17-0514

Lab ID#: 1405264-12A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	2.2	6.5	12
Tetrachloroethene	1.2	8.8	8.2	59

Client Sample ID: VOW-18-0514

Lab ID#: 1405264-13A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	3.3	6.3	18
Tetrachloroethene	1.2	20	7.9	140

Client Sample ID: VP-1-0514

Lab ID#: 1405264-14A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	1.2	8.4	8.1	57

Client Sample ID: VP-2-0514

Lab ID#: 1405264-15A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	1.4	6.5	7.5
Tetrachloroethene	1.2	6.8	8.2	46

Client Sample ID: VP-3-0514

Lab ID#: 1405264-16A

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VP-3-0514

Lab ID#: 1405264-16A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	3.4	6.4	19
Trichloroethene	1.2	1.4	6.3	7.7
Tetrachloroethene	1.2	6.3	7.9	42

Client Sample ID: VP-4-0514

Lab ID#: 1405264-17A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.1	2.2	6.0	12
Tetrachloroethene	1.1	10	7.6	70

Client Sample ID: VP-5-0514

Lab ID#: 1405264-18A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	1.9	6.3	10
Tetrachloroethene	1.2	9.7	7.9	66

Client Sample ID: VP-6-0514

Lab ID#: 1405264-19A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	1.8	6.6	9.8
Trichloroethene	1.2	1.5	6.5	8.0
Tetrachloroethene	1.2	15	8.2	100

Client Sample ID: VP-7-0514

Lab ID#: 1405264-20A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	10	4.6	41
1,1,1-Trichloroethane	1.2	200	6.4	1100

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: VP-7-0514

Lab ID#: 1405264-20A

cis-1,2-Dichloroethene	1.2	7.4	4.6	29
Trichloroethene	1.2	14	6.3	77
Tetrachloroethene	1.2	8.9	7.9	61

Client Sample ID: VP-8-0514

Lab ID#: 1405264-21A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	25	4.6	99
1,1,1-Trichloroethane	1.2	460	6.4	2500
cis-1,2-Dichloroethene	1.2	4.3	4.6	17
Trichloroethene	1.2	18	6.3	98
Tetrachloroethene	1.2	17	7.9	110

Client Sample ID: VP-9-0514

Lab ID#: 1405264-22A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.2	1.2	6.4	6.5
Trichloroethene	1.2	14	6.3	72
Tetrachloroethene	1.2	15	7.9	100



Air Toxics

Client Sample ID: SVE Inf-0514

Lab ID#: 1405264-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052709	Date of Collection:	5/9/14 3:10:00 PM
Dil. Factor:	2.29	Date of Analysis:	5/27/14 01:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.5	Not Detected
1,1,1-Trichloroethane	1.1	3.2	6.2	17
cis-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Trichloroethene	1.1	44	6.2	230
Tetrachloroethene	1.1	15	7.8	100

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: SVE GAC1-0514

Lab ID#: 1405264-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052710	Date of Collection:	5/9/14 3:15:00 PM
Dil. Factor:	2.38	Date of Analysis:	5/27/14 01:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	12	8.1	78

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: SVE Eff-0514

Lab ID#: 1405264-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052711	Date of Collection:	5/9/14 3:20:00 PM
Dil. Factor:	2.42	Date of Analysis:	5/27/14 02:03 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	Not Detected	6.5	Not Detected
Tetrachloroethene	1.2	7.8	8.2	53

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: BOP-78(i)-0514

Lab ID#: 1405264-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052712	Date of Collection:	5/9/14 1:20:00 PM
Dil. Factor:	2.47	Date of Analysis:	5/27/14 02:29 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.9	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.7	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	16	6.6	88
Tetrachloroethene	1.2	5.4	8.4	37

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: BOP-79(i)-0514

Lab ID#: 1405264-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052713	Date of Collection:	5/9/14 1:35:00 PM
Dil. Factor:	2.38	Date of Analysis:	5/27/14 02:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	8.9	6.4	48
Tetrachloroethene	1.2	3.8	8.1	26

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: BOP-84(i)-0514

Lab ID#: 1405264-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052714	Date of Collection:	5/9/14 2:05:00 PM
Dil. Factor:	2.33	Date of Analysis:	5/27/14 03:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	12	6.3	62
Tetrachloroethene	1.2	8.3	7.9	56

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: BOP-85(i)-0514

Lab ID#: 1405264-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052721	Date of Collection:	5/9/14 12:45:00 PM
Dil. Factor:	2.42	Date of Analysis:	5/27/14 09:37 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	5.9	6.5	32
Tetrachloroethene	1.2	15	8.2	100

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: BOP-86(i)-0514

Lab ID#: 1405264-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052722	Date of Collection:	5/9/14 2:15:00 PM
Dil. Factor:	2.38	Date of Analysis:	5/27/14 10:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	1.2	1.3	6.5	7.2
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	50	6.4	270
Tetrachloroethene	1.2	13	8.1	89

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: BOP-87(i)-0514

Lab ID#: 1405264-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052723	Date of Collection:	5/9/14 1:00:00 PM
Dil. Factor:	2.38	Date of Analysis:	5/27/14 10:30 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	5.6	6.4	30
Tetrachloroethene	1.2	10	8.1	71

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: BOP-88(i)-0514

Lab ID#: 1405264-10A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052724	Date of Collection:	5/9/14 1:10:00 PM
Dil. Factor:	2.24	Date of Analysis:	5/27/14 10:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.4	Not Detected
1,1,1-Trichloroethane	1.1	2.2	6.1	12
cis-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Trichloroethene	1.1	5.8	6.0	31
Tetrachloroethene	1.1	6.2	7.6	42

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: VOW-16-0514

Lab ID#: 1405264-11A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052817	Date of Collection:	5/9/14 1:40:00 PM
Dil. Factor:	2.33	Date of Analysis:	5/28/14 06:01 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	4.8	6.3	26
Tetrachloroethene	1.2	4.9	7.9	33

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: VOW-17-0514

Lab ID#: 1405264-12A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052808	Date of Collection:	5/9/14 1:55:00 PM
Dil. Factor:	2.42	Date of Analysis:	5/28/14 01:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	2.2	6.5	12
Tetrachloroethene	1.2	8.8	8.2	59

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: VOW-18-0514

Lab ID#: 1405264-13A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052807	Date of Collection: 5/9/14 11:50:00 AM
Dil. Factor:	2.33	Date of Analysis: 5/28/14 01:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	3.3	6.3	18
Tetrachloroethene	1.2	20	7.9	140

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: VP-1-0514

Lab ID#: 1405264-14A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052809	Date of Collection: 5/9/14 10:50:00 AM
Dil. Factor:	2.38	Date of Analysis: 5/28/14 02:27 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	8.4	8.1	57

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: VP-2-0514

Lab ID#: 1405264-15A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052810	Date of Collection: 5/9/14 10:45:00 AM
Dil. Factor:	2.42	Date of Analysis: 5/28/14 03:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	1.4	6.5	7.5
Tetrachloroethene	1.2	6.8	8.2	46

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: VP-3-0514

Lab ID#: 1405264-16A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052811	Date of Collection:	5/9/14 10:30:00 AM
Dil. Factor:	2.33	Date of Analysis:	5/28/14 03:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1,1-Trichloroethane	1.2	3.4	6.4	19
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	1.4	6.3	7.7
Tetrachloroethene	1.2	6.3	7.9	42

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: VP-4-0514

Lab ID#: 1405264-17A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052812	Date of Collection:	5/9/14 10:55:00 AM
Dil. Factor:	2.24	Date of Analysis:	5/28/14 04:26 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.4	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.1	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Trichloroethene	1.1	2.2	6.0	12
Tetrachloroethene	1.1	10	7.6	70

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: VP-5-0514

Lab ID#: 1405264-18A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052813	Date of Collection:	5/9/14 11:25:00 AM
Dil. Factor:	2.33	Date of Analysis:	5/28/14 05:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	1.9	6.3	10
Tetrachloroethene	1.2	9.7	7.9	66

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: VP-6-0514

Lab ID#: 1405264-19A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052814	Date of Collection:	5/9/14 11:35:00 AM
Dil. Factor:	2.42	Date of Analysis:	5/28/14 05:38 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	1.2	1.8	6.6	9.8
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	1.5	6.5	8.0
Tetrachloroethene	1.2	15	8.2	100

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: VP-7-0514

Lab ID#: 1405264-20A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052815	Date of Collection:	5/9/14 10:15:00 AM
Dil. Factor:	2.33	Date of Analysis:	5/28/14 06:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	10	4.6	41
1,1,1-Trichloroethane	1.2	200	6.4	1100
cis-1,2-Dichloroethene	1.2	7.4	4.6	29
Trichloroethene	1.2	14	6.3	77
Tetrachloroethene	1.2	8.9	7.9	61

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	105	70-130

Client Sample ID: VP-8-0514

Lab ID#: 1405264-21A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052816	Date of Collection:	5/9/14 10:00:00 AM
Dil. Factor:	2.33	Date of Analysis:	5/28/14 06:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	25	4.6	99
1,1,1-Trichloroethane	1.2	460	6.4	2500
cis-1,2-Dichloroethene	1.2	4.3	4.6	17
Trichloroethene	1.2	18	6.3	98
Tetrachloroethene	1.2	17	7.9	110

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: VP-9-0514

Lab ID#: 1405264-22A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052817	Date of Collection:	5/9/14 11:10:00 AM
Dil. Factor:	2.33	Date of Analysis:	5/28/14 07:55 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1,1-Trichloroethane	1.2	1.2	6.4	6.5
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	14	6.3	72
Tetrachloroethene	1.2	15	7.9	100

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1405264-23A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052707	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/27/14 11:58 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: Lab Blank

Lab ID#: 1405264-23B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052807	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/28/14 12:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1405264-23C

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052806	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/28/14 12:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1405264-24A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 3052702

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 5/27/14 08:07 AM

Compound	%Recovery

Vinyl Chloride	94
1,1-Dichloroethene	98
1,1,1-Trichloroethane	95
cis-1,2-Dichloroethene	97
Trichloroethene	124
Tetrachloroethene	92

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits

Toluene-d8	101	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: CCV

Lab ID#: 1405264-24B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052802	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/28/14 09:07 AM

Compound	%Recovery

Vinyl Chloride	94
1,1-Dichloroethene	95
1,1,1-Trichloroethane	93
cis-1,2-Dichloroethene	95
Trichloroethene	123
Tetrachloroethene	89

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits

Toluene-d8	105	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: CCV

Lab ID#: 1405264-24C

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052803	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/28/14 09:34 AM

Compound	%Recovery

Vinyl Chloride	125
1,1-Dichloroethene	93
1,1,1-Trichloroethane	96
cis-1,2-Dichloroethene	94
Trichloroethene	102
Tetrachloroethene	102

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits

Toluene-d8	98	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	112	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1405264-25A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/27/14 08:32 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	106	70-130
1,1-Dichloroethene	123	70-130
1,1,1-Trichloroethane	111	70-130
cis-1,2-Dichloroethene	126	70-130
Trichloroethene	110	70-130
Tetrachloroethene	105	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405264-25AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 3052704

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 5/27/14 08:58 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	107	70-130
1,1-Dichloroethene	125	70-130
1,1,1-Trichloroethane	111	70-130
cis-1,2-Dichloroethene	127	70-130
Trichloroethene	107	70-130
Tetrachloroethene	105	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: LCS

Lab ID#: 1405264-25B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3052803	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/28/14 09:33 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	105	70-130
1,1-Dichloroethene	119	70-130
1,1,1-Trichloroethane	104	70-130
cis-1,2-Dichloroethene	123	70-130
Trichloroethene	102	70-130
Tetrachloroethene	102	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405264-25BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 3052804

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 5/28/14 09:59 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	109	70-130
1,1-Dichloroethene	123	70-130
1,1,1-Trichloroethane	110	70-130
cis-1,2-Dichloroethene	130	70-130
Trichloroethene	106	70-130
Tetrachloroethene	102	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1405264-25C

EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2052804

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 5/28/14 10:16 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	109	70-130
1,1-Dichloroethene	111	70-130
1,1,1-Trichloroethane	99	70-130
cis-1,2-Dichloroethene	114	70-130
Trichloroethene	98	70-130
Tetrachloroethene	102	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	109	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405264-25CC

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2052805	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/28/14 10:55 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	91	70-130
1,1-Dichloroethene	104	70-130
1,1,1-Trichloroethane	94	70-130
cis-1,2-Dichloroethene	105	70-130
Trichloroethene	96	70-130
Tetrachloroethene	96	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	107	70-130



Air TOXICS LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 3

Project Manager Chris Kimmel

Collected by: (Print and Sign) James Raper

Company Landau Associates Email borris@landau.com

Address 333 SW 5th Ave #100 City Portland State OR Zip 97204

Phone 503 342 1080 Fax 503 542 1081

Project Info:

P.O. # 025116-114-412

Project # 025116-114-412

Project Name Breeding of Portlands

Turn Around Time: ☒ Normal ☐ Rush

Pressurized by: specify

Date:

Pressurization Gas:

N₂ He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum		
						Initial	Final	Final (psi)
01A	SVE Inf - 0514	14525	5/9/14	15:10	70-15 (6 list)	30	5	
02A	SVE GAC1 - 0514	37421		15:15		30	5	
03A	SVE EAF - 0514	37657		15:20		30	5	
04A	BOP-78(i) - 0514	35651		13:20		30	5	
05A	BOP-79(i) - 0514	37762		13:35		30	5	
06A	BOP-84(i) - 0514	34612		14:05		30	5	
07A	BOP-85(i) - 0514	36501		12:45		30	3.5	
08A	BOP-86(i) - 0514	36533		14:15		30	5	
09A	BOP-87(i) - 0514	34172		13:00		30	5	
10A	BOP-88(i) - 0514	31758		13:10		30	5	

Relinquished by: (signature) James Raper Date/Time 5/12/14 17:00

Received by: (signature) David McNeill Date/Time 5/14/14 0945

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time

Notes: Don't analyze canister #34643
-only clean

Shipper Name FdEx Air Bill # 5865-8151-1681 Temp (°C) NA Condition Good Custody Seals Intact? Yes No None Work Order # 1405264



CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 2 of 3

Project Manager Chris Kimmel
Collected by: (Print and Sign) Tamer Resan
Company Landau Associates Email bborgerson@landauinc.com
Address 333 SW 4th Ave #200 City Pittsford State OR Zip 97204
Phone 503.542.1080 Fax 503.542.1081

Project Info:
P.O. # 025116-114-412
Project # 025116-114-412
Project Name Boeing of Portland
Turn Around Time: ☒ Normal ☐ Rush
Pressurized by: specify
Date: specify
Pressurization Gas: specify
N₂ He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum
11A	VOW-16-0514	161531	5/1/14	1340	70-15 (6.15t)	Initial Final Receipt Final (psi)
12A	VOW-17-0514	141594		1355		29.5 5
13A	VOW-18-0514	35652		1150		29.5 5
14A	VP-1-0514	36502		1050		30 5
15A	VP-2-0514	36425		1045		29.5 5
16A	VP-3-0514	34656		1030		27.5 5
17A	VP-4-0514	12360		1055		30 5
18A	VP-5-0514	12802		1125		29.5 3
19A	VP-6-0514	25285		1135		28.5 3.5
20A	VP-7-0514	37411		1015		29 5

Relinquished by: (signature) [Signature] Date/Time 5/12/14 17:00
Received by: (signature) David Ambush Date/Time 5/14/14 0915
Relinquished by: (signature) [Signature] Date/Time 5/12/14 17:00
Received by: (signature) [Signature] Date/Time 5/14/14 0915
Relinquished by: (signature) [Signature] Date/Time 5/12/14 17:00
Received by: (signature) [Signature] Date/Time 5/14/14 0915

Shipper Name FedEx Air Bill # 5865-8151-1681 Temp (°C) NA Condition Good Custody Seals Intact? Yes No (None) Work Order # 1405264



**180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020**

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

Page 3 of 3

[illegible]

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

February 14, 2014

Project: Boeing of Portland/025116.114.412

Submittal Date: 02/06/2014

Group Number: 1450637

PO Number: 0025116.111.140

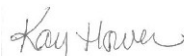
State of Sample Origin: OR

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
BOP-86(i)-0214 NA Water	7355967
BOP-85(i)-0214 NA Water	7355968
BOP-87(i)-0214 NA Water	7355969
BOP-88(i)-0214 NA Water	7355970
BOP-79(i)-0214 NA Water	7355971
BOP-78(i)-0214 NA Water	7355972
BOP-72(i)-0214 NA Water	7355973
BOP-75(i)-0214 NA Water	7355974
BOP-76(i)-0214 NA Water	7355975
BOP-84(i)-0214 NA Water	7355976
Trip Blank NA Water	7355977

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

ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen
ELECTRONIC COPY TO	Landau	Attn: Chris Kimmel
ELECTRONIC COPY TO	Landau Associates	Attn: Terry McGourty

Respectfully Submitted,



Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.114.412
LLI Group #: 1450637

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: 7355968, 7355969, 7355971, 7355972, 7355973, 7355974, 7355975

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and the target analyte(s) was not detected in the sample, the data is reported.

Sample #s: 7355970

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and the target analyte(s) was not detected in the sample, the data is reported.

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 the second trial is not detected in this sample.

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

Analyte	Response (%Drift)
chloromethane	-23%
vinyl acetate	-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 #s: 7355976, 7355977

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and the target analyte(s) was not detected in the sample, the data is reported.

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)
chloromethane	-23%
vinyl acetate	-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.

Batch #: H140421AA (Sample number(s): 7355967-7355975)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: Trichlorofluoromethane
Batch #: H140422AA (Sample number(s): 7355970, 7355976-7355977 UNSPK: P360310)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Trichlorofluoromethane, Tetrachloroethene
RSKSOP-175 modified, GC Miscellaneous

Batch #: 140420020A (Sample number(s): 7355976 UNSPK: 7355976)

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

Sample Description: BOP-86(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355967
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 10:45 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP86

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	6.9	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	0.3	0.2	1
11996	Toluene	108-88-3	0.2	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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	0.6	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

General Sample Comments

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

Sample Description: BOP-86(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355967
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 10:45 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP86

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	H140421AA	02/11/2014 16:37	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 16:37	Kerri E Legerlotz	1

Sample Description: BOP-85(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355968
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:00 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP85

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	6.6	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	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	1.3	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

General Sample Comments

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	H140421AA	02/11/2014 16:58	Kerri E Legerlotz	1

Sample Description: BOP-85(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355968
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:00 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP85

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 16:58	Kerri E Legerlotz	1

Sample Description: BOP-87(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355969
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:15 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP87

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	8.1	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	1.2	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	1,1,1,2,2-Pentafluoroethane	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	0.3	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	1	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

General Sample Comments

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

Sample Description: BOP-87(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355969
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:15 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP87

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	H140421AA	02/11/2014 17:19	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 17:19	Kerri E Legerlotz	1

Sample Description: BOP-88(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355970
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:30 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP88

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	7.5	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	3.0	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	2.8	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	0.9	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	32 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10
11996	Chloroethane	75-00-3	5.0 U	5.0	10

Sample Description: BOP-88(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355970
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:30 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP88

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.0 U	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	2.9	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.0 U	2.0	10
11996	Toluene	108-88-3	2.5	2.0	10
11996	1,1,1,2,2,2-Hexachloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	2.0 U	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	27	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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 the second trial is not detected in this sample.

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

Analyte	Response (%Drift)
chloromethane	-23%
vinyl acetate	-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.

General Sample Comments

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

Sample Description: BOP-88(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355970
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:30 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP88

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	H140421AA	02/11/2014 17:41	Kerri E Legerlotz	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140422AA	02/12/2014 00:07	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 17:41	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140422AA	02/12/2014 00:07	Kevin A Sposito	10

Sample Description: BOP-79(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355971
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:45 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP79

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	6.5	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	1.9	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	17	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.7	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	3.4	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	7.2	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

General Sample Comments

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

Sample Description: BOP-79(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355971
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 11:45 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP79

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	H140421AA	02/11/2014 18:01	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 18:01	Kerri E Legerlotz	1

Sample Description: BOP-78(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355972
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 12:00 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP78

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	7.7	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	1.9	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	1.3	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	0.3	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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	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	3.0	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

General Sample Comments

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

Sample Description: BOP-78(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355972
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 12:00 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP78

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	H140421AA	02/11/2014 18:22	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 18:22	Kerri E Legerlotz	1

Sample Description: BOP-72(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355973
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 13:00 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP72

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	8.7	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	1.1	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	2.6	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	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	1,1,1,2,2,2-Hexachloroethane	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	1.9	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

General Sample Comments

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

Sample Description: BOP-72(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355973
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 13:00 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP72

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	H140421AA	02/11/2014 18:43	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 18:43	Kerri E Legerlotz	1

Sample Description: BOP-75(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355974
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 13:15 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP75

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	10	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	5.1	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	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	1.3	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	2.6	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	18	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

General Sample Comments

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

Sample Description: BOP-75(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355974
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 13:15 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP75

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	H140421AA	02/11/2014 19:04	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 19:04	Kerri E Legerlotz	1

Sample Description: BOP-76(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355975
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 13:30 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP76

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	7.8	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	0.2 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	0.3	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	5.8	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	1	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	51 E	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	8.5	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10
11996	Chloroethane	75-00-3	5.0 U	5.0	10

Sample Description: BOP-76(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355975
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 13:30 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP76

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.0 U	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	5.4	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.0 U	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,2,2-Trichloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	45	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	7.1	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

General Sample Comments

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	H140421AA	02/11/2014 19:25	Kerri E Legerlotz	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140421AA	02/11/2014 19:45	Kerri E Legerlotz	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140421AA	02/11/2014 19:25	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140421AA	02/11/2014 19:45	Kerri E Legerlotz	10

Sample Description: BOP-84(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355976
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 14:15 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP84

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	40	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	17	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	2.5	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	3.1	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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	0.6	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

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)
chloromethane	-23%
vinyl acetate	-23%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a

Sample Description: BOP-84(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7355976
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/05/2014 14:15 by BB

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP84

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
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 Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	12,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	500 U	500	100
07105	Ethane	74-84-0	500 U	500	100
07105	Ethene	74-85-1	500 U	500	100
07105	Methane	74-82-8	19,000	500	100
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	378	5.0	5

General Sample Comments

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	H140422AA	02/12/2014 04:56	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140422AA	02/12/2014 04:56	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140420020A	02/11/2014 23:09	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140420020A	02/12/2014 12:11	Elizabeth J Marin	100
00368	Nitrate Nitrogen	EPA 300.0	1	14037987601A	02/06/2014 18:26	Clinton M Wilson	1
00228	Sulfate	EPA 300.0	1	14037987601A	02/06/2014 18:26	Clinton M Wilson	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14042049501A	02/11/2014 01:52	James S Mathiot	5

Sample Description: Trip Blank NA Water
Boeing Portland

LL Sample # WW 7355977
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 01/15/2014 by

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP-T

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Trichloroethane	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)
chloromethane	-23%
vinyl acetate	-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

Sample Description: Trip Blank NA Water
Boeing Portland

LL Sample # WW 7355977
LL Group # 1450637
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 01/15/2014 by

The Boeing Company

Submitted: 02/06/2014 09:15

Reported: 02/14/2014 16:44

BOP-T

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				

General Sample Comments

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	H140422AA	02/11/2014 23:26	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140422AA	02/11/2014 23:26	Kevin A Sposito	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/14/14 at 04:44 PM

Group Number: 1450637

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H140421AA	Sample number(s): 7355967-7355975							
Acetone	5.0 U	5.0	ug/l	104	106	60-139	2	30
Benzene	0.2 U	0.2	ug/l	109	106	80-120	3	30
Bromodichloromethane	0.5 U	0.5	ug/l	107	105	80-120	2	30
Bromoform	0.5 U	0.5	ug/l	114	114	73-128	1	30
Bromomethane	0.5 U	0.5	ug/l	108	104	62-126	4	30
2-Butanone	5.0 U	5.0	ug/l	115	110	70-130	5	30
Carbon Disulfide	0.5 U	0.5	ug/l	117	111	80-128	6	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	116	111	80-129	5	30
Chlorobenzene	0.5 U	0.5	ug/l	107	104	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	104	97	68-120	7	30
Chloroform	0.2 U	0.2	ug/l	113	109	80-120	3	30
Chloromethane	0.5 U	0.5	ug/l	103	98	55-120	4	30
Dibromochloromethane	0.5 U	0.5	ug/l	109	105	80-126	4	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	113	110	80-120	3	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	109	108	80-127	1	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	115	108	80-123	7	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	105	101	80-120	4	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	110	107	80-120	3	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	112	110	80-120	2	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	109	106	80-123	3	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	105	104	80-120	2	30
Ethylbenzene	0.5 U	0.5	ug/l	106	103	80-120	3	30
2-Hexanone	5.0 U	5.0	ug/l	114	109	69-131	4	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	115	109	69-135	5	30
Methylene Chloride	0.5 U	0.5	ug/l	114	109	80-120	5	30
Styrene	0.5 U	0.5	ug/l	105	103	80-120	3	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	106	107	80-125	0	30
Tetrachloroethene	0.2 U	0.2	ug/l	112	107	80-120	5	30
Toluene	0.2 U	0.2	ug/l	108	103	80-120	4	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	121	113	78-132	7	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	112	108	80-120	4	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	109	105	80-120	4	30
Trichloroethene	0.2 U	0.2	ug/l	112	106	80-120	5	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	139*	138*	77-132	1	30
Vinyl Acetate	0.5 U	0.5	ug/l	97	95	45-132	3	30
Vinyl Chloride	0.2 U	0.2	ug/l	110	104	65-127	5	30
m+p-Xylene	0.5 U	0.5	ug/l	105	102	80-120	3	30
o-Xylene	0.5 U	0.5	ug/l	105	102	80-120	3	30
Batch number: H140422AA	Sample number(s): 7355970,7355976-7355977							
Acetone	5.0 U	5.0	ug/l	114		60-139		
Benzene	0.2 U	0.2	ug/l	108		80-120		
Bromodichloromethane	0.5 U	0.5	ug/l	108		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 SummaryClient Name: The Boeing Company
Reported: 02/14/14 at 04:44 PM

Group Number: 1450637

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Bromoform	0.5 U	0.5	ug/l	116		73-128		
Bromomethane	0.5 U	0.5	ug/l	84		62-126		
2-Butanone	5.0 U	5.0	ug/l	112		70-130		
Carbon Disulfide	0.5 U	0.5	ug/l	115		80-128		
Carbon Tetrachloride	0.2 U	0.2	ug/l	120		80-129		
Chlorobenzene	0.5 U	0.5	ug/l	105		80-120		
Chloroethane	0.5 U	0.5	ug/l	80		68-120		
Chloroform	0.2 U	0.2	ug/l	113		80-120		
Chloromethane	0.5 U	0.5	ug/l	76		55-120		
Dibromochloromethane	0.5 U	0.5	ug/l	107		80-126		
1,1-Dichloroethane	0.5 U	0.5	ug/l	111		80-120		
1,2-Dichloroethane	0.2 U	0.2	ug/l	116		80-127		
1,1-Dichloroethene	0.2 U	0.2	ug/l	112		80-123		
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	104		80-120		
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	109		80-120		
1,2-Dichloropropane	0.5 U	0.5	ug/l	108		80-120		
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	102		80-123		
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	100		80-120		
Ethylbenzene	0.5 U	0.5	ug/l	104		80-120		
2-Hexanone	5.0 U	5.0	ug/l	110		69-131		
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	110		69-135		
Methylene Chloride	0.5 U	0.5	ug/l	113		80-120		
Styrene	0.5 U	0.5	ug/l	104		80-120		
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	101		80-125		
Tetrachloroethene	0.2 U	0.2	ug/l	111		80-120		
Toluene	0.2 U	0.2	ug/l	105		80-120		
1,1,2,2,2-Trifluoroethane	0.5 U	0.5	ug/l	116		78-132		
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	116		80-120		
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	107		80-120		
Trichloroethene	0.2 U	0.2	ug/l	110		80-120		
Trichlorofluoromethane	0.5 U	0.5	ug/l	122		77-132		
Vinyl Acetate	0.5 U	0.5	ug/l	67		45-132		
Vinyl Chloride	0.2 U	0.2	ug/l	83		65-127		
m+p-Xylene	0.5 U	0.5	ug/l	102		80-120		
o-Xylene	0.5 U	0.5	ug/l	103		80-120		
Batch number: 140420020A	Sample number(s): 7355976							
Acetylene	5.0 U	5.0	ug/l	95		58-136		
Ethane	5.0 U	5.0	ug/l	89		80-120		
Ethene	5.0 U	5.0	ug/l	89		80-120		
Methane	5.0 U	5.0	ug/l	91		80-120		
Batch number: 14037987601A	Sample number(s): 7355976							
Nitrate Nitrogen	0.10 U	0.10	mg/l	102		90-110		
Sulfate	1.0 U	1.0	mg/l	99		90-110		
Batch number: 14042049501A	Sample number(s): 7355976							
Total Organic Carbon	1.0 U	1.0	mg/l	101		91-113		

Sample Matrix Quality ControlUnspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

*- 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 SummaryClient Name: The Boeing Company
Reported: 02/14/14 at 04:44 PM

Group Number: 1450637

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Batch number: H140422AA	Sample number(s): 7355970, 7355976-7355977 UNSPK: P360310								
Acetone	97	91	57-163	7	30				
Benzene	120	118	87-126	2	30				
Bromodichloromethane	118	118	82-133	1	30				
Bromoform	126	124	60-138	2	30				
Bromomethane	118	118	66-130	0	30				
2-Butanone	144	142	56-160	1	30				
Carbon Disulfide	133	130	84-141	3	30				
Carbon Tetrachloride	139	136	81-148	3	30				
Chlorobenzene	118	115	78-133	3	30				
Chloroethane	114	110	70-139	3	30				
Chloroform	134	133	86-136	1	30				
Chloromethane	110	112	49-135	2	30				
Dibromochloromethane	116	113	79-125	3	30				
1,1-Dichloroethane	125	122	88-136	3	30				
1,2-Dichloroethane	123	122	82-135	1	30				
1,1-Dichloroethene	131	128	83-150	2	30				
cis-1,2-Dichloroethene	114	112	82-129	2	30				
trans-1,2-Dichloroethene	125	121	88-127	3	30				
1,2-Dichloropropane	123	119	91-126	4	30				
cis-1,3-Dichloropropene	118	116	74-132	1	30				
trans-1,3-Dichloropropene	113	111	71-128	2	30				
Ethylbenzene	119	116	80-140	3	30				
2-Hexanone	109	112	59-169	3	30				
4-Methyl-2-pentanone	111	112	69-149	1	30				
Methylene Chloride	124	122	77-135	2	30				
Styrene	117	115	63-151	2	30				
1,1,2,2-Tetrachloroethane	112	109	75-131	3	30				
Tetrachloroethene	130*	124	75-129	4	30				
Toluene	117	114	83-127	2	30				
1,1,2,2-Trichloroethane	140	137	77-147	2	30				
1,1,1-Trichloroethane	133	130	85-140	2	30				
1,1,2-Trichloroethane	117	113	85-129	4	30				
Trichloroethene	128	126	85-131	2	30				
Trichlorofluoromethane	167*	174*	73-139	5	30				
Vinyl Acetate	98	97	45-136	1	30				
Vinyl Chloride	121	124	62-135	2	30				
m+p-Xylene	117	113	81-137	4	30				
o-Xylene	117	114	81-137	2	30				
Batch number: 140420020A	Sample number(s): 7355976 UNSPK: 7355976								
Acetylene	87	86	38-121	1	20				
Ethane	94	93	32-129	1	20				
Ethene	124	123	35-162	0	20				
Methane	-999	1843	35-157	13	20				
	(2)	(2)							
Batch number: 14037987601A	Sample number(s): 7355976 UNSPK: P355986 BKG: P355986								
Nitrate Nitrogen	95		90-110		0.66	0.65		1 (1)	20
Sulfate	94		90-110		5.0	U 5.0	U	1 (1)	20
Batch number: 14042049501A	Sample number(s): 7355976 UNSPK: P358339 BKG: P358339								
Total Organic Carbon	101		63-142		19.4	19.6		1	4

*- 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
Reported: 02/14/14 at 04:44 PM

Group Number: 1450637

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 Water(25ml) Master
Batch number: H140421AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7355967	101	97	96	100
7355968	101	101	96	99
7355969	102	100	96	99
7355970	102	102	96	98
7355971	102	100	96	99
7355972	103	99	96	99
7355973	103	99	96	99
7355974	102	101	96	100
7355975	101	101	96	99
7355975	101	101	96	99
DL				
Blank	101	100	97	100
LCS	101	98	97	101
LCSD	101	100	97	100
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Water(25ml) Master
Batch number: H140422AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7355970	103	102	95	99
DL				
7355976	104	100	96	101
7355977	103	101	95	100
Blank	102	99	97	99
LCS	101	100	97	101
MS	101	100	97	101
MSD	102	98	96	101
Limits:	77-114	74-113	77-110	78-110

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 140420020A
Propene

7355976	66
7355976	98
DL	
Blank	90
LCS	92
MS	69
MSD	68
Limits:	42-131

*- 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
Reported: 02/14/14 at 04:44 PM

Group Number: 1450637

*- 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.

① Client Information						
Site Location: <u>Graham, Oregon</u>						
Site Project: <u>Boring at Portland</u>						
Site Program#: <u>02-SP6-114.412</u>						
Boeing PM: <u>Ken Chaput</u>						
Consultant Contact: <u>Chris Kimmel</u>						
Report To: <u>Chris Kimmel & Brett Borgeson</u>						
Invoice To: ☒ Boeing EHS ☐ Other (specify): _____ # of Coolers: <u>1</u>						
Sampler: <u>Brett Borgeson</u>						
② Sample Identification						
		Collected		③ Matrix	No. of Containers	
		Date	Time			
BOP-86G)-0214		2-5-14	1045	H ₂ O	3	
BOP-85C)-0214			1100		3	
BOP-87G)-0214			1115		3	
BOP-88G)-0214			1130		3	
BOP-79G)-0214			1145		3	
BOP-78L)-0214			1200		3	
BOP-72G)-0214			1300		3	
BOP-75G)-0214			1315		3	
BOP-76G)-0214			1330		3	
BOP-84G)-0214		↓	1415	↓	9	
Trip Blank		1-15-14	—	H ₂ O	2	
⑥ Turnaround Time Requested (please circle)						
Standard		5 day	4 day			
		48 hour	24 hour			
Date needed:						

Client: BOEING**BOEING OF PORTLAND****Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>02/06/2014 9:15</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>OR</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Trip Blank Present:	<u>Yes</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Indicated on COC:	<u>Yes</u>
Custody Seal Intact:	<u>Yes</u>	Trip Blank Type:	<u>N/A</u>
Samples Chilled:	<u>Yes</u>	Trip Blank Qty:	<u>0</u>
Paperwork Enclosed:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Intact:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Missing Samples:	<u>No</u>	Flow Controller Quantity:	<u>0</u>
Extra Samples:	<u>No</u>	Air Quality Returns:	<u>N/A</u>
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Corey Eshleman (3647) at 09:51 on 02/06/2014

Samples Chilled Details: BOEING OF PORTLAND

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	0.1	0.1	DT	Wet	Y	Bagged	N

General Comments:

1450637

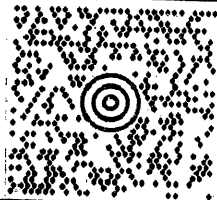
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATOIRE
940 HENSLEY
RICHMOND CA 94801-2106

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 4557 1848

1 S



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40



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.

WS 16.0.31

45.0A 10/2013

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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

February 20, 2014

Project: Boeing of Portland/025116.614.140

Submittal Date: 02/14/2014
Group Number: 1452630
PO Number: 0025116.113.140
State of Sample Origin: ORClient Sample DescriptionGWTSEFF-0214 Water
GWTSEFFd-0214 Water
GWTSINF-0214 Water
GWTSINFd-0214 WaterLancaster Labs (LL) #7364036
7364037
7364038
7364039

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

ELECTRONIC Landau Associates
COPY TO
ELECTRONIC Landau
COPY TO
ELECTRONIC Landau Associates
COPY TO
ELECTRONIC The Boeing Company
COPY TO

Attn: Anne Halvorsen

Attn: Chris Kimmel

Attn: Terry McGourty

Attn: John Rusoff

Respectfully Submitted,

Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.614.140
LLI Group #: 1452630

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**

Batch #: H140451AA (Sample number(s): 7364036-7364039)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: Trichlorofluoromethane

EPA 300.0, Wet Chemistry

Sample #s: 7364036

The calibration for the trial (ID Trial 2) analyzed on 2/15/2014 at 09:14 EST was out of compliance. The recovery of the LOQ calibration point was outside of the 50-150% recovery window with a recovery of 153%.

Batch #: 14046987601A (Sample number(s): 7364036 UNSPK: P364004 BKG: P364004)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Ortho-phosphate as P

Batch #: 14048347902A (Sample number(s): 7364036 UNSPK: 7364036 BKG: 7364036)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Ortho-phosphate as P

SM 4500-NH3 D-1997, Wet Chemistry

Batch #: 14050008201A (Sample number(s): 7364036 UNSPK: P364639 BKG: P364639)

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

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Ammonia-Nitrogen

Sample Description: GWTSEFF-0214 Water
Boeing Portland 0025116.114.140

LL Sample # WW 7364036
LL Group # 1452630
Account # 13419

Project Name: Boeing of Portland/025116.614.140

Collected: 02/13/2014 08:45 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 14:00

BOP01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Trichloroethane	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

Wet Chemistry	EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	2.5	0.10
01506	Nitrite Nitrogen	14797-65-0	0.10	0.10
07322	Ortho-phosphate as P	7723-14-0	0.50	0.50
The calibration for the trial (ID Trial 2) analyzed on 2/15/2014 at 09:14 EST was out of compliance. The recovery of the LOQ calibration point was outside of the 50-150% recovery window with a recovery of 153%.				
07322	Ortho-phosphate as P	7723-14-0	0.52	0.50
The calibration for the trial (ID Trial 2) analyzed on 2/15/2014 at 09:14 EST was out of compliance. The recovery of the LOQ calibration point was outside of the 50-150% recovery window with a recovery of 153%.				

Sample Description: GWTSEFF-0214 Water
Boeing Portland 0025116.114.140

LL Sample # WW 7364036
LL Group # 1452630
Account # 13419

Project Name: Boeing of Portland/025116.614.140

Collected: 02/13/2014 08:45 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 14:00

BOP01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Wet Chemistry					
00345	Total Phosphorus as PO4 water	EPA 365.1 14265-44-2	mg/l 0.38	mg/l 0.31	1
12677	Ammonia-Nitrogen	SM 4500-NH3 D-1997 7664-41-7	mg/l 0.86	mg/l 0.20	1

General Sample Comments

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	H140451AA	02/14/2014 21:02	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 21:02	Kevin A Sposito	1
00368	Nitrate Nitrogen	EPA 300.0	1	14046987601A	02/15/2014 09:14	Sandra J Miller	1
01506	Nitrite Nitrogen	EPA 300.0	1	14046987601A	02/15/2014 09:14	Sandra J Miller	1
07322	Ortho-phosphate as P	EPA 300.0	1	14048347902A	02/17/2014 17:46	Sandra J Miller	1
07322	Ortho-phosphate as P	EPA 300.0	2	14046987601A	02/15/2014 09:14	Sandra J Miller	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	14050110101B	02/20/2014 11:43	Joseph E McKenzie	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	14050110101B	02/19/2014 07:50	Nancy J Shoop	1
12677	Ammonia-Nitrogen	SM 4500-NH3 D-1997	1	14050008201A	02/19/2014 22:21	Michele L Graham	1

Sample Description: GWTSEFFd-0214 Water
Boeing Portland 0025116.114.140

LL Sample # WW 7364037
LL Group # 1452630
Account # 13419

Project Name: Boeing of Portland/025116.614.140

Collected: 02/13/2014 09:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 14:00

BOP02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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

General Sample Comments

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	H140451AA	02/14/2014 21:23	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 21:23	Kevin A Sposito	1

Sample Description: GWTSINF-0214 Water
Boeing Portland 0025116.114.140

LL Sample # WW 7364038
LL Group # 1452630
Account # 13419

Project Name: Boeing of Portland/025116.614.140

Collected: 02/13/2014 09:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 14:00

BOP03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.9	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	0.4	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	9.1	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

General Sample Comments

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	H140451AA	02/14/2014 21:44	Kevin A Sposito	1

Sample Description: GWTSINF-0214 Water
Boeing Portland 0025116.114.140

LL Sample # WW 7364038
LL Group # 1452630
Account # 13419

Project Name: Boeing of Portland/025116.614.140

Collected: 02/13/2014 09:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 14:00

BOP03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 21:44	Kevin A Sposito	1

Sample Description: GWTSINFd-0214 Water
Boeing Portland 0025116.114.140

LL Sample # WW 7364039
LL Group # 1452630
Account # 13419

Project Name: Boeing of Portland/025116.614.140

Collected: 02/13/2014 09:30 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 14:00

BOP04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.8	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	0.4	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	8.9	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

General Sample Comments

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	H140451AA	02/14/2014 22:05	Kevin A Sposito	1

Sample Description: GWTSINFd-0214 Water
Boeing Portland 0025116.114.140

LL Sample # WW 7364039
LL Group # 1452630
Account # 13419

Project Name: Boeing of Portland/025116.614.140

Collected: 02/13/2014 09:30 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 14:00

BOP04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 22:05	Kevin A Sposito	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/20/14 at 02:00 PM

Group Number: 1452630

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H140451AA	Sample number(s): 7364036-7364039							
Acetone	5.0 U	5.0	ug/l	111	103	60-139	7	30
Benzene	0.2 U	0.2	ug/l	110	109	80-120	1	30
Bromodichloromethane	0.5 U	0.5	ug/l	110	108	80-120	1	30
Bromoform	0.5 U	0.5	ug/l	115	114	73-128	1	30
Bromomethane	0.5 U	0.5	ug/l	104	103	62-126	2	30
2-Butanone	5.0 U	5.0	ug/l	108	106	70-130	2	30
Carbon Disulfide	0.5 U	0.5	ug/l	111	108	80-128	3	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	120	117	80-129	3	30
Chlorobenzene	0.5 U	0.5	ug/l	108	105	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	97	97	68-120	1	30
Chloroform	0.2 U	0.2	ug/l	115	113	80-120	2	30
Chloromethane	0.5 U	0.5	ug/l	94	94	55-120	0	30
Dibromochloromethane	0.5 U	0.5	ug/l	107	105	80-126	2	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	115	112	80-120	3	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	117	113	80-127	3	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	111	109	80-123	2	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	106	104	80-120	2	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	111	108	80-120	2	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	113	112	80-120	1	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	109	107	80-123	2	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	106	103	80-120	3	30
Ethylbenzene	0.5 U	0.5	ug/l	107	105	80-120	2	30
2-Hexanone	5.0 U	5.0	ug/l	106	106	69-131	0	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	107	108	69-135	1	30
Methylene Chloride	0.5 U	0.5	ug/l	114	111	80-120	3	30
Styrene	0.5 U	0.5	ug/l	108	106	80-120	2	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	105	102	80-125	4	30
Tetrachloroethene	0.2 U	0.2	ug/l	113	109	80-120	3	30
Toluene	0.2 U	0.2	ug/l	108	105	80-120	3	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	117	114	78-132	3	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	116	115	80-120	1	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	108	104	80-120	3	30
Trichloroethene	0.2 U	0.2	ug/l	112	111	80-120	1	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	144*	135*	77-132	6	30
Vinyl Acetate	0.5 U	0.5	ug/l	92	92	45-132	1	30
Vinyl Chloride	0.2 U	0.2	ug/l	105	104	65-127	1	30
m+p-Xylene	0.5 U	0.5	ug/l	106	104	80-120	2	30
o-Xylene	0.5 U	0.5	ug/l	105	103	80-120	1	30
Batch number: 14046987601A	Sample number(s): 7364036							
Nitrate Nitrogen	0.10 U	0.10	mg/l	101	101	90-110	1	20
Nitrite Nitrogen	0.10 U	0.10	mg/l	98	97	90-110	1	20
Ortho-phosphate as P	0.50 U	0.50	mg/l	95	94	90-110	1	20

*- 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
Reported: 02/20/14 at 02:00 PM

Group Number: 1452630

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 14048347902A Ortho-phosphate as P	Sample number(s): 7364036 0.50 U	0.50	mg/l	103		90-110		
Batch number: 14050110101B Total Phosphorus as PO ₄ water	Sample number(s): 7364036 0.31 U	0.31	mg/l	99		90-110		
Batch number: 14050008201A Ammonia-Nitrogen	Sample number(s): 7364036 0.20 U	0.20	mg/l	100		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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 14046987601A Nitrate Nitrogen	Sample number(s): 7364036 102		90-110	UNSPK: P364004	BKG: P364004	0.10 U	0.10 U	0 (1)	20
Nitrite Nitrogen	95		90-110			0.10 U	0.10 U	0 (1)	20
Ortho-phosphate as P	88*		90-110			0.53	0.55	3 (1)	20
Batch number: 14048347902A Ortho-phosphate as P	Sample number(s): 7364036 117*		90-110	UNSPK: 7364036	BKG: 7364036	0.50 U	0.50 U	0 (1)	20
Batch number: 14050110101B Total Phosphorus as PO ₄ water	Sample number(s): 7364036 104		90-110	UNSPK: P363861	BKG: P363861	0.31 U	0.31 U	0 (1)	4
Batch number: 14050008201A Ammonia-Nitrogen	Sample number(s): 7364036 38*	43*	52-144	9	10	0.74	0.59	23* (1)	20

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 Water(25ml) Master
Batch number: H140451AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7364036	103	101	96	101
7364037	103	101	95	99
7364038	103	97	96	98
7364039	103	97	96	98
Blank	102	101	96	100
LCS	102	97	97	102
LCSD	102	97	96	102
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.

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/20/14 at 02:00 PM

Group Number: 1452630

Surrogate Quality Control

*- 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.

[illegible]

Client: Boeing**Boeing of Portland****Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>02/14/2014 14:00</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>OR</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCI</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Wesley Miller (2308) at 15:00 on 02/14/2014

Samples Chilled Details: Boeing of Portland

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	1.2	1.2	DT	Wet	Y	Bagged	N

General Comments:

1452630

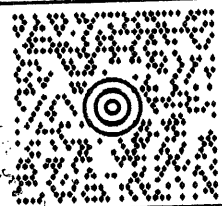
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

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 4507 5625

1 S



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40

WS 16.0.31 45 DA 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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

February 20, 2014

Project: Boeing of Portland/025116.614.640

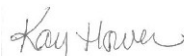
Submittal Date: 02/14/2014
Group Number: 1452631
PO Number: 0025116.613.640
State of Sample Origin: OR

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
BOP-10(i)-0214 Water	7364040
BOP-56(i)-0214 Water	7364041
BOP-59(i)-0214 Water	7364042
BOP-Y-0214 Water	7364043
BOP-57(ia)-0214 Water	7364044
BOP-59(ib)-0214 Water	7364045
D-8(i)-0214 Water	7364046
D-12(i)-0214 Water	7364047
E-13-0214 Water	7364048
BOP-9(j)-0214 Water	7364049
E-12-0214 Water	7364050
DP-1-0214 Water	7364051
Trip Blank Water	7364052

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

ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen
ELECTRONIC COPY TO	Landau	Attn: Chris Kimmel
ELECTRONIC COPY TO	Landau Associates	Attn: Terry McGourty

Respectfully Submitted,



Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.614.640
LLI Group #: 1452631

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: 7364041, 7364045, 7364046, 7364049, 7364051

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 the verification standard bracketing the sample on the second trial is outside the acceptance limits.

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

Analyte	Response (%Drift)
chloromethane	-22%
chloroethane	-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.

Batch #: H140451AA (Sample number(s): 7364040-7364052)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: Trichlorofluoromethane

Sample Description: BOP-10(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364040
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 12:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	7.7	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	1.1	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	2.2	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	7.8	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	16	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

General Sample Comments

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	H140451AA	02/14/2014 22:26	Kevin A Sposito	1

Sample Description: BOP-10(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364040
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 12:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 22:26	Kevin A Sposito	1

Sample Description: BOP-56(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364041
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 12:35 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	7.5	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	2.8	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	0.3	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	3.3	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	5.5	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,1,2,2,2-Trichloroethane	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	28 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10
11996	Chloroethane	75-00-3	5.0 U	5.0	10

Sample Description: BOP-56(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364041
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 12:35 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	2.6	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.0 U	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	3.0	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	4.7	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,1,2,2,2-Hexachloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	24	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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 the verification standard bracketing the sample on the second trial is outside the acceptance limits.

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

Analyte	Response (%Drift)
chloromethane	-22%
chloroethane	-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.

General Sample Comments

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

Sample Description: BOP-56(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364041
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 12:35 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP06

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	H140451AA	02/14/2014 22:47	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140492AA	02/19/2014 00:13	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 22:47	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140492AA	02/19/2014 00:13	Kevin A Sposito	10

Sample Description: BOP-59(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364042
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 13:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	8.0	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	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	5.4	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	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

General Sample Comments

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	H140451AA	02/14/2014 23:08	Kevin A Sposito	1

Sample Description: BOP-59(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364042
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 13:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 23:08	Kevin A Sposito	1

Sample Description: BOP-Y-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364043
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 12:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	9.1	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	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	2.3	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	6.0	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

General Sample Comments

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	H140451AA	02/14/2014 23:29	Kevin A Sposito	1

Sample Description: BOP-Y-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364043
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 12:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP08

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 23:29	Kevin A Sposito	1

Sample Description: BOP-57(ia)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364044
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 13:35 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	8.0	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	0.6	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	0.5	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	3.2	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	3.0	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	16	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

General Sample Comments

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

Sample Description: BOP-57(ia)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364044
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 13:35 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP09

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	H140451AA	02/14/2014 23:50	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 23:50	Kevin A Sposito	1

Sample Description: BOP-59(ib)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364045
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 14:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	9.6	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	0.4	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	2.9	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	50 E	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	11	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	0.7	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	27 E	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	49 E	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	0.7	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10

Sample Description: BOP-59(ib)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364045
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 14:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroethane	75-00-3	5.0 U	5.0	10
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	41	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	9.7	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.0 U	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,2,2-Trichloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	24	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	42	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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 the verification standard bracketing the sample on the second trial is outside the acceptance limits.

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

Analyte	Response (%Drift)
chloromethane	-22%
chloroethane	-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.

General Sample Comments

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

Sample Description: BOP-59(ib)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364045
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/11/2014 14:00 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP10

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	H140451AA	02/15/2014 01:14	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140492AA	02/19/2014 00:34	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/15/2014 01:14	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140492AA	02/19/2014 00:34	Kevin A Sposito	10

Sample Description: D-8(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364046
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 11:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	8.0	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	2.5	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	1.5	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	0.9	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	0.6	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	35 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10
11996	Chloroethane	75-00-3	5.0 U	5.0	10

Sample Description: D-8(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364046
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 11:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.1	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	2.0 U	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.0 U	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,2,2-Tetrachloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	30	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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 the verification standard bracketing the sample on the second trial is outside the acceptance limits.

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

Analyte	Response (%Drift)
chloromethane	-22%
chloroethane	-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.

General Sample Comments

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

Sample Description: D-8(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364046
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 11:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP11

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	H140451AA	02/15/2014 01:35	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140492AA	02/19/2014 00:55	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/15/2014 01:35	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140492AA	02/19/2014 00:55	Kevin A Sposito	10

Sample Description: D-12(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364047
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 11:45 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	7.9	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	1.7	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

General Sample Comments

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	H140451AA	02/15/2014 00:11	Kevin A Sposito	1

Sample Description: D-12(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364047
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 11:45 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP12

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/15/2014 00:11	Kevin A Sposito	1

Sample Description: E-13-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364048
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 12:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.7	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.9	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	0.4	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	8.6	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

General Sample Comments

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	H140451AA	02/15/2014 00:32	Kevin A Sposito	1

Sample Description: E-13-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364048
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 12:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP13

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/15/2014 00:32	Kevin A Sposito	1

Sample Description: BOP-9(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364049
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 13:30 by BB

The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	7.8	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	1.3	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	1.5	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	6.2	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	3.2	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	0.6	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	29 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10
11996	Chloroethane	75-00-3	5.0 U	5.0	10

Sample Description: BOP-9(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364049
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 13:30 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.0 U	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	5.2	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.8	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	112Trichloro122Trifluoroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	24	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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 the verification standard bracketing the sample on the second trial is outside the acceptance limits.

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

Analyte	Response (%Drift)
chloromethane	-22%
chloroethane	-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.

General Sample Comments

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

Sample Description: BOP-9(i)-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364049
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 13:30 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP14

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	H140451AA	02/15/2014 02:18	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140492AA	02/19/2014 01:16	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/15/2014 02:18	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140492AA	02/19/2014 01:16	Kevin A Sposito	10

Sample Description: E-12-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364050
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 13:45 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1	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	0.4	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	11	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

General Sample Comments

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	H140451AA	02/15/2014 00:53	Kevin A Sposito	1

Sample Description: E-12-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364050
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 13:45 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/15/2014 00:53	Kevin A Sposito	1

Sample Description: DP-1-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364051
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 14:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP16

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.3	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	0.4	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	100 E	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	1.1	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	23	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	36 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10
11996	Chloroethane	75-00-3	5.0 U	5.0	10

Sample Description: DP-1-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364051
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 14:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP16

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.0 U	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	86	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	19	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,1,2,2,2-Hexachloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	29	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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 the verification standard bracketing the sample on the second trial is outside the acceptance limits.

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

Analyte	Response (%Drift)
chloromethane	-22%
chloroethane	-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.

General Sample Comments

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

Sample Description: DP-1-0214 Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364051
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 02/13/2014 14:15 by BB The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP16

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	H140451AA	02/15/2014 03:00	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140492AA	02/19/2014 01:37	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/15/2014 03:00	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140492AA	02/19/2014 01:37	Kevin A Sposito	10

Sample Description: Trip Blank Water
Boeing Portland 0025116.614.640/TSA

LL Sample # WW 7364052
LL Group # 1452631
Account # 13419

Project Name: Boeing of Portland/025116.614.640

Collected: 01/15/2014

The Boeing Company

Submitted: 02/14/2014 14:00

Reported: 02/20/2014 17:01

BOP17

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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

General Sample Comments

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	H140451AA	02/14/2014 20:41	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140451AA	02/14/2014 20:41	Kevin A Sposito	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/20/14 at 05:01 PM

Group Number: 1452631

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H140451AA	Sample number(s): 7364040-7364052							
Acetone	5.0 U	5.0	ug/l	111	103	60-139	7	30
Benzene	0.2 U	0.2	ug/l	110	109	80-120	1	30
Bromodichloromethane	0.5 U	0.5	ug/l	110	108	80-120	1	30
Bromoform	0.5 U	0.5	ug/l	115	114	73-128	1	30
Bromomethane	0.5 U	0.5	ug/l	104	103	62-126	2	30
2-Butanone	5.0 U	5.0	ug/l	108	106	70-130	2	30
Carbon Disulfide	0.5 U	0.5	ug/l	111	108	80-128	3	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	120	117	80-129	3	30
Chlorobenzene	0.5 U	0.5	ug/l	108	105	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	97	97	68-120	1	30
Chloroform	0.2 U	0.2	ug/l	115	113	80-120	2	30
Chloromethane	0.5 U	0.5	ug/l	94	94	55-120	0	30
Dibromochloromethane	0.5 U	0.5	ug/l	107	105	80-126	2	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	115	112	80-120	3	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	117	113	80-127	3	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	111	109	80-123	2	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	106	104	80-120	2	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	111	108	80-120	2	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	113	112	80-120	1	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	109	107	80-123	2	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	106	103	80-120	3	30
Ethylbenzene	0.5 U	0.5	ug/l	107	105	80-120	2	30
2-Hexanone	5.0 U	5.0	ug/l	106	106	69-131	0	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	107	108	69-135	1	30
Methylene Chloride	0.5 U	0.5	ug/l	114	111	80-120	3	30
Styrene	0.5 U	0.5	ug/l	108	106	80-120	2	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	105	102	80-125	4	30
Tetrachloroethene	0.2 U	0.2	ug/l	113	109	80-120	3	30
Toluene	0.2 U	0.2	ug/l	108	105	80-120	3	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	117	114	78-132	3	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	116	115	80-120	1	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	108	104	80-120	3	30
Trichloroethene	0.2 U	0.2	ug/l	112	111	80-120	1	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	144*	135*	77-132	6	30
Vinyl Acetate	0.5 U	0.5	ug/l	92	92	45-132	1	30
Vinyl Chloride	0.2 U	0.2	ug/l	105	104	65-127	1	30
m+p-Xylene	0.5 U	0.5	ug/l	106	104	80-120	2	30
o-Xylene	0.5 U	0.5	ug/l	105	103	80-120	1	30
Batch number: H140492AA	Sample number(s): 7364041,7364045-7364046,7364049,7364051							
Acetone	5.0 U	5.0	ug/l	108	102	60-139	5	30
Benzene	0.2 U	0.2	ug/l	102	100	80-120	2	30
Bromodichloromethane	0.5 U	0.5	ug/l	106	102	80-120	3	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
Reported: 02/20/14 at 05:01 PM

Group Number: 1452631

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Bromoform	0.5 U	0.5	ug/l	111	111	73-128	0	30
Bromomethane	0.5 U	0.5	ug/l	82	82	62-126	0	30
2-Butanone	5.0 U	5.0	ug/l	106	106	70-130	0	30
Carbon Disulfide	0.5 U	0.5	ug/l	91	89	80-128	3	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	113	110	80-129	2	30
Chlorobenzene	0.5 U	0.5	ug/l	105	104	80-120	1	30
Chloroethane	0.5 U	0.5	ug/l	75	74	68-120	2	30
Chloroform	0.2 U	0.2	ug/l	110	109	80-120	1	30
Chloromethane	0.5 U	0.5	ug/l	77	77	55-120	1	30
Dibromochloromethane	0.5 U	0.5	ug/l	105	102	80-126	3	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	106	103	80-120	3	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	116	111	80-127	4	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	94	91	80-123	4	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	97	95	80-120	2	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	99	95	80-120	4	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	107	103	80-120	4	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	100	99	80-123	2	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	103	101	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	105	103	80-120	2	30
2-Hexanone	5.0 U	5.0	ug/l	106	106	69-131	0	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	105	106	69-135	1	30
Methylene Chloride	0.5 U	0.5	ug/l	106	104	80-120	2	30
Styrene	0.5 U	0.5	ug/l	105	104	80-120	1	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	98	101	80-125	3	30
Tetrachloroethene	0.2 U	0.2	ug/l	109	105	80-120	4	30
Toluene	0.2 U	0.2	ug/l	104	102	80-120	2	30
1,1,1,2,2,2-Hexachloroethane	0.5 U	0.5	ug/l	100	99	78-132	1	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	111	108	80-120	3	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	106	104	80-120	2	30
Trichloroethene	0.2 U	0.2	ug/l	105	103	80-120	2	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	117	114	77-132	2	30
Vinyl Acetate	0.5 U	0.5	ug/l	84	82	45-132	3	30
Vinyl Chloride	0.2 U	0.2	ug/l	82	83	65-127	1	30
m+p-Xylene	0.5 U	0.5	ug/l	103	102	80-120	1	30
o-Xylene	0.5 U	0.5	ug/l	103	102	80-120	2	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 Water(25ml) Master
Batch number: H140451AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7364040	103	100	95	98
7364041	104	101	95	99
7364042	103	101	96	98
7364043	103	101	96	99
7364044	104	101	97	99

*- 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
Reported: 02/20/14 at 05:01 PM

Group Number: 1452631

Surrogate Quality Control

7364045	104	100	95	98
7364046	104	97	97	100
7364047	104	101	97	100
7364048	103	100	95	97
7364049	103	99	96	99
7364050	104	99	96	99
7364051	104	101	95	98
7364052	103	101	95	99
Blank	102	101	96	100
LCS	102	97	97	102
LCSD	102	97	96	102

Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Water(25ml) Master
Batch number: H140492AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7364041	101	95	98	99
DL				
7364045	102	99	99	100
DL				
7364046	102	102	97	99
DL				
7364049	102	98	98	99
DL				
7364051	102	99	98	98
DL				
Blank	102	99	98	99
LCS	102	97	99	101
LCSD	101	98	100	101

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.

Client: Boeing**Boeing of Portland****Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>02/14/2014 14:00</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>OR</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCl</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Wesley Miller (2308) at 15:00 on 02/14/2014

Samples Chilled Details: Boeing of Portland

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	1.2	1.2	DT	Wet	Y	Bagged	N

General Comments:

1452631

HARRY STARKEY
(612) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

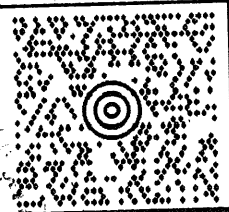
40 LBS

RS

DWT: 25,14,14

SHIP TO:

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



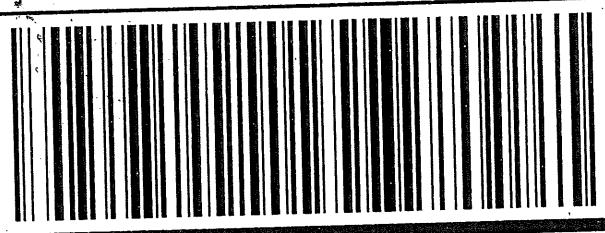
PA 175 9-37



UPS NEXT DAY AIR

1 S

TRACKING #: 1Z RV3 069 Y0 4507 5625



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40

WS 16.D.31 45 DA 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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

February 26, 2014

Project: Boeing of Portland/025116.114.412

Submittal Date: 02/15/2014
Group Number: 1452784
PO Number: 0025116.114.412
State of Sample Origin: OR

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
E-2-0214 NA Water	7364956
E-3-0214 NA Water	7364957
E-4-0214 NA Water	7364958
E-11-0214 NA Water	7364959
E-15-0214 NA Water	7364960
Trip Blank NA Water	7364961

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

ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen
ELECTRONIC COPY TO	Landau	Attn: Chris Kimmel
ELECTRONIC COPY TO	Landau Associates	Attn: Terry McGourty

Respectfully Submitted,

Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.114.412
LLI Group #: 1452784

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: 7364956, 7364957, 7364958, 7364959, 7364960, 7364961

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.

Analyte	Response(s) are: Response (%Drift)
chloromethane	-21%
chloroethane	-22%
trichlorofluoromethane	26%

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.

RKSOP-175 modified, GC Miscellaneous

Sample #s: 7364960

A preserved vial was submitted for analysis. However, the pH at the time of the Ethane, Ethene and Acetylene analysis was 7.

Batch #: 140550002A (Sample number(s): 7364956-7364960 UNSPK: P370861)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Methane, Ethane, Ethene

SM 5310 C-2000, Wet Chemistry

Batch #: 14050049501A (Sample number(s): 7364956-7364960 UNSPK: P364639 BKG: P364639)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Total Organic Carbon

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Total Organic Carbon

Sample Description: E-2-0214 NA Water
Boeing Portland

LL Sample # WW 7364956
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 09:00 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.6	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	0.5	0.2	1
11996	Toluene	108-88-3	5.3	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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	2.5	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)
chloromethane	-21%
chloroethane	-22%
trichlorofluoromethane	26%

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

Sample Description: E-2-0214 NA Water
Boeing Portland

LL Sample # WW 7364956
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 09:00 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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 Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	8,800 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	500 U	500	100
07105	Ethane	74-84-0	500 U	500	100
07105	Ethene	74-85-1	500 U	500	100
07105	Methane	74-82-8	11,000	500	100
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	1.3	0.10	1
00228	Sulfate	14808-79-8	7.5	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	1.0 U	1.0	1

General Sample Comments

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	H140501AA	02/19/2014 19:22	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140501AA	02/19/2014 19:22	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 09:50	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 18:50	Elizabeth J Marin	100
00368	Nitrate Nitrogen	EPA 300.0	1	14046987601B	02/15/2014 13:22	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14046987601B	02/15/2014 13:22	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14050049501A	02/19/2014 06:54	James S Mathiot	1

Sample Description: E-3-0214 NA Water
Boeing Portland

LL Sample # WW 7364957
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 10:00 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.3	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	2.2	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	1.1	0.2	1
11996	Toluene	108-88-3	11	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	13	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

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)
chloromethane	-21%
chloroethane	-22%
trichlorofluoromethane	26%

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

Sample Description: E-3-0214 NA Water
Boeing Portland

LL Sample # WW 7364957
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 10:00 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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 Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	2,100 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	100 U	100	20
07105	Ethane	74-84-0	100 U	100	20
07105	Ethene	74-85-1	100 U	100	20
07105	Methane	74-82-8	3,000	100	20
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	1.2	0.10	1
00228	Sulfate	14808-79-8	7.9	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	1.6	1.0	1

General Sample Comments

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	H140501AA	02/19/2014 19:43	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140501AA	02/19/2014 19:43	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 10:08	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 19:08	Elizabeth J Marin	20
00368	Nitrate Nitrogen	EPA 300.0	1	14046987601B	02/15/2014 13:38	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14046987601B	02/15/2014 13:38	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14050049501A	02/19/2014 07:09	James S Mathiot	1

Sample Description: E-4-0214 NA Water
Boeing Portland

LL Sample # WW 7364958
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 11:00 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	5.6	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	1.7	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,2,2-Trichloro-1,2,2-trifluoroethane	76-13-1	1.4	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	40 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10

Sample Description: E-4-0214 NA Water
Boeing Portland

LL Sample # WW 7364958
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 11:00 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroethane	75-00-3	5.0 U	5.0	10
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	4.2	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	2.0 U	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	5.0 U	5.0	10
11996	4-Methyl-2-pentanone	108-10-1	5.0 U	5.0	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.0 U	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,2,2-Trichloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	31	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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)
chloromethane	-21%
chloroethane	-22%
trichlorofluoromethane	26%

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 Miscellaneous	RSKSOP-175 modified	ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0
07105	Ethane	74-84-0	5.0 U	5.0
07105	Ethene	74-85-1	5.0 U	5.0
07105	Methane	74-82-8	5.0 U	5.0

Sample Description: E-4-0214 NA Water
Boeing Portland

LL Sample # WW 7364958
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 11:00 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Wet Chemistry			EPA 300.0	mg/l	
00368	Nitrate Nitrogen	14797-55-8	1.2	0.10	1
00228	Sulfate	14808-79-8	8.5	1.0	1
			SM 5310 C-2000	mg/l	
00273	Total Organic Carbon	n.a.	1.1	1.0	1

General Sample Comments

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	H140501AA	02/19/2014 20:04	Kerri E Legerlotz	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140501AA	02/19/2014 20:25	Kerri E Legerlotz	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140501AA	02/19/2014 20:04	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140501AA	02/19/2014 20:25	Kerri E Legerlotz	10
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 18:14	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14046987601B	02/15/2014 13:54	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14046987601B	02/15/2014 13:54	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14050049501A	02/19/2014 07:24	James S Mathiot	1

Sample Description: E-11-0214 NA Water
Boeing Portland

LL Sample # WW 7364959
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 11:30 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	79	5.0	1
11996	Benzene	71-43-2	0.5	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	15	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	3.9	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	21	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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)
chloromethane	-21%
chloroethane	-22%
trichlorofluoromethane	26%

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

Sample Description: E-11-0214 NA Water
Boeing Portland

LL Sample # WW 7364959
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 11:30 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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 Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	12	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	33,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	2,500 U	2,500	500
07105	Ethane	74-84-0	2,500 U	2,500	500
07105	Ethene	74-85-1	2,500 U	2,500	500
07105	Methane	74-82-8	37,000	2,500	500
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	19.4	1.0	1

General Sample Comments

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	H140501AA	02/19/2014 20:46	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140501AA	02/19/2014 20:46	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 10:44	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 19:26	Elizabeth J Marin	500
00368	Nitrate Nitrogen	EPA 300.0	1	14046987601B	02/15/2014 14:10	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14046987601B	02/15/2014 14:10	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14050049501A	02/19/2014 07:39	James S Mathiot	1

Sample Description: E-15-0214 NA Water
Boeing Portland

LL Sample # WW 7364960
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 12:15 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.2	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.4	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	2.2	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	0.6	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	1.9	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)
chloromethane	-21%
chloroethane	-22%
trichlorofluoromethane	26%

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

Sample Description: E-15-0214 NA Water
Boeing Portland

LL Sample # WW 7364960
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/14/2014 12:15 by BB

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPE15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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 Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	7,200 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	500 U	500	100
07105	Ethane	74-84-0	500 U	500	100
07105	Ethene	74-85-1	500 U	500	100
07105	Methane	74-82-8	11,000	500	100
A preserved vial was submitted for analysis. However, the pH at the time of the Ethane, Ethene and Acetylene analysis was 7.					
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	1.5	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	2.8	1.0	1

General Sample Comments

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	H140501AA	02/19/2014 21:07	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140501AA	02/19/2014 21:07	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 11:02	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 19:45	Elizabeth J Marin	100
00368	Nitrate Nitrogen	EPA 300.0	1	14046987601B	02/15/2014 14:27	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14046987601B	02/15/2014 14:27	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14050049501A	02/19/2014 07:55	James S Mathiot	1

Sample Description: Trip Blank NA Water
Boeing Portland

LL Sample # WW 7364961
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 01/15/2014

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPETB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Trichloroethane	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)
chloromethane	-21%
chloroethane	-22%
trichlorofluoromethane	26%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a

Sample Description: Trip Blank NA Water
Boeing Portland

LL Sample # WW 7364961
LL Group # 1452784
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 01/15/2014

The Boeing Company

Submitted: 02/15/2014 10:25

Reported: 02/26/2014 12:18

BPETB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				

General Sample Comments

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	H140501AA	02/19/2014 18:40	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140501AA	02/19/2014 18:40	Kerri E Legerlotz	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/26/14 at 12:18 PM

Group Number: 1452784

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: H140501AA Sample number(s): 7364956-7364961								
Acetone	5.0 U	5.0	ug/l	102	101	60-139	2	30
Benzene	0.2 U	0.2	ug/l	109	102	80-120	6	30
Bromodichloromethane	0.5 U	0.5	ug/l	108	103	80-120	4	30
Bromoform	0.5 U	0.5	ug/l	107	106	73-128	1	30
Bromomethane	0.5 U	0.5	ug/l	82	78	62-126	5	30
2-Butanone	5.0 U	5.0	ug/l	104	103	70-130	1	30
Carbon Disulfide	0.5 U	0.5	ug/l	119	111	80-128	7	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	124	116	80-129	6	30
Chlorobenzene	0.5 U	0.5	ug/l	105	102	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	75	72	68-120	4	30
Chloroform	0.2 U	0.2	ug/l	116	110	80-120	5	30
Chloromethane	0.5 U	0.5	ug/l	77	73	55-120	5	30
Dibromochloromethane	0.5 U	0.5	ug/l	104	101	80-126	3	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	114	109	80-120	5	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	118	112	80-127	5	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	113	106	80-123	6	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	102	98	80-120	5	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	110	104	80-120	6	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	109	104	80-120	5	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	104	99	80-123	4	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	103	102	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	107	103	80-120	4	30
2-Hexanone	5.0 U	5.0	ug/l	102	101	69-131	1	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	103	102	69-135	1	30
Methylene Chloride	0.5 U	0.5	ug/l	111	105	80-120	5	30
Styrene	0.5 U	0.5	ug/l	105	102	80-120	3	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	98	97	80-125	2	30
Tetrachloroethene	0.2 U	0.2	ug/l	114	108	80-120	5	30
Toluene	0.2 U	0.2	ug/l	108	103	80-120	4	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	123	113	78-132	8	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	120	111	80-120	8	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	104	103	80-120	1	30
Trichloroethene	0.2 U	0.2	ug/l	112	106	80-120	6	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	127	108	77-132	16	30
Vinyl Acetate	0.5 U	0.5	ug/l	77	78	45-132	1	30
Vinyl Chloride	0.2 U	0.2	ug/l	83	79	65-127	4	30
m+p-Xylene	0.5 U	0.5	ug/l	106	101	80-120	5	30
o-Xylene	0.5 U	0.5	ug/l	104	100	80-120	4	30
Batch number: 140550002A Sample number(s): 7364956-7364960								
Acetylene	5.0 U	5.0	ug/l	104		58-136		
Ethane	5.0 U	5.0	ug/l	101		80-120		
Ethene	5.0 U	5.0	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 SummaryClient Name: The Boeing Company
Reported: 02/26/14 at 12:18 PM

Group Number: 1452784

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Methane	5.0 U	5.0	ug/l	104		80-120		
Batch number: 14046987601B	Sample number(s): 7364956-7364960							
Nitrate Nitrogen	0.10 U	0.10	mg/l	101	101	90-110	1	20
Sulfate	1.0 U	1.0	mg/l	100	100	90-110	1	20
Batch number: 14050049501A	Sample number(s): 7364956-7364960							
Total Organic Carbon	1.0 U	1.0	mg/l	101		91-113		

Sample Matrix Quality ControlUnspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 140550002A	Sample number(s): 7364956-7364960 UNSPK: P370861								
Acetylene	95	95	75-125	0	20				
Ethane	33 (2)	-47 (2)	34-153	5	20				
Ethene	57 (2)	-2 (2)	35-162	8	20				
Methane	-399 (2)	-1176 (2)	35-157	5	20				
Batch number: 14046987601B	Sample number(s): 7364956-7364960 UNSPK: 7364956 BKG: 7364956								
Nitrate Nitrogen	102		90-110			1.3	1.3	1	20
Sulfate	102		90-110			7.5	7.5	1	20
Batch number: 14050049501A	Sample number(s): 7364956-7364960 UNSPK: P364639 BKG: P364639								
Total Organic Carbon	46*		63-142			3.0	3.5	15* (1)	4

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 Water(25ml) Master
Batch number: H140501AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7364956	102	96	97	98
7364957	102	97	97	99
7364958	103	104	97	99
7364958	102	99	97	98
DL				
7364959	102	98	98	102
7364960	102	97	97	99
7364961	102	98	98	100
Blank	100	97	98	100
LCS	102	94	99	102
LCSD	101	97	99	102

*- 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
Reported: 02/26/14 at 12:18 PM

Group Number: 1452784

Surrogate Quality Control

Limits:	77-114	74-113	77-110	78-110

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 140550002A
Propene

7364956	80
7364956	98
DL	
7364957	77
7364957	101
DL	
7364958	77
7364959	94
7364959	97
DL	
7364960	84
7364960	98
DL	
Blank	95
LCS	96
MS	87
MSD	81

Limits: 42-131

*- 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.

[illegible]

Client: Boeing**Boeing of Portland****Delivery and Receipt Information**

Delivery Method: UPS Arrival Timestamp: 02/15/2014 10:25
Number of Packages: 1 Number of Projects: 1
State/Province of Origin: OR

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCl</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>Yes</u>		
VOA IDs ($\geq$ 6mm):	<u>E-11 1 HCl vial</u>		

Unpacked by Wesley Miller (2308) at 10:44 on 02/15/2014

Samples Chilled Details: Boeing of Portland

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	1.6	1.6	DT	Wet	Y	Bagged	N

General Comments:

Q#1452784

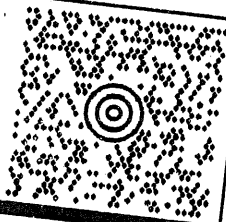
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIES
940 HENSLEY
RICHMOND CA 94801-2106

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 4475 0432

1 S



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40



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.

WS 16.0.31

45 0A 10/2013

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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

February 26, 2014

Project: Boeing of Portland 025116.112.140

Submittal Date: 02/21/2014
Group Number: 1454157
PO Number: 0025116.111.140
State of Sample Origin: ORClient Sample DescriptionBOP-73(i)-0214 NA Water
BOP-77(i)-0214 NA Water
BOP-74(i)-0214 NA Water
E-16-0214 NA Water
Trip Blank NA WaterLancaster Labs (LL) #7370505
7370506
7370507
7370508
7370509

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

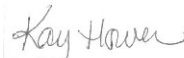
ELECTRONIC Landau Associates
COPY TO
ELECTRONIC Landau
COPY TO
ELECTRONIC Landau Associates
COPY TO

Attn: Anne Halvorsen

Attn: Chris Kimmel

Attn: Terry McGourty

Respectfully Submitted,

Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland 025116.112.140
LLI Group #: 1454157

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: 7370506, 7370507, 7370508, 7370509**

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)
chloroethane	-23%
trichlorofluoromethane	22%

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: 7370505

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%

Batch #: H140551AA (Sample number(s): 7370506-7370509 UNSPK: P369073)

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

RKSOP-175 modified, GC Miscellaneous**Batch #: 140550002A (Sample number(s): 7370505-7370508 UNSPK: P370861)**

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Methane, Ethane, Ethene

EPA 300.0, Wet Chemistry

Batch #: 14052987901B (Sample number(s): 7370505-7370508 UNSPK: P370448 BKG: P370448)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Nitrate Nitrogen

Sample Description: BOP-73(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7370505
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 11:00 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

BOP73

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l		ug/l	
11996	Acetone	67-64-1	1,000	U	1,000	200
11996	Benzene	71-43-2	40	U	40	200
11996	Bromodichloromethane	75-27-4	100	U	100	200
11996	Bromoform	75-25-2	100	U	100	200
11996	Bromomethane	74-83-9	100	U	100	200
11996	2-Butanone	78-93-3	1,000	U	1,000	200
11996	Carbon Disulfide	75-15-0	100	U	100	200
11996	Carbon Tetrachloride	56-23-5	40	U	40	200
11996	Chlorobenzene	108-90-7	100	U	100	200
11996	Chloroethane	75-00-3	100	U	100	200
11996	Chloroform	67-66-3	40	U	40	200
11996	Chloromethane	74-87-3	100	U	100	200
11996	Dibromochloromethane	124-48-1	100	U	100	200
11996	1,1-Dichloroethane	75-34-3	100	U	100	200
11996	1,2-Dichloroethane	107-06-2	40	U	40	200
11996	1,1-Dichloroethene	75-35-4	40	U	40	200
11996	cis-1,2-Dichloroethene	156-59-2	13,000	E	40	200
11996	trans-1,2-Dichloroethene	156-60-5	190		40	200
11996	1,2-Dichloropropane	78-87-5	100	U	100	200
11996	cis-1,3-Dichloropropene	10061-01-5	40	U	40	200
11996	trans-1,3-Dichloropropene	10061-02-6	40	U	40	200
11996	Ethylbenzene	100-41-4	100	U	100	200
11996	2-Hexanone	591-78-6	1,000	U	1,000	200
11996	4-Methyl-2-pentanone	108-10-1	1,000	U	1,000	200
11996	Methylene Chloride	75-09-2	100	U	100	200
11996	Styrene	100-42-5	100	U	100	200
11996	1,1,2,2-Tetrachloroethane	79-34-5	40	U	40	200
11996	Tetrachloroethene	127-18-4	40	U	40	200
11996	Toluene	108-88-3	40	U	40	200
11996	112Trichloro122Trifluoroethane	76-13-1	100	U	100	200
11996	1,1,1-Trichloroethane	71-55-6	100	U	100	200
11996	1,1,2-Trichloroethane	79-00-5	40	U	40	200
11996	Trichloroethene	79-01-6	8,200	E	40	200
11996	Trichlorofluoromethane	75-69-4	100	U	100	200
11996	Vinyl Acetate	108-05-4	100	U	100	200
11996	Vinyl Chloride	75-01-4	610		40	200
11996	m+p-Xylene	179601-23-1	100	U	100	200
11996	o-Xylene	95-47-6	100	U	100	200
Trial ID: DL						
11996	Acetone	67-64-1	10,000	U	10,000	2000
11996	Benzene	71-43-2	400	U	400	2000
11996	Bromodichloromethane	75-27-4	1,000	U	1,000	2000
11996	Bromoform	75-25-2	1,000	U	1,000	2000
11996	Bromomethane	74-83-9	1,000	U	1,000	2000
11996	2-Butanone	78-93-3	10,000	U	10,000	2000
11996	Carbon Disulfide	75-15-0	1,000	U	1,000	2000
11996	Carbon Tetrachloride	56-23-5	400	U	400	2000
11996	Chlorobenzene	108-90-7	1,000	U	1,000	2000
11996	Chloroethane	75-00-3	1,000	U	1,000	2000

Sample Description: BOP-73(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7370505
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 11:00 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

BOP73

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	400 U	400	2000
11996	Chloromethane	74-87-3	1,000 U	1,000	2000
11996	Dibromochloromethane	124-48-1	1,000 U	1,000	2000
11996	1,1-Dichloroethane	75-34-3	1,000 U	1,000	2000
11996	1,2-Dichloroethane	107-06-2	400 U	400	2000
11996	1,1-Dichloroethene	75-35-4	400 U	400	2000
11996	cis-1,2-Dichloroethene	156-59-2	13,000	400	2000
11996	trans-1,2-Dichloroethene	156-60-5	400 U	400	2000
11996	1,2-Dichloropropane	78-87-5	1,000 U	1,000	2000
11996	cis-1,3-Dichloropropene	10061-01-5	400 U	400	2000
11996	trans-1,3-Dichloropropene	10061-02-6	400 U	400	2000
11996	Ethylbenzene	100-41-4	1,000 U	1,000	2000
11996	2-Hexanone	591-78-6	10,000 U	10,000	2000
11996	4-Methyl-2-pentanone	108-10-1	10,000 U	10,000	2000
11996	Methylene Chloride	75-09-2	1,000 U	1,000	2000
11996	Styrene	100-42-5	1,000 U	1,000	2000
11996	1,1,2,2-Tetrachloroethane	79-34-5	400 U	400	2000
11996	Tetrachloroethene	127-18-4	400 U	400	2000
11996	Toluene	108-88-3	400 U	400	2000
11996	1,1,2,2-Tetrachloroethane	76-13-1	1,000 U	1,000	2000
11996	1,1,1-Trichloroethane	71-55-6	1,000 U	1,000	2000
11996	1,1,2-Trichloroethane	79-00-5	400 U	400	2000
11996	Trichloroethene	79-01-6	8,400	400	2000
11996	Trichlorofluoromethane	75-69-4	1,000 U	1,000	2000
11996	Vinyl Acetate	108-05-4	1,000 U	1,000	2000
11996	Vinyl Chloride	75-01-4	620	400	2000
11996	m+p-Xylene	179601-23-1	1,000 U	1,000	2000
11996	o-Xylene	95-47-6	1,000 U	1,000	2000

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%

GC Miscellaneous	RSKSOP-175 modified	ug/l		ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	21	5.0	1
07105	Methane	74-82-8	1,700 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	100 U	100	20
07105	Ethane	74-84-0	100 U	100	20
07105	Ethene	74-85-1	100 U	100	20
07105	Methane	74-82-8	2,600	100	20

Wet Chemistry	EPA 300.0	mg/l	mg/l

Sample Description: BOP-73(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7370505
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 11:00 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

BOP73

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	6.9	1.0	1
		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	1.5	1.0	1

General Sample Comments

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	H140561AA	02/25/2014 14:49	Kerri E Legerlotz	200
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140561AA	02/25/2014 15:10	Kerri E Legerlotz	2000
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140561AA	02/25/2014 14:49	Kerri E Legerlotz	200
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140561AA	02/25/2014 15:10	Kerri E Legerlotz	2000
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 11:56	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 20:02	Elizabeth J Marin	20
00368	Nitrate Nitrogen	EPA 300.0	1	14052987901B	02/21/2014 22:10	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14052987901B	02/21/2014 22:10	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14056049501A	02/25/2014 05:18	James S Mathiot	1

Sample Description: BOP-77(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7370506
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 12:00 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

BOP77

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	10	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	0.6	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	6.1	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	0.9	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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	2.7	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	7.6	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

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)
chloroethane	-23%
trichlorofluoromethane	22%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a

Sample Description: BOP-77(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7370506
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 12:00 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

BOP77

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
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 Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	22	5.0	1
07105	Methane	74-82-8	15,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,300 U	1,300	250
07105	Ethane	74-84-0	1,300 U	1,300	250
07105	Ethene	74-85-1	1,300 U	1,300	250
07105	Methane	74-82-8	19,000	1,300	250
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	40.0	1.0	1

General Sample Comments

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	H140551AA	02/24/2014 17:41	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140551AA	02/24/2014 17:41	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 12:33	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 20:21	Elizabeth J Marin	250
00368	Nitrate Nitrogen	EPA 300.0	1	14052987901B	02/21/2014 22:26	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14052987901B	02/21/2014 22:26	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14056049501A	02/25/2014 05:34	James S Mathiot	1

Sample Description: BOP-74(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7370507
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 13:45 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

BOP74

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	24	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	7.1	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	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	2.4	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.3	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	1,1,2-Trichloroethane	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	0.9	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)
chloroethane	-23%
trichlorofluoromethane	22%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a

Sample Description: BOP-74(i)-0214 NA Water
Boeing Portland

LL Sample # WW 7370507
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 13:45 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

BOP74

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
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 Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	16,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,300 U	1,300	250
07105	Ethane	74-84-0	1,300 U	1,300	250
07105	Ethene	74-85-1	1,300 U	1,300	250
07105	Methane	74-82-8	22,000	1,300	250
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	66.2	1.0	1

General Sample Comments

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	H140551AA	02/24/2014 18:02	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140551AA	02/24/2014 18:02	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 12:51	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 20:39	Elizabeth J Marin	250
00368	Nitrate Nitrogen	EPA 300.0	1	14052987901B	02/21/2014 22:42	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14052987901B	02/21/2014 22:42	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14056049501A	02/25/2014 05:49	James S Mathiot	1

Sample Description: E-16-0214 NA Water
Boeing Portland

LL Sample # WW 7370508
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 14:30 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

E-16-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.5	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	0.4	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	1.7	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	2.6	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	13	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)
chloroethane	-23%
trichlorofluoromethane	22%

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a

Sample Description: E-16-0214 NA Water
Boeing Portland

LL Sample # WW 7370508
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 02/20/2014 14:30 by CK

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

E-16-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
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 Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	8.0	5.0	1
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	2.6	0.10	1
00228	Sulfate	14808-79-8	6.7	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	2.4	1.0	1

General Sample Comments

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	H140551AA	02/24/2014 18:23	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140551AA	02/24/2014 18:23	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 18:32	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14052987901B	02/21/2014 22:58	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14052987901B	02/21/2014 22:58	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14056049501A	02/25/2014 06:04	James S Mathiot	1

Sample Description: Trip Blank NA Water
Boeing Portland

LL Sample # WW 7370509
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 01/15/2014

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

E-16T

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Trichloroethane	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)
chloroethane	-23%
trichlorofluoromethane	22%

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 NA Water
Boeing Portland

LL Sample # WW 7370509
LL Group # 1454157
Account # 13419

Project Name: Boeing of Portland 025116.112.140

Collected: 01/15/2014

The Boeing Company

Submitted: 02/21/2014 09:10

Reported: 02/26/2014 12:56

E-16T

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.				

General Sample Comments

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	H140551AA	02/24/2014 12:05	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140551AA	02/24/2014 12:05	Kerri E Legerlotz	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/26/14 at 12:56 PM

Group Number: 1454157

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H140551AA	Sample number(s): 7370506-7370509							
Acetone	5.0 U	5.0	ug/l	99		60-139		
Benzene	0.2 U	0.2	ug/l	107		80-120		
Bromodichloromethane	0.5 U	0.5	ug/l	110		80-120		
Bromoform	0.5 U	0.5	ug/l	116		73-128		
Bromomethane	0.5 U	0.5	ug/l	80		62-126		
2-Butanone	5.0 U	5.0	ug/l	102		70-130		
Carbon Disulfide	0.5 U	0.5	ug/l	110		80-128		
Carbon Tetrachloride	0.2 U	0.2	ug/l	121		80-129		
Chlorobenzene	0.5 U	0.5	ug/l	105		80-120		
Chloroethane	0.5 U	0.5	ug/l	73		68-120		
Chloroform	0.2 U	0.2	ug/l	114		80-120		
Chloromethane	0.5 U	0.5	ug/l	72		55-120		
Dibromochloromethane	0.5 U	0.5	ug/l	107		80-126		
1,1-Dichloroethane	0.5 U	0.5	ug/l	111		80-120		
1,2-Dichloroethane	0.2 U	0.2	ug/l	117		80-127		
1,1-Dichloroethene	0.2 U	0.2	ug/l	109		80-123		
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	109		80-120		
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	106		80-123		
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	107		80-120		
Ethylbenzene	0.5 U	0.5	ug/l	106		80-120		
2-Hexanone	5.0 U	5.0	ug/l	98		69-131		
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	101		69-135		
Methylene Chloride	0.5 U	0.5	ug/l	109		80-120		
Styrene	0.5 U	0.5	ug/l	105		80-120		
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	101		80-125		
Tetrachloroethene	0.2 U	0.2	ug/l	112		80-120		
Toluene	0.2 U	0.2	ug/l	106		80-120		
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	118		78-132		
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	117		80-120		
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	107		80-120		
Trichloroethene	0.2 U	0.2	ug/l	109		80-120		
Trichlorofluoromethane	0.5 U	0.5	ug/l	113		77-132		
Vinyl Acetate	0.5 U	0.5	ug/l	96		45-132		
Vinyl Chloride	0.2 U	0.2	ug/l	78		65-127		
m+p-Xylene	0.5 U	0.5	ug/l	104		80-120		
o-Xylene	0.5 U	0.5	ug/l	103		80-120		
Batch number: H140561AA	Sample number(s): 7370505							
Acetone	5.0 U	5.0	ug/l	98		60-139		
Benzene	0.2 U	0.2	ug/l	100		80-120		
Bromodichloromethane	0.5 U	0.5	ug/l	103		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 SummaryClient Name: The Boeing Company
Reported: 02/26/14 at 12:56 PM

Group Number: 1454157

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Bromoform	0.5 U	0.5	ug/l	105		73-128		
Bromomethane	0.5 U	0.5	ug/l	76		62-126		
2-Butanone	5.0 U	5.0	ug/l	100		70-130		
Carbon Disulfide	0.5 U	0.5	ug/l	101		80-128		
Carbon Tetrachloride	0.2 U	0.2	ug/l	112		80-129		
Chlorobenzene	0.5 U	0.5	ug/l	99		80-120		
Chloroethane	0.5 U	0.5	ug/l	70		68-120		
Chloroform	0.2 U	0.2	ug/l	108		80-120		
Chloromethane	0.5 U	0.5	ug/l	70		55-120		
Dibromochloromethane	0.5 U	0.5	ug/l	101		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	114		80-127		
1,1-Dichloroethene	0.2 U	0.2	ug/l	100		80-123		
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	100		80-120		
1,2-Dichloropropane	0.5 U	0.5	ug/l	103		80-120		
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	99		80-123		
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	101		80-120		
Ethylbenzene	0.5 U	0.5	ug/l	100		80-120		
2-Hexanone	5.0 U	5.0	ug/l	99		69-131		
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	99		69-135		
Methylene Chloride	0.5 U	0.5	ug/l	103		80-120		
Styrene	0.5 U	0.5	ug/l	101		80-120		
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	98		80-125		
Tetrachloroethene	0.2 U	0.2	ug/l	100		80-120		
Toluene	0.2 U	0.2	ug/l	100		80-120		
1,1,2,2,4,4-Hexachloroethane	0.5 U	0.5	ug/l	109		78-132		
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	110		80-120		
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	98		80-120		
Trichloroethene	0.2 U	0.2	ug/l	104		80-120		
Trichlorofluoromethane	0.5 U	0.5	ug/l	117		77-132		
Vinyl Acetate	0.5 U	0.5	ug/l	99		45-132		
Vinyl Chloride	0.2 U	0.2	ug/l	74		65-127		
m+p-Xylene	0.5 U	0.5	ug/l	99		80-120		
o-Xylene	0.5 U	0.5	ug/l	97		80-120		

Batch number: 140550002A

Sample number(s): 7370505-7370508

Acetylene	5.0 U	5.0	ug/l	104		58-136		
Ethane	5.0 U	5.0	ug/l	101		80-120		
Ethene	5.0 U	5.0	ug/l	101		80-120		
Methane	5.0 U	5.0	ug/l	104		80-120		

Batch number: 14052987901B

Sample number(s): 7370505-7370508

Nitrate Nitrogen	0.10 U	0.10	mg/l	103	103	90-110	0	20
Sulfate	1.0 U	1.0	mg/l	100	101	90-110	0	20

Batch number: 14056049501A

Sample number(s): 7370505-7370508

Total Organic Carbon	1.0 U	1.0	mg/l	110		91-113		

Sample Matrix Quality ControlUnspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

*- 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
Reported: 02/26/14 at 12:56 PM

Group Number: 1454157

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: H140551AA Sample number(s): 7370506-7370509 UNSPK: P369073									
Acetone	114	112	57-163	1	30				
Benzene	109	108	87-126	1	30				
Bromodichloromethane	114	115	82-133	1	30				
Bromoform	122	124	60-138	1	30				
Bromomethane	81	83	66-130	3	30				
2-Butanone	111	107	56-160	4	30				
Carbon Disulfide	115	114	84-141	1	30				
Carbon Tetrachloride	130	128	81-148	1	30				
Chlorobenzene	110	111	78-133	1	30				
Chloroethane	75	76	70-139	1	30				
Chloroform	119	118	86-136	0	30				
Chloromethane	72	75	49-135	4	30				
Dibromochloromethane	115	116	79-125	1	30				
1,1-Dichloroethane	114	113	88-136	1	30				
1,2-Dichloroethane	123	121	82-135	2	30				
1,1-Dichloroethene	114	112	83-150	2	30				
cis-1,2-Dichloroethene	101	94	82-129	1	30				
trans-1,2-Dichloroethene	110	108	88-127	2	30				
1,2-Dichloropropane	110	112	91-126	1	30				
cis-1,3-Dichloropropene	110	110	74-132	0	30				
trans-1,3-Dichloropropene	110	112	71-128	2	30				
Ethylbenzene	111	112	80-140	0	30				
2-Hexanone	115	113	59-169	1	30				
4-Methyl-2-pentanone	111	110	69-149	1	30				
Methylene Chloride	110	107	77-135	3	30				
Styrene	109	110	63-151	1	30				
1,1,2,2-Tetrachloroethane	109	109	75-131	1	30				
Tetrachloroethene	122 (2)	136 (2)	75-129	1	30				
Toluene	110	109	83-127	1	30				
1,1,2,2-Trichloroethane	123	122	77-147	0	30				
1,1,1-Trichloroethane	123	122	85-140	1	30				
1,1,2-Trichloroethane	111	111	85-129	1	30				
Trichloroethene	115 (2)	111 (2)	85-131	1	30				
Trichlorofluoromethane	133	127	73-139	4	30				
Vinyl Acetate	93	96	45-136	3	30				
Vinyl Chloride	81	84	62-135	3	30				
m+p-Xylene	109	110	81-137	1	30				
o-Xylene	107	109	81-137	2	30				
Batch number: H140561AA Sample number(s): 7370505 UNSPK: P370861									
Acetone	103	103	57-163	0	30				
Benzene	105	108	87-126	2	30				
Bromodichloromethane	107	115	82-133	7	30				
Bromoform	107	119	60-138	10	30				
Bromomethane	84	84	66-130	0	30				
2-Butanone	98	111	56-160	12	30				
Carbon Disulfide	111	113	84-141	2	30				
Carbon Tetrachloride	123	127	81-148	3	30				
Chlorobenzene	101	110	78-133	9	30				
Chloroethane	82	82	70-139	0	30				
Chloroform	112	118	86-136	5	30				
Chloromethane	78	81	49-135	3	30				
Dibromochloromethane	101	111	79-125	10	30				
1,1-Dichloroethane	112	115	88-136	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 SummaryClient Name: The Boeing Company
Reported: 02/26/14 at 12:56 PM

Group Number: 1454157

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

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
1,2-Dichloroethane	118	121	82-135	2	30				
1,1-Dichloroethene	108	110	83-150	2	30				
cis-1,2-Dichloroethene	98	101	82-129	3	30				
trans-1,2-Dichloroethene	104	106	88-127	2	30				
1,2-Dichloropropane	107	114	91-126	6	30				
cis-1,3-Dichloropropene	100	107	74-132	7	30				
trans-1,3-Dichloropropene	98	109	71-128	10	30				
Ethylbenzene	104	113	80-140	8	30				
2-Hexanone	99	118	59-169	17	30				
4-Methyl-2-pentanone	98	116	69-149	16	30				
Methylene Chloride	107	107	77-135	0	30				
Styrene	101	111	63-151	9	30				
1,1,2,2-Tetrachloroethane	101	113	75-131	11	30				
Tetrachloroethene	106	112	75-129	5	30				
Toluene	104	110	83-127	5	30				
1,1,2,2-Trichloroethane	118	119	77-147	1	30				
1,1,1-Trichloroethane	119	123	85-140	3	30				
1,1,2-Trichloroethane	100	113	85-129	12	30				
Trichloroethene	108	115	85-131	6	30				
Trichlorofluoromethane	131	122	73-139	7	30				
Vinyl Acetate	98	95	45-136	3	30				
Vinyl Chloride	88	89	62-135	1	30				
m+p-Xylene	103	110	81-137	7	30				
o-Xylene	101	110	81-137	8	30				

Batch number: 140550002A Sample number(s): 7370505-7370508 UNSPK: P370861

Acetylene	95	95	75-125	0	20
Ethane	33 (2)	-47 (2)	34-153	5	20
Ethene	57 (2)	-2 (2)	35-162	8	20
Methane	-399	-1176	35-157	5	20
	(2)	(2)			

Batch number: 14052987901B Sample number(s): 7370505-7370508 UNSPK: P370448 BKG: P370448

Nitrate Nitrogen	122*		90-110	4.4	4.4	0	20
Sulfate	96		90-110	9.0	9.0	1	20

Batch number: 14056049501A Sample number(s): 7370505-7370508 UNSPK: P370457 BKG: P370457

Total Organic Carbon	103		63-142	2.7	2.8	4 (1)	4

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 Water(25ml) Master

Batch number: H140551AA

Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7370506	106	99	96
			102

*- 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
Reported: 02/26/14 at 12:56 PM

Group Number: 1454157

Surrogate Quality Control

7370507	107	104	96	100
7370508	105	98	96	99
7370509	105	101	96	99
Blank	102	101	96	100
LCS	102	101	97	104
MS	104	99	98	103
MSD	103	98	97	104

Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Water(25ml) Master
Batch number: H140561AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7370505	103	99	97	101
7370505	103	99	97	100
DL				
Blank	102	100	98	101
LCS	102	97	99	105
MS	103	99	97	104
MSD	102	97	98	104

Limits:	77-114	74-113	77-110	78-110

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 140550002A
Propene

7370505	81
7370505	100
DL	
7370506	68
7370506	90
DL	
7370507	68
7370507	96
DL	
7370508	87
Blank	95
LCS	96
MS	87
MSD	81

Limits: 42-131

*- 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.

Client: BOEING**BOEING OF PORTLAND****Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>02/21/2014 9:10</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>OR</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCL</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>No</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\leq$ 6mm):	<u>N/A</u>		

Unpacked by Corey Eshleman (3647) at 09:44 on 02/21/2014

Samples Chilled Details: BOEING OF PORTLAND

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	0.1	0.1	DT	Wet	Y	Bagged	N

Samples Not Intact Details: BOEING OF PORTLAND

Sample ID on Label	Bottle Code	Bottle Quantity	Container Salvageable?	Comments

~~BOP-13DS-0214~~	~~40 ml glass vial (GC/MS) - HCl~~	~~1~~	~~N~~	~~not applicable to this group~~

General Comments:

1454157

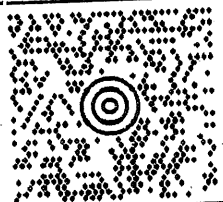
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

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



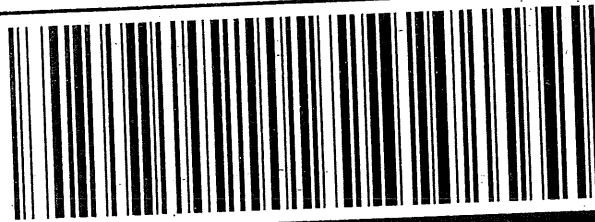
PA 175 9-37



UPS NEXT DAY AIR

TRACKING #: 1Z RV3 069 Y0 4483 3147

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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

March 07, 2014

Project: Boeing of Portland/025116.114.412

Submittal Date: 02/22/2014

Group Number: 1454465

PO Number: 0025116.114.412

State of Sample Origin: OR

Client Sample DescriptionBOP-7(i)-0214 Grab Water
BOP-X-0214 Grab Water
BOP-16(i)-0214 Grab Water
BOP-80(i)-0214 Grab Water
BOP-81(i)-0214 Grab Water
BOP-82(i)-0214 Grab Water
BOP-83(i)-0214 Grab Water
Trip_Blank WaterLancaster Labs (LL) #7371622
7371623
7371624
7371625
7371626
7371627
7371628
7371629

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

ELECTRONIC Landau Associates
COPY TO

Attn: Anne Halvorsen

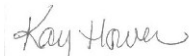
ELECTRONIC Landau
COPY TO

Attn: Chris Kimmel

ELECTRONIC Landau Associates
COPY TO

Attn: Terry McGourty

Respectfully Submitted,


Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.114.412
LLI Group #: 1454465

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: 7371625

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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%
carbon tetrachloride	26%
1,1,1-trichloroethane	21%

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.

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated: 1,2-dichloroethane.

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

Analyte	Response (%Drift)
1,2-dichloroethane	29%

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: 1,1,1-trichloroethane and 1,2-dichloroethane.

Sample #s: 7371626

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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%
carbon tetrachloride	26%
1,1,1-trichloroethane	21%

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.

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated:

1,2-dichloroethane.

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

Analyte	Response (%Drift)
1,2-dichloroethane	29%

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: 1,1,1-trichloroethane.

Sample #s: 7371623

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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%
carbon tetrachloride	26%
1,2-dichloroethane	29%

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.

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated:

1,1,1-trichloroethane.

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

Analyte	Response (%Drift)
1,1,1-trichloroethane	21%

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: 1,1,1-trichloroethane and 1,2-dichloroethane.

The analysis was repeated and the continuing calibration verification standard bracketing the sample on the second trial is within specification.

Sample #s: 7371624

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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%
carbon tetrachloride	26%
1,2-dichloroethane	29%

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.

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated:

1,1,1-trichloroethane.

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

Analyte	Response (%Drift)
1,1,1-trichloroethane	21%

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: 1,1,1-trichloroethane.

Batch #: H140572AA (Sample number(s): 7371623-7371626)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: 1,1,1-Trichloroethane, 1,2-Dichloroethane

RSKSOP-175 modified, GC Miscellaneous

Batch #: 140550002A (Sample number(s): 7371622, 7371624-7371626 UNSPK: P370861)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Methane, Ethane, Ethene

Batch #: 140600014A (Sample number(s): 7371627-7371628 UNSPK: P373594)

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

REVISED

Sample Description: BOP-7(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371622
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 09:15 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

7I---

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	10 U	10	2
11996	Benzene	71-43-2	0.4 U	0.4	2
11996	Bromodichloromethane	75-27-4	1.0 U	1.0	2
11996	Bromoform	75-25-2	1.0 U	1.0	2
11996	Bromomethane	74-83-9	1.0 U	1.0	2
11996	2-Butanone	78-93-3	10 U	10	2
11996	Carbon Disulfide	75-15-0	1.0 U	1.0	2
11996	Carbon Tetrachloride	56-23-5	0.4 U	0.4	2
11996	Chlorobenzene	108-90-7	1.0 U	1.0	2
11996	Chloroethane	75-00-3	1.0 U	1.0	2
11996	Chloroform	67-66-3	0.4 U	0.4	2
11996	Chloromethane	74-87-3	1.0 U	1.0	2
11996	Dibromochloromethane	124-48-1	1.0 U	1.0	2
11996	1,1-Dichloroethane	75-34-3	1.0 U	1.0	2
11996	1,2-Dichloroethane	107-06-2	0.4 U	0.4	2
11996	1,1-Dichloroethene	75-35-4	12	0.4	2
11996	cis-1,2-Dichloroethene	156-59-2	9.7	0.4	2
11996	trans-1,2-Dichloroethene	156-60-5	0.4 U	0.4	2
11996	1,2-Dichloropropane	78-87-5	1.0 U	1.0	2
11996	cis-1,3-Dichloropropene	10061-01-5	0.4 U	0.4	2
11996	trans-1,3-Dichloropropene	10061-02-6	0.4 U	0.4	2
11996	Ethylbenzene	100-41-4	1.0 U	1.0	2
11996	2-Hexanone	591-78-6	10 U	10	2
11996	4-Methyl-2-pentanone	108-10-1	10 U	10	2
11996	Methylene Chloride	75-09-2	1.0 U	1.0	2
11996	Styrene	100-42-5	1.0 U	1.0	2
11996	1,1,2,2-Tetrachloroethane	79-34-5	0.4 U	0.4	2
11996	Tetrachloroethene	127-18-4	4.5	0.4	2
11996	Toluene	108-88-3	0.4 U	0.4	2
11996	1,1,2,2-Trichloroethane	76-13-1	1.6	1.0	2
11996	1,1,1-Trichloroethane	71-55-6	2.6	1.0	2
11996	1,1,2-Trichloroethane	79-00-5	0.4 U	0.4	2
11996	Trichloroethene	79-01-6	220 E	0.4	2
11996	Trichlorofluoromethane	75-69-4	1.0 U	1.0	2
11996	Vinyl Acetate	108-05-4	1.0 U	1.0	2
11996	Vinyl Chloride	75-01-4	0.4 U	0.4	2
11996	m+p-Xylene	179601-23-1	1.0 U	1.0	2
11996	o-Xylene	95-47-6	1.0 U	1.0	2
Trial ID: DL					
11996	Acetone	67-64-1	100 U	100	20
11996	Benzene	71-43-2	4.0 U	4.0	20
11996	Bromodichloromethane	75-27-4	10 U	10	20
11996	Bromoform	75-25-2	10 U	10	20
11996	Bromomethane	74-83-9	10 U	10	20
11996	2-Butanone	78-93-3	100 U	100	20
11996	Carbon Disulfide	75-15-0	10 U	10	20
11996	Carbon Tetrachloride	56-23-5	4.0 U	4.0	20
11996	Chlorobenzene	108-90-7	10 U	10	20

REVISED

Sample Description: BOP-7(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371622
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 09:15 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

7I---

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
11996	Chloroethane	75-00-3	10 U	10 ug/l	20
11996	Chloroform	67-66-3	4.0 U	4.0	20
11996	Chloromethane	74-87-3	10 U	10	20
11996	Dibromochloromethane	124-48-1	10 U	10	20
11996	1,1-Dichloroethane	75-34-3	10 U	10	20
11996	1,2-Dichloroethane	107-06-2	4.0 U	4.0	20
11996	1,1-Dichloroethene	75-35-4	9.7	4.0	20
11996	cis-1,2-Dichloroethene	156-59-2	8.9	4.0	20
11996	trans-1,2-Dichloroethene	156-60-5	4.0 U	4.0	20
11996	1,2-Dichloropropane	78-87-5	10 U	10	20
11996	cis-1,3-Dichloropropene	10061-01-5	4.0 U	4.0	20
11996	trans-1,3-Dichloropropene	10061-02-6	4.0 U	4.0	20
11996	Ethylbenzene	100-41-4	10 U	10	20
11996	2-Hexanone	591-78-6	100 U	100	20
11996	4-Methyl-2-pentanone	108-10-1	100 U	100	20
11996	Methylene Chloride	75-09-2	10 U	10	20
11996	Styrene	100-42-5	10 U	10	20
11996	1,1,2,2-Tetrachloroethane	79-34-5	4.0 U	4.0	20
11996	Tetrachloroethene	127-18-4	4.0 U	4.0	20
11996	Toluene	108-88-3	4.0 U	4.0	20
11996	1,1,2,2-Trichloroethane	76-13-1	10 U	10	20
11996	1,1,1-Trichloroethane	71-55-6	10 U	10	20
11996	1,1,2-Trichloroethane	79-00-5	4.0 U	4.0	20
11996	Trichloroethene	79-01-6	180	4.0	20
11996	Trichlorofluoromethane	75-69-4	10 U	10	20
11996	Vinyl Acetate	108-05-4	10 U	10	20
11996	Vinyl Chloride	75-01-4	4.0 U	4.0	20
11996	m+p-Xylene	179601-23-1	10 U	10	20
11996	o-Xylene	95-47-6	10 U	10	20
GC Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	5.0 U	5.0	1
Wet Chemistry EPA 300.0					
00368	Nitrate Nitrogen	14797-55-8	2.4	0.10	1
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1
00228	Sulfate	14808-79-8	8.1	1.0	1
SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	1.0 U	1.0	1

General Sample Comments

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: BOP-7(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371622
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 09:15 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

7I---

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	H140631AA	03/04/2014 15:53	Kerri E Legerlotz	2
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140631AA	03/04/2014 16:14	Kerri E Legerlotz	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140631AA	03/04/2014 15:53	Kerri E Legerlotz	2
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140631AA	03/04/2014 16:14	Kerri E Legerlotz	20
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 16:29	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 16:46	Sandra J Miller	1
01506	Nitrite Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 16:46	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14053987901B	02/22/2014 16:46	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14057049502A	02/26/2014 04:18	James S Mathiot	1

REVISED

Sample Description: BOP-X-0214 Grab Water
Boeing Portland

LL Sample # WW 7371623
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 09:45 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

BOPX-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	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	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	15	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	10	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	5.8	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	2.2	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	3.7	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	250 E	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: DL					
11996	Acetone	67-64-1	100 U	100	20
11996	Benzene	71-43-2	4.0 U	4.0	20
11996	Bromodichloromethane	75-27-4	10 U	10	20
11996	Bromoform	75-25-2	10 U	10	20
11996	Bromomethane	74-83-9	10 U	10	20
11996	2-Butanone	78-93-3	100 U	100	20
11996	Carbon Disulfide	75-15-0	10 U	10	20
11996	Carbon Tetrachloride	56-23-5	4.0 U	4.0	20

REVISED

Sample Description: BOP-X-0214 Grab Water
Boeing Portland

LL Sample # WW 7371623
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 09:45 by BB The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

BOPX-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chlorobenzene	108-90-7	10 U	10	20
11996	Chloroethane	75-00-3	10 U	10	20
11996	Chloroform	67-66-3	4.0 U	4.0	20
11996	Chloromethane	74-87-3	10 U	10	20
11996	Dibromochloromethane	124-48-1	10 U	10	20
11996	1,1-Dichloroethane	75-34-3	10 U	10	20
11996	1,2-Dichloroethane	107-06-2	4.0 U	4.0	20
11996	1,1-Dichloroethene	75-35-4	12	4.0	20
11996	cis-1,2-Dichloroethene	156-59-2	9.3	4.0	20
11996	trans-1,2-Dichloroethene	156-60-5	4.0 U	4.0	20
11996	1,2-Dichloropropane	78-87-5	10 U	10	20
11996	cis-1,3-Dichloropropene	10061-01-5	4.0 U	4.0	20
11996	trans-1,3-Dichloropropene	10061-02-6	4.0 U	4.0	20
11996	Ethylbenzene	100-41-4	10 U	10	20
11996	2-Hexanone	591-78-6	100 U	100	20
11996	4-Methyl-2-pentanone	108-10-1	100 U	100	20
11996	Methylene Chloride	75-09-2	10 U	10	20
11996	Styrene	100-42-5	10 U	10	20
11996	1,1,2,2-Tetrachloroethane	79-34-5	4.0 U	4.0	20
11996	Tetrachloroethene	127-18-4	4.5	4.0	20
11996	Toluene	108-88-3	4.0 U	4.0	20
11996	112Trichloro122Trifluoroethane	76-13-1	10 U	10	20
11996	1,1,1-Trichloroethane	71-55-6	10 U	10	20
11996	1,1,2-Trichloroethane	79-00-5	4.0 U	4.0	20
11996	Trichloroethene	79-01-6	200	4.0	20
11996	Trichlorofluoromethane	75-69-4	10 U	10	20
11996	Vinyl Acetate	108-05-4	10 U	10	20
11996	Vinyl Chloride	75-01-4	4.0 U	4.0	20
11996	m+p-Xylene	179601-23-1	10 U	10	20
11996	o-Xylene	95-47-6	10 U	10	20

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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%
carbon tetrachloride	26%
1,2-dichloroethane	29%

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.

The referenced method allows a maximum of 20% of the analytes

REVISED

Sample Description: BOP-X-0214 Grab Water
Boeing Portland

LL Sample # WW 7371623
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 09:45 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

BOPX-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor

in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated:

1,1,1-trichloroethane.

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

Analyte	Response (%Drift)
1,1,1-trichloroethane	21%

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: 1,1,1-trichloroethane and 1,2-dichloroethane.

The analysis was repeated and the continuing calibration verification standard bracketing the sample on the second trial is within specification.

General Sample Comments

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	H140572AA	02/26/2014 23:01	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H140631AA	03/04/2014 16:35	Kerri E Legerlotz	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140572AA	02/26/2014 23:01	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H140631AA	03/04/2014 16:35	Kerri E Legerlotz	20

REVISED

Sample Description: BOP-16(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371624
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 10:30 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

16I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.2 U	0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5 U	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	0.6	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	1.6	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	7.7	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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%
carbon tetrachloride	26%
1,2-dichloroethane	29%

Sample Description: BOP-16(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371624
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 10:30 by BB The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

16I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor

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.

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated:

1,1,1-trichloroethane.

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

Analyte	Response (%Drift)
1,1,1-trichloroethane	21%

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:1,1,1-trichloroethane.

GC Miscellaneous		RSKSOP-175 modified	ug/l		ug/l	
07105	Acetylene	74-86-2	5.0	U	5.0	1
07105	Ethane	74-84-0	5.0	U	5.0	1
07105	Ethene	74-85-1	5.0	U	5.0	1
07105	Methane	74-82-8	2,000	E	5.0	1
Trial ID: DL						
07105	Acetylene	74-86-2	100	U	100	20
07105	Ethane	74-84-0	100	U	100	20
07105	Ethene	74-85-1	100	U	100	20
07105	Methane	74-82-8	2,600		100	20
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10	U	0.10	1
01506	Nitrite Nitrogen	14797-65-0	0.10	U	0.10	1
00228	Sulfate	14808-79-8	6.5		1.0	1
		SM 5310 C-2000	mg/l		mg/l	
00273	Total Organic Carbon	n.a.	1.1		1.0	1

General Sample Comments

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: BOP-16(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371624
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 10:30 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

16I--

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	H140572AA	02/26/2014 23:22	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140572AA	02/26/2014 23:22	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 16:47	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140550002A	02/24/2014 23:05	Elizabeth J Marin	20
00368	Nitrate Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 18:24	Sandra J Miller	1
01506	Nitrite Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 18:24	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14053987901B	02/22/2014 18:24	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14057049502A	02/26/2014 04:33	James S Mathiot	1

REVISED

Sample Description: BOP-80(i)-0214 Grab Water
Boeing PortlandLL Sample # WW 7371625
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 11:45 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

80I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	9.6	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	0.4	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	1.0	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	0.2	1
11996	1,1-Dichloroethene	75-35-4	10	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	2.7	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,2,2-Trichloroethane	76-13-1	2.6	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	0.2	1
11996	Trichloroethene	79-01-6	23	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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%

REVISED

Sample Description: BOP-80(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371625
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 11:45 by BB The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

80I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	carbon tetrachloride	26%			
	1,1,1-trichloroethane	21%			
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. The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated: 1,2-dichloroethane. The affected analyte(s) and response(s) are: Analyte Response (%Drift) 1,2-dichloroethane 29% The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: 1,1,1-trichloroethane and 1,2-dichloroethane.					
GC Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	450	5.0	1
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	3.8	1.0	10
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1
00228	Sulfate	14808-79-8	17.6	10.0	10
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	2.6	1.0	1

General Sample Comments

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	H140572AA	02/26/2014 23:43	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140572AA	02/26/2014 23:43	Kevin A Sposito	1

REVISED

Sample Description: BOP-80(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371625
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 11:45 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

80I--

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 17:05	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 19:45	Sandra J Miller	10
01506	Nitrite Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 19:28	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14053987901B	02/22/2014 19:45	Sandra J Miller	10
00273	Total Organic Carbon	SM 5310 C-2000	1	14057049502A	02/26/2014 05:05	James S Mathiot	1

REVISED

Sample Description: BOP-81(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371626
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 12:30 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

81I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	8.4	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	1.6	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	0.6	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,2,2-Trichloroethane	76-13-1	1.1	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	0.6	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)
chloromethane	-25%
chloroethane	-24%
trichlorofluoromethane	30%
carbon tetrachloride	26%

REVISED

Sample Description: BOP-81(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371626
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 12:30 by BB The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

81I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	1,1,1-trichloroethane	21%			

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.

The referenced method allows a maximum of 20% of the analytes in the calibration to exceed the 20% Drift continuing calibration verification criteria. The reported concentration in the associated sample(s) is considered to be estimated. Therefore the result for the following analyte(s) is estimated:
1,2-dichloroethane.
The affected analyte(s) and response(s) are:

Analyte	Response (%Drift)
1,2-dichloroethane	29%

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance: 1,1,1-trichloroethane.

GC Miscellaneous		RSKSOP-175 modified	ug/l		ug/l	
07105	Acetylene	74-86-2	5.0	U	5.0	1
07105	Ethane	74-84-0	5.0	U	5.0	1
07105	Ethene	74-85-1	5.0	U	5.0	1
07105	Methane	74-82-8	330		5.0	1
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.61		0.10	1
01506	Nitrite Nitrogen	14797-65-0	0.10	U	0.10	1
00228	Sulfate	14808-79-8	13.5		1.0	1
		SM 5310 C-2000	mg/l		mg/l	
00273	Total Organic Carbon	n.a.	1.4		1.0	1

General Sample Comments

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	H140572AA	02/27/2014 00:04	Kevin A Sposito	1

REVISED

Sample Description: BOP-81(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371626
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 12:30 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

81I--

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140572AA	02/27/2014 00:04	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140550002A	02/24/2014 17:24	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 20:01	Sandra J Miller	1
01506	Nitrite Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 20:01	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14053987901B	02/22/2014 20:01	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14057049502A	02/26/2014 05:20	James S Mathiot	1

REVISED

Sample Description: BOP-82(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371627
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 14:15 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

82I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
11996	Acetone	67-64-1	67	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	0.5	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	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	1.0	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	14	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 Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	1,100 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	50 U	50	10
07105	Ethane	74-84-0	50 U	50	10
07105	Ethene	74-85-1	50 U	50	10

REVISED

Sample Description: BOP-82(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371627
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 14:15 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

82I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 1,300	ug/l 50	10
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.88	mg/l 0.10	1
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1
00228	Sulfate	14808-79-8	9.2	1.0	1
SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	mg/l 2.5	mg/l 1.0	1

General Sample Comments

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	H140631AA	03/04/2014 16:56	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140631AA	03/04/2014 16:56	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140600014A	03/01/2014 13:02	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	140600014A	03/03/2014 10:53	Elizabeth J Marin	10
00368	Nitrate Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 20:33	Sandra J Miller	1
01506	Nitrite Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 20:33	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14053987901B	02/22/2014 20:33	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14057049502A	02/26/2014 05:35	James S Mathiot	1

REVISED

Sample Description: BOP-83(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371628
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 15:15 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

83I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
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	1,1,2,2-Trichloroethane	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	2.3	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
GC Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	5.0 U	5.0	1
Wet Chemistry EPA 300.0					
00368	Nitrate Nitrogen	14797-55-8	5.4	1.0	10
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1
00228	Sulfate	14808-79-8	11.3	1.0	1

REVISED

Sample Description: BOP-83(i)-0214 Grab Water
Boeing Portland

LL Sample # WW 7371628
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 02/21/2014 15:15 by BB

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

83I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Wet Chemistry					
		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	1.0 U	1.0	1

General Sample Comments

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	H140631AA	03/04/2014 17:38	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140631AA	03/04/2014 17:38	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	140600014A	03/01/2014 13:21	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 21:22	Sandra J Miller	10
01506	Nitrite Nitrogen	EPA 300.0	1	14053987901B	02/22/2014 21:06	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14053987901B	02/22/2014 21:06	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14057049502A	02/26/2014 05:50	James S Mathiot	1

REVISED

Sample Description: Trip_Blank Water
Boeing Portland

LL Sample # WW 7371629
LL Group # 1454465
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 01/15/2014

The Boeing Company

Submitted: 02/22/2014 10:20

Reported: 03/07/2014 13:51

TBPRT

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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

General Sample Comments

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	H140631AA	03/04/2014 14:29	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140631AA	03/04/2014 14:29	Kerri E Legerlotz	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 03/07/14 at 01:51 PM

Group Number: 1454465

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H140572AA Sample number(s): 7371623-7371626								
Acetone	5.0 U	5.0	ug/l	99	106	60-139	7	30
Benzene	0.2 U	0.2	ug/l	105	103	80-120	2	30
Bromodichloromethane	0.5 U	0.5	ug/l	112	110	80-120	2	30
Bromoform	0.5 U	0.5	ug/l	113	113	73-128	0	30
Bromomethane	0.5 U	0.5	ug/l	79	76	62-126	4	30
2-Butanone	5.0 U	5.0	ug/l	99	106	70-130	7	30
Carbon Disulfide	0.5 U	0.5	ug/l	105	105	80-128	0	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	127	125	80-129	2	30
Chlorobenzene	0.5 U	0.5	ug/l	102	102	80-120	1	30
Chloroethane	0.5 U	0.5	ug/l	69	70	68-120	1	30
Chloroform	0.2 U	0.2	ug/l	118	115	80-120	3	30
Chloromethane	0.5 U	0.5	ug/l	66	67	55-120	1	30
Dibromochloromethane	0.5 U	0.5	ug/l	104	105	80-126	1	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	112	108	80-120	3	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	133*	127	80-127	4	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	105	104	80-123	0	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	101	100	80-120	1	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	104	103	80-120	1	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	109	106	80-120	3	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	105	105	80-123	1	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	104	105	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	101	103	80-120	1	30
2-Hexanone	5.0 U	5.0	ug/l	98	110	69-131	11	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	98	108	69-135	9	30
Methylene Chloride	0.5 U	0.5	ug/l	108	107	80-120	1	30
Styrene	0.5 U	0.5	ug/l	102	101	80-120	1	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	99	99	80-125	0	30
Tetrachloroethene	0.2 U	0.2	ug/l	107	108	80-120	0	30
Toluene	0.2 U	0.2	ug/l	100	102	80-120	2	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	115	114	78-132	1	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	122*	119	80-120	2	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	104	104	80-120	0	30
Trichloroethene	0.2 U	0.2	ug/l	112	109	80-120	3	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	124	117	77-132	6	30
Vinyl Acetate	0.5 U	0.5	ug/l	91	94	45-132	3	30
Vinyl Chloride	0.2 U	0.2	ug/l	73	74	65-127	2	30
m+p-Xylene	0.5 U	0.5	ug/l	100	100	80-120	0	30
o-Xylene	0.5 U	0.5	ug/l	100	100	80-120	0	30
Batch number: H140631AA Sample number(s): 7371622-7371623, 7371627-7371629								
Acetone	5.0 U	5.0	ug/l	94		60-139		
Benzene	0.2 U	0.2	ug/l	97		80-120		
Bromodichloromethane	0.5 U	0.5	ug/l	88		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 SummaryClient Name: The Boeing Company
Reported: 03/07/14 at 01:51 PM

Group Number: 1454465

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Bromoform	0.5 U	0.5	ug/l	93		72-138		
Bromomethane	0.5 U	0.5	ug/l	101		62-126		
2-Butanone	5.0 U	5.0	ug/l	98		63-137		
Carbon Disulfide	0.5 U	0.5	ug/l	99		80-120		
Carbon Tetrachloride	0.2 U	0.2	ug/l	86		80-135		
Chlorobenzene	0.5 U	0.5	ug/l	95		80-120		
Chloroethane	0.5 U	0.5	ug/l	97		68-120		
Chloroform	0.2 U	0.2	ug/l	92		80-120		
Chloromethane	0.5 U	0.5	ug/l	97		55-120		
Dibromochloromethane	0.5 U	0.5	ug/l	88		80-126		
1,1-Dichloroethane	0.5 U	0.5	ug/l	97		80-120		
1,2-Dichloroethane	0.2 U	0.2	ug/l	89		80-127		
1,1-Dichloroethene	0.2 U	0.2	ug/l	95		80-123		
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	90		80-120		
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	93		80-120		
1,2-Dichloropropane	0.5 U	0.5	ug/l	100		80-120		
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	95		80-120		
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	92		80-120		
Ethylbenzene	0.5 U	0.5	ug/l	96		80-120		
2-Hexanone	5.0 U	5.0	ug/l	97		62-128		
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	99		65-125		
Methylene Chloride	0.5 U	0.5	ug/l	98		80-120		
Styrene	0.5 U	0.5	ug/l	96		80-120		
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	101		80-120		
Tetrachloroethene	0.2 U	0.2	ug/l	93		80-120		
Toluene	0.2 U	0.2	ug/l	98		80-120		
1,1,2,2-Tetrachloroethane	0.5 U	0.5	ug/l	97		80-120		
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	96		80-120		
Trichloroethene	0.2 U	0.2	ug/l	94		80-120		
Trichlorofluoromethane	0.5 U	0.5	ug/l	96		77-132		
Vinyl Acetate	0.5 U	0.5	ug/l	88		38-145		
Vinyl Chloride	0.2 U	0.2	ug/l	105		59-124		
m+p-Xylene	0.5 U	0.5	ug/l	95		80-120		
o-Xylene	0.5 U	0.5	ug/l	93		80-120		

Batch number: 140550002A Sample number(s): 7371622, 7371624-7371626

Acetylene	5.0 U	5.0	ug/l	104		58-136		
Ethane	5.0 U	5.0	ug/l	101		80-120		
Ethene	5.0 U	5.0	ug/l	101		80-120		
Methane	5.0 U	5.0	ug/l	104		80-120		

Batch number: 140600014A Sample number(s): 7371627-7371628

Acetylene	5.0 U	5.0	ug/l	104		58-136		
Ethane	5.0 U	5.0	ug/l	100		80-120		
Ethene	5.0 U	5.0	ug/l	100		80-120		
Methane	5.0 U	5.0	ug/l	104		80-120		

Batch number: 14053987901B Sample number(s): 7371622, 7371624-7371628

Nitrate Nitrogen	0.10 U	0.10	mg/l	105	104	90-110	1	20
Nitrite Nitrogen	0.10 U	0.10	mg/l	102	103	90-110	0	20
Sulfate	1.0 U	1.0	mg/l	102	100	90-110	1	20

Batch number: 14057049502A Sample number(s): 7371622, 7371624-7371628

Total Organic Carbon	1.0 U	1.0	mg/l	108		91-113		

*- 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 SummaryClient Name: The Boeing Company
Reported: 03/07/14 at 01:51 PM

Group Number: 1454465

Sample Matrix Quality ControlUnspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Batch number: H140631AA	Sample number(s): 7371622-7371623, 7371627-7371629 UNSPK: P377659								
Acetone	114	108	57-163	5	30				
Benzene	108	104	87-126	5	30				
Bromodichloromethane	105	99	82-133	6	30				
Bromoform	116	107	60-138	8	30				
Bromomethane	101	103	66-130	2	30				
2-Butanone	119	111	56-160	7	30				
Carbon Disulfide	112	108	84-141	4	30				
Carbon Tetrachloride	102	97	81-148	4	30				
Chlorobenzene	117	110	78-133	7	30				
Chloroethane	96	98	70-139	2	30				
Chloroform	106	102	86-136	4	30				
Chloromethane	90	95	49-135	5	30				
Dibromochloromethane	110	103	79-125	7	30				
1,1-Dichloroethane	108	103	81-126	5	30				
1,2-Dichloroethane	104	98	82-135	6	30				
1,1-Dichloroethene	108	105	86-132	3	30				
cis-1,2-Dichloroethene	103	97	82-129	5	30				
trans-1,2-Dichloroethene	106	101	88-127	4	30				
1,2-Dichloropropane	114	107	91-126	6	30				
cis-1,3-Dichloropropene	108	101	74-132	7	30				
trans-1,3-Dichloropropene	110	102	71-128	7	30				
Ethylbenzene	117	108	80-140	8	30				
2-Hexanone	128	119	51-149	7	30				
4-Methyl-2-pentanone	127	116	69-149	8	30				
Methylene Chloride	107	101	77-135	5	30				
Styrene	118	109	71-138	8	30				
1,1,2,2-Tetrachloroethane	130	120	75-131	8	30				
Tetrachloroethene	114	106	75-129	7	30				
Toluene	116	109	83-127	6	30				
1,1,2,2-Trichloroethane	113	109	84-136	4	30				
1,1,1-Trichloroethane	102	98	85-140	4	30				
1,1,2-Trichloroethane	120	112	85-129	7	30				
Trichloroethene	108	104	85-131	3	30				
Trichlorofluoromethane	105	107	73-139	2	30				
Vinyl Acetate	83	80	27-162	4	30				
Vinyl Chloride	102	106	62-135	3	30				
m+p-Xylene	115	107	81-137	7	30				
o-Xylene	115	107	81-137	7	30				
Batch number: 140550002A	Sample number(s): 7371622, 7371624-7371626 UNSPK: P370861								
Acetylene	95	95	75-125	0	20				
Ethane	33 (2)	-47 (2)	34-153	5	20				
Ethene	57 (2)	-2 (2)	35-162	8	20				
Methane	-399 (2)	-1176 (2)	35-157	5	20				
Batch number: 140600014A	Sample number(s): 7371627-7371628 UNSPK: P373594								

*- 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
Reported: 03/07/14 at 01:51 PM

Group Number: 1454465

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
Acetylene	95	93	38-121	2	20				
Ethane	92	89	32-129	3	20				
Ethene	100	94	35-162	6	20				
Methane	-16 (2)	-42 (2)	35-157	2	20				
Batch number: 14053987901B	Sample number(s): 7371622,7371624-7371628 UNSPK: 7371622 BKG: 7371622								
Nitrate Nitrogen	100		90-110			2.4	2.3	1	20
Nitrite Nitrogen	95		90-110			0.10 U	0.10 U	0 (1)	20
Sulfate	98		90-110			8.1	8.1	0	20
Batch number: 14057049502A	Sample number(s): 7371622,7371624-7371628 UNSPK: P371284 BKG: P371284								
Total Organic Carbon	104		63-142			12.2	12.4	2	4

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 Water(25ml) Master
Batch number: H140572AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7371623	106	103	96	101
7371624	106	102	95	102
7371625	106	99	95	100
7371626	107	102	95	100
Blank	106	103	96	101
LCS	105	101	96	104
LCSD	105	102	97	106
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Water(25ml) Master
Batch number: H140631AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7371622	92	97	99	98
7371622	93	99	99	97
DL				
7371623	92	97	98	96
DL				
7371627	93	98	98	98
7371628	92	99	99	97
7371629	92	98	99	98
Blank	91	97	99	99
LCS	91	98	100	98
MS	93	97	99	97
MSD	94	99	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
Reported: 03/07/14 at 01:51 PM

Group Number: 1454465

Surrogate Quality Control

Limits: 77-114 74-113 77-110 78-110

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 140550002A
Propene

7371622	78
7371624	81
7371624	99
DL	
7371625	74
7371626	78
Blank	95
LCS	96
MS	87
MSD	81

Limits: 42-131

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 140600014A
Propene

7371627	80
7371627	95
DL	
7371628	83
Blank	96
LCS	101
MS	87
MSD	82

Limits: 42-131

*- 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.

[illegible]

Client: Boeing**Boeing of Portland****Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>02/22/2014 10:20</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>WA</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCl</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Wesley Miller (2308) at 11:00 on 02/22/2014

Samples Chilled Details: Boeing of Portland

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	0.2	0.2	DT	Wet	Y	Bagged	N

General Comments:

G-1454465

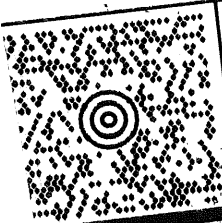
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

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



JPS NEXT DAY AIR

1 S

RACKING #: 1Z RV3 069 Y0 4349 5158



LING: P/R
SC: SAMPLING
TURN SERVICE

EF 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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

May 27, 2014

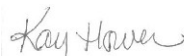
Project: Boeing of Portland/025116.114.412

Submittal Date: 05/06/2014
Group Number: 1472111
PO Number: 0025116.114.412
State of Sample Origin: ORClient Sample DescriptionGWTSEFF-0514 Grab Water
GWTSEFFd-0514 Grab Water
GWTSINF-0514 Grab Water
GWTSINFd-0514 Grab WaterLancaster Labs (LL) #7452774
7452775
7452776
7452777

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

ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen
ELECTRONIC COPY TO	Landau	Attn: Chris Kimmel
ELECTRONIC COPY TO	Landau Associates	Attn: Terry McGourty
ELECTRONIC COPY TO	The Boeing Company	Attn: John Rusoff
ELECTRONIC COPY TO	Landau	Attn: Brett Borgeson
ELECTRONIC COPY TO	Landau Associates	Attn: Kristi Schultz

Respectfully Submitted,



Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.114.412
LLI Group #: 1472111

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: 7452774, 7452775, 7452776, 7452777

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)
chloromethane -24%

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.

Batch #: H141291AA (Sample number(s): 7452774-7452777 UNSPK: P449068)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Acetone, 1,2-Dichloropropane, 1,1,2-Trichloroethane, Dibromochloromethane, 4-Methyl-2-pentanone

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Acetone, 2-Butanone, 4-Methyl-2-pentanone, 2-Hexanone, Bromoform, 1,1,2,2-Tetrachloroethane

EPA 300.0, Wet Chemistry

Sample #s: 7452774

The holding time was not met.

EPA 365.1, Wet Chemistry

Batch #: 14129110101A (Sample number(s): 7452774 UNSPK: 7452774 BKG: 7452774)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Total Phosphorus as P04 water

From: Kay Hower [<mailto:KayHower@eurofinsus.com>]
Sent: Thursday, June 05, 2014 11:10 AM
To: Anne Halvorsen
Subject: RE: 1472111-Boeing of Portland-025116.114.412 05-06-2014 1

Hi Anne,

Below is the response from the chemist regarding the ortho-phosphate. I apologize for the delay in the second analysis. Please let me know if you need further information.

Kay

This one was analyzed on 5/7 at 09:20, but the calibration was out for ortho and the data couldn't be used. The analysis was missed by the analyst and verifier, that is why there was such a huge difference in the time it was analyzed.

From: Anne Halvorsen [<mailto:AHalvorsen@landauinc.com>]
Sent: Wednesday, June 04, 2014 6:08 PM
To: Kay Hower
Subject: FW: 1472111-Boeing of Portland-025116.114.412 05-06-2014 1

Hi Kay –

I am looking at SDG 1472111 for orthophosphate. The sample was collected on 5/5/14. The sample was analyzed on 5/23/14. It is noted in the case narrative that “That holding time was not met”. We use a holding time of 48 hours. This means this sample was out of hold by 16 days. Is there an explanation for this? Should we be using 14 days instead of 48 hours? That would make the sample out of hold by 4 days instead of 16.

Thanks, Anne

From: LLAutomatedReportingSystem@eurofins.com
[\[mailto:LLAutomatedReportingSystem@eurofins.com\]](mailto:LLAutomatedReportingSystem@eurofins.com)
Sent: Tuesday, May 27, 2014 6:05 AM
To: Anne Halvorsen
Subject: 1472111-Boeing of Portland-025116.114.412 05-06-2014 1

If you have questions, contact your client service representative, Kay G Hower.

This message has been scanned for malware by SurfControl plc. www.surfcontrol.com

Sample Description: GWTSEFF-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452774
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:25 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

EF514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Trichloroethane	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)
chloromethane	-24%

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: GWTSEFF-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452774
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:25 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

EF514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the reporting limit.				
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	2.2	0.10	1
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1
07322	Ortho-phosphate as P	7723-14-0	0.50 U	0.50	1
	The holding time was not met.				
		EPA 365.1	mg/l	mg/l	
00345	Total Phosphorus as PO4 water	14265-44-2	0.43	0.31	1
		SM 4500-NH3 D-1997	mg/l	mg/l	
12677	Ammonia-Nitrogen	7664-41-7	0.20 U	0.20	1

General Sample Comments

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	H141291AA	05/09/2014 15:27	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 15:27	Kerri E Legerlotz	1
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 09:20	Sandra J Miller	1
01506	Nitrite Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 09:20	Sandra J Miller	1
07322	Ortho-phosphate as P	EPA 300.0	1	14127347901A	05/23/2014 03:41	Clinton M Wilson	1
00345	Total Phosphorus as PO4 water	EPA 365.1	1	14129110101A	05/12/2014 15:03	Venia B McFadden	1
08264	Total Phos as PO4 Prep (water)	EPA 365.1	1	14129110101A	05/09/2014 13:00	Nancy J Shoop	1
12677	Ammonia-Nitrogen	SM 4500-NH3 D-1997	1	14133008202A	05/13/2014 20:17	Michelle L Lalli	1

Sample Description: GWTSEFFd-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452775
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:35 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

ED514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Trichloroethane	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)
chloromethane	-24%

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: GWTSEFFd-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452775
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:35 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

ED514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the reporting limit.				

General Sample Comments

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	H141291AA	05/09/2014 17:40	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 17:40	Kerri E Legerlotz	1

Sample Description: GWTSINF-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452776
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:15 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

IN514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.9	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.9	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	0.4	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	9.2	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)
chloromethane	-24%

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: GWTSINF-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452776
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:15 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

IN514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the reporting limit.				

General Sample Comments

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	H141291AA	05/09/2014 18:02	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 18:02	Kerri E Legerlotz	1

Sample Description: GWTSINFd-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452777
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:18 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

ID514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.9	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.9	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	0.4	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	9.1	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)
chloromethane	-24%

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: GWTSINFd-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452777
LL Group # 1472111
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 16:18 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/27/2014 08:29

ID514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the reporting limit.				

General Sample Comments

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	H141291AA	05/09/2014 18:23	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 18:23	Kerri E Legerlotz	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/27/14 at 08:29 AM

Group Number: 1472111

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H141291AA	Sample number(s): 7452774-7452777							
Acetone	5.0 U	5.0	ug/l	103		60-139		
Benzene	0.2 U	0.2	ug/l	103		80-120		
Bromodichloromethane	0.5 U	0.5	ug/l	101		80-120		
Bromoform	0.5 U	0.5	ug/l	106		72-138		
Bromomethane	0.5 U	0.5	ug/l	85		62-126		
2-Butanone	5.0 U	5.0	ug/l	100		63-137		
Carbon Disulfide	0.5 U	0.5	ug/l	98		80-120		
Carbon Tetrachloride	0.2 U	0.2	ug/l	98		80-135		
Chlorobenzene	0.5 U	0.5	ug/l	101		80-120		
Chloroethane	0.5 U	0.5	ug/l	83		68-120		
Chloroform	0.2 U	0.2	ug/l	100		80-120		
Chloromethane	0.5 U	0.5	ug/l	79		55-120		
Dibromochloromethane	0.5 U	0.5	ug/l	108		80-126		
1,1-Dichloroethane	0.5 U	0.5	ug/l	103		80-120		
1,2-Dichloroethane	0.2 U	0.2	ug/l	101		80-127		
1,1-Dichloroethene	0.2 U	0.2	ug/l	99		80-123		
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	103		80-120		
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	101		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	104		80-120		
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	103		80-120		
Ethylbenzene	0.5 U	0.5	ug/l	98		80-120		
2-Hexanone	5.0 U	5.0	ug/l	101		62-128		
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	99		65-125		
Methylene Chloride	0.5 U	0.5	ug/l	103		80-120		
Styrene	0.5 U	0.5	ug/l	106		80-120		
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	101		80-120		
Tetrachloroethene	0.2 U	0.2	ug/l	97		80-120		
Toluene	0.2 U	0.2	ug/l	100		80-120		
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	95		80-120		
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	93		80-120		
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	101		80-120		
Trichloroethene	0.2 U	0.2	ug/l	101		80-120		
Trichlorofluoromethane	0.5 U	0.5	ug/l	85		77-132		
Vinyl Acetate	0.5 U	0.5	ug/l	70		38-145		
Vinyl Chloride	0.2 U	0.2	ug/l	83		59-124		
m+p-Xylene	0.5 U	0.5	ug/l	103		80-120		
o-Xylene	0.5 U	0.5	ug/l	104		80-120		
Batch number: 14127347901A	Sample number(s): 7452774							
Nitrate Nitrogen	0.10 U	0.10	mg/l	101	103	90-110	1	20
Nitrite Nitrogen	0.10 U	0.10	mg/l	99	103	90-110	3	20
Ortho-phosphate as P	0.50 U	0.50	mg/l	101	101	90-110	0	20

*- 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
Reported: 05/27/14 at 08:29 AM

Group Number: 1472111

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 14129110101A	Sample number(s): 7452774							
Total Phosphorus as PO4 water	0.31 U	0.31	mg/l	93		90-110		
Batch number: 14133008202A	Sample number(s): 7452774							
Ammonia-Nitrogen	0.20 U	0.20	mg/l	97		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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: H141291AA	Sample number(s): 7452774-7452777 UNSPK: P449068								
Acetone	30*	48*	57-163	47*	30				
Benzene	96	117	87-126	15	30				
Bromodichloromethane	96	124	82-133	26	30				
Bromoform	98	133	60-138	31*	30				
Bromomethane	80	96	66-130	17	30				
2-Butanone	66	103	56-160	44*	30				
Carbon Disulfide	98	112	84-141	13	30				
Carbon Tetrachloride	98	114	81-148	15	30				
Chlorobenzene	98	126	78-133	25	30				
Chloroethane	86	100	70-139	16	30				
Chloroform	98	119	86-136	20	30				
Chloromethane	77	91	49-135	17	30				
Dibromochloromethane	101	136*	79-125	29	30				
1,1-Dichloroethane	98	113	81-126	15	30				
1,2-Dichloroethane	88	112	82-135	24	30				
1,1-Dichloroethene	100	116	86-132	15	30				
cis-1,2-Dichloroethene	99	118	82-129	18	30				
trans-1,2-Dichloroethene	99	115	88-127	14	30				
1,2-Dichloropropane	104	130*	91-126	22	30				
cis-1,3-Dichloropropene	98	126	74-132	25	30				
trans-1,3-Dichloropropene	95	126	71-128	28	30				
Ethylbenzene	97	130	80-140	18	30				
2-Hexanone	68	107	51-149	45*	30				
4-Methyl-2-pentanone	61*	97	69-149	45*	30				
Methylene Chloride	97	113	77-135	16	30				
Styrene	102	135	71-138	28	30				
1,1,2,2-Tetrachloroethane	90	128	75-131	35*	30				
Tetrachloroethene	97	120	75-129	21	30				
Toluene	99	124	83-127	22	30				
1,1,2,2-Trichloroethane	99	114	84-136	14	30				
1,1,1-Trichloroethane	92	106	85-140	15	30				
1,1,2-Trichloroethane	108	140*	85-129	26	30				
Trichloroethene	101	123	85-131	20	30				
Trichlorofluoromethane	88	104	73-139	16	30				
Vinyl Acetate	75	72	27-162	3	30				
Vinyl Chloride	87	101	62-135	16	30				
m+p-Xylene	103	132	81-137	24	30				
o-Xylene	101	132	81-137	27	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
Reported: 05/27/14 at 08:29 AM

Group Number: 1472111

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: 14127347901A	Sample number(s): 7452774 UNSPK: P453734 BKG: P453734								
Nitrate Nitrogen	100		90-110			0.10	U 0.10	U 0 (1)	20
Nitrite Nitrogen	96		90-110			0.10	U 0.10	U 0 (1)	20
Batch number: 14129110101A	Sample number(s): 7452774 UNSPK: 7452774 BKG: 7452774								
Total Phosphorus as PO4 water	100		90-110			0.43	0.48	11* (1)	4
Batch number: 14133008202A	Sample number(s): 7452774 UNSPK: 7452774 BKG: 7452774								
Ammonia-Nitrogen	129	135	52-144	4	23	0.20	U 0.20	U 0 (1)	20

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 Water(25ml) Master
Batch number: H141291AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7452774	100	104	99	99
7452775	101	105	99	102
7452776	101	105	99	101
7452777	101	105	99	100
Blank	102	99	99	103
LCS	100	103	99	105
MS	99	103	101	109
MSD	99	102	100	109
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.

Client Information

Site Location: Oreshan, Oregon
 Site Project: Boeing of Portland
 Site Program/ #: On-Site 114-412
 Boeing PM: Ken Chaput
 Consultant Contact: Chris Kimmel
 Report To: Chris Kimmel - Brett Borgersen
 Invoice To: ☒ Boeing EHS ☐ Other (specify):
 Sampler: James Rouslin # of Coolers: 1

② **Sample Identification**

②	Sample Identification	Collected		③	Matrix	No. of Containers
		Date	Time			
	6WTS Eff - 0514	5/3/14	16:25		H ₂ O	9
	6WTS Eff d - 0514		16:35			3
	6WTS Inf - 0514		16:15			3
	6WTS Inf - 0514		16:10			3

Analyses Requested

NDCs 38 list
 Ortho-phosphate
 T Phosphorus
 Nitrate
 Nitrate
 Ammonia-Nitrogen

5 Remarks/Comments

Please report
to
John Rusoff
as well

6 Turnaround Time-Requested (please circle)

Standard	5 day	4 day
72 hour	48 hour	24 hour

Date needed: _____

Relinquished by: 	Date/Time 3/5/17 17:00	Received by: 	Date/Time	7
Relinquished by: 	Date/Time	Received by:	Date/Time	
Relinquished by: 	Date/Time	Received by: 	Date/Time 3/6/17 08:00	
Relinquished by commercial carrier (circle):		Temperature upon Receipt: 26-38 °C		
UPS	FedEx	Other:	Custody Seals Intact?: ☒ Yes ☐ No	

Carolyn Cyms

A# 13419, Gr# 147211

From: Rachel Kreamer
Sent: Tuesday, May 06, 2014 10:22 AM
To: !US19_SA Env Entry
Cc: Kay Hower
Subject: Boeing Portland

We should receive two Boeing Portland coolers today, per the sampler. He forgot to identify one of the samples as a duplicate. It is the last sample on one of the chains and its identification is GWTS INF-050514. It should say GWTS INF-D-050514.

Also he thinks he may have labeled 4 vials for voas and only one for AMEE for sample E16. If that is the case, please use one of the 4 voa vials for AMEE so there are 2 vials for this analysis.

Thanks
Rachel

Rachel Kreamer
Manager

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601
USA
Phone: +1 717-556-7221
Mobile: +1 717-368-8489

www.LancasterLabsEnv.com

Note that my email address has changed. It is now RachelKreamer@EurofinsUS.com. Please update my contact information.

Client: Boeing**Delivery and Receipt Information**

Delivery Method: UPS Arrival Timestamp: 05/06/2014 8:00
 Number of Packages: 2 Number of Projects: 1
 State/Province of Origin: WA

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCL</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>Yes</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Joseph Gruber (5200) at 09:39 on 05/06/2014

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	Samples Collected Same Day as Receipt?	Elevated Temp?
1	DT146	2.6	DT	Wet	Y	Bagged	N	N
2	DT146	3.8	DT	Wet	Y	Bagged	N	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
GWTSEFF-0514	7	9	

General Comments: Received 1 E12-0514 HCL pres. Vial empty

G-1472111

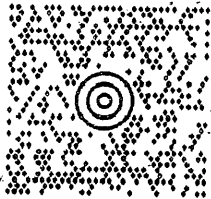
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

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



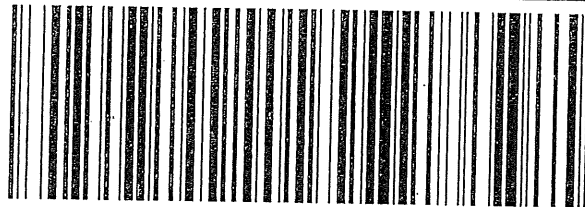
PA 175 9-37



UPS NEXT DAY AIR

1 S

TRACKING #: 1Z RV3 069 Y0 4509 6399



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40



SEE NOTICE ON REVERSE regarding UPS Term
customs purposes. If exported from the US, si
Regulations. Diversion contrary to law is pro

V/S. 17.0.25 LD620D 46 0A 01/2014

6-1472111

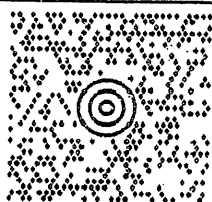
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE.
940 HENSLEY
RICHMOND CA 94801-2106

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 4499 1986

1 S



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 4



SEE NOTICE ON REVERSE regarding UPS terms, and notice of limitation of liability. Where all customs purposes. If exported from the US, shipper certifies that the commodities, technology, and services are not controlled or restricted by U.S. export regulations. Diversion contrary to law is prohibited.

EUROFINS LANCASTER
2425 NEW HOLLAND PIKE
LANCASTER PA 17601-5946
01/2014

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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

May 15, 2014

Project: Boeing of Portland/025116.114.412

Submittal Date: 05/06/2014

Group Number: 1472156

PO Number: 0025116.114.412

State of Sample Origin: OR

Client Sample DescriptionE2-0514 Water
E3-0514 Water
E4-0514 Water
E12-0514 Water
E13-0514 Water
E11-0514 Water
E15-0514 Water
E16-0514 Water
DP-1-0514 Water
Trip Blanks Water
BOP-W-0514 WaterLancaster Labs (LL) #7452876
7452877
7452878
7452879
7452880
7452881
7452882
7452883
7452884
7452885
7452886

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

ELECTRONIC Landau Associates
COPY TO
ELECTRONIC Landau
COPY TO
ELECTRONIC Landau Associates
COPY TO
ELECTRONIC Landau
COPY TO

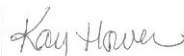
Attn: Anne Halvorsen

Attn: Chris Kimmel

Attn: Terry McGourty

Attn: Brett Borgeson

Respectfully Submitted,



Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.114.412
LLI Group #: 1472156

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: 7452876, 7452877, 7452878, 7452879, 7452885

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)
chloromethane -24%

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.

Batch #: H141291AA (Sample number(s): 7452876-7452879, 7452885 UNSPK: P449068)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Acetone, 1,2-Dichloropropane, 1,1,2-Trichloroethane, Dibromochloromethane, 4-Methyl-2-pentanone

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside acceptance windows: Acetone, 2-Butanone, 4-Methyl-2-pentanone, 2-Hexanone, Bromoform, 1,1,2,2-Tetrachloroethane

RSKSOP-175 modified, GC Miscellaneous

Sample #s: 7452876, 7452877, 7452878, 7452879, 7452880

The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported.

The affected analyte(s) and response(s) are:
Analyte Response (%Drift)
Acetylene 18%

Batch #: 141320030A (Sample number(s): 7452876-7452883 UNSPK: 7452876)

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

Sample Description: E2-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452876
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 13:15 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E-2-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.4	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	0.4	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,1-Trichloroethane	76-13-1	0.5 U	0.5	1
11996	1,1,2-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	2.2	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	0.5	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)
chloromethane	-24%

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: E2-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452876
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 13:15 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E-2-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
GC Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.8	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	18,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,000 U	1,000	200
07105	Ethane	74-84-0	1,000 U	1,000	200
07105	Ethene	74-85-1	1,000 U	1,000	200
07105	Methane	74-82-8	25,000	1,000	200
The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported.					
The affected analyte(s) and response(s) are:					
Analyte	Response (%Drift)				
Acetylene	18%				
Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.79	0.10	1
00228	Sulfate	14808-79-8	4.9	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	2.0	1.0	1

General Sample Comments

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	H141291AA	05/09/2014 18:45	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 18:45	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 18:27	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 16:26	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 08:16	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901A	05/07/2014 08:16	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 01:37	James S Mathiot	1

Sample Description: E3-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452877
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 15:35 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E-3-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.8	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	3.7	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	0.7	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	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	15	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	3.1	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)
chloromethane	-24%

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: E3-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452877
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 15:35 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E-3-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.					
GC Miscellaneous		RSKSOP-175 modified	ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	11,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,000 U	1,000	200
07105	Ethane	74-84-0	1,000 U	1,000	200
07105	Ethene	74-85-1	1,000 U	1,000	200
07105	Methane	74-82-8	14,000	1,000	200
The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported.					
The affected analyte(s) and response(s) are:					
Analyte	Response (%Drift)				
Acetylene	18%				
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.32	0.10	1
00228	Sulfate	14808-79-8	4.6	1.0	1
		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	1.8	1.0	1

General Sample Comments

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	H141291AA	05/09/2014 19:07	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 19:07	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 19:21	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 16:44	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 09:37	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901A	05/07/2014 09:37	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 02:22	James S Mathiot	1

Sample Description: E4-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452878
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 14:20 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E4--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	5.9	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	1.3	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	1.6	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,2,2-Trichloroethane	76-13-1	1.3	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	38 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10

Sample Description: E4-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452878
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 14:20 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E4--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroethane	75-00-3	5.0 U	5.0	10
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	4.3	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	2.0 U	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	5.0 U	5.0	10
11996	4-Methyl-2-pentanone	108-10-1	5.0 U	5.0	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.0 U	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,1,2-Trichloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	29	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

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)
chloromethane	-24%

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 Miscellaneous	RSKSOP-175 modified	ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0
07105	Ethane	74-84-0	5.0 U	5.0
07105	Ethene	74-85-1	5.0 U	5.0
07105	Methane	74-82-8	49	5.0

The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance

Sample Description: E4-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452878
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 14:20 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E4--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported. The affected analyte(s) and response(s) are:					
Analyte	Response (%Drift)				
Acetylene	18%				
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	1.2	0.10	1
00228	Sulfate	14808-79-8	7.9	1.0	1
		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	1.2	1.0	1

General Sample Comments

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	H141291AA	05/09/2014 19:29	Kerri E Legerlotz	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H141291AA	05/09/2014 19:51	Kerri E Legerlotz	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 19:29	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H141291AA	05/09/2014 19:51	Kerri E Legerlotz	10
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 19:39	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 09:53	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901A	05/07/2014 09:53	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 02:38	James S Mathiot	1

Sample Description: E12-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452879
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 15:55 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E12-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.1	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	0.4	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	10	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)
chloromethane	-24%

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: E12-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452879
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 15:55 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E12-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the reporting limit.				
GC Miscellaneous	RSKSOP-175 modified		ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	92	5.0	1

The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported.

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

Analyte	Response (%Drift)
Acetylene	18%

Wet Chemistry	EPA 300.0		mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	2.6	0.10	1
00228	Sulfate	14808-79-8	10.2	1.0	1
	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	2.7	1.0	1

General Sample Comments

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	H141291AA	05/09/2014 15:49	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 15:49	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 19:58	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 10:09	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901A	05/07/2014 10:09	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 02:53	James S Mathiot	1

Sample Description: E13-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452880
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 15:10 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E13-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.8	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.9	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	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	8.6	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	Miscellaneous	RSKSOP-175 modified	ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	5.0 U	5.0	1

The response for a target analyte(s) in the continuing calibration verification standard is outside the QC acceptance limits. Since the response is high indicating increased sensitivity, and the target analyte(s) is not detected in the sample, the data is reported.

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

Sample Description: E13-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452880
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 15:10 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E13-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	Analyte	Response (%Drift)			
	Acetylene	18%			
	Wet Chemistry	EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	2.3	0.10	1
00228	Sulfate	14808-79-8	8.1	1.0	1
		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	1.0	1.0	1

General Sample Comments

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	H141331AA	05/13/2014 12:08	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 12:08	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 20:16	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 10:25	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901A	05/07/2014 10:25	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 03:24	James S Mathiot	1

Sample Description: E11-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452881
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 11:55 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E11-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
11996	Acetone	67-64-1	77	5.0	1
11996	Benzene	71-43-2	0.6	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	14	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	5.0	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	9.6	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	20	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
GC Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	7.3	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	22,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,000 U	1,000	200
07105	Ethane	74-84-0	1,000 U	1,000	200
07105	Ethene	74-85-1	1,000 U	1,000	200

Sample Description: E11-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452881
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 11:55 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E11-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 27,000	ug/l 1,000	200
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.10 U	mg/l 0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 24.3	mg/l 1.0	1

General Sample Comments

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	H141331AA	05/13/2014 12:30	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 12:30	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 20:52	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 17:02	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901A	05/07/2014 07:43	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901A	05/07/2014 07:43	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 03:40	James S Mathiot	1

Sample Description: E15-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452882
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 13:50 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E15-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1.2	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.3	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	2.6	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	0.4	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	2.5	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	Miscellaneous	RSKSOP-175 modified	ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	7,100 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	500 U	500	100
07105	Ethane	74-84-0	500 U	500	100
07105	Ethene	74-85-1	500 U	500	100

Sample Description: E15-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452882
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 13:50 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E15-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 11,000	ug/l 500	100
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.10 U	mg/l 0.10	1
00228	Sulfate	14808-79-8	1.2	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 3.4	mg/l 1.0	1

General Sample Comments

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	H141331AA	05/13/2014 12:52	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 12:52	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 21:10	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 17:20	Elizabeth J Marin	100
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901B	05/07/2014 08:32	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901B	05/07/2014 08:32	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 03:55	James S Mathiot	1

Sample Description: E16-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452883
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 12:10 by JR

The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E16-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
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	0.4	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	2.1	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	2.5	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	2.4	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	1.4	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	15	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 Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	170	5.0	1
Wet Chemistry EPA 300.0					
00368	Nitrate Nitrogen	14797-55-8	2.1	0.10	1
00228	Sulfate	14808-79-8	5.9	1.0	1

Sample Description: E16-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452883
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 12:10 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

-E16-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
00273	Wet Chemistry Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 1.3	mg/l 1.0	1

General Sample Comments

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	H141331AA	05/13/2014 13:14	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 13:14	Kerri E Legerlotz	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 21:29	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14127347901B	05/07/2014 07:59	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14127347901B	05/07/2014 07:59	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14129049501A	05/09/2014 04:10	James S Mathiot	1

Sample Description: DP-1-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452884
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 11:10 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

DP1--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.3	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	0.4	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	98 E	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	3.6	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	19	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	33 E	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10
11996	Chloroethane	75-00-3	5.0 U	5.0	10

Sample Description: DP-1-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452884
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 11:10 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

DP1--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.0 U	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	79	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	15	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,1,2,2,2-Hexachloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	25	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	2.0 U	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

General Sample Comments

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	H141331AA	05/13/2014 13:36	Kerri E Legerlotz	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H141332AA	05/13/2014 23:16	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 13:36	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H141332AA	05/13/2014 23:16	Kevin A Sposito	10

Sample Description: Trip Blanks Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452885
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 04/21/2014

The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

TBS--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Trichloroethane	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)
chloromethane	-24%

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 Blanks Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452885
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 04/21/2014

The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

TBS--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
	the reporting limit.				

General Sample Comments

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	H141291AA	05/09/2014 15:05	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141291AA	05/09/2014 15:05	Kerri E Legerlotz	1

Sample Description: BOP-W-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452886
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 08:00 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

BOP--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	0.4	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	0.4	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	2.4	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	0.5	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

General Sample Comments

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	H141331AA	05/13/2014 13:58	Kerri E Legerlotz	1

Sample Description: BOP-W-0514 Water
Boeing Portland 0025116.114.412

LL Sample # WW 7452886
LL Group # 1472156
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/05/2014 08:00 by JR The Boeing Company

Submitted: 05/06/2014 08:00

Reported: 05/15/2014 16:53

BOP--

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 13:58	Kerri E Legerlotz	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/15/14 at 04:53 PM

Group Number: 1472156

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H141291AA	Sample number(s): 7452876-7452879,7452885							
Acetone	5.0 U	5.0	ug/l	103		60-139		
Benzene	0.2 U	0.2	ug/l	103		80-120		
Bromodichloromethane	0.5 U	0.5	ug/l	101		80-120		
Bromoform	0.5 U	0.5	ug/l	106		72-138		
Bromomethane	0.5 U	0.5	ug/l	85		62-126		
2-Butanone	5.0 U	5.0	ug/l	100		63-137		
Carbon Disulfide	0.5 U	0.5	ug/l	98		80-120		
Carbon Tetrachloride	0.2 U	0.2	ug/l	98		80-135		
Chlorobenzene	0.5 U	0.5	ug/l	101		80-120		
Chloroethane	0.5 U	0.5	ug/l	83		68-120		
Chloroform	0.2 U	0.2	ug/l	100		80-120		
Chloromethane	0.5 U	0.5	ug/l	79		55-120		
Dibromochloromethane	0.5 U	0.5	ug/l	108		80-126		
1,1-Dichloroethane	0.5 U	0.5	ug/l	103		80-120		
1,2-Dichloroethane	0.2 U	0.2	ug/l	101		80-127		
1,1-Dichloroethene	0.2 U	0.2	ug/l	99		80-123		
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	103		80-120		
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	101		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	104		80-120		
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	103		80-120		
Ethylbenzene	0.5 U	0.5	ug/l	98		80-120		
2-Hexanone	5.0 U	5.0	ug/l	101		62-128		
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	99		65-125		
Methylene Chloride	0.5 U	0.5	ug/l	103		80-120		
Styrene	0.5 U	0.5	ug/l	106		80-120		
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	101		80-120		
Tetrachloroethene	0.2 U	0.2	ug/l	97		80-120		
Toluene	0.2 U	0.2	ug/l	100		80-120		
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	95		80-120		
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	93		80-120		
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	101		80-120		
Trichloroethene	0.2 U	0.2	ug/l	101		80-120		
Trichlorofluoromethane	0.5 U	0.5	ug/l	85		77-132		
Vinyl Acetate	0.5 U	0.5	ug/l	70		38-145		
Vinyl Chloride	0.2 U	0.2	ug/l	83		59-124		
m+p-Xylene	0.5 U	0.5	ug/l	103		80-120		
o-Xylene	0.5 U	0.5	ug/l	104		80-120		
Batch number: H141331AA	Sample number(s): 7452880-7452884,7452886							
Acetone	5.0 U	5.0	ug/l	100	98	60-139	2	30
Benzene	0.2 U	0.2	ug/l	106	101	80-120	5	30
Bromodichloromethane	0.5 U	0.5	ug/l	107	102	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.

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/15/14 at 04:53 PM

Group Number: 1472156

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Bromoform	0.5 U	0.5	ug/l	101	102	72-138	1	30
Bromomethane	0.5 U	0.5	ug/l	96	90	62-126	7	30
2-Butanone	5.0 U	5.0	ug/l	93	91	63-137	2	30
Carbon Disulfide	0.5 U	0.5	ug/l	94	89	80-120	6	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	107	100	80-135	7	30
Chlorobenzene	0.5 U	0.5	ug/l	100	97	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	93	88	68-120	5	30
Chloroform	0.2 U	0.2	ug/l	103	99	80-120	5	30
Chloromethane	0.5 U	0.5	ug/l	86	80	55-120	8	30
Dibromochloromethane	0.5 U	0.5	ug/l	106	105	80-126	1	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	102	100	80-120	2	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	100	97	80-127	3	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	108	99	80-123	8	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	108	101	80-120	7	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	107	102	80-120	5	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	107	104	80-120	3	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	108	103	80-120	5	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	95	96	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	96	93	80-120	3	30
2-Hexanone	5.0 U	5.0	ug/l	91	88	62-128	2	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	90	88	65-125	2	30
Methylene Chloride	0.5 U	0.5	ug/l	105	102	80-120	4	30
Styrene	0.5 U	0.5	ug/l	103	99	80-120	4	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	93	92	80-120	1	30
Tetrachloroethene	0.2 U	0.2	ug/l	97	94	80-120	4	30
Toluene	0.2 U	0.2	ug/l	98	95	80-120	4	30
1,1,2,2-Tetrachloroethane	0.5 U	0.5	ug/l	96	91	80-120	6	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	98	93	80-120	5	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	95	94	80-120	1	30
Trichloroethene	0.2 U	0.2	ug/l	105	101	80-120	4	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	96	88	77-132	9	30
Vinyl Acetate	0.5 U	0.5	ug/l	64	63	38-145	2	30
Vinyl Chloride	0.2 U	0.2	ug/l	92	86	59-124	6	30
m+p-Xylene	0.5 U	0.5	ug/l	101	97	80-120	4	30
o-Xylene	0.5 U	0.5	ug/l	101	97	80-120	4	30

Batch number: H141332AA

Sample number(s): 7452884

Acetone	5.0 U	5.0	ug/l	101	100	60-139	2	30
Benzene	0.2 U	0.2	ug/l	106	103	80-120	3	30
Bromodichloromethane	0.5 U	0.5	ug/l	106	103	80-120	3	30
Bromoform	0.5 U	0.5	ug/l	103	102	72-138	0	30
Bromomethane	0.5 U	0.5	ug/l	94	91	62-126	4	30
2-Butanone	5.0 U	5.0	ug/l	94	91	63-137	3	30
Carbon Disulfide	0.5 U	0.5	ug/l	93	90	80-120	3	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	108	104	80-135	3	30
Chlorobenzene	0.5 U	0.5	ug/l	101	98	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	92	89	68-120	4	30
Chloroform	0.2 U	0.2	ug/l	103	102	80-120	1	30
Chloromethane	0.5 U	0.5	ug/l	82	79	55-120	4	30
Dibromochloromethane	0.5 U	0.5	ug/l	106	105	80-126	0	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	104	102	80-120	2	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	104	102	80-127	2	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	105	102	80-123	3	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	108	103	80-120	4	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	105	104	80-120	1	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	108	107	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 SummaryClient Name: The Boeing Company
Reported: 05/15/14 at 04:53 PM

Group Number: 1472156

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	105	105	80-120	1	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	95	94	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	95	94	80-120	1	30
2-Hexanone	5.0 U	5.0	ug/l	92	91	62-128	1	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	91	90	65-125	2	30
Methylene Chloride	0.5 U	0.5	ug/l	106	104	80-120	2	30
Styrene	0.5 U	0.5	ug/l	104	101	80-120	3	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	93	94	80-120	1	30
Tetrachloroethene	0.2 U	0.2	ug/l	99	96	80-120	3	30
Toluene	0.2 U	0.2	ug/l	99	96	80-120	3	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	95	94	80-120	1	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	100	97	80-120	3	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	99	97	80-120	3	30
Trichloroethene	0.2 U	0.2	ug/l	105	104	80-120	1	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	92	91	77-132	1	30
Vinyl Acetate	0.5 U	0.5	ug/l	69	68	38-145	2	30
Vinyl Chloride	0.2 U	0.2	ug/l	92	91	59-124	1	30
m+p-Xylene	0.5 U	0.5	ug/l	101	99	80-120	1	30
o-Xylene	0.5 U	0.5	ug/l	101	99	80-120	2	30

Batch number: 141320030A	Sample number(s): 7452876-7452883	
Acetylene	5.0 U	5.0 ug/l 114
Ethane	5.0 U	5.0 ug/l 98
Ethene	5.0 U	5.0 ug/l 96
Methane	5.0 U	5.0 ug/l 100

Batch number: 14127347901A	Sample number(s): 7452876-7452881	
Nitrate Nitrogen	0.10 U	0.10 mg/l 101
Sulfate	1.0 U	1.0 mg/l 101

Batch number: 14127347901B	Sample number(s): 7452882-7452883	
Nitrate Nitrogen	0.10 U	0.10 mg/l 101
Sulfate	1.0 U	1.0 mg/l 101

Batch number: 14129049501A	Sample number(s): 7452876-7452883	
Total Organic Carbon	1.0 U	1.0 mg/l 104

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: H141291AA	Sample number(s): 7452876-7452879,7452885 UNSPK: P449068								
Acetone	30*	48*	57-163	47*	30				
Benzene	96	117	87-126	15	30				
Bromodichloromethane	96	124	82-133	26	30				
Bromoform	98	133	60-138	31*	30				
Bromomethane	80	96	66-130	17	30				
2-Butanone	66	103	56-160	44*	30				
Carbon Disulfide	98	112	84-141	13	30				
Carbon Tetrachloride	98	114	81-148	15	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 SummaryClient Name: The Boeing Company
Reported: 05/15/14 at 04:53 PM

Group Number: 1472156

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

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Chlorobenzene	98	126	78-133	25	30			
Chloroethane	86	100	70-139	16	30			
Chloroform	98	119	86-136	20	30			
Chloromethane	77	91	49-135	17	30			
Dibromochloromethane	101	136*	79-125	29	30			
1,1-Dichloroethane	98	113	81-126	15	30			
1,2-Dichloroethane	88	112	82-135	24	30			
1,1-Dichloroethene	100	116	86-132	15	30			
cis-1,2-Dichloroethene	99	118	82-129	18	30			
trans-1,2-Dichloroethene	99	115	88-127	14	30			
1,2-Dichloropropane	104	130*	91-126	22	30			
cis-1,3-Dichloropropene	98	126	74-132	25	30			
trans-1,3-Dichloropropene	95	126	71-128	28	30			
Ethylbenzene	97	130	80-140	18	30			
2-Hexanone	68	107	51-149	45*	30			
4-Methyl-2-pentanone	61*	97	69-149	45*	30			
Methylene Chloride	97	113	77-135	16	30			
Styrene	102	135	71-138	28	30			
1,1,2,2-Tetrachloroethane	90	128	75-131	35*	30			
Tetrachloroethene	97	120	75-129	21	30			
Toluene	99	124	83-127	22	30			
1,1,2,2,2-Trifluoroethane	99	114	84-136	14	30			
1,1,1-Trichloroethane	92	106	85-140	15	30			
1,1,2-Trichloroethane	108	140*	85-129	26	30			
Trichloroethene	101	123	85-131	20	30			
Trichlorofluoromethane	88	104	73-139	16	30			
Vinyl Acetate	75	72	27-162	3	30			
Vinyl Chloride	87	101	62-135	16	30			
m+p-Xylene	103	132	81-137	24	30			
o-Xylene	101	132	81-137	27	30			

Batch number: 141320030A Sample number(s): 7452876-7452883 UNSPK: 7452876

Acetylene	100	103	38-121	3	20			
Ethane	88	95	32-129	7	20			
Ethene	101	104	35-162	3	20			
Methane	-326	-163	35-157	1	20			
	(2)	(2)						

Batch number: 14127347901A Sample number(s): 7452876-7452881 UNSPK: P453734 BKG: P453734

Nitrate Nitrogen	100	90-110	0.10	U	0.10	U	0 (1)	20
Sulfate	105	90-110	28.9		29.7		3	20

Batch number: 14127347901B Sample number(s): 7452882-7452883 UNSPK: 7452882 BKG: 7452882

Nitrate Nitrogen	95	90-110	0.10	U	0.10	U	0 (1)	20
Sulfate	94	90-110	1.2		1.2		1 (1)	20

Batch number: 14129049501A Sample number(s): 7452876-7452883 UNSPK: 7452876 BKG: 7452876

Total Organic Carbon	106	63-142	2.0		2.1		4 (1)	4

*- 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
Reported: 05/15/14 at 04:53 PM

Group Number: 1472156

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 Water(25ml) Master

Batch number: H141291AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7452876	103	108	99	100
7452877	102	107	99	100
7452878	102	103	100	102
7452878	101	105	99	99
DL				
7452879	101	106	99	101
7452885	100	105	99	101
Blank	102	99	99	103
LCS	100	103	99	105
MS	99	103	101	109
MSD	99	102	100	109

Limits: 77-114 74-113 77-110 78-110

Analysis Name: 8260C Water(25ml) Master

Batch number: H141331AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7452880	103	108	96	103
7452881	102	105	95	105
7452882	103	108	96	102
7452883	103	107	95	103
7452884	103	108	94	101
7452886	104	111	95	103
Blank	103	109	96	103
LCS	103	108	97	106
LCSD	101	104	96	105

Limits: 77-114 74-113 77-110 78-110

Analysis Name: 8260C Water(25ml) Master

Batch number: H141332AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7452884	105	109	95	102
DL				
Blank	105	110	96	102
LCS	102	105	96	106
LCSD	103	110	96	106

Limits: 77-114 74-113 77-110 78-110

Analysis Name: Volatile Headspace Hydrocarbon

Batch number: 141320030A

Propene

7452876	77
7452876	95
DL	

*- 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
Reported: 05/15/14 at 04:53 PM

Group Number: 1472156

Surrogate Quality Control

7452877	81
7452877	97
DL	
7452878	84
7452879	74
7452880	76
7452881	98
7452881	95
DL	
7452882	69
7452882	95
DL	
7452883	80
Blank	93
LCS	95
MS	78
MSD	81

Limits: 42-131

*- 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.

Client: Boeing**Delivery and Receipt Information**

Delivery Method: UPS Arrival Timestamp: 05/06/2014 8:00
 Number of Packages: 2 Number of Projects: 1
 State/Province of Origin: WA

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCL</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>Yes</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Joseph Gruber (5200) at 09:39 on 05/06/2014

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	<u>Samples Collected Same Day as Receipt?</u>	<u>Elevated Temp?</u>
1	DT146	2.6	DT	Wet	Y	Bagged	N	N
2	DT146	3.8	DT	Wet	Y	Bagged	N	N

Container Quantity Discrepancy Details

<u>Sample ID on COC</u>	<u>Container Qty. Received</u>	<u>Container Qty. on COC</u>	<u>Comments</u>
GWTSEFF-0514	7	9	

General Comments: Received 1 E12-0514 HCL pres. Vial empty

G-1472156

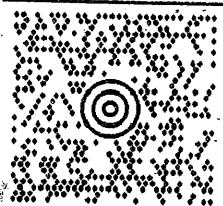
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

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

1 S

TRACKING #: 1Z RV3 069 Y0 4509 6399



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40



SEE NOTICE ON REVERSE regarding UPS Terms
customs purposes. If exported from the US, all
Regulations. Diversion contrary to law is prohibited.

WS 17.0.25 LD620D 48 0A 01/2014

G-1472156

LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

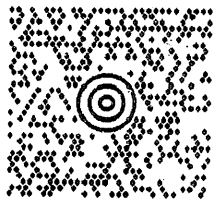
40 LBS

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 4499 1986

1 S



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 4



SEE NOTICE ON REVERSE regarding UPS Terms, and notice of limitation of liability. Where all customs purposes. If exported from the US, shipper certifies that the commodities, techno Regulations. Diversion contrary to law is prohibited.

EUROFINS LANCA
2425 NEW HOLLAND
LANCASTER
P.O. BOX 101/2014
trial and
tration

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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

May 15, 2014

Project: Boeing of Portland/025116.114.412

Submittal Date: 05/08/2014

Group Number: 1472837

PO Number: 0025116.114.412

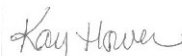
State of Sample Origin: OR

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
BOP-7(i)-0514 NA Water	7455814
BOP-16(i)-0514 NA Water	7455815
BOP-80(i)-0514 NA Water	7455816
BOP-81(i)-0514 NA Water	7455817
BOP-82(i)-0514 NA Water	7455818
BOP-x(i)-0514 NA Water	7455819
Trip Blank Water	7455820
BOP-83(i)-0514 NA Water	7455821

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

ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen
ELECTRONIC COPY TO	Landau	Attn: Chris Kimmel
ELECTRONIC COPY TO	Landau Associates	Attn: Terry McGourty
ELECTRONIC COPY TO	Landau	Attn: Brett Borgeson

Respectfully Submitted,



Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.114.412
LLI Group #: 1472837

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:**RSKSOP-175 modified, GC Miscellaneous**

Batch #: 141320030A (Sample number(s): 7455814-7455818, 7455821 UNSPK: P452876)

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

Sample Description: BOP-7(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455814
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 08:20 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
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
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	12	1.0	5
11996	cis-1,2-Dichloroethene	156-59-2	9.0	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	3.7	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	2.7	2.5	5
11996	1,1,2-Trichloroethane	79-00-5	1.0 U	1.0	5
11996	Trichloroethene	79-01-6	170	E	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
Trial ID: DL					
11996	Acetone	67-64-1	250 U	250	50
11996	Benzene	71-43-2	10 U	10	50
11996	Bromodichloromethane	75-27-4	25 U	25	50
11996	Bromoform	75-25-2	25 U	25	50
11996	Bromomethane	74-83-9	25 U	25	50
11996	2-Butanone	78-93-3	250 U	250	50
11996	Carbon Disulfide	75-15-0	25 U	25	50
11996	Carbon Tetrachloride	56-23-5	10 U	10	50
11996	Chlorobenzene	108-90-7	25 U	25	50
11996	Chloroethane	75-00-3	25 U	25	50

Sample Description: BOP-7(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455814
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 08:20 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
11996	Chloroform	67-66-3	10 U	10	50
11996	Chloromethane	74-87-3	25 U	25	50
11996	Dibromochloromethane	124-48-1	25 U	25	50
11996	1,1-Dichloroethane	75-34-3	25 U	25	50
11996	1,2-Dichloroethane	107-06-2	10 U	10	50
11996	1,1-Dichloroethene	75-35-4	13	10	50
11996	cis-1,2-Dichloroethene	156-59-2	12	10	50
11996	trans-1,2-Dichloroethene	156-60-5	10 U	10	50
11996	1,2-Dichloropropane	78-87-5	25 U	25	50
11996	cis-1,3-Dichloropropene	10061-01-5	10 U	10	50
11996	trans-1,3-Dichloropropene	10061-02-6	10 U	10	50
11996	Ethylbenzene	100-41-4	25 U	25	50
11996	2-Hexanone	591-78-6	250 U	250	50
11996	4-Methyl-2-pentanone	108-10-1	250 U	250	50
11996	Methylene Chloride	75-09-2	25 U	25	50
11996	Styrene	100-42-5	25 U	25	50
11996	1,1,2,2-Tetrachloroethane	79-34-5	10 U	10	50
11996	Tetrachloroethene	127-18-4	10 U	10	50
11996	Toluene	108-88-3	10 U	10	50
11996	112Trichloro122Trifluoroethane	76-13-1	25 U	25	50
11996	1,1,1-Trichloroethane	71-55-6	25 U	25	50
11996	1,1,2-Trichloroethane	79-00-5	10 U	10	50
11996	Trichloroethene	79-01-6	180	10	50
11996	Trichlorofluoromethane	75-69-4	25 U	25	50
11996	Vinyl Acetate	108-05-4	25 U	25	50
11996	Vinyl Chloride	75-01-4	10 U	10	50
11996	m+p-Xylene	179601-23-1	25 U	25	50
11996	o-Xylene	95-47-6	25 U	25	50
GC Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	5.0 U	5.0	1
Wet Chemistry EPA 300.0					
00368	Nitrate Nitrogen	14797-55-8	2.1	0.10	1
00228	Sulfate	14808-79-8	8.2	1.0	1
SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	1.0 U	1.0	1

General Sample Comments

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

Sample Description: BOP-7(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455814
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 08:20 by JR

The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP07

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	H141331AA	05/13/2014 15:04	Kerri E Legerlotz	5
11996	8260C Boeing 38	SW-846 8260C	2-DL	H141332AA	05/13/2014 23:37	Kevin A Sposito	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 15:04	Kerri E Legerlotz	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H141332AA	05/13/2014 23:37	Kevin A Sposito	50
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 21:47	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14128347902B	05/08/2014 23:00	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14128347902B	05/08/2014 23:00	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14133049501A	05/13/2014 03:17	James S Mathiot	1

Sample Description: BOP-16(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455815
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 10:20 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP16

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
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	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.4	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	1.3	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	4.6	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	4.9	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 Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	2,700 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	100 U	100	20
07105	Ethane	74-84-0	100 U	100	20
07105	Ethene	74-85-1	100 U	100	20

Sample Description: BOP-16(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455815
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 10:20 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP16

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 3,100	ug/l 100	20
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.10 U	mg/l 0.10	1
00228	Sulfate	14808-79-8	5.6	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 1.2	mg/l 1.0	1

General Sample Comments

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	H141331AA	05/13/2014 16:46	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 16:46	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 22:05	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 17:38	Elizabeth J Marin	20
00368	Nitrate Nitrogen	EPA 300.0	1	14128347902B	05/08/2014 22:11	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14128347902B	05/08/2014 22:11	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14133049501A	05/13/2014 03:32	James S Mathiot	1

Sample Description: BOP-80(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455816
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 12:50 by JR

The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP80

CAT No.	Analysis Name	CAS Number	As Received Result		As Received 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	0.9		0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2	U	0.2	1
11996	1,1-Dichloroethene	75-35-4	1.2		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	0.7		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	1,1,2-Trichloroethane	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	2.0		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	Miscellaneous	RSKSOP-175 modified	ug/l		ug/l	
07105	Acetylene	74-86-2	5.0	U	5.0	1
07105	Ethane	74-84-0	17		5.0	1
07105	Ethene	74-85-1	5.0	U	5.0	1
07105	Methane	74-82-8	10,000	E	5.0	1
Trial ID: DL						
07105	Acetylene	74-86-2	1,000	U	1,000	200
07105	Ethane	74-84-0	1,000	U	1,000	200
07105	Ethene	74-85-1	1,000	U	1,000	200

Sample Description: BOP-80(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455816
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 12:50 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP80

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 16,000	ug/l 1,000	200
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.19	mg/l 0.10	1
00228	Sulfate	14808-79-8	1.0	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 3.8	mg/l 1.0	1

General Sample Comments

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	H141331AA	05/13/2014 17:08	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 17:08	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 22:23	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 17:56	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14128347902B	05/08/2014 23:32	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14128347902B	05/08/2014 23:32	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14133049501A	05/13/2014 03:48	James S Mathiot	1

Sample Description: BOP-81(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455817
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 13:50 by JR

The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP81

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,1,2,2-Trichloroethane	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
GC	Miscellaneous	RSKSOP-175 modified	ug/l	ug/l	
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.2	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	15,000	E 5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,000 U	1,000	200
07105	Ethane	74-84-0	1,000 U	1,000	200
07105	Ethene	74-85-1	1,000 U	1,000	200
07105	Methane	74-82-8	24,000	1,000	200

Sample Description: BOP-81(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455817
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 13:50 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP81

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	2.3	1.0	1
		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	2.0	1.0	1

General Sample Comments

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	H141331AA	05/13/2014 17:30	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 17:30	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 22:42	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 18:14	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14128347902B	05/08/2014 23:48	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14128347902B	05/08/2014 23:48	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14133049501A	05/13/2014 04:03	James S Mathiot	1

Sample Description: BOP-82(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455818
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 15:20 by JR

The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP82

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
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	0.6	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	0.5	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.3	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	0.7	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	12	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 Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	810 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	25 U	25	5
07105	Ethane	74-84-0	25 U	25	5
07105	Ethene	74-85-1	25 U	25	5

Sample Description: BOP-82(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455818
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 15:20 by JR

The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP82

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 1,000	ug/l 25	5
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.30	mg/l 0.10	1
00228	Sulfate	14808-79-8	8.4	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 1.9	mg/l 1.0	1

General Sample Comments

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	H141331AA	05/13/2014 17:52	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 17:52	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 23:00	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141320030A	05/13/2014 18:32	Elizabeth J Marin	5
00368	Nitrate Nitrogen	EPA 300.0	1	14128347902B	05/09/2014 00:05	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14128347902B	05/09/2014 00:05	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14133049501A	05/13/2014 04:35	James S Mathiot	1

Sample Description: BOP-x(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455819
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 08:00 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP-X

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	15	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	11	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	4.5	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,2,2-Trichloroethane	76-13-1	2.2	0.5	1
11996	1,1,1-Trichloroethane	71-55-6	3.3	0.5	1
11996	1,1,2-Trichloroethane	79-00-5	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	220	E	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: DL					
11996	Acetone	67-64-1	100 U	100	20
11996	Benzene	71-43-2	4.0 U	4.0	20
11996	Bromodichloromethane	75-27-4	10 U	10	20
11996	Bromoform	75-25-2	10 U	10	20
11996	Bromomethane	74-83-9	10 U	10	20
11996	2-Butanone	78-93-3	100 U	100	20
11996	Carbon Disulfide	75-15-0	10 U	10	20
11996	Carbon Tetrachloride	56-23-5	4.0 U	4.0	20
11996	Chlorobenzene	108-90-7	10 U	10	20

Sample Description: BOP-x(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455819
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 08:00 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP-X

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroethane	75-00-3	10 U	10	20
11996	Chloroform	67-66-3	4.0 U	4.0	20
11996	Chloromethane	74-87-3	10 U	10	20
11996	Dibromochloromethane	124-48-1	10 U	10	20
11996	1,1-Dichloroethane	75-34-3	10 U	10	20
11996	1,2-Dichloroethane	107-06-2	4.0 U	4.0	20
11996	1,1-Dichloroethene	75-35-4	11	4.0	20
11996	cis-1,2-Dichloroethene	156-59-2	9.1	4.0	20
11996	trans-1,2-Dichloroethene	156-60-5	4.0 U	4.0	20
11996	1,2-Dichloropropane	78-87-5	10 U	10	20
11996	cis-1,3-Dichloropropene	10061-01-5	4.0 U	4.0	20
11996	trans-1,3-Dichloropropene	10061-02-6	4.0 U	4.0	20
11996	Ethylbenzene	100-41-4	10 U	10	20
11996	2-Hexanone	591-78-6	100 U	100	20
11996	4-Methyl-2-pentanone	108-10-1	100 U	100	20
11996	Methylene Chloride	75-09-2	10 U	10	20
11996	Styrene	100-42-5	10 U	10	20
11996	1,1,2,2-Tetrachloroethane	79-34-5	4.0 U	4.0	20
11996	Tetrachloroethene	127-18-4	4.0 U	4.0	20
11996	Toluene	108-88-3	4.0 U	4.0	20
11996	1,1,2,2-Trichloroethane	76-13-1	10 U	10	20
11996	1,1,1-Trichloroethane	71-55-6	10 U	10	20
11996	1,1,2-Trichloroethane	79-00-5	4.0 U	4.0	20
11996	Trichloroethene	79-01-6	160	4.0	20
11996	Trichlorofluoromethane	75-69-4	10 U	10	20
11996	Vinyl Acetate	108-05-4	10 U	10	20
11996	Vinyl Chloride	75-01-4	4.0 U	4.0	20
11996	m+p-Xylene	179601-23-1	10 U	10	20
11996	o-Xylene	95-47-6	10 U	10	20

General Sample Comments

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	H141331AA	05/13/2014 18:14	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H141331AA	05/13/2014 18:36	Kevin A Sposito	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 18:14	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H141331AA	05/13/2014 18:36	Kevin A Sposito	20

Sample Description: Trip Blank Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455820
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 04/21/2014

The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOPTB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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

General Sample Comments

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	H141331AA	05/13/2014 11:46	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 11:46	Kerri E Legerlotz	1

Sample Description: BOP-83(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455821
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 16:20 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP83

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
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	0.4	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	5.7	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 Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	190	5.0	1
Wet Chemistry EPA 300.0					
00368	Nitrate Nitrogen	14797-55-8	4.3	1.0	10
00228	Sulfate	14808-79-8	11.1	1.0	1

Sample Description: BOP-83(i)-0514 NA Water
Boeing Portland 0025116.114.412

LL Sample # WW 7455821
LL Group # 1472837
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 16:20 by JR The Boeing Company

Submitted: 05/08/2014 09:40

Reported: 05/15/2014 16:54

BOP83

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
00273	Wet Chemistry Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 1.2	mg/l 1.0	1

General Sample Comments

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	H141331AA	05/13/2014 18:58	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 18:58	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141320030A	05/12/2014 23:18	Elizabeth J Marin	1
00368	Nitrate Nitrogen	EPA 300.0	1	14128347902B	05/09/2014 00:21	Sandra J Miller	10
00228	Sulfate	EPA 300.0	1	14128347902B	05/09/2014 01:09	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14133049501A	05/13/2014 04:50	James S Mathiot	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/15/14 at 04:54 PM

Group Number: 1472837

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: H141331AA Sample number(s): 7455814-7455821								
Acetone	5.0 U	5.0	ug/l	100	98	60-139	2	30
Benzene	0.2 U	0.2	ug/l	106	101	80-120	5	30
Bromodichloromethane	0.5 U	0.5	ug/l	107	102	80-120	4	30
Bromoform	0.5 U	0.5	ug/l	101	102	72-138	1	30
Bromomethane	0.5 U	0.5	ug/l	96	90	62-126	7	30
2-Butanone	5.0 U	5.0	ug/l	93	91	63-137	2	30
Carbon Disulfide	0.5 U	0.5	ug/l	94	89	80-120	6	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	107	100	80-135	7	30
Chlorobenzene	0.5 U	0.5	ug/l	100	97	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	93	88	68-120	5	30
Chloroform	0.2 U	0.2	ug/l	103	99	80-120	5	30
Chloromethane	0.5 U	0.5	ug/l	86	80	55-120	8	30
Dibromochloromethane	0.5 U	0.5	ug/l	106	105	80-126	1	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	102	100	80-120	2	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	100	97	80-127	3	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	108	99	80-123	8	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	108	101	80-120	7	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	107	102	80-120	5	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	107	104	80-120	3	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	108	103	80-120	5	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	95	96	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	96	93	80-120	3	30
2-Hexanone	5.0 U	5.0	ug/l	91	88	62-128	2	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	90	88	65-125	2	30
Methylene Chloride	0.5 U	0.5	ug/l	105	102	80-120	4	30
Styrene	0.5 U	0.5	ug/l	103	99	80-120	4	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	93	92	80-120	1	30
Tetrachloroethene	0.2 U	0.2	ug/l	97	94	80-120	4	30
Toluene	0.2 U	0.2	ug/l	98	95	80-120	4	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	96	91	80-120	6	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	98	93	80-120	5	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	95	94	80-120	1	30
Trichloroethene	0.2 U	0.2	ug/l	105	101	80-120	4	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	96	88	77-132	9	30
Vinyl Acetate	0.5 U	0.5	ug/l	64	63	38-145	2	30
Vinyl Chloride	0.2 U	0.2	ug/l	92	86	59-124	6	30
m+p-Xylene	0.5 U	0.5	ug/l	101	97	80-120	4	30
o-Xylene	0.5 U	0.5	ug/l	101	97	80-120	4	30
Batch number: H141332AA Sample number(s): 7455814								
Acetone	5.0 U	5.0	ug/l	101	100	60-139	2	30
Benzene	0.2 U	0.2	ug/l	106	103	80-120	3	30
Bromodichloromethane	0.5 U	0.5	ug/l	106	103	80-120	3	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
Reported: 05/15/14 at 04:54 PM

Group Number: 1472837

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Bromoform	0.5 U	0.5	ug/l	103	102	72-138	0	30
Bromomethane	0.5 U	0.5	ug/l	94	91	62-126	4	30
2-Butanone	5.0 U	5.0	ug/l	94	91	63-137	3	30
Carbon Disulfide	0.5 U	0.5	ug/l	93	90	80-120	3	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	108	104	80-135	3	30
Chlorobenzene	0.5 U	0.5	ug/l	101	98	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	92	89	68-120	4	30
Chloroform	0.2 U	0.2	ug/l	103	102	80-120	1	30
Chloromethane	0.5 U	0.5	ug/l	82	79	55-120	4	30
Dibromochloromethane	0.5 U	0.5	ug/l	106	105	80-126	0	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	104	102	80-120	2	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	104	102	80-127	2	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	105	102	80-123	3	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	108	103	80-120	4	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	105	104	80-120	1	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	108	107	80-120	2	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	105	105	80-120	1	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	95	94	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	95	94	80-120	1	30
2-Hexanone	5.0 U	5.0	ug/l	92	91	62-128	1	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	91	90	65-125	2	30
Methylene Chloride	0.5 U	0.5	ug/l	106	104	80-120	2	30
Styrene	0.5 U	0.5	ug/l	104	101	80-120	3	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	93	94	80-120	1	30
Tetrachloroethene	0.2 U	0.2	ug/l	99	96	80-120	3	30
Toluene	0.2 U	0.2	ug/l	99	96	80-120	3	30
1,1,2,2-Tetrachloroethane	0.5 U	0.5	ug/l	95	94	80-120	1	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	100	97	80-120	3	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	99	97	80-120	3	30
Trichloroethene	0.2 U	0.2	ug/l	105	104	80-120	1	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	92	91	77-132	1	30
Vinyl Acetate	0.5 U	0.5	ug/l	69	68	38-145	2	30
Vinyl Chloride	0.2 U	0.2	ug/l	92	91	59-124	1	30
m+p-Xylene	0.5 U	0.5	ug/l	101	99	80-120	1	30
o-Xylene	0.5 U	0.5	ug/l	101	99	80-120	2	30

Batch number: 141320030A	Sample number(s): 7455814-7455818,7455821	
Acetylene	5.0 U 5.0	ug/l 114 58-136
Ethane	5.0 U 5.0	ug/l 98 80-120
Ethene	5.0 U 5.0	ug/l 96 80-120
Methane	5.0 U 5.0	ug/l 100 80-120

Batch number: 14128347902B	Sample number(s): 7455814-7455818,7455821	
Nitrate Nitrogen	0.10 U 0.10	mg/l 100 90-110
Sulfate	1.0 U 1.0	mg/l 99 90-110

Batch number: 14133049501A	Sample number(s): 7455814-7455818,7455821	
Total Organic Carbon	1.0 U 1.0	mg/l 103 91-113

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

*- 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
Reported: 05/15/14 at 04:54 PM

Group Number: 1472837

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 141320030A	Sample number(s): 7455814-7455818,7455821 UNSPK: P452876								
Acetylene	100	103	38-121	3	20				
Ethane	88	95	32-129	7	20				
Ethene	101	104	35-162	3	20				
Methane	-326 (2)	-163 (2)	35-157	1	20				
Batch number: 14128347902B	Sample number(s): 7455814-7455818,7455821 UNSPK: 7455815 BKG: 7455815								
Nitrate Nitrogen	96		90-110		0.10	U	0.10	U	0 (1)
Sulfate	98		90-110		5.6		5.7	2	20
Batch number: 14133049501A	Sample number(s): 7455814-7455818,7455821 UNSPK: P456927 BKG: P456927								
Total Organic Carbon	110		63-142		1.0	U	1.0	U	0 (1)

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 Water(25ml) Master
Batch number: H141331AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7455814	104	106	96	101
7455815	105	105	95	102
7455816	105	109	96	102
7455817	106	109	94	103
7455818	105	107	95	102
7455819	106	111	95	103
7455819	105	110	95	100
DL				
7455820	103	108	95	101
7455821	105	112	95	102
Blank	103	109	96	103
LCS	103	108	97	106
LCSD	101	104	96	105
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Water(25ml) Master
Batch number: H141332AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7455814	104	108	95	102
DL				
Blank	105	110	96	102
LCS	102	105	96	106
LCSD	103	110	96	106
Limits:	77-114	74-113	77-110	78-110

Analysis Name: Volatile Headspace Hydrocarbon

*- 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
Reported: 05/15/14 at 04:54 PM

Group Number: 1472837

Surrogate Quality Control

Batch number: 141320030A
Propene

7455814	77
7455815	76
7455815	96
DL	
7455816	67
7455816	92
DL	
7455817	67
7455817	95
DL	
7455818	78
7455818	82
DL	
7455821	79
Blank	93
LCS	95
MS	78
MSD	81

Limits: 42-131

*- 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.

[illegible]

Client: Boeing

Delivery and Receipt Information

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>05/08/2014 9:40</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>OR</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCL</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Joseph Gruber (5200) at 10:28 on 05/08/2014

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	<u>Samples</u> <u>Collected Same</u> <u>Day as Receipt?</u>	Elevated Temp?
1	DT131	4.3	DT	Wet	Y	Bagged	N	N

1472837

LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

40 LBS

RS DWT: 25, 14, 14

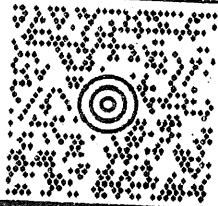
SHIP TO:

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

EUROFINS LANCASTER LABORATORIES
2425 NEW HOLLAND PIKE

LANCASTER, PA 17601-5946

P: YELLOW S: LEFT I: PD4
EURO - RDL
1ZRV3069Y04440 3405 1030
RJJIMAG 17601 HIP 13.1.1 ZEBRA24HP
MAY 08 (7:36:37 2014)



PA 175 9-37



UPS NEXT DAY AIR

TRACKING #: 1Z RV3 069 Y0 4440 3405

1 S



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40

WS 17.0.25 LD620D 48 0A.01/2014



*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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

May 21, 2014

Project: Boeing of Portland/025116.114.412

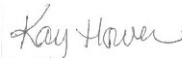
Submittal Date: 05/09/2014
Group Number: 1473180
PO Number: 0025116.114.412
State of Sample Origin: OR

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
BOP-72(i)-0514 Grab Water	7457670
BOP-73(i)-0514 Grab Water	7457671
BOP-74(i)-0514 Grab Water	7457672
BOP-75(i)-0514 Grab Water	7457673
BOP-76(i)-0514 Grab Water	7457674
BOP-77(i)-0514 Grab Water	7457675
BOP-78(i)-0514 Grab Water	7457676
BOP-79(i)-0514 Grab Water	7457677
BOP-84(i)-0514 Grab Water	7457678
BOP-85(i)-0514 Grab Water	7457679
BOP-86(i)-0514 Grab Water	7457680
BOP-87(i)-0514 Grab Water	7457681
BOP-88(i)-0514 Grab Water	7457682
Trip Blank Water	7457683

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

ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen
ELECTRONIC COPY TO	Landau	Attn: Chris Kimmel
ELECTRONIC COPY TO	Landau Associates	Attn: Terry McGourty
ELECTRONIC COPY TO	Landau	Attn: Brett Borgeson
ELECTRONIC COPY TO	Landau Associates	Attn: Kristi Schultz

Respectfully Submitted,



Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland/025116.114.412
LLI Group #: 1473180

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:**RSKSOP-175 modified, GC Miscellaneous**

Batch #: 141360014A (Sample number(s): 7457671-7457672, 7457675, 7457678 UNSPK: 7457671)

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

EPA 300.0, Wet Chemistry

Batch #: 14129373601A (Sample number(s): 7457675, 7457678 UNSPK: 7457678 BKG: 7457678)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Sulfate

Sample Description: BOP-72(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457670
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:50 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

72I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	29	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	1.2	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	3.0	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	0.4	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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	1.5	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

General Sample Comments

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	H141331AA	05/13/2014 19:20	Kevin A Sposito	1

Sample Description: BOP-72(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457670
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:50 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

72I--

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141331AA	05/13/2014 19:20	Kevin A Sposito	1

Sample Description: BOP-73(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457671
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 10:40 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

73I--

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l		ug/l	
11996	Acetone	67-64-1	500	U	500	100
11996	Benzene	71-43-2	20	U	20	100
11996	Bromodichloromethane	75-27-4	50	U	50	100
11996	Bromoform	75-25-2	50	U	50	100
11996	Bromomethane	74-83-9	50	U	50	100
11996	2-Butanone	78-93-3	500	U	500	100
11996	Carbon Disulfide	75-15-0	50	U	50	100
11996	Carbon Tetrachloride	56-23-5	20	U	20	100
11996	Chlorobenzene	108-90-7	50	U	50	100
11996	Chloroethane	75-00-3	50	U	50	100
11996	Chloroform	67-66-3	20	U	20	100
11996	Chloromethane	74-87-3	50	U	50	100
11996	Dibromochloromethane	124-48-1	50	U	50	100
11996	1,1-Dichloroethane	75-34-3	50	U	50	100
11996	1,2-Dichloroethane	107-06-2	20	U	20	100
11996	1,1-Dichloroethene	75-35-4	21		20	100
11996	cis-1,2-Dichloroethene	156-59-2	21,000	E	20	100
11996	trans-1,2-Dichloroethene	156-60-5	230		20	100
11996	1,2-Dichloropropane	78-87-5	50	U	50	100
11996	cis-1,3-Dichloropropene	10061-01-5	20	U	20	100
11996	trans-1,3-Dichloropropene	10061-02-6	20	U	20	100
11996	Ethylbenzene	100-41-4	50	U	50	100
11996	2-Hexanone	591-78-6	500	U	500	100
11996	4-Methyl-2-pentanone	108-10-1	500	U	500	100
11996	Methylene Chloride	75-09-2	50	U	50	100
11996	Styrene	100-42-5	50	U	50	100
11996	1,1,2,2-Tetrachloroethane	79-34-5	20	U	20	100
11996	Tetrachloroethene	127-18-4	20	U	20	100
11996	Toluene	108-88-3	20	U	20	100
11996	112Trichloro122Trifluoroethane	76-13-1	50	U	50	100
11996	1,1,1-Trichloroethane	71-55-6	50	U	50	100
11996	1,1,2-Trichloroethane	79-00-5	20	U	20	100
11996	Trichloroethene	79-01-6	340		20	100
11996	Trichlorofluoromethane	75-69-4	50	U	50	100
11996	Vinyl Acetate	108-05-4	50	U	50	100
11996	Vinyl Chloride	75-01-4	5,600	E	20	100
11996	m+p-Xylene	179601-23-1	50	U	50	100
11996	o-Xylene	95-47-6	50	U	50	100
Trial ID: DL						
11996	Acetone	67-64-1	5,000	U	5,000	1000
11996	Benzene	71-43-2	200	U	200	1000
11996	Bromodichloromethane	75-27-4	500	U	500	1000
11996	Bromoform	75-25-2	500	U	500	1000
11996	Bromomethane	74-83-9	500	U	500	1000
11996	2-Butanone	78-93-3	5,000	U	5,000	1000
11996	Carbon Disulfide	75-15-0	500	U	500	1000
11996	Carbon Tetrachloride	56-23-5	200	U	200	1000
11996	Chlorobenzene	108-90-7	500	U	500	1000
11996	Chloroethane	75-00-3	500	U	500	1000

Sample Description: BOP-73(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457671
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 10:40 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

73I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
11996	Chloroform	67-66-3	200 U	200	1000
11996	Chloromethane	74-87-3	500 U	500	1000
11996	Dibromochloromethane	124-48-1	500 U	500	1000
11996	1,1-Dichloroethane	75-34-3	500 U	500	1000
11996	1,2-Dichloroethane	107-06-2	200 U	200	1000
11996	1,1-Dichloroethene	75-35-4	200 U	200	1000
11996	cis-1,2-Dichloroethene	156-59-2	20,000	200	1000
11996	trans-1,2-Dichloroethene	156-60-5	240	200	1000
11996	1,2-Dichloropropane	78-87-5	500 U	500	1000
11996	cis-1,3-Dichloropropene	10061-01-5	200 U	200	1000
11996	trans-1,3-Dichloropropene	10061-02-6	200 U	200	1000
11996	Ethylbenzene	100-41-4	500 U	500	1000
11996	2-Hexanone	591-78-6	5,000 U	5,000	1000
11996	4-Methyl-2-pentanone	108-10-1	5,000 U	5,000	1000
11996	Methylene Chloride	75-09-2	500 U	500	1000
11996	Styrene	100-42-5	500 U	500	1000
11996	1,1,2,2-Tetrachloroethane	79-34-5	200 U	200	1000
11996	Tetrachloroethene	127-18-4	200 U	200	1000
11996	Toluene	108-88-3	200 U	200	1000
11996	112Trichloro122Trifluoroethane	76-13-1	500 U	500	1000
11996	1,1,1-Trichloroethane	71-55-6	500 U	500	1000
11996	1,1,2-Trichloroethane	79-00-5	200 U	200	1000
11996	Trichloroethene	79-01-6	350	200	1000
11996	Trichlorofluoromethane	75-69-4	500 U	500	1000
11996	Vinyl Acetate	108-05-4	500 U	500	1000
11996	Vinyl Chloride	75-01-4	5,600	200	1000
11996	m+p-Xylene	179601-23-1	500 U	500	1000
11996	o-Xylene	95-47-6	500 U	500	1000
GC Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	180	5.0	1
07105	Methane	74-82-8	2,500 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,000 U	1,000	200
07105	Ethane	74-84-0	1,000 U	1,000	200
07105	Ethene	74-85-1	1,000 U	1,000	200
07105	Methane	74-82-8	3,400	1,000	200
Wet Chemistry EPA 300.0					
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	7.2	1.0	1

Sample Description: BOP-73(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457671
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 10:40 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

73I--

General Sample Comments

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	H141332AA	05/14/2014 02:09	Kevin A Sposito	100
11996	8260C Boeing 38	SW-846 8260C	2-DL	H141332AA	05/14/2014 02:32	Kevin A Sposito	1000
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 02:09	Kevin A Sposito	100
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H141332AA	05/14/2014 02:32	Kevin A Sposito	1000
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141360014A	05/16/2014 19:28	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141360014A	05/19/2014 17:03	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14129347601B	05/09/2014 17:19	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14129347601B	05/09/2014 17:19	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14134049502A	05/14/2014 03:25	James S Mathiot	1

Sample Description: BOP-74(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457672
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 08:40 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

74I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
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	0.8	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	2.8	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.4	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	3.3	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 Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.9	5.0	1
07105	Methane	74-82-8	14,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,000 U	1,000	200
07105	Ethane	74-84-0	1,000 U	1,000	200
07105	Ethene	74-85-1	1,000 U	1,000	200

Sample Description: BOP-74(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457672
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 08:40 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

74I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 19,000	ug/l 1,000	200
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.10 U	mg/l 0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 32.8	mg/l 1.0	1

General Sample Comments

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	H141332AA	05/13/2014 23:59	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/13/2014 23:59	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141360014A	05/16/2014 20:23	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141360014A	05/19/2014 17:22	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14129347601B	05/09/2014 17:35	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14129347601B	05/09/2014 17:35	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14134049502A	05/14/2014 04:05	James S Mathiot	1

Sample Description: BOP-75(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457673
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 17:30 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

75I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	22	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	4.8	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.5	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	2.7	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	7.4	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	14	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

General Sample Comments

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

Sample Description: BOP-75(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457673
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 17:30 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

75I--

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	H141332AA	05/14/2014 02:54	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 02:54	Kevin A Sposito	1

Sample Description: BOP-76(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457674
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:10 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

76I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	30	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	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	1	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	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	1.2	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	7.2	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	4.6	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

General Sample Comments

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

Sample Description: BOP-76(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457674
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:10 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

76I--

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	H141332AA	05/14/2014 03:37	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 03:37	Kevin A Sposito	1

Sample Description: BOP-77(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457675
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 09:50 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

77I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
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	0.9	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	5.1	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	1	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	1.8	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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	14	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 Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	6.4	5.0	1
07105	Ethene	74-85-1	58	5.0	1
07105	Methane	74-82-8	18,000	E 5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,000 U	1,000	200
07105	Ethane	74-84-0	1,000 U	1,000	200
07105	Ethene	74-85-1	1,000 U	1,000	200

Sample Description: BOP-77(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457675
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 09:50 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

77I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 23,000	ug/l 1,000	200
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.10 U	mg/l 0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 36.4	mg/l 1.0	1

General Sample Comments

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	H141332AA	05/14/2014 00:20	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 00:20	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141360014A	05/16/2014 20:41	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141360014A	05/19/2014 17:40	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14129373601A	05/09/2014 22:42	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14129373601A	05/09/2014 22:42	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14134049502A	05/14/2014 04:18	James S Mathiot	1

Sample Description: BOP-78(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457676
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:20 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

78I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	39	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	0.4	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	1.7	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.5	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	2.7	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	3.6	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	1.7	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

General Sample Comments

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

Sample Description: BOP-78(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457676
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:20 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

78I--

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	H141332AA	05/14/2014 00:42	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 00:42	Kevin A Sposito	1

Sample Description: BOP-79(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457677
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:30 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

79I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	41	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	0.4	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	1.2	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.3	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	52 E	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	1.9	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	0.9	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	1,1,2,2-Tetrachloroethane	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	72 E	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	15	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: DL					
11996	Acetone	67-64-1	50 U	50	10
11996	Benzene	71-43-2	2.0 U	2.0	10
11996	Bromodichloromethane	75-27-4	5.0 U	5.0	10
11996	Bromoform	75-25-2	5.0 U	5.0	10
11996	Bromomethane	74-83-9	5.0 U	5.0	10
11996	2-Butanone	78-93-3	50 U	50	10
11996	Carbon Disulfide	75-15-0	5.0 U	5.0	10
11996	Carbon Tetrachloride	56-23-5	2.0 U	2.0	10
11996	Chlorobenzene	108-90-7	5.0 U	5.0	10

Sample Description: BOP-79(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457677
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:30 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

79I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Chloroethane	75-00-3	5.0 U	5.0	10
11996	Chloroform	67-66-3	2.0 U	2.0	10
11996	Chloromethane	74-87-3	5.0 U	5.0	10
11996	Dibromochloromethane	124-48-1	5.0 U	5.0	10
11996	1,1-Dichloroethane	75-34-3	5.0 U	5.0	10
11996	1,2-Dichloroethane	107-06-2	2.0 U	2.0	10
11996	1,1-Dichloroethene	75-35-4	2.0 U	2.0	10
11996	cis-1,2-Dichloroethene	156-59-2	43	2.0	10
11996	trans-1,2-Dichloroethene	156-60-5	2.0 U	2.0	10
11996	1,2-Dichloropropane	78-87-5	5.0 U	5.0	10
11996	cis-1,3-Dichloropropene	10061-01-5	2.0 U	2.0	10
11996	trans-1,3-Dichloropropene	10061-02-6	2.0 U	2.0	10
11996	Ethylbenzene	100-41-4	5.0 U	5.0	10
11996	2-Hexanone	591-78-6	50 U	50	10
11996	4-Methyl-2-pentanone	108-10-1	50 U	50	10
11996	Methylene Chloride	75-09-2	5.0 U	5.0	10
11996	Styrene	100-42-5	5.0 U	5.0	10
11996	1,1,2,2-Tetrachloroethane	79-34-5	2.0 U	2.0	10
11996	Tetrachloroethene	127-18-4	2.0 U	2.0	10
11996	Toluene	108-88-3	2.0 U	2.0	10
11996	1,1,1,2,2,2-Hexachloroethane	76-13-1	5.0 U	5.0	10
11996	1,1,1-Trichloroethane	71-55-6	5.0 U	5.0	10
11996	1,1,2-Trichloroethane	79-00-5	2.0 U	2.0	10
11996	Trichloroethene	79-01-6	58	2.0	10
11996	Trichlorofluoromethane	75-69-4	5.0 U	5.0	10
11996	Vinyl Acetate	108-05-4	5.0 U	5.0	10
11996	Vinyl Chloride	75-01-4	12	2.0	10
11996	m+p-Xylene	179601-23-1	5.0 U	5.0	10
11996	o-Xylene	95-47-6	5.0 U	5.0	10

General Sample Comments

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	H141332AA	05/14/2014 04:21	Kevin A Sposito	1
11996	8260C Boeing 38	SW-846 8260C	2-DL	H141332AA	05/14/2014 04:43	Kevin A Sposito	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 04:21	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	H141332AA	05/14/2014 04:43	Kevin A Sposito	10

Sample Description: BOP-84(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457678
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 11:30 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

84I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C					
11996	Acetone	67-64-1	39	ug/l	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	2.0	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.6	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	1,1,1,2,2,2-Hexachloroethane	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	1.9	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 Miscellaneous RSKSOP-175 modified					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	7.4	5.0	1
07105	Methane	74-82-8	11,000 E	5.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	1,000 U	1,000	200
07105	Ethane	74-84-0	1,000 U	1,000	200
07105	Ethene	74-85-1	1,000 U	1,000	200

Sample Description: BOP-84(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457678
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/08/2014 11:30 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

84I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC Miscellaneous					
07105	Methane	RSKSOP-175 modified 74-82-8	ug/l 14,000	ug/l 1,000	200
Wet Chemistry					
00368	Nitrate Nitrogen	EPA 300.0 14797-55-8	mg/l 0.10 U	mg/l 0.10	1
00228	Sulfate	14808-79-8	1.0 U	1.0	1
00273	Total Organic Carbon	SM 5310 C-2000 n.a.	mg/l 40.1	mg/l 2.5	2.5

General Sample Comments

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	H141332AA	05/14/2014 01:04	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 01:04	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	141360014A	05/16/2014 20:59	Elizabeth J Marin	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	141360014A	05/19/2014 17:58	Elizabeth J Marin	200
00368	Nitrate Nitrogen	EPA 300.0	1	14129373601A	05/09/2014 21:54	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14129373601A	05/09/2014 21:54	Sandra J Miller	1
00273	Total Organic Carbon	SM 5310 C-2000	1	14134049502A	05/16/2014 05:41	James S Mathiot	2.5

Sample Description: BOP-85(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457679
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 17:40 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

85I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	38	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	1.5	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

General Sample Comments

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	H141332AA	05/14/2014 05:05	Kevin A Sposito	1

Sample Description: BOP-85(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457679
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 17:40 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

85I--

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 05:05	Kevin A Sposito	1

Sample Description: BOP-86(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457680
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:40 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

86I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	37	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	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	1.3	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	0.7	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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	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

General Sample Comments

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

Sample Description: BOP-86(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457680
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:40 by JR

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

86I--

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	H141332AA	05/14/2014 05:48	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 05:48	Kevin A Sposito	1

Sample Description: BOP-87(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457681
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 17:50 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

87I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	40	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	0.3	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	0.7	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	0.5	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

General Sample Comments

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	H141332AA	05/14/2014 01:26	Kevin A Sposito	1

Sample Description: BOP-87(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457681
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 17:50 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

87I--

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 01:26	Kevin A Sposito	1

Sample Description: BOP-88(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457682
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:00 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

88I--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	Acetone	67-64-1	39	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	0.9	0.5	1
11996	1,2-Dichloroethane	107-06-2	0.2 U	0.2	1
11996	1,1-Dichloroethene	75-35-4	0.3	0.2	1
11996	cis-1,2-Dichloroethene	156-59-2	3.5	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	1.5	0.2	1
11996	1,1,1,2,2,2-Hexachloroethane	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	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	7.7	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

General Sample Comments

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

Sample Description: BOP-88(i)-0514 Grab Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457682
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 05/07/2014 18:00 by JR The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

88I--

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	H141332AA	05/14/2014 01:47	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/14/2014 01:47	Kevin A Sposito	1

Sample Description: Trip Blank Water
Boeing Portland 0025116.114.412

LL Sample # WW 7457683
LL Group # 1473180
Account # 13419

Project Name: Boeing of Portland/025116.114.412

Collected: 04/21/2014

The Boeing Company

Submitted: 05/09/2014 09:35

Reported: 05/21/2014 09:40

PTTB-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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

General Sample Comments

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	H141332AA	05/13/2014 22:54	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H141332AA	05/13/2014 22:54	Kevin A Sposito	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/21/14 at 09:40 AM

Group Number: 1473180

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H141331AA	Sample number(s): 7457670							
Acetone	5.0 U	5.0	ug/l	100	98	60-139	2	30
Benzene	0.2 U	0.2	ug/l	106	101	80-120	5	30
Bromodichloromethane	0.5 U	0.5	ug/l	107	102	80-120	4	30
Bromoform	0.5 U	0.5	ug/l	101	102	72-138	1	30
Bromomethane	0.5 U	0.5	ug/l	96	90	62-126	7	30
2-Butanone	5.0 U	5.0	ug/l	93	91	63-137	2	30
Carbon Disulfide	0.5 U	0.5	ug/l	94	89	80-120	6	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	107	100	80-135	7	30
Chlorobenzene	0.5 U	0.5	ug/l	100	97	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	93	88	68-120	5	30
Chloroform	0.2 U	0.2	ug/l	103	99	80-120	5	30
Chloromethane	0.5 U	0.5	ug/l	86	80	55-120	8	30
Dibromochloromethane	0.5 U	0.5	ug/l	106	105	80-126	1	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	102	100	80-120	2	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	100	97	80-127	3	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	108	99	80-123	8	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	108	101	80-120	7	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	107	102	80-120	5	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	107	104	80-120	3	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	108	103	80-120	5	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	95	96	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	96	93	80-120	3	30
2-Hexanone	5.0 U	5.0	ug/l	91	88	62-128	2	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	90	88	65-125	2	30
Methylene Chloride	0.5 U	0.5	ug/l	105	102	80-120	4	30
Styrene	0.5 U	0.5	ug/l	103	99	80-120	4	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	93	92	80-120	1	30
Tetrachloroethene	0.2 U	0.2	ug/l	97	94	80-120	4	30
Toluene	0.2 U	0.2	ug/l	98	95	80-120	4	30
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	96	91	80-120	6	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	98	93	80-120	5	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	95	94	80-120	1	30
Trichloroethene	0.2 U	0.2	ug/l	105	101	80-120	4	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	96	88	77-132	9	30
Vinyl Acetate	0.5 U	0.5	ug/l	64	63	38-145	2	30
Vinyl Chloride	0.2 U	0.2	ug/l	92	86	59-124	6	30
m+p-Xylene	0.5 U	0.5	ug/l	101	97	80-120	4	30
o-Xylene	0.5 U	0.5	ug/l	101	97	80-120	4	30
Batch number: H141332AA	Sample number(s): 7457671-7457683							
Acetone	5.0 U	5.0	ug/l	101	100	60-139	2	30
Benzene	0.2 U	0.2	ug/l	106	103	80-120	3	30
Bromodichloromethane	0.5 U	0.5	ug/l	106	103	80-120	3	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
Reported: 05/21/14 at 09:40 AM

Group Number: 1473180

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Bromoform	0.5 U	0.5	ug/l	103	102	72-138	0	30
Bromomethane	0.5 U	0.5	ug/l	94	91	62-126	4	30
2-Butanone	5.0 U	5.0	ug/l	94	91	63-137	3	30
Carbon Disulfide	0.5 U	0.5	ug/l	93	90	80-120	3	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	108	104	80-135	3	30
Chlorobenzene	0.5 U	0.5	ug/l	101	98	80-120	3	30
Chloroethane	0.5 U	0.5	ug/l	92	89	68-120	4	30
Chloroform	0.2 U	0.2	ug/l	103	102	80-120	1	30
Chloromethane	0.5 U	0.5	ug/l	82	79	55-120	4	30
Dibromochloromethane	0.5 U	0.5	ug/l	106	105	80-126	0	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	104	102	80-120	2	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	104	102	80-127	2	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	105	102	80-123	3	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	108	103	80-120	4	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	105	104	80-120	1	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	108	107	80-120	2	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	105	105	80-120	1	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	95	94	80-120	1	30
Ethylbenzene	0.5 U	0.5	ug/l	95	94	80-120	1	30
2-Hexanone	5.0 U	5.0	ug/l	92	91	62-128	1	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	91	90	65-125	2	30
Methylene Chloride	0.5 U	0.5	ug/l	106	104	80-120	2	30
Styrene	0.5 U	0.5	ug/l	104	101	80-120	3	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	93	94	80-120	1	30
Tetrachloroethene	0.2 U	0.2	ug/l	99	96	80-120	3	30
Toluene	0.2 U	0.2	ug/l	99	96	80-120	3	30
1,1,2,2-Tetrachloroethane	0.5 U	0.5	ug/l	95	94	80-120	1	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	100	97	80-120	3	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	99	97	80-120	3	30
Trichloroethene	0.2 U	0.2	ug/l	105	104	80-120	1	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	92	91	77-132	1	30
Vinyl Acetate	0.5 U	0.5	ug/l	69	68	38-145	2	30
Vinyl Chloride	0.2 U	0.2	ug/l	92	91	59-124	1	30
m+p-Xylene	0.5 U	0.5	ug/l	101	99	80-120	1	30
o-Xylene	0.5 U	0.5	ug/l	101	99	80-120	2	30

Batch number: 141360014A	Sample number(s): 7457671-7457672, 7457675, 7457678
Acetylene	5.0 U 5.0 ug/l 110 58-136
Ethane	5.0 U 5.0 ug/l 96 80-120
Ethene	5.0 U 5.0 ug/l 96 80-120
Methane	5.0 U 5.0 ug/l 98 80-120

Batch number: 14129347601B	Sample number(s): 7457671-7457672
Nitrate Nitrogen	0.10 U 0.10 mg/l 99 99 90-110 0 20
Sulfate	1.0 U 1.0 mg/l 98 98 90-110 0 20

Batch number: 14129373601A	Sample number(s): 7457675, 7457678
Nitrate Nitrogen	0.10 U 0.10 mg/l 99 90-110
Sulfate	1.0 U 1.0 mg/l 99 90-110

Batch number: 14134049502A	Sample number(s): 7457671-7457672, 7457675, 7457678
Total Organic Carbon	1.0 U 1.0 mg/l 105 105 91-113 0 20

*- 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 SummaryClient Name: The Boeing Company
Reported: 05/21/14 at 09:40 AM

Group Number: 1473180

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 141360014A	Sample number(s): 7457671-7457672, 7457675, 7457678 UNSPK: 7457671								
Acetylene	101	109	38-121	8	20				
Ethane	87	99	32-129	13	20				
Ethene	80	115	35-162	9	20				
Methane	-154 (2)	86 (2)	35-157	6	20				
Batch number: 14129347601B	Sample number(s): 7457671-7457672 UNSPK: P455712 BKG: P455712								
Nitrate Nitrogen	100		90-110			0.50 U	0.50 U	0 (1)	20
Sulfate	93		90-110			144	144	0	20
Batch number: 14129373601A	Sample number(s): 7457675, 7457678 UNSPK: 7457678 BKG: 7457678								
Nitrate Nitrogen	96		90-110			0.10 U	0.10 U	0 (1)	20
Sulfate	111*		90-110			1.0 U	1.0 U	1 (1)	20
Batch number: 14134049502A	Sample number(s): 7457671-7457672, 7457675, 7457678 UNSPK: 7457671 BKG: 7457671								
Total Organic Carbon	104		63-142			7.2	7.3	1	4

Surrogate Quality ControlSurrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.Analysis Name: 8260C Water(25ml) Master
Batch number: H141331AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7457670	107	111	94	102
Blank	103	109	96	103
LCS	103	108	97	106
LCSD	101	104	96	105
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C Water(25ml) Master
Batch number: H141332AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7457671	107	111	96	102
7457671	105	108	95	101
DL				
7457672	105	108	95	103
7457673	106	107	95	100
7457674	106	108	94	102
7457675	107	110	95	103
7457676	106	102	95	101
7457677	105	107	96	103
7457677	106	104	94	102

*- 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
Reported: 05/21/14 at 09:40 AM

Group Number: 1473180

Surrogate Quality Control

DL				
7457678	105	106	94	102
7457679	105	110	94	102
7457680	108	110	95	102
7457681	106	110	94	101
7457682	106	109	95	101
7457683	105	107	96	102
Blank	105	110	96	102
LCS	102	105	96	106
LCSD	103	110	96	106

Limits:	77-114	74-113	77-110	78-110

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 141360014A
Propene

7457671	82
7457671	101
DL	
7457672	74
7457672	97
DL	
7457675	70
7457675	101
DL	
7457678	82
7457678	97
DL	
Blank	101
LCS	100
MS	80
MSD	90

Limits: 42-131

*- 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.

Client: Boeing**Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>05/09/2014 9:35</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>OR</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCL</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Joseph Gruber (5200) at 10:14 on 05/09/2014

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	<u>Samples</u> Collected Same Day as Receipt?	Elevated Temp?
1	DT131	0.7	DT	Wet	Y	Bagged	N	N

G-1473180

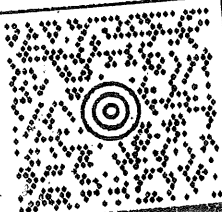
LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND, CA 94801-2106

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

1 S

TRACKING #: 1Z RV3 069 Y0 4592 9220



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40

WS 17.0.25



SEE NOTICE ON REVERSE regarding UPS Terms, and notice of limitation of liability. Where allowed by law, shipper authorizes UPS to act as customs purposes. If exported from the US, shipper certifies that the commodities, technology or software were exported from the US in accordance with applicable export 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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

Coolant Release Monitoring

TECHNICAL MEMORANDUM

TO: Chris Kimmel, Project Manager

FROM: Terry McGourty and Anne Halvorsen

DATE: April 5, 2014

RE: **BOEING PORTLAND (TGA)
FIRST QUARTER 2014 GROUNDWATER QUALITY SAMPLING
BUILDING 85-105 COOLANT INVESTIGATION
LABORATORY DATA QUALITY EVALUATION**

This technical memorandum provides the results of a focused data validation associated with 2 water samples and 1 trip blank collected during the first quarter 2014 TGA Building 85-105 coolant investigation water quality sampling event at Boeing Portland. Samples were analyzed by Eurofins Lancaster Laboratories Environmental LLC (LLI) in Lancaster, Pennsylvania. This data quality evaluation covers LLI data package 1454924. Samples submitted to LLI were analyzed for volatile organic compounds [(VOCs) U.S. Environmental Protection Agency (EPA) Method SW8260C]; conventional inorganic parameters, including N-Nitrate and Sulfate (EPA Method 300.0); HEM (oil & grease) and silica gel treated non-polar HEM (TPH) (EPA Method 1664A); and total diesel-range petroleum hydrocarbons [(TPH-Dx) Method NWTPH-Dx]. Sample data were evaluated in accordance with the *Quality Assurance Project Plan, Troutdale Gravel Aquifer, Boeing Portland Facility Gresham Oregon* (QAPP; Landau Associates 2012), portions of the *National Functional Guidelines for Organic Data Review* (EPA 1999), and portions of the *National Functional Guidelines for Inorganic Data Review* (EPA 2004). The following parameters were evaluated:

- Chain-of-custody records
- Holding times
- Blank results (laboratory method and field trip)
- Surrogate recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) and laboratory replicate results
- Laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) results
- Blind field duplicate results
- Quantitation limits
- Audit/corrective action records
- Completeness and overall data quality.

Data validation qualifiers are added to samples based on the evaluation of data quality. The absence of a data qualifier indicates that the reported result is acceptable without qualification. The data quality evaluation is summarized below. Data qualifiers are summarized in Table 1.

CHAIN-OF-CUSTODY RECORDS

A signed chain-of-custody (COC) record was attached to this data package. The laboratory received all samples in good condition. All analyses were performed as requested. No special cleanups or handling methods were requested. No qualification of the data is necessary.

Upon receipt by ARI, the sample container information was compared to the associated chain-of-custody and the cooler temperature was recorded. Both coolers were received with temperatures below the EPA-recommended limit of $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ($0.2\text{--}1.1^{\circ}\text{C}$). Data were not qualified based upon the cooler temperatures.

HOLDING TIMES

For all analyses and all samples, the time between sample collection, extraction (if applicable), and analysis was determined to be within EPA- and project-specified holding times. No qualification of the data is necessary.

BLANK RESULTS

Laboratory Method Blanks

At least one method blank was analyzed with the batch of samples for each analysis. No contamination was detected in the method blanks. No qualification of the data is necessary.

Field Trip Blanks and Field Equipment Blanks

One trip blank was submitted to the laboratory for VOC analysis with this data package. No contamination was detected in the trip blank. No qualification of the data is necessary. No field equipment blanks were submitted for analysis with this batch of samples.

SURROGATE RECOVERIES

Appropriate compounds were used as surrogate spikes for the VOC and TPH-Dx analyses. Recovery values for the surrogate spikes were within the current laboratory-specified control limits. No qualification of the data is necessary.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) AND LABORATORY REPLICATE RESULTS

A matrix spike and laboratory replicate sample were analyzed with the conventional parameters in this data package. The recovery values for each required spiking compound and the relative percent differences (RPDs) between the laboratory replicate results were within the current project-specified and/or laboratory-specified control limits for all project samples with the following exception:

- The recovery of nitrate in project sample LAI-4 in this data package exceeded the laboratory-specified control limits in the MS. Nitrate was qualified as estimated (J), as indicated in Table 1.
- SGT-HEM (TPH) and HEM (oil & grease) were below the laboratory-specified control limits in the MS. SGT-HEM (TPH) and HEM (oil & grease) for sample LAI-4 were qualified as estimated (J/UJ), as indicated in Table 1.

LABORATORY CONTROL SAMPLE AND LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD) RESULTS

At least one laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) was analyzed with each batch of samples for analysis. Recoveries and RPDs for the laboratory control samples and associated duplicates were within the current laboratory-specified control limits. No qualification of the data is necessary.

BLIND FIELD DUPLICATE RESULTS

No blind field duplicate pairs were collected with this batch of samples.

QUANTITATION LIMITS

Project-specified quantitation limits were met for all samples except for instances where high concentrations required dilution of the sample extracts.

AUDIT/CORRECTIVE ACTION RECORDS

No audits were performed or required. No corrective action records were generated for this sample batch.

COMPLETENESS AND OVERALL DATA QUALITY

The completeness for this data set is 100 percent, which meets the project-specified goal of 90 percent minimum.

Data precision was evaluated through laboratory control sample duplicates and laboratory duplicate samples. Data accuracy was evaluated through laboratory control samples, matrix spikes, and surrogate spikes. No data were rejected.

REFERENCES

EPA. 2004. *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*. U.S. Environmental Protection Agency. October.

EPA. 1999. *Contract Laboratory Program National Functional Guidelines for Organic Data Review*. U.S. Environmental Protection Agency. October.

Landau Associates. 2012. *Quality Assurance Project Plan, Troutdale Gravel Aquifer, Boeing Portland Facility, Gresham, Oregon*. Prepared for The Boeing Company. July 6; revised September 26.

TABLE 1
SUMMARY OF DATA QUALIFIERS

Data Package	Analyte	Result	Qualifier	Sample Number	Reason
1454924	Nitrate	6.5	J	LAI-4-0214	High MS Recovery
1454924	SGT-HEM (TPH)	5.0 U	UJ	LAI-4-0214	Low MS Recovery
1454924	HEM (oil & grease)	5.0 U	UJ	LAI-4-0214	Low MS Recovery

UJ = The analyte was not detected in the sample; the reported sample reporting limit is an estimate.

U = Indicates the compound was undetected 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.

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company

March 07, 2014

Project: Boeing of Portland 0025116.146.149

Submittal Date: 02/25/2014
Group Number: 1454924
PO Number: 0025116.146.149
State of Sample Origin: OR

Client Sample Description

LAI-4-0214 Water
LAI-7-0214 Water
Trip Blank Water

Lancaster Labs (LL)

7373210
7373211
7373212

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

ELECTRONIC Landau Associates
COPY TO
ELECTRONIC Landau
COPY TO
ELECTRONIC Landau Associates
COPY TO

Attn: Anne Halvorsen

Attn: Chris Kimmel

Attn: Terry McGourty

Respectfully Submitted,



Kay Hower
Principal Specialist Group Leader

(510) 232-8894

Project Name: Boeing of Portland 0025116.146.149
LLI Group #: 1454924

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:**EPA 300.0, Wet Chemistry**

Batch #: 14057347601B (Sample number(s): 7373210-7373211 UNSPK: 7373210 BKG: 7373210)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Nitrate Nitrogen

EPA 1664A, Wet Chemistry

Batch #: 14058807801A (Sample number(s): 7373210-7373211 UNSPK: 7373210)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: SGT-HEM (TPH)

Batch #: 14058807901A (Sample number(s): 7373210-7373211 UNSPK: 7373210)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: HEM (oil & grease)

Sample Description: LAI-4-0214 Water
Boeing of Portland 0025116.146.149

LL Sample # WW 7373210
LL Group # 1454924
Account # 13419

Project Name: Boeing of Portland 0025116.146.149

Collected: 02/24/2014 13:30 by BB The Boeing Company

Submitted: 02/25/2014 09:50

Reported: 03/07/2014 16:05

BPLA4

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	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	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	0.5	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 Petroleum ECY 97-602 NWTPH-Dx					
			mg/l	mg/l	
Hydrocarbons w/Si modified					
12094	Diesel/#2 Fuel w/Si Gel	68334-30-5	0.69	0.096	1
12094	DRO C12-C24 w/Si Gel	n.a.	0.59	0.096	1
12094	Motor Oil w/Si Gel	n.a.	1.5	0.24	1
Wet Chemistry EPA 300.0					
			mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	6.5	0.50	5
00228	Sulfate	14808-79-8	8.8	1.0	1

Sample Description: LAI-4-0214 Water
Boeing of Portland 0025116.146.149

LL Sample # WW 7373210
LL Group # 1454924
Account # 13419

Project Name: Boeing of Portland 0025116.146.149

Collected: 02/24/2014 13:30 by BB The Boeing Company

Submitted: 02/25/2014 09:50

Reported: 03/07/2014 16:05

BPLA4

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Wet Chemistry		EPA 1664A	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	5.0 U	5.0	1
08078	SGT-HEM (TPH)	n.a.	5.0 U	5.0	1

General Sample Comments

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	H140631AA	03/04/2014 17:59	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140631AA	03/04/2014 17:59	Kerri E Legerlotz	1
12094	TPH-Dx WW Fuel ID w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	140620004A	03/06/2014 21:21	Tracy A Cole	1
12120	TPH-Dx w/Fuel Water Ext. (SG)	ECY 97-602 NWTPH-Dx 06/97	1	140620004A	03/04/2014 08:30	Kerrie A Freeburn	1
00368	Nitrate Nitrogen	EPA 300.0	1	14057347601B	02/26/2014 09:59	Sandra J Miller	5
00228	Sulfate	EPA 300.0	1	14057347601B	02/26/2014 08:06	Sandra J Miller	1
08079	HEM (oil & grease)	EPA 1664A	1	14058807901A	02/27/2014 08:08	Yolunder Y Bunch	1
08078	SGT-HEM (TPH)	EPA 1664A	1	14058807801A	02/27/2014 08:12	Yolunder Y Bunch	1

Sample Description: LAI-7-0214 Water
Boeing of Portland 0025116.146.149

LL Sample # WW 7373211
LL Group # 1454924
Account # 13419

Project Name: Boeing of Portland 0025116.146.149

Collected: 02/24/2014 14:20 by BB The Boeing Company

Submitted: 02/25/2014 09:50

Reported: 03/07/2014 16:05

BPLA7

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	4.5	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	8.5	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	8.6	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 Petroleum ECY 97-602 NWTPH-Dx					
			mg/l	mg/l	
Hydrocarbons w/Si modified					
12094	Diesel/#2 Fuel w/Si Gel	68334-30-5	0.097 U	0.097	1
12094	DRO C12-C24 w/Si Gel	n.a.	0.097 U	0.097	1
12094	Motor Oil w/Si Gel	n.a.	0.24 U	0.24	1
Wet Chemistry EPA 300.0					
			mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	0.90	0.10	1
00228	Sulfate	14808-79-8	31.7	5.0	5

Sample Description: LAI-7-0214 Water
Boeing of Portland 0025116.146.149

LL Sample # WW 7373211
LL Group # 1454924
Account # 13419

Project Name: Boeing of Portland 0025116.146.149

Collected: 02/24/2014 14:20 by BB The Boeing Company

Submitted: 02/25/2014 09:50

Reported: 03/07/2014 16:05

BPLA7

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
Wet Chemistry		EPA 1664A	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	5.0 U	5.0	1
08078	SGT-HEM (TPH)	n.a.	5.0 U	5.0	1

General Sample Comments

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	H140631AA	03/04/2014 18:21	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140631AA	03/04/2014 18:21	Kerri E Legerlotz	1
12094	TPH-Dx WW Fuel ID w/Si Gel	ECY 97-602 NWTPH-Dx modified	1	140620004A	03/06/2014 20:32	Tracy A Cole	1
12120	TPH-Dx w/Fuel Water Ext. (SG)	ECY 97-602 NWTPH-Dx 06/97	1	140620004A	03/04/2014 08:30	Kerrie A Freeburn	1
00368	Nitrate Nitrogen	EPA 300.0	1	14057347601B	02/26/2014 08:54	Sandra J Miller	1
00228	Sulfate	EPA 300.0	1	14057347601B	02/26/2014 14:50	Sandra J Miller	5
08079	HEM (oil & grease)	EPA 1664A	1	14058807901A	02/27/2014 08:08	Yolunder Y Bunch	1
08078	SGT-HEM (TPH)	EPA 1664A	1	14058807801A	02/27/2014 08:12	Yolunder Y Bunch	1

Sample Description: Trip Blank Water
Boeing of Portland 0025116.146.149

LL Sample # WW 7373212
LL Group # 1454924
Account # 13419

Project Name: Boeing of Portland 0025116.146.149

Collected: 01/15/2014

The Boeing Company

Submitted: 02/25/2014 09:50

Reported: 03/07/2014 16:05

BPLTB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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

General Sample Comments

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	H140631AA	03/04/2014 18:42	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H140631AA	03/04/2014 18:42	Kerri E Legerlotz	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 03/07/14 at 04:05 PM

Group Number: 1454924

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H140631AA	Sample number(s): 7373210-7373212							
Acetone	5.0 U	5.0	ug/l	94		60-139		
Benzene	0.2 U	0.2	ug/l	97		80-120		
Bromodichloromethane	0.5 U	0.5	ug/l	88		80-120		
Bromoform	0.5 U	0.5	ug/l	93		72-138		
Bromomethane	0.5 U	0.5	ug/l	101		62-126		
2-Butanone	5.0 U	5.0	ug/l	98		63-137		
Carbon Disulfide	0.5 U	0.5	ug/l	99		80-120		
Carbon Tetrachloride	0.2 U	0.2	ug/l	86		80-135		
Chlorobenzene	0.5 U	0.5	ug/l	95		80-120		
Chloroethane	0.5 U	0.5	ug/l	97		68-120		
Chloroform	0.2 U	0.2	ug/l	92		80-120		
Chloromethane	0.5 U	0.5	ug/l	97		55-120		
Dibromochloromethane	0.5 U	0.5	ug/l	88		80-126		
1,1-Dichloroethane	0.5 U	0.5	ug/l	97		80-120		
1,2-Dichloroethane	0.2 U	0.2	ug/l	89		80-127		
1,1-Dichloroethene	0.2 U	0.2	ug/l	95		80-123		
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	90		80-120		
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	93		80-120		
1,2-Dichloropropane	0.5 U	0.5	ug/l	100		80-120		
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	95		80-120		
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	92		80-120		
Ethylbenzene	0.5 U	0.5	ug/l	96		80-120		
2-Hexanone	5.0 U	5.0	ug/l	97		62-128		
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	99		65-125		
Methylene Chloride	0.5 U	0.5	ug/l	98		80-120		
Styrene	0.5 U	0.5	ug/l	96		80-120		
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	101		80-120		
Tetrachloroethene	0.2 U	0.2	ug/l	93		80-120		
Toluene	0.2 U	0.2	ug/l	98		80-120		
112Trichloro122Trifluoroethane	0.5 U	0.5	ug/l	97		80-120		
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	96		80-120		
Trichloroethene	0.2 U	0.2	ug/l	94		80-120		
Trichlorofluoromethane	0.5 U	0.5	ug/l	96		77-132		
Vinyl Acetate	0.5 U	0.5	ug/l	88		38-145		
Vinyl Chloride	0.2 U	0.2	ug/l	105		59-124		
m+p-Xylene	0.5 U	0.5	ug/l	95		80-120		
o-Xylene	0.5 U	0.5	ug/l	93		80-120		
Batch number: 140620004A	Sample number(s): 7373210-7373211							
Diesel/#2 Fuel w/Si Gel	0.10 U	0.10	mg/l					
DRO C12-C24 w/Si Gel	0.10 U	0.10	mg/l	68	62	60-120	9	20
Motor Oil w/Si Gel	0.25 U	0.25	mg/l					

*- 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
Reported: 03/07/14 at 04:05 PM

Group Number: 1454924

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 14057347601B	Sample number(s): 7373210-7373211							
Nitrate Nitrogen	0.10 U	0.10	mg/l	101		90-110		
Sulfate	1.0 U	1.0	mg/l	101		90-110		
Batch number: 14058807801A	Sample number(s): 7373210-7373211							
SGT-HEM (TPH)	5.0 U	5.0	mg/l	74	75	64-114	1	26
Batch number: 14058807901A	Sample number(s): 7373210-7373211							
HEM (oil & grease)	5.0 U	5.0	mg/l	87	97	78-114	11	16

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: H140631AA	Sample number(s): 7373210-7373212 UNSPK: P377659								
Acetone	114	108	57-163	5	30				
Benzene	108	104	87-126	5	30				
Bromodichloromethane	105	99	82-133	6	30				
Bromoform	116	107	60-138	8	30				
Bromomethane	101	103	66-130	2	30				
2-Butanone	119	111	56-160	7	30				
Carbon Disulfide	112	108	84-141	4	30				
Carbon Tetrachloride	102	97	81-148	4	30				
Chlorobenzene	117	110	78-133	7	30				
Chloroethane	96	98	70-139	2	30				
Chloroform	106	102	86-136	4	30				
Chloromethane	90	95	49-135	5	30				
Dibromochloromethane	110	103	79-125	7	30				
1,1-Dichloroethane	108	103	81-126	5	30				
1,2-Dichloroethane	104	98	82-135	6	30				
1,1-Dichloroethene	108	105	86-132	3	30				
cis-1,2-Dichloroethene	103	97	82-129	5	30				
trans-1,2-Dichloroethene	106	101	88-127	4	30				
1,2-Dichloropropane	114	107	91-126	6	30				
cis-1,3-Dichloropropene	108	101	74-132	7	30				
trans-1,3-Dichloropropene	110	102	71-128	7	30				
Ethylbenzene	117	108	80-140	8	30				
2-Hexanone	128	119	51-149	7	30				
4-Methyl-2-pentanone	127	116	69-149	8	30				
Methylene Chloride	107	101	77-135	5	30				
Styrene	118	109	71-138	8	30				
1,1,2,2-Tetrachloroethane	130	120	75-131	8	30				
Tetrachloroethene	114	106	75-129	7	30				
Toluene	116	109	83-127	6	30				
1,1,2-Trichloroethane	113	109	84-136	4	30				
1,1,1-Trichloroethane	102	98	85-140	4	30				
1,1,2-Trichloroethane	120	112	85-129	7	30				
Trichloroethene	108	104	85-131	3	30				
Trichlorofluoromethane	105	107	73-139	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 SummaryClient Name: The Boeing Company
Reported: 03/07/14 at 04:05 PM

Group Number: 1454924

Sample Matrix Quality ControlUnspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup</u> <u>RPD</u> <u>Max</u>
Vinyl Acetate	83	80	27-162	4	30			
Vinyl Chloride	102	106	62-135	3	30			
m+p-Xylene	115	107	81-137	7	30			
o-Xylene	115	107	81-137	7	30			

Batch number: 14057347601B	Sample number(s): 7373210-7373211 UNSPK: 7373210 BKG: 7373210
Nitrate Nitrogen	119* 90-110 6.5 6.5 0 20
Sulfate	109 90-110 8.8 8.7 2 20

Batch number: 14058807801A	Sample number(s): 7373210-7373211 UNSPK: 7373210
SGT-HEM (TPH)	50* 64-132

Batch number: 14058807901A	Sample number(s): 7373210-7373211 UNSPK: 7373210
HEM (oil & grease)	65* 78-114

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 Water(25ml) Master
Batch number: H140631AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7373210	93	98	99	97
7373211	93	97	98	97
7373212	94	99	99	97
Blank	91	97	99	99
LCS	91	98	100	98
MS	93	97	99	97
MSD	94	99	98	97
Limits:	77-114	74-113	77-110	78-110

Analysis Name: TPH-Dx WW Fuel ID w/Si Gel

Batch number: 140620004A

	Chlorobenzene	Orthoterphenyl
7373210	68	76
7373211	82	94
Blank	81	87
LCS	84	99
LCSD	79	92
Limits:	50-150	50-150

*- 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
Reported: 03/07/14 at 04:05 PM

Group Number: 1454924

*- 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.

[illegible]

Client: BOEING**BOEING OF PORTLAND****Delivery and Receipt Information**

Delivery Method:	<u>UPS</u>	Arrival Timestamp:	<u>02/25/2014 9:50</u>
Number of Packages:	<u>2</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>OR</u>		

Arrival Condition Summary

Shipping Container Sealed:	<u>Yes</u>	Total Trip Blank Qty:	<u>2</u>
Custody Seal Present:	<u>Yes</u>	Trip Blank Type:	<u>HCL</u>
Custody Seal Intact:	<u>Yes</u>	Air Quality Samples Present:	<u>No</u>
Samples Chilled:	<u>Yes</u>	Air Quality Flow Controllers Present:	<u>N/A</u>
Paperwork Enclosed:	<u>Yes</u>	Flow Controller Quantity:	<u>0</u>
Samples Intact:	<u>Yes</u>	Air Quality Returns:	<u>N/A</u>
Missing Samples:	<u>No</u>		
Extra Samples:	<u>No</u>		
Discrepancy in Container Qty on COC:	<u>No</u>		
Sample IDs on COC match Containers:	<u>Yes</u>		
Sample Date/Times match COC:	<u>Yes</u>		
VOA Vial Headspace $\geq$ 6mm:	<u>No</u>		
VOA IDs ($\geq$ 6mm):	<u>N/A</u>		

Unpacked by Corey Eshleman (3647) at 10:04 on 02/25/2014

Samples Chilled Details: BOEING OF PORTLAND

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	1.1	1.1	DT	Wet	Y	Bagged	N
2	DT121	0.2	0.2	DT	Wet	Y	Bagged	N

General Comments:

LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

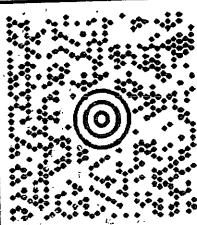
40 LBS

RS

DWT: 25, 14, 14

SHIP TO:

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



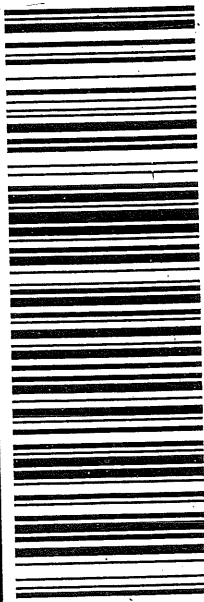
PA 175 9-37



UPS NEXT DAY AIR

1 S

TRACKING #: 1Z RV3 069 Y0 4566 1803



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40

SEE NOTICE ON REVERSE regarding UPS forms, and policies of handling liability. When shipped by law, please indicate to act as forwarding agent for export control and customs purposes. If shipped from the US, shipper certifies that the destination, technology or software was exported from the US in accordance with the Export Administration Regulations. Diversion contrary to law is prohibited.



EUROFINS LANCASTER LABORATORIES
2425 NEW HOLLAND PIKE
LANCASTER PA 17601-5946

P-YELLOW S: LEFT

1:39

081-1003
1ZRV3069Y04566 FEB 25 07:46:56 2014
PALM170 ZERRAZHP
GG99ULX H1P 13.1.1
US 1760

LARRY STARKEY
(512) 232-8894
EUROFINS LANCASTER LABORATORIE
940 HENSLEY
RICHMOND CA 94801-2106

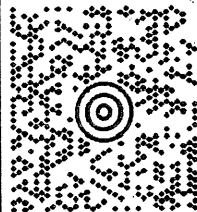
40 LBS

RS

DWT: 25, 14, 14

SHIP TO:

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



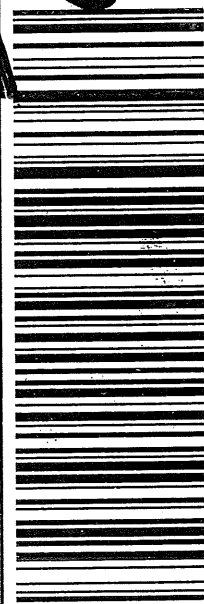
PA 175 9-37



UPS NEXT DAY AIR

1 S

TRACKING #: 1Z RV3 069 Y0 4597 0792



BILLING: P/P
DESC: SAMPLING
RETURN SERVICE

REF 1:DEPT 40

SEE NOTICE ON REVERSE regarding UPS forms, and policies of handling liability. When shipped by law, please indicate to act as forwarding agent for export control and customs purposes. If shipped from the US, shipper certifies that the destination, technology or software was exported from the US in accordance with the Export Administration Regulations. Diversion contrary to law is prohibited.



WS 16.0.31

45.0A 102013

EUROFINS LANCASTER LABORATORIE
2425 NEW HOLLAND PIKE
LANCASTER PA 17601-5946
P-YELLOW S: LEFT
1:39

1454924

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 - The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	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.		

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is $\geq$ the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.