

July 20, 2017

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

**Re: May 2017 Semiannual Groundwater Monitoring Report
Boeing Developmental Center, Tukwila, Washington**

Dear Byung:

This letter and attached data constitute the semiannual letter report for groundwater monitoring at The Boeing Company Developmental Center in Tukwila, Washington. This report, which covers the period following the November 2016 semiannual sampling event through the semiannual event in May 2017, provides a brief summary of the data and remedial activities performed at the site during the reporting period. Remedial actions are underway in Solid Waste Management Unit (SWMU)-20 and SWMU-17, and Area of Concern (AOC)-05. All other SWMUs and AOCs identified in the 1994 Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) have been excluded from further investigation based on determinations that they do not pose a threat to human health or the environment. In addition, stormwater/storm drain source control investigations and stormwater data for the Industrial Stormwater General Permit are not included in this report.

Groundwater monitoring during the reporting period was performed in May 2017 at wells in SWMU-20 and in February and May at SWMU-17 and AOC-05. Analytical data for SWMU-20, SWMU-17, and AOC-05 are enclosed for your review and include sample results, summary tables, and laboratory data packages. Summary figures, historical analytical summary data, and volatile organic compound (VOC) concentration trend charts are provided for key constituents present in SWMU-20. A well location figure and tables of current data and cumulative data are provided for SWMU-17. Included for AOC-05 are a well location figure and cumulative tables for total petroleum hydrocarbons (TPH); benzene, toluene, ethylbenzene, and xylenes (BTEX); and conventional parameters, as well as trend plots for TPH-Gasoline (TPH-G), BTEX, and nitrate. Summary tables include proposed cleanup levels (CULs) from the May 7, 2013 *Proposed Cleanup Standards and Comparison to Site Data* document.

At SWMU-20, May 2017 groundwater monitoring results indicate concentrations of tetrachloroethene (PCE), trichloroethene (TCE), and breakdown products were below the proposed CULs at all SWMU-20 monitoring wells, as was also previously observed in November 2016. *In situ* anaerobic bioremediation was enhanced by the October/November 2015 electron donor injection event to wells located on the fringes of the TCE source zone; the core of the TCE source zone was treated by prior

bioremediation injections. VOCs were monitored at each of the nine wells injected in 2015, with total organic carbon (TOC) and monitored natural attenuation (MNA) parameters also monitored at three of the injected wells (MW-6A, MW-6B, MW-22A). TOC concentrations continue to remain substantially elevated at these three wells, as was observed in November 2016. The sulfate-reducing to methanogenic aquifer redox conditions, which have largely persisted in SWMU-20 following initial source zone injections, continued in May. At all source zone wells, PCE and TCE remain below reporting limits; cis-1,2-dichloroethene (cDCE) detections were less than or equal to 0.4 micrograms per liter ($\mu\text{g/L}$), well below the proposed CUL (134 $\mu\text{g/L}$); and vinyl chloride (VC) detections were less than or equal to 0.5 $\mu\text{g/L}$, which is below the proposed CUL (2.4 $\mu\text{g/L}$). Ethane was detected at one (MW-9A) of the four source area wells being monitored for ethene and ethane. At the non-source zone wells, at least one or more VOCs including PCE, TCE, cDCE, and/or VC were detected at all wells. With the exception of MW-16A, all detections were below proposed CULs. Semiannual monitoring will continue at SWMU-20 to evaluate continued treatment, per the Ecology-approved monitoring reduction program that was implemented beginning with the April 2015 sampling event.

At SWMU-17, groundwater monitoring results from February and May 2017 show that *in situ* anaerobic bioremediation continues to be enhanced following the August 2011 electron donor injection, which has been the only injection at SWMU-17 to date. Increases in one or more breakdown or end products (cDCE, VC, and ethene) were observed at all injection wells following injection. In February and May 2017, PCE, TCE, cDCE, and VC concentrations were below proposed CULs at all wells, except BDC-05-02, BDC-05-09, and BDC-05-18. In BDC-05-02 and BDC-05-18, the TCE concentrations ranged from 1.6 to 4.6 $\mu\text{g/L}$, which exceed the proposed CUL (1.4 $\mu\text{g/L}$). In May 2017, VC was detected at 2.8 $\mu\text{g/L}$ at well BDC-05-09, which is above the proposed CUL (2.4 $\mu\text{g/L}$). Complete reductive dechlorination beyond VC continues, as indicated by end products ethene and/or ethane, which were detected in May at 14 of 17 wells analyzed. Non-toxic end products ethene and ethane were predominant on a molar basis over TCE, cDCE, and VC at all 14 wells where detected in 2017. Low sulfate and elevated concentrations of methane persisted at most wells, indicating a continuation of the highly reduced aquifer redox conditions required for complete dechlorination, despite decreasing TOC at injection wells (now ranging from 1.7 to 23.9 milligrams per liter [mg/L]). Quarterly and semiannual monitoring will continue for evaluation of treatment progress. Additional donor injection at selected SWMU-17 wells may be proposed in 2017 or 2018 to enhance treatment of residual contaminant concentrations.

At AOC-05 in February and May, TPH-G and BTEX concentrations remained below their proposed CULs at previously impacted well BDC-104 and downgradient wells BDC-101 and BDC-102. TPH-G and BTEX concentrations at BDC-103 were above their proposed CULs in 2016, but decreased below the CULs in February and May. An additional nitrate injection was completed in December 2016 at BDC-103 for continued biotreatment. Nitrate was detected above the 10 mg/L action level at wells BDC-101, BDC-102, BDC-103, and BDC-104 in May 2017. Nitrate concentrations were below the 10 mg/L action level at downgradient wells BDC-102 and BDC-104 in February 2017, but were above the action level

at BDC-101 and BDC-103. Nitrate monitoring was also performed at four wells located farther downgradient (MW-17A, MW-18A, MW-21A, and BDC-05-04). Nitrate continued to be below the action level at the four wells farther downgradient (BDC-05-04, MW-17A, MW-18A, and MW-21A). Groundwater sampling at AOC-05 wells will continue on a quarterly basis to evaluate treatment progress. As required, semiannual monitoring for nitrate at the four wells farther downgradient will also continue until nitrate remains below 10 mg/L for two consecutive semiannual events at downgradient wells BDC-101 and BDC-102.

* * * * *

Please call or email me if you have any questions or if you would like to discuss any of the sampling results in more detail.

LANDAU ASSOCIATES, INC.



Clinton L. Jacob, PE, LG
Principal Engineer

Kenneth J. Reid, LEG
Senior Geologist

CLJ/KJR/tam

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Enclosures: Developmental Center Groundwater Monitoring – November 2016
SWMU-20 Data Tables, Maps, and Trend Charts
SWMU-17 Data Tables and Map
AOC-05 Data Table, Trend Charts, and Map
Groundwater Elevation Table
Groundwater Sample Collection Forms and Analytical Data (DVD)

cc: Carl Bach, Boeing EHS Remediation (elec. w/o data)
Mark Adams, Ecology (elec. w/o data)
Susanne McIlveen, Boeing Defense and Space, EHS Manager (elec. w/o data)
Jolene Brokenshire, Boeing Defense and Space, EHS (elec. w/o data)

***DEVELOPMENTAL CENTER
GROUNDWATER MONITORING
MAY 2017***

DEVELOPMENTAL CENTER
GROUNDWATER MONITORING
MAY 2017

SWMU-20 VOC/CONVENTIONALS DATA TABLES

SWMU-20 SUMMARY DATA

- **SWMU-20 VOC SUMMARY MAPS**
- **SWMU-20 ANALYTICAL RESULTS SUMMARY
(January 1994 through Present)**
- **SWMU-20 VOC CONCENTRATION TREND CHARTS
(January 1994 through Present)**
- **SWMU-20 CLEANUP ACTION SUMMARY – SOURCE ZONE**
- **SWMU-20 CLEANUP ACTION SUMMARY – NON-SOURCE
ZONE**

SWMU-20 VOA/CONVENTIONALS DATA
DEVELOPMENTAL CENTER GROUNDWATER MONITORING
MAY 2017

| Sample Name: | DC-MW-6A | DC-MW-6B | DC-MW-9A | DC-MW-10C | DC-MW-11A | MW-11A-Dup | DC-MW-13A | DC-MW-13C | DC-MW-14C | DC-MW-15C | DC-MW-16A | DC-MW-16C | DC-MW-17A | DC-MW-20C | DC-MW-22A | TRIP BLANK |
|---------------------------------------|----------|----------|----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Lab SDG: | 1797119 | 1797119 | 1797119 | 1797119 | 1797119 | 1797119 | 1797119 | 1797119 | 1797119 | 1797119 | 1797119 | 1797119 | 1797118 | 1797119 | 1797119 | 1797119 |
| Lab Sample ID: | 8974866 | 8974864 | 8974856 | 8974871 | 8974863 | 8974868 | 8974858 | 8974859 | 8974870 | 8974869 | 8974873 | 8974872 | 8974846 | 8974860 | 8974861 | 8974874 |
| Sample Date: | 5/2/2017 | 5/2/2017 | 5/2/2017 | 5/2/2017 | 5/2/2017 | 5/2/2017 | 5/2/2017 | 5/2/2017 | 5/2/2017 | 5/2/2017 | 5/2/2017 | 5/2/2017 | 5/3/2017 | 5/2/2017 | 5/2/2017 | 5/2/2017 |
| Test ID: VOA SW8260C (µg/L) | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethene | 0.3 | 0.2 UJ | 0.2 U | 0.4 | 18 | 18 | 0.2 U | 0.2 U | 0.2 U | 1.2 | 5.7 J | 0.4 | 0.8 | 1.5 | 0.4 J | 0.2 U |
| Tetrachloroethene | 0.2 U | 0.2 UJ | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.1 | 0.2 U | 0.2 U | 0.2 U | 0.7 J | 0.2 U | 0.2 U | 0.2 U | 0.2 UJ | 0.2 U |
| Trichloroethene | 0.2 U | 0.2 UJ | 0.2 U | 0.2 U | 0.4 | 0.4 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 J | 0.2 U | 0.2 U | 0.2 U | 0.2 UJ | 0.2 U |
| Vinyl Chloride | 0.4 J | 0.3 J | 0.2 U | 0.2 J | 0.6 | 0.6 J | 0.2 U | 0.3 J | 0.2 | 0.5 J | 3.1 J | 0.2 | 2.2 J | 0.4 | 0.3 J | 0.2 U |
| NATURAL ATTENUATION PARAMETERS | | | | | | | | | | | | | | | | |
| Method Modified RSK175 (µg/L) | | | | | | | | | | | | | | | | |
| Methane | 18,000 | 21,000 | 20,000 | | | | | | | | | | | | 18,000 J | |
| Ethane | 1.4 J | 1.0 U | 430 | | | | | | | | | | | | 1.0 U | |
| Ethene | 1.0 U | 1.0 U | 1.0 U | | | | | | | | | | | | 1.0 U | |
| Conventional Parameters | | | | | | | | | | | | | | | | |
| Sulfate (mg/L) (EPA 300.0) | 0.30 U | 1.3 | 0.30 U | | | | | | | | | | | | 0.30 U | |
| Total Organic Carbon (mg/L) (SMS310C) | 124 | 149 | 22.3 | | | | | | | | | | | | 300 | |

µg/L = micrograms per liter

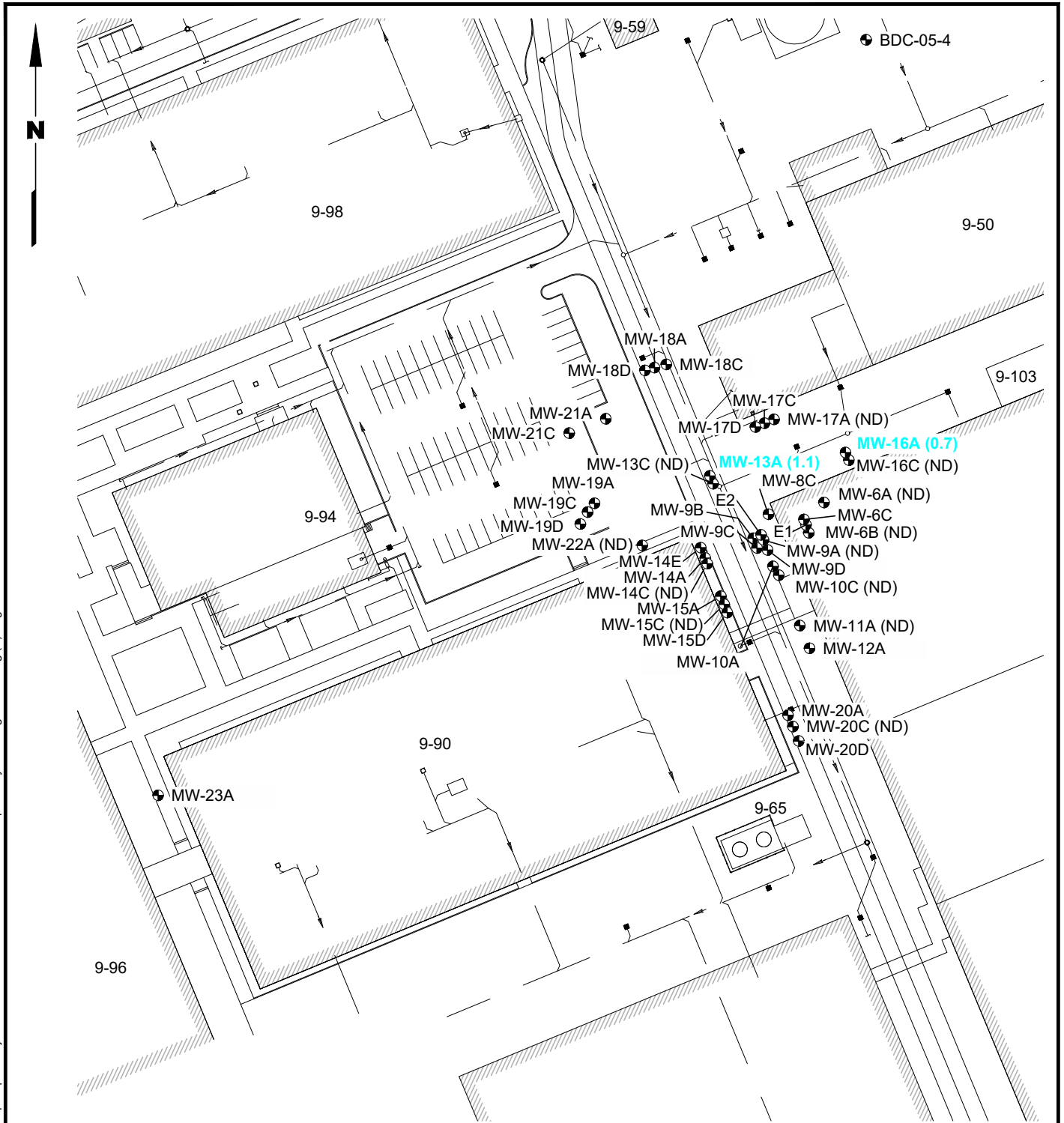
mg/L = milligrams per liter

EPA = US Environmental Protection Agency

U = Compound was not detected at the reported concentration.

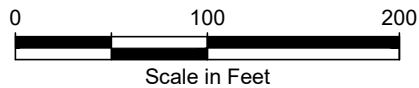
UJ = The analyte was not detected in the sample; the reported sample reporting limit is an estimate.

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



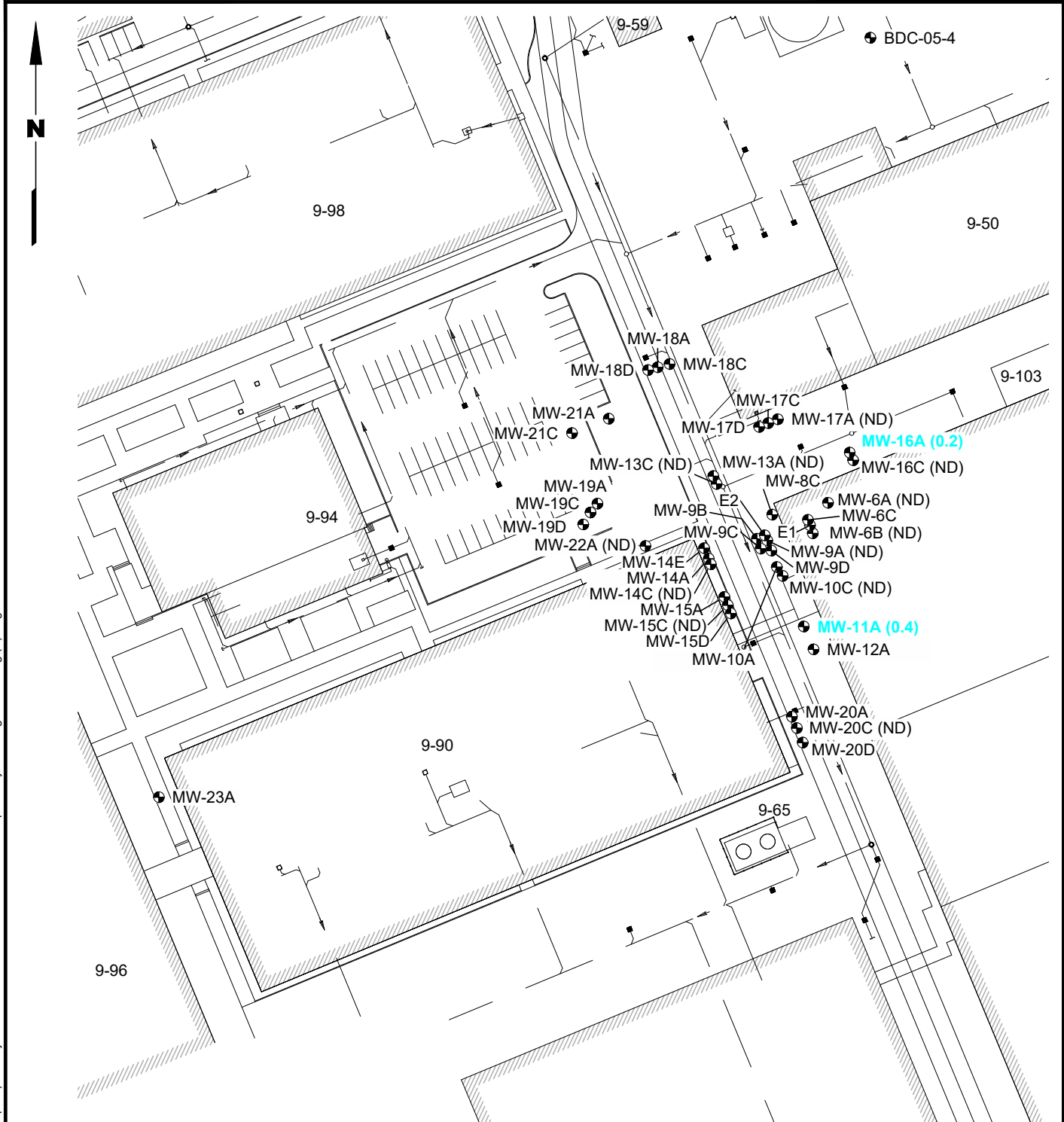
Legend

- Monitoring Well Location
- (ND) Tetrachloroethene Not Detected at 0.2 µg/L Detection Limit
- (1.1) Tetrachloroethene Groundwater Concentration in µg/L



| | | |
|--|--|--------------------|
| Boeing Developmental Center Tukwila, Washington | SWMU-20 Tetrachloroethene May 2017 Groundwater Concentrations | Figure 1 |
|--|--|--------------------|



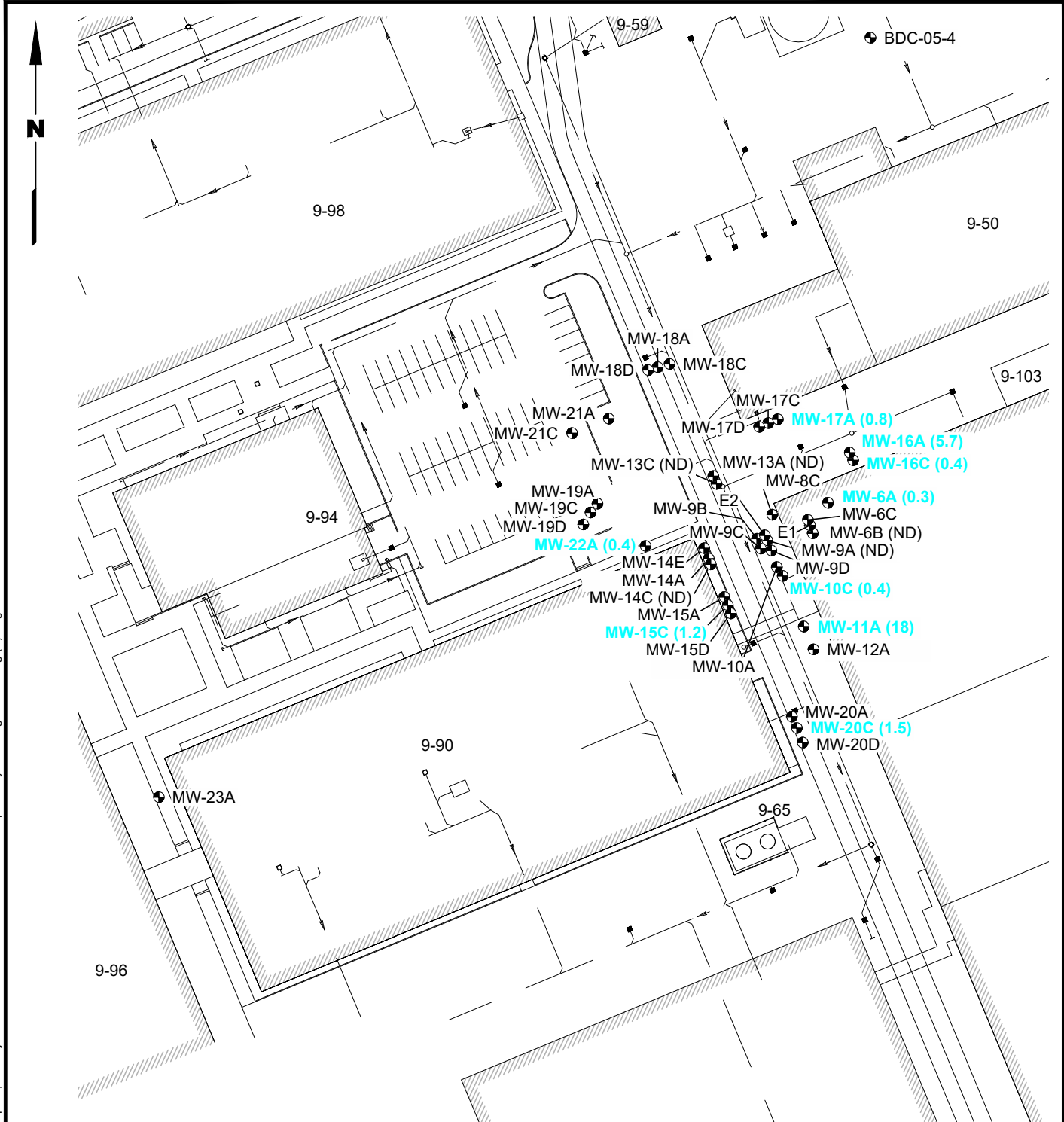


Legend

- Monitoring Well Location
- (ND) Trichloroethene Not Detected at 0.2 µg/L Detection Limit
- (0.4) Trichloroethene Groundwater Concentration in µg/L

| | | |
|--|--|--------------------|
| Boeing Developmental Center Tukwila, Washington | SWMU-20 Trichloroethene May 2017 Groundwater Concentrations | Figure 2 |
|--|--|--------------------|





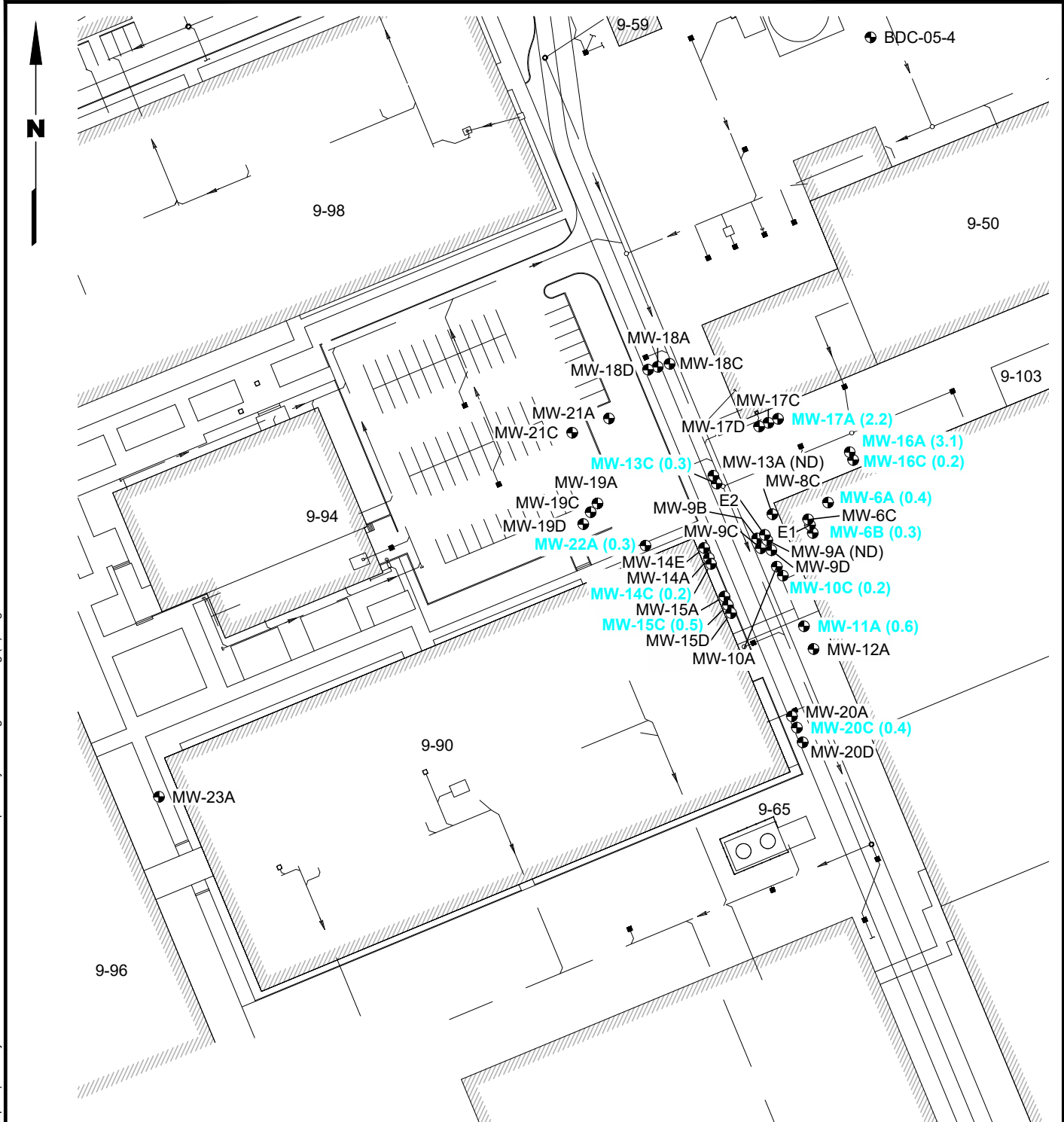
Legend

- ⊕ Monitoring Well Location
- (ND) Cis-1,2-Dichloroethene Not Detected at 0.2 µg/L Detection Limit
- (18) Cis-1,2-Dichloroethene Groundwater Concentration in µg/L



| | | |
|--|---|--------------------|
| Boeing Developmental Center Tukwila, Washington | SWMU-20 Cis-1,2-Dichloroethene May 2017 Groundwater Concentrations | Figure 3 |
|--|---|--------------------|





- Legend**
- Monitoring Well Location
 - (ND) Vinyl Chloride Not Detected at 0.2 µg/L Detection Limit
 - (3.1) Vinyl Chloride Groundwater Concentration in µg/L



| | | |
|--|---|--------------------|
| Boeing Developmental Center Tukwila, Washington | SWMU-20 Vinyl Chloride May 2017 Groundwater Concentrations | Figure 4 |
|--|---|--------------------|



**SWMU-20 ANALYTICAL RESULTS SUMMARY
DEVELOPMENTAL CENTER GROUNDWATER MONITORING
JANUARY 1994 THROUGH PRESENT**

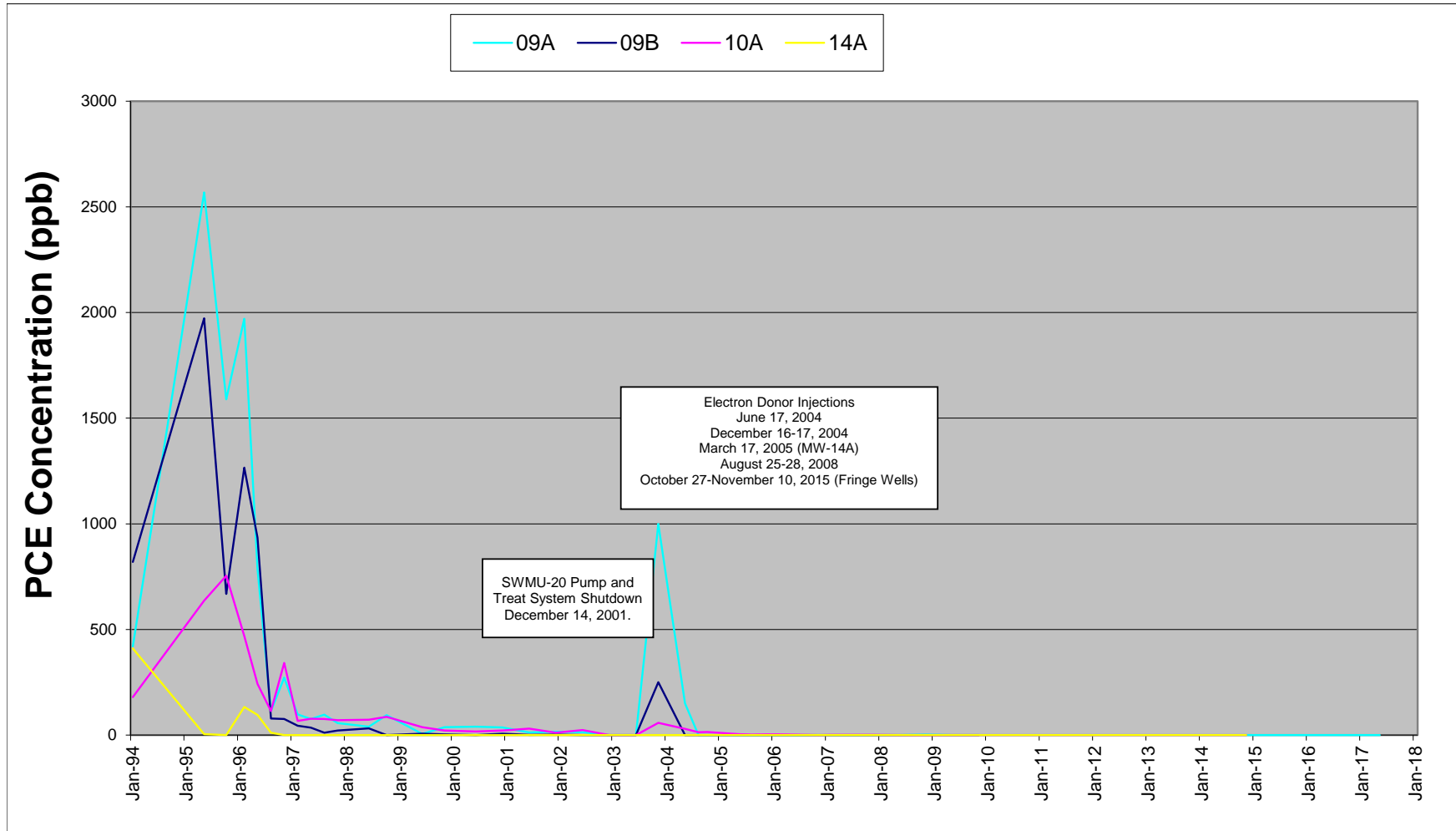
CIS-1,2-DICHLOROETHENE (µg/L)

| | Aug-05 | Nov-05 | Feb-06 | May-06 | Aug-06 | Nov-06 | Feb-07 | May-07 | Nov-07 | May-08 | Nov-08 | May-09 | Nov-09 | May-10 | Nov-10 | May-11 | Nov-11 | May-12 | Nov-12 | May-13 | Nov-13 | May-14 | Nov-14 | Apr-15 | Oct-15 | Apr-16 | Nov-16 | May-17 |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 06A | 1.6 | 1.3 | 1.4 | <1.0 | <1.0 | 0.4 | <1.0 | <1.0 | <0.2 | <1.0 | 1.7 | <4.0 | 1.9 | 1.3 | <1.0 | <1.0 | 0.3 | 0.4 | 0.3 | <0.5 | 0.4 | 0.4 | 0.4 | 0.6 | 0.2 | 1 | 0.5 | 0.3 |
| 06B | 1.8 | 1.1 | <1.0 | <1.0 | <1.0 | 1.4 | 3.8 | 1.4 | <0.2 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | 0.5 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <2.0 | 0.5 | <0.2 | |
| 06C | 1.1 | 1.1 | <1.0 | <1.0 | <1.0 | 0.3 | <1.0 | <1.0 | 0.2 | <1.0 | <1.0 | <1.0 | <1.0 | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | |
| 08C | nt | <1.0 | nt | <1.0 | nt | <5.0 | nt | <3.0 | <5.0 | <5.0 | <5.0 | <1.0 | <3.0 | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | |
| 09A | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.3 | <1.0 | <1.0 | <1.0 | 110 | 160 | <1.0 | <5.0 | <1.0 | <1.0 | <2.0 | 0.2 | 0.2 | <2.0 | <2.0 | <2.0 | <2.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | |
| 09B | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.3 | <1.0 | <1.0 | <1.0 | 0.2 | <1.0 | <1.0 | <1.0 | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | |
| 09C | 7.6 | 1.2 | <1.0 | <1.0 | <1.0 | <0.2 | <1.0 | <1.0 | <1.0 | <0.2 | <1.0 | <1.0 | <3.0 | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | |
| 09D | nt | <1.0 | nt | <1.0 | nt | <1.0 | nt | <1.0 | <1.0 | <0.2 | <1.0 | <1.0 | <1.0 | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | |
| 10A | 48 | 47 | 42 | 63 | 38 | 7.4 | 32 | 28 | 22 | 22 | 1.6 | <2.0 | <1.0 | <1.0 | <1.0 | <2.0 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | <1.0 | 0.2 | nt | nt | nt | nt | |
| 10C | nt | <1.0 | nt | 1.5 | nt | 1.9 | nt | 6.7 | 7.2 | 15 | 8.5 | <1.0 | <1.0 | <1.0 | 3.5 | 5.8 | 3.7 | 5.4 | 6.1 | 6.0 | 3.5 | 5.4 | 2.6 | 2.2 | 1.0 | 0.5 | 0.5 | 0.4 |
| 11A | nt | 22 | nt | 20 | nt | 24 | nt | 26 | 27 | 26 | 33 | 26 | 30 | 26 | 22 | 22 | 23 | 24 | 25 | 22 | 24 | 19 | 24 | 21 | 19 | 20 | 15 | 18 |
| 12A | nt | 3.8 | nt | 1.5 | nt | 4.4 | nt | 2.4 | 3.2 | 3.2 | 4.7 | 1.4 | 4.7 | <1.0 | 4.3 | <1.0 | 3.1 | <0.2 | 2.1 | 0.5 | 2.2 | <0.2 | 0.3 | nt | nt | nt | nt | |
| 13A | nt | <1.0 | nt | <1.0 | nt | 0.3 | nt | 0.4 | <1.0 | 0.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | 0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | |
| 13C | nt | <1.0 | nt | <1.0 | nt | 0.8 | nt | 0.8 | <1.0 | 0.2 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <2.0 | <2.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | |
| 14A | <1.0 | 6.0 | <1.0 | 2.1 | 3.0 | <1.0 | <1.0 | 1.5 | 1.6 | 1.2 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.6 | 0.3 | 0.6 | <0.5 | 0.5 | 0.3 | 0.4 | nt | nt | nt | nt | |
| 14C | nt | <1.0 | nt | <1.0 | nt | <0.2 | nt | <1.0 | 1.1 | 1.4 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <2.0 | <2.0 | <2.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | |
| 14E | nt | <1.0 | nt | <1.0 | nt | <0.2 | nt | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | |
| 15A | nt | <5.0 | nt | <5.0 | nt | <3.0 | nt | 1.4 | <1.0 | <3.0 | <1.0 | <3.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.3 | <1.0 | 0.4 | 0.6 | 0.5 | 0.6 | 0.4 | nt | nt | nt | nt | |
| 15C | nt | <1.0 | nt | <1.0 | nt | <0.2 | nt | <1.0 | <1.0 | 1.8 | 1.9 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <2.0 | <5.0 | <2.0 | <2.0 | 0.5 | 0.6 | 0.5 | 1.2 | 1.7 | 1.2 |
| 15D | nt | <1.0 | nt | <1.0 | nt | <1.0 | nt | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | |
| 16A | nt | 2.1 | nt | 2.3 | nt | 4.2 | nt | 1.9 | 1.2 | 1.2 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.5 | 0.5 | 0.6 | <0.5 | 0.3 | 0.4 | 0.4 | 0.3 | 0.3 | 10 | 14 | 5.7 |
| 16C | nt | 4.6 | nt | 5.2 | nt | 2.0 | nt | 8.8 | 7 | 7.8 | 5.3 | 5.0 | 4.9 | 3.7 | 3.3 | 3.7 | 3.3 | 4.8 | 4.9 | 3.9 | 4.4 | 3.4 | 3.4 | 2.2 | 2.7 | 0.9 | 1.9 | 0.4 |
| 17A | nt | 1.1 | nt | <1.0 | nt | 1.0 | nt | 1.0 | <1.0 | 0.8 | 1.2 | 1.4 | 1.1 | <1.0 | 2.3 | 1.5 | 1.0 | 0.5 | 0.9 | 0.8 | 1.0 | 0.4 | 0.9 | 0.4 | 1.1 | 8.0 | 8.2 | 0.8 |
| 17C | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt |
| 17D | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt |
| 18A | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt |
| 18C | nt | <1.0 | nt | <1.0 | nt | <0.2 | nt | <0.2 | <1.0 | <0.2 | <1.0 | <1.0 | <1.0 | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt |
| 18D | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt |
| 19A | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt |
| 19C | nt | <1.0 | nt | <1.0 | nt | 0.3 | nt | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt |
| 19D | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt |
| 20A | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt |
| 20C | nt | 2.1 | nt | 1.8 | nt | 2.1 | nt | 1.6 | 1.6 | 1.6 | 1.5 | 1.4 | 1.7 | 1.3 | 1.4 | 1.1 | 1.3 | 1.2 | <2.0 | <5.0 | <2.0 | <2.0 | 0.9 | 0.7 | 1.0 | 2.2 | 0.6 | 1.5 |
| 20D | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt |
| 21A | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt |
| 21C | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt |
| 22A | 2.3 | 1.4 | 1.4 | 2.4 | 1.8 | 2.2 | 2.5 | 2.5 | 2 | 2.6 | 2.2 | 2.5 | 2.1 | 1.7 | 1.2 | 1.1 | 0.9 | 0.6 | 0.5 | 0.4 | 0.5 | 0.5 | 0.4 | 0.6 | 0.5 | 0.5 | 0.5 | 0.4 |
| 23A | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <1.0 | <1.0 | 0.3 | <1.0 | <1.0 | <1.0 | <1.0 | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt | nt |

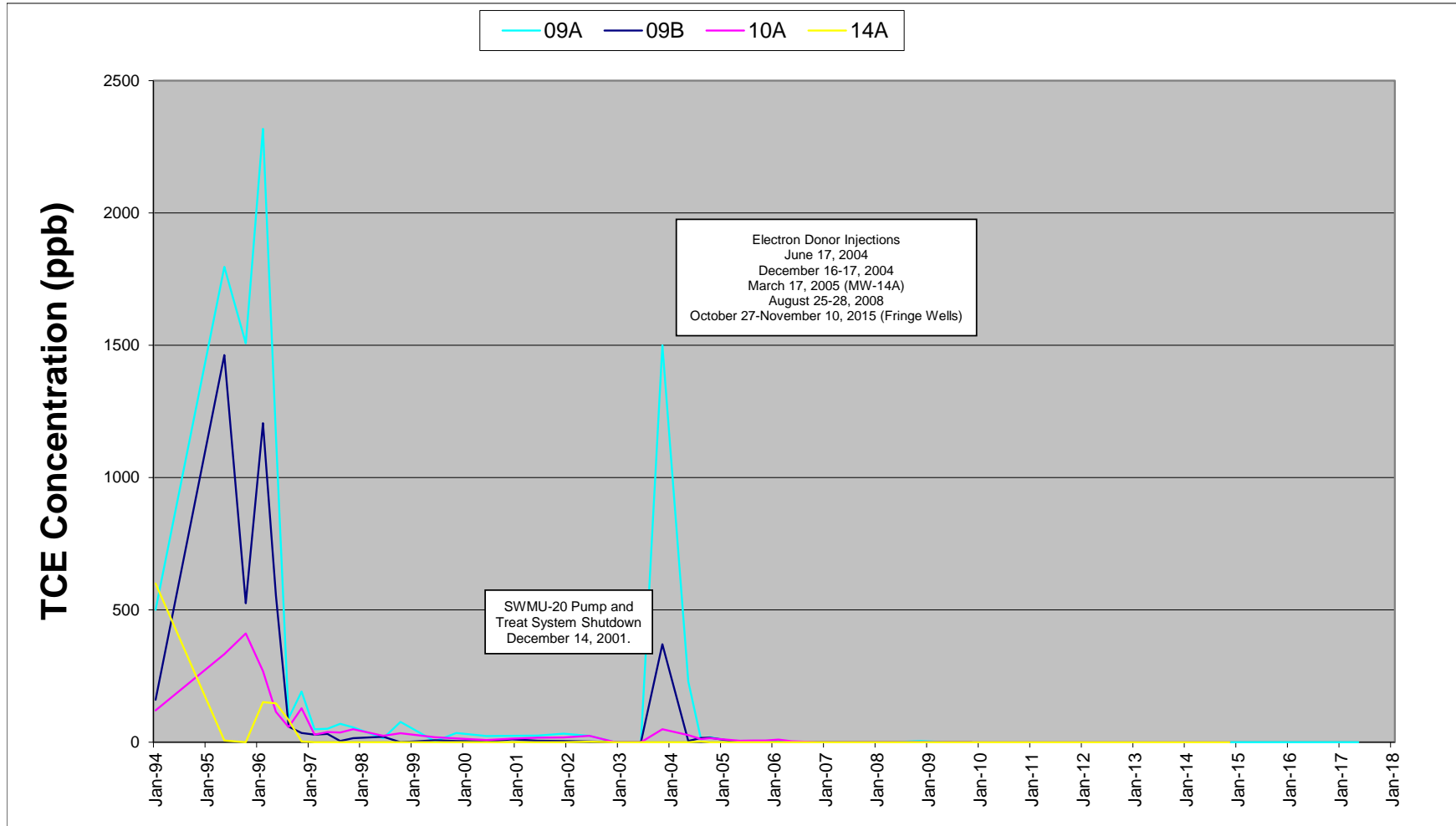
µg/L = micrograms per liter
nd = not detected
nt = not tested

J = Analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
E = Estimated concentration calculated for an analyte response above the valid instruction calibration range. A dilution is required to obtain an accurate quantification of the analyte.
Bold = detected compound

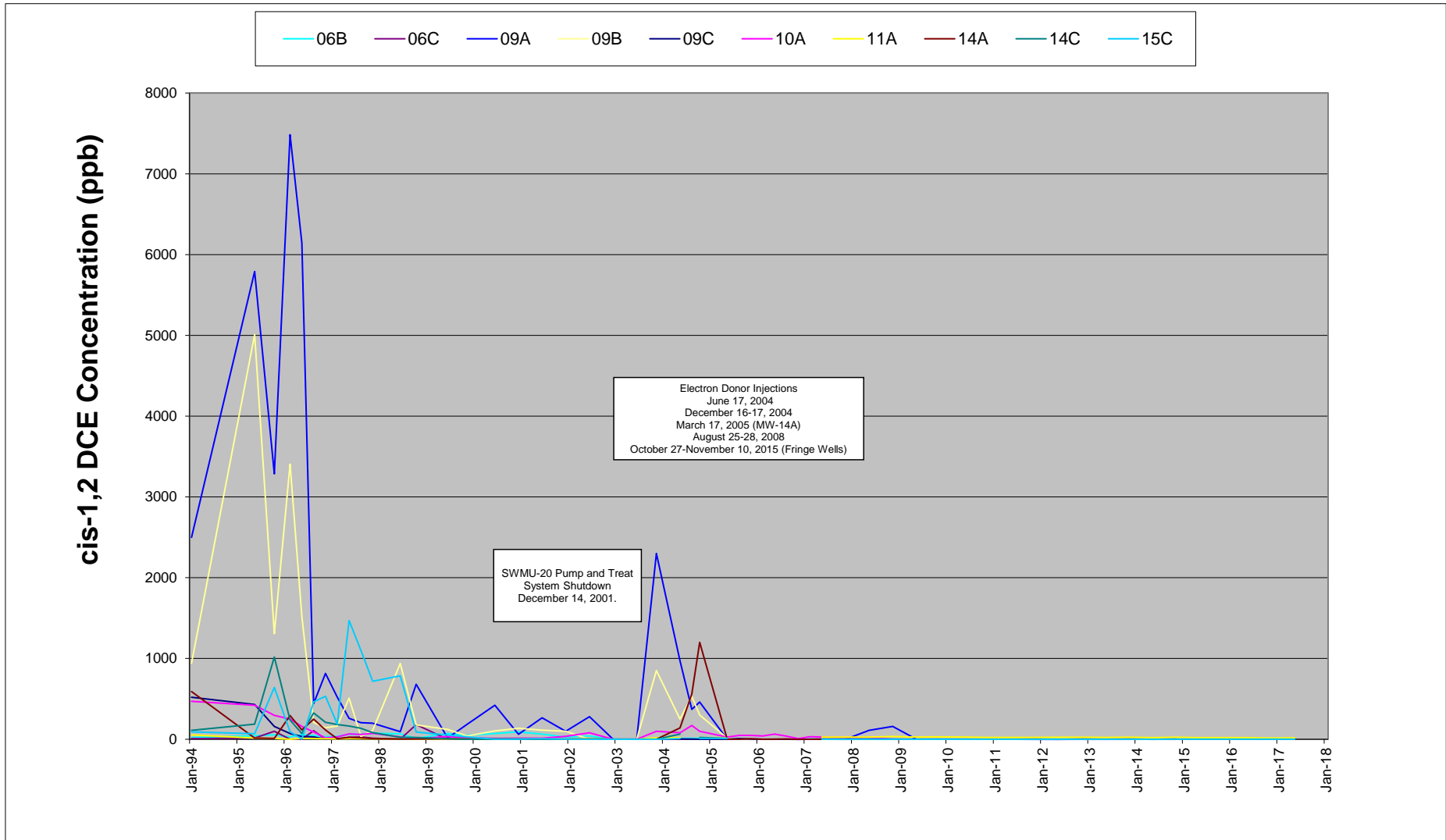
DEVELOPMENTAL CENTER WELLS TETRACHLOROETHENE CONCENTRATIONS (Wells with PCE Historically Detected over 50 ppb)



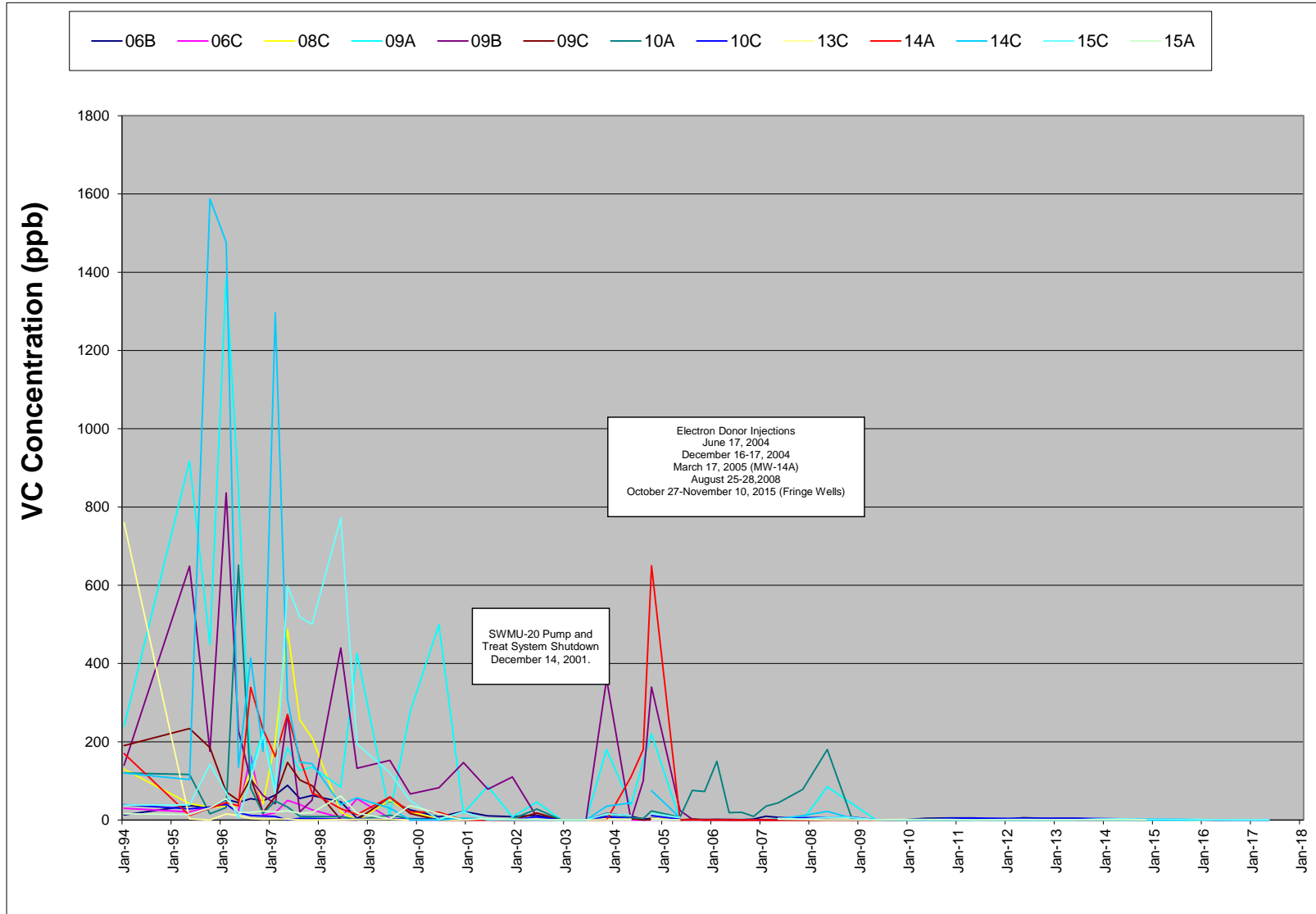
DEVELOPMENTAL CENTER WELLS TRICHLOROETHENE CONCENTRATIONS (Wells with TCE Historically Detected over 50 ppb)



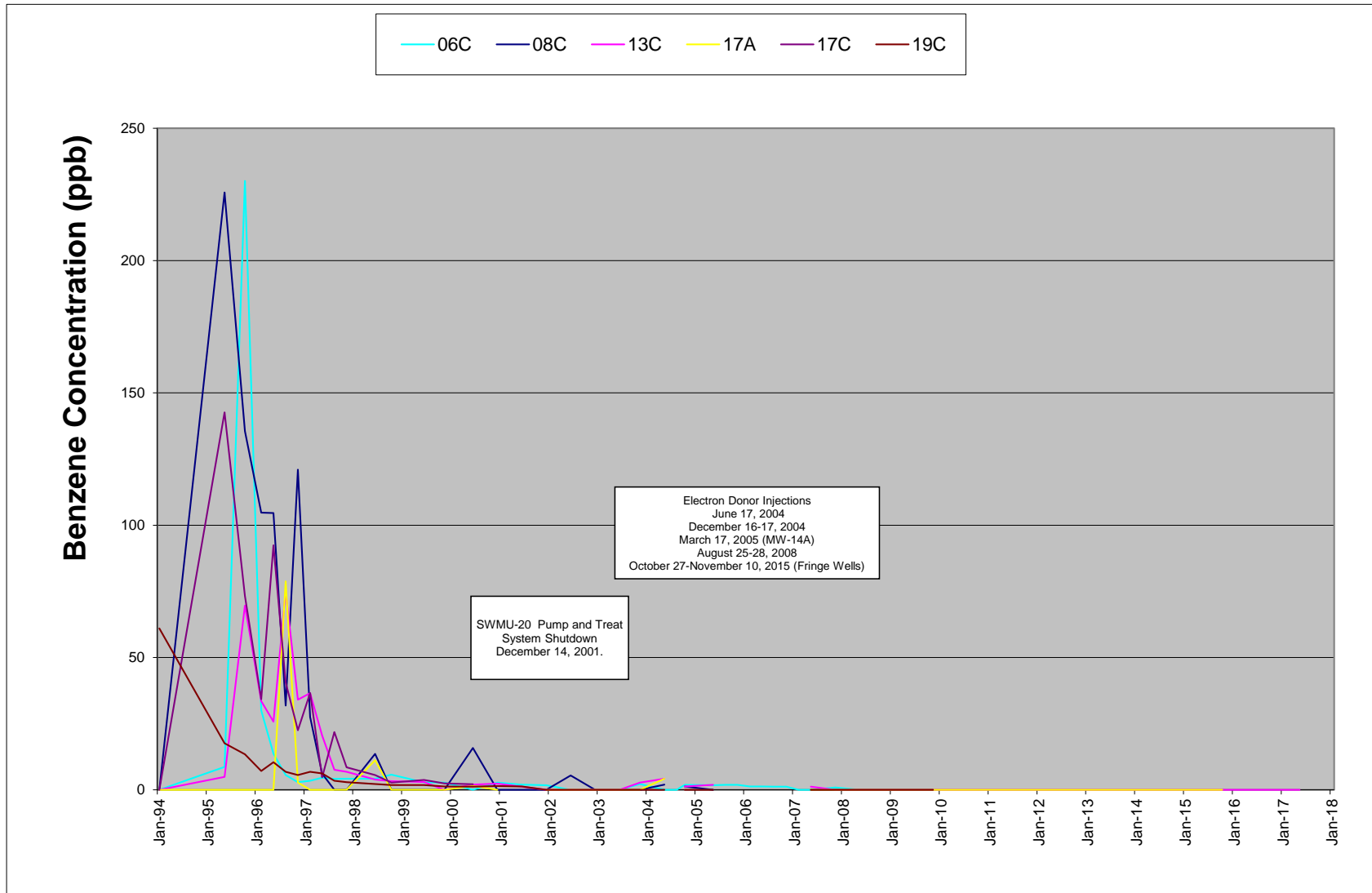
DEVELOPMENTAL CENTER WELLS CIS-1,2 DICHLOROETHENE CONCENTRATIONS (Wells with cis-1,2 DCE Historically Detected over 50 ppb)



DEVELOPMENTAL CENTER WELLS VINYL CHLORIDE CONCENTRATIONS (Wells with VC Historically Detected over 50 ppb)



DEVELOPMENTAL CENTER WELLS BENZENE CONCENTRATIONS (Wells with Benzene Historically Detected over 50 ppb)



SWMU-20 CLEANUP ACTION SUMMARY - SOURCE ZONE DEVELOPMENTAL CENTER GROUNDWATER MONITORING

| Well | Date | Elapsed Time from Injections (a) (days) | | | | | Volatile Organic Compounds | | | | | | Aquifer Redox Conditions | | | | | Donor Parameters | | Notes |
|---------|------------|---|---------------|-------------------|---------------|---------------|---|------------|------------|------------|-------|-------|--------------------------|----------|----------------|----------------|----------------|------------------|------------|---|
| | | 1st Injection | 2nd Injection | 3rd (b) Injection | 4th Injection | 5th Injection | Proposed Groundwater Cleanup Levels (d) | | | | | | DO (mg/L) | ORP (mV) | Iron II (mg/L) | Sulfate (mg/L) | Methane (µg/L) | pH | TOC (mg/L) | |
| | | | | | | | 5.3 (µg/L) | 1.4 (µg/L) | 134 (µg/L) | 2.4 (µg/L) | --- | --- | | | | | | | | |
| 06A (c) | 06/15/2004 | -2 | | | | | <1.0 | 1.0 | 23 | 4.0 | <0.50 | <0.50 | 6.34 | -19.6 | 0.8 | 58.9 | <0.50 | 6.5 | 18.8 | --- |
| 06A (c) | 08/23/2004 | 67 | | | | | <1.0 | <1.0 | 45 | 5.9 | <0.50 | <0.50 | 0.46 | 92 | 3.5 | 40.7 | 21 | 7.0 | 288 | Hazy brown |
| 06A (c) | 10/19/2004 | 124 | -58 | | | | <1.0 | <1.0 | 2.6 | 31 | <0.50 | <0.50 | 0.70 | 54 | 3.0 | 44.8 | 530 | 6.8 | 80.8 | --- |
| 06A (c) | 02/22/2005 | 250 | 68 | | | | <1.0 | <1.0 | 3.3 | <1.0 | <0.50 | <0.50 | 1.15 | 187 | 2.4 | <0.1 | 130 | 6.8 | 244 | --- |
| 06A (c) | 05/16/2005 | 333 | 151 | | | | <1.0 | <1.0 | 2.6 | <1.0 | <0.50 | <0.50 | 1.25 | 58 | 3.0 | 0.1 | 10000 | 6.9 | 145 | --- |
| 06A (c) | 08/22/2005 | 431 | 249 | | | | <1.0 | <1.0 | 1.6 | <1.0 | <0.50 | <0.50 | 1.26 | 212 | 2.7 | 3.1 | 390 | 6.8 | 54.2 | Clear, with yellow tint |
| 06A (c) | 11/14/2005 | 515 | 333 | | | | <1.0 | <1.0 | 1.3 | 1.2 | <0.50 | <0.50 | 0.93 | 108 | 3.0 | 0.1 | 3700 | 6.9 | 31.8 | --- |
| 06A (c) | 02/22/2006 | 615 | 433 | | | | <1.0 | <1.0 | 1.4 | 4.8 | <11.4 | <12.3 | 0.80 | 186 | 2.6 | 60.4 | 10100 | 6.4 | 15.5 | --- |
| 06A (c) | 05/18/2006 | 700 | 518 | | | | <1.0 | <1.0 | <1.0 | 1.6 | <11 | <12 | 6.41 | 1 | 3.0 | 20.9 | 16000 | 6.6 | 23.9 | --- |
| 06A (c) | 08/16/2006 | 790 | 608 | | | | <1.0 | <1.0 | <1.0 | 1.5 | <1.1 | <1.2 | 0.89 | 240 | 2.2 | 23.1 | 18800 | 6.5 | 23.2 | --- |
| 06A (c) | 11/29/2006 | 895 | 713 | | | | <0.2 | <0.2 | 0.4 | 2.1 | <1.1 | <1.2 | 2.09 | 102 | 2.6 | 33.1 | 20200 | 6.5 | 31.4 | --- |
| 06A (c) | 02/23/2007 | 981 | 799 | | | | <1.0 | <1.0 | <1.0 | 6.7 | <1.1 | <1.2 | 0.65 | -97 | 4.5 | 26.2 | 17400 | 6.5 | 24.6 | --- |
| 06A (c) | 05/24/2007 | 1071 | 889 | | | | <1.0 | <1.0 | <1.0 | 2.9 | <1.1 | 2.0 | 0.56 | 184 | 4.0 | 21.0 | 18300 | 6.7 | 21.5 | --- |
| 06A (c) | 11/30/2007 | 1261 | 1079 | | | | <0.2 | <0.2 | <0.2 | 1.2 | <1.1 | 2.2 | 0.80 | 173 | 3.0 | 29.1 | 21900 | 6.7 | 22.6 | --- |
| 06A (c) | 05/21/2008 | 1434 | 1252 | | -96 | | <1.0 | <1.0 | <1.0 | 1.4 | <1.1 | 1.3 | 2.11 | -82 | 2.5 | 21.0 | 13200 | 6.9 | 20.1 | --- |
| 06A (c) | 11/25/2008 | 1622 | 1440 | | 92 | | <1.0 | <1.0 | 1.7 | <1.0 | <1.1 | <1.2 | 1.71 | -73 | 3.4 | 0.1 | 19700 | 6.5 | 150 | --- |
| 06A (c) | 05/20/2009 | 1798 | 1616 | | 268 | | <4.0 | <4.0 | <4.0 | <4.0 | <1.1 | <1.2 | 0.52 | -45 | 4.0 | <0.5 | 19500 | 6.8 | 38.2 | --- |
| 06A (c) | 11/19/2009 | 1981 | 1799 | | 451 | | <1.0 | <1.0 | 1.9 | <1.0 | <1.1 | <1.2 | 2.66 | 6 | 2.8 | 0.8 | 20100 | 6.2 | 25.4 | --- |
| 06A (c) | 5/24/2010 | 2167 | 1985 | | 637 | | <1.0 | <1.0 | 1.3 | 1.9 | <1.1 | <1.2 | 3.56 | 448 | 2.0 | 16 | 19900 | 6.6 | 19.3 | --- |
| 06A (c) | 11/11/2010 | 2338 | 2156 | | 808 | | <1.0 | <1.0 | <1.0 | 1.7 | <1.1 | <1.2 | 4.75 | 106 | 2.6 | 0.4 | 24700 | 7.0 | 20.2 | --- |
| 06A (c) | 5/4/2011 | 2512 | 2330 | | 982 | | <1.0 | <1.0 | <1.0 | 1.4 | <1.1 | <1.2 | 2.14 | 22 | 2.5 | <0.2 | 21400 | 7.1 | 13.6 | --- |
| 06A (c) | 11/13/2011 | 2705 | 2523 | | 1175 | | <0.2 | <0.2 | 0.3 | 0.8 | <1.1 | <1.2 | 5.80 | -54 | 1.0 | 0.3 | 6370 | 7.2 | 12.7 | --- |
| 06A (c) | 5/15/2012 | 2889 | 2707 | | 1359 | | <0.2 | <0.2 | 0.4 | 1.2 | <1.0 | <1.0 | 0.08 | 66 | 2.0 | 4.3 | 13000 | 6.7 | 11.6 | --- |
| 06A (c) | 11/14/2012 | 3072 | 2890 | | 1542 | | <0.2 | <0.2 | 0.3 | 0.8 | <1.0 | <4.0 | 0.02 | -0.5 | 1.5 | <0.30 | 13000 | 6.9 | 9.0 | --- |
| 06A (c) | 5/21/2013 | 3260 | 3078 | | 1730 | | <0.5 | <0.5 | <0.5 | 1.3 | <1.0 | <1.0 | 0.17 | -434 | 2.6 | 3.3 | 5200 | 7.9 | 8.8 | --- |
| 06A (c) | 11/12/2013 | 3435 | 3253 | | 1905 | | <0.2 | <0.2 | 0.4 | 2.4 | <1.0 | <1.0 | 2.68 | -298 | 1.2 | 5.8 | 3500 | 6.8 | 8.3 | --- |
| 06A (c) | 5/7/2014 | 3611 | 3429 | | 2081 | | <0.2 | <0.2 | 0.4 | 1.5 | <1.0 | <1.0 | 3.60 | -386 | 1.5 | 11.2 | 1300 | 7.1 | 7.2 | --- |
| 06A (c) | 11/5/2014 | 3793 | 3611 | | 2263 | | <0.2 | <0.2 | 0.4 | 2.7 | <1.0 | <1.0 | 0.28 | -89 | 1.0 | 13.9 | 770 | 6.7 | 7.2 | --- |
| 06A (c) | 4/29/2015 | 3968 | 3786 | | 2438 | | <0.2 | <0.2 | 0.6 | 3.3 | <1.0 | <1.0 | 0.36 | -54 | 3.0 | 17.5 | 430 | 6.7 | 5.2 | --- |
| 06A (c) | 10/26/2015 | 4148 | 3966 | | 2618 | -16 | <0.2 | <0.2 | 0.2 | 2.5 | <1.0 | <1.0 | 0.17 | -66 | 0.8 | 19.7 | 410 | 6.6 | 6.5 | --- |
| 06A (c) | 4/19/2016 | 4324 | 4142 | | 2794 | 160 | <0.2 | <0.2 | 1 | 0.7 | <100 | <100 | 0.06 | -118 | 1.0 | <0.30 | 18000 | 7.0 | 203 | Cola brown |
| 06A (c) | 11/1/2016 | 4520 | 4338 | | 2990 | 356 | <0.2 | <0.2 | 0.5 | 0.7 | <100 | <100 | 0.35 | -154.9 | NM | 0.47 | 20000 | 7.1 | 121 | Opaque dark brown/amber color Turbid, dark brown/amber color, strong injection fluid odor, no sheen |
| 06A (c) | 5/2/2017 | 4702 | 4520 | | 3172 | 538 | <0.2 | <0.2 | 0.3 | 0.4 | <1.0 | 1.4 | 0.26 | -151.5 | NM | <0.30 | 18000 | 7.2 | 124 | --- |
| 06B | 05/04/2004 | -44 | | | | | 9.5 | 3.2 | 10 | 9.4 | <0.50 | <0.50 | 0.36 | 179 | 4.5 | 18.7 | 130 | 6.8 | 25.6 | Clear, yellow tint |
| 06B | 08/23/2004 | 67 | | | | | 1.9 | 1.2 | 13 | 2.3 | <0.50 | <0.50 | 0.45 | 115 | 3.2 | 33.8 | 1100 | 6.9 | 177 | Yellow-brown tint (nearly clear) |
| 06B | 10/19/2004 | 124 | -58 | | | | <1.0 | <1.0 | 10 | 3.6 | <0.50 | <0.50 | 0.61 | 217 | 3.5 | 14.8 | 590 | 6.7 | 53.6 | Yellow tint |
| 06B | 02/22/2005 | 250 | 68 | | | | <1.0 | <1.0 | 11 | <1.0 | <0.50 | <0.50 | 0.79 | 224 | 2.6 | <0.5 | 3800 | 6.9 | 968 | --- |
| 06B | 05/16/2005 | 333 | 151 | | | | <2.0 | <2.0 | 5.5 | <2.0 | <0.50 | <0.50 | 1.51 | 133 | 3.5 | <0.5 | 2300 | 6.9 | 336 | Clear, yellow-brown tint |
| 06B | 08/22/2005 | 431 | 249 | | | | <1.0 | <1.0 | 1.8 | 1.6 | <0.50 | <0.50 | 1.21 | 217 | 2.8 | <0.1 | 440 | 6.9 | 100 | Clear, with yellow tint |
| 06B | 11/14/2005 | 515 | 333 | | | | <1.0 | <1.0 | 1.1 | 1.3 | <0.50 | <0.50 | 1.05 | 241 | 2.8 | <0.1 | 2900 | 6.9 | 64.4 | --- |
| 06B | 02/22/2006 | 615 | 433 | | | | <1.0 | <1.0 | <1.0 | 1.4 | 53.5 | <12.3 | 0.74 | 184 | 2.6 | 14.8 | 13000 | 6.4 | 30.4 | --- |
| 06B | 05/18/2006 | 700 | 518 | | | | <1.0 | <1.0 | <1.0 | 1.3 | <11 | <12 | 2.25 | 52 | 3.2 | 13.6 | 16000 | 6.6 | 25.9 | --- |
| 06B | 08/16/2006 | 790 | 608 | | | | <1.0 | <1.0 | <1.0 | 1.1 | <1.1 | <1.2 | 0.82 | 225 | 2.4 | 12.9 | 21700 | 6.5 | 14.7 | --- |
| 06B | 11/29/2006 | 895 | 713 | | | | <0.2 | <0.2 | 1.4 | 2.6 | <1.1 | <1.2 | 1.82 | 111 | 2.4 | 10.9 | 22000 | 6.5 | 25.2 | --- |
| 06B | 02/23/2007 | 981 | 799 | | | | <1.0 | <1.0 | 3.8 | 9.5 | <1.1 | <1.2 | 0.75 | -66 | 5.0 | 25.0 | 17700 | 6.5 | 21.1 | --- |
| 06B | 05/24/2007 | 1071 | 889 | | | | <1.0 | <1.0 | 1.4 | 6.5 | <1.1 | <1.2 | 0.58 | 151 | 3.0 | 11.3 | 18500 | 6.6 | 21.4 | --- |

**SWMU-20 CLEANUP ACTION SUMMARY - SOURCE ZONE
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

| Well | Date | Elapsed Time from Injections (a) (days) | | | | | Volatile Organic Compounds | | | | | | Aquifer Redox Conditions | | | | | Donor Parameters | | Notes |
|------|------------|---|---------------|-------------------|---------------|---------------|---|------------|------------|------------|------------|------------|--------------------------|----------|----------------|----------------|----------------|------------------|------------|--|
| | | 1st Injection | 2nd Injection | 3rd (b) Injection | 4th Injection | 5th Injection | Proposed Groundwater Cleanup Levels (d) | | | | | | DO (mg/L) | ORP (mV) | Iron II (mg/L) | Sulfate (mg/L) | Methane (µg/L) | pH | TOC (mg/L) | |
| | | | | | | | 5.3 (µg/L) | 1.4 (µg/L) | 134 (µg/L) | 2.4 (µg/L) | --- (µg/L) | --- (µg/L) | | | | | | | | |
| 06B | 11/30/2007 | 1261 | 1079 | | | | <0.2 | <0.2 | <0.2 | 1.0 | <1.1 | 4.0 | 0.83 | 135 | 4.0 | 26.3 | 24900 | 6.4 | 26.5 | --- |
| 06B | 05/21/2008 | 1434 | 1252 | | -96 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 4.9 | 2.66 | -61 | 3.4 | 21.1 | 12700 | 6.7 | 20.4 | --- |
| 06B | 11/25/2008 | 1622 | 1440 | | 92 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 2.53 | -68 | 2.4 | 0.2 | 18400 | 6.6 | 19.6 | --- |
| 06B | 05/20/2009 | 1798 | 1616 | | 268 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.33 | -36 | 4.0 | <0.5 | 25300 | 6.9 | 20.9 | --- |
| 06B | 11/19/2009 | 1981 | 1799 | | 451 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 6.7 | 1.01 | 10 | 2.8 | 0.1 | 22500 | 6.9 | 20.0 | --- |
| 06B | 5/24/2010 | 2167 | 1985 | | 637 | | <1.0 | <1.0 | <1.0 | 4.2 | <1.1 | 1.6 | 3.05 | 417 | 2.0 | 3.0 | 7110 | 7.0 | 19.1 | --- |
| 06B | 11/11/2010 | 2338 | 2156 | | 808 | | <1.0 | <1.0 | <1.0 | 5.4 | <1.1 | 1.4 | 3.40 | 112 | 2.0 | 8.6 | 4600 | 7.1 | 15.8 | --- |
| 06B | 5/4/2011 | 2512 | 2330 | | 982 | | <1.0 | <1.0 | <1.0 | 5.2 | <1.1 | <1.2 | 2.55 | 57 | 2.2 | 19.7 | 2120 | 7.1 | 12.6 | --- |
| 06B | 11/13/2011 | 2705 | 2523 | | 1175 | | <0.2 | <0.2 | <0.2 | 0.8 | <1.1 | <1.2 | 6.10 | -34 | 1.5 | 0.3 | 2260 | 7.3 | 14.8 | --- |
| 06B | 5/15/2012 | 2889 | 2707 | | 1359 | | <0.2 | <0.2 | 0.5 | 6.0 | <1.0 | 1.3 | 0.14 | 71 | 1.8 | 10.9 | 2200 | 6.6 | 11.4 | --- |
| 06B | 11/14/2012 | 3072 | 2890 | | 1542 | | <0.2 | <0.2 | <0.2 | 3.7 | <1.0 | 1.8 | 0.02 | 10 | 2.0 | 7.0 | 2300 | 6.8 | 13.7 | --- |
| 06B | 5/21/2013 | 3260 | 3078 | | 1730 | | <0.5 | <0.5 | <0.5 | 4.3 | <1.0 | <1.0 | 0.17 | -427 | 2.5 | 20.1 | 720 | 7.7 | 11.0 | --- |
| 06B | 11/12/2013 | 3435 | 3253 | | 1905 | | <0.2 | <0.2 | <0.2 | 2.5 | <1.0 | <1.0 | 2.62 | -309 | 1.5 | 4.0 | 350 | 7.0 | 15.5 | --- |
| 06B | 5/7/2014 | 3611 | 3429 | | 2081 | | <0.2 | <0.2 | <0.2 | 2.4 | <1.0 | <1.0 | 3.50 | -320 | 1.6 | 2.8 | 1200 | 7.1 | 10.2 | --- |
| 06B | 11/5/2014 | 3793 | 3611 | | 2263 | | <0.2 | <0.2 | <0.2 | 1.8 | <1.0 | <1.0 | 0.30 | -54 | 1.7 | 4.7 | 2200 | 6.8 | 6.9 | --- |
| 06B | 4/29/2015 | 3968 | 3786 | | 2438 | | <0.2 | <0.2 | <0.2 | 1.8 | <1.0 | <1.0 | 0.52 | -39 | 1.0 | 0.99 | 1300 | 6.6 | 4.0 | --- |
| 06B | 10/26/2015 | 4148 | 3966 | | 2618 | -16 | <0.2 | <0.2 | <0.2 | 1.0 | <1.0 | <1.0 | 0.99 | -39 | 1.0 | 2.0 | 1900 | 6.6 | 4.9 | --- |
| 06B | 4/19/2016 | 4324 | 4142 | | 2794 | 160 | <2.0 | <2.0 | <2.0 | <2.0 | <100 | <100 | 0.06 | -78 | NM | 0.3 | 17000 | 6.8 | 306 | --- |
| 06B | 11/1/2016 | 4520 | 4338 | | 2990 | 356 | <0.2 | <0.2 | 0.5 | 0.2 | <100 | <100 | 0.32 | -148.5 | NM | 0.71 | 23000 | 7.24 | 274 | Opaque dark brown/black color Turbid, dark brown/black color, strong injection fluid odor, no sheen |
| 06B | 5/2/2017 | 4702 | 4520 | | 3172 | 538 | <0.2 | <0.2 | <0.2 | 0.3 | <1.0 | <1.0 | 0.17 | -129.6 | NM | 1.3 | 21000 | 7.38 | 149 | --- |
| 06C | 05/04/2004 | -44 | | | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | 0.6 | 0.40 | 93 | 5.0 | 20.7 | 360 | 6.7 | 29.0 | --- |
| 06C | 08/23/2004 | 67 | | | | | <1.0 | <1.0 | 1.4 | <1.0 | 5.7 | 5.9 | 0.63 | 95 | 2.5 | 42.7 | 3100 | 6.3 | 1560 | White froth on surface of purge water |
| 06C | 10/19/2004 | 124 | -58 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | <0.50 | 2.00 | 206 | 3.0 | 18.1 | 450 | 6.3 | 464 | Yellow tint |
| 06C | 02/22/2005 | 250 | 68 | | | | <1.0 | <1.0 | 3.6 | <1.0 | <0.50 | <0.50 | 0.82 | 198 | 2.6 | <0.5 | 2400 | 6.9 | 858 | --- |
| 06C | 05/16/2005 | 333 | 151 | | | | <1.0 | <1.0 | 1.1 | <1.0 | <0.50 | <0.50 | 1.94 | 98 | 3.0 | 0.2 | 2700 | 7.0 | 111 | Clear, with yellow tint |
| 06C | 08/22/2005 | 431 | 249 | | | | <1.0 | <1.0 | 1.1 | <1.0 | <0.50 | <0.50 | 1.36 | 194 | 2.8 | <0.1 | 510 | 7.0 | 68.7 | Clear, with yellow tint |
| 06C | 11/14/2005 | 515 | 333 | | | | <1.0 | <1.0 | 1.1 | <1.0 | <0.50 | <0.50 | 1.07 | 258 | 2.0 | <0.1 | 2900 | 7.0 | 48.3 | --- |
| 06C | 02/22/2006 | 615 | 433 | | | | <1.0 | <1.0 | <1.0 | <1.0 | 47.7 | <12.3 | 0.88 | 247 | 1.4 | 47.5 | 12300 | 6.6 | 93.4 | --- |
| 06C | 05/18/2006 | 700 | 518 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <11 | <12 | 4.88 | 129 | 2.0 | 30.6 | 15000 | 6.6 | 36.6 | --- |
| 06C | 08/16/2006 | 790 | 608 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 2.3 | 0.93 | 231 | 1.6 | 31.8 | 18900 | 6.6 | 13.4 | --- |
| 06C | 11/29/2006 | 895 | 713 | | | | <0.2 | <0.2 | 0.3 | <0.2 | <1.1 | 1.4 | 2.25 | 192 | 1.8 | 27.3 | 20600 | 6.6 | 46.4 | --- |
| 06C | 02/23/2007 | 981 | 799 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 1.7 | 1.08 | -46 | 4.0 | 25.9 | 18900 | 6.4 | 39.0 | --- |
| 06C | 05/24/2007 | 1071 | 889 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 2.0 | 0.72 | 216 | 3.5 | 20.8 | 20800 | 6.5 | 34.0 | --- |
| 06C | 11/30/2007 | 1261 | 1079 | | | | <0.2 | <0.2 | 0.2 | 0.3 | <1.1 | 2.8 | 1.58 | 174 | 4.2 | 32.6 | 30500 | 6.2 | 40.2 | --- |
| 06C | 05/21/2008 | 1434 | 1252 | | -96 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 2.91 | -16 | 2.5 | 21.0 | 23800 | 6.3 | 31.9 | --- |
| 06C | 11/25/2008 | 1622 | 1440 | | 92 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 3.39 | -66 | 2.6 | <0.1 | 28700 | 6.8 | 634 | --- |
| 06C | 05/20/2009 | 1798 | 1616 | | 268 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.66 | -28 | 3.5 | <0.8 | 20600 | 6.9 | 39.2 | --- |
| 06C | 11/19/2009 | 1981 | 1799 | | 451 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 1.89 | 26 | NM | <0.1 | 25600 | 6.2 | 42.8 | --- |
| 09A | 05/03/2004 | -45 | | | | | 150 | 230 | 970 | 37 | <0.50 | <0.50 | 0.46 | 287 | 1.0 | 64.2 | 8.4 | 6.7 | 16.2 | Clear, yellow tint |
| 09A | 08/23/2004 | 67 | | | | | <3.0 | 11 | 370 | 150 | 4.2 | <0.50 | 0.40 | 143 | 2.6 | 51.8 | 4.7 | 7.1 | 56.8 | Clear with black tint, H2S odor |
| 09A | 10/19/2004 | 124 | -58 | | | | <5.0 | 19 | 460 | 220 | 2.7 | <0.50 | 0.53 | 219 | 4.0 | 77.4 | 17 | 6.9 | 19.6 | Clear, slightly yellow tint |
| 09A | 02/21/2005 | 249 | 67 | | | | <10 | <10 | 41 | 37 | 1.9 | <0.50 | 0.78 | 169 | 2.0 | <0.5 | 1500 | 7.1 | 2110 | Hazy, yellow color |
| 09A | 05/11/2005 | 328 | 146 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | <0.50 | 1.53 | 141 | 2.0 | <0.5 | 1700 | 7.2 | 1260 | Hazy, yellow-brown tint |
| 09A | 08/22/2005 | 431 | 249 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | <0.50 | 1.58 | 141 | 2.8 | <0.1 | 460 | 6.8 | 156 | Clear, yellow-brown tint |
| 09A | 11/14/2005 | 515 | 333 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | <0.50 | 1.07 | 238 | 2.0 | <0.1 | 2600 | 6.9 | 62.8 | --- |
| 09A | 02/21/2006 | 614 | 432 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <11.4 | <12.3 | 0.94 | 332 | 2.6 | 0.2 | 5650 | 6.3 | 58.8 | --- |

**SWMU-20 CLEANUP ACTION SUMMARY - SOURCE ZONE
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

| Well | Date | Elapsed Time from Injections (a) (days) | | | | | Volatile Organic Compounds | | | | | | Aquifer Redox Conditions | | | | | Donor Parameters | | Notes |
|------|------------|---|---------------|-------------------|---------------|---------------|---|------------|------------|------------|-------|-------|--------------------------|----------|----------------|----------------|----------------|------------------|------------|---|
| | | 1st Injection | 2nd Injection | 3rd (b) Injection | 4th Injection | 5th Injection | Proposed Groundwater Cleanup Levels (d) | | | | | | DO (mg/L) | ORP (mV) | Iron II (mg/L) | Sulfate (mg/L) | Methane (µg/L) | pH | TOC (mg/L) | |
| | | | | | | | 5.3 (µg/L) | 1.4 (µg/L) | 134 (µg/L) | 2.4 (µg/L) | --- | --- | | | | | | | | |
| 09A | 05/15/2006 | 697 | 515 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 1.35 | 193 | 2.2 | 63.4 | 15000 | 6.4 | 44.4 | --- |
| 09A | 08/16/2006 | 790 | 608 | | | | <1.0 | <1.0 | <1.0 | 1.2 | <1.1 | 2.1 | 1.55 | 175 | 2.0 | 56.8 | 16800 | 6.4 | 50.0 | --- |
| 09A | 11/27/2006 | 893 | 711 | | | | <0.2 | <0.2 | 0.3 | 1.1 | 1.9 | 6.3 | 2.09 | 211 | 3.2 | 52.5 | 15200 | 6.6 | 51.0 | --- |
| 09A | 02/22/2007 | 980 | 798 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 7.8 | 0.65 | -107 | 4.6 | 0.3 | 15300 | 6.4 | 48.8 | --- |
| 09A | 05/22/2007 | 1069 | 887 | | | | <1.0 | <1.0 | <1.0 | 2.8 | <1.1 | 4.8 | 0.75 | 91 | 2.6 | 0.1 | 16700 | 6.6 | 43.1 | --- |
| 09A | 11/29/2007 | 1260 | 1078 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 24.5 | 1.01 | 147 | 3.8 | 45.4 | 27600 | 6.4 | 40.6 | --- |
| 09A | 05/19/2008 | 1432 | 1250 | | -98 | | <0.2 | 0.2 | 110 | 85 | 7.8 | 35.6 | 2.26 | -82 | 3.0 | 29.4 | 17100 | 6.7 | 31.0 | --- |
| 09A | 11/24/2008 | 1621 | 1439 | | 91 | | 1.9 | 4.6 | 160 | 42 | 4.0 | 2.1 | 2.61 | -52 | 3.0 | <2.0 | 13700 | 6.2 | 5600 | --- |
| 09A | 05/18/2009 | 1796 | 1614 | | 266 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.44 | -88 | 2.5 | <2.0 | 18100 | 7.1 | 1620 | --- |
| 09A | 11/16/2009 | 1978 | 1796 | | 448 | | <5.0 | <1.0 | <5.0 | <5.0 | <1.1 | <1.2 | 1.23 | -61 | 2.6 | <1.0 | 16600 | 6.6 | 403 | --- |
| 09A | 5/20/2010 | 2163 | 1981 | | 633 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 11.09 | 515 | 2.2 | <1.0 | 18700 | 7.0 | 72.8 | Duffy: Interference w/DO sensor? |
| 09A | 11/10/2010 | 2337 | 2155 | | 807 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 2.0 | 3.92 | 118 | 2.2 | 0.3 | 24400 | 7.0 | 70.0 | --- |
| 09A | 5/3/2011 | 2511 | 2329 | | 981 | | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | 2.0 | 2.55 | 33 | 2.0 | <0.2 | 17800 | 6.9 | 44.4 | --- |
| 09A | 11/13/2011 | 2705 | 2523 | | 1175 | | <0.2 | <0.2 | 0.2 | <0.2 | <1.1 | 1.2 | 2.23 | -66 | 1.2 | 0.4 | 11800 | 7.0 | 39.4 | --- |
| 09A | 5/14/2012 | 2888 | 2706 | | 1358 | | <0.2 | <0.2 | 0.2 | <0.2 | <1.0 | 13 | 0.57 | 91 | 1.5 | 0.40 | 22000 | 6.4 | 30.5 | --- |
| 09A | 11/14/2012 | 3072 | 2890 | | 1542 | | <2.0 | <2.0 | <2.0 | <2.0 | <1.0 | 11 | 0.02 | -4 | 2.0 | 0.53 | 21000 | 6.6 | 30.9 | --- |
| 09A | 5/21/2013 | 3260 | 3078 | | 1730 | | <2.0 | <2.0 | <2.0 | <2.0 | <1.0 | 16 | 0.32 | -399 | 1.8 | <0.30 | 24000 | 7.8 | 33.0 | --- |
| 09A | 11/12/2013 | 3435 | 3253 | | 1905 | | <2.0 | <2.0 | <2.0 | <2.0 | <1.0 | 10 | 3.87 | -258 | 1.7 | 0.41 | 18000 | 6.5 | 30.2 | --- |
| 09A | 5/7/2014 | 3611 | 3429 | | 2081 | | <2.0 | <2.0 | <2.0 | <2.0 | <1.0 | 29 | 4.46 | -322 | 1.4 | 0.50 | 26000 | 6.7 | 21.5 | --- |
| 09A | 11/5/2014 | 3793 | 3611 | | 2263 | | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | 15 | 0.12 | -90 | 2.0 | <0.30 | 25000 | 6.6 | 24.8 | --- |
| 09A | 4/29/2015 | 3968 | 3786 | | 2438 | | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | 28 | 0.20 | -63 | 1.4 | 0.58 | 27000 | 6.4 | 17.8 | --- |
| 09A | 10/26/2015 | 4148 | 3966 | | 2618 | -16 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | 49 | 0.10 | -38 | 1.0 | 0.57 | 21000 | 6.3 | 21.7 | --- |
| 09A | 4/19/2016 | 4324 | 4142 | | 2794 | 160 | <0.2 | <0.2 | <0.2 | 0.7 | <1.0 | 34 | 0.15 | -105 | 0.8 | <0.30 | 22000 | 6.7 | 33.3 | --- |
| 09A | 11/1/2016 | 4520 | 4338 | | 2990 | 356 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | 120 | 0.73 | -89 | NM | <0.30 | 19000 | 6.46 | 17.5 | Slight yellow/greenish tint Clear, yellow tint, injection fluid odor, no sheen |
| 09A | 5/2/2017 | 4702 | 4520 | | 3172 | 538 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | 430 | 1.03 | -118.2 | NM | <0.30 | 20000 | 6.58 | 22.3 | --- |
| 09B | 05/03/2004 | -45 | | | | | <3.0 | 4.2 | 250 | <3.0 | <0.50 | <0.50 | 0.37 | 269 | 4.0 | 61.4 | 2.7 | 6.8 | 20.7 | Clear, yellow tint |
| 09B | 08/23/2004 | 67 | | | | | <5.0 | 16 | 530 | 100 | 0.76 | <0.50 | 0.34 | 174 | 1.4 | 73.0 | 23 | 7.4 | 29.7 | Clear, yellow-brown tint, H2S odor |
| 09B | 10/19/2004 | 124 | -58 | | | | <5.0 | 17 | 300 | 340 | 1.4 | <0.50 | 0.30 | 219 | 1.0 | 59.6 | 29 | 7.5 | 24.3 | Clear with yellow color |
| 09B | 02/21/2005 | 249 | 67 | | | | <1.0 | <1.0 | 890 | 520 | 1.7 | <0.50 | 0.56 | 160 | 2.8 | 1.0 | 2000 | 6.8 | 608 | Hazy, tan brown color |
| 09B | 05/11/2005 | 328 | 146 | | | | <1.0 | <1.0 | 12 | 24 | <0.50 | <0.50 | 1.48 | 158 | 3.5 | 0.4 | 9600 | 7.0 | 219 | Hazy, yellow-brown tint |
| 09B | 08/22/2005 | 431 | 249 | | | | <1.0 | <1.0 | <1.0 | 1.7 | <0.50 | <0.50 | 1.45 | 224 | 2.5 | <0.1 | 400 | 6.7 | 17.6 | Clear, with yellow-brown tint |
| 09B | 11/14/2005 | 515 | 333 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | <0.50 | 1.24 | 235 | 1.4 | <0.1 | 3100 | 6.8 | 51.2 | --- |
| 09B | 02/21/2006 | 614 | 432 | | | | <1.0 | <1.0 | <1.0 | 1.3 | <11.4 | <12.3 | 0.90 | 329 | 2.8 | <0.1 | 8730 | 6.3 | 46.4 | --- |
| 09B | 05/15/2006 | 697 | 515 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 1.11 | 191 | 1.8 | 33.9 | 17000 | 6.3 | 45.6 | --- |
| 09B | 08/16/2006 | 790 | 608 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.94 | 188 | 1.6 | 55.4 | 19300 | 6.3 | 250 | --- |
| 09B | 11/27/2006 | 893 | 711 | | | | <0.2 | <0.2 | 0.3 | 0.5 | <1.1 | <1.2 | 1.76 | 190 | 2.8 | 50.2 | 21800 | 6.5 | 78.2 | --- |
| 09B | 02/22/2007 | 980 | 798 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 1.6 | 0.67 | -80 | 3.5 | 0.2 | 16100 | 6.3 | 64.0 | --- |
| 09B | 05/22/2007 | 1069 | 887 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 1.4 | 0.76 | 154 | 3.0 | <0.1 | 18700 | 6.5 | 35.3 | --- |
| 09B | 11/29/2007 | 1260 | 1078 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 3.8 | 1.29 | 238 | 2.2 | 58.3 | 29800 | 6.2 | 44.5 | --- |
| 09B | 05/19/2008 | 1432 | 1250 | | -98 | | <0.2 | <0.2 | 0.2 | 0.4 | <1.1 | 3.0 | 2.34 | -78 | 3.4 | 39.1 | 12900 | 6.4 | 37.3 | --- |
| 09B | 11/24/2008 | 1621 | 1439 | | 91 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 17.6 | 2.22 | -47 | 3.0 | <1.0 | 27000 | 6.7 | 27.0 | --- |
| 09B | 05/18/2009 | 1796 | 1614 | | 266 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 6.9 | 0.38 | -38 | 3.5 | <0.5 | 19700 | 6.9 | 37.1 | --- |
| 09B | 11/16/2009 | 1978 | 1796 | | 448 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 16.1 | 1.27 | 12 | 3.5 | <0.1 | 24500 | 6.2 | 28.1 | --- |
| 09C | 05/03/2004 | -45 | | | | | <1.0 | <1.0 | 4.0 | 3.3 | 1.9 | 0.7 | 0.33 | 229 | 4.0 | 19.1 | 350 | 6.8 | 28.5 | Clear, yellow tint |
| 09C | 08/23/2004 | 67 | | | | | <1.0 | <1.0 | 1.7 | <1.0 | 1.1 | 2.8 | 0.47 | 114 | 2.6 | 23.2 | 610 | 6.7 | 302 | Clear, H2S odor |
| 09C | 10/19/2004 | 124 | -58 | | | | <1.0 | <1.0 | <1.0 | 1.5 | 1.1 | <0.50 | 0.60 | 185 | 3.0 | 12.2 | 620 | 7.0 | 99.6 | Near clear, yellow tint |

**SWMU-20 CLEANUP ACTION SUMMARY - SOURCE ZONE
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

| Well | Date | Elapsed Time from Injections (a) (days) | | | | | Volatile Organic Compounds | | | | | | Aquifer Redox Conditions | | | | | Donor Parameters | | Notes |
|------|------------|---|------------|------------|------------|-----|---|------------|------------|-------------|-----------|---------------|--------------------------|----------|----------------|----------------|----------------|------------------|------------|--------------------------------------|
| | | | | | | | Proposed Groundwater Cleanup Levels (d) | | | | | | DO (mg/L) | ORP (mV) | Iron II (mg/L) | Sulfate (mg/L) | Methane (µg/L) | pH | TOC (mg/L) | |
| | | 5.3 (µg/L) | 1.4 (µg/L) | 134 (µg/L) | 2.4 (µg/L) | --- | --- | PCE (µg/L) | TCE (µg/L) | cDCE (µg/L) | VC (µg/L) | Ethene (µg/L) | | | | | | | | |
| 09C | 02/21/2005 | 249 | 67 | | | | <1.0 | <1.0 | 1.7 | <1.0 | <0.50 | 1.6 | 0.60 | 154 | 2.0 | <0.1 | 3500 | 6.6 | 300 | Clear with yellow tint |
| 09C | 05/11/2005 | 328 | 146 | | | | <1.0 | <1.0 | 1.2 | <1.0 | <0.50 | <0.50 | 1.34 | 138 | 2.5 | <0.1 | 2700 | 6.4 | 44.6 | Yellow-brown tint |
| 09C | 08/22/2005 | 431 | 249 | | | | <1.0 | <1.0 | 7.6 | 2.2 | <0.50 | <0.50 | 1.31 | 230 | 2.5 | <0.1 | 360 | 6.7 | 52.0 | --- |
| 09C | 11/14/2005 | 515 | 333 | | | | <1.0 | <1.0 | 1.2 | <1.0 | <0.50 | <0.50 | 1.41 | 228 | 2.4 | <0.1 | 7300 | 6.9 | 50.6 | --- |
| 09C | 02/21/2006 | 614 | 432 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <11.4 | <12.3 | 0.78 | 326 | 2.4 | <0.1 | 10300 | 6.5 | 44.2 | --- |
| 09C | 05/15/2006 | 697 | 515 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <11 | <12 | 1.01 | 192 | 2.0 | 27.9 | 21000 | 7.0 | 42.1 | --- |
| 09C | 08/16/2006 | 790 | 608 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 1.6 | 0.80 | 199 | 1.2 | 28.8 | 22900 | 6.5 | 33.0 | --- |
| 09C | 11/27/2006 | 893 | 711 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <1.1 | 9.1 | 1.40 | 289 | 2.4 | 26.7 | 23500 | 6.5 | 44.0 | --- |
| 09C | 02/22/2007 | 980 | 798 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 3.9 | 0.75 | -32 | 3.6 | 0.2 | 17700 | 6.5 | 33.8 | --- |
| 09C | 05/22/2007 | 1069 | 887 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 5.4 | 0.52 | 123 | 3.5 | <0.1 | 20600 | 6.6 | 25.4 | --- |
| 09C | 11/29/2007 | 1260 | 1078 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 5.4 | 0.81 | 147 | 3.6 | 27.3 | 30000 | 6.5 | 27.1 | --- |
| 09C | 05/19/2008 | 1432 | 1250 | | -98 | | <0.2 | <0.2 | <0.2 | 0.2 | <1.1 | 15.2 | 2.11 | -57 | 4.6 | 18.6 | 22800 | 6.5 | 22.3 | --- |
| 09C | 11/24/2008 | 1621 | 1439 | | 91 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 2.92 | -44 | 1.8 | <2.0 | 17700 | 6.6 | 334 | --- |
| 09C | 05/18/2009 | 1796 | 1614 | | 266 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 4.3 | 0.45 | -44 | 3.5 | <0.5 | 21400 | 7.0 | 24.0 | --- |
| 09C | 11/16/2009 | 1978 | 1796 | | 448 | | <3.0 | <3.0 | <3.0 | <3.0 | <1.1 | 1.9 | 1.27 | -7 | 3.0 | <0.1 | 22400 | 6.4 | 20.7 | --- |
| 10A | 05/03/2004 | -45 | | | | | 29 | 27 | 80 | 6.4 | <0.50 | <0.50 | 0.60 | 108 | 2.0 | 37.8 | 2.8 | 6.8 | 20.0 | Clear, yellow tint |
| 10A | 08/23/2004 | 67 | | | | | 14 | 12 | 170 | 4.0 | <0.50 | <0.50 | 0.49 | 181 | 3.5 | 38.9 | 1.1 | 7.0 | 59.6 | Clear, black tint |
| 10A | 10/19/2004 | 124 | -58 | | | | 15 | 15 | 100 | 23 | <0.50 | <0.50 | 0.66 | 224 | 4.0 | 37.8 | 2.7 | 7.0 | 24.0 | Clear |
| 10A | 02/21/2005 | 249 | 67 | | | | 4.7 | 4.8 | 24 | 6.8 | <0.50 | 0.54 | 0.53 | 166 | 3.6 | 24.3 | 430 | 7.0 | 22.4 | Clear, yellow color |
| 10A | 05/11/2005 | 328 | 146 | | | | 4.2 | 5.4 | 26 | 7.2 | <0.50 | <0.50 | 0.95 | 47 | 3.0 | 27.9 | 540 | 7.2 | 25.9 | Clear, yellow-brown tint |
| 10A | 08/22/2005 | 431 | 249 | | | | 2.7 | 6.3 | 48 | 76 | <0.50 | <0.50 | 0.73 | 177 | 2.0 | 48.8 | 240 | 7.0 | 31.4 | Clear, with yellow-brown tint |
| 10A | 11/14/2005 | 515 | 333 | | | | 3.3 | 6.7 | 47 | 73 | <0.50 | <0.50 | 0.91 | 178 | 2.0 | 50.6 | 370 | 7.1 | 34.1 | --- |
| 10A | 02/21/2006 | 614 | 432 | | | | 3.7 | 9.6 | 42 | 150 | <11.4 | <12.3 | 0.54 | 320 | 2.0 | 53.9 | 1130 | 6.8 | 45.8 | --- |
| 10A | 05/15/2006 | 697 | 515 | | | | 1.8 | 3.7 | 63 | 19 | <11 | <12 | 0.67 | 190 | 1.8 | 57.4 | 3100 | 6.8 | 49.2 | --- |
| 10A | 08/16/2006 | 790 | 608 | | | | 1.6 | 1.6 | 38 | 20 | <1.1 | <1.2 | 1.50 | 201 | 1.4 | 57.5 | 1620 | 6.7 | 50.8 | --- |
| 10A | 11/27/2006 | 893 | 711 | | | | <0.2 | <0.2 | 7.4 | 9.2 | 2.6 | 2.6 | 2.67 | 201 | 3.0 | 57.9 | 1650 | 6.9 | 56.0 | --- |
| 10A | 02/22/2007 | 980 | 798 | | | | 1.2 | <1.0 | 32 | 35 | <1.1 | <1.2 | 0.57 | -176 | 4.6 | 20.4 | 1370 | 6.8 | 56.4 | --- |
| 10A | 05/22/2007 | 1069 | 887 | | | | 1.1 | <1.0 | 28 | 44 | <1.1 | 1.4 | 0.88 | 73 | 3.0 | 10.2 | 2590 | 6.9 | 47.3 | --- |
| 10A | 11/29/2007 | 1260 | 1078 | | | | 1.2 | <1.0 | 22 | 78 | 4.4 | 3.7 | 0.80 | 106 | 4.2 | 47.9 | 4810 | 6.9 | 47.8 | --- |
| 10A | 05/19/2008 | 1432 | 1250 | | -98 | | <1.0 | <1.0 | 22 | 180 | 7.9 | 4.4 | 2.19 | -177 | 4.0 | 32.5 | 4870 | 7.0 | 33.3 | --- |
| 10A | 11/24/2008 | 1621 | 1439 | | 91 | | <1.0 | <1.0 | 1.6 | 5.0 | <1.1 | <1.2 | 2.29 | -87 | 3.4 | 1.3 | 16900 | 7.1 | 1200 | --- |
| 10A | 05/18/2009 | 1796 | 1614 | | 266 | | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.2 | 0.66 | -80 | 3.3 | <1.0 | 17900 | 6.9 | 168 | --- |
| 10A | 11/16/2009 | 1978 | 1796 | | 448 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 3.14 | -40 | 4.2 | <1.0 | 18200 | 6.3 | 69.2 | --- |
| 10A | 5/20/2010 | 2163 | 1981 | | 633 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 16.23 | 341 | 3.0 | <1.0 | 17600 | 6.8 | 60.4 | Duffy: Replace DO electroic membrane |
| 10A | 11/10/2010 | 2337 | 2155 | | 807 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 4.09 | 67 | 2.4 | 0.5 | 22800 | 6.9 | 56.8 | --- |
| 10A | 5/3/2011 | 2511 | 2329 | | 981 | | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.2 | 2.47 | -21 | 2.5 | <0.2 | 20700 | 6.9 | 41.6 | --- |
| 10A | 11/13/2011 | 2705 | 2523 | | 1175 | | <0.2 | <0.2 | 0.2 | 0.4 | <1.1 | <1.2 | 2.45 | -38 | 2.0 | 0.3 | 15400 | 7.1 | 33.8 | --- |
| 10A | 5/14/2012 | 2888 | 2706 | | 1358 | | <0.2 | <0.2 | 0.2 | 0.4 | <1.0 | <1.0 | 0.57 | 88 | 2.5 | 0.32 | 20000 | 6.4 | 38.0 | --- |
| 10A | 11/14/2012 | 3072 | 2890 | | 1542 | | <0.2 | <0.2 | 0.3 | 0.4 | <1.0 | <1.0 | 0.03 | -16 | 2.0 | <0.30 | 19000 | 6.6 | 30.6 | --- |
| 10A | 5/21/2013 | 3260 | 3078 | | 1730 | | <0.2 | <0.2 | 0.2 | 0.3 | <1.0 | <3.0 | 0.35 | -340 | 1.8 | <0.30 | 26000 | 7.5 | 29.5 | --- |
| 10A | 11/12/2013 | 3435 | 3253 | | 1905 | | <0.2 | <0.2 | 0.2 | 0.4 | <1.0 | 2.5 | 3.53 | -242 | 1.4 | 0.38 | 16000 | 6.5 | 29.1 | --- |
| 10A | 5/7/2014 | 3611 | 3429 | | 2081 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 4.06 | -305 | 2.1 | <0.30 | 26000 | 6.7 | 27.9 | --- |
| 10A | 11/5/2014 | 3793 | 3611 | | 2263 | | <0.2 | <0.2 | 0.2 | 0.3 | <1.0 | 5.5 | 0.17 | -134 | 2.0 | <0.30 | 25000 | 6.5 | 26.1 | --- |
| 14A | 05/04/2004 | -44 | | | | | <1.0 | <1.0 | 140 | 110 | <0.50 | <0.50 | 0.53 | -8 | 7.5 | 38.9 | 590 | 6.8 | 20.7 | Clear, yellow tint |
| 14A | 08/23/2004 | 67 | | | | | <1.0 | 2.9 | 560 | 180 | 0.89 | 0.67 | 0.54 | 162 | 3.2 | 30.1 | 810 | 6.8 | 22.6 | --- |
| 14A | 10/19/2004 | 124 | -58 | | | | <5.0 | 39 | 1200 | 650 | <0.50 | <0.50 | 0.64 | 69 | 3.0 | 43.3 | 350 | 6.9 | 20.6 | --- |
| 14A | 02/21/2005 | 249 | 67 | -24 | | | <5.0 | <5.0 | 300 | 1000 | 13 | 2.7 | 0.41 | 101 | 1.8 | 3.8 | 1700 | 6.9 | 44.0 | Clear, yellow tint |

**SWMU-20 CLEANUP ACTION SUMMARY - SOURCE ZONE
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

| Well | Date | Elapsed Time from Injections (a) (days) | | | | | Volatile Organic Compounds | | | | | | Aquifer Redox Conditions | | | | | Donor Parameters | | Notes |
|------|------------|---|---------------|-------------------|---------------|---------------|---|------------|------------|------------|-------|------------|--------------------------|----------|----------------|----------------|----------------|------------------|------------|---------------------|
| | | 1st Injection | 2nd Injection | 3rd (b) Injection | 4th Injection | 5th Injection | Proposed Groundwater Cleanup Levels (d) | | | | | | DO (mg/L) | ORP (mV) | Iron II (mg/L) | Sulfate (mg/L) | Methane (µg/L) | pH | TOC (mg/L) | |
| | | | | | | | 5.3 (µg/L) | 1.4 (µg/L) | 134 (µg/L) | 2.4 (µg/L) | --- | --- | | | | | | | | |
| 14A | 05/16/2005 | 333 | 151 | 60 | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | <0.50 | 5.90 | 45 | 4.0 | <2.0 | 590 | 6.4 | 8620 | --- |
| 14A | 08/22/2005 | 431 | 249 | 158 | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | <0.50 | 1.62 | 234 | 3.0 | <2.0 | 220 | 6.8 | 5380 | Clear, yellow-brown |
| 14A | 11/15/2005 | 516 | 334 | 243 | | | <3.0 | <3.0 | 6.0 | <3.0 | <0.50 | <0.50 | 1.26 | 257 | 2.0 | <0.1 | 2500 | 6.4 | 602 | --- |
| 14A | 02/21/2006 | 614 | 432 | 341 | | | <1.0 | <1.0 | <1.0 | <1.0 | <11.4 | <12.3 | 1.36 | 335 | 2.0 | <0.1 | 5400 | 7.4 | 180 | --- |
| 14A | 05/17/2006 | 699 | 517 | 426 | | | <2.0 | <2.0 | 2.1 | <2.0 | <1.1 | <1.2 | 1.78 | 76 | 2.8 | 12.0 | 9400 | 6.4 | 67.1 | --- |
| 14A | 08/16/2006 | 790 | 608 | 517 | | | <1.0 | <1.0 | 3.0 | <1.0 | <1.1 | <1.2 | 1.16 | 240 | 1.2 | 16.5 | 6320 | 6.5 | 66.0 | --- |
| 14A | 11/29/2006 | 895 | 713 | 622 | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 1.57 | 248 | 2.8 | 11.8 | 11100 | 6.3 | 72.0 | --- |
| 14A | 02/22/2007 | 980 | 798 | 707 | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.89 | -56 | 7.0 | 0.2 | 7670 | 6.2 | 34.9 | --- |
| 14A | 05/23/2007 | 1070 | 888 | 797 | | | <1.0 | <1.0 | 1.5 | <1.0 | <1.1 | <1.2 | 1.11 | 165 | 3.0 | 8.6 | 10100 | 6.3 | 27.5 | --- |
| 14A | 12/03/2007 | 1264 | 1082 | 991 | | | <1.0 | <1.0 | 1.6 | <1.0 | <1.1 | <1.2 | 2.29 | -86 | 3.2 | 15.9 | 14500 | 6.4 | 55.6 | --- |
| 14A | 05/20/2008 | 1433 | 1251 | 1160 | -97 | | <1.0 | <1.0 | 1.2 | <1.0 | <1.1 | <1.2 | 3.45 | -88 | 3.6 | <0.1 | 12100 | 6.3 | 26.3 | --- |
| 14A | 11/24/2008 | 1621 | 1439 | 1348 | 91 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 2.79 | -70 | 3.0 | 194 | 14500 | 6.1 | 8.68 | --- |
| 14A | 05/20/2009 | 1798 | 1616 | 1525 | 268 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.41 | -95 | 3.5 | 20.0 | 14400 | 6.3 | 9.83 | --- |
| 14A | 11/17/2009 | 1979 | 1797 | 1706 | 449 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.81 | -18 | 3.2 | 165 | 15800 | 5.7 | 6.22 | --- |
| 14A | 5/24/2010 | 2167 | 1985 | 1894 | 637 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 4.29 | 311 | 2.8 | 5.1 | 14600 | 6.4 | 8.07 | --- |
| 14A | 11/10/2010 | 2337 | 2155 | 2064 | 807 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 2.47 | 171 | 2.6 | 38.6 | 14300 | 6.8 | 6.88 | --- |
| 14A | 5/5/2011 | 2513 | 2331 | 2240 | 983 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 2.96 | 83 | 1.8 | 8.4 | 15100 | 7.1 | 3.28 | --- |
| 14A | 11/13/2011 | 2705 | 2523 | 2432 | 1175 | | <0.2 | <0.2 | 0.6 | <0.2 | <1.1 | <1.2 | 2.04 | -52 | 1.5 | <0.1 | 7510 | 6.9 | 8.05 | --- |
| 14A | 5/14/2012 | 2888 | 2706 | 2615 | 1358 | | <0.2 | <0.2 | 0.3 | 0.2 | <1.0 | 8.7 | 0.13 | 62 | 2.6 | 3.4 | 16000 | 6.4 | 5.9 | --- |
| 14A | 11/14/2012 | 3072 | 2890 | 2799 | 1542 | | <0.2 | <0.2 | 0.6 | <0.2 | <1.0 | 5.0 | 0.03 | 31 | 1.5 | 79.0 | 16000 | 6.4 | 6.5 | --- |
| 14A | 5/21/2013 | 3260 | 3078 | 2987 | 1730 | | <0.5 | <0.5 | <0.5 | <0.5 | <1.0 | 4.8 | 0.24 | -428 | 2.4 | 2.3 | 18000 | 7.4 | 6.5 | --- |
| 14A | 11/12/2013 | 3435 | 3253 | 3162 | 1905 | | <0.2 | <0.2 | 0.5 | <0.2 | <1.0 | 6.3 | 4.46 | -286 | 1.3 | 0.52 | 14000 | 6.4 | 8.0 | --- |
| 14A | 5/7/2014 | 3611 | 3429 | 3338 | 2081 | | <0.2 | <0.2 | 0.3 | 0.3 | <1.0 | 4.6 | 4.39 | -427 | 1.6 | 19.9 | 15000 | 6.8 | 6.5 | --- |
| 14A | 11/5/2014 | 3793 | 3611 | 3520 | 2263 | | <0.2 | <0.2 | 0.4 | 0.2 | <1.0 | 10 | 0.04 | -48 | 2.0 | 23.6 | 15000 | 6.5 | 6.8 | --- |
| 15A | 05/03/2004 | -45 | | | | | <5.0 | <5.0 | <5.0 | <5.0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | --- |
| 15A | 10/26/2004 | 131 | -51 | | | | <5.0 | <5.0 | <5.0 | <5.0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | --- |
| 15A | 05/16/2005 | 333 | 151 | | | | <5.0 | <5.0 | <5.0 | <5.0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | --- |
| 15A | 11/15/2005 | 516 | 334 | | | | <5.0 | <5.0 | <5.0 | <5.0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | --- |
| 15A | 05/17/2006 | 699 | 517 | | | | <5.0 | <5.0 | <5.0 | <5.0 | NA | NA | 0.79 | 131 | NA | NA | NA | 6.7 | NA | --- |
| 15A | 11/29/2006 | 895 | 713 | | | | <3.0 | <3.0 | <3.0 | <3.0 | NA | NA | 1.26 | 513 | NA | NA | NA | 6.6 | NA | --- |
| 15A | 05/23/2007 | 1070 | 888 | | | | <1.0 | <1.0 | 1.4 | 2.6 | NA | NA | 1.19 | 144 | NA | NA | NA | 6.7 | NA | --- |
| 15A | 12/03/2007 | 1264 | 1082 | | | | <1.0 | <1.0 | <1.0 | 1.3 | NA | NA | 1.31 | -105 | NA | NA | NA | 6.6 | NA | --- |
| 15A | 05/20/2008 | 1433 | 1251 | -97 | | | <3.0 | <3.0 | <3.0 | <3.0 | NA | NA | 2.57 | -135 | NA | NA | NA | 6.7 | NA | --- |
| 15A | 11/24/2008 | 1621 | 1439 | 91 | | | <1.0 | <1.0 | <1.0 | <2.0 | NA | NA | 2.07 | -61 | NA | NA | NA | 6.8 | NA | --- |
| 15A | 05/19/2009 | 1797 | 1615 | 267 | | | <3.0 | <3.0 | <3.0 | <3.0 | NA | NA | 0.35 | -33 | NA | NA | NA | 6.9 | NA | --- |
| 15A | 11/18/2009 | 1980 | 1798 | 450 | | | <1.0 | <1.0 | <1.0 | 1.4 | NA | NA | 0.72 | -0.1 | NA | NA | NA | 6.3 | NA | --- |
| 15A | 5/20/2010 | 2163 | 1981 | 633 | | | <1.0 | <1.0 | <1.0 | 1.6 | NA | NA | 1.10 | 606 | NA | NA | NA | 6.8 | NA | --- |
| 15A | 11/10/2010 | 2337 | 2155 | 807 | | | <1.0 | <1.0 | <1.0 | 1.4 | NA | NA | 2.42 | 118 | NA | NA | NA | 7.1 | NA | --- |
| 15A | 5/5/2011 | 2513 | 2331 | 983 | | | <1.0 | <1.0 | <1.0 | <1.0 | NA | NA | 4.83 | -19 | NA | NA | NA | 7.2 | NA | --- |
| 15A | 11/13/2011 | 2705 | 2523 | 1175 | | | <0.2 | <0.2 | 0.3 | 1.0 | NA | NA | 4.01 | -41 | NA | NA | NA | 7.3 | NA | --- |
| 15A | 5/14/2012 | 2888 | 2706 | 1358 | | | <1.0 | <1.0 | <1.0 | 1.2 | NA | NA | 0.64 | 56 | NA | NA | NA | 6.7 | NA | --- |
| 15A | 11/13/2012 | 3071 | 2889 | 1541 | | | <0.2 | <0.2 | 0.4 | 0.8 | NA | NA | 0.03 | 23 | NA | NA | NA | 6.8 | NA | --- |
| 15A | 5/21/2013 | 3260 | 3078 | 1730 | | | <0.5 | <0.5 | 0.6 | 1.1 | NA | NA | 0.20 | -394 | NA | NA | NA | 7.4 | NA | --- |
| 15A | 11/12/2013 | 3435 | 3253 | 1905 | | | <0.2 | <0.2 | 0.5 | 0.8 | NA | NA | 3.38 | -267 | NA | NA | NA | 6.7 | NA | --- |
| 15A | 5/7/2014 | 3611 | 3429 | 2081 | | | <0.2 | <0.2 | 0.6 | 1.0 | NA | NA | 3.86 | -351 | NA | NA | NA | 6.9 | NA | --- |
| 15A | 11/5/2014 | 3793 | 3611 | 2263 | | | <0.2 | <0.2 | 0.4 | 0.5 | NA | NA | 0.09 | -126 | NA | NA | NA | 6.8 | NA | --- |
| 19A | 05/02/2004 | -46 | -228 | | | | <1.0 | <1.0 | <1.0 | <1.0 | NA | NA | 0.33 | -3 | NA | NA | NA | 6.5 | NA | --- |
| 19A | 02/21/2005 | 249 | 67 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | <0.50 | 0.65 | 180 | NA | 47.4 | 17 | 6.7 | 15.5 | --- |

**SWMU-20 CLEANUP ACTION SUMMARY - SOURCE ZONE
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

| Well | Date | Elapsed Time from Injections (a) (days) | | | | | Volatile Organic Compounds | | | | | | Aquifer Redox Conditions | | | | | Donor Parameters | | Notes |
|------|------------|---|---------------|-------------------|---------------|---------------|---|------------|------------|------------|-------|------------|--------------------------|----------|----------------|----------------|----------------|------------------|------------|--|
| | | 1st Injection | 2nd Injection | 3rd (b) Injection | 4th Injection | 5th Injection | Proposed Groundwater Cleanup Levels (d) | | | | | | DO (mg/L) | ORP (mV) | Iron II (mg/L) | Sulfate (mg/L) | Methane (µg/L) | pH | TOC (mg/L) | |
| | | | | | | | 5.3 (µg/L) | 1.4 (µg/L) | 134 (µg/L) | 2.4 (µg/L) | --- | --- | | | | | | | | |
| 19A | 05/12/2005 | 329 | 147 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | <0.50 | 0.63 | 169 | 3.0 | 31.3 | 9.1 | 6.8 | 14.2 | Clear, colorless |
| 19A | 08/22/2005 | 431 | 249 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | <0.50 | 0.74 | 106 | 3.0 | 68.3 | 16 | 6.6 | 10.5 | Clear, colorless |
| 19A | 11/15/2005 | 516 | 334 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | <0.50 | 0.56 | 201 | 2.6 | 95.9 | 35 | 6.8 | 9.30 | --- |
| 19A | 02/22/2006 | 615 | 433 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <11.4 | <12.3 | 0.77 | 65 | 3.0 | 124.0 | 111 | 6.6 | 31.3 | --- |
| 19A | 05/17/2006 | 699 | 517 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <11 | <12 | 1.14 | 56 | 2.0 | 73.4 | 230 | 6.4 | 15.7 | --- |
| 19A | 08/15/2006 | 789 | 607 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.60 | 229 | 2.0 | 47.3 | 202 | 6.4 | 11.5 | --- |
| 19A | 11/27/2006 | 893 | 711 | | | | <0.2 | 0.2 | 0.3 | <0.2 | <1.1 | <1.2 | 0.88 | 264 | 2.0 | 41.9 | 186 | 6.4 | 13.6 | --- |
| 19A | 02/22/2007 | 980 | 798 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.42 | -23 | 3.0 | 20.7 | 248 | 6.2 | 19.8 | --- |
| 19A | 05/22/2007 | 1069 | 887 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | 5.2 | 0.34 | 277 | 3.5 | 30.8 | 179 | 6.4 | 15.4 | --- |
| 19A | 11/29/2007 | 1260 | 1078 | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.67 | 243 | 2.2 | 37.2 | 235 | 6.2 | 14.3 | --- |
| 19A | 05/20/2008 | 1433 | 1251 | | -97 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 3.23 | -79 | 3.8 | 20.9 | 134 | 6.4 | 11.5 | --- |
| 19A | 11/23/2008 | 1620 | 1438 | | 90 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 1.62 | -61 | 2.0 | 46.1 | 97.8 | 6.4 | 10.6 | --- |
| 19A | 05/19/2009 | 1797 | 1615 | | 267 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.30 | -28 | 3.2 | 28.6 | 127 | 6.8 | 12.8 | --- |
| 19A | 11/18/2009 | 1980 | 1798 | | 450 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 1.58 | -2 | 3.4 | 22.1 | 122 | 6.5 | 10.7 | --- |
| 22A | 03/21/2005 | 277 | 95 | 4 | | | <1.0 | <1.0 | 3.5 | 2.0 | <0.50 | <0.50 | 1.86 | 53 | 2.8 | 12.8 | 280 | 7.0 | 11.1 | Hazy, suspended silt |
| 22A | 05/12/2005 | 329 | 147 | 56 | | | <1.0 | <1.0 | 2.3 | 2.9 | <0.50 | <0.50 | 0.83 | 155 | 2.6 | 1.3 | 300 | 7.1 | 31.3 | --- |
| 22A | 08/22/2005 | 431 | 249 | 158 | | | <1.0 | <1.0 | 2.3 | 3.2 | <0.50 | <0.50 | 0.70 | 170 | 2.6 | 3.0 | 230 | 6.9 | 26.5 | Clear, slight yellow-brown tint |
| 22A | 11/16/2005 | 517 | 335 | 244 | | | <1.0 | <1.0 | 1.4 | 2.2 | <0.50 | <0.50 | 1.67 | 321 | 2.4 | 1.3 | 1300 | 6.3 | 29.9 | --- |
| 22A | 02/22/2006 | 615 | 433 | 342 | | | <1.0 | <1.0 | 1.4 | 3.3 | <11.4 | <12.3 | 0.69 | 97 | 2.0 | 59.0 | 1940 | 6.8 | 32.0 | --- |
| 22A | 05/17/2006 | 699 | 517 | 426 | | | <1.0 | <1.0 | 2.4 | 1.7 | <11 | <12 | 0.67 | 102 | 2.6 | 32.7 | 3600 | 6.8 | 17.6 | --- |
| 22A | 08/15/2006 | 789 | 607 | 516 | | | <1.0 | <1.0 | 1.8 | 2.4 | <1.1 | <1.2 | 0.65 | 239 | 2.0 | 54.7 | 5700 | 6.7 | 24.0 | --- |
| 22A | 11/30/2006 | 896 | 714 | 623 | | | <0.2 | 0.3 | 2.2 | 2.4 | <1.1 | <1.2 | 2.15 | 286 | 2.6 | 40.0 | 4020 | 6.6 | 25.2 | --- |
| 22A | 02/22/2007 | 980 | 798 | 707 | | | <1.0 | <1.0 | 2.5 | 2.3 | <1.1 | <1.2 | 0.53 | -76 | 5.0 | <0.1 | 3000 | 6.6 | 22.4 | --- |
| 22A | 05/23/2007 | 1070 | 888 | 797 | | | <1.0 | <1.0 | 2.5 | 2.7 | <1.1 | <1.2 | 0.30 | 51 | 3.0 | 27.3 | 3510 | 6.8 | 18.2 | --- |
| 22A | 12/03/2007 | 1264 | 1082 | 991 | | | <1.0 | <1.0 | 2.0 | 1.3 | <1.1 | <1.2 | 0.61 | 41 | 2.6 | 12.3 | 2030 | 6.6 | 16.0 | --- |
| 22A | 05/20/2008 | 1433 | 1251 | 1160 | -97 | | <1.0 | <1.0 | 2.6 | 1.9 | <1.1 | <1.2 | 2.83 | -103 | 4.0 | 20.2 | 1540 | 6.7 | 13.8 | --- |
| 22A | 11/23/2008 | 1620 | 1438 | 1347 | 90 | | <1.0 | <1.0 | 2.2 | 3.1 | <1.1 | <1.2 | 1.13 | -70 | 1.8 | 2.6 | 3100 | 6.8 | 19.2 | --- |
| 22A | 05/19/2009 | 1797 | 1615 | 1524 | 267 | | <1.0 | <1.0 | 2.5 | 2.5 | <1.1 | <1.2 | 0.26 | -43 | 3.2 | 3.4 | 3490 | 7.0 | 21.0 | --- |
| 22A | 11/18/2009 | 1980 | 1798 | 1707 | 450 | | <1.0 | <1.0 | 2.1 | 1.8 | <1.1 | <1.2 | 0.43 | -3.3 | 3.0 | 2.1 | 2060 | 6.4 | 13.8 | --- |
| 22A | 5/24/2010 | 2167 | 1985 | 1894 | 637 | | <1.0 | <1.0 | 1.7 | 1.7 | <1.1 | <1.2 | 6.58 | 204 | 2.4 | 0.6 | 2370 | 7.0 | 15.1 | --- |
| 22A | 11/11/2010 | 2338 | 2156 | 2065 | 808 | | <1.0 | <1.0 | 1.2 | 2.7 | <1.1 | <1.2 | 3.27 | 113 | 2.2 | 0.5 | 4650 | 7.0 | 21.8 | --- |
| 22A | 5/4/2011 | 2512 | 2330 | 2239 | 982 | | <1.0 | <1.0 | 1.1 | 2.2 | <1.1 | <1.2 | 1.96 | 4 | 2.0 | 0.6 | 6350 | 7.0 | 22.4 | --- |
| 22A | 11/13/2011 | 2705 | 2523 | 2432 | 1175 | | <0.2 | <0.2 | 0.9 | 1.7 | <1.1 | <1.2 | 2.89 | -38 | 1.2 | 0.4 | 2510 | 7.3 | 17.6 | --- |
| 22A | 5/14/2012 | 2888 | 2706 | 2615 | 1358 | | <0.2 | <0.2 | 0.6 | 2.0 | <1.0 | 3.3 | 0.03 | 45 | 2.2 | <0.30 | 5100 | 6.8 | 25.4 | --- |
| 22A | 11/14/2012 | 3072 | 2890 | 2799 | 1542 | | <0.2 | <0.2 | 0.5 | 1.8 | <1.0 | 1.7 | 0.03 | 1 | 1.8 | <0.30 | 4400 | 6.9 | 22.7 | --- |
| 22A | 5/20/2013 | 3259 | 3077 | 2986 | 1729 | | <0.2 | <0.2 | 0.4 | 2.0 | <1.0 | 1.6 | 0.24 | -404 | 1.0 | <0.30 | 6100 | 7.7 | 24.6 | --- |
| 22A | 11/12/2013 | 3435 | 3253 | 3162 | 1905 | | <0.2 | <0.2 | 0.5 | 1.7 | <1.0 | 1.1 | 3.69 | -289 | 1.4 | 1.8 | 3500 | 6.7 | 19.8 | --- |
| 22A | 5/7/2014 | 3611 | 3429 | 3338 | 2081 | | <0.2 | <0.2 | 0.5 | 1.6 | <1.0 | <1.0 | 4.8 | -368 | 1.3 | 0.66 | 4200 | 6.8 | 23.6 | --- |
| 22A | 11/5/2014 | 3793 | 3611 | 3520 | 2263 | | <0.2 | <0.2 | 0.4 | 1.5 | <1.0 | 1.5 | 0.13 | -131 | 1.5 | 0.39 | 4800 | 6.8 | 25.8 | --- |
| 22A | 4/29/2015 | 3968 | 3786 | 3695 | 2438 | | <0.2 | <0.2 | 0.6 | 1.5 | <1.0 | <1.0 | 0.09 | -87 | 1.0 | 2.0 | 4300 | 6.5 | 14.8 | --- |
| 22A | 10/27/2015 | 4149 | 3967 | 3876 | 2619 | -15 | <0.2 | <0.2 | 0.5 | 1.5 | <1.0 | <1.0 | 0.07 | -64 | 2.0 | 2.6 | 3500 | 6.6 | 16.7 | --- |
| 22A | 4/19/2016 | 4324 | 4142 | 4051 | 2794 | 160 | <0.2 | <0.2 | 0.5 | <0.2 | <100 | <100 | 0.14 | -163 | 1.0 | 1.9 | 15000 | 7.0 | 2980 | --- |
| 22A | 11/2/2016 | 4521 | 4339 | 4248 | 2991 | 357 | <0.2 | <0.2 | 0.5 | <0.2 | <100 | <100 | 0.37 | -252.6 | NM | <0.30 | 18000 | 7.34 | 542 | Clear dark brown/amber color |
| 22A | 5/2/2017 | 4702 | 4520 | 4429 | 3172 | 538 | <0.2 | <0.2 | 0.4 | 0.3 | <1.0 | <1.0 | 0.41 | -206.8 | NM | <0.30 | 18000 | 7.24 | 300 | Clear, dark brown/amber color, injection fluid odor, no sheen, very effervescent |
| 23A | 03/21/2005 | 277 | 95 | 4 | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | <0.50 | 0.63 | 81 | 2.0 | 0.4 | 410 | 7.0 | 33.0 | Slight yellow tint |
| 23A | 05/12/2005 | 329 | 147 | 56 | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | <0.50 | 0.58 | 158 | 2.0 | <0.1 | 260 | 7.2 | 39.9 | --- |
| 23A | 08/22/2005 | 431 | 249 | 158 | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | <0.50 | 0.75 | 130 | 3.4 | 1.5 | 98 | 7.0 | 21.0 | --- |

**SWMU-20 CLEANUP ACTION SUMMARY - SOURCE ZONE
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

| Well | Date | Elapsed Time from Injections (a) (days) | | | | | Volatile Organic Compounds | | | | | | Aquifer Redox Conditions | | | | | Donor Parameters | | Notes |
|------|------------|---|---------------|-------------------|---------------|---------------|---|------------|------------|------------|-------|-------|--------------------------|----------|----------------|----------------|----------------|------------------|------------|-------|
| | | 1st Injection | 2nd Injection | 3rd (b) Injection | 4th Injection | 5th Injection | Proposed Groundwater Cleanup Levels (d) | | | | | | DO (mg/L) | ORP (mV) | Iron II (mg/L) | Sulfate (mg/L) | Methane (µg/L) | pH | TOC (mg/L) | |
| | | | | | | | 5.3 (µg/L) | 1.4 (µg/L) | 134 (µg/L) | 2.4 (µg/L) | --- | --- | | | | | | | | |
| 23A | 11/16/2005 | 517 | 335 | 244 | | | <1.0 | <1.0 | <1.0 | <1.0 | <0.50 | <0.50 | 0.49 | 291 | 2.6 | 4.1 | 140 | 7.2 | 30.8 | --- |
| 23A | 02/22/2006 | 615 | 433 | 342 | | | <1.0 | <1.0 | <1.0 | <1.0 | <11.4 | <12.3 | 0.60 | 127 | 2.2 | 91.8 | 1520 | 6.4 | 34.5 | --- |
| 23A | 05/17/2006 | 699 | 517 | 426 | | | <1.0 | <1.0 | <1.0 | <1.0 | <11 | <12 | 0.60 | 120 | 3.0 | 38.8 | 1700 | 6.7 | 30.0 | --- |
| 23A | 08/15/2006 | 789 | 607 | 516 | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.77 | 256 | 2.2 | 63.9 | 3080 | 6.7 | 32.6 | --- |
| 23A | 11/30/2006 | 896 | 714 | 623 | | | <0.2 | <0.2 | <0.2 | <0.2 | <1.1 | <1.2 | 1.96 | 287 | 2.5 | 40.7 | 1930 | 6.2 | 45.2 | --- |
| 23A | 02/22/2007 | 980 | 798 | 707 | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.40 | -58 | 2.0 | 2.9 | 1360 | 6.5 | 34.6 | --- |
| 23A | 05/23/2007 | 1070 | 888 | 797 | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.41 | 193 | 3.3 | 52.7 | 1850 | 6.4 | 38.7 | --- |
| 23A | 11/30/2007 | 1261 | 1079 | 988 | | | <0.2 | <0.2 | 0.3 | <0.2 | <1.1 | <1.2 | 0.55 | 159 | 2.2 | 81.1 | 4430 | 6.6 | 38.6 | --- |
| 23A | 05/21/2008 | 1434 | 1252 | 1161 | -96 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 3.12 | -28 | 2.2 | 31.7 | 1570 | 6.1 | 29.6 | --- |
| 23A | 11/25/2008 | 1622 | 1440 | 1349 | 92 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 4.22 | -68 | 1.8 | <0.1 | 3270 | 6.8 | 39.0 | --- |
| 23A | 05/19/2009 | 1797 | 1615 | 1524 | 267 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.31 | -3 | 3.2 | 0.1 | 2370 | 6.5 | 39.1 | --- |
| 23A | 11/18/2009 | 1980 | 1798 | 1707 | 450 | | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.2 | 0.41 | 1 | 2.4 | 1.6 | 1970 | 6.5 | 30.9 | --- |

PCE = tetrachloroethene

TCE = trichloroethene

cDCE = cis-1,2-dichloroethene

VC = vinyl chloride

DO = dissolved oxygen

ORP = oxidation reduction potential

TOC = total organic carbon

Bold = detected compound

µg/L = micrograms per liter

mg/L = milligrams per liter

mV = millivolts

NA = not analyzed

Box = exceedance of proposed cleanup level

(a) Injections occurred on:

-6/17/04 (6A, B, C; 9A, B, C)

-12/16-17/04 (6A, 6B;9A,9B)

-3/17/05 (14A)

-8/25-28/08 (6A, 9A, 10A)

-10/27-11/11/15 (6A, 6B, 10C,
15C, 16A, 16C, 17A, 20C, 22A)

(b) Conducted at Well MW-14A only.

(c) MW-06A installed June 2004.

(d) Proposed Cleanup Standards and Comparison to Site Data, Boeing Developmental Center, Tukwila, Washington (Landau Associates, 5/7/13).

**SWMU-20 CLEANUP ACTION SUMMARY - NON SOURCE ZONE
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

| Well | Date | Elapsed Time from Injections (a) (days) | | | | | Volatile Organic Compounds | | | |
|--------|------------|---|---------------|-------------------|---------------|---------------|---|-------------|------------|------------|
| | | 1st Injection | 2nd Injection | 3rd (b) Injection | 4th Injection | 5th Injection | Proposed Groundwater Cleanup Levels (c) | | | |
| | | | | | | | 5.3 | 1.4 | 134 | 2.4 |
| | | | | | | PCE (µg/L) | TCE (µg/L) | cDCE (µg/L) | VC (µg/L) | |
| MW-8C | 5/3/2004 | -45 | | | | | <1.0 | <1.0 | <1.0 | 2.8 |
| MW-8C | 10/25/2004 | 130 | -52 | | | | <1.0 | <1.0 | <1.0 | 3.5 |
| MW-8C | 5/12/2005 | 329 | 147 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-8C | 11/14/2005 | 515 | 333 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-8C | 5/15/2006 | 697 | 515 | | | | <10 | <10 | <10 | <10 |
| MW-8C | 11/27/2006 | 893 | 711 | | | | <5.0 | <5.0 | <5.0 | <5.0 |
| MW-8C | 5/21/2007 | 1068 | 886 | | | | <3.0 | <3.0 | <3.0 | <3.0 |
| MW-8C | 11/29/2007 | 1260 | 1078 | | | | <5.0 | <5.0 | <5.0 | <5.0 |
| MW-8C | 5/19/2008 | 1432 | 1250 | | -98 | | <5.0 | <5.0 | <5.0 | <5.0 |
| MW-8C | 11/23/2008 | 1620 | 1438 | | 90 | | <5.0 | <5.0 | <5.0 | <5.0 |
| MW-8C | 05/18/2009 | 1796 | 1614 | | 266 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-8C | 11/16/2009 | 1978 | 1796 | | 448 | | <3.0 | <3.0 | <3.0 | <3.0 |
| MW-9D | 5/3/2004 | -45 | | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-9D | 10/19/2004 | 124 | -58 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-9D | 5/11/2005 | 328 | 146 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-9D | 11/14/2005 | 515 | 333 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-9D | 5/15/2006 | 697 | 515 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-9D | 11/27/2006 | 893 | 711 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-9D | 5/22/2007 | 1069 | 887 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-9D | 11/29/2007 | 1260 | 1078 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-9D | 5/19/2008 | 1432 | 1250 | | -98 | | <0.2 | <0.2 | <0.2 | <0.2 |
| MW-9D | 11/24/2008 | 1621 | 1439 | | 91 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-9D | 05/18/2009 | 1796 | 1614 | | 266 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-9D | 11/16/2009 | 1978 | 1796 | | 448 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-10C | 5/3/2004 | -45 | | | | | <1.0 | <1.0 | 4.3 | 4.0 |
| MW-10C | 10/19/2004 | 124 | -58 | | | | <1.0 | <1.0 | 6.4 | 11 |
| MW-10C | 5/11/2005 | 328 | 146 | | | | <1.0 | <1.0 | 4.0 | 1.9 |
| MW-10C | 11/14/2005 | 515 | 333 | | | | <1.0 | <1.0 | <1.0 | 1.0 |
| MW-10C | 5/15/2006 | 697 | 515 | | | | <1.0 | <1.0 | 1.5 | 2.2 |
| MW-10C | 11/27/2006 | 893 | 711 | | | | <0.2 | <0.2 | 1.9 | 2.6 |
| MW-10C | 5/22/2007 | 1069 | 887 | | | | <1.0 | <1.0 | 6.7 | 5.8 |
| MW-10C | 11/29/2007 | 1260 | 1078 | | | | <1.0 | <1.0 | 7.2 | 5.6 |
| MW-10C | 5/19/2008 | 1432 | 1250 | | -98 | | <0.2 | <0.2 | 15 | 6.9 |
| MW-10C | 11/24/2008 | 1621 | 1439 | | 91 | | <1.0 | <1.0 | 8.5 | 7.5 |
| MW-10C | 05/18/2009 | 1796 | 1614 | | 266 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-10C | 11/16/2009 | 1978 | 1796 | | 448 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-10C | 5/20/2010 | 2163 | 1981 | | 633 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-10C | 11/10/2010 | 2337 | 2155 | | 807 | | <1.0 | <1.0 | 3.5 | 4.4 |
| MW-10C | 5/3/2011 | 2511 | 2329 | | 981 | | <1.0 | <1.0 | 5.8 | 4.7 |
| MW-10C | 11/13/2011 | 2705 | 2523 | | 1175 | | <0.2 | <0.2 | 3.7 | 4.3 |
| MW-10C | 5/14/2012 | 2888 | 2706 | | 1358 | | <0.2 | <0.2 | 5.4 | 4.0 |
| MW-10C | 11/14/2012 | 3072 | 2890 | | 1542 | | <0.2 | <0.2 | 6.1 | 4.4 |
| MW-10C | 5/21/2013 | 3260 | 3078 | | 1730 | | <0.2 | <0.2 | 6.0 | 4.5 |
| MW-10C | 11/12/2013 | 3435 | 3253 | | 1905 | | <0.2 | <0.2 | 3.5 | 3.7 |
| MW-10C | 5/7/2014 | 3611 | 3429 | | 2081 | | <0.2 | <0.2 | 5.4 | 2.9 |
| MW-10C | 11/5/2014 | 3793 | 3611 | | 2263 | | <0.2 | <0.2 | 2.6 | 2.5 |
| MW-10C | 4/28/2015 | 3967 | 3785 | | 2437 | | <0.2 | <0.2 | 2.2 | 1.7 |
| MW-10C | 10/26/2015 | 4148 | 3966 | | 2618 | -16 | <0.2 | <0.2 | 1.0 | 1.1 |
| MW-10C | 4/19/2016 | 4324 | 4142 | | 2794 | 160 | <0.2 | <0.2 | 0.5 | <0.2 |
| MW-10C | 11/1/2016 | 4520 | 4338 | | 2990 | 356 | <0.2 | <0.2 | 0.5 | <0.2 |
| MW-10C | 5/2/2017 | 4702 | 4520 | | 3172 | 538 | <0.2 | <0.2 | 0.4 | 0.2 |

**SWMU-20 CLEANUP ACTION SUMMARY - NON SOURCE ZONE
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

| Well | Date | Elapsed Time from Injections (a) (days) | | | | | Volatile Organic Compounds | | | |
|--------|------------|---|---------------|-------------------|---------------|---------------|---|----------------------|-----------------------|---------------------|
| | | | | | | | Proposed Groundwater Cleanup Levels (c) | | | |
| | | 1st Injection | 2nd Injection | 3rd (b) Injection | 4th Injection | 5th Injection | 5.3 PCE (µg/L) | 1.4 TCE (µg/L) | 134 cDCE (µg/L) | 2.4 VC (µg/L) |
| MW-11A | 5/2/2004 | -46 | | | | | <1.0 | 2.1 | 21 | <1.0 |
| MW-11A | 10/25/2004 | 130 | -52 | | | | <1.0 | 2.0 | 20 | <1.0 |
| MW-11A | 5/12/2005 | 329 | 147 | | | | <1.0 | 2.0 | 20 | <1.0 |
| MW-11A | 11/15/2005 | 516 | 334 | | | | <1.0 | 2.0 | 22 | <1.0 |
| MW-11A | 5/16/2006 | 698 | 516 | | | | <1.0 | 1.1 | 20 | <1.0 |
| MW-11A | 11/26/2006 | 892 | 710 | | | | <1.0 | 1.5 | 24 | <1.0 |
| MW-11A | 5/22/2007 | 1069 | 887 | | | | <1.0 | 1.5 | 26 | <1.0 |
| MW-11A | 11/27/2007 | 1258 | 1076 | | | | <1.0 | 1.1 | 27 | <1.0 |
| MW-11A | 5/19/2008 | 1432 | 1250 | | -98 | | <0.2 | 1.2 | 26 | 0.2 |
| MW-11A | 11/23/2008 | 1620 | 1438 | | 90 | | <1.0 | 1.2 | 33 | <1.0 |
| MW-11A | 05/18/2009 | 1796 | 1614 | | 266 | | <1.0 | <1.0 | 26 | <1.0 |
| MW-11A | 11/17/2009 | 1979 | 1797 | | 449 | | <1.0 | 1.0 | 30 | <1.0 |
| MW-11A | 5/19/2010 | 2162 | 1980 | | 632 | | <1.0 | 1.1 | 26 | <1.0 |
| MW-11A | 11/8/2010 | 2335 | 2153 | | 805 | | <1.0 | <1.0 | 22 | <1.0 |
| MW-11A | 5/3/2011 | 2511 | 2329 | | 981 | | <1.0 | <1.0 | 22 | <1.0 |
| MW-11A | 11/13/2011 | 2705 | 2523 | | 1175 | | <0.2 | 0.5 | 23 | 0.4 |
| MW-11A | 5/14/2012 | 2888 | 2706 | | 1358 | | <0.2 | 0.7 | 24 | 0.4 |
| MW-11A | 11/14/2012 | 3072 | 2890 | | 1542 | | <2.0 | <2.0 | 25 | <2.0 |
| MW-11A | 5/21/2013 | 3260 | 3078 | | 1730 | | <2.0 | <2.0 | 22 | <2.0 |
| MW-11A | 11/12/2013 | 3435 | 3253 | | 1905 | | <2.0 | <2.0 | 24 | <2.0 |
| MW-11A | 5/7/2014 | 3611 | 3429 | | 2081 | | <2.0 | <2.0 | 19 | <2.0 |
| MW-11A | 11/4/2014 | 3792 | 3610 | | 2262 | | <0.2 | 0.4 | 24 | 0.4 |
| MW-11A | 4/28/2015 | 3967 | 3785 | | 2437 | | <0.2 | 0.5 | 21 | 0.3 |
| MW-11A | 10/26/2015 | 4148 | 3966 | | 2618 | | 0.2 | 0.2 | 19 | 0.4 |
| MW-11A | 4/19/2016 | 4324 | 4142 | | 2794 | | <0.2 | 0.3 | 20 | 0.4 |
| MW-11A | 11/1/2016 | 4520 | 4338 | | 2990 | | <0.2 | <0.2 | 15 | 0.5 |
| MW-11A | 5/2/2017 | 4702 | 4520 | | 3172 | | <0.2 | 0.4 | 18 | 0.6 |
| MW-12A | 5/2/2004 | -46 | | | | | <1.0 | <1.0 | 1.8 | <1.0 |
| MW-12A | 10/25/2004 | 130 | -52 | | | | <1.0 | <1.0 | 4.4 | <1.0 |
| MW-12A | 5/12/2005 | 329 | 147 | | | | <1.0 | <1.0 | 2.0 | <1.0 |
| MW-12A | 11/15/2005 | 516 | 334 | | | | <1.0 | <1.0 | 3.8 | <1.0 |
| MW-12A | 5/16/2006 | 698 | 516 | | | | <1.0 | <1.0 | 1.5 | <1.0 |
| MW-12A | 11/26/2006 | 892 | 710 | | | | <0.2 | 0.7 | 4.4 | <0.2 |
| MW-12A | 5/22/2007 | 1069 | 887 | | | | <1.0 | <1.0 | 2.4 | <1.0 |
| MW-12A | 11/27/2007 | 1258 | 1076 | | | | <1.0 | <1.0 | 3.2 | <1.0 |
| MW-12A | 5/19/2008 | 1432 | 1250 | | -98 | | <0.2 | 0.6 | 3.2 | <0.2 |
| MW-12A | 11/23/2008 | 1620 | 1438 | | 90 | | <1.0 | <1.0 | 4.7 | <1.0 |
| MW-12A | 05/18/2009 | 1796 | 1614 | | 266 | | <1.0 | <1.0 | 1.4 | <1.0 |
| MW-12A | 11/17/2009 | 1979 | 1797 | | 449 | | <1.0 | <1.0 | 4.7 | <1.0 |
| MW-12A | 5/19/2010 | 2162 | 1980 | | 632 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-12A | 11/8/2010 | 2335 | 2153 | | 805 | | <1.0 | <1.0 | 4.3 | <1.0 |
| MW-12A | 5/3/2011 | 2511 | 2329 | | 981 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-12A | 11/13/2011 | 2705 | 2523 | | 1175 | | <0.2 | 0.6 | 3.1 | <0.2 |
| MW-12A | 5/14/2012 | 2888 | 2706 | | 1358 | | 0.2 | <0.2 | <0.2 | <0.2 |
| MW-12A | 11/14/2012 | 3072 | 2890 | | 1542 | | <0.2 | 0.4 | 2.1 | <0.2 |
| MW-12A | 5/21/2013 | 3260 | 3078 | | 1730 | | <0.2 | <0.2 | 0.5 | <0.2 |
| MW-12A | 11/12/2013 | 3435 | 3253 | | 1905 | | <0.2 | 0.5 | 2.2 | <0.2 |
| MW-12A | 5/7/2014 | 3611 | 3429 | | 2081 | | 0.3 | <0.2 | <0.2 | <0.2 |
| MW-12A | 11/4/2014 | 3792 | 3610 | | 2262 | | 0.3 | <0.2 | 0.3 | <0.2 |
| MW-13A | 5/2/2004 | -46 | | | | | 5.1 | 4.6 | <1.0 | <1.0 |
| MW-13A | 10/25/2004 | 130 | -52 | | | | 4.3 | 4.0 | <1.0 | <1.0 |

**SWMU-20 CLEANUP ACTION SUMMARY - NON SOURCE ZONE
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

| Well | Date | Elapsed Time from Injections (a) (days) | | | | | Volatile Organic Compounds | | | |
|--------|------------|---|---------------|-------------------|---------------|---------------|---|----------------------|-----------------------|---------------------|
| | | | | | | | Proposed Groundwater Cleanup Levels (c) | | | |
| | | 1st Injection | 2nd Injection | 3rd (b) Injection | 4th Injection | 5th Injection | 5.3 PCE (µg/L) | 1.4 TCE (µg/L) | 134 cDCE (µg/L) | 2.4 VC (µg/L) |
| MW-13A | 5/12/2005 | 329 | 147 | | | | 6.1 | 4.6 | <1.0 | <1.0 |
| MW-13A | 11/14/2005 | 515 | 333 | | | | 6.0 | 4.5 | <1.0 | <1.0 |
| MW-13A | 5/16/2006 | 698 | 516 | | | | 7.1 | 4.6 | <1.0 | <1.0 |
| MW-13A | 11/27/2006 | 893 | 711 | | | | 8.3 | 6.5 | 0.3 | <0.2 |
| MW-13A | 5/21/2007 | 1068 | 886 | | | | 8.2 | 7.0 | 0.4 | <0.2 |
| MW-13A | 11/28/2007 | 1259 | 1077 | | | | 6.4 | 4.2 | <1.0 | <1.0 |
| MW-13A | 5/19/2008 | 1432 | 1250 | | -98 | | 8.7 | 6.8 | 0.3 | <0.2 |
| MW-13A | 11/23/2008 | 1620 | 1438 | | 90 | | 6.5 | 3.7 | <1.0 | <1.0 |
| MW-13A | 05/18/2009 | 1796 | 1614 | | 266 | | 7.7 | 5.6 | <1.0 | <1.0 |
| MW-13A | 11/17/2009 | 1979 | 1797 | | 449 | | 9.2 | 6.0 | <1.0 | <1.0 |
| MW-13A | 5/20/2010 | 2163 | 1981 | | 633 | | 9.4 | 5.3 | <1.0 | <1.0 |
| MW-13A | 11/10/2010 | 2337 | 2155 | | 807 | | 3.6 | 2.8 | <1.0 | <1.0 |
| MW-13A | 5/4/2011 | 2512 | 2330 | | 982 | | 3.9 | 2.4 | <1.0 | <1.0 |
| MW-13A | 11/3/2011 | 2695 | 2513 | | 1165 | | 1.6 | <1.0 | <1.0 | <1.0 |
| MW-13A | 5/14/2012 | 2888 | 2706 | | 1358 | | 2.3 | 0.8 | <0.2 | <0.2 |
| MW-13A | 11/13/2012 | 3071 | 2889 | | 1541 | | 2.2 | 0.8 | <0.2 | <0.2 |
| MW-13A | 5/21/2013 | 3260 | 3078 | | 3078 | | 4.5 | 2.5 | 0.5 | <0.2 |
| MW-13A | 11/12/2013 | 3435 | 3253 | | 3253 | | 2.2 | 0.6 | <0.2 | <0.2 |
| MW-13A | 5/7/2014 | 3611 | 3429 | | 3429 | | 3.1 | 1.3 | <0.2 | <0.2 |
| MW-13A | 11/4/2014 | 3792 | 3610 | | 3610 | | 2.3 | 0.5 | <0.2 | <0.2 |
| MW-13A | 4/28/2015 | 3967 | 3785 | | 3785 | | 1.8 | 0.4 | <0.2 | <0.2 |
| MW-13A | 10/27/2015 | 4149 | 3967 | | 3967 | | 1.5 | 0.3 | <0.2 | <0.2 |
| MW-13A | 4/19/2016 | 4324 | 4142 | | 4142 | | 1.6 | 0.3 | <0.2 | <0.2 |
| MW-13A | 11/1/2016 | 4520 | 4338 | | 4338 | | 2.3 | 0.7 | <0.2 | <0.2 |
| MW-13A | 5/2/2017 | 4702 | 4520 | | 4520 | | 1.1 | <0.2 | <0.2 | <0.2 |
| MW-13C | 5/2/2004 | -46 | | | | | <1.0 | <1.0 | <1.0 | 2.5 |
| MW-13C | 10/25/2004 | 130 | -52 | | | | <1.0 | <1.0 | <1.0 | 3.3 |
| MW-13C | 5/12/2005 | 329 | 147 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-13C | 11/14/2005 | 515 | 333 | | | | <1.0 | <1.0 | <1.0 | 3.8 |
| MW-13C | 5/16/2006 | 698 | 516 | | | | <1.0 | <1.0 | <1.0 | 2.2 |
| MW-13C | 11/27/2006 | 893 | 711 | | | | <0.2 | <0.2 | 0.8 | 3.4 |
| MW-13C | 5/21/2007 | 1068 | 886 | | | | <0.2 | <0.2 | 0.8 | 4.4 |
| MW-13C | 11/28/2007 | 1259 | 1077 | | | | <1.0 | <1.0 | <1.0 | 2 |
| MW-13C | 5/19/2008 | 1432 | 1250 | | -98 | | <0.2 | <0.2 | 0.2 | 0.6 |
| MW-13C | 11/23/2008 | 1620 | 1438 | | 90 | | <1.0 | <1.0 | <1.0 | 2.2 |
| MW-13C | 05/18/2009 | 1796 | 1614 | | 266 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-13C | 11/17/2009 | 1979 | 1797 | | 449 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-13C | 5/20/2010 | 2163 | 1981 | | 633 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-13C | 11/10/2010 | 2337 | 2155 | | 807 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-13C | 5/4/2011 | 2512 | 2330 | | 982 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-13C | 11/3/2011 | 2695 | 2513 | | 1165 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-13C | 5/14/2012 | 2888 | 2706 | | 1358 | | <0.2 | <0.2 | <0.2 | 0.3 |
| MW-13C | 11/13/2012 | 3071 | 2889 | | 1541 | | <2.0 | <2.0 | <2.0 | <2.0 |
| MW-13C | 5/21/2013 | 3260 | 3078 | | 1730 | | <2.0 | <2.0 | <2.0 | <2.0 |
| MW-13C | 11/12/2013 | 3435 | 3253 | | 1905 | | <2.0 | <2.0 | <2.0 | <2.0 |
| MW-13C | 5/7/2014 | 3611 | 3429 | | 2081 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-13C | 11/4/2014 | 3792 | 3610 | | 2262 | | <0.2 | <0.2 | <0.2 | 0.2 |
| MW-13C | 4/28/2015 | 3967 | 3785 | | 2437 | | <0.2 | <0.2 | <0.2 | 0.3 |
| MW-13C | 10/27/2015 | 4149 | 3967 | | 2619 | | <0.2 | <0.2 | <0.2 | 0.2 |
| MW-13C | 4/19/2016 | 4324 | 4142 | | 2794 | | <0.2 | <0.2 | <0.2 | 0.3 |
| MW-13C | 11/1/2016 | 4520 | 4338 | | 2990 | | <0.2 | <0.2 | <0.2 | 0.2 |
| MW-13C | 5/2/2017 | 4702 | 4520 | | 3172 | | <0.2 | <0.2 | <0.2 | 0.3 |

**SWMU-20 CLEANUP ACTION SUMMARY - NON SOURCE ZONE
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

| Well | Date | Elapsed Time from Injections (a) (days) | | | | | Volatile Organic Compounds | | | |
|--------|------------|---|---------------|-------------------|---------------|---------------|---|----------------------|-----------------------|---------------------|
| | | | | | | | Proposed Groundwater Cleanup Levels (c) | | | |
| | | 1st Injection | 2nd Injection | 3rd (b) Injection | 4th Injection | 5th Injection | 5.3 PCE (µg/L) | 1.4 TCE (µg/L) | 134 cDCE (µg/L) | 2.4 VC (µg/L) |
| MW-14C | 5/4/2004 | -44 | | | | | <1.0 | <1.0 | 63 | 44 |
| MW-14C | 10/26/2004 | 131 | -51 | -142 | | | <1.0 | <1.0 | 22 | 75 |
| MW-14C | 5/16/2005 | 333 | 151 | 60 | | | <1.0 | <1.0 | 11 | 6.1 |
| MW-14C | 11/15/2005 | 516 | 334 | 243 | | | <1.0 | <1.0 | <1.0 | 1.8 |
| MW-14C | 5/17/2006 | 699 | 517 | 426 | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14C | 11/29/2006 | 895 | 713 | 622 | | | <0.2 | <0.2 | <0.2 | 1.0 |
| MW-14C | 5/23/2007 | 1070 | 888 | 797 | | | <1.0 | <1.0 | <1.0 | 2.5 |
| MW-14C | 12/3/2007 | 1264 | 1082 | 991 | | | <1.0 | <1.0 | 1.1 | 11 |
| MW-14C | 5/20/2008 | 1433 | 1251 | 1160 | -97 | | <1.0 | <1.0 | 1.4 | 22 |
| MW-14C | 11/24/2008 | 1621 | 1439 | 1348 | 91 | | <1.0 | <1.0 | <1.0 | 4.3 |
| MW-14C | 05/20/2009 | 1798 | 1616 | 1525 | 268 | | <1.0 | <1.0 | <1.0 | 1.1 |
| MW-14C | 11/17/2009 | 1979 | 1797 | 1706 | 449 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14C | 5/24/2010 | 2167 | 1985 | 1894 | 637 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14C | 11/10/2010 | 2337 | 2155 | 2064 | 807 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14C | 5/5/2011 | 2513 | 2331 | 2240 | 983 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14C | 11/13/2011 | 2705 | 2523 | 2432 | 1175 | | <0.2 | <0.2 | <0.2 | <0.2 |
| MW-14C | 5/14/2012 | 2888 | 2706 | 2615 | 1358 | | <0.2 | <0.2 | <0.2 | <0.2 |
| MW-14C | 11/14/2012 | 3072 | 2890 | 2799 | 1542 | | <2.0 | <2.0 | <2.0 | <2.0 |
| MW-14C | 5/21/2013 | 3260 | 3078 | 2987 | 1730 | | <2.0 | <2.0 | <2.0 | <2.0 |
| MW-14C | 11/12/2013 | 3435 | 3253 | 3162 | 1905 | | <2.0 | <2.0 | <2.0 | <2.0 |
| MW-14C | 5/7/2014 | 3611 | 3429 | 3338 | 2081 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14C | 11/5/2014 | 3793 | 3611 | 3520 | 2263 | | <0.2 | <0.2 | <0.2 | <0.2 |
| MW-14C | 4/29/2015 | 3968 | 3786 | 3695 | 2438 | | <0.2 | <0.2 | <0.2 | <0.2 |
| MW-14C | 10/27/2015 | 4149 | 3967 | 3876 | 2619 | | <0.2 | <0.2 | <0.2 | <0.2 |
| MW-14C | 4/19/2016 | 4324 | 4142 | 4051 | 2794 | | <0.2 | <0.2 | <0.2 | 0.3 |
| MW-14C | 11/2/2016 | 4521 | 4339 | 4248 | 2991 | | <0.2 | <0.2 | <0.2 | <0.2 |
| MW-14C | 5/2/2017 | 4702 | 4520 | 4429 | 3172 | | <0.2 | <0.2 | <0.2 | 0.2 |
| MW-14E | 5/4/2004 | -44 | | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14E | 10/26/2004 | 131 | -51 | -142 | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14E | 5/16/2005 | 333 | 151 | 60 | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14E | 11/15/2005 | 516 | 334 | 243 | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14E | 5/17/2006 | 699 | 517 | 426 | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14E | 11/29/2006 | 895 | 713 | 622 | | | <0.2 | <0.2 | <0.2 | <0.2 |
| MW-14E | 5/23/2007 | 1070 | 888 | 797 | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14E | 12/3/2007 | 1264 | 1082 | 991 | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14E | 5/20/2008 | 1433 | 1251 | 1160 | -97 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14E | 11/24/2008 | 1621 | 1439 | 1348 | 91 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14E | 05/20/2009 | 1798 | 1616 | 1525 | 268 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-14E | 11/17/2009 | 1979 | 1797 | 1706 | 449 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15C | 5/3/2004 | -45 | | | | | <1.0 | <1.0 | 9.1 | 11 |
| MW-15C | 10/26/2004 | 131 | -51 | | | | <1.0 | <1.0 | 11 | 17 |
| MW-15C | 5/16/2005 | 333 | 151 | | | | <1.0 | <1.0 | 13 | 6.4 |
| MW-15C | 11/15/2005 | 516 | 334 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15C | 5/17/2006 | 699 | 517 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15C | 11/29/2006 | 895 | 713 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| MW-15C | 5/23/2007 | 1070 | 888 | | | | <1.0 | <1.0 | <1.0 | 2.2 |
| MW-15C | 12/3/2007 | 1264 | 1082 | | | | <1.0 | <1.0 | <1.0 | 2.5 |
| MW-15C | 5/20/2008 | 1433 | 1251 | | -97 | | <1.0 | <1.0 | 1.8 | 6.6 |
| MW-15C | 11/24/2008 | 1621 | 1439 | | 91 | | <1.0 | <1.0 | 1.9 | 6.6 |
| MW-15C | 05/19/2009 | 1797 | 1615 | | 267 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15C | 11/18/2009 | 1980 | 1798 | | 450 | | <1.0 | <1.0 | <1.0 | <1.0 |

**SWMU-20 CLEANUP ACTION SUMMARY - NON SOURCE ZONE
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

| Well | Date | Elapsed Time from Injections (a) (days) | | | | | Volatile Organic Compounds | | | |
|--------|------------|---|---------------|-------------------|---------------|---------------|---|----------------------|-----------------------|---------------------|
| | | | | | | | Proposed Groundwater Cleanup Levels (c) | | | |
| | | 1st Injection | 2nd Injection | 3rd (b) Injection | 4th Injection | 5th Injection | 5.3 PCE (µg/L) | 1.4 TCE (µg/L) | 134 cDCE (µg/L) | 2.4 VC (µg/L) |
| MW-15C | 5/20/2010 | 2163 | 1981 | | 633 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15C | 11/10/2010 | 2337 | 2155 | | 807 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15C | 5/5/2011 | 2513 | 2331 | | 983 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15C | 11/13/2011 | 2705 | 2523 | | 1175 | | <0.2 | <0.2 | <0.2 | <0.2 |
| MW-15C | 5/14/2012 | 2888 | 2706 | | 1358 | | <0.2 | <0.2 | <0.2 | <0.2 |
| MW-15C | 11/13/2012 | 3071 | 2889 | | 1541 | | <2.0 | 3.2 | <2.0 | <2.0 |
| MW-15C | 5/21/2013 | 3260 | 3078 | | 1730 | | <5.0 | <5.0 | <5.0 | <5.0 |
| MW-15C | 11/12/2013 | 3435 | 3253 | | 1905 | | <2.0 | <2.0 | <2.0 | 2.3 |
| MW-15C | 5/7/2014 | 3611 | 3429 | | 2081 | | <2.0 | <2.0 | <2.0 | 2.9 |
| MW-15C | 11/5/2014 | 3793 | 3611 | | 2263 | | <0.2 | <0.2 | 0.5 | 2.5 |
| MW-15C | 4/29/2015 | 3968 | 3786 | | 2438 | | <0.2 | <0.2 | 0.6 | 2.4 |
| MW-15C | 10/27/2015 | 4149 | 3967 | | 2619 | -15 | <0.2 | <0.2 | 0.5 | 2.0 |
| MW-15C | 4/19/2016 | 4324 | 4142 | | 2794 | 160 | <0.2 | 0.6 | 1.2 | 0.5 |
| MW-15C | 11/2/2016 | 4521 | 4339 | | 2991 | 357 | <0.2 | 0.3 | 1.7 | 0.7 |
| MW-15C | 5/2/2017 | 4702 | 4520 | | 3172 | 538 | <0.2 | <0.2 | 1.2 | 0.5 |
| MW-15D | 5/3/2004 | -45 | | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15D | 10/26/2004 | 131 | -51 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15D | 5/16/2005 | 333 | 151 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15D | 11/15/2005 | 516 | 334 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15D | 5/17/2006 | 699 | 517 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15D | 11/29/2006 | 895 | 713 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15D | 5/23/2007 | 1070 | 888 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15D | 12/3/2007 | 1264 | 1082 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15D | 5/20/2008 | 1433 | 1251 | | -97 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15D | 11/24/2008 | 1621 | 1439 | | 91 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15D | 05/19/2009 | 1797 | 1615 | | 267 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-15D | 11/18/2009 | 1980 | 1798 | | 450 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-16A | 5/2/2004 | -46 | | | | | 1.2 | 1.2 | 2.3 | <1.0 |
| MW-16A | 10/25/2004 | 130 | -52 | | | | 1.2 | 1.3 | 1.8 | <1.0 |
| MW-16A | 5/12/2005 | 329 | 147 | | | | 1.2 | 1.8 | 2.6 | <1.0 |
| MW-16A | 11/15/2005 | 516 | 334 | | | | 1.3 | 2.2 | 2.1 | <1.0 |
| MW-16A | 5/16/2006 | 698 | 516 | | | | 1.0 | 1.4 | 2.3 | <1.0 |
| MW-16A | 11/26/2006 | 892 | 710 | | | | <0.2 | 0.8 | 4.2 | <0.2 |
| MW-16A | 5/22/2007 | 1069 | 887 | | | | 1.1 | 1.3 | 1.9 | <1.0 |
| MW-16A | 11/28/2007 | 1259 | 1077 | | | | 1.7 | 1.2 | 1.2 | <1.0 |
| MW-16A | 5/19/2008 | 1432 | 1250 | | -98 | | 1.2 | 1.3 | 1.2 | <0.2 |
| MW-16A | 11/23/2008 | 1620 | 1438 | | 90 | | 1.5 | 1.4 | 1.0 | <1.0 |
| MW-16A | 05/18/2009 | 1796 | 1614 | | 266 | | 1.6 | 1.6 | <1.0 | <1.0 |
| MW-16A | 11/16/2009 | 1978 | 1796 | | 448 | | 2.2 | 1.5 | <1.0 | <1.0 |
| MW-16A | 5/20/2010 | 2163 | 1981 | | 633 | | 1.4 | 1.4 | <1.0 | <1.0 |
| MW-16A | 11/10/2010 | 2337 | 2155 | | 807 | | 1.3 | 1.1 | <1.0 | <1.0 |
| MW-16A | 5/4/2011 | 2512 | 2330 | | 982 | | 1.6 | 1.4 | <1.0 | <1.0 |
| MW-16A | 11/13/2011 | 2705 | 2523 | | 1175 | | 1.4 | 1.3 | 0.5 | <0.2 |
| MW-16A | 5/14/2012 | 2888 | 2706 | | 1358 | | 1.6 | 1.7 | 0.5 | <0.2 |
| MW-16A | 11/14/2012 | 3072 | 2890 | | 1542 | | 1.1 | 1.5 | 0.6 | <0.2 |
| MW-16A | 5/21/2013 | 3260 | 3078 | | 1730 | | 1.4 | 1.5 | <0.5 | <0.5 |
| MW-16A | 11/12/2013 | 3435 | 3253 | | 1905 | | 2.1 | 1.8 | 0.3 | <0.2 |
| MW-16A | 5/8/2014 | 3612 | 3430 | | 2082 | | 1.4 | 1.6 | 0.4 | <0.2 |
| MW-16A | 11/5/2014 | 3793 | 3611 | | 2263 | | 1.6 | 1.5 | 0.4 | <0.2 |
| MW-16A | 4/28/2015 | 3967 | 3785 | | 2437 | | 1.4 | 1.4 | 0.3 | <0.2 |
| MW-16A | 10/26/2015 | 4148 | 3966 | | 2618 | -16 | 1.5 | 1.5 | 0.3 | <0.2 |

**SWMU-20 CLEANUP ACTION SUMMARY - NON SOURCE ZONE
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

| Well | Date | Elapsed Time from Injections (a) (days) | | | | | Volatile Organic Compounds | | | |
|------------|------------|---|---------------|-------------------|---------------|---------------|---|------|------|------|
| | | 1st Injection | 2nd Injection | 3rd (b) Injection | 4th Injection | 5th Injection | Proposed Groundwater Cleanup Levels (c) | | | |
| | | | | | | | 5.3 | 1.4 | 134 | 2.4 |
| PCE (µg/L) | TCE (µg/L) | cDCE (µg/L) | VC (µg/L) | | | | | | | |
| MW-16A | 4/19/2016 | 4324 | 4142 | | 2794 | 160 | 0.8 | 0.7 | 10 | <0.2 |
| MW-16A | 11/2/2016 | 4521 | 4339 | | 2991 | 357 | 0.6 | 0.3 | 14 | 0.5 |
| MW-16A | 5/2/2017 | 4702 | 4520 | | 3172 | 538 | 0.7 | 0.2 | 5.7 | 3.1 |
| MW-16C | 5/2/2004 | -46 | | | | | <1.0 | <1.0 | 1.7 | 5.4 |
| MW-16C | 10/25/2004 | 130 | -52 | | | | <1.0 | <1.0 | 2.4 | 8.5 |
| MW-16C | 5/12/2005 | 329 | 147 | | | | <1.0 | <1.0 | 2.8 | 7.7 |
| MW-16C | 11/15/2005 | 516 | 334 | | | | <1.0 | <1.0 | 4.6 | 12 |
| MW-16C | 5/16/2006 | 698 | 516 | | | | <1.0 | <1.0 | 5.2 | 6.3 |
| MW-16C | 11/26/2006 | 892 | 710 | | | | 1.2 | 2.3 | 2.0 | <0.2 |
| MW-16C | 5/22/2007 | 1069 | 887 | | | | <1.0 | <1.0 | 8.8 | 10 |
| MW-16C | 11/28/2007 | 1259 | 1077 | | | | <1.0 | <1.0 | 7 | 8.9 |
| MW-16C | 5/19/2008 | 1432 | 1250 | | -98 | | <0.2 | <0.2 | 7.8 | 7.9 |
| MW-16C | 11/23/2008 | 1620 | 1438 | | 90 | | <1.0 | <1.0 | 5.3 | 8.8 |
| MW-16C | 05/18/2009 | 1796 | 1614 | | 266 | | <1.0 | <1.0 | 5.0 | 6.3 |
| MW-16C | 11/16/2009 | 1978 | 1796 | | 448 | | <1.0 | <1.0 | 4.9 | 5.6 |
| MW-16C | 5/20/2010 | 2163 | 1981 | | 633 | | <1.0 | <1.0 | 3.7 | 3.4 |
| MW-16C | 11/10/2010 | 2337 | 2155 | | 807 | | <1.0 | <1.0 | 3.3 | 2.8 |
| MW-16C | 5/4/2011 | 2512 | 2330 | | 982 | | <1.0 | <1.0 | 3.7 | 3.2 |
| MW-16C | 11/13/2011 | 2705 | 2523 | | 1175 | | <0.2 | <0.2 | 3.3 | 2.5 |
| MW-16C | 5/14/2012 | 2888 | 2706 | | 1358 | | <0.2 | <0.2 | 4.8 | 4.2 |
| MW-16C | 11/14/2012 | 3072 | 2890 | | 1542 | | <0.2 | <0.2 | 4.9 | 3.8 |
| MW-16C | 5/21/2013 | 3260 | 3078 | | 1730 | | <0.5 | <0.5 | 3.9 | 2.8 |
| MW-16C | 11/12/2013 | 3435 | 3253 | | 1905 | | <0.2 | <0.2 | 4.4 | 2.1 |
| MW-16C | 5/8/2014 | 3612 | 3430 | | 2082 | | <0.2 | <0.2 | 3.4 | 1.2 |
| MW-16C | 11/5/2014 | 3793 | 3611 | | 2263 | | <0.2 | <0.2 | 3.4 | 1.3 |
| MW-16C | 4/28/2015 | 3967 | 3785 | | 2437 | | <0.2 | <0.2 | 2.2 | 1.2 |
| MW-16C | 10/26/2015 | 4148 | 3966 | | 2618 | -16 | <0.2 | <0.2 | 2.7 | 1.1 |
| MW-16C | 4/19/2016 | 4324 | 4142 | | 2794 | 160 | <0.2 | <0.2 | 0.9 | 0.3 |
| MW-16C | 11/2/2016 | 4521 | 4339 | | 2991 | 357 | <0.2 | <0.2 | 1.9 | 0.3 |
| MW-16C | 5/2/2017 | 4702 | 4520 | | 3172 | 538 | <0.2 | <0.2 | 0.4 | 0.2 |
| MW-17A | 5/2/2004 | -46 | | | | | 4.8 | 6.5 | 1.0 | <1.0 |
| MW-17A | 10/25/2004 | 130 | -52 | | | | 5.2 | 4.8 | 1.2 | <1.0 |
| MW-17A | 11/15/2005 | 516 | 334 | | | | 4.0 | 5.4 | 1.1 | <1.0 |
| MW-17A | 5/15/2006 | 697 | 515 | | | | 4.2 | 4.4 | <1.0 | <1.0 |
| MW-17A | 11/27/2006 | 893 | 711 | | | | 2.2 | 6.3 | 1.0 | <0.2 |
| MW-17A | 5/21/2007 | 1068 | 886 | | | | 4.7 | 5.3 | 1.0 | <0.2 |
| MW-17A | 11/29/2007 | 1260 | 1078 | | | | 4.2 | 4.3 | <1.0 | <1.0 |
| MW-17A | 5/19/2008 | 1432 | 1250 | | -98 | | 4.3 | 5.1 | 0.8 | <0.2 |
| MW-17A | 11/23/2008 | 1620 | 1438 | | 90 | | 4.2 | 5.2 | 1.2 | <1.0 |
| MW-17A | 05/19/2009 | 1797 | 1615 | | 267 | | 3.2 | 4.9 | 1.4 | <1.0 |
| MW-17A | 11/12/2009 | 1974 | 1792 | | 444 | | 3.7 | 4.5 | 1.1 | <1.0 |
| MW-17A | 5/20/2010 | 2163 | 1981 | | 633 | | 4.0 | 3.1 | <1.0 | <1.0 |
| MW-17A | 11/8/2010 | 2335 | 2153 | | 805 | | 2.3 | 4.8 | 2.3 | <1.0 |
| MW-17A | 5/3/2011 | 2511 | 2329 | | 981 | | 3.1 | 2.2 | 1.5 | <1.0 |
| MW-17A | 11/3/2011 | 2695 | 2513 | | 1165 | | 2.6 | 2.8 | 1.0 | <1.0 |
| MW-17A | 5/14/2012 | 2888 | 2706 | | 1358 | | 3.1 | 2.0 | 0.5 | <0.2 |
| MW-17A | 11/13/2012 | 3071 | 2889 | | 1541 | | 2.8 | 3.5 | 0.9 | <0.2 |
| MW-17A | 5/20/2013 | 3259 | 3077 | | 1729 | | 3.6 | 2.8 | 0.8 | <0.2 |
| MW-17A | 11/4/2014 | 3792 | 3610 | | 2262 | | 3.9 | 3.4 | 1.0 | <0.2 |
| MW-17A | 5/6/2014 | 3610 | 3428 | | 2080 | | 3.6 | 2.6 | 0.4 | <0.2 |
| MW-17A | 11/4/2014 | 3792 | 3610 | | 2262 | | 2.9 | 3.1 | 0.9 | <0.2 |

**SWMU-20 CLEANUP ACTION SUMMARY - NON SOURCE ZONE
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

| Well | Date | Elapsed Time from Injections (a) (days) | | | | | Volatile Organic Compounds | | | |
|--------|------------|---|---------------|-------------------|---------------|---------------|---|----------------------|-----------------------|---------------------|
| | | | | | | | Proposed Groundwater Cleanup Levels (c) | | | |
| | | 1st Injection | 2nd Injection | 3rd (b) Injection | 4th Injection | 5th Injection | 5.3 PCE (µg/L) | 1.4 TCE (µg/L) | 134 cDCE (µg/L) | 2.4 VC (µg/L) |
| MW-17A | 4/28/2015 | 3967 | 3785 | | 2437 | | 3.4 | 2.3 | 0.4 | <0.2 |
| MW-17A | 10/26/2015 | 4148 | 3966 | | 2618 | -16 | 3.4 | 2.6 | 1.1 | <0.2 |
| MW-17A | 4/19/2016 | 4324 | 4142 | | 2794 | 160 | <2.0 | <2.0 | 8 | <2.0 |
| MW-17A | 11/1/2016 | 4520 | 4338 | | 2990 | 356 | <2.0 | 0.4 | 8.2 | 0.8 |
| MW-17A | 5/3/2017 | 4703 | 4521 | | 3173 | 539 | <0.2 | <0.2 | 0.8 | 2.2 |
| MW-18A | 5/2/2004 | -46 | -228 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-18C | 5/2/2004 | -46 | | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-18C | 10/25/2004 | 130 | -52 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-18C | 5/12/2005 | 329 | 147 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-18C | 11/15/2005 | 516 | 334 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-18C | 5/17/2006 | 699 | 517 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-18C | 11/27/2006 | 893 | 711 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| MW-18C | 5/21/2007 | 1068 | 886 | | | | <0.2 | <0.2 | <0.2 | 0.2 |
| MW-18C | 11/28/2007 | 1259 | 1077 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-18C | 5/19/2008 | 1432 | 1250 | | -98 | | <0.2 | <0.2 | <0.2 | 0.2 |
| MW-18C | 11/23/2008 | 1620 | 1438 | | 90 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-18C | 05/19/2009 | 1797 | 1615 | | 267 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-18C | 11/17/2009 | 1979 | 1797 | | 449 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-19C | 5/2/2004 | -46 | | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-19C | 10/25/2004 | 130 | -52 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-19C | 5/12/2005 | 329 | 147 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-19C | 11/15/2005 | 516 | 334 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-19C | 5/17/2006 | 699 | 517 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-19C | 11/27/2006 | 893 | 711 | | | | <0.2 | <0.2 | 0.3 | <0.2 |
| MW-19C | 5/22/2007 | 1069 | 887 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-19C | 11/29/2007 | 1260 | 1078 | | | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-19C | 5/20/2008 | 1433 | 1251 | | -97 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-19C | 11/23/2008 | 1620 | 1438 | | 90 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-19C | 05/19/2009 | 1797 | 1615 | | 267 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-19C | 11/18/2009 | 1980 | 1798 | | 450 | | <1.0 | <1.0 | <1.0 | <1.0 |
| MW-20C | 5/3/2004 | -45 | | | | | <1.0 | <1.0 | 1.4 | 2.4 |
| MW-20C | 10/25/2004 | 130 | -52 | | | | <1.0 | <1.0 | 1.7 | 4.6 |
| MW-20C | 5/12/2005 | 329 | 147 | | | | <1.0 | <1.0 | 1.7 | 2.3 |
| MW-20C | 11/15/2005 | 516 | 334 | | | | <1.0 | <1.0 | 2.1 | 2.9 |
| MW-20C | 5/17/2006 | 699 | 517 | | | | <1.0 | <1.0 | 1.8 | 1.6 |
| MW-20C | 11/29/2006 | 895 | 713 | | | | <0.2 | 0.2 | 2.1 | 1.5 |
| MW-20C | 5/21/2007 | 1068 | 886 | | | | <0.2 | <0.2 | 1.6 | 1.8 |
| MW-20C | 11/29/2007 | 1260 | 1078 | | | | <1.0 | <1.0 | 1.6 | 1.3 |
| MW-20C | 5/20/2008 | 1433 | 1251 | | -97 | | <1.0 | <1.0 | 1.6 | 2.5 |
| MW-20C | 11/23/2008 | 1620 | 1438 | | 90 | | <1.0 | <1.0 | 1.5 | 2.7 |
| MW-20C | 05/19/2009 | 1797 | 1615 | | 267 | | <1.0 | <1.0 | 1.4 | 2.0 |
| MW-20C | 11/18/2009 | 1980 | 1798 | | 450 | | <1.0 | <1.0 | 1.7 | 2.3 |
| MW-20C | 5/20/2010 | 2163 | 1981 | | 633 | | <1.0 | <1.0 | 1.3 | 1.8 |
| MW-20C | 11/8/2010 | 2335 | 2153 | | 805 | | <1.0 | <1.0 | 1.4 | 1.4 |
| MW-20C | 5/4/2011 | 2512 | 2330 | | 982 | | <1.0 | <1.0 | 1.1 | 1.8 |
| MW-20C | 11/3/2011 | 2695 | 2513 | | 1165 | | <1.0 | <1.0 | 1.3 | 2.1 |
| MW-20C | 5/14/2012 | 2888 | 2706 | | 1358 | | <0.2 | <0.2 | 1.2 | 1.5 |
| MW-20C | 11/13/2012 | 3071 | 2889 | | 1541 | | <2.0 | <2.0 | <2.0 | <2.0 |
| MW-20C | 5/21/2013 | 3260 | 3078 | | 1730 | | <5.0 | <5.0 | <5.0 | <5.0 |
| MW-20C | 11/12/2013 | 3435 | 3253 | | 1905 | | <2.0 | <2.0 | <2.0 | <2.0 |

**SWMU-20 CLEANUP ACTION SUMMARY - NON SOURCE ZONE
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

| Well | Date | Elapsed Time from Injections (a) (days) | | | | | Volatile Organic Compounds | | | |
|--------|------------|---|---------------|-------------------|---------------|---------------|---|----------------------|-----------------------|---------------------|
| | | | | | | | Proposed Groundwater Cleanup Levels (c) | | | |
| | | 1st Injection | 2nd Injection | 3rd (b) Injection | 4th Injection | 5th Injection | 5.3 PCE (µg/L) | 1.4 TCE (µg/L) | 134 cDCE (µg/L) | 2.4 VC (µg/L) |
| MW-20C | 5/7/2014 | 3611 | 3429 | | 2081 | | <2.0 | <2.0 | <2.0 | <2.0 |
| MW-20C | 11/5/2014 | 3793 | 3611 | | 2263 | | <0.2 | <0.2 | 0.9 | 0.7 |
| MW-20C | 4/28/2015 | 3967 | 3785 | | 2437 | | <0.2 | <0.2 | 0.7 | 1.0 |
| MW-20C | 10/27/2015 | 4149 | 3967 | | 2619 | -15 | <0.2 | <0.2 | 1.0 | 0.9 |
| MW-20C | 4/19/2016 | 4324 | 4142 | | 2794 | 160 | <0.2 | 0.2 | 2.2 | 0.3 |
| MW-20C | 11/2/2016 | 4521 | 4339 | | 2991 | 357 | <0.2 | 0.2 | 0.6 | 0.5 |
| MW-20C | 5/2/2017 | 4702 | 4520 | | 3172 | 538 | <0.2 | <0.2 | 1.5 | 0.4 |

PCE = tetrachloroethene

TCE = trichloroethene

cDCE = cis-1,2-dichloroethene

VC = vinyl chloride

µg/L = micrograms per liter

Bold = detected compound

Box = Exceedance of proposed
cleanup level

(a) Injections occurred on:

6/17/04 (6A, B, C; 9A, B, C)

12/16-17/04 (6A, 6B;9A,9B)

3/17/05 (14A)

8/25-28/08 (6A, 9A, 10A)

10/27-11/11/15 (6A, 6B, 10C, 15C, 16A, 16C, 17A, 20C, 22A)

(b) Conducted at Well MW-14A only.

(c) Proposed Cleanup Standards and Comparison to Site Data, Boeing Developmental Center,
Tukwila, Washington (Landau Associates, 5/7/13).

DEVELOPMENTAL CENTER
GROUNDWATER MONITORING
MAY 2017

SWMU-17 VOA/METALS/CONVENTIONALS DATA TABLES

SWMU-17 CLEANUP ACTION SUMMARY

SWMU-17 REMEDIAL ACTION INJECTION AND MONITORING WELLS

**SWMU-17 VOA/METALS/CONVENTIONALS DATA
DEVELOPMENTAL CENTER GROUNDWATER MONITORING
FEBRUARY AND MAY 2017**

| Sample Name: | BDC-05-02 | BDC-05-02 | BDC-05-03 | BDC-05-04 | BDC-05-05 | BDC-05-07 | BDC-05-08 | BDC-05-09 | BDC-05-10 | BDC-05-11 | BDC-05-12 | BDC-05-12 | BDC-05-13 | BDC-05-14 | BDC-05-15 | BDC-05-16 | BDC-05-16 | BDC-05-17 | BDC-05-18 | BDC-05-18 | BDC-05-19 | BDC-05-19-Dup | BDC-05-19 |
|--|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|------------|-----------|-----------|------------|-----------|------------|---------------|-----------|
| LLI SDG: | 1763309 | 1798197 | 1798197 | 1796929 | 1796929 | 1798197 | 1798197 | 1798197 | 1798197 | 1798197 | 1764100 | 1798197 | 1798197 | 1798197 | 1798197 | 1764100 | 1798197 | 1798197 | 1763309 | 1796929 | 1764100 | 1764100 | 1798197 |
| LLI Sample ID: | 8825336 | 8979694 | 8979724 | 8973567 | 8973561 | 8979700 | 8979692 | 8979706 | 8979712 | 8979718 | 8828389 | 8979730 | 8979742 | 8979760 | 8979754 | 8828377 | 8979784 | 8979778 | 8825342 | 8973573 | 8828383 | 8828371 | 8979736 |
| Sample Date: | 02/07/2017 | 5/4/2017 | 5/4/2017 | 5/3/2017 | 5/3/2017 | 5/4/2017 | 5/4/2017 | 5/4/2017 | 5/4/2017 | 5/4/2017 | 02/08/2017 | 5/4/2017 | 5/4/2017 | 5/4/2017 | 5/4/2017 | 02/08/2017 | 5/4/2017 | 5/4/2017 | 02/07/2017 | 5/3/2017 | 02/08/2017 | 02/08/2017 | 5/4/2017 |
| Test ID: VOA SW8260C (µg/L) | | | | | | | | | | | | | | | | | | | | | | | |
| Vinyl Chloride | 0.5 | 0.4 | 0.2 U | 0.2 U | 0.2 U | 0.3 | 0.5 | 2.8 | 1.8 | 0.8 | 0.4 | 0.3 | 1.1 | 1 | 0.7 | 0.8 | 1.3 | 0.9 | 0.2 U | 0.2 U | 0.3 | 0.4 | 0.4 |
| cis-1,2-Dichloroethene | 0.5 | 0.4 | 0.2 U | 0.3 | 0.2 U | 0.2 | 0.2 U | 0.4 | 0.3 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.3 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 2.4 | 1.3 | 0.2 U | 0.2 U | 0.2 U |
| Trichloroethene | 1.6 | 2.0 | 0.3 | 0.4 | 0.7 | 0.3 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 3.4 | 4.6 | 0.2 U | 0.2 U | 0.2 U |
| Tetrachloroethene | 2.1 | 4.2 | 1.4 | 1.2 | 0.4 | 1.2 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 2.8 | 3.6 | 0.2 U | 0.2 U | 0.2 U |
| Test ID: Total Metals (mg/L) | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic (EPA 200.8) | 0.0042 | 0.0021 | 0.0027 | 0.0011 J | 0.00087 J | 0.00097 J | | 0.0059 | 0.0148 | 0.0182 | 0.0057 J | 0.0096 | 0.0271 | 0.0230 | 0.0480 | 0.0327 | 0.0291 | 0.0444 | 0.0112 | 0.0065 | 0.0228 J | 0.0185 J | 0.0204 |
| Copper (EPA 200.8) | 0.0021 | 0.0065 | 0.0027 | 0.0034 | 0.0028 | 0.0020 U | | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0030 | 0.0027 | 0.0020 U |
| Test ID: Dissolved Metals (mg/L) | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic (EPA 200.8) | 0.0018 J | 0.0013 J | 0.00040 U | 0.00071 J | 0.00040 U | 0.00040 U | | 0.0063 | 0.0136 | 0.0180 | 0.0071 J | 0.0091 | 0.0271 | 0.0207 | 0.0489 | 0.0322 | 0.0269 | 0.0368 | 0.0029 | 0.0017 J | 0.0107 | 0.0119 | 0.0132 |
| Copper (EPA 200.8) | 0.0020 U | 0.0044 | 0.0020 U | 0.0029 | 0.0020 U | 0.0020 U | | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U |
| Test ID: Conventional (mg/L) | | | | | | | | | | | | | | | | | | | | | | | |
| Sulfate (EPA 300.0) | 18.8 | 23.2 | 7.2 | 12.0 | 21.3 | 3.3 | 0.41 J | 4.3 | 1.7 | 0.30 U | 0.30 U | 0.30 U | 0.30 U | 3.8 | 0.41 J | 0.30 U | 0.30 U | 0.30 U | 5.3 | 8.1 | 0.32 J | 0.33 J | 0.43 J |
| Total Organic Carbon (SM5310C) | 10.7 | 15.6 | 2.8 | 3.3 | 1.9 | 3.6 | 5.7 | 4.3 | 6.0 | 9.2 | 8.6 | 8.1 | 11.6 | 21.8 | 23.9 | 17.7 | 17.0 | 19.2 | 1.8 | 1.7 | 12.1 | 12.2 | 11.6 |
| Test ID: Dissolved Gases; Mod RSK-175 (µg/L) | | | | | | | | | | | | | | | | | | | | | | | |
| Methane | 9,600 | 5,000 | 3.0 U | | | 3,100 | | 5,300 | 4,000 | 9,000 | 12,000 | 11,000 | 14,000 | 12,000 | 10,000 | 10,000 | 9,100 | 11,000 | 720 | 95 | 16,000 | 16,000 | 13,000 |
| Ethane | 5.4 | 3.6 J | 1.0 U | | | 1.0 U | | 9.0 | 15 | 6.8 | 1.9 J | 2.4 J | 12 | 8.9 | 17 | 6.7 | 12 | 13 | 1.0 U | 1.0 U | 3.2 J | 3.4 J | 2.3 J |
| Ethene | 1.2 J | 1.0 U | 1.0 U | | | 1.0 U | | 1.0 J | 1.0 J | 2.5 J | 1.0 U | 1.0 U | 1.4 J | 2.0 U | 1.0 U | 1.0 U | 1.6 J | 2.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Acetylene | 1.0 U | 1.0 U | 1.0 U | | | 1.0 U | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |

**SWMU-17 VOA/METALS/CONVENTIONALS DATA
DEVELOPMENTAL CENTER GROUNDWATER MONITORING
FEBRUARY AND MAY 2017**

| Sample Name: | BDC-05-20 | BDC-05-20 | BDC-05-21 | BDC-05-21 | BDC-05-21-Dup | BDC-05-22 | BDC-05-22 | BDC-05-23 | BDC-05-23 | BDC-05-24 | BDC-05-24 | Trip Blank | Trip Blank | Trip Blank | Trip Blank |
|--|------------|-----------|------------|-----------|---------------|------------|-----------|------------|-----------|------------|-----------|------------|------------|------------|------------|
| LLI SDG: | 1764100 | 1798197 | 1763309 | 1796929 | 1796929 | 1764100 | 1798197 | 1763309 | 1796929 | 1764100 | 1798197 | 1763309 | 1764100 | 1796929 | 1798197 |
| LLI Sample ID: | 8828365 | 8979772 | 8825348 | 8973579 | 8973591 | 8828359 | 8979766 | 8825354 | 8973585 | 8828395 | 8979748 | 8825360 | 8828401 | 8973597 | 8979790 |
| Sample Date: | 02/08/2017 | 5/4/2017 | 02/07/2017 | 5/3/2017 | 5/3/2017 | 02/08/2017 | 5/4/2017 | 02/07/2017 | 5/3/2017 | 02/08/2017 | 5/4/2017 | 02/07/2017 | 02/08/2017 | 5/3/2017 | 5/4/2017 |
| Test ID: VOA SW8260C (µg/L) | | | | | | | | | | | | | | | |
| Vinyl Chloride | 1.8 | 1.2 | 1.4 | 2.0 | 1.9 | 0.2 U | 0.2 U | 1.3 | 0.5 | 2.1 | 0.5 | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| cis-1,2-Dichloroethene | 0.2 U | 0.2 U | 0.5 | 0.7 | 0.7 | 8.4 | 9.4 | 2.1 | 2.0 | 1.3 | 0.4 | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| Trichloroethene | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.3 | 0.6 | 0.2 U | 0.2 U | 0.3 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| Tetrachloroethene | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| Test ID: Total Metals (mg/L) | | | | | | | | | | | | | | | |
| Arsenic (EPA 200.8) | 0.0290 | 0.0271 | 0.0066 | 0.0089 | 0.0089 | 0.0259 | 0.0280 | 0.0157 | 0.0260 | 0.0027 | 0.0038 | | | | |
| Copper (EPA 200.8) | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | | | | |
| Test ID: Dissolved Metals (mg/L) | | | | | | | | | | | | | | | |
| Arsenic (EPA 200.8) | 0.0299 | 0.0264 | 0.0062 | 0.0090 | 0.0088 | 0.0260 | 0.0298 | 0.0158 | 0.0256 | 0.0020 J | 0.0027 | | | | |
| Copper (EPA 200.8) | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0020 U | 0.0042 J | 0.0020 U | | | | |
| Test ID: Conventional (mg/L) | | | | | | | | | | | | | | | |
| Sulfate (EPA 300.0) | 0.30 U | 1.2 | 0.30 U | 0.64 J | 0.65 J | 0.34 J | 6.6 | 2.2 | 10.9 | 1.8 | 1.5 | | | | |
| Total Organic Carbon (SM5310C) | 13.0 | 12.9 | 9.3 | 9.1 | 9.2 | 5.9 | 6.0 | 7.1 | 7.2 | 4.0 | 4.8 | | | | |
| Test ID: Dissolved Gases; Mod RSK-175 (µg/L) | | | | | | | | | | | | | | | |
| Methane | 7,100 | 4,300 | 9,100 | 3,400 J | 4,900 J | | | | | 5,900 | 5,900 | | | | |
| Ethane | 2.8 J | 4.3 J | 1.6 J | 1.3 J | 1.3 J | | | | | 3.2 J | 3.7 J | | | | |
| Ethene | 5.2 | 2.3 J | 1.0 U | 2.8 J | 2.8 J | | | | | 2.7 J | 1.0 U | | | | |
| Acetylene | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | | | | | 1.0 U | 1.0 U | | | | |

µg/L = micrograms per liter
 mg/L = milligrams per liter
 EPA = US Environmental Protection Agency

U = Compound was analyzed for, but was not detected at the given detection limit.
 J = Analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

**Groundwater Data Summary
Boeing Developmental Center
SWMU-17**

| | | Pilot Injection Elapsed Time From Injection (days) | Full Injection #1 Elapsed Time From Injection (days) | Volatile Organic Compounds | | | | | | Metals | | | | Aquifer Redox Conditions | | | | | Donor Indicators | | VOCs- micromoles/Liter (b) | | | | | | | Molar Fraction (c) | | | | | | | | | | |
|--|-----------|---|---|----------------------------|---------------|-----------------|--------------|------------------|------------------|---------------------|-------------------|-------------------|-------------------|--------------------------|--------------|---------------------|-------------------|-------------------|-------------------|-------------|----------------------------|----|----------|------|------|-------|------|--------------------|--------|----------------------------|--------------------|------|------|-------|------|-----------------|--|--|
| Well | Date | | | PCE (µg/L) | TCE (µg/L) | c DCE (µg/L) | VC (µg/L) | Ethene (µg/L) | Ethane (µg/L) | Acetylene (µg/L) | As, Tot (mg/L) | As, Dis (mg/L) | Cu, Tot (mg/L) | Cu, Dis (mg/L) | DO (mg/L) | Nitrate (mg-N/L) | Iron II (mg/L) | Sulfate (mg/L) | Methane (mg/L) | ORP (mV) | TOC (mg/L) | pH | Comments | PCE | TCE | c DCE | VC | Ethene | Ethane | Total Chloroethenes (d) | Ethene + Ethane | PCE | TCE | c DCE | VC | Ethene + Ethane | | |
| Proposed Groundwater Cleanup Levels (a) | | | 5.3 | 1.4 | 134 | 2.4 | NA | NA | NA | 0.008 | 0.008 | 0.008 | 0.008 | | | | | | | | | | | | | | | | | | | | | | | | | |
| BDC-05-13 (IW) | 7/31/2011 | -18 | 5.2 | 6.6 | 2.6 | <1.0 | <1.1 | <1.2 | <1.1 | 0.003 | 0.002 | 0.002 | <0.002 | 1.73 | <0.1 | 2.0 | 2.3 | 5.0 | -1 | 6.0 | 7.06 | | 0.03 | 0.05 | 0.03 | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 | 0.29 | 0.46 | 0.25 | 0.00 | 0.00 | | | |

Groundwater Data Summary
Boeing Developmental Center
SWMU-17

| Well | Date | Pilot Injection Elapsed Time (days) | Full Injection #1 Elapsed Time (days) | Volatile Organic Compounds | | | | | | Metals | | | | Aquifer Redox Conditions | | | | | Donor Indicators | | Comments | VOCs- micromoles/Liter (b) | | | | | | | | Molar Fraction (c) | | | | | | | |
|----------------|-----------|-------------------------------------|---------------------------------------|----------------------------|------------|-------------|-----------|---------------|---------------|------------------|----------------|----------------|----------------|--------------------------|-----------|------------------|----------------|----------------|------------------|----------|----------|----------------------------|------|-----|------|------|------|--------|--------|-------------------------|-----------------|------|------|------|------|-----------------|------|
| | | | | PCE (µg/L) | TCE (µg/L) | cDCE (µg/L) | VC (µg/L) | Ethene (µg/L) | Ethane (µg/L) | Acetylene (µg/L) | As, Tot (mg/L) | As, Dis (mg/L) | Cu, Tot (mg/L) | Cu, Dis (mg/L) | DO (mg/L) | Nitrate (mg-N/L) | Iron II (mg/L) | Sulfate (mg/L) | Methane (mg/L) | ORP (mV) | | TOC (mg/L) | pH | PCE | TCE | cDCE | VC | Ethene | Ethane | Total Chloroethenes (d) | Ethene + Ethane | PCE | TCE | cDCE | VC | Ethene + Ethane | |
| | | | | 5.3 | 1.4 | 134 | 2.4 | NA | NA | NA | 0.008 | 0.008 | 0.008 | 0.008 | | | | | | | | | | | | | | | | | | | | | | | |
| BDC-05-17 (IW) | 7/31/2011 | | -18 | 11 | 22 | 34 | <1.0 | <1.1 | <1.2 | <1.1 | | 0.004 | 0.004 | 0.003 | 0.002 | 2.03 | 0.6 | 1.5 | 16.0 | 0.30 | 59 | 10.2 | 6.95 | | 0.07 | 0.17 | 0.35 | 0.00 | 0.00 | 0.00 | 0.58 | 0.00 | 0.11 | 0.29 | 0.60 | 0.00 | 0.00 |

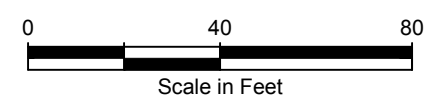
LANDAU ASSOCIATES, INC. | G:\Projects\025087016014\Semianual GW Report June 2016\Figure 7.dwg (A) "Figure 7" 6/14/2016



- Legend**
- New Monitoring Well (July 2011)
 - Existing Monitoring Well
 - New Injection Wells (July 2011)
 - Existing Injection Wells
 - Abandoned Monitoring Well
 - Catch Basin
 - Manhole
 - ss — ss — Sanitary Sewer Utility
 - sd — sd — Storm Drain Utility
 - e — e — Electrical Utility
 - v — v — Water Utility
 - x — x — Existing Fence
 - 20 — Baseline Concentration Contours for PCE and/or TCE (µg/L)
 - ← Groundwater Flow Direction
 - SWMU-17 Solid Waste Management Unit

Note

- Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.



Boeing Developmental Center
Tukwila, Washington

**Injection and Monitoring Well
Baseline Concentrations**

Figure
7



***DEVELOPMENTAL CENTER
GROUNDWATER MONITORING
MAY 2017***

AOC-05 DATA

- **AOC-05 Cleanup Action Summary**
- **AOC-05 Downgradient Monitoring**
- **AOC-05 TPH-G, BTEX, and Nitrate Concentration Trend Charts (June 2001 through Present)**
- **Site Plan**

AOC-05 CLEANUP ACTION SUMMARY
DEVELOPMENTAL CENTER GROUNDWATER MONITORING

Table with columns for Injection types (ORC, Pilot, Full Scale 1-11), Elapsed Time, Volatile Organic Compounds (TPH-G, Benzene, Toluene, Ethylbenzene, m,p-Xylene, o-Xylene, Total Xylenes), Aquifer Redox Conditions (DO, Nitrate, Nitrite, Iron II, Sulfate, Methane, ORP), Donor Indicators (TOC, pH), and Comments. Rows represent monitoring data for well BDC-101 from 6/11/2001 to 5/3/2017.

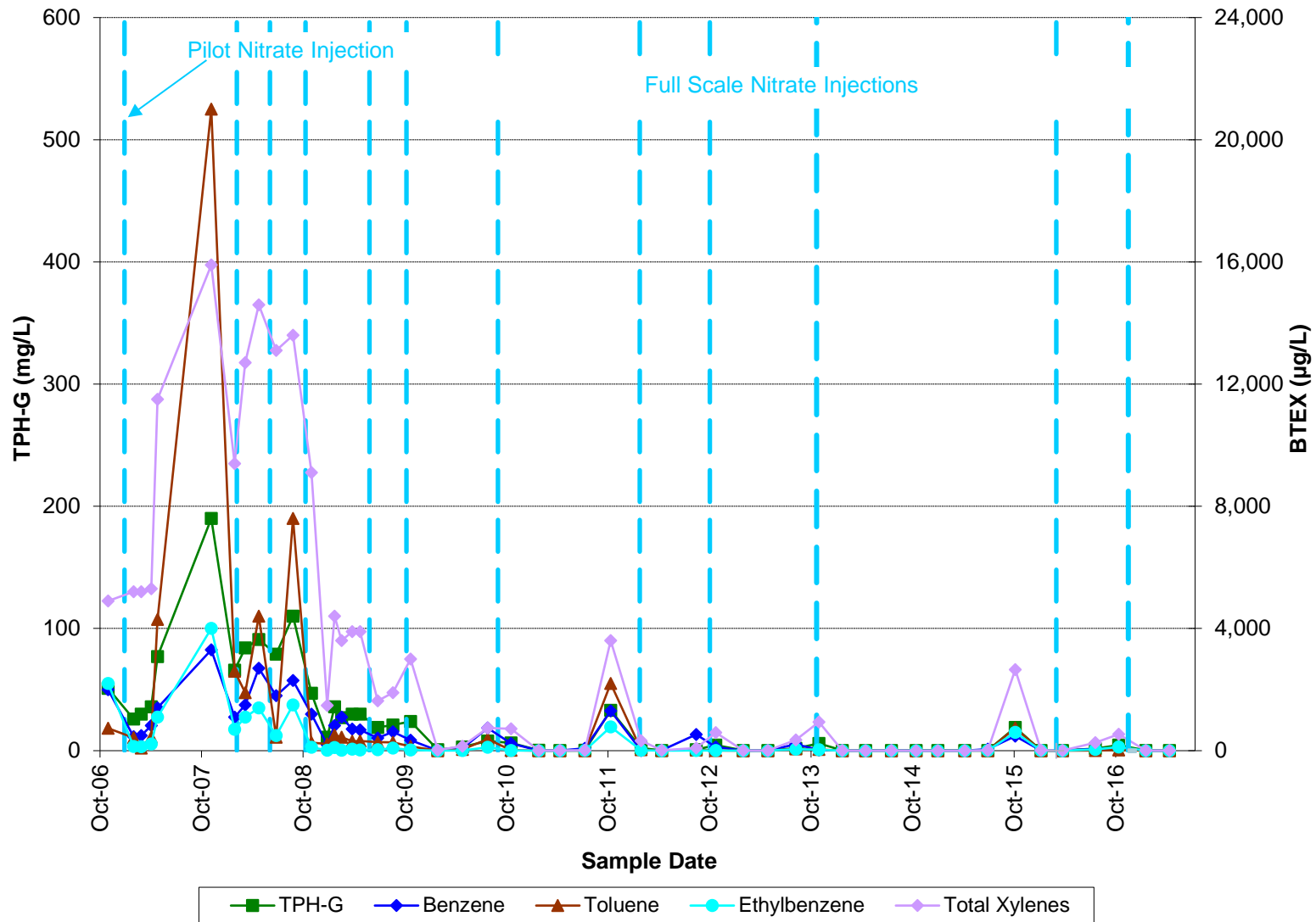
**NITRATE CONCENTRATIONS AT DOWNGRAIDENT MONITORING LOCATIONS
AOC-05 ANAEROBIC BIOREMEDIATION REMEDIAL ACTION
BOEING DEVELOPMENTAL CENTER**

| Area | Well | Date | | Aquifer Redox Conditions | | | | | |
|---------|-----------|------------|-----------------------------------|--------------------------|------------------|----------------|----------------|----------------|----------|
| | | | | DO (mg/L) | Nitrate (mg-N/L) | Iron II (mg/L) | Sulfate (mg/L) | Methane (mg/L) | ORP (mV) |
| SWMU-17 | BDC-05-04 | 5/15/2006 | Natural Redox Baseline | | 12.3 | 2.6 | 33.4 | | |
| SWMU-17 | BDC-05-04 | 10/23/2008 | | 2.45 | 7.6 | 0.1 | 31.0 | 0.29 | 73.5 |
| SWMU-17 | BDC-05-04 | 11/2/2008 | | 0.59 | 4.5 | 0.8 | 25.2 | 0.05 | -16 |
| SWMU-17 | BDC-05-04 | 12/16/2008 | | 0.55 | 5.5 | 1.0 | 30.4 | 1.61 | -98 |
| SWMU-17 | BDC-05-04 | 1/16/2009 | | 0.06 | 4.3 | 1.0 | 21.8 | 1.48 | -192 |
| SWMU-17 | BDC-05-04 | 2/11/2009 | | 2.45 | 5.9 | 1.0 | 31.8 | 1.06 | -54 |
| SWMU-17 | BDC-05-04 | 3/9/2009 | | 0.27 | 4.8 | 1.5 | 30.1 | 0.20 | 35 |
| SWMU-17 | BDC-05-04 | 4/16/2009 | | 1.48 | 5.9 | 1.4 | 33.6 | <0.0007 | 68 |
| SWMU-17 | BDC-05-04 | 5/13/2009 | | 0.33 | 4.5 | 1.6 | 26.6 | 0.37 | 49 |
| SWMU-17 | BDC-05-04 | 8/16/2009 | | 0.86 | 5.4 | 2.2 | 30.6 | <0.0007 | 93 |
| SWMU-17 | BDC-05-04 | 11/13/2009 | Downgradient Monitoring Triggered | 0.56 | 2.2 | 3.0 | 18.4 | 2.44 | 109 |
| SWMU-17 | BDC-05-04 | 2/16/2010 | | 0.88 | <0.1 | 3.3 | 24.6 | 1.49 | 899 |
| SWMU-17 | BDC-05-04 | 5/18/2010 | | 0.75 | <0.1 | 3.0 | 25.4 | 1.32 | 473 |
| SWMU-17 | BDC-05-04 | 8/17/2010 | | 1.00 | <0.1 | 2.8 | 17.1 | 3.53 | 108 |
| SWMU-17 | BDC-05-04 | 11/9/2010 | | 2.21 | <0.1 | 2.2 | 21.3 | 3.00 | 101 |
| SWMU-17 | BDC-05-04 | 2/15/2011 | | 2.50 | <0.1 | 2.4 | 19.4 | 4.46 | 93 |
| SWMU-17 | BDC-05-04 | 5/2/2011 | | 1.69 | <0.1 | 2.2 | 18.0 | 1.75 | 49 |
| SWMU-17 | BDC-05-04 | 11/2/2011 | | 1.52 | <1.0 | 1.2 | <1.0 | | -3 |
| SWMU-17 | BDC-05-04 | 5/7/2012 | | 0.16 | | 2.0 | 21.5 | | 98 |
| SWMU-17 | BDC-05-04 | 9/4/2012 | | 0.21 | <0.10 | | 16.6 | | 96 |
| SWMU-17 | BDC-05-04 | 11/13/2012 | | 0.03 | <0.10 | 1.8 | 16.9 | | 64 |
| SWMU-17 | BDC-05-04 | 5/23/2013 | | 0.49 | | 1.5 | 13.7 | | -310 |
| SWMU-17 | BDC-05-04 | 11/19/2013 | | 2.56 | <0.10 | 1.0 | 13.2 | | -259 |
| SWMU-17 | BDC-05-04 | 5/6/2014 | | 3.49 | 0.40 | | 14.4 | | -299 |
| SWMU-17 | BDC-05-04 | 11/4/2014 | | 0.05 | <0.10 | 1.6 | <1.0 | | -126 |
| SWMU-17 | BDC-05-04 | 4/28/2015 | | 0.11 | 5.0 | 0.4 | 13.5 | | 74 |
| SWMU-17 | BDC-05-04 | 10/26/2015 | | 0.08 | <0.10 | 1.5 | <1.0 | | -101 |
| SWMU-17 | BDC-05-04 | 4/13/2016 | | 0.57 | 5.5 | | 13.9 | | 46 |
| SWMU-17 | BDC-05-04 | 11/2/2016 | | 0.39 | <0.10 | | 0.75 | | -140.5 |
| SWMU-17 | BDC-05-04 | 5/3/2017 | | 0.42 | 8.8 | 0.6 | 12.0 | | 73.8 |
| SWMU-20 | MW-17A | 05/15/2006 | Natural Redox Baseline | | 1.37 | 0.0 | 27.0 | | |
| SWMU-20 | MW-17A | 11/12/2009 | Downgradient Monitoring Triggered | | 0.9 | | | | |
| SWMU-20 | MW-17A | 5/17/2010 | | | 1.6 | 0.2 | 21.0 | | |
| SWMU-20 | MW-17A | 11/8/2010 | | | 0.1 | 2.1 | 15.7 | | |
| SWMU-20 | MW-17A | 5/3/2011 | | | 1.6 | 0.0 | 19.8 | | |
| SWMU-20 | MW-17A | 8/1/2011 | | | 0.5 | 0.0 | 20.5 | | |
| SWMU-20 | MW-17A | 11/1/2011 | | | 0.3 | 0.0 | 23.2 | | |
| SWMU-20 | MW-17A | 5/3/2012 | | | 4.4 | 0.0 | | | |
| SWMU-20 | MW-17A | 9/4/2012 | | | 2.0 | | 26.8 | | |
| SWMU-20 | MW-17A | 11/13/2012 | | | 0.59 | 0.0 | 22.9 | | |
| SWMU-20 | MW-17A | 5/20/2013 | | | 2.9 | | 26.8 | | |
| SWMU-20 | MW-17A | 11/19/2013 | | | 1.3 | 0.4 | 23.9 | | |
| SWMU-20 | MW-17A | 5/6/2014 | | | 2.2 | 0.0 | 23.7 | | |
| SWMU-20 | MW-17A | 11/4/2014 | | | 0.16 | 0.4 | 26.0 | | |
| SWMU-20 | MW-17A | 4/28/2015 | | | 1.6 | 0.0 | 26.3 | | |
| SWMU-20 | MW-17A | 10/26/2015 | | 0.17 | 0.91 | 0.0 | 29.0 | | -11.1 |
| SWMU-20 | MW-17A | 4/13/2016 | | 0.31 | 1.7 | 1.8 | 0.90 | | -175 |
| SWMU-20 | MW-17A | 11/1/2016 | | 0.41 | <0.10 | 1.4 | | | -215.9 |
| SWMU-20 | MW-17A | 5/3/2017 | | 0.62 | <0.10 | 2.2 | | | -225 |
| SWMU-20 | MW-18A | 05/15/2006 | Natural Redox Baseline | | 0.154 | 0.4 | 64.8 | | |
| SWMU-20 | MW-18A | 11/12/2009 | Downgradient Monitoring Triggered | | 0.8 | | | | |
| SWMU-20 | MW-18A | 05/17/2010 | | | 1.0 | 0.4 | 32.2 | | |
| SWMU-20 | MW-18A | 11/08/2010 | | | 0.1 | 0.0 | 14.2 | | |
| SWMU-20 | MW-18A | 5/3/2011 | | | <0.1 | 0.0 | 31.5 | | |
| SWMU-20 | MW-18A | 8/1/2011 | | | 1.1 | 0.0 | 42.2 | | |
| SWMU-20 | MW-18A | 11/1/2011 | | | 0.7 | 0.0 | 93.3 | | |
| SWMU-20 | MW-18A | 5/3/2012 | | | <0.10 | 0.0 | | | |
| SWMU-20 | MW-18A | 9/4/2012 | | | <0.10 | | 19.5 | | |
| SWMU-20 | MW-18A | 11/13/2012 | | | <0.10 | 0.0 | 21.5 | | |
| SWMU-20 | MW-18A | 5/20/2013 | | | <0.10 | | 19.6 | | |
| SWMU-20 | MW-18A | 11/19/2013 | | | <0.10 | 0.6 | 15.0 | | |
| SWMU-20 | MW-18A | 5/6/2014 | | | <0.10 | 0.0 | 26.1 | | |
| SWMU-20 | MW-18A | 11/4/2014 | | | <0.10 | 0.4 | 21.0 | | |
| SWMU-20 | MW-18A | 4/28/2015 | | | 0.11 | 0.0 | 19.1 | | |
| SWMU-20 | MW-18A | 10/26/2015 | | 0.10 | <0.10 | 0.6 | 23.4 | | -7.1 |
| SWMU-20 | MW-18A | 4/13/2016 | | 0.76 | 0.10 | 0.0 | 42.8 | | 38 |
| SWMU-20 | MW-18A | 11/1/2016 | | 0.26 | <0.10 | 0.4 | | | -8.5 |
| SWMU-20 | MW-18A | 5/3/2017 | | 1.22 | 0.26 | 0.0 | | | 63.7 |

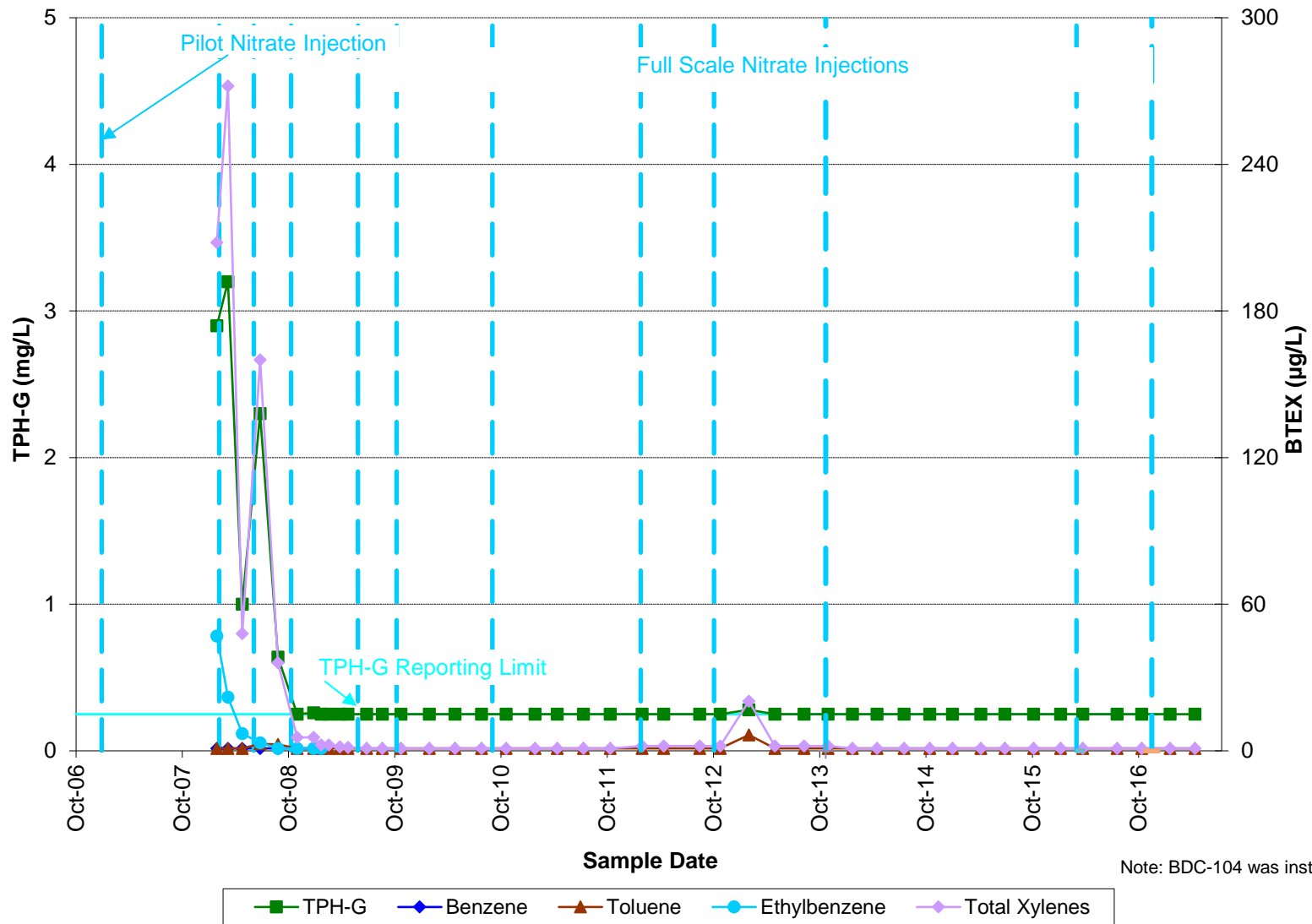
**NITRATE CONCENTRATIONS AT DOWNGRADIENT MONITORING LOCATIONS
AOC-05 ANAEROBIC BIOREMEDIATION REMEDIAL ACTION
BOEING DEVELOPMENTAL CENTER**

| Area | Well | Date | | Aquifer Redox Conditions | | | | | |
|---|--------|------------|-----------------------------------|--------------------------|---------------------|-------------------|-------------------|-------------------|-------------|
| | | | | DO (mg/L) | Nitrate (mg-N/L) | Iron II (mg/L) | Sulfate (mg/L) | Methane (mg/L) | ORP (mV) |
| SWMU-20 | MW-21A | 05/15/2006 | Natural Redox Baseline | | 0.136 | 0.4 | 54.9 | | |
| SWMU-20 | MW-21A | 11/12/2009 | Downgradient Monitoring Triggered | | <0.1 | | | | |
| SWMU-20 | MW-21A | 05/17/2010 | | | 0.2 | 0.0 | 11.9 | | |
| SWMU-20 | MW-21A | 11/08/2010 | | | <0.1 | 0.0 | 5.9 | | |
| SWMU-20 | MW-21A | 5/3/2011 | | | 0.2 | 0.0 | 52.1 | | |
| SWMU-20 | MW-21A | 8/1/2011 | | | 0.1 | 0.0 | 26.7 | | |
| SWMU-20 | MW-21A | 11/1/2011 | | | <0.1 | 0.0 | 9.3 | | |
| SWMU-20 | MW-21A | 5/3/2012 | | | 0.17 | 0.0 | | | |
| SWMU-20 | MW-21A | 9/4/2012 | | | <0.10 | | 6.7 | | |
| SWMU-20 | MW-21A | 11/13/2012 | | | 0.16 | 0.0 | 18.5 | | |
| SWMU-20 | MW-21A | 5/20/2013 | | | 0.10 | 0.5 | 13.5 | | |
| SWMU-20 | MW-21A | 11/19/2013 | | | <0.10 | 0.0 | 15.6 | | |
| SWMU-20 | MW-21A | 5/6/2014 | | | <0.10 | 0.0 | 7.6 | | |
| SWMU-20 | MW-21A | 11/4/2014 | | | <0.10 | 0.0 | 5.1 | | |
| SWMU-20 | MW-21A | 4/28/2015 | | | <0.10 | 0.0 | 5.3 | | |
| SWMU-20 | MW-21A | 10/26/2015 | | 0.33 | 0.11 | 0.0 | 3.9 | | 10.3 |
| SWMU-20 | MW-21A | 4/13/2016 | | 2.08 | <0.10 | 0.0 | 4.9 | | 56 |
| SWMU-20 | MW-21A | 11/1/2016 | | 1.71 | 0.10 | 0.2 | | | 78 |
| SWMU-20 | MW-21A | 5/3/2017 | | 3.41 | 0.19 | 0.0 | | | 99.8 |
| DO = dissolved oxygen | | | | | | | | | |
| mg/L = milligrams per liter | | | | | | | | | |
| mg-N/L = milligrams nitrogen per liter | | | | | | | | | |
| mV = millivolt | | | | | | | | | |
| ORP = oxidation reduction potential | | | | | | | | | |
| Nitrate column bolded for emphasis of target compound. Other results included for aquifer redox evaluation. | | | | | | | | | |
| = not analyzed | | | | | | | | | |

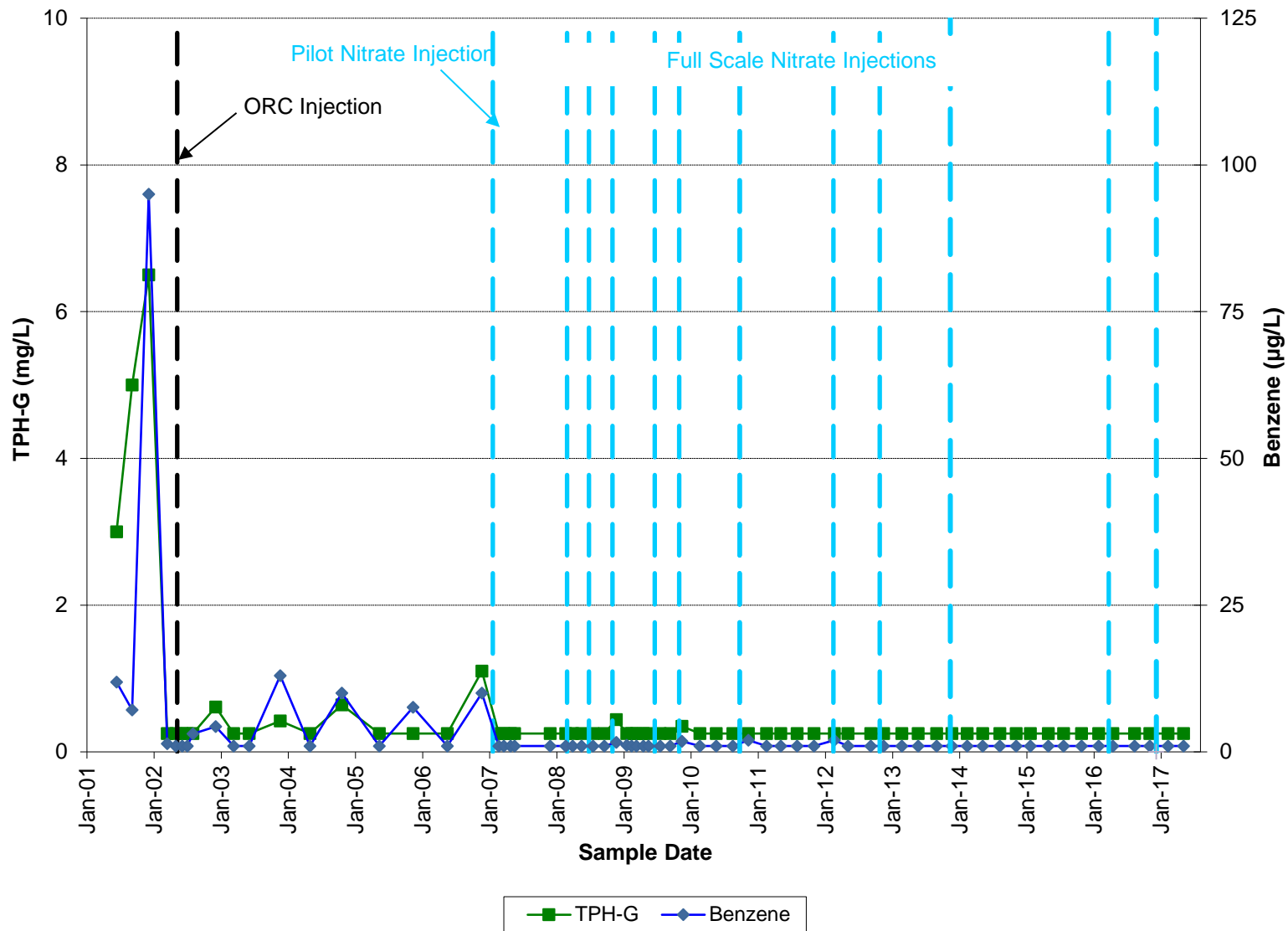
BDC-103 TPH-G and BTEX Concentrations Beginning with 2007 Pilot Testing



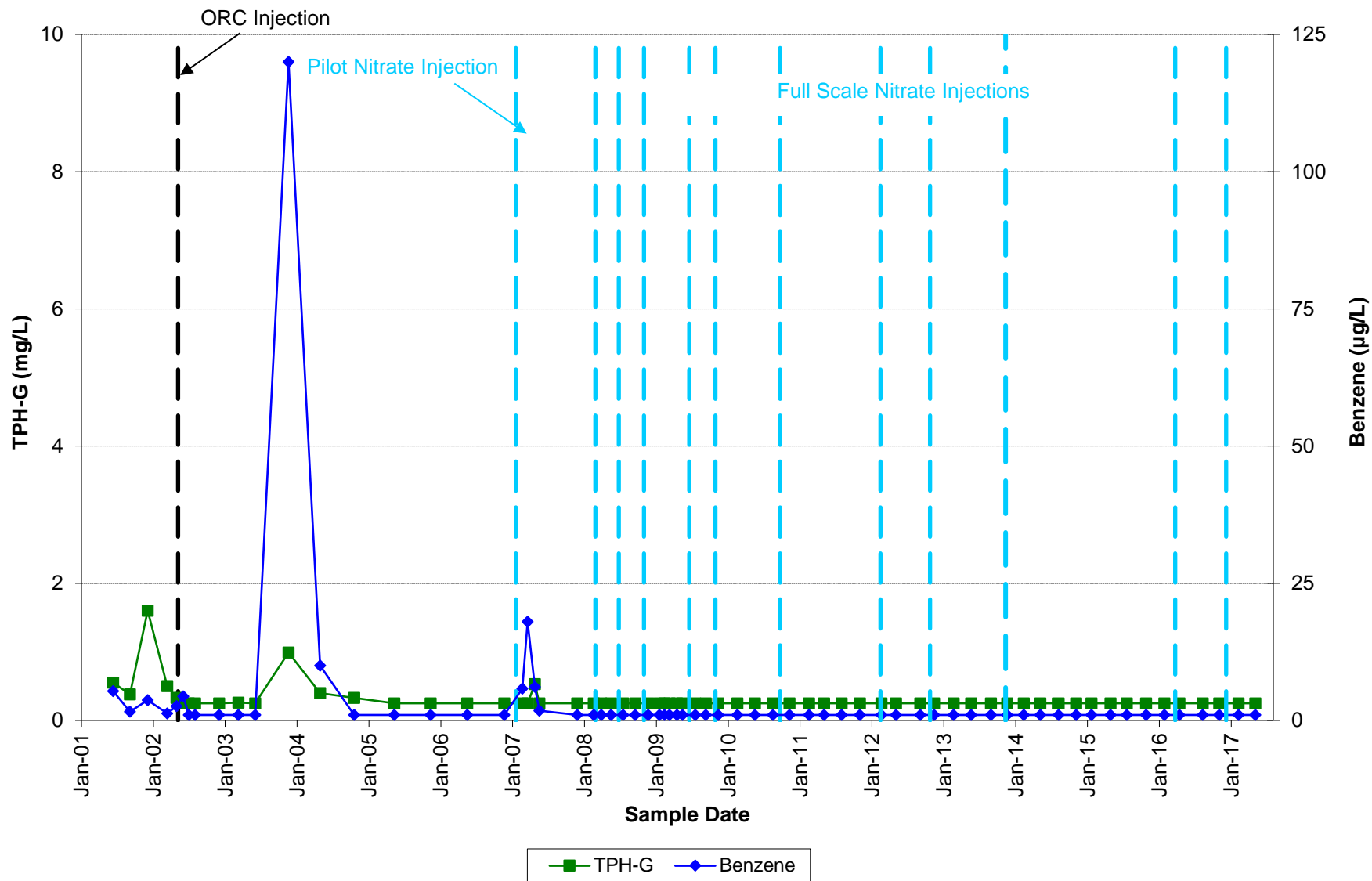
BDC-104 TPH-G and BTEX Concentrations Beginning with 2007 Pilot Testing



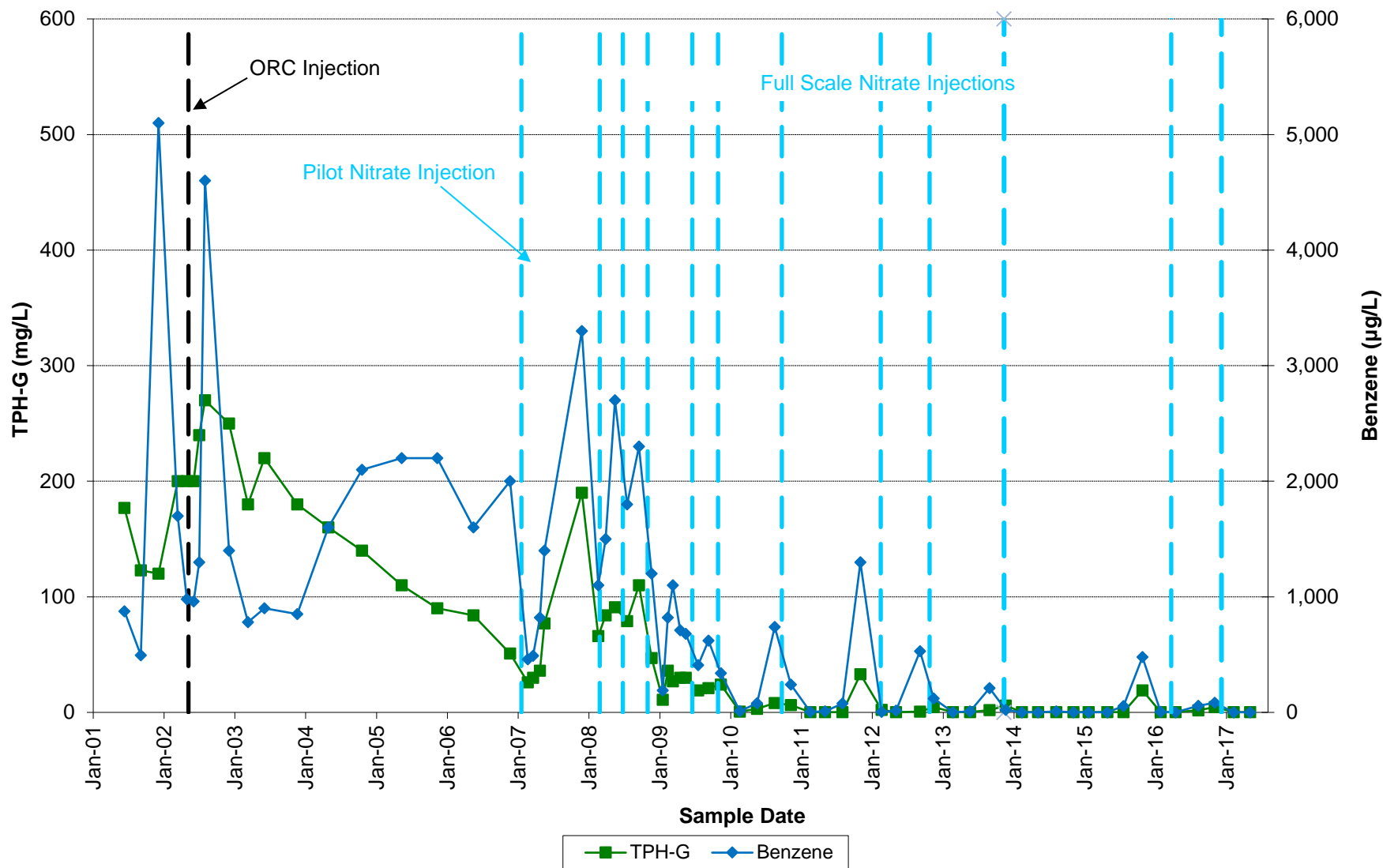
BDC-101 TPH-G and Benzene Concentrations Since 2001



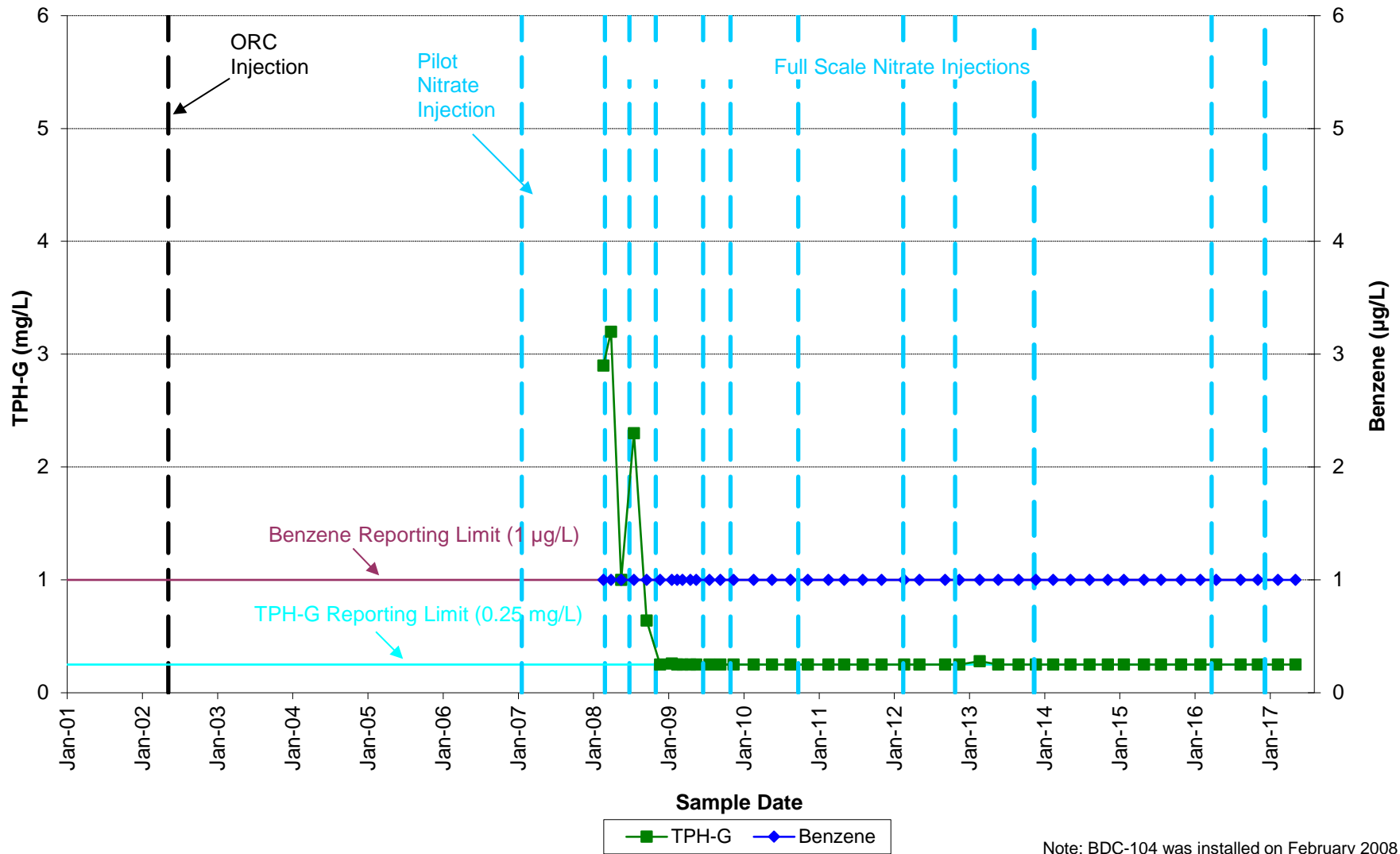
BDC-102 TPH-G and Benzene Concentrations Since 2001



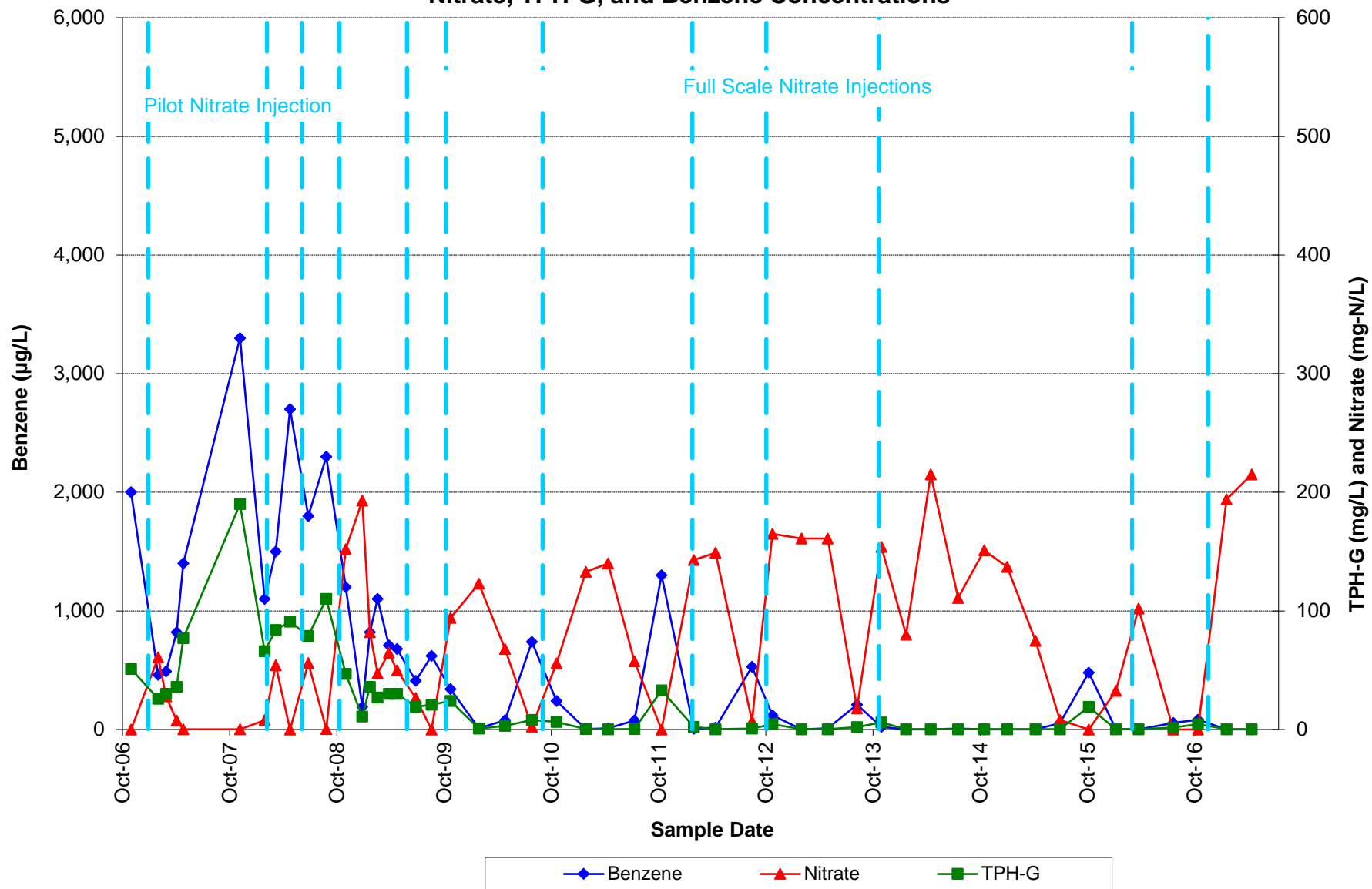
BDC-103 TPH-G and Benzene Concentrations Since 2001



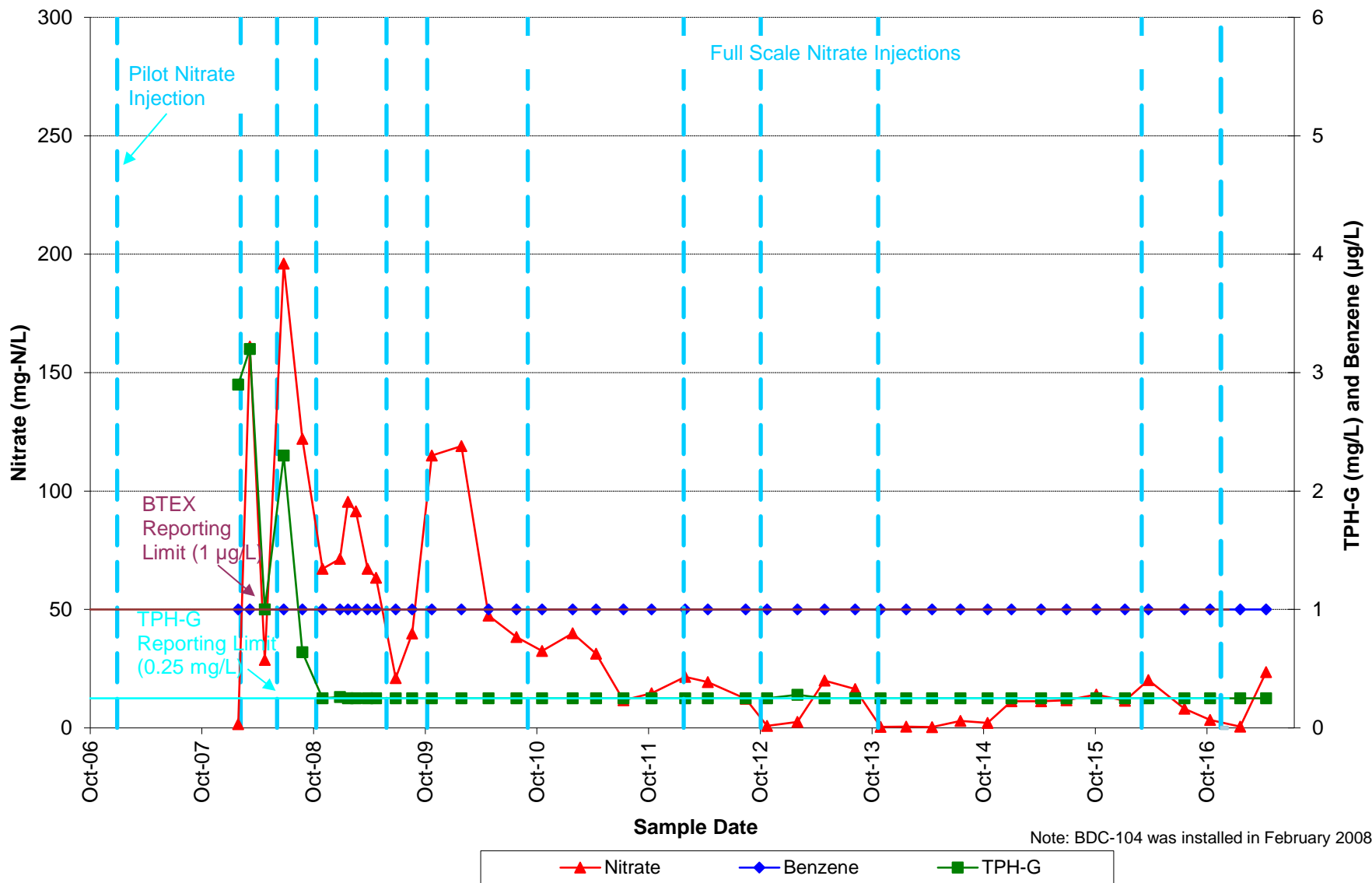
BDC-104 TPH-G and Benzene Concentrations Since 2001



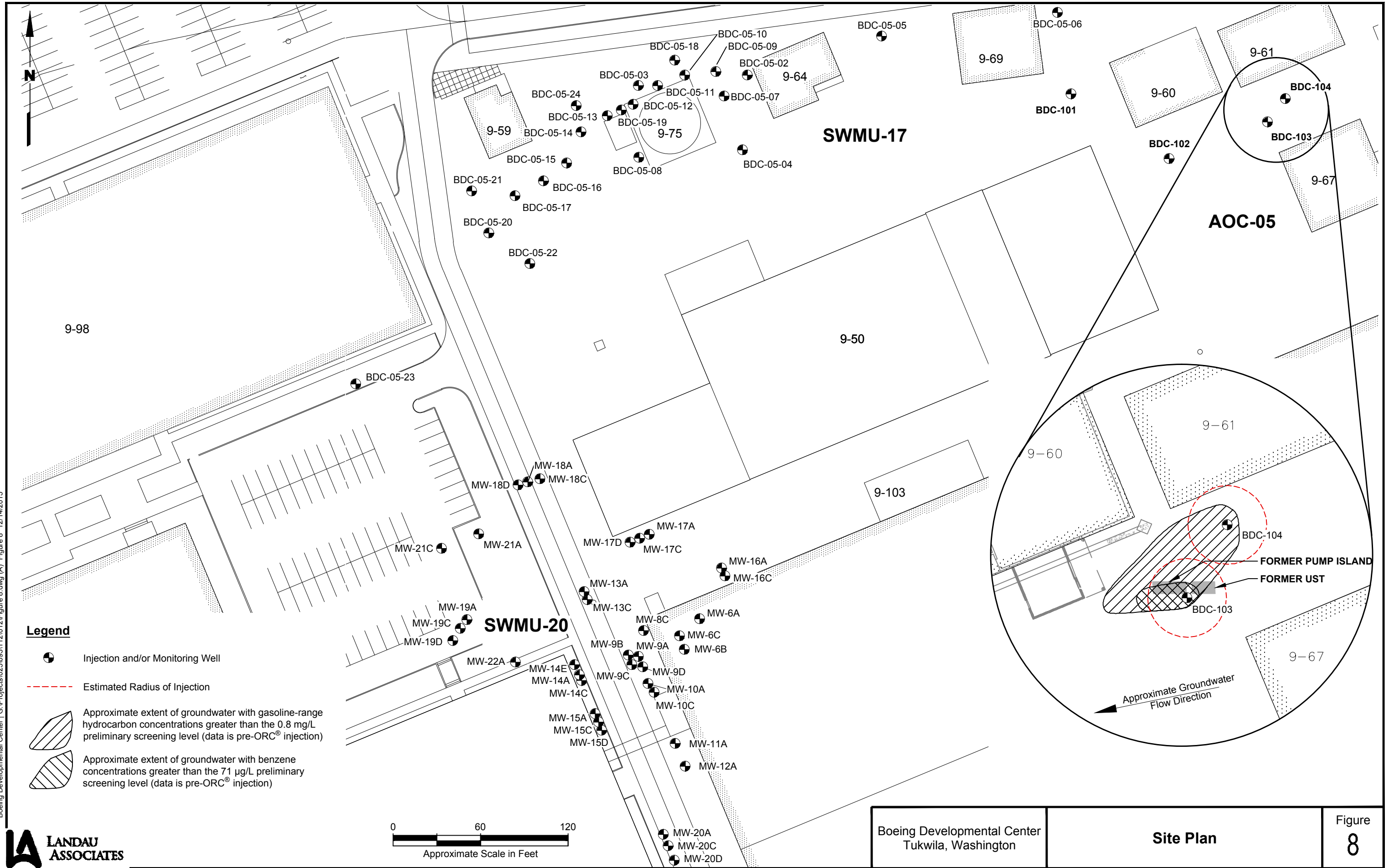
BDC-103 Nitrate, TPH-G, and Benzene Concentrations



BDC-104 Nitrate, TPH-G, and Benzene Concentrations



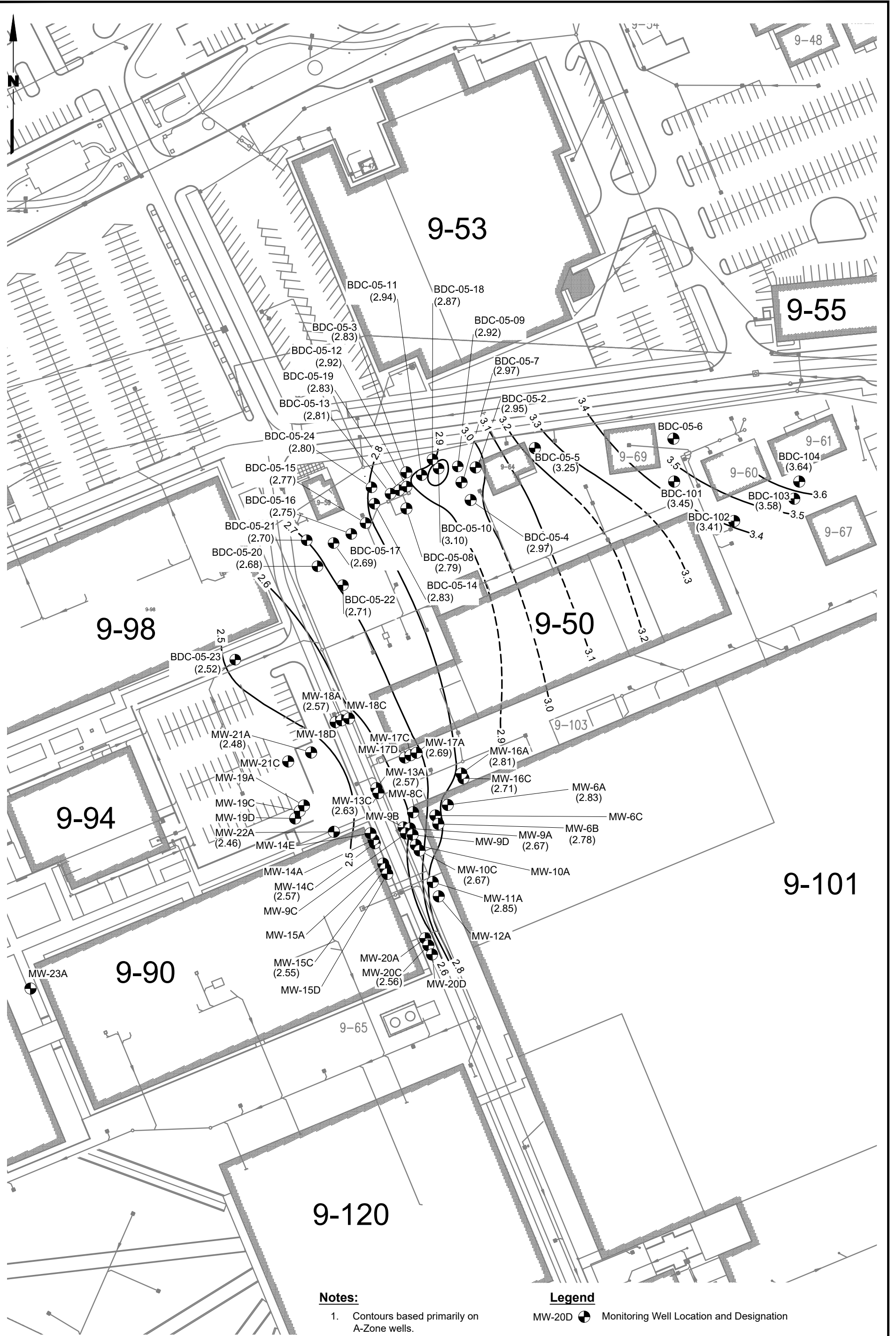
Boeing Developmental Center | G:\Projects\025093112\012\Figure 8.dwg (A) Figure 8" 12/14/2015



***DEVELOPMENTAL CENTER
GROUNDWATER MONITORING
MAY 2017***

GROUNDWATER ELEVATION INFORMATION

- **CONTOUR MAP**
- **CUMULATIVE WATER LEVEL MEASUREMENTS
(November 1999 to Present)**

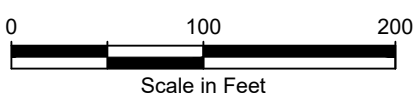


Notes:

1. Contours based primarily on A-Zone wells.

Legend

MW-20D Monitoring Well Location and Designation



***DEVELOPMENTAL CENTER
GROUNDWATER MONITORING
MAY 2017***

GROUNDWATER SAMPLE COLLECTION FORMS

ANALYTICAL DATA

(DVD)

SWMU-20
(Groundwater Sample Collection Forms and Analytical Data)

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 02 /2017 @ 1251
 Sample Number: MW-6A- 170502 Weather: INDOORS
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.97 Time: 1219 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 2/2017 @ 1225 End Purge: Date/Time: 05/ 2/2017 @ 1249 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1228 | 19.5 | 1680 | 1 | 7.23 | -75.8 | | 12.05 | <0.25 | |
| 1231 | 19.5 | 1766 | 0.77 | 7.2 | -96.9 | | | <0.25 | |
| 1234 | 19.4 | 1825 | 0.59 | 7.2 | -126 | | 12.09 | <0.25 | |
| 1237 | 19.4 | 1846 | 0.59 | 7.21 | -135.7 | | 12.09 | 0.25 | |
| 1240 | 19.3 | 1864 | 0.42 | 7.22 | -141.9 | | | <0.50 | |
| 1243 | 19.3 | 1872 | 0.35 | 7.22 | -145.7 | | | <0.50 | |
| 1245 | 19.3 | 1882 | 0.26 | 7.23 | -150.9 | | | <0.50 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type DED BLADDER
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____

Sample Description (color, turbidity, odor, sheen, etc.): TURBID, DARK BROWN/AMBER COLOR, STRONG INJECTIO FLUID ODOR, NS (EFFERVESCENT)

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 19.3 | 1882 | 0.25 | 7.23 | -151 | | | | |
| 2 | 19.3 | 1883 | 0.26 | 7.23 | -151.4 | | | | |
| 3 | 19.3 | 1883 | 0.25 | 7.23 | -151.5 | | | | |
| 4 | 19.3 | 1884 | 0.27 | 7.23 | -152 | | | | |
| Average: | 19.3 | 1883 | 0.26 | 7.23 | -151.5 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/2/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 02 /2017 @ 1201
 Sample Number: MW-6B- 170502 Weather: INDOORS
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 12.31 Time: 1125 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 2/2017 @ 1136 End Purge: Date/Time: 05/ 2/2017 @ 1148 Gallons Purged: <0.25
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1139 | 19.8 | 1439 | 0.18 | 7.39 | -122.3 | | 12.42 | <0.25 | |
| 1142 | 19.7 | 1437 | 0.17 | 7.39 | -127.3 | | | <0.25 | |
| 1145 | 19.6 | 1437 | 0.17 | 7.29 | -129.4 | | 12.49 | <0.25 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type DED BLADDER
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): TURBID, DARK BROWN/BALCK COLOR, STRONG INCJECTION FLUID ODOR, NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 19.6 | 1436 | 0.17 | 7.38 | -129.5 | | | | |
| 2 | 19.6 | 1436 | 0.17 | 7.38 | -129.6 | | | | |
| 3 | 19.6 | 1437 | 0.18 | 7.38 | -129.6 | | | | |
| 4 | 19.6 | 1435 | 0.17 | 7.38 | -129.7 | | | | |
| Average: | 19.6 | 1436 | 0.17 | 7.38 | -129.6 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) (Total Cyanide) (WAD Cyanide) (Free Cyanide) (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silicic acid) VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | others |

Duplicate Sample No(s): WELL SEEMED TO GO DRY, NOT PUMPING ANYTHING. WATER AT 12.56' CLOGGED? LET "RECHARGE" A FEW MIN
 Comments: VERY SMALL DISCHARGE AT VARIOUS PRESSURE SETTINGS. CLOGGED? BLACK, SOY SAUCE LOOKING LIQUID COMING OUT
 Signature: JHA Date: 5/2/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/02/2017 @ 811
 Sample Number: MW-9A-170502 Weather: 40'S, CLOUDY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 12.07 Time: 735 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/2/2017 @ 745 End Purge: Date/Time: 05/2/2017 @ 807 Gallons Purged: 0.25
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 748 | 14.3 | 599 | 1.72 | 6.61 | -113.9 | | | <0.25 | |
| 751 | 14.1 | 599 | 2.57 | 6.55 | -111.3 | | 12.1 | <0.25 | |
| 754 | 14 | 600 | 2.36 | 6.54 | -112.6 | | | <0.25 | |
| 757 | 13.8 | 598 | 1.39 | 6.55 | -114.3 | | | <0.25 | |
| 800 | 13.7 | 596 | 1.05 | 6.57 | -116.3 | | 12.1 | <0.25 | |
| 803 | 13.7 | 596 | 1.07 | 6.57 | -116.7 | | | <0.25 | |
| 805 | 13.7 | 597 | 1.06 | 6.58 | -117.8 | | | <0.25 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type DED BLADDER
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, YELLOW TINT, INJECTION FLUID ODOR, NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 13.7 | 597 | 1.05 | 6.58 | -117.8 | | | | |
| 2 | 13.7 | 597 | 1.04 | 6.58 | -118.1 | | | | |
| 3 | 13.7 | 597 | 1.02 | 6.58 | -118.2 | | | | |
| 4 | 13.7 | 598 | 1.02 | 6.58 | -118.5 | | | | |
| Average: | 13.7 | 597 | 1.03 | 6.58 | -118.2 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | others |

Duplicate Sample No(s): MSMSD
 Comments: _____
 Signature: JHA Date: 5/2/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 02 /2017 @ 1431
 Sample Number: MW-10C- 170502 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.97 Time: 1400 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 2/2017 @ 1405 End Purge: Date/Time: 05/ 2/2017 @ 1428 Gallons Purged: <0.50
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1408 | 17.4 | 1111 | 0.28 | 6.55 | -46.6 | | 12.03 | <0.25 | |
| 1411 | 17.4 | 1087 | 0.27 | 6.53 | -42.3 | | 12.05 | <0.25 | |
| 1414 | 17.5 | 1038 | 0.32 | 6.5 | -39.9 | | | <0.25 | |
| 1417 | 17.4 | 969 | 0.31 | 6.48 | -37.5 | | 12.05 | <0.25 | |
| 1420 | 17.3 | 890 | 0.31 | 6.45 | -36.2 | | | 0.25 | |
| 1423 | 17.1 | 834 | 0.31 | 6.44 | -36.1 | | | <0.50 | |
| 1425 | 17.1 | 827 | 0.32 | 6.43 | -36 | | | <0.50 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type DED BLADDER
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, GOLDEN BROWN TINT, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 17.1 | 823 | 0.31 | 6.43 | -35.9 | | | | |
| 2 | 17.1 | 822 | 0.31 | 6.43 | -36 | | | | |
| 3 | 17.1 | 820 | 0.32 | 6.43 | -35.8 | | | | |
| 4 | 17.1 | 819 | 0.31 | 6.43 | -35.8 | | | | |
| Average: | 17.1 | 821 | 0.31 | 6.43 | -35.9 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/2/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 02 /2017 @ 1031
 Sample Number: MW-11A- 170502 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 12.03 Time: 1004 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 2/2017 @ 1007 End Purge: Date/Time: 05/ 2/2017 @ 1030 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1010 | 15.9 | 1023 | 0.35 | 6.73 | -60.6 | | 12.03 | <0.25 | |
| 1013 | 16.1 | 1044 | 0.44 | 6.73 | -60.9 | | | <0.25 | |
| 1016 | 16.1 | 1066 | 0.51 | 6.76 | -61.2 | | | <0.25 | |
| 1019 | 16.2 | 1071 | 0.34 | 6.78 | -63.3 | | 12.05 | 0.25 | |
| 1022 | 16.3 | 1073 | 0.35 | 6.77 | -64.1 | | | <0.50 | |
| 1025 | 16.3 | 1075 | 0.37 | 6.78 | -65 | | | <0.50 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, LIGHT YELLOWISH TINT, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 16.3 | 1075 | 0.34 | 6.78 | -65 | | | | |
| 2 | 16.3 | 1076 | 0.31 | 6.78 | -65.2 | | | | |
| 3 | 16.3 | 1076 | 0.32 | 6.78 | -65.3 | | | | |
| 4 | 16.3 | 1076 | 0.31 | 6.78 | -65.3 | | | | |
| Average: | 16.3 | 1076 | 0.32 | 6.78 | -65.2 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | others |

Duplicate Sample No(s): BDC-DUP1-170502 @ 1200
 Comments: Duplicate location
 Signature: JHA Date: 5/2/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 02 /2017 @ 1200
 Sample Number: BDC-DUP1170502 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) _____ Time: _____ Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 2 /2017 @ End Purge: Date/Time: 05/ 2 /2017 @ Gallons Purged: _____
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|--------------|---------------|-------------|---------------|-----------|-----------------|----------|-----------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |

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SEE MW-11A SCF FOR PURGE DATA

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type _____
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): _____

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 16.3 | 1076 | 0.3 | 6.78 | -65.1 | | | | |
| 2 | 16.3 | 1076 | 0.35 | 6.78 | -65.3 | | | | |
| 3 | 16.3 | 1076 | 0.32 | 6.78 | -65.3 | | | | |
| 4 | 16.3 | 1077 | 0.31 | 6.78 | -65.3 | | | | |
| Average: | 16.3 | 1076 | 0.32 | 6.78 | -65.3 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: DUPLICATE TO MW-11A-170502 @ 1031
 Signature: JHA Date: 5/2/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 02 /2017 @ 856
 Sample Number: MW-13A- 170502 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.57 Time: 824 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 2 /2017 @ 830 End Purge: Date/Time: 05/ 2 /2017 @ 842 Gallons Purged: 0.25
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|--------------|---------------|-------------|---------------|-----------|-----------------|----------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 833 | 14.3 | 169.7 | 1.3 | 6.2 | 76.6 | | | <0.25 | |
| 836 | 14.5 | 168.3 | 1.26 | 6.2 | 78.1 | | 11.57 | <0.25 | |
| 839 | 14.5 | 168.2 | 1.23 | 6.18 | 79.9 | | | <0.25 | |
| | | | | | | | | | |
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SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 14.5 | 168.1 | 1.22 | 6.18 | 80.1 | | | | |
| 2 | 14.5 | 167.9 | 1.22 | 6.18 | 80.1 | | | | |
| 3 | 14.5 | 167.7 | 1.21 | 6.18 | 80.3 | | | | |
| 4 | 14.6 | 167.5 | 1.2 | 6.18 | 80.7 | | | | |
| Average: | 14.5 | 167.8 | 1.21 | 6.18 | 80.3 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/2/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 02 /2017 @ 916
 Sample Number: MW-13C- 170502 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.39 Time: 846 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 2 /2017 @ 850 End Purge: Date/Time: 05/ 2 /2017 @ 905 Gallons Purged: 0.25
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| <u>853</u> | <u>15</u> | <u>1034</u> | <u>1</u> | <u>6.54</u> | <u>-75.3</u> | | <u>11.41</u> | <u><0.25</u> | |
| <u>856</u> | <u>15.1</u> | <u>1091</u> | <u>1.04</u> | <u>6.53</u> | <u>-75.7</u> | | | <u><0.25</u> | |
| <u>859</u> | <u>15.2</u> | <u>1109</u> | <u>1.03</u> | <u>6.53</u> | <u>-77</u> | | <u>11.44</u> | <u><0.25</u> | |
| <u>902</u> | <u>15.3</u> | <u>1118</u> | <u>1.1</u> | <u>6.53</u> | <u>-77.3</u> | | | <u><0.25</u> | |
| | | | | | | | | | |
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| | | | | | | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, YELLOWISH TINT, NO/NS (EFFERVESCENT)

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|-------------|--------------|-----------------|----------|----------------------|-----------------------|
| <u>1</u> | <u>15.3</u> | <u>1118</u> | <u>1.11</u> | <u>6.53</u> | <u>-76</u> | | | | |
| <u>2</u> | <u>15.3</u> | <u>1116</u> | <u>1.11</u> | <u>6.53</u> | <u>-76.6</u> | | | | |
| <u>3</u> | <u>15.3</u> | <u>1117</u> | <u>1.13</u> | <u>6.53</u> | <u>-76.5</u> | | | | |
| <u>4</u> | <u>15.3</u> | <u>1117</u> | <u>1.16</u> | <u>6.53</u> | <u>-76.4</u> | | | | |
| Average: | <u>15.3</u> | <u>1117</u> | <u>1.13</u> | <u>6.53</u> | <u>-76.4</u> | <u>#DIV/0!</u> | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/2/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 02 /2017 @ 1356
 Sample Number: MW-14C- 170502 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.4 Time: 1130 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 2/2017 @ 1333 End Purge: Date/Time: 05/ 2/2017 @ 1350 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|--------------|---------------|-------------|---------------|-----------|-----------------|----------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1336 | 21.6 | 992 | 0.64 | 6.72 | -89.4 | | 11.42 | <0.25 | |
| 1339 | 21.7 | 998 | 0.38 | 6.72 | -79.3 | | | <0.25 | |
| 1342 | 21 | 976 | 0.29 | 6.47 | -73 | | 11.46 | <0.25 | |
| 1345 | 20.9 | 969 | 0.29 | 6.4 | -67.6 | | | 0.25 | |
| 1348 | 20.7 | 960 | 0.29 | 6.37 | -65.2 | | | <0.50 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS (SLIGHTLY EFFERVESCENT)

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 20.7 | 959 | 0.29 | 6.38 | -65.1 | | | | |
| 2 | 20.7 | 958 | 0.29 | 6.37 | -64.8 | | | | |
| 3 | 20.7 | 958 | 0.29 | 6.38 | -64.8 | | | | |
| 4 | 20.7 | 957 | 0.28 | 6.38 | -64.9 | | | | |
| Average: | 20.7 | 958 | 0.29 | 6.38 | -64.9 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/2/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 02 /2017 @ 1326
 Sample Number: MW-15C- 170502 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 12 Time: 1257 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 2/2017 @ 1300 End Purge: Date/Time: 05/ 2/2017 @ 1323 Gallons Purged: 0.25
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1303 | 21.3 | 2232 | 0.45 | 6.89 | -78 | | 12.21 | <0.25 | LOWER CPM |
| 1306 | 21.3 | 2072 | 0.67 | 6.82 | -76.5 | | 12.28 | <0.25 | TURNED PUMP ON |
| 1312 | 21.2 | 2059 | 0.56 | 6.83 | -69.2 | | 12.19 | <0.25 | TURNED PUMP ON |
| 1315 | 21 | 2054 | 0.59 | 6.82 | -66.5 | | | <0.25 | |
| 1318 | 20.9 | 2041 | 0.66 | 6.8 | -64.2 | | 12.22 | <0.25 | |
| 1320 | 20.7 | 2026 | 0.67 | 6.78 | -59.2 | | | <0.25 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type DED BLADDER
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____

Sample Description (color, turbidity, odor, sheen, etc.): SLIGHTLY TURBID, DARK BROWN/AMBER COLOR, INJECTION FLUID OOR, NS (EFFERVESCENT)

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 20.7 | 2024 | 0.66 | 6.78 | -58.8 | | | | |
| 2 | 20.7 | 2023 | 0.65 | 6.78 | -58.5 | | | | |
| 3 | 20.7 | 2022 | 0.73 | 6.78 | -58.2 | | | | |
| 4 | 20.7 | 2022 | 0.72 | 6.78 | -57.8 | | | | |
| Average: | 20.7 | 2023 | 0.69 | 6.78 | -58.3 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/2/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 02 /2017 @ 1536
 Sample Number: MW-16A- 170502 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 12.18 Time: 1450 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 2 /2017 @ 1510 End Purge: Date/Time: 05/ 2 /2017 @ 1522 Gallons Purged: 0.25
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|--------------|---------------|-------------|---------------|-----------|-----------------|----------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1513 | 16.9 | 5125 | 0.15 | 7.19 | -221.5 | | 12.26 | <0.25 | |
| 1516 | 16.9 | 5104 | 0.17 | 7.2 | -226 | | 12.31 | <0.25 | |
| 1519 | 16.9 | 5108 | 0.17 | 7.2 | -223.9 | | 12.33 | <0.25 | |
| | | | | | | | | | |
| | | | | | | | | | |
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SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR WITH SUSPENDED PARTICLES, DARK BROWN/AMBER TINT, STRONG INJECTION FLUID ODOR, NS (FOAMY)

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 16.9 | 5111 | 0.16 | 7.2 | -225.1 | | | | |
| 2 | 16.9 | 5111 | 0.17 | 7.2 | -226.1 | | | | |
| 3 | 16.9 | 5110 | 0.18 | 7.2 | -226.1 | | | | |
| 4 | 16.9 | 5108 | 0.16 | 7.2 | -225.1 | | | | |
| Average: | 16.9 | 5110 | 0.17 | 7.20 | -225.6 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/2/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 02 /2017 @ 1506
 Sample Number: MW-16C- 170502 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 12.33 Time: 1437 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 2 /2017 @ 1440 End Purge: Date/Time: 05/ 2 /2017 @ 1503 Gallons Purged: 0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1443 | 17.3 | 1362 | 0.24 | 6.33 | -64.5 | | 12.35 | <0.25 | |
| 1446 | 17.3 | 919 | 0.24 | 6.14 | -42.7 | | | <0.25 | |
| 1449 | 17.3 | 562 | 0.28 | 5.91 | -23.5 | | 12.37 | 0.25 | |
| 1452 | 17.3 | 488 | 0.25 | 5.85 | -18.6 | | | <0.50 | |
| 1455 | 17.3 | 449.2 | 0.23 | 5.82 | -16.5 | | | <0.50 | |
| 1458 | 17.3 | 441.4 | 0.22 | 5.81 | -16.7 | | | 0.5 | |
| 1500 | 17.4 | 437.9 | 0.21 | 5.81 | -17.4 | | | <0.75 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____

Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, GREENISH/YELLOW TINT, SLIGHT INJECTION FLUID ODOR, NS (SLIGHTLY EFFERVESCENT)

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 17.4 | 437.6 | 0.2 | 5.81 | -17.4 | | | | |
| 2 | 17.4 | 437.6 | 0.2 | 5.81 | -17.5 | | | | |
| 3 | 17.4 | 437.5 | 0.21 | 5.82 | -17.6 | | | | |
| 4 | 17.4 | 437.5 | 0.25 | 5.82 | -17.7 | | | | |
| Average: | 17.4 | 437.6 | 0.22 | 5.82 | -17.6 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/2/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/02/2017 @ 951
 Sample Number: MW-20C-170502 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.59 Time: 923 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/2/2017 @ 925 End Purge: Date/Time: 05/2/2017 @ 948 Gallons Purged: 0.25
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 928 | 15.8 | 542 | 0.47 | 6.44 | -95.4 | | 11.79 | <0.25 | TURNED PUMP DOWN |
| 931 | 15.9 | 533 | 0.49 | 6.4 | -87.7 | | 11.75 | <0.25 | |
| 934 | 15.8 | 528 | 0.42 | 6.37 | -77.3 | | | <0.25 | |
| 937 | 15.8 | 511 | 0.4 | 6.36 | -75.3 | | 11.75 | <0.25 | |
| 940 | 15.8 | 489.7 | 0.39 | 6.33 | -71.7 | | | <0.25 | |
| 943 | 15.8 | 481.8 | 0.42 | 6.32 | -68.7 | | | <0.25 | |
| 945 | 15.8 | 466.4 | 0.47 | 6.3 | -64.4 | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____

Sample Description (color, turbidity, odor, sheen, etc.): CLEAR WITH SUSPENDED PARTICLES, GOLDEN AMBER TINT, INJECTION ODOR, NS (SLIGHTLY EFFERVESCENT)

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 15.8 | 462.8 | 0.45 | 6.3 | -64.2 | | | | |
| 2 | 15.8 | 461.5 | 0.48 | 6.3 | -64 | | | | |
| 3 | 15.8 | 461.3 | 0.47 | 6.3 | -63.8 | | | | |
| 4 | 15.8 | 461.2 | 0.49 | 6.3 | -63.5 | | | | |
| Average: | 15.8 | 461.7 | 0.47 | 6.30 | -63.9 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/2/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 2 /2017 @ 1116
 Sample Number: MW-22A- 170502 Weather: 40'S, PARTLY SUNNY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.79 Time: 1048 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 2 /2017 @ 1053 End Purge: Date/Time: 05/ 2 /2017 @ 1108 Gallons Purged: 0.25
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1056 | 16.1 | 4060 | 0.6 | 7.28 | -201.5 | | 11.84 | <0.25 | |
| 1059 | 15.4 | 3911 | 0.37 | 7.24 | -204.2 | | 11.86 | <0.25 | |
| 1102 | 15.5 | 3874 | 0.37 | 7.24 | -205.6 | | | <0.25 | |
| 1105 | 15.6 | 3845 | 0.39 | 7.24 | -206.8 | | 11.89 | 0.25 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type DED BLADDER
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, DARK BROWN/AMBER COLOR, INJECTION FLUID ODOR, NS
 (VERY EFFERVESCENT)

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 15.6 | 3841 | 0.4 | 7.24 | -205.9 | | | | |
| 2 | 15.6 | 3842 | 0.41 | 7.24 | -207 | | | | |
| 3 | 15.6 | 3839 | 0.41 | 7.24 | -207.1 | | | | |
| 4 | 15.6 | 3835 | 0.4 | 7.24 | -207.2 | | | | |
| Average: | 15.6 | 3839 | 0.41 | 7.24 | -206.8 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/2/2017

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Report Date: May 17, 2017

Project: Boeing_DC: SWMU-20 s-ann

Submittal Date: 05/04/2017

Group Number: 1797119

State of Sample Origin: WA

Client Sample Description

| | Lancaster Labs (LL) # |
|-----------------------|--------------------------|
| MW-9A-170502 Water | 8974856 |
| MW-9A-170502 Water | 8974857 |
| MW-13A-170502 Water | 8974858 |
| MW-13C-170502 Water | 8974859 |
| MW-20C-170502 Water | 8974860 |
| MW-22A-170502 Water | 8974861 |
| MW-22A-170502 Water | 8974862 |
| MW-11A-170502 Water | 8974863 |
| MW-6B-170502 Water | 8974864 |
| MW-6B-170502 Water | 8974865 |
| MW-6A-170502 Water | 8974866 |
| MW-6A-170502 Water | 8974867 |
| BDC-DUP1-170502 Water | 8974868 |
| MW-15C-170502 Water | 8974869 |
| MW-14C-170502 Water | 8974870 |
| MW-10C-170502 Water | 8974871 |
| MW-16C-170502 Water | 8974872 |
| MW-16A-170502 Water | 8974873 |
| TRIP BLANK Water | 8974874 |

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To The Boeing Company
Electronic Copy To LandauAttn: Lindsey E. Mahrt
Attn: Chris Kimmel

Respectfully Submitted,



Kay Hower

(717) 556-7364

Project Name: Boeing_DC: SWMU-20 s-ann
LL Group #: 1797119

General Comments:

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

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

Project specific QC samples are included in this data set

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

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

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

Preservation requirements were not met.

Sample #: 8974861

Preservation requirements were not met. The pH preservation of all non-volatile containers was checked upon receipt at the laboratory. The container for the following analysis was not within specification and was adjusted accordingly by the laboratory: Total Organic Carbon

Analysis Specific Comments:**SW-846 8260C, GC/MS volatiles****Sample #s: 8974860, 8974872**

Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor.

Sample #s: 8974861, 8974873

Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor.

A preserved vial was submitted for analysis. However, the pH at the time of analysis was 7.

Sample #s: 8974859

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) |
|---------------|-------------------|
| acrolein | -30 |
| vinyl acetate | -32 |
| 2-hexanone | -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.

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.

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

| Analyte | Response (%Drift) |
|----------------|-------------------|
| vinyl chloride | 27 |

Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor.

Sample #s: 8974866, 8974868, 8974869, 8974871

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) |
|---------------|-------------------|
| acrolein | -30 |
| vinyl acetate | -32 |
| 2-hexanone | -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.

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.

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

| Analyte | Response (%Drift) |
|----------------|-------------------|
| vinyl chloride | 27 |

Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor.

Sample #s: 8974864

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) |
|---------------|-------------------|
| acrolein | -30 |
| vinyl acetate | -32 |
| 2-hexanone | -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.

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.

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

| Analyte | Response (%Drift) |
|----------------|-------------------|
| vinyl chloride | 27 |

Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor.

A preserved vial was submitted for analysis. However, the pH at the time of analysis was 3.

Sample #s: 8974856, 8974874

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

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

| Analyte | Response (%Drift) |
|----------------|-------------------|
| vinyl chloride | 27 |
| acrolein | -30 |
| vinyl acetate | -32 |
| 2-hexanone | -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 #: H171301AA (Sample number(s): 8974856, 8974859, 8974864, 8974866, 8974868-8974869, 8974871, 8974874 UNSPK: 8974856)

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: Naphthalene

RSKSOP-175 modified, GC Miscellaneous

Sample #s: 8974862

The container used for this analysis was submitted with headspace.

Batch #: 171270001A (Sample number(s): 8974857, 8974862, 8974865, 8974867 UNSPK: 8974857)

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: Methane, Ethane

EPA 300.0, Wet Chemistry

Batch #: 17134249109B (Sample number(s): 8974862, 8974865, 8974867 UNSPK: P975016 BKG: P975016)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Sulfate

Sample Description: MW-9A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974856
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 08:11 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC9A1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|---------------------------------|---------------------|--------------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 5.0 U | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 U | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 0.7 | 0.2 | 1 |
| 11996 | 1,2-Dichloropropane | 78-87-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 70 E | 0.5 | 1 |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |

Sample Description: MW-9A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974856
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 08:11 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC9A1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|------------------------|--------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS Volatiles | | SW-846 8260C | ug/l | ug/l | |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 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 | Acrolein | 107-02-8 | 250 U | 250 | 10 |
| 11996 | Acrylonitrile | 107-13-1 | 50 U | 50 | 10 |
| 11996 | Benzene | 71-43-2 | 2.0 U | 2.0 | 10 |
| 11996 | Bromobenzene | 108-86-1 | 5.0 U | 5.0 | 10 |
| 11996 | Bromochloromethane | 74-97-5 | 5.0 U | 5.0 | 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 | n-Butylbenzene | 104-51-8 | 5.0 U | 5.0 | 10 |
| 11996 | sec-Butylbenzene | 135-98-8 | 5.0 U | 5.0 | 10 |
| 11996 | tert-Butylbenzene | 98-06-6 | 5.0 U | 5.0 | 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 |
| 11996 | Chloroform | 67-66-3 | 2.0 U | 2.0 | 10 |
| 11996 | Chloromethane | 74-87-3 | 5.0 U | 5.0 | 10 |
| 11996 | 2-Chlorotoluene | 95-49-8 | 5.0 U | 5.0 | 10 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 5.0 U | 5.0 | 10 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.0 U | 5.0 | 10 |
| 11996 | Dibromochloromethane | 124-48-1 | 5.0 U | 5.0 | 10 |
| 11996 | Dibromomethane | 74-95-3 | 5.0 U | 5.0 | 10 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 50 U | 50 | 10 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 5.0 U | 5.0 | 10 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 5.0 U | 5.0 | 10 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 5.0 U | 5.0 | 10 |
| 11996 | 1,1-Dichloroethane | 75-34-3 | 5.0 U | 5.0 | 10 |

Sample Description: MW-9A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974856
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 08:11 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC9A1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|---------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 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 | 2.0 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 | 1,3-Dichloropropane | 142-28-9 | 5.0 U | 5.0 | 10 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 5.0 U | 5.0 | 10 |
| 11996 | 1,1-Dichloropropane | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 5.0 U | 5.0 | 10 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 5.0 U | 5.0 | 10 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 10 |
| 11996 | Isopropylbenzene | 98-82-8 | 5.0 U | 5.0 | 10 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 5.0 U | 5.0 | 10 |
| 11996 | Methyl Iodide | 74-88-4 | 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 | Naphthalene | 91-20-3 | 100 | 5.0 | 10 |
| 11996 | n-Propylbenzene | 103-65-1 | 5.0 U | 5.0 | 10 |
| 11996 | Styrene | 100-42-5 | 5.0 U | 5.0 | 10 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 1,2,3-Trichlorobenzene | 87-61-6 | 5.0 U | 5.0 | 10 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 10 U | 10 | 10 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 5.0 U | 5.0 | 10 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 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) |
|----------------|-------------------|
| vinyl chloride | 27 |
| acrolein | -30 |

Sample Description: MW-9A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974856
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 08:11 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20

Reported: 05/17/2017 11:21

DC9A1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------|---------------|------------|--------|-----------------------|-----------------|
| | vinyl acetate | -32 | | | |
| | 2-hexanone | -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.

| Wet Chemistry | SM 5310 C-2000 | mg/l | mg/l | |
|----------------------------|----------------|------|------|---|
| 00273 Total Organic Carbon | n.a. | 22.3 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------------|----------------|--------|--------------|------------------------|-----------------|-----------------|
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171301AA | 05/10/2017 11:55 | Kevin A Sposito | 1 |
| 11996 | 8260C Boeing 69 | SW-846 8260C | 2-DL | H171301AA | 05/10/2017 13:37 | Kevin A Sposito | 10 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171301AA | 05/10/2017 11:55 | Kevin A Sposito | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 2 | H171301AA | 05/10/2017 13:37 | Kevin A Sposito | 10 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17125667605B | 05/05/2017 22:09 | Drew M Gerhart | 1 |

Sample Description: MW-9A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974857
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 08:11 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC9A2

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|---------------|----------------------------|-------------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | ug/l | |
| 07105 | Ethane | 74-84-0 | 500 E | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 U | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 19,000 E | 3.0 | 1 |
| Trial ID: DL | | | | | |
| 07105 | Ethane | 74-84-0 | 430 | 5.0 | 5 |
| 07105 | Ethane | 74-84-0 | 550 J | 200 | 200 |
| 07105 | Ethene | 74-85-1 | 200 U | 200 | 200 |
| 07105 | Ethene | 74-85-1 | 5.0 U | 5.0 | 5 |
| 07105 | Methane | 74-82-8 | 16,000 E | 15 | 5 |
| 07105 | Methane | 74-82-8 | 20,000 | 600 | 200 |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.30 U | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------|---------------------|--------|--------------|------------------------|-------------------|-----------------|
| 07105 | MEE by RSK-175 | RSKSOP-175 modified | 1 | 171270001A | 05/07/2017 19:48 | Johanna C Kennedy | 1 |
| 07105 | MEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171270001A | 05/08/2017 16:09 | Johanna C Kennedy | 200 |
| 07105 | MEE by RSK-175 | RSKSOP-175 modified | 3-DL | 171270001A | 05/08/2017 16:26 | Johanna C Kennedy | 5 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17132987312B | 05/13/2017 16:14 | Clinton M Wilson | 1 |

Sample Description: MW-13A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974858
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 08:56 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC13A

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|-----------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 5.0 U | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 U | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 0.5 U | 0.5 | 1 |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |

Sample Description: MW-13A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974858
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 08:56 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC13A

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------|--------------------------------|--------------|------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 0.2 U | 0.2 | 1 |
| 11996 | 112Trichloro122Trifluoroethane | 76-13-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 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 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------------|--------------|--------|-----------|------------------------|-------------|-----------------|
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171302AA | 05/11/2017 00:35 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171302AA | 05/11/2017 00:35 | Don V Viray | 1 |

Sample Description: MW-13C-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974859
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 09:16 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC13C

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|---------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 5.0 U | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 U | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 0.2 | 1 |
| 11996 | 1,2-Dichloropropane | 78-87-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 14 | 0.5 | 1 |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |

Sample Description: MW-13C-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974859
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 09:16 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC13C

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|--------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 0.5 | 0.2 | 1 |
| 11996 | 112Trichloro122Trifluoroethane | 76-13-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 0.5 U | 0.5 | 1 |
| 11996 | Vinyl Acetate | 108-05-4 | 0.5 U | 0.5 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.3 | 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 |

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) |
|---------------|-------------------|
| acrolein | -30 |
| vinyl acetate | -32 |
| 2-hexanone | -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.

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.

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

| Analyte | Response (%Drift) |
|----------------|-------------------|
| vinyl chloride | 27 |

Since the analyst observed that the sample foamed while purging, an

Sample Description: MW-13C-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974859
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 09:16 by JH The Boeing Company
PO Box 3707
Submitted: 05/04/2017 09:20 MC 1W-12
Reported: 05/17/2017 11:21 Seattle WA 98124

DC13C

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------|---|------------|--------|-----------------------|-----------------|
| | anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor. | | | | |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------------|--------------|--------|-----------|------------------------|-----------------|-----------------|
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171301AA | 05/10/2017 17:30 | Kevin A Sposito | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171301AA | 05/10/2017 17:30 | Kevin A Sposito | 1 |

Sample Description: MW-20C-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974860
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 09:51 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC20C

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|-------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 5.0 U | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 U | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 1.5 | 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 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 0.5 U | 0.5 | 1 |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |

Sample Description: MW-20C-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974860
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 09:51 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC20C

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|---------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 1.4 | 0.2 | 1 |
| 11996 | 1,1,2,2,2-Trifluoroethane | 76-13-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 0.5 U | 0.5 | 1 |
| 11996 | Vinyl Acetate | 108-05-4 | 0.5 U | 0.5 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.4 | 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 |

Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor.

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------------|--------------|--------|-----------|------------------------|-------------|-----------------|
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171302AA | 05/11/2017 06:01 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171302AA | 05/11/2017 06:01 | Don V Viray | 1 |

Sample Description: MW-22A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974861
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 11:16 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

D22A1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|-----------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 5.3 | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.3 | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | 3.0 | 0.5 | 1 |
| 11996 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 130 E | 0.5 | 1 |

Sample Description: MW-22A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974861
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 11:16 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

D22A1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------------|-------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 2.9 | 0.2 | 1 |
| 11996 | 1,1,2,2,2-Trifluoroethane | 76-13-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 4.3 | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 0.8 | 0.5 | 1 |
| 11996 | Vinyl Acetate | 108-05-4 | 0.5 U | 0.5 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.3 | 0.2 | 1 |
| 11996 | m,p-Xylene | 179601-23-1 | 2.5 | 0.5 | 1 |
| 11996 | o-Xylene | 95-47-6 | 3.1 | 0.5 | 1 |
| Trial ID: DL | | | | | |
| 11996 | Acetone | 67-64-1 | 50 U | 50 | 10 |
| 11996 | Acrolein | 107-02-8 | 250 U | 250 | 10 |
| 11996 | Acrylonitrile | 107-13-1 | 50 U | 50 | 10 |
| 11996 | Benzene | 71-43-2 | 2.0 U | 2.0 | 10 |
| 11996 | Bromobenzene | 108-86-1 | 5.0 U | 5.0 | 10 |
| 11996 | Bromochloromethane | 74-97-5 | 5.0 U | 5.0 | 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 | n-Butylbenzene | 104-51-8 | 5.0 U | 5.0 | 10 |
| 11996 | sec-Butylbenzene | 135-98-8 | 5.0 U | 5.0 | 10 |
| 11996 | tert-Butylbenzene | 98-06-6 | 5.0 U | 5.0 | 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 |
| 11996 | Chloroform | 67-66-3 | 2.0 U | 2.0 | 10 |
| 11996 | Chloromethane | 74-87-3 | 5.0 U | 5.0 | 10 |
| 11996 | 2-Chlorotoluene | 95-49-8 | 5.0 U | 5.0 | 10 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 5.0 U | 5.0 | 10 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 5.0 U | 5.0 | 10 |
| 11996 | Dibromochloromethane | 124-48-1 | 5.0 U | 5.0 | 10 |
| 11996 | Dibromomethane | 74-95-3 | 5.0 U | 5.0 | 10 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 50 U | 50 | 10 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 5.0 U | 5.0 | 10 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 5.0 U | 5.0 | 10 |

Sample Description: MW-22A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974861
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 11:16 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

D22A1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|---------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 2.0 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 | 1,3-Dichloropropane | 142-28-9 | 5.0 U | 5.0 | 10 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 5.0 U | 5.0 | 10 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 5.0 U | 5.0 | 10 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 5.0 U | 5.0 | 10 |
| 11996 | 2-Hexanone | 591-78-6 | 50 U | 50 | 10 |
| 11996 | Isopropylbenzene | 98-82-8 | 5.0 U | 5.0 | 10 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 5.0 U | 5.0 | 10 |
| 11996 | Methyl Iodide | 74-88-4 | 5.0 U | 5.0 | 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 | Naphthalene | 91-20-3 | 200 | 5.0 | 10 |
| 11996 | n-Propylbenzene | 103-65-1 | 5.0 U | 5.0 | 10 |
| 11996 | Styrene | 100-42-5 | 5.0 U | 5.0 | 10 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 3.2 | 2.0 | 10 |
| 11996 | 1,1,2-Trichloroethane | 76-13-1 | 5.0 U | 5.0 | 10 |
| 11996 | 1,2,3-Trichlorobenzene | 87-61-6 | 5.0 U | 5.0 | 10 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 10 U | 10 | 10 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 5.0 U | 5.0 | 10 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 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 |

Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor.

A preserved vial was submitted for analysis. However, the pH at the time of analysis was 7.

Wet Chemistry SM 5310 C-2000 mg/l mg/l

Sample Description: MW-22A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974861
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 11:16 by JH The Boeing Company
PO Box 3707
Submitted: 05/04/2017 09:20 MC 1W-12
Reported: 05/17/2017 11:21 Seattle WA 98124

D22A1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------|----------------------|-----------------------|-------------|-----------------------|-----------------|
| | Wet Chemistry | SM 5310 C-2000 | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 300 | 25.0 | 25 |

Sample Comments

State of Washington Lab Certification No. C457
Preservation requirements were not met. The pH preservation of all non-volatile containers was checked upon receipt at the laboratory. The container for the following analysis was not within specification and was adjusted accordingly by the laboratory: Total Organic Carbon

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 69 | SW-846 8260C | 1 | H171302AA | 05/11/2017 06:42 | Don V Viray | 1 |
| 11996 | 8260C Boeing 69 | SW-846 8260C | 2-DL | H171302AA | 05/11/2017 07:02 | Don V Viray | 10 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171302AA | 05/11/2017 06:42 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 2 | H171302AA | 05/11/2017 07:02 | Don V Viray | 10 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17125667606A | 05/08/2017 14:34 | Drew M Gerhart | 25 |

Sample Description: MW-22A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974862
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 11:16 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

D22A2

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|--|----------------|----------------------------|-----------------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | ug/l | |
| 07105 | Ethane | 74-84-0 | 1.0 U | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 U | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 13,000 E | 3.0 | 1 |
| Trial ID: DL | | | | | |
| 07105 | Ethane | 74-84-0 | 100 U | 100 | 100 |
| 07105 | Ethene | 74-85-1 | 100 U | 100 | 100 |
| 07105 | Methane | 74-82-8 | 18,000 | 300 | 100 |
| The container used for this analysis was submitted with headspace. | | | | | |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.30 U | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------|---------------------|--------|--------------|------------------------|-------------------|-----------------|
| 07105 | MEE by RSK-175 | RSKSOP-175 modified | 1 | 171270001A | 05/08/2017 12:19 | Johanna C Kennedy | 1 |
| 07105 | MEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171270001A | 05/08/2017 16:43 | Johanna C Kennedy | 100 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17134249109B | 05/14/2017 17:20 | Zachary W Enck | 1 |

Sample Description: MW-11A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974863
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 10:31 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC11A

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|---------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 5.0 U | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 U | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 18 | 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 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 0.5 U | 0.5 | 1 |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |

Sample Description: MW-11A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974863
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 10:31 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC11A

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|--------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 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 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------------|--------------|--------|-----------|------------------------|-------------|-----------------|
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171302AA | 05/11/2017 00:55 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171302AA | 05/11/2017 00:55 | Don V Viray | 1 |

Sample Description: MW-6B-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974864
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 12:01 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC6B1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|-----------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 14 | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 U | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | 7.2 | 5.0 | 1 |
| 11996 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 1 |
| 11996 | Carbon Disulfide | 75-15-0 | 1.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 0.7 | 0.5 | 1 |

Sample Description: MW-6B-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974864
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 12:01 by JH

The Boeing Company

PO Box 3707

Submitted: 05/04/2017 09:20

MC 1W-12

Reported: 05/17/2017 11:21

Seattle WA 98124

DC6B1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------|--------------------------------|--------------|------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 0.5 U | 0.5 | 1 |
| 11996 | Vinyl Acetate | 108-05-4 | 0.5 U | 0.5 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.3 | 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 |

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) |
|---------------|-------------------|
| acrolein | -30 |
| vinyl acetate | -32 |
| 2-hexanone | -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.

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.

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

| Analyte | Response (%Drift) |
|----------------|-------------------|
| vinyl chloride | 27 |

Since the analyst observed that the sample foamed while purging, an

Sample Description: MW-6B-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974864
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 12:01 by JH The Boeing Company
PO Box 3707
Submitted: 05/04/2017 09:20 MC 1W-12
Reported: 05/17/2017 11:21 Seattle WA 98124

DC6B1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|---|------------|--------|-----------------------|-----------------|
| | anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor. | | | | |
| | A preserved vial was submitted for analysis. However, the pH at the time of analysis was 3. | | | | |
| Wet Chemistry | SM 5310 C-2000 | | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 149 | 10.0 | 10 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis | | Analyst | Dilution Factor |
|---------|----------------------|----------------|--------|--------------|------------|-------|-----------------|-----------------|
| | | | | | Date | Time | | |
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171301AA | 05/10/2017 | 17:50 | Kevin A Sposito | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171301AA | 05/10/2017 | 17:50 | Kevin A Sposito | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17125667606A | 05/06/2017 | 03:26 | Drew M Gerhart | 10 |

Sample Description: MW-6B-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974865
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 12:01 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20

Reported: 05/17/2017 11:21

DC6B2

| CAT No. | Analysis Name | CAS Number | Result | Method | Detection Limit | Dilution Factor |
|-------------------------|----------------|----------------------------|---------------|----------|-----------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Ethane | 74-84-0 | 1.0 | U | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 | U | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 17,000 | E | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Ethane | 74-84-0 | 200 | U | 200 | 200 |
| 07105 | Ethene | 74-85-1 | 200 | U | 200 | 200 |
| 07105 | Methane | 74-82-8 | 21,000 | | 600 | 200 |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 1.3 | | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------|---------------------|--------|--------------|------------------------|-------------------|-----------------|
| 07105 | MEE by RSK-175 | RSKSOP-175 modified | 1 | 171270001A | 05/08/2017 12:34 | Johanna C Kennedy | 1 |
| 07105 | MEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171270001A | 05/08/2017 17:17 | Johanna C Kennedy | 200 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17134249109B | 05/14/2017 17:35 | Zachary W Enck | 1 |

Sample Description: MW-6A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974866
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 12:51 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC6A1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|-------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 5.0 U | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 U | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | 2.3 | 0.5 | 1 |
| 11996 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 0.5 U | 0.5 | 1 |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |

Sample Description: MW-6A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974866
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 12:51 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC6A1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|--------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 0.6 | 0.2 | 1 |
| 11996 | 112Trichloro122Trifluoroethane | 76-13-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 0.5 U | 0.5 | 1 |
| 11996 | Vinyl Acetate | 108-05-4 | 0.5 U | 0.5 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.4 | 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) |
|---------------|-------------------|
| acrolein | -30 |
| vinyl acetate | -32 |
| 2-hexanone | -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.

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.

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

| Analyte | Response (%Drift) |
|----------------|-------------------|
| vinyl chloride | 27 |

Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a

Sample Description: MW-6A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974866
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 12:51 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20

Reported: 05/17/2017 11:21

DC6A1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|----------------------|------------------------|------------|--------|-----------------------|-----------------|
| | lower dilution factor. | | | | |
| Wet Chemistry | SM 5310 C-2000 | | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 124 | 5.0 | 5 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------------|----------------|--------|--------------|------------------------|-----------------|-----------------|
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171301AA | 05/10/2017 18:11 | Kevin A Sposito | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171301AA | 05/10/2017 18:11 | Kevin A Sposito | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17125667606A | 05/06/2017 03:40 | Drew M Gerhart | 5 |

Sample Description: MW-6A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974867
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 12:51 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC6A2

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|----------------|----------------------------|-------------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | ug/l | |
| 07105 | Ethane | 74-84-0 | 1.4 J | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 U | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 14,000 E | 3.0 | 1 |
| Trial ID: DL | | | | | |
| 07105 | Ethane | 74-84-0 | 100 U | 100 | 100 |
| 07105 | Ethene | 74-85-1 | 100 U | 100 | 100 |
| 07105 | Methane | 74-82-8 | 18,000 | 300 | 100 |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.30 U | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------|---------------------|--------|--------------|------------------------|-------------------|-----------------|
| 07105 | MEE by RSK-175 | RSKSOP-175 modified | 1 | 171270001A | 05/08/2017 12:49 | Johanna C Kennedy | 1 |
| 07105 | MEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171270001A | 05/08/2017 17:34 | Johanna C Kennedy | 100 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17134249109B | 05/14/2017 17:50 | Zachary W Enck | 1 |

Sample Description: BDC-DUP1-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974868
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 12:00 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DCFD1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|---------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 5.0 U | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 U | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 18 | 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 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 0.5 U | 0.5 | 1 |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |

Sample Description: BDC-DUP1-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974868
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 12:00 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DCFD1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|--------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 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) |
|---------------|-------------------|
| acrolein | -30 |
| vinyl acetate | -32 |
| 2-hexanone | -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.

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.

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

| Analyte | Response (%Drift) |
|----------------|-------------------|
| vinyl chloride | 27 |

Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a

Sample Description: BDC-DUP1-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974868
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 12:00 by JH The Boeing Company
PO Box 3707
Submitted: 05/04/2017 09:20 MC 1W-12
Reported: 05/17/2017 11:21 Seattle WA 98124

DCFD1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------|------------------------|------------|--------|-----------------------|-----------------|
| | lower dilution factor. | | | | |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------------|--------------|--------|-----------|------------------------|-----------------|-----------------|
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171301AA | 05/10/2017 18:31 | Kevin A Sposito | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171301AA | 05/10/2017 18:31 | Kevin A Sposito | 1 |

Sample Description: MW-15C-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974869
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 13:26 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC15C

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|---------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 5.0 U | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 U | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 0.4 | 0.2 | 1 |
| 11996 | 1,2-Dichloropropane | 78-87-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 0.5 U | 0.5 | 1 |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |

Sample Description: MW-15C-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974869
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 13:26 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC15C

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|--------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 0.5 | 0.2 | 1 |
| 11996 | 112Trichloro122Trifluoroethane | 76-13-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 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) |
|---------------|-------------------|
| acrolein | -30 |
| vinyl acetate | -32 |
| 2-hexanone | -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.

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.

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

| Analyte | Response (%Drift) |
|----------------|-------------------|
| vinyl chloride | 27 |

Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a

Sample Description: MW-15C-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974869
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 13:26 by JH The Boeing Company
PO Box 3707
Submitted: 05/04/2017 09:20 MC 1W-12
Reported: 05/17/2017 11:21 Seattle WA 98124

DC15C

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------|------------------------|------------|--------|-----------------------|-----------------|
| | lower dilution factor. | | | | |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------------|--------------|--------|-----------|------------------------|-----------------|-----------------|
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171301AA | 05/10/2017 18:52 | Kevin A Sposito | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171301AA | 05/10/2017 18:52 | Kevin A Sposito | 1 |

Sample Description: MW-14C-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974870
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 13:56 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC14C

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|-----------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 5.0 U | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 U | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 0.5 U | 0.5 | 1 |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |

Sample Description: MW-14C-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974870
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 13:56 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC14C

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|--------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 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 | 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 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------------|--------------|--------|-----------|------------------------|-------------|-----------------|
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171302AA | 05/11/2017 01:16 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171302AA | 05/11/2017 01:16 | Don V Viray | 1 |

Sample Description: MW-10C-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974871
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 14:31 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC10C

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|-------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 5.0 U | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 7.7 | 0.5 | 1 |

Sample Description: MW-10C-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974871
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 14:31 by JH

The Boeing Company

PO Box 3707

Submitted: 05/04/2017 09:20

MC 1W-12

Reported: 05/17/2017 11:21

Seattle WA 98124

DC10C

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|--------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 1.3 | 0.2 | 1 |
| 11996 | 112Trichloro122Trifluoroethane | 76-13-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 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 | 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) |
|---------------|-------------------|
| acrolein | -30 |
| vinyl acetate | -32 |
| 2-hexanone | -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.

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.

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

| Analyte | Response (%Drift) |
|----------------|-------------------|
| vinyl chloride | 27 |

Since the analyst observed that the sample foamed while purging, an

Sample Description: MW-10C-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974871
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 14:31 by JH The Boeing Company
PO Box 3707
Submitted: 05/04/2017 09:20 MC 1W-12
Reported: 05/17/2017 11:21 Seattle WA 98124

DC10C

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------|---|------------|--------|-----------------------|-----------------|
| | anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor. | | | | |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------------|--------------|--------|-----------|------------------------|-----------------|-----------------|
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171301AA | 05/10/2017 19:12 | Kevin A Sposito | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171301AA | 05/10/2017 19:12 | Kevin A Sposito | 1 |

Sample Description: MW-16C-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974872
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 15:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC16C

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|-------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 5.0 U | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 U | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 0.5 U | 0.5 | 1 |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |

Sample Description: MW-16C-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974872
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 15:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC16C

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|---------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 10 | 0.2 | 1 |
| 11996 | 1,1,2,2,2-Trifluoroethane | 76-13-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 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 | 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 |

Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor.

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------------|--------------|--------|-----------|------------------------|-------------|-----------------|
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171302AA | 05/11/2017 05:20 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171302AA | 05/11/2017 05:20 | Don V Viray | 1 |

Sample Description: MW-16A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974873
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 15:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC16A

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|---------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 5.3 | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 U | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 5.7 | 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 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 0.5 U | 0.5 | 1 |

Sample Description: MW-16A-170502 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974873
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017 15:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DC16A

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|---------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 0.7 | 0.2 | 1 |
| 11996 | 1,1,2,2,2-Trifluoroethane | 76-13-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 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 |

Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor.

A preserved vial was submitted for analysis. However, the pH at the time of analysis was 7.

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------------|--------------|--------|-----------|------------------------|-------------|-----------------|
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171302AA | 05/11/2017 05:41 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171302AA | 05/11/2017 05:41 | Don V Viray | 1 |

Sample Description: TRIP BLANK Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974874
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DCTB1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|-----------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 5.0 U | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 U | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 0.5 U | 0.5 | 1 |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |

Sample Description: TRIP BLANK Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974874
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20
Reported: 05/17/2017 11:21

DCTB1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|--------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 0.5 U | 0.5 | 1 |
| 11996 | Vinyl Acetate | 108-05-4 | 0.5 U | 0.5 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.2 U | 0.2 | 1 |
| 11996 | m,p-Xylene | 179601-23-1 | 0.5 U | 0.5 | 1 |
| 11996 | o-Xylene | 95-47-6 | 0.5 U | 0.5 | 1 |

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

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

| Analyte | Response (%Drift) |
|----------------|-------------------|
| vinyl chloride | 27 |
| acrolein | -30 |
| vinyl acetate | -32 |
| 2-hexanone | -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.

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|--------|---------------|------------------------|---------|-----------------|
|---------|---------------|--------|---------------|------------------------|---------|-----------------|

Sample Description: TRIP BLANK Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 8974874
LL Group # 1797119
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 05/02/2017

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:20

Reported: 05/17/2017 11:21

DCTB1

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------------|--------------|--------|-----------|------------------------|-----------------|-----------------|
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171301AA | 05/10/2017 11:35 | Kevin A Sposito | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171301AA | 05/10/2017 11:35 | Kevin A Sposito | 1 |

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/17/2017 11:21

Group Number: 1797119

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.

Method Blank

| Analysis Name | Result | LOQ |
|-----------------------------|-------------------|---|
| | ug/l | ug/l |
| Batch number: H171301AA | Sample number(s): | 8974856, 8974859, 8974864, 8974866, 8974868-8974869, 8974871, 8974874 |
| Acetone | 5.0 U | 5.0 |
| Acrolein | 25 U | 25 |
| Acrylonitrile | 5.0 U | 5.0 |
| Benzene | 0.2 U | 0.2 |
| Bromobenzene | 0.5 U | 0.5 |
| Bromochloromethane | 0.5 U | 0.5 |
| Bromodichloromethane | 0.5 U | 0.5 |
| Bromoform | 0.5 U | 0.5 |
| Bromomethane | 0.5 U | 0.5 |
| 2-Butanone | 5.0 U | 5.0 |
| n-Butylbenzene | 0.5 U | 0.5 |
| sec-Butylbenzene | 0.5 U | 0.5 |
| tert-Butylbenzene | 0.5 U | 0.5 |
| Carbon Disulfide | 0.5 U | 0.5 |
| Carbon Tetrachloride | 0.2 U | 0.2 |
| Chlorobenzene | 0.5 U | 0.5 |
| Chloroethane | 0.5 U | 0.5 |
| Chloroform | 0.2 U | 0.2 |
| Chloromethane | 0.5 U | 0.5 |
| 2-Chlorotoluene | 0.5 U | 0.5 |
| 4-Chlorotoluene | 0.5 U | 0.5 |
| 1,2-Dibromo-3-chloropropane | 0.5 U | 0.5 |
| Dibromochloromethane | 0.5 U | 0.5 |
| Dibromomethane | 0.5 U | 0.5 |
| trans-1,4-Dichloro-2-butene | 5.0 U | 5.0 |
| 1,2-Dichlorobenzene | 0.5 U | 0.5 |
| 1,3-Dichlorobenzene | 0.5 U | 0.5 |
| 1,4-Dichlorobenzene | 0.5 U | 0.5 |
| 1,1-Dichloroethane | 0.5 U | 0.5 |
| 1,2-Dichloroethane | 0.2 U | 0.2 |
| 1,1-Dichloroethene | 0.2 U | 0.2 |
| cis-1,2-Dichloroethene | 0.2 U | 0.2 |
| trans-1,2-Dichloroethene | 0.2 U | 0.2 |
| 1,2-Dichloropropane | 0.5 U | 0.5 |
| 1,3-Dichloropropane | 0.5 U | 0.5 |
| 2,2-Dichloropropane | 0.5 U | 0.5 |
| 1,1-Dichloropropene | 0.5 U | 0.5 |
| cis-1,3-Dichloropropene | 0.2 U | 0.2 |
| trans-1,3-Dichloropropene | 0.2 U | 0.2 |
| Ethylbenzene | 0.5 U | 0.5 |

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/17/2017 11:21

Group Number: 1797119

Method Blank (continued)

| Analysis Name | Result | LOQ |
|--------------------------------|--------------------|---|
| | ug/l | ug/l |
| Ethylene dibromide | 0.5 U | 0.5 |
| Hexachlorobutadiene | 0.5 U | 0.5 |
| 2-Hexanone | 5.0 U | 5.0 |
| Isopropylbenzene | 0.5 U | 0.5 |
| 4-Isopropyltoluene | 0.5 U | 0.5 |
| Methyl Iodide | 0.5 U | 0.5 |
| 4-Methyl-2-pentanone | 5.0 U | 5.0 |
| Methylene Chloride | 0.5 U | 0.5 |
| Naphthalene | 0.5 U | 0.5 |
| n-Propylbenzene | 0.5 U | 0.5 |
| Styrene | 0.5 U | 0.5 |
| 1,1,1,2-Tetrachloroethane | 0.5 U | 0.5 |
| 1,1,2,2-Tetrachloroethane | 0.2 U | 0.2 |
| Tetrachloroethene | 0.2 U | 0.2 |
| Toluene | 0.2 U | 0.2 |
| 112Trichloro122Trifluoroethane | 0.5 U | 0.5 |
| 1,2,3-Trichlorobenzene | 0.5 U | 0.5 |
| 1,2,4-Trichlorobenzene | 0.5 U | 0.5 |
| 1,1,1-Trichloroethane | 0.5 U | 0.5 |
| 1,1,2-Trichloroethane | 0.2 U | 0.2 |
| Trichloroethene | 0.2 U | 0.2 |
| Trichlorofluoromethane | 0.5 U | 0.5 |
| 1,2,3-Trichloropropane | 1.0 U | 1.0 |
| 1,2,4-Trimethylbenzene | 0.5 U | 0.5 |
| 1,3,5-Trimethylbenzene | 0.5 U | 0.5 |
| Vinyl Acetate | 0.5 U | 0.5 |
| Vinyl Chloride | 0.2 U | 0.2 |
| m,p-Xylene | 0.5 U | 0.5 |
| o-Xylene | 0.5 U | 0.5 |
| Batch number: H171302AA | Sample number (s): | 8974858, 8974860-8974861, 8974863, 8974870, 8974872-8974873 |
| Acetone | 5.0 U | 5.0 |
| Acrolein | 25 U | 25 |
| Acrylonitrile | 5.0 U | 5.0 |
| Benzene | 0.2 U | 0.2 |
| Bromobenzene | 0.5 U | 0.5 |
| Bromochloromethane | 0.5 U | 0.5 |
| Bromodichloromethane | 0.5 U | 0.5 |
| Bromoform | 0.5 U | 0.5 |
| Bromomethane | 0.5 U | 0.5 |
| 2-Butanone | 5.0 U | 5.0 |
| n-Butylbenzene | 0.5 U | 0.5 |
| sec-Butylbenzene | 0.5 U | 0.5 |
| tert-Butylbenzene | 0.5 U | 0.5 |
| Carbon Disulfide | 0.5 U | 0.5 |
| Carbon Tetrachloride | 0.2 U | 0.2 |
| Chlorobenzene | 0.5 U | 0.5 |
| Chloroethane | 0.5 U | 0.5 |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/17/2017 11:21

Group Number: 1797119

Method Blank (continued)

| Analysis Name | Result | LOQ |
|--------------------------------|--------|------|
| | ug/1 | ug/1 |
| Chloroform | 0.2 U | 0.2 |
| Chloromethane | 0.5 U | 0.5 |
| 2-Chlorotoluene | 0.5 U | 0.5 |
| 4-Chlorotoluene | 0.5 U | 0.5 |
| 1,2-Dibromo-3-chloropropane | 0.5 U | 0.5 |
| Dibromochloromethane | 0.5 U | 0.5 |
| Dibromomethane | 0.5 U | 0.5 |
| trans-1,4-Dichloro-2-butene | 5.0 U | 5.0 |
| 1,2-Dichlorobenzene | 0.5 U | 0.5 |
| 1,3-Dichlorobenzene | 0.5 U | 0.5 |
| 1,4-Dichlorobenzene | 0.5 U | 0.5 |
| 1,1-Dichloroethane | 0.5 U | 0.5 |
| 1,2-Dichloroethane | 0.2 U | 0.2 |
| 1,1-Dichloroethene | 0.2 U | 0.2 |
| cis-1,2-Dichloroethene | 0.2 U | 0.2 |
| trans-1,2-Dichloroethene | 0.2 U | 0.2 |
| 1,2-Dichloropropane | 0.5 U | 0.5 |
| 1,3-Dichloropropane | 0.5 U | 0.5 |
| 2,2-Dichloropropane | 0.5 U | 0.5 |
| 1,1-Dichloropropene | 0.5 U | 0.5 |
| cis-1,3-Dichloropropene | 0.2 U | 0.2 |
| trans-1,3-Dichloropropene | 0.2 U | 0.2 |
| Ethylbenzene | 0.5 U | 0.5 |
| Ethylene dibromide | 0.5 U | 0.5 |
| Hexachlorobutadiene | 0.5 U | 0.5 |
| 2-Hexanone | 5.0 U | 5.0 |
| Isopropylbenzene | 0.5 U | 0.5 |
| 4-Isopropyltoluene | 0.5 U | 0.5 |
| Methyl Iodide | 0.5 U | 0.5 |
| 4-Methyl-2-pentanone | 5.0 U | 5.0 |
| Methylene Chloride | 0.5 U | 0.5 |
| Naphthalene | 0.5 U | 0.5 |
| n-Propylbenzene | 0.5 U | 0.5 |
| Styrene | 0.5 U | 0.5 |
| 1,1,1,2-Tetrachloroethane | 0.5 U | 0.5 |
| 1,1,2,2-Tetrachloroethane | 0.2 U | 0.2 |
| Tetrachloroethene | 0.2 U | 0.2 |
| Toluene | 0.2 U | 0.2 |
| 112Trichloro122Trifluoroethane | 0.5 U | 0.5 |
| 1,2,3-Trichlorobenzene | 0.5 U | 0.5 |
| 1,2,4-Trichlorobenzene | 0.5 U | 0.5 |
| 1,1,1-Trichloroethane | 0.5 U | 0.5 |
| 1,1,2-Trichloroethane | 0.2 U | 0.2 |
| Trichloroethene | 0.2 U | 0.2 |
| Trichlorofluoromethane | 0.5 U | 0.5 |
| 1,2,3-Trichloropropane | 1.0 U | 1.0 |
| 1,2,4-Trimethylbenzene | 0.5 U | 0.5 |
| 1,3,5-Trimethylbenzene | 0.5 U | 0.5 |

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/17/2017 11:21

Group Number: 1797119

Method Blank (continued)

| Analysis Name | Result | LOQ |
|----------------|--------|------|
| | ug/l | ug/l |
| Vinyl Acetate | 0.5 U | 0.5 |
| Vinyl Chloride | 0.2 U | 0.2 |
| m,p-Xylene | 0.5 U | 0.5 |
| o-Xylene | 0.5 U | 0.5 |

| Analysis Name | Result | MDL |
|--------------------------|--|------|
| | ug/l | ug/l |
| Batch number: 171270001A | Sample number(s): 8974857, 8974862, 8974865, 8974867 | |
| Ethane | 1.0 U | 1.0 |
| Ethene | 1.0 U | 1.0 |
| Methane | 3.0 U | 3.0 |

| Analysis Name | Result | LOQ |
|----------------------------|---|------|
| | mg/l | mg/l |
| Batch number: 17125667605B | Sample number(s): 8974856 | |
| Total Organic Carbon | 1.0 U | 1.0 |
| Batch number: 17125667606A | Sample number(s): 8974861, 8974864, 8974866 | |
| Total Organic Carbon | 1.0 U | 1.0 |

| Analysis Name | Result | MDL |
|----------------------------|---|------|
| | mg/l | mg/l |
| Batch number: 17132987312B | Sample number(s): 8974857 | |
| Sulfate | 0.30 U | 0.30 |
| Batch number: 17134249109B | Sample number(s): 8974862, 8974865, 8974867 | |
| Sulfate | 0.30 U | 0.30 |

LCS/LCSD

| Analysis Name | LCS Spike Added | LCS Conc | LCSD Spike Added | LCSD Conc | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|-------------------------|---|----------|------------------|-----------|----------|-----------|-----------------|-----|---------|
| | ug/l | ug/l | ug/l | ug/l | | | | | |
| Batch number: H171301AA | Sample number(s): 8974856, 8974859, 8974864, 8974866, 8974868-8974869, 8974871, 8974874 | | | | | | | | |
| Acetone | 37.5 | 35.82 | | | 96 | | 60-133 | | |
| Acrolein | 37.5 | 21.95 | | | 59 | | 39-141 | | |
| Acrylonitrile | 25 | 23.28 | | | 93 | | 63-141 | | |
| Benzene | 5.00 | 5.03 | | | 101 | | 80-120 | | |
| Bromobenzene | 5.00 | 4.95 | | | 99 | | 80-120 | | |
| Bromochloromethane | 5.00 | 5.14 | | | 103 | | 80-125 | | |
| Bromodichloromethane | 5.00 | 5.21 | | | 104 | | 80-125 | | |
| Bromoform | 5.00 | 5.77 | | | 115 | | 62-128 | | |
| Bromomethane | 5.00 | 4.90 | | | 98 | | 64-125 | | |
| 2-Butanone | 37.5 | 30.43 | | | 81 | | 57-144 | | |
| n-Butylbenzene | 5.00 | 5.40 | | | 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.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/17/2017 11:21

Group Number: 1797119

LCS/LCSD (continued)

| Analysis Name | LCS Spike Added ug/l | LCS Conc ug/l | LCSD Spike Added ug/l | LCSD Conc ug/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---|-------------------------|------------------|--------------------------|-------------------|----------|-----------|-----------------|-----|---------|
| sec-Butylbenzene | 5.00 | 5.29 | | | 106 | | 80-120 | | |
| tert-Butylbenzene | 5.00 | 5.13 | | | 103 | | 74-124 | | |
| Carbon Disulfide | 5.00 | 5.27 | | | 105 | | 62-127 | | |
| Carbon Tetrachloride | 5.00 | 5.16 | | | 103 | | 76-129 | | |
| Chlorobenzene | 5.00 | 5.15 | | | 103 | | 80-120 | | |
| Chloroethane | 5.00 | 4.74 | | | 95 | | 63-125 | | |
| Chloroform | 5.00 | 4.96 | | | 99 | | 80-120 | | |
| Chloromethane | 5.00 | 4.84 | | | 97 | | 55-126 | | |
| 2-Chlorotoluene | 5.00 | 5.16 | | | 103 | | 80-120 | | |
| 4-Chlorotoluene | 5.00 | 5.28 | | | 106 | | 80-120 | | |
| 1,2-Dibromo-3-chloropropane | 5.00 | 4.19 | | | 84 | | 47-153 | | |
| Dibromochloromethane | 5.00 | 5.32 | | | 106 | | 78-127 | | |
| Dibromomethane | 5.00 | 5.38 | | | 108 | | 80-122 | | |
| trans-1,4-Dichloro-2-butene | 25 | 20.97 | | | 84 | | 10-176 | | |
| 1,2-Dichlorobenzene | 5.00 | 4.96 | | | 99 | | 80-120 | | |
| 1,3-Dichlorobenzene | 5.00 | 4.88 | | | 98 | | 80-120 | | |
| 1,4-Dichlorobenzene | 5.00 | 4.72 | | | 94 | | 80-120 | | |
| 1,1-Dichloroethane | 5.00 | 5.03 | | | 101 | | 80-120 | | |
| 1,2-Dichloroethane | 5.00 | 5.20 | | | 104 | | 72-127 | | |
| 1,1-Dichloroethene | 5.00 | 5.09 | | | 102 | | 76-120 | | |
| cis-1,2-Dichloroethene | 5.00 | 5.20 | | | 104 | | 80-120 | | |
| trans-1,2-Dichloroethene | 5.00 | 5.18 | | | 104 | | 80-120 | | |
| 1,2-Dichloropropane | 5.00 | 5.17 | | | 103 | | 80-120 | | |
| 1,3-Dichloropropane | 5.00 | 5.23 | | | 105 | | 80-120 | | |
| 2,2-Dichloropropane | 5.00 | 5.23 | | | 105 | | 72-126 | | |
| 1,1-Dichloropropene | 5.00 | 5.05 | | | 101 | | 77-120 | | |
| cis-1,3-Dichloropropene | 5.00 | 5.48 | | | 110 | | 80-120 | | |
| trans-1,3-Dichloropropene | 5.00 | 5.44 | | | 109 | | 77-121 | | |
| Ethylbenzene | 5.00 | 5.23 | | | 105 | | 80-120 | | |
| Ethylene dibromide | 5.00 | 5.25 | | | 105 | | 80-120 | | |
| Hexachlorobutadiene | 5.00 | 4.35 | | | 87 | | 74-120 | | |
| 2-Hexanone | 25 | 18.05 | | | 72 | | 61-138 | | |
| Isopropylbenzene | 5.00 | 5.42 | | | 108 | | 80-120 | | |
| 4-Isopropyltoluene | 5.00 | 5.48 | | | 110 | | 80-120 | | |
| Methyl Iodide | 5.00 | 5.01 | | | 100 | | 70-120 | | |
| 4-Methyl-2-pentanone | 25 | 19.08 | | | 76 | | 65-135 | | |
| Methylene Chloride | 5.00 | 5.03 | | | 101 | | 80-120 | | |
| Naphthalene | 5.00 | 4.78 | | | 96 | | 65-131 | | |
| n-Propylbenzene | 5.00 | 5.20 | | | 104 | | 79-120 | | |
| Styrene | 5.00 | 5.50 | | | 110 | | 80-120 | | |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.17 | | | 103 | | 80-120 | | |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.98 | | | 100 | | 75-123 | | |
| Tetrachloroethene | 5.00 | 4.96 | | | 99 | | 80-120 | | |
| Toluene | 5.00 | 5.14 | | | 103 | | 80-120 | | |
| 1,1,2,2-Trichloro-1,1,2,2-Trifluoroethane | 5.00 | 5.28 | | | 106 | | 75-120 | | |
| 1,2,3-Trichlorobenzene | 5.00 | 4.29 | | | 86 | | 66-120 | | |
| 1,2,4-Trichlorobenzene | 5.00 | 4.58 | | | 92 | | 67-120 | | |

*- 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.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/17/2017 11:21

Group Number: 1797119

LCS/LCSD (continued)

| Analysis Name | LCS Spike Added ug/l | LCS Conc ug/l | LCSD Spike Added ug/l | LCSD Conc ug/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|--|----------------------|---------------|-----------------------|----------------|----------|-----------|-----------------|-----|---------|
| 1,1,1-Trichloroethane | 5.00 | 4.91 | | | 98 | | 79-120 | | |
| 1,1,2-Trichloroethane | 5.00 | 5.43 | | | 109 | | 80-120 | | |
| Trichloroethene | 5.00 | 4.92 | | | 98 | | 80-120 | | |
| Trichlorofluoromethane | 5.00 | 4.66 | | | 93 | | 65-134 | | |
| 1,2,3-Trichloropropane | 5.00 | 5.26 | | | 105 | | 80-125 | | |
| 1,2,4-Trimethylbenzene | 5.00 | 5.33 | | | 107 | | 80-120 | | |
| 1,3,5-Trimethylbenzene | 5.00 | 5.31 | | | 106 | | 80-120 | | |
| Vinyl Acetate | 12.5 | 13.74 | | | 110 | | 55-129 | | |
| Vinyl Chloride | 5.00 | 5.20 | | | 104 | | 62-128 | | |
| m,p-Xylene | 10 | 10.78 | | | 108 | | 80-120 | | |
| o-Xylene | 5.00 | 5.28 | | | 106 | | 80-120 | | |
| Batch number: H171302AA Sample number(s): 8974858,8974860-8974861,8974863,8974870,8974872-8974873 | | | | | | | | | |
| Acetone | 37.5 | 29.35 | 37.5 | 34.01 | 78 | 91 | 60-133 | 15 | 30 |
| Acrolein | 37.5 | 22.33 | 37.5 | 27.75 | 60 | 74 | 39-141 | 22 | 30 |
| Acrylonitrile | 25 | 23.93 | 25 | 24.58 | 96 | 98 | 63-141 | 3 | 30 |
| Benzene | 5.00 | 5.15 | 5.00 | 5.09 | 103 | 102 | 80-120 | 1 | 30 |
| Bromobenzene | 5.00 | 5.10 | 5.00 | 5.16 | 102 | 103 | 80-120 | 1 | 30 |
| Bromochloromethane | 5.00 | 5.11 | 5.00 | 4.91 | 102 | 98 | 80-125 | 4 | 30 |
| Bromodichloromethane | 5.00 | 5.32 | 5.00 | 5.29 | 106 | 106 | 80-125 | 1 | 30 |
| Bromoform | 5.00 | 5.46 | 5.00 | 5.85 | 109 | 117 | 62-128 | 7 | 30 |
| Bromomethane | 5.00 | 4.81 | 5.00 | 5.22 | 96 | 104 | 64-125 | 8 | 30 |
| 2-Butanone | 37.5 | 30.63 | 37.5 | 33.08 | 82 | 88 | 57-144 | 8 | 30 |
| n-Butylbenzene | 5.00 | 5.60 | 5.00 | 5.78 | 112 | 116 | 80-120 | 3 | 30 |
| sec-Butylbenzene | 5.00 | 5.52 | 5.00 | 5.59 | 110 | 112 | 80-120 | 1 | 30 |
| tert-Butylbenzene | 5.00 | 5.31 | 5.00 | 5.33 | 106 | 107 | 74-124 | 0 | 30 |
| Carbon Disulfide | 5.00 | 5.22 | 5.00 | 5.21 | 104 | 104 | 62-127 | 0 | 30 |
| Carbon Tetrachloride | 5.00 | 5.14 | 5.00 | 5.22 | 103 | 104 | 76-129 | 2 | 30 |
| Chlorobenzene | 5.00 | 5.12 | 5.00 | 5.34 | 102 | 107 | 80-120 | 4 | 30 |
| Chloroethane | 5.00 | 4.71 | 5.00 | 4.98 | 94 | 100 | 63-125 | 6 | 30 |
| Chloroform | 5.00 | 5.00 | 5.00 | 4.96 | 100 | 99 | 80-120 | 1 | 30 |
| Chloromethane | 5.00 | 4.28 | 5.00 | 4.29 | 86 | 86 | 55-126 | 0 | 30 |
| 2-Chlorotoluene | 5.00 | 5.43 | 5.00 | 5.51 | 109 | 110 | 80-120 | 1 | 30 |
| 4-Chlorotoluene | 5.00 | 5.34 | 5.00 | 5.49 | 107 | 110 | 80-120 | 3 | 30 |
| 1,2-Dibromo-3-chloropropane | 5.00 | 4.28 | 5.00 | 4.40 | 86 | 88 | 47-153 | 3 | 30 |
| Dibromochloromethane | 5.00 | 5.42 | 5.00 | 5.57 | 108 | 111 | 78-127 | 3 | 30 |
| Dibromomethane | 5.00 | 5.26 | 5.00 | 5.20 | 105 | 104 | 80-122 | 1 | 30 |
| trans-1,4-Dichloro-2-butene | 25 | 18.43 | 25 | 19.88 | 74 | 80 | 10-176 | 8 | 30 |
| 1,2-Dichlorobenzene | 5.00 | 4.99 | 5.00 | 5.19 | 100 | 104 | 80-120 | 4 | 30 |
| 1,3-Dichlorobenzene | 5.00 | 5.10 | 5.00 | 5.27 | 102 | 105 | 80-120 | 3 | 30 |
| 1,4-Dichlorobenzene | 5.00 | 4.90 | 5.00 | 5.02 | 98 | 100 | 80-120 | 2 | 30 |
| 1,1-Dichloroethane | 5.00 | 5.07 | 5.00 | 5.06 | 101 | 101 | 80-120 | 0 | 30 |
| 1,2-Dichloroethane | 5.00 | 5.08 | 5.00 | 5.23 | 102 | 105 | 72-127 | 3 | 30 |
| 1,1-Dichloroethene | 5.00 | 4.35 | 5.00 | 5.10 | 87 | 102 | 76-120 | 16 | 30 |
| cis-1,2-Dichloroethene | 5.00 | 5.29 | 5.00 | 5.10 | 106 | 102 | 80-120 | 4 | 30 |
| trans-1,2-Dichloroethene | 5.00 | 5.23 | 5.00 | 5.07 | 105 | 101 | 80-120 | 3 | 30 |
| 1,2-Dichloropropane | 5.00 | 5.14 | 5.00 | 5.13 | 103 | 103 | 80-120 | 0 | 30 |
| 1,3-Dichloropropane | 5.00 | 5.22 | 5.00 | 5.32 | 104 | 106 | 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.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/17/2017 11:21

Group Number: 1797119

LCS/LCSD (continued)

| Analysis Name | LCS Spike Added ug/l | LCS Conc ug/l | LCSD Spike Added ug/l | LCSD Conc ug/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|--------------------------------|---|------------------|--------------------------|-------------------|----------|-----------|-----------------|-----|---------|
| 2,2-Dichloropropane | 5.00 | 5.37 | 5.00 | 5.33 | 107 | 107 | 72-126 | 1 | 30 |
| 1,1-Dichloropropene | 5.00 | 5.12 | 5.00 | 5.12 | 102 | 102 | 77-120 | 0 | 30 |
| cis-1,3-Dichloropropene | 5.00 | 5.46 | 5.00 | 5.51 | 109 | 110 | 80-120 | 1 | 30 |
| trans-1,3-Dichloropropene | 5.00 | 5.50 | 5.00 | 5.55 | 110 | 111 | 77-121 | 1 | 30 |
| Ethylbenzene | 5.00 | 5.27 | 5.00 | 5.41 | 105 | 108 | 80-120 | 3 | 30 |
| Ethylene dibromide | 5.00 | 5.17 | 5.00 | 5.36 | 103 | 107 | 80-120 | 4 | 30 |
| Hexachlorobutadiene | 5.00 | 4.27 | 5.00 | 4.10 | 85 | 82 | 74-120 | 4 | 30 |
| 2-Hexanone | 25 | 19.79 | 25 | 20.59 | 79 | 82 | 61-138 | 4 | 30 |
| Isopropylbenzene | 5.00 | 5.48 | 5.00 | 5.58 | 110 | 112 | 80-120 | 2 | 30 |
| 4-Isopropyltoluene | 5.00 | 5.59 | 5.00 | 5.66 | 112 | 113 | 80-120 | 1 | 30 |
| Methyl Iodide | 5.00 | 5.02 | 5.00 | 4.96 | 100 | 99 | 70-120 | 1 | 30 |
| 4-Methyl-2-pentanone | 25 | 20.32 | 25 | 21.5 | 81 | 86 | 65-135 | 6 | 30 |
| Methylene Chloride | 5.00 | 5.00 | 5.00 | 5.06 | 100 | 101 | 80-120 | 1 | 30 |
| Naphthalene | 5.00 | 4.53 | 5.00 | 4.81 | 91 | 96 | 65-131 | 6 | 30 |
| n-Propylbenzene | 5.00 | 5.35 | 5.00 | 5.52 | 107 | 110 | 79-120 | 3 | 30 |
| Styrene | 5.00 | 5.51 | 5.00 | 5.63 | 110 | 113 | 80-120 | 2 | 30 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.19 | 5.00 | 5.31 | 104 | 106 | 80-120 | 2 | 30 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.28 | 5.00 | 5.22 | 106 | 104 | 75-123 | 1 | 30 |
| Tetrachloroethene | 5.00 | 5.18 | 5.00 | 5.24 | 104 | 105 | 80-120 | 1 | 30 |
| Toluene | 5.00 | 5.31 | 5.00 | 5.37 | 106 | 107 | 80-120 | 1 | 30 |
| 112Trichloro122Trifluoroethane | 5.00 | 4.67 | 5.00 | 5.18 | 93 | 104 | 75-120 | 10 | 30 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.07 | 5.00 | 4.37 | 81 | 87 | 66-120 | 7 | 30 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.53 | 5.00 | 4.73 | 91 | 95 | 67-120 | 4 | 30 |
| 1,1,1-Trichloroethane | 5.00 | 5.03 | 5.00 | 4.95 | 101 | 99 | 79-120 | 2 | 30 |
| 1,1,2-Trichloroethane | 5.00 | 5.36 | 5.00 | 5.71 | 107 | 114 | 80-120 | 6 | 30 |
| Trichloroethene | 5.00 | 5.06 | 5.00 | 4.95 | 101 | 99 | 80-120 | 2 | 30 |
| Trichlorofluoromethane | 5.00 | 4.43 | 5.00 | 4.83 | 89 | 97 | 65-134 | 9 | 30 |
| 1,2,3-Trichloropropane | 5.00 | 5.02 | 5.00 | 5.38 | 100 | 108 | 80-125 | 7 | 30 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.47 | 5.00 | 5.52 | 109 | 110 | 80-120 | 1 | 30 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.44 | 5.00 | 5.57 | 109 | 111 | 80-120 | 2 | 30 |
| Vinyl Acetate | 12.5 | 13.37 | 12.5 | 13.51 | 107 | 108 | 55-129 | 1 | 30 |
| Vinyl Chloride | 5.00 | 4.42 | 5.00 | 4.87 | 88 | 97 | 62-128 | 10 | 30 |
| m,p-Xylene | 10 | 10.71 | 10 | 11 | 107 | 110 | 80-120 | 3 | 30 |
| o-Xylene | 5.00 | 5.25 | 5.00 | 5.32 | 105 | 106 | 80-120 | 1 | 30 |
| | ug/l | ug/l | ug/l | ug/l | | | | | |
| Batch number: 171270001A | Sample number(s): 8974857,8974862,8974865,8974867 | | | | | | | | |
| Ethane | 58.4 | 55.08 | | | 94 | | 85-115 | | |
| Ethene | 60.8 | 55.85 | | | 92 | | 83-115 | | |
| Methane | 59.8 | 57.07 | | | 95 | | 85-115 | | |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17125667605B | Sample number(s): 8974856 | | | | | | | | |
| Total Organic Carbon | 25 | 24.5 | | | 98 | | 91-113 | | |
| Batch number: 17125667606A | Sample number(s): 8974861,8974864,8974866 | | | | | | | | |
| Total Organic Carbon | 25 | 24.86 | | | 99 | | 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.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/17/2017 11:21

Group Number: 1797119

LCS/LCSD (continued)

| Analysis Name | LCS Spike Added mg/l | LCS Conc mg/l | LCSD Spike Added mg/l | LCSD Conc mg/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|------------------------------------|-------------------------|------------------|--------------------------|-------------------|----------|-----------|-----------------|-----|---------|
| Batch number: 17132987312B Sulfate | 7.50 | 7.14 | | | 95 | | 90-110 | | |
| Batch number: 17134249109B Sulfate | 7.50 | 7.50 | | | 100 | | 90-110 | | |

MS/MSD

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

| Analysis Name | Unspiked Conc ug/l | MS Spike Added ug/l | MS Conc ug/l | MSD Spike Added ug/l | MSD Conc ug/l | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max | |
|-----------------------------|---|------------------------|-----------------|-------------------------|------------------|---------|----------|---------------|--------|---------|----|
| Batch number: H171301AA | Sample number(s): 8974856, 8974859, 8974864, 8974866, 8974868-8974869, 8974871, 8974874 | | | | | | | | | | |
| | UNSPK: 8974856 | | | | | | | | | | |
| Acetone | 5.0 | U | 37.5 | 35.06 | 37.5 | 37.68 | 93 | 100 | 60-133 | 7 | 30 |
| Acrolein | 25 | U | 37.5 | 24.54 | 37.5 | 25.69 | 65 | 69 | 39-141 | 5 | 30 |
| Acrylonitrile | 5.0 | U | 25 | 25.81 | 25 | 25.24 | 103 | 101 | 63-141 | 2 | 30 |
| Benzene | 0.2 | U | 5.00 | 5.24 | 5.00 | 5.26 | 105 | 105 | 80-120 | 0 | 30 |
| Bromobenzene | 0.5 | U | 5.00 | 4.87 | 5.00 | 4.85 | 97 | 97 | 80-120 | 0 | 30 |
| Bromochloromethane | 0.5 | U | 5.00 | 5.00 | 5.00 | 4.93 | 100 | 99 | 80-125 | 1 | 30 |
| Bromodichloromethane | 0.5 | U | 5.00 | 5.29 | 5.00 | 5.31 | 106 | 106 | 80-125 | 0 | 30 |
| Bromoform | 0.5 | U | 5.00 | 5.47 | 5.00 | 5.59 | 109 | 112 | 62-128 | 2 | 30 |
| Bromomethane | 0.5 | U | 5.00 | 5.32 | 5.00 | 5.02 | 106 | 100 | 64-125 | 6 | 30 |
| 2-Butanone | 5.0 | U | 37.5 | 32.74 | 37.5 | 32.55 | 87 | 87 | 57-144 | 1 | 30 |
| n-Butylbenzene | 0.5 | U | 5.00 | 5.65 | 5.00 | 5.81 | 113 | 116 | 80-120 | 3 | 30 |
| sec-Butylbenzene | 0.5 | U | 5.00 | 5.46 | 5.00 | 5.48 | 109 | 110 | 80-120 | 0 | 30 |
| tert-Butylbenzene | 0.5 | U | 5.00 | 5.51 | 5.00 | 5.40 | 110 | 108 | 74-124 | 2 | 30 |
| Carbon Disulfide | 0.5 | U | 5.00 | 6.33 | 5.00 | 6.31 | 127 | 126 | 62-127 | 0 | 30 |
| Carbon Tetrachloride | 0.2 | U | 5.00 | 5.48 | 5.00 | 5.58 | 110 | 112 | 76-129 | 2 | 30 |
| Chlorobenzene | 0.5 | U | 5.00 | 5.23 | 5.00 | 5.17 | 105 | 103 | 80-120 | 1 | 30 |
| Chloroethane | 0.5 | U | 5.00 | 5.32 | 5.00 | 5.18 | 106 | 104 | 63-125 | 3 | 30 |
| Chloroform | 0.2 | U | 5.00 | 5.02 | 5.00 | 5.00 | 100 | 100 | 80-120 | 0 | 30 |
| Chloromethane | 0.5 | U | 5.00 | 4.92 | 5.00 | 4.69 | 98 | 94 | 55-126 | 5 | 30 |
| 2-Chlorotoluene | 0.5 | U | 5.00 | 5.28 | 5.00 | 5.18 | 106 | 104 | 80-120 | 2 | 30 |
| 4-Chlorotoluene | 0.5 | U | 5.00 | 5.14 | 5.00 | 5.30 | 103 | 106 | 80-120 | 3 | 30 |
| 1,2-Dibromo-3-chloropropane | 0.5 | U | 5.00 | 5.00 | 5.00 | 4.77 | 100 | 95 | 47-153 | 5 | 30 |
| Dibromochloromethane | 0.5 | U | 5.00 | 5.40 | 5.00 | 5.39 | 108 | 108 | 78-127 | 0 | 30 |
| Dibromomethane | 0.5 | U | 5.00 | 5.05 | 5.00 | 5.09 | 101 | 102 | 80-122 | 1 | 30 |
| trans-1,4-Dichloro-2-butene | 5.0 | U | 25 | 22.46 | 25 | 23.93 | 90 | 96 | 10-176 | 6 | 30 |
| 1,2-Dichlorobenzene | 0.5 | U | 5.00 | 4.85 | 5.00 | 4.88 | 97 | 98 | 80-120 | 1 | 30 |
| 1,3-Dichlorobenzene | 0.5 | U | 5.00 | 4.76 | 5.00 | 4.89 | 95 | 98 | 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.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/17/2017 11:21

Group Number: 1797119

MS/MSD (continued)

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

| Analysis Name | Unspiked Conc ug/l | MS Spike Added ug/l | MS Conc ug/l | MSD Spike Added ug/l | MSD Conc ug/l | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max | |
|--------------------------------|--------------------|---------------------|--------------|----------------------|---------------|---------|----------|---------------|--------|---------|----|
| 1,4-Dichlorobenzene | 0.5 | U | 5.00 | 4.72 | 5.00 | 4.68 | 94 | 94 | 80-120 | 1 | 30 |
| 1,1-Dichloroethane | 0.5 | U | 5.00 | 5.23 | 5.00 | 5.22 | 105 | 104 | 80-120 | 0 | 30 |
| 1,2-Dichloroethane | 0.2 | U | 5.00 | 4.98 | 5.00 | 5.22 | 100 | 104 | 72-127 | 5 | 30 |
| 1,1-Dichloroethene | 0.2 | U | 5.00 | 5.51 | 5.00 | 5.42 | 110 | 108 | 76-120 | 2 | 30 |
| cis-1,2-Dichloroethene | 0.115 | | 5.00 | 5.55 | 5.00 | 5.48 | 109 | 107 | 80-120 | 1 | 30 |
| trans-1,2-Dichloroethene | 0.654 | | 5.00 | 6.10 | 5.00 | 6.03 | 109 | 108 | 80-120 | 1 | 30 |
| 1,2-Dichloropropane | 0.5 | U | 5.00 | 5.06 | 5.00 | 5.21 | 101 | 104 | 80-120 | 3 | 30 |
| 1,3-Dichloropropane | 0.5 | U | 5.00 | 5.15 | 5.00 | 5.07 | 103 | 101 | 80-120 | 1 | 30 |
| 2,2-Dichloropropane | 0.5 | U | 5.00 | 5.57 | 5.00 | 5.53 | 111 | 111 | 72-126 | 1 | 30 |
| 1,1-Dichloropropene | 0.5 | U | 5.00 | 5.44 | 5.00 | 5.44 | 109 | 109 | 77-120 | 0 | 30 |
| cis-1,3-Dichloropropene | 0.2 | U | 5.00 | 5.47 | 5.00 | 5.56 | 109 | 111 | 80-120 | 2 | 30 |
| trans-1,3-Dichloropropene | 0.2 | U | 5.00 | 5.31 | 5.00 | 5.33 | 106 | 107 | 77-121 | 0 | 30 |
| Ethylbenzene | 0.5 | U | 5.00 | 5.42 | 5.00 | 5.38 | 108 | 108 | 80-120 | 1 | 30 |
| Ethylene dibromide | 0.5 | U | 5.00 | 4.99 | 5.00 | 5.01 | 100 | 100 | 80-120 | 0 | 30 |
| Hexachlorobutadiene | 0.5 | U | 5.00 | 4.64 | 5.00 | 4.86 | 93 | 97 | 74-120 | 5 | 30 |
| 2-Hexanone | 5.0 | U | 25 | 20.8 | 25 | 20.35 | 83 | 81 | 61-138 | 2 | 30 |
| Isopropylbenzene | 0.5 | U | 5.00 | 5.63 | 5.00 | 5.61 | 113 | 112 | 80-120 | 0 | 30 |
| 4-Isopropyltoluene | 0.5 | U | 5.00 | 5.61 | 5.00 | 5.62 | 112 | 112 | 80-120 | 0 | 30 |
| Methyl Iodide | 0.5 | U | 5.00 | 5.19 | 5.00 | 5.14 | 104 | 103 | 70-120 | 1 | 30 |
| 4-Methyl-2-pentanone | 5.0 | U | 25 | 21.92 | 25 | 21.33 | 88 | 85 | 65-135 | 3 | 30 |
| Methylene Chloride | 0.5 | U | 5.00 | 5.04 | 5.00 | 5.13 | 101 | 103 | 80-120 | 2 | 30 |
| Naphthalene | 69.59 | | 5.00 | 72.22 | 5.00 | 73.45 | 52 (2) | 77 (2) | 65-131 | 2 | 30 |
| n-Propylbenzene | 0.5 | U | 5.00 | 5.29 | 5.00 | 5.33 | 106 | 107 | 79-120 | 1 | 30 |
| Styrene | 0.5 | U | 5.00 | 5.48 | 5.00 | 5.48 | 110 | 110 | 80-120 | 0 | 30 |
| 1,1,1,2-Tetrachloroethane | 0.5 | U | 5.00 | 5.08 | 5.00 | 5.13 | 102 | 103 | 80-120 | 1 | 30 |
| 1,1,2,2-Tetrachloroethane | 0.2 | U | 5.00 | 4.76 | 5.00 | 4.70 | 95 | 94 | 75-123 | 1 | 30 |
| Tetrachloroethene | 0.2 | U | 5.00 | 5.40 | 5.00 | 5.30 | 108 | 106 | 80-120 | 2 | 30 |
| Toluene | 0.144 | | 5.00 | 5.49 | 5.00 | 5.48 | 107 | 107 | 80-120 | 0 | 30 |
| 112Trichloro122Trifluoroethane | 0.5 | U | 5.00 | 5.82 | 5.00 | 5.80 | 116 | 116 | 75-120 | 0 | 30 |
| 1,2,3-Trichlorobenzene | 0.5 | U | 5.00 | 4.29 | 5.00 | 4.49 | 86 | 90 | 66-120 | 4 | 30 |
| 1,2,4-Trichlorobenzene | 0.5 | U | 5.00 | 4.75 | 5.00 | 4.89 | 95 | 98 | 67-120 | 3 | 30 |
| 1,1,1-Trichloroethane | 0.5 | U | 5.00 | 5.23 | 5.00 | 5.23 | 105 | 105 | 79-120 | 0 | 30 |
| 1,1,2-Trichloroethane | 0.2 | U | 5.00 | 5.27 | 5.00 | 5.20 | 105 | 104 | 80-120 | 1 | 30 |
| Trichloroethene | 0.2 | U | 5.00 | 5.29 | 5.00 | 5.23 | 106 | 105 | 80-120 | 1 | 30 |
| Trichlorofluoromethane | 0.5 | U | 5.00 | 4.82 | 5.00 | 5.38 | 96 | 108 | 65-134 | 11 | 30 |
| 1,2,3-Trichloropropane | 1.0 | U | 5.00 | 4.76 | 5.00 | 4.52 | 95 | 90 | 80-125 | 5 | 30 |
| 1,2,4-Trimethylbenzene | 0.124 | | 5.00 | 5.49 | 5.00 | 5.44 | 107 | 106 | 80-120 | 1 | 30 |
| 1,3,5-Trimethylbenzene | 0.5 | U | 5.00 | 5.34 | 5.00 | 5.39 | 107 | 108 | 80-120 | 1 | 30 |
| Vinyl Acetate | 0.5 | U | 12.5 | 13.07 | 12.5 | 12.78 | 105 | 102 | 55-129 | 2 | 30 |
| Vinyl Chloride | 0.2 | U | 5.00 | 5.54 | 5.00 | 5.51 | 111 | 110 | 62-128 | 0 | 30 |
| m,p-Xylene | 0.181 | | 10 | 11.1 | 10 | 11.01 | 109 | 108 | 80-120 | 1 | 30 |
| o-Xylene | 0.146 | | 5.00 | 5.46 | 5.00 | 5.50 | 106 | 107 | 80-120 | 1 | 30 |

Batch number: 171270001A

Sample number(s): 8974857,8974862,8974865,8974867 UNSPK: 8974857

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/17/2017 11:21

Group Number: 1797119

MS/MSD (continued)

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

| Analysis Name | Unspiked Conc ug/l | MS Spike Added ug/l | MS Conc ug/l | MSD Spike Added ug/l | MSD Conc ug/l | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|--|--|---------------------|--------------|----------------------|---------------|-----------|-----------|---------------|-----|---------|
| Ethane | 503.89 | 58.4 | 537.3 | 58.4 | 527.83 | 57 (2) | 41 (2) | 74-131 | 2 | 30 |
| Ethene | 1.0 U | 60.8 | 63.18 | 60.8 | 61.99 | 104 | 102 | 72-133 | 2 | 30 |
| Methane | 18565.78 | 59.8 | 17638 | 59.8 | 17585.46 | -1550 (2) | -1638 (2) | 73-125 | 0 | 30 |
| | mg/l | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17125667605B Total Organic Carbon | 22.3 | 10 | 31.87 | | | 96 | | 64-148 | | |
| | Sample number(s): 8974856 UNSPK: 8974856 | | | | | | | | | |
| Batch number: 17125667606A Total Organic Carbon | 1.0 U | 10 | 10.24 | | | 102 | | 64-148 | | |
| | Sample number(s): 8974861,8974864,8974866 UNSPK: P971124 | | | | | | | | | |
| | mg/l | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17132987312B Sulfate | 0.30 U | 10 | 9.82 | | | 98 | | 90-110 | | |
| | Sample number(s): 8974857 UNSPK: 8974857 | | | | | | | | | |
| Batch number: 17134249109B Sulfate | 13802.26 | 25000 | 39104.45 | | | 101 | | 90-110 | | |
| | Sample number(s): 8974862,8974865,8974867 UNSPK: P975016 | | | | | | | | | |

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | BKG Conc mg/l | DUP Conc mg/l | DUP RPD | DUP RPD Max |
|--|--|---------------|---------|-------------|
| Batch number: 17125667605B Total Organic Carbon | 22.3 | 22.88 | 3 | 9 |
| | Sample number(s): 8974856 BKG: 8974856 | | | |
| Batch number: 17125667606A Total Organic Carbon | 1.0 U | 1.0 U | 0 (1) | 9 |
| | Sample number(s): 8974861,8974864,8974866 BKG: P971124 | | | |
| | mg/l | mg/l | | |
| Batch number: 17132987312B Sulfate | 0.30 U | 0.30 U | 0 (1) | 15 |
| | Sample number(s): 8974857 BKG: 8974857 | | | |
| Batch number: 17134249109B Sulfate | 13802.26 | 20155.22 | 37* (1) | 15 |
| | Sample number(s): 8974862,8974865,8974867 BKG: P975016 | | | |

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/17/2017 11:21

Group Number: 1797119

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 Boeing 69
Batch number: H171301AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|-----------|----------------------|-----------------------|------------|----------------------|
| 8974856 | 105 | 104 | 100 | 102 |
| 8974856DL | 101 | 103 | 103 | 99 |
| 8974859 | 104 | 108 | 99 | 110 |
| 8974864 | 102 | 102 | 102 | 109 |
| 8974866 | 103 | 108 | 100 | 107 |
| 8974868 | 102 | 103 | 103 | 107 |
| 8974869 | 101 | 100 | 102 | 106 |
| 8974871 | 102 | 101 | 102 | 107 |
| 8974874 | 99 | 102 | 105 | 98 |
| Blank | 101 | 100 | 104 | 98 |
| LCS | 102 | 101 | 103 | 103 |
| MS | 103 | 100 | 101 | 104 |
| MSD | 102 | 103 | 100 | 103 |
| Limits: | 77-114 | 74-113 | 77-110 | 78-110 |

Analysis Name: 8260C Boeing 69
Batch number: H171302AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|-----------|----------------------|-----------------------|------------|----------------------|
| 8974858 | 104 | 107 | 100 | 97 |
| 8974860 | 100 | 99 | 102 | 106 |
| 8974861 | 106 | 110 | 99 | 110 |
| 8974861DL | 102 | 104 | 101 | 105 |
| 8974863 | 101 | 102 | 102 | 98 |
| 8974870 | 101 | 104 | 104 | 98 |
| 8974872 | 100 | 96 | 103 | 104 |
| 8974873 | 100 | 106 | 103 | 107 |
| Blank | 105 | 102 | 101 | 99 |
| LCS | 101 | 103 | 101 | 103 |
| LCSD | 99 | 99 | 103 | 102 |
| Limits: | 77-114 | 74-113 | 77-110 | 78-110 |

Analysis Name: MEE by RSK-175
Batch number: 171270001A

| | Propene |
|-----------|---------|
| 8974857 | 73 |
| 8974857DL | 87 |
| 8974862 | 57 |
| 8974862DL | 87 |
| 8974865 | 71 |
| 8974865DL | 94 |
| 8974867 | 64 |
| 8974867DL | 94 |
| Blank | 92 |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/17/2017 11:21

Group Number: 1797119

Surrogate Quality Control (continued)

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

Analysis Name: MEE by RSK-175
Batch number: 171270001A

| | Propene |
|-----|---------|
| LCS | 91 |
| MS | 74 |
| MSD | 72 |

Limits: 44-123

*- Outside of specification

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

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

Boeing Chain of Custody



Lancaster Laboratories

Acct. # 13019 For Eurofins Lancaster Laboratories use only
 Group # 174719 Sample # 8974856-74
 Please print. Instructions on reverse side correspond.

| 1 Client Information | | | | | 4 Analyses Requested | | | | | | | 5 Remarks/Comments | | | | | | |
|--|--|-------------|------|----------|---|---|--|---|---|---|----------------------------------|--------------------|--|--|--|--|--|-----------------------|
| Site Location: <u>Boeing DC - Tukwila, WA</u> | | | | | <div style="display: flex; flex-direction: column; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">VOC's (SRLC)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Methane, Ethane, Ethane (175 Mol)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TOC (SMSBIOL)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Sulfate (300.0)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">MS/MSD</div> </div> | | | | | | | Page 1 of 1 | | | | | | |
| Site Project: <u>Boeing Developmental Center</u> | | | | | | | | | | | | | | | | | | |
| Site Program#: <u>SWMP-20 / 0025217-099.069</u> | | | | | | | | | | | | | | | | | | |
| Boeing PM: <u>Jennifer Parsons</u> | | | | | | | | | | | | | | | | | | |
| Consultant Contact: <u>Chris Kimmel</u> | | | | | | | | | | | | | | | | | | |
| Report To: <u>J. Parsons, L Mahot, C Kimmel</u> | | | | | | | | | | | | | | | | | | |
| Invoice To: <input checked="" type="checkbox"/> Boeing EHS <input type="checkbox"/> Other (specify): _____ | | | | | | | | | | | | | | | | | | |
| Sampler: <u>Jeovani Auesta</u> # of Coolers: <u>1</u> | | | | | | | | | | | | | | | | | | |
| 2 Sample Identification | | 3 Collected | | 3 Matrix | No. of Containers | | | | | | | | | | | | | |
| | | Date | Time | | | | | | | | | | | | | | | |
| MW-9A-170502 | | 5/2/17 | 811 | AQ | 27 | X | X | X | X | X | | | | | | | | |
| MW-13A-170502 | | 5/2/17 | 856 | AQ | 3 | X | | | | | | | | | | | | |
| MW-13C-170502 | | 5/2/17 | 916 | AQ | 3 | X | | | | | | | | | | | | Effervescent |
| MW-20C-170502 | | 5/2/17 | 951 | AQ | 3 | X | | | | | | | | | | | | Slightly effervescent |
| MW-22A-170502 | | 5/2/17 | 1116 | AQ | 9 | X | X | X | X | | | | | | | | | Very effervescent |
| MW-11A-170502 | | 5/2/17 | 1031 | AQ | 3 | X | | | | | | | | | | | | |
| MW-6B-170502 | | 5/2/17 | 1201 | AQ | 9 | X | X | X | X | | | | | | | | | |
| MW-6A-170502 | | 5/2/17 | 1251 | AQ | 9 | X | X | X | X | | | | | | | | | |
| BDC-DUPI-170502 | | 5/2/17 | 1200 | AQ | 3 | X | | | | | | | | | | | | |
| MW-15C-170502 | | 5/2/17 | 1326 | AQ | 3 | X | | | | | | | | | | | | Effervescent |
| MW-14C-170502 | | 5/2/17 | 1356 | AQ | 3 | X | | | | | | | | | | | | Slightly effervescent |
| MW-10C-170502 | | 5/2/17 | 1431 | AQ | 3 | X | | | | | | | | | | | | |
| MW-16-170502 | | 5/2/17 | 1506 | AQ | 3 | X | | | | | | | | | | | | Slightly effervescent |
| MW-16A-170502 | | 5/2/17 | 1536 | AQ | 3 | X | | | | | | | | | | | | Foamy |
| TRIP BLANKS | | - | - | AQ | 2 | X | | | | | | | | | | | | |
| 6 Turnaround Time Requested (please circle) | | | | | Relinquished by: <u>[Signature]</u> | | Date/Time: <u>5/2/17 09:45</u> | | Received by: <u>[Signature]</u> | | Date/Time: <u>5/3/17 11:00</u> 7 | | | | | | | |
| Standard <input checked="" type="radio"/> 5 day 4 day 72 hour 48 hour 24 hour Date needed: _____ | | | | | Relinquished by: _____ | | Date/Time: _____ | | Received by: _____ | | Date/Time: _____ | | | | | | | |
| | | | | | Relinquished by: _____ | | Date/Time: _____ | | Received by: <u>[Signature]</u> | | Date/Time: <u>5/4/17 9:20</u> | | | | | | | |
| | | | | | Relinquished by commercial carrier (circle): | | | | Temperature upon Receipt: <u>1.6</u> °C | | | | | | | | | |
| | | | | | UPS <input type="radio"/> FedEx <input checked="" type="radio"/> Other: _____ | | Custody Seals Intact?: <input checked="" type="radio"/> Yes <input type="radio"/> No | | | | | | | | | | | |



Client: Boeing

Delivery and Receipt Information

Delivery Method: SeaTac Arrival Timestamp: 05/04/2017 9:20
 Number of Packages: 1 Number of Projects: 1

Arrival Condition Summary

| | | | |
|--------------------------------------|-----|-------------------------------------|-----|
| Shipping Container Sealed: | Yes | Sample IDs on COC match Containers: | Yes |
| Custody Seal Present: | Yes | Sample Date/Times match COC: | Yes |
| Custody Seal Intact: | Yes | VOA Vial Headspace \geq 6mm: | No |
| Samples Chilled: | Yes | Total Trip Blank Qty: | 2 |
| Paperwork Enclosed: | Yes | Trip Blank Type: | HCl |
| Samples Intact: | Yes | Air Quality Samples Present: | No |
| Missing Samples: | No | | |
| Extra Samples: | No | | |
| Discrepancy in Container Qty on COC: | No | | |

Unpacked by Nia Smith (12375) at 11:54 on 05/04/2017

Samples Chilled Details

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

| Cooler # | Thermometer ID | Corrected Temp | Therm. Type | Ice Type | Ice Present? | Ice Container | Elevated Temp? |
|----------|----------------|----------------|-------------|----------|--------------|---------------|----------------|
| 1 | DT146 | 0.6 | DT | Wet | Y | Bagged | N |

Explanation of Symbols and Abbreviations

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

| | | | |
|-------------------------|--|-----------------|-------------------------------|
| BMQL | Below Minimum Quantitation Level | mg | milligram(s) |
| C | degrees Celsius | mL | milliliter(s) |
| cfu | colony forming units | MPN | Most Probable Number |
| CP Units | cobalt-chloroplatinate units | N.D. | none detected |
| F | degrees Fahrenheit | ng | nanogram(s) |
| g | gram(s) | NTU | nephelometric turbidity units |
| IU | International Units | pg/L | picogram/liter |
| kg | kilogram(s) | RL | Reporting Limit |
| L | liter(s) | TNTC | Too Numerous To Count |
| lb. | pound(s) | µg | microgram(s) |
| m3 | cubic meter(s) | µL | microliter(s) |
| meq | milliequivalents | umhos/cm | micromhos/cm |
| < | less than | | |
| > | greater than | | |
| ppm | parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas. | | |
| ppb | parts per billion | | |
| Dry weight basis | Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis. | | |

Laboratory Data Qualifiers:

- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

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

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

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

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

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SWMU-17
(Groundwater Sample Collection Forms and Analytical Data)

Groundwater Low-Flow Sample Collection Form

Project Name: Regional GW Monitoring - Dev. Center Project Number: 0025217.099.039
 Event: August Quarterly Date/Time: 2/ 7 /2017 @ 1121
 Sample Number: BDC-05-02 170207 Weather: 40'S, CLOUDY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.24 Time: 1050 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 2/ 7 /17 @ 1056 End Purge: Date/Time: 2/ 7 /17 @ 1118 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other

| Time | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|-----------|---------------|-------------|---------------|-----------|-----------------|----------|-----------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | >= 1 flow through cell | |
| 1059 | 10.1 | 495 | 0.75 | 6.88 | -102.9 | | 11.24 | | |
| 1102 | 9.9 | 462 | 0.62 | 6.92 | -104.6 | | 11.24 | | |
| 1105 | 9.3 | 410 | 0.5 | 6.78 | -94.1 | | 11.24 | | |
| 1108 | 8.9 | 381 | 0.47 | 6.7 | -87 | | | | |
| 1111 | 8.9 | 366 | 0.44 | 6.65 | -80.8 | | | | |
| 1114 | 11.6 | 354 | 0.51 | 6.59 | -67.2 | | | | |
| 1116 | 11.3 | 348 | 0.41 | 6.65 | -72.3 | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR WITH SOME PARTICLES, YELLOWISH TINT, NO/NS

| Replicate | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|-----------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 11.3 | 348 | 0.4 | 6.65 | -72.5 | | | | |
| 2 | 11.2 | 347 | 0.4 | 6.65 | -72.6 | | | | |
| 3 | 11.2 | 347 | 0.4 | 6.65 | -72.7 | | | | |
| 4 | 11.2 | 347 | 0.4 | 6.65 | -72.3 | | | | |
| Average: | 11.2 | 347.3 | 0.4 | 6.7 | -72.5 | #DIV/0! | #DIV/0! | 2.4 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | VOC's (8260C) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 2 | (Total & Dissolved Metals) (Field Filtered) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hg) (K) (Na) VOC (Boeing (38) short list) |
| 2 | AMEE (RSKSOP-175 Mod) |
| | Ferrous Iron Kit |
| | others |

Duplicate Sample No(s): DID NOT CHANGE TUBING BEFORE SAMPLING BECAUSE OF METALS.
 Comments: INSTALLED NEW TUBING AFTER SAMPLING. MUCH MORE TUBING IN WELL THAN NEEDED TAKING UP SPACE.
 Signature: JHA Date: 2/7/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Regional GW Monitoring - Dev. Center Project Number: 0025217.099.039
 Event: August Quarterly Date/Time: 2/ 8 /2017 @ 1101
 Sample Number: BDC-05-12 170208 Weather: 30'S, RAINING
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.5 Time: 1030 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 2/ 8 /17 @ 1037 End Purge: Date/Time: 2/ 8 /17 @ 1052 Gallons Purged: 0.25
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other

| Time | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1040 | 12.7 | 320 | 0.25 | 6.55 | -20.4 | | 11.5 | | |
| 1043 | 13 | 316 | 0.27 | 6.55 | -23 | | 11.5 | | |
| 1046 | 13 | 310 | 0.29 | 6.54 | -24.2 | | 11.5 | | |
| 1049 | 13 | 307 | 0.29 | 6.53 | -24.8 | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR WITH SUSPENDED PARTICLES, COLORLES, NO/NS

| Replicate | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|-----------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 13 | 306 | 0.29 | 6.52 | -24.8 | | | | |
| 2 | 13 | 306 | 0.29 | 6.52 | -24.8 | | | | |
| 3 | 13.1 | 305 | 0.27 | 6.52 | -25.3 | | | | |
| 4 | 13.1 | 305 | 0.28 | 6.52 | -25.5 | | | | |
| Average: | 13.1 | 306 | 0.28 | 6.52 | -25.1 | #DIV/0! | #DIV/0! | 2.4 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | VOC's (8260C) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 2 | (Total & Dissolved Metals) (Field Filtered) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing (38) short list) |
| 2 | AMEE (RSKSOP-175 Mod) |
| | |
| | Ferrous Iron Kit |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 2/8/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Regional GW Monitoring - Dev. Center Project Number: 0025217.099.039
 Event: August Quarterly Date/Time: 2/ 8 /2017 @ 921
 Sample Number: BDC-05-16 170208 Weather: 30'S, DRIZZLING
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.05 Time: 853 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 2/ 8 /17 @ 855 End Purge: Date/Time: 2/ 8 /17 @ 918 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other

| Time | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 858 | 11 | 362 | 0.58 | 6.55 | -15.7 | | 11.05 | | |
| 901 | 11.4 | 365 | 0.52 | 6.66 | -27.7 | | 11.05 | | |
| 904 | 11.8 | 369 | 0.43 | 6.65 | -32.1 | | 11.05 | | |
| 907 | 11.9 | 371 | 0.38 | 6.66 | -36.5 | | | | |
| 910 | 11.7 | 370 | 0.34 | 6.65 | -41.3 | | | | |
| 913 | 11.8 | 371 | 0.32 | 6.63 | -45.7 | | | | |
| 915 | 11.9 | 372 | 0.3 | 6.62 | -49.6 | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, YELLOWISH/GREEN TINT, NO/NS

| Replicate | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|-----------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 11.9 | 372 | 0.29 | 6.62 | -50.4 | | | | |
| 2 | 11.9 | 372 | 0.29 | 6.62 | -50.8 | | | | |
| 3 | 12 | 372 | 0.29 | 6.62 | -51.3 | | | | |
| 4 | 12 | 372 | 0.29 | 6.62 | -51.7 | | | | |
| Average: | 12.0 | 372 | 0.29 | 6.62 | -51.1 | #DIV/0! | #DIV/0! | 2.4 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | VOC's (8260C) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 2 | (Total & Dissolved Metals) (Field Filtered) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | VOC (Boeing (38) short list) |
| 2 | AMEE (RSKSOP-175 Mod) |
| | |
| | Ferrous Iron Kit |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 2/8/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Regional GW Monitoring - Dev. Center Project Number: 0025217.099.039
 Event: August Quarterly Date/Time: 2/ 7 /2017 @ 1246
 Sample Number: BDC-05-18 170207 Weather: 40'S, PARTLY SUNNY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 10.7 Time: 1219 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 2/ 7 /17 @ 1220 End Purge: Date/Time: 2/ 7 /17 @ 1242 Gallons Purged: 0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other

| Time | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1223 | 10.5 | 127 | 0.63 | 6.72 | 18.5 | | 10.7 | | |
| 1226 | 9.6 | 124 | 0.82 | 6.48 | 30.9 | | 10.7 | | |
| 1229 | 10.2 | 126 | 0.61 | 6.2 | 43.1 | | 10.7 | | |
| 1232 | 10.4 | 128 | 0.58 | 6.18 | 42.3 | | | | |
| 1235 | 10.5 | 132 | 0.52 | 6.19 | 41.1 | | | | |
| 1238 | 10.3 | 138 | 0.43 | 6.24 | 33.8 | | | | |
| 1240 | 10.4 | 139 | 0.42 | 6.24 | 32.9 | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): SLIGHTLY TURBID, YELLOWISH LIGHT BROWN COLOR, NO/NS

| Replicate | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|-----------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 10.4 | 140 | 0.4 | 6.24 | 32.7 | | | | |
| 2 | 10.5 | 140 | 0.4 | 6.24 | 32.4 | | | | |
| 3 | 10.4 | 141 | 0.41 | 6.24 | 32.3 | | | | |
| 4 | 10.4 | 141 | 0.42 | 6.24 | 32.1 | | | | |
| Average: | 10.4 | 140.5 | 0.4 | 6.2 | 32.4 | #DIV/0! | #DIV/0! | 3.0 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | VOC's (8260C) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 2 | (Total & Dissolved Metals) (Field Filtered) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | VOC (Boeing (38) short list) |
| 2 | AMEE (RSKSOP-175 Mod) |
| | |
| | Ferrous Iron Kit |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 2/7/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Regional GW Monitoring - Dev. Center Project Number: 0025217.099.039
 Event: August Quarterly Date/Time: 2/ 8 /2017 @ 1011
 Sample Number: BDC-05-19 170208 Weather: 30'S, RAINING
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.43 Time: 945 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 2/ 8 /17 @ 948 End Purge: Date/Time: 2/ 8 /17 @ 1000 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other

| Time | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 951 | 11.8 | 332 | 0.4 | 6.63 | -31.3 | | 11.43 | | |
| 954 | 11.9 | 322 | 0.4 | 6.58 | -31.9 | | 11.43 | | |
| 957 | 12 | 321 | 0.36 | 6.55 | -33.2 | | 11.43 | | |
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SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR WITH SUSPENDED PARTICLES, COLORLESS, NO/NS

| Replicate | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|-----------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 12 | 315 | 0.36 | 6.63 | -33.3 | | | | |
| 2 | 12.1 | 311 | 0.34 | 6.52 | -33.2 | | | | |
| 3 | 12 | 308 | 0.33 | 6.51 | -33.3 | | | | |
| 4 | 12.1 | 305 | 0.32 | 6.5 | -33.5 | | | | |
| Average: | 12.1 | 310 | 0.34 | 6.54 | -33.3 | #DIV/0! | #DIV/0! | 3.2 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | VOC's (8260C) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 2 | (Total & Dissolved Metals (Field Filtered)) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | VOC (Boeing (38) short list) |
| 2 | AMEE (RSKSOP-175 Mod) |
| | |
| | Ferrous Iron Kit |
| | others |

Duplicate Sample No(s): Duplicate Sample Location (BDC-05-DUP)
 Comments: _____
 Signature: JHA Date: 2/8/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Regional GW Monitoring - Dev. Center Project Number: 0025217.099.039
 Event: August Quarterly Date/Time: 2/ 8 /2017 @ 900
 Sample Number: BDC-05-DUP- 170208 Weather: _____
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) _____ Time: _____ Flow through cell vol. _____ GW Meter No.(s) HERON 3
 Begin Purge: Date/Time: 2/ 8 /17 @ End Purge: Date/Time: 2/ 8 /17 @ Gallons Purged: _____
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other

| Time | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
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SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR WITH SUSPENDED PARTICLES, COLORLESS, NO/NS

| Replicate | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|-----------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 12 | 313 | 0.35 | 6.58 | -33.3 | | | | |
| 2 | 12.1 | 310 | 0.33 | 6.52 | -33.2 | | | | |
| 3 | 12 | 306 | 0.33 | 6.51 | -33.3 | | | | |
| 4 | 12.1 | 305 | 0.32 | 6.5 | -33.5 | | | | |
| Average: | 12.1 | 309 | 0.33 | 6.53 | -33.3 | #DIV/0! | #DIV/0! | #DIV/0! | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | VOC's (8260C) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 2 | (Total & Dissolved Metals (Field Filtered)) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hg) (K) (Na) VOC (Boeing (38) short list) |
| 2 | AMEE (RSKSOP-175 Mod) |
| | Ferrous Iron Kit |
| | others |

Duplicate Sample No(s): Duplicate to BDC-05-19
 Comments: _____
 Signature: JHA Date: 2/8/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Regional GW Monitoring - Dev. Center Project Number: 0025217.099.039
 Event: August Quarterly Date/Time: 2/ 8 /2017 @ 826
 Sample Number: BDC-05-20 170208 Weather: 30'S, DRIZZLING
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.34 Time: 755 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 2/ 8 /17 @ 759 End Purge: Date/Time: 2/ 8 /17 @ 814 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other

| Time | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|-----------|---------------|-------------|---------------|-----------|-----------------|----------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 802 | 12.4 | 371 | 0.49 | 6.67 | -37.8 | | 11.34 | | |
| 805 | 12.5 | 372 | 0.45 | 6.68 | -40.1 | | 11.34 | | |
| 808 | 11.3 | 363 | 0.44 | 6.66 | -44.4 | | 11.34 | | |
| 811 | 11.2 | 360 | 0.41 | 6.63 | -44.5 | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, LIGHT YELLOW/GREEN TINT, NO/NS

| Replicate | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|-----------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 11.2 | 361 | 0.4 | 6.62 | -44.2 | | | | |
| 2 | 11.3 | 361 | 0.39 | 6.61 | -44.4 | | | | |
| 3 | 11.4 | 362 | 0.38 | 6.6 | -44 | | | | |
| 4 | 11.5 | 362 | 0.39 | 6.59 | -44.1 | | | | |
| Average: | 11.4 | 362 | 0.39 | 6.61 | -44.2 | #DIV/0! | #DIV/0! | 2.8 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | VOC's (8260C) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 2 | (Total & Dissolved Metals) (Field Filtered) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | VOC (Boeing (38) short list) |
| 2 | AMEE (RSKSOP-175 Mod) |
| | Ferrous Iron Kit |
| | others |

Duplicate Sample No(s): _____
 Comments: METALS BATCH QC COLLECTED HERE
 Signature: JHA Date: 2/8/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Regional GW Monitoring - Dev. Center Project Number: 0025217.099.039
 Event: August Quarterly Date/Time: 2/ 7 /2017 @ 1341
 Sample Number: BDC-05-21 170207 Weather: 40'S, CLOUDY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.16 Time: 1313 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 2/ 7 /17 @ 1316 End Purge: Date/Time: 2/ 7 /17 @ 1338 Gallons Purged: 0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other

| Time | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1319 | 12.9 | 362 | 0.56 | 6.58 | -47.9 | | 11.16 | | |
| 1322 | 13.2 | 362 | 0.57 | 6.59 | -57.3 | | 11.16 | | |
| 1325 | 12.7 | 359 | 0.48 | 6.59 | -63.1 | | 11.16 | | |
| 1328 | 12.5 | 358 | 0.43 | 6.57 | -65.1 | | | | |
| 1331 | 12.4 | 358 | 0.4 | 6.55 | -67.3 | | | | |
| 1334 | 12.4 | 358 | 0.37 | 6.53 | -67.6 | | | | |
| 1336 | 12.3 | 358 | 0.37 | 6.523 | -67.3 | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|-----------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 12.3 | 358 | 0.36 | 6.52 | -67.4 | | | | |
| 2 | 12.3 | 358 | 0.36 | 6.52 | -67.5 | | | | |
| 3 | 12.3 | 358 | 0.37 | 6.52 | -67.2 | | | | |
| 4 | 12.3 | 358 | 0.36 | 6.52 | -67.7 | | | | |
| Average: | 12.3 | 358 | 0.36 | 6.52 | -67.5 | #DIV/0! | #DIV/0! | 2.6 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | VOC's (8260C) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 2 | (Total & Dissolved Metals) (Field Filtered) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | VOC (Boeing (38) short list) |
| 2 | AMEE (RSKSOP-175 Mod) |
| | |
| | Ferrous Iron Kit |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 2/7/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Regional GW Monitoring - Dev. Center Project Number: 0025217.099.039
 Event: August Quarterly Date/Time: 2/ 8/2017 @ 741
 Sample Number: BDC-05-22 170208 Weather: 30'S, DRIZZLING
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.16 Time: 715 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 2/ 8 /17 @ 721 End Purge: Date/Time: 2/ 8 /17 @ 735 Gallons Purged: 0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other

| Time | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 724 | 12.6 | 364 | 0.74 | 6.22 | -9 | | 11.18 | | |
| 727 | 11.6 | 354 | 0.62 | 6.25 | -16.7 | | 11.18 | | |
| 730 | 10.9 | 347 | 0.6 | 6.27 | -20.4 | | 11.18 | | |
| 733 | 11 | 348 | 0.55 | 6.27 | -22.7 | | | | |
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SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|-----------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 11 | 348 | 0.55 | 6.27 | -23 | | | | |
| 2 | 11.1 | 349 | 0.54 | 6.27 | -23.2 | | | | |
| 3 | 11.1 | 349 | 0.52 | 6.26 | -23.6 | | | | |
| 4 | 11.1 | 349 | 0.53 | 6.26 | -24 | | | | |
| Average: | 11.1 | 349 | 0.54 | 6.27 | -23.5 | #DIV/0! | #DIV/0! | 3.4 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | VOC's (8260C) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 2 | (Total & Dissolved Metals) (Field Filtered) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hg) (K) (Na) |
| | VOC (Boeing (38) short list) |
| | |
| | |
| | Ferrous Iron Kit |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 2/8/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Regional GW Monitoring - Dev. Center Project Number: 0025217.099.039
 Event: August Quarterly Date/Time: 2/ 7 /2017 @ 1441
 Sample Number: BDC-05-23 170207 Weather: 40'S, CLOUDY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.48 Time: 1413 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 2/ 7 /17 @ 1416 End Purge: Date/Time: 2/ 7 /17 @ 1438 Gallons Purged: 0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other

| Time | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1419 | 13.2 | 275 | 5.89 | 6.88 | -9.8 | | 11.48 | | |
| 1422 | 13.2 | 286 | 5.25 | 6.86 | -14.6 | | 11.48 | | |
| 1425 | 13.3 | 312 | 3.72 | 6.8 | -27 | | 11.48 | | |
| 1428 | 13.4 | 337 | 2.14 | 6.75 | -42.7 | | | | |
| 1431 | 13.4 | 349 | 1.41 | 6.73 | -62.2 | | | | |
| 1434 | 13.4 | 357 | 1.06 | 6.72 | -56.4 | | | | |
| 1436 | 13.5 | 363 | 0.69 | 6.7 | -63.5 | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|-----------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 13.5 | 364 | 0.65 | 6.7 | -64.4 | | | | |
| 2 | 13.5 | 365 | 0.63 | 6.7 | -64.7 | | | | |
| 3 | 13.5 | 365 | 0.61 | 6.7 | -65.3 | | | | |
| 4 | 13.5 | 366 | 0.59 | 6.7 | -65.5 | | | | |
| Average: | 13.5 | 365 | 0.62 | 6.70 | -65.0 | #DIV/0! | #DIV/0! | 3.0 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | VOC's (8260C) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 2 | (Total & Dissolved Metals) (Field Filtered) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hg) (K) (Na) |
| | VOC (Boeing (38) short list) |
| | |
| | |
| | Ferrous Iron Kit |
| | others |

Duplicate Sample No(s): _____
 Comments: NO TUBING IN WELL UPON OPENING. NEW TUBING INSTALLED.
 Signature: JHA Date: 2/7/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Regional GW Monitoring - Dev. Center Project Number: 0025217.099.039
 Event: August Quarterly Date/Time: 2/ 8 /2017 @ 1146
 Sample Number: BDC-05-24 170208 Weather: 30'S, RAINING
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.1 Time: 1115 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 2/ 8 /17 @ 1120 End Purge: Date/Time: 2/ 8 /17 @ 1135 Gallons Purged: 0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other

| Time | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1123 | 11.6 | 187 | 0.62 | 6.25 | 10.9 | | 11.1 | | |
| 1126 | 11.1 | 184 | 0.37 | 6.42 | -3 | | 11.1 | | |
| 1129 | 11.2 | 184 | 0.36 | 6.42 | -5.3 | | 11.1 | | |
| 1132 | 11.4 | 186 | 0.34 | 6.41 | -6 | | | | |
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SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|-----------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 11.5 | 186 | 0.34 | 6.41 | -6.1 | | | | |
| 2 | 11.5 | 187 | 0.34 | 6.41 | -6.3 | | | | |
| 3 | 11.5 | 187 | 0.33 | 6.41 | -6.5 | | | | |
| 4 | 11.5 | 187 | 0.33 | 6.41 | -6.7 | | | | |
| Average: | 11.5 | 186.8 | 0.3 | 6.4 | -6.4 | #DIV/0! | #DIV/0! | 2.2 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | VOC's (8260C) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 2 | (Total & Dissolved Metals) (Field Filtered) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | VOC (Boeing (38) short list) |
| 2 | AMEE (RSKSOP-175 Mod) |
| | |
| | Ferrous Iron Kit |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 2/8/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/4 /2017 @ 731
 Sample Number: BDC-05-02 170504 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.46 Time: 643 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/4 /2017 @ 705 End Purge: Date/Time: 05/4 /2017 @ 720 Gallons Purged: <0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 708 | 14.5 | 367.2 | 0.59 | 6.3 | 14.4 | | | <0.25 | |
| 711 | 14.5 | 367.7 | 0.52 | 6.31 | 24 | | 11.49 | 0.25 | |
| 714 | 14.5 | 368 | 0.5 | 6.33 | 28.2 | | 11.49 | <0.50 | |
| 717 | 14.5 | 368 | 0.47 | 6.33 | 27.8 | | | 0.5 | |
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SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, LIGHT YELLOW TINT, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 14.5 | 368 | 0.47 | 6.33 | 27.7 | | | | |
| 2 | 14.5 | 368 | 0.47 | 6.33 | 27.5 | | | | |
| 3 | 14.5 | 368 | 0.48 | 6.34 | 27.4 | | | | |
| 4 | 14.5 | 368.1 | 0.48 | 6.34 | 27.4 | | | | |
| Average: | 14.5 | 368 | 0.48 | 6.34 | 27.5 | #DIV/0! | | 0.8 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/4 /2017 @ 1021
 Sample Number: BDC-05-03 170504 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.58 Time: 930 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/4 /2017 @ 956 End Purge: Date/Time: 05/4 /2017 @ 1007 Gallons Purged: 0.25
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 959 | 15.4 | 138.1 | 2.09 | 5.67 | 64.7 | | 11.58 | <0.25 | |
| 1002 | 15.4 | 132.8 | 1.93 | 5.73 | 63.6 | | 11.58 | <0.25 | |
| 1005 | 14.6 | 130.7 | 1.97 | 5.63 | 72.2 | | 11.58 | 0.25 | |
| | | | | | | | | | |
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SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, SLIGHT YELLOW TINT, NO,NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 14.6 | 130.5 | 1.95 | 5.63 | 72.3 | | | | |
| 2 | 14.6 | 130.5 | 1.96 | 5.63 | 72.4 | | | | |
| 3 | 14.6 | 130.4 | 1.94 | 5.63 | 72.5 | | | | |
| 4 | 14.6 | 130.4 | 1.96 | 5.63 | 72.6 | | | | |
| Average: | 14.6 | 130.5 | 1.95 | 5.63 | 72.5 | #DIV/0! | | 0.0 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silicic acid) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 3 /2017 @ 1231
 Sample Number: BDC-05-04 170503 Weather: 50'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.62 Time: 1158 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 3 /2017 @ 1205 End Purge: Date/Time: 05/ 3 /2017 @ 1228 Gallons Purged: 0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|--------------|---------------|-------------|---------------|-----------|-----------------|----------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1208 | 16.9 | 279.7 | 2.1 | 5.5 | 71.8 | | 11.65 | <0.25 | |
| 1211 | 17.1 | 279.2 | 2.52 | 5.48 | 79.6 | | | <0.25 | |
| 1214 | 17.1 | 277 | 1.18 | 5.52 | 81.1 | | | 0.25 | |
| 1217 | 17.4 | 278.4 | 0.65 | 5.6 | 78.9 | | | <0.50 | |
| 1220 | 17.4 | 276.9 | 0.54 | 5.7 | 74.4 | | | <0.50 | |
| 1223 | 17.4 | 276.4 | 0.48 | 5.72 | 74 | | | 0.5 | |
| 1225 | 17.3 | 274.6 | 0.42 | 5.71 | 73.9 | | | <0.75 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, SLIGHT YELLOW TINT, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 17.2 | 274.5 | 0.42 | 5.71 | 73.8 | | | | |
| 2 | 17.2 | 274.5 | 0.42 | 5.71 | 73.8 | | | | |
| 3 | 17.2 | 274.5 | 0.42 | 5.71 | 73.8 | | | | |
| 4 | 17.2 | 274.5 | 0.4 | 5.71 | 73.8 | | | | |
| Average: | 17.2 | 274.5 | 0.42 | 5.71 | 73.8 | #DIV/0! | | 0.6 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/3/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 3 /2017 @ 1136
 Sample Number: BDC-05-05 170503 Weather: 50'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.19 Time: 1054 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 03 /2017 @ 1113 End Purge: Date/Time: 05/ 3 /2017 @ 1125 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|--------------|---------------|-------------|---------------|-----------|-----------------|----------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1116 | 14.9 | 295.8 | 4.38 | 6.23 | 77.2 | | 11.21 | <0.25 | |
| 1119 | 14.9 | 293.1 | 4.47 | 6.26 | 76.1 | | | 0.25 | |
| 1122 | 14.9 | 292.7 | 4.43 | 6.26 | 75.1 | | 11.21 | <0.50 | |
| | | | | | | | | | |
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SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 14.9 | 292.5 | 4.45 | 6.28 | 75 | | | | |
| 2 | 14.9 | 292.4 | 4.43 | 6.28 | 74.9 | | | | |
| 3 | 14.9 | 292.2 | 4.39 | 6.29 | 74.8 | | | | |
| 4 | 14.9 | 291.8 | 4.43 | 6.29 | 74.7 | | | | |
| Average: | 14.9 | 292.2 | 4.43 | 6.29 | 74.9 | #DIV/0! | | 0.0 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/3/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/4 /2017 @ 806
 Sample Number: BDC-05-07 170504 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.02 Time: 717 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/4 /2017 @ 740 End Purge: Date/Time: 05/4 /2017 @ 755 Gallons Purged: <0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|--------------|---------------|-------------|---------------|-----------|-----------------|----------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 743 | 14.2 | 275.8 | 0.54 | 6.19 | 39.8 | | 11.02 | <0.25 | |
| 746 | 14.2 | 276.8 | 0.41 | 6.22 | 36.5 | | | 0.25 | |
| 749 | 14.2 | 277.7 | 0.39 | 6.23 | 32.8 | | | <0.50 | |
| 752 | 14.2 | 277.8 | 0.38 | 6.24 | 31.6 | | | 0.5 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): SLIGHTLY CLOUDY, LIGHT YELLOW COLOR, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 14.2 | 277.8 | 0.37 | 6.24 | 31.5 | | | | |
| 2 | 14.2 | 277.9 | 0.36 | 6.25 | 31.5 | | | | |
| 3 | 14.2 | 277.9 | 0.38 | 6.25 | 31.4 | | | | |
| 4 | 14.2 | 277.9 | 0.37 | 6.25 | 31.3 | | | | |
| Average: | 14.2 | 277.9 | 0.37 | 6.25 | 31.4 | #DIV/0! | | 1.0 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/4 /2017 @ 656
 Sample Number: BDC-05-08 170504 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.88 Time: 627 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/4 /2017 @ 630 End Purge: Date/Time: 05/4 /2017 @ 653 Gallons Purged: 1
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 633 | 15 | 352.2 | 0.58 | 6 | -86.1 | | | <0.25 | |
| 636 | 14.8 | 350.7 | 1.09 | 6.07 | -86.1 | | 11.88 | 0.25 | |
| 639 | 14.8 | 354.6 | 1.18 | 6.16 | -93.3 | | 11.9 | <0.50 | |
| 642 | 14.8 | 354.6 | 0.91 | 6.21 | -98 | | | 0.5 | |
| 645 | 14.8 | 353.4 | 0.73 | 6.27 | -101.3 | | | <0.75 | |
| 648 | 14.8 | 353.5 | 0.65 | 6.32 | -104.8 | | | 0.75 | |
| 650 | 14.8 | 354.5 | 0.62 | 6.36 | -107.3 | | | <1 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 14.8 | 354.4 | 0.63 | 6.36 | -107.4 | | | | |
| 2 | 14.8 | 354.3 | 0.62 | 6.36 | -107.5 | | | | |
| 3 | 14.8 | 354.1 | 0.62 | 6.36 | -107.6 | | | | |
| 4 | 14.8 | 353.9 | 0.6 | 6.36 | -107.6 | | | | |
| Average: | 14.8 | 354.2 | 0.62 | 6.36 | -107.5 | #DIV/0! | | 1.6 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/4 /2017 @ 836
 Sample Number: BDC-05-09 170504 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.49 Time: 750 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/4 /2017 @ 810 End Purge: Date/Time: 05/4 /2017 @ 825 Gallons Purged: 0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 813 | 14 | 250.5 | 0.34 | 6.28 | -72.5 | | 11.51 | <0.25 | |
| 816 | 14 | 254.7 | 0.26 | 6.32 | -81.3 | | | 0.25 | |
| 819 | 14 | 256.6 | 0.26 | 6.33 | -82.6 | | 11.51 | <0.50 | |
| 822 | 13.9 | 257.5 | 0.27 | 6.33 | -83.5 | | | 0.5 | |
| | | | | | | | | | |
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SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 13.9 | 258.2 | 0.26 | 6.34 | -83.7 | | | | |
| 2 | 13.9 | 258.6 | 0.27 | 6.34 | -83.9 | | | | |
| 3 | 13.9 | 258.9 | 0.25 | 6.24 | -84 | | | | |
| 4 | 13.9 | 259 | 0.26 | 6.34 | -84.1 | | | | |
| Average: | 13.9 | 258.7 | 0.26 | 6.32 | -83.9 | #DIV/0! | | 2.0 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silicic acid) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/4 /2017 @ 906
 Sample Number: BDC-05-10 170504 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.31 Time: 820 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/4 /2017 @ 843 End Purge: Date/Time: 05/4 /2017 @ 900 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|--------------|---------------|-------------|---------------|-----------|-----------------|----------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 846 | 13.7 | 246.9 | 0.33 | 6.27 | -71.2 | | 11.24 | <0.25 | |
| 849 | 13.8 | 247.2 | 0.27 | 6.29 | -76.9 | | | <0.25 | |
| 852 | 13.7 | 247.2 | 0.24 | 6.32 | -82.1 | | 11.26 | 0.25 | |
| 855 | 13.8 | 248 | 0.24 | 6.35 | -86.4 | | | <0.50 | |
| 858 | 13.8 | 248.6 | 0.24 | 6.37 | -89 | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 13.8 | 248.7 | 0.23 | 6.37 | -89.4 | | | | |
| 2 | 13.8 | 248.7 | 0.23 | 6.37 | -89.6 | | | | |
| 3 | 13.8 | 248.7 | 0.24 | 6.38 | -89.8 | | | | |
| 4 | 13.8 | 248.8 | 0.22 | 6.38 | -89.9 | | | | |
| Average: | 13.8 | 248.7 | 0.23 | 6.38 | -89.7 | #DIV/0! | | 2.0 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/4 /2017 @ 946
 Sample Number: BDC-05-11 170504 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.71 Time: 853 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/4 /2017 @ 920 End Purge: Date/Time: 05/4 /2017 @ 932 Gallons Purged: 0.25
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|--------------|---------------|-------------|---------------|-----------|-----------------|----------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 923 | 14.3 | 254 | 0.24 | 6.28 | -88.7 | | 11.71 | <0.25 | |
| 926 | 14.3 | 254.7 | 0.22 | 6.32 | -95.4 | | 11.71 | <0.25 | |
| 929 | 14.4 | 255.1 | 0.22 | 6.36 | -100.6 | | 11.71 | 0.25 | |
| | | | | | | | | | |
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SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 14.4 | 255.2 | 0.23 | 6.36 | -101.2 | | | | |
| 2 | 14.4 | 255.2 | 0.24 | 6.36 | -101.5 | | | | |
| 3 | 14.4 | 255.3 | 0.23 | 6.37 | -101.9 | | | | |
| 4 | 14.4 | 255.4 | 0.24 | 6.37 | -102.3 | | | | |
| Average: | 14.4 | 255.3 | 0.24 | 6.37 | -101.7 | #DIV/0! | | 2.0 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/4 /2017 @ 1051
 Sample Number: BDC-05-12 170504 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.8 Time: 1012 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/4 /2017 @ 1025 End Purge: Date/Time: 05/4 /2017 @ 1048 Gallons Purged: 0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1028 | 15.8 | 329.6 | 0.5 | 6.17 | -71.7 | | 11.8 | <0.25 | |
| 1031 | 16 | 320.1 | 0.3 | 6.19 | 81.8 | | 11.81 | <0.25 | |
| 1034 | 16.1 | 314 | 0.27 | 6.27 | -88.6 | | 11.81 | 0.25 | |
| 1037 | 16 | 317 | 0.25 | 6.31 | -93.1 | | | <0.50 | |
| 1040 | 16 | 318.2 | 0.23 | 6.38 | -97.2 | | | <0.50 | |
| 1043 | 15.9 | 314.5 | 0.22 | 6.37 | -97 | | | 0.5 | |
| 1045 | 15.7 | 309 | 0.22 | 6.33 | -94.7 | | | <0.75 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 15.7 | 308.8 | 0.23 | 6.33 | -94.5 | | | | |
| 2 | 15.7 | 308.5 | 0.22 | 6.33 | -94.3 | | | | |
| 3 | 15.7 | 308 | 0.22 | 6.33 | -94.3 | | | | |
| 4 | 15.7 | 307.3 | 0.22 | 6.33 | -94.3 | | | | |
| Average: | 15.7 | 308.2 | 0.22 | 6.33 | -94.4 | #DIV/0! | | 2.2 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/4 /2017 @ 1201
 Sample Number: BDC-05-13 170504 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.62 Time: _____ Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/4 /2017 @ 1138 End Purge: Date/Time: 05/4 /2017 @ 1200 Gallons Purged: 0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|--------------|---------------|-------------|---------------|-----------|-----------------|----------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1141 | 17.2 | 337.6 | 0.28 | 6.13 | -91.6 | | 11.64 | <0.25 | |
| 1144 | 17.3 | 338.3 | 0.21 | 6.23 | -91.6 | | 11.64 | <0.25 | |
| 1147 | 17.3 | 338.5 | 0.18 | 6.29 | -111.09 | | 11.64 | 0.25 | |
| 1150 | 17.4 | 341.5 | 0.18 | 6.37 | -115.1 | | | <0.50 | |
| 1153 | 17.6 | 341.3 | 0.17 | 6.51 | -124.9 | | | <0.50 | |
| 1156 | 17.3 | 339.3 | 0.17 | 6.42 | -122 | | 11.64 | 0.5 | |
| 1158 | 17.4 | 339.9 | 0.18 | 6.43 | -122.6 | | | <0.75 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 17.4 | 340 | 0.17 | 6.42 | -122.9 | | | | |
| 2 | 17.4 | 340.2 | 0.17 | 6.42 | -123 | | | | |
| 3 | 17.4 | 340.2 | 0.17 | 6.42 | -123.2 | | | | |
| 4 | 17.5 | 340.3 | 0.17 | 6.42 | -123.4 | | | | |
| Average: | 17.4 | 340.2 | 0.17 | 6.42 | -123.1 | #DIV/0! | | 2.4 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silicic acid) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/4 /2017 @ 1326
 Sample Number: BDC-05-14 170504 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.39 Time: 1227 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/4 /2017 @ 1300 End Purge: Date/Time: 05/4 /2017 @ 1320 Gallons Purged: 1
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1303 | 18.5 | 558 | 0.22 | 6.21 | -93.7 | | 11.42 | <0.25 | |
| 1306 | 18 | 549 | 0.2 | 6.29 | -109.6 | | 11.42 | 0.25 | |
| 1309 | 18 | 544 | 0.2 | 6.34 | -116.7 | | 11.42 | <0.50 | |
| 1312 | 17.9 | 542 | 0.17 | 6.35 | -119.4 | | | 0.5 | |
| 1315 | 17.8 | 539 | 0.17 | 6.39 | -121 | | | <0.75 | |
| 1318 | 18.1 | 539 | 0.16 | 6.43 | -124.1 | | | 0.75 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 18.1 | 539 | 0.17 | 6.44 | -124.6 | | | | |
| 2 | 18.1 | 539 | 0.17 | 6.45 | -124.9 | | | | |
| 3 | 18.2 | 539 | 0.16 | 6.45 | -125.4 | | | | |
| 4 | 18.2 | 539 | 0.16 | 6.46 | -125.6 | | | | |
| Average: | 18.2 | 539 | 0.17 | 6.45 | -125.1 | #DIV/0! | | 2.2 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/4 /2017 @ 1416
 Sample Number: BDC-05-15 170504 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.2 Time: 1310 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/4 /2017 @ 1350 End Purge: Date/Time: 05/4 /2017 @ 1413 Gallons Purged: 0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1353 | 20.3 | 511 | 0.25 | 6.25 | -111.3 | | 11.2 | <0.25 | |
| 1356 | 20.6 | 514 | 0.36 | 6.33 | -122.9 | | 11.2 | <0.25 | |
| 1359 | 18.7 | 501 | 0.59 | 6.35 | -129.2 | | 11.2 | 0.25 | |
| 1402 | 18.7 | 496.7 | 0.29 | 6.39 | -132.5 | | | <0.50 | |
| 1405 | 18.7 | 495.5 | 0.22 | 6.43 | -138.3 | | | <0.50 | |
| 1408 | 18.6 | 496.4 | 0.19 | 6.54 | -141.9 | | | 0.5 | |
| 1410 | 18.6 | 496.8 | 0.19 | 6.56 | -141.8 | | | <0.75 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, LIGHT GREENISH/YELLOW TINT, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 18.6 | 496.8 | 0.19 | 6.56 | -141.6 | | | | |
| 2 | 18.6 | 496.8 | 0.19 | 6.57 | -141.5 | | | | |
| 3 | 18.6 | 496.8 | 0.19 | 6.57 | -141.5 | | | | |
| 4 | 18.6 | 496.8 | 0.19 | 6.57 | -141.5 | | | | |
| Average: | 18.6 | 496.8 | 0.19 | 6.57 | -141.5 | #DIV/0! | | 1.8 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/4 /2017 @ 1706
 Sample Number: BDC-05-16 170504 Weather: 60'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.32 Time: 1633 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/4 /2017 @ 1640 End Purge: Date/Time: 05/4 /2017 @ 1655 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1643 | 16.1 | 448.6 | 0.16 | 6.26 | -60.7 | | 11.32 | <0.25 | |
| 1646 | 16.1 | 450 | 0.15 | 6.28 | -78.2 | | 11.32 | 0.25 | |
| 1649 | 16 | 448.4 | 0.14 | 6.31 | -86.6 | | 11.32 | <0.50 | |
| 1652 | 16 | 446.4 | 0.15 | 6.33 | -93.4 | | | 0.5 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, YELLOWISH/GREEN TINT, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 15.9 | 445.7 | 0.16 | 6.34 | -94.6 | | | | |
| 2 | 15.9 | 445.7 | 0.14 | 6.34 | -95.5 | | | | |
| 3 | 15.9 | 445.7 | 0.15 | 6.34 | -96.1 | | | | |
| 4 | 15.9 | 445.7 | 0.14 | 6.34 | -96.8 | | | | |
| Average: | 15.9 | 445.7 | 0.15 | 6.34 | -95.8 | #DIV/0! | | 2.0 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silicic acid) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | |
| | others |

Duplicate Sample No(s): MSMSD location
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/4 /2017 @ 1636
 Sample Number: BDC-05-17 170504 Weather: 60'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.56 Time: 1605 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/4 /2017 @ 1610 End Purge: Date/Time: 05/4 /2017 @ 1628 Gallons Purged: 0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|--------------|---------------|-------------|---------------|-----------|-----------------|----------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1613 | 18.8 | 489 | 0.21 | 6.31 | -53.8 | | 11.56 | <0.25 | |
| 1616 | 18.8 | 489.5 | 0.16 | 6.24 | -82 | | 11.56 | 0.25 | |
| 1619 | 18.6 | 489.2 | 0.14 | 6.25 | -95.5 | | 11.56 | <0.50 | |
| 1622 | 18.4 | 487.9 | 0.14 | 6.28 | -105.7 | | | 0.5 | |
| 1625 | 18.1 | 485.7 | 0.14 | 6.29 | -109.3 | | | <0.75 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, LIGHT YELLOW/GREEN TINT, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 18.1 | 485.3 | 0.13 | 6.29 | -109.8 | | | | |
| 2 | 18.1 | 485.1 | 0.14 | 6.29 | -110.2 | | | | |
| 3 | 18 | 485 | 0.13 | 6.29 | -110.6 | | | | |
| 4 | 18 | 484.9 | 0.14 | 6.29 | -111 | | | | |
| Average: | 18.1 | 485.1 | 0.14 | 6.29 | -110.4 | #DIV/0! | | 1.0 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 3 /2017 @ 1336
 Sample Number: BDC-05-18 170503 Weather: 60'S, SUNNY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 10.92 Time: 1259 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 3 /2017 @ 1310 End Purge: Date/Time: 05/ 3 /2017 @ 1333 Gallons Purged: 1
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1313 | 17 | 124.2 | 0.94 | 5.62 | 92.4 | | 10.92 | <0.25 | VERY TURBID |
| 1316 | 17.4 | 125.7 | 0.93 | 5.83 | 84 | | 10.95 | 0.25 | |
| 1319 | 16.6 | 124.4 | 1.42 | 6.02 | 76.2 | | | <0.50 | |
| 1322 | 16.6 | 125 | 1.45 | 6.01 | 77 | | 10.95 | 0.5 | SLIGHTLY |
| 1325 | 16.7 | 126.1 | 1.74 | 5.97 | 80 | | | <0.75 | |
| 1328 | 16.4 | 125.3 | 1.59 | 5.96 | 80.8 | | | 0.75 | |
| 1330 | 16.5 | 124.4 | 1.39 | 5.95 | 81.6 | | | <1.00 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type _____
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): SLIGHTLY TURBID WITH SUSPENDED PRTICLES, ORANGEY COLOR, NO, NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 16.5 | 124.5 | 1.38 | 5.95 | 81.6 | | | | |
| 2 | 16.4 | 124.7 | 1.34 | 5.94 | 81.4 | | | | |
| 3 | 16.4 | 124.2 | 1.3 | 5.94 | 81.3 | | | | |
| 4 | 16.4 | 123 | 1.28 | 5.94 | 81.5 | | | | |
| Average: | 16.4 | 124.1 | 1.33 | 5.94 | 81.5 | #DIV/0! | | 2.2 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silicic acid) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): _____
 Comments: A LOT OF REDDISH SUSPENDED PARTICLES IN LINE DURING PURGING.
 Signature: JHA Date: 5/3/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/4 /2017 @ 1126
 Sample Number: BDC-05-19 170504 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.73 Time: 1041 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/4 /2017 @ 1100 End Purge: Date/Time: 05/4 /2017 @ 1118 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1103 | 17 | 328.6 | 0.33 | 6.07 | -70.3 | | 11.75 | <0.25 | |
| 1106 | 17 | 325.6 | 0.28 | 6.13 | -80.7 | | 11.75 | <0.25 | |
| 1109 | 16.8 | 322.3 | 0.26 | 6.16 | -85 | | 11.75 | 0.25 | |
| 1112 | 16.8 | 322.6 | 0.25 | 6.21 | -90.6 | | | <0.50 | |
| 1115 | 16.8 | 322.6 | 0.24 | 6.25 | -94.7 | | | <0.50 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORELESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 16.8 | 322.8 | 0.24 | 6.25 | -95.4 | | | | |
| 2 | 16.8 | 322.9 | 0.23 | 6.25 | -95.8 | | | | |
| 3 | 16.8 | 323 | 0.24 | 6.26 | -96.1 | | | | |
| 4 | 16.8 | 323.1 | 0.23 | 6.27 | -96.5 | | | | |
| Average: | 16.8 | 323.0 | 0.24 | 6.26 | -96.0 | #DIV/0! | | 1.8 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/04/2017 @ 1551
 Sample Number: BDC-05-20 170504 Weather: 60'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.66 Time: 1516 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/04/2017 @ 1525 End Purge: Date/Time: 05/04/2017 @ 1548 Gallons Purged: 1
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1528 | 19.7 | 459 | 0.34 | 6.2 | -51.4 | | 11.66 | <0.25 | |
| 1531 | 19.7 | 466.6 | 0.38 | 6.23 | -70.4 | | 11.66 | <0.25 | |
| 1534 | 19.7 | 470.9 | 0.33 | 6.28 | -82 | | 11.66 | 0.25 | |
| 1537 | 19.7 | 470.2 | 0.24 | 6.3 | -87.6 | | | <0.50 | |
| 1540 | 19.7 | 469.5 | 0.23 | 6.32 | -90.4 | | | 0.5 | |
| 1543 | 20.1 | 474.6 | 0.21 | 6.38 | -94.5 | | | <0.75 | |
| 1545 | 20.7 | 479.8 | 0.39 | 6.5 | -99.2 | | 11.66 | 0.75 | PUMP DIED, PLUGGED IN |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, YELLOWISH/GREEN TINT, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 20.3 | 475.8 | 0.35 | 6.57 | -100.6 | | | | |
| 2 | 19.6 | 469.7 | 0.32 | 6.58 | -101 | | | | |
| 3 | 19.3 | 465.7 | 0.27 | 6.56 | -100.1 | | | | |
| 4 | 18.2 | 459.8 | 0.26 | 6.5 | -96.5 | | | | |
| Average: | 19.4 | 467.8 | 0.30 | 6.55 | -99.6 | #DIV/0! | | 1.6 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silicic acid) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 3 /2017 @ 1436
 Sample Number: BDC-05-21 170503 Weather: 650'S, SUNNY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.49 Time: 1403 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 3 /2017 @ 1410 End Purge: Date/Time: 05/ 3 /2017 @ 1433 Gallons Purged: 0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1413 | 18.3 | 374.7 | 0.35 | 6.8 | -99.1 | | | <0.25 | |
| 1416 | 18.3 | 372.5 | 0.61 | 6.22 | -102.9 | | | <0.25 | |
| 1419 | 18.3 | 372.4 | 1.07 | 6.28 | -105.1 | | 11.51 | 0.25 | |
| 1422 | 18.3 | 379.5 | 1.02 | 6.32 | -108.6 | | | <0.50 | |
| 1425 | 18.4 | 375.6 | 0.74 | 6.37 | -111.5 | | | <0.50 | |
| 1428 | 18.3 | 371.4 | 0.56 | 6.43 | -113.2 | | | 0.5 | |
| 1430 | 18.3 | 371.4 | 0.47 | 6.45 | -114.4 | | | <0.75 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____

Sample Description (color, turbidity, odor, sheen, etc.): CLEAR WITH SOME YELLOWISH SUSPENDED PARTICLES, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 18.3 | 371.7 | 0.46 | 6.45 | -114.4 | | | | |
| 2 | 18.3 | 372 | 0.46 | 6.45 | -114.4 | | | | |
| 3 | 18.3 | 372.3 | 0.46 | 6.45 | -114.5 | | | | |
| 4 | 18.4 | 372.6 | 0.45 | 6.45 | -114.3 | | | | |
| Average: | 18.3 | 372.2 | 0.46 | 6.45 | -114.4 | #DIV/0! | | 2.0 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): BDC-DUP3-170503 @ 1600
 Comments: Duplicate location
 Signature: JHA Date: 5/3/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 3 /2017 @
 Sample Number: BDC-DUP3 170503 Weather: 650'S, SUNNY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) _____ Time: _____ Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 3 /2017 @ End Purge: Date/Time: 05/ 3 /2017 @ Gallons Purged: _____
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |

SEE BDC-05-21 SCF FOR PURGE DATA

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): _____

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 18.3 | 371.7 | 0.46 | 6.45 | -114.4 | | | | |
| 2 | 18.3 | 371.9 | 0.46 | 6.45 | -114.4 | | | | |
| 3 | 18.3 | 372.1 | 0.46 | 6.45 | -114.5 | | | | |
| 4 | 18.4 | 372.8 | 0.45 | 6.45 | -114.3 | | | | |
| Average: | 18.3 | 372.1 | 0.46 | 6.45 | -114.4 | #DIV/0! | | 2.0 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): Duplicate to BD-05-21-170503 @ 1436
 Comments: _____
 Signature: JHA Date: 5/3/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/04/2017 @ 1506
 Sample Number: BDC-05-22 170504 Weather: 70'S, SUNNY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.45 Time: 1423 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/04/2017 @ 1440 End Purge: Date/Time: 05/04/2017 @ 1500 Gallons Purged: 1
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1443 | 19.2 | 411.9 | 0.45 | 6.32 | -107.4 | | 11.45 | <0.25 | |
| 1446 | 19.1 | 409.5 | 0.35 | 6.41 | -114.6 | | 11.45 | 0.25 | |
| 1449 | 19.2 | 409.3 | 0.27 | 6.48 | -120.8 | | | <0.50 | |
| 1452 | 19.5 | 410.4 | 0.25 | 6.54 | -125.9 | | 11.45 | 0.5 | |
| 1455 | 19.4 | 410.1 | 0.24 | 6.54 | -127 | | | <0.75 | |
| 1458 | 19.4 | 409.9 | 0.25 | 6.58 | -128 | | | 0.75 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 19.4 | 409.8 | 0.24 | 6.57 | -128.1 | | | | |
| 2 | 19.4 | 409.9 | 0.24 | 6.57 | -128.1 | | | | |
| 3 | 19.4 | 409.8 | 0.24 | 6.57 | -128 | | | | |
| 4 | 19.4 | 409.7 | 0.25 | 6.57 | -127.9 | | | | |
| Average: | 19.4 | 409.8 | 0.24 | 6.57 | -128.0 | #DIV/0! | | 2.6 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 3 /2017 @ 1536
 Sample Number: BDC-05-23 170503 Weather: 650'S, SUNNY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.94 Time: 1504 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 3 /2017 @ 1510 End Purge: Date/Time: 05/ 3 /2017 @ 1533 Gallons Purged: 1
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|--------------|---------------|-------------|------|----------|-----------------|----------|-----------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits +/- 3% +/- 3% +/- 10% +/- 0.1 units +/- 10 mV +/- 10% < 0.3 ft >= 1 flow through cell | | | | | | | | | |
| 1513 | 18 | 261.5 | 2.37 | 6.02 | 59.7 | | 11.96 | <0.25 | |
| 1516 | 17.8 | 290.4 | 1.68 | 6.17 | 39.8 | | 11.96 | 0.25 | |
| 1519 | 17.8 | 330.6 | 0.95 | 6.31 | 12.5 | | 11.96 | <0.50 | |
| 1522 | 17.7 | 357 | 0.57 | 6.4 | -6.9 | | | 0.5 | |
| 1525 | 17.8 | 367.7 | 0.56 | 6.45 | -18 | | | <0.75 | |
| 1528 | 17.8 | 372.9 | 0.7 | 6.51 | -29.2 | | | 0.75 | |
| 1530 | 17.8 | 374.8 | 0.74 | 6.51 | -32.8 | | | <1 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 17.8 | 375.8 | 0.76 | 6.51 | -34.4 | | | | |
| 2 | 17.8 | 376.6 | 0.79 | 6.52 | -36.4 | | | | |
| 3 | 17.8 | 377.4 | 0.81 | 6.52 | -38.2 | | | | |
| 4 | 17.8 | 377.8 | 0.85 | 6.53 | -40 | | | | |
| Average: | 17.8 | 376.9 | 0.80 | 6.52 | -37.3 | #DIV/0! | | 2.0 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silicic acid) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/3/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 4/2017 @ 1241
 Sample Number: BDC-05-24 170504 Weather: 60'S SUNNY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.39 Time: 1149 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 4/2017 @ 1216 End Purge: Date/Time: 05/ 4 /2017 @ 1237 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1219 | 16.6 | 261.9 | 0.27 | 5.84 | 11 | | 11.42 | <0.25 | |
| 1222 | 16.6 | 264.2 | 0.24 | 5.88 | 5.8 | | | <0.25 | |
| 1225 | 16.6 | 282.9 | 0.21 | 6.05 | -13.3 | | 11.44 | <0.25 | |
| 1228 | 16.5 | 289.7 | 0.21 | 6.14 | -27.1 | | | 0.25 | |
| 1231 | 16.5 | 288 | 0.2 | 6.18 | -30.8 | | | <0.50 | |
| 1234 | 16.6 | 286.6 | 0.21 | 6.22 | -36 | | | <0.50 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 16.7 | 285.9 | 0.2 | 6.22 | -36.2 | | | | |
| 2 | 16.7 | 285.3 | 0.2 | 6.22 | -36.3 | | | | |
| 3 | 16.6 | 284.7 | 0.2 | 6.22 | -36.4 | | | | |
| 4 | 16.7 | 284.3 | 0.2 | 6.22 | -36.6 | | | | |
| Average: | 16.7 | 285.1 | 0.2 | 6.22 | -36.4 | #DIV/0! | | 2.4 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| 2 | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| 1 | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hg) (K) (Na) |
| 1 | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silicic acid) |
| | VOC (Boeing short list) |
| 2 | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/4/2017

ANALYTICAL RESULTS

Prepared by:

Prepared for:

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

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Report Date: February 21, 2017

Project: Boeing_DC:SWMU-17 s-ann

Submittal Date: 02/08/2017

Group Number: 1763309

State of Sample Origin: WA

| <u>Client Sample Description</u> | Lancaster Labs <u>(LL) #</u> |
|---|---------------------------------|
| BDC-05-02-170207 Water | 8825336 |
| BDC-05-02-170207 Water | 8825337 |
| BDC-05-02-170207 Total Metals Water | 8825338 |
| BDC-05-02-170207 Total Metals Water | 8825339 |
| BDC-05-02-170207 Dissolved Metals Water | 8825340 |
| BDC-05-02-170207 Dissolved Metals Water | 8825341 |
| BDC-05-18-170207 Water | 8825342 |
| BDC-05-18-170207 Water | 8825343 |
| BDC-05-18-170207 Total Metals Water | 8825344 |
| BDC-05-18-170207 Total Metals Water | 8825345 |
| BDC-05-18-170207 Dissolved Metals Water | 8825346 |
| BDC-05-18-170207 Dissolved Metals Water | 8825347 |
| BDC-05-21-170207 Water | 8825348 |
| BDC-05-21-170207 Water | 8825349 |
| BDC-05-21-170207 Total Metals Water | 8825350 |
| BDC-05-21-170207 Total Metals Water | 8825351 |
| BDC-05-21-170207 Dissolved Metals Water | 8825352 |
| BDC-05-21-170207 Dissolved Metals Water | 8825353 |
| BDC-05-23-170207 Water | 8825354 |
| BDC-05-23-170207 Water | 8825355 |
| BDC-05-23-170207 Total Metals Water | 8825356 |
| BDC-05-23-170207 Total Metals Water | 8825357 |
| BDC-05-23-170207 Dissolved Metals Water | 8825358 |
| BDC-05-23-170207 Dissolved Metals Water | 8825359 |
| Trip Blank Water | 8825360 |

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

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

[laboratories-environmental/resources/certifications/](#) . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To The Boeing Company
Electronic Copy To Landau

Attn: Lindsey E. Mahrt
Attn: Chris Kimmel

Respectfully Submitted,



Kay Hower

(717) 556-7364

Project Name: Boeing_DC:SWMU-17 s-ann
LL Group #: 1763309

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 200.8 rev 5.4, Metals**

Batch #: 170417050011A (Sample number(s): 8825352-8825353, 8825356-8825359 UNSPK: 8825357 BKG: 8825357)

The duplicate RPD for the following analyte(s) exceeded the acceptance window:
Copper

EPA 200.8 rev 5.4, Metals Dissolved

Batch #: 170417050011A (Sample number(s): 8825352-8825353, 8825356-8825359 UNSPK: 8825357 BKG: 8825357)

The duplicate RPD for the following analyte(s) exceeded the acceptance window:
Copper

EPA 300.0, Wet Chemistry

Batch #: 17040120901A (Sample number(s): 8825343 UNSPK: P815632 BKG: P815632)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Sulfate

Batch #: 17044987131B (Sample number(s): 8825349 UNSPK: P826550 BKG: P826550)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Sulfate

SM 5310 C-2000, Wet Chemistry

Batch #: 17045667605A (Sample number(s): 8825336 UNSPK: P826659 BKG: P826659)

The duplicate RPD for the following analyte(s) exceeded the acceptance window:
Total Organic Carbon

Batch #: 17045667605B (Sample number(s): 8825342, 8825348, 8825354 UNSPK: P828102 BKG: P828102)

The duplicate RPD for the following analyte(s) exceeded the acceptance window:
Total Organic Carbon

Sample Description: BDC-05-02-170207 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825336
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 11:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

0502-

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.5 | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 2.1 | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 1.6 | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.5 | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 10.7 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|-------------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H170482AA | 02/17/2017 15:00 | Kerri E Legerlotz | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H170482AA | 02/17/2017 15:00 | Kerri E Legerlotz | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17045667605A | 02/14/2017 22:36 | Drew M Gerhart | 1 |

Sample Description: BDC-05-02-170207 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825337
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 11:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50
Reported: 02/21/2017 10:59

0502V

| CAT No. | Analysis Name | CAS Number | Result | | Method Detection Limit | Dilution Factor |
|-------------------------|---------------|----------------------------|-------------|---|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 | U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 5.4 | | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.2 | J | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 8,000 | E | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 50 | U | 50 | 50 |
| 07105 | Ethane | 74-84-0 | 50 | U | 50 | 50 |
| 07105 | Ethene | 74-85-1 | 50 | U | 50 | 50 |
| 07105 | Methane | 74-82-8 | 9,600 | | 150 | 50 |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 18.8 | | 3.0 | 10 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|-------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 170410003A | 02/10/2017 16:14 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 170410003A | 02/13/2017 17:15 | Johanna C Kennedy | 50 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17040120121A | 02/10/2017 00:45 | Hallie A Burnett | 10 |

Sample Description: BDC-05-02-170207 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825338
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 11:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|--------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0021 | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050010A | 02/14/2017 02:00 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050010 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-02-170207 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825339
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 11:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0042 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050010A | 02/14/2017 02:01 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050010 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-02-170207 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825340
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 11:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050010A | 02/14/2017 02:03 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050010 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-02-170207 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825341
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 11:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|------------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0018 J | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050010A | 02/14/2017 02:08 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050010 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-18-170207 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825342
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 12:46 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

0518-

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 2.4 | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 2.8 | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 3.4 | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.2 U | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 1.8 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|-------------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H170482AA | 02/17/2017 15:21 | Kerri E Legerlotz | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H170482AA | 02/17/2017 15:21 | Kerri E Legerlotz | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17045667605B | 02/14/2017 23:34 | Drew M Gerhart | 1 |

Sample Description: BDC-05-18-170207 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825343
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 12:46 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50
Reported: 02/21/2017 10:59

0518V

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|----------------|----------------------------|--------------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 1.0 U | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 U | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 750 E | 3.0 | 1 |
| Trial ID: DL | | | | | |
| 07105 | Acetylene | 74-86-2 | 5.0 U | 5.0 | 5 |
| 07105 | Ethane | 74-84-0 | 5.0 U | 5.0 | 5 |
| 07105 | Ethene | 74-85-1 | 5.0 U | 5.0 | 5 |
| 07105 | Methane | 74-82-8 | 720 | 15 | 5 |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 5.3 | 1.5 | 5 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|-------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 170410003A | 02/10/2017 16:32 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 170410003A | 02/13/2017 17:33 | Johanna C Kennedy | 5 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17040120901A | 02/09/2017 20:28 | Hallie A Burnett | 5 |

Sample Description: BDC-05-18-170207 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825344
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 12:46 by JH The Boeing Company
PO Box 3707
Submitted: 02/08/2017 09:50 MC 1W-12
Reported: 02/21/2017 10:59 Seattle WA 98124

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050010A | 02/14/2017 02:10 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050010 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-18-170207 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825345
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 12:46 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0112 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050010A | 02/14/2017 01:51 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050010 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-18-170207 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825346
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 12:46 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050010A | 02/14/2017 02:12 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050010 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-18-170207 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825347
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 12:46 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0029 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050010A | 02/14/2017 02:13 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050010 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-21-170207 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825348
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 13:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50
Reported: 02/21/2017 10:59

0521-

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | | | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.5 | ug/l 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 1.4 | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | | | |
| 00273 | Total Organic Carbon | n.a. | 9.3 | mg/l 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|-------------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H170482AA | 02/17/2017 15:41 | Kerri E Legerlotz | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H170482AA | 02/17/2017 15:41 | Kerri E Legerlotz | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17045667605B | 02/14/2017 23:47 | Drew M Gerhart | 1 |

Sample Description: BDC-05-21-170207 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825349
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 13:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50
Reported: 02/21/2017 10:59

0521V

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|----------------|----------------------------|----------------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 1.6 J | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 U | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 5,700 E | 3.0 | 1 |
| Trial ID: DL | | | | | |
| 07105 | Acetylene | 74-86-2 | 50 U | 50 | 50 |
| 07105 | Ethane | 74-84-0 | 50 U | 50 | 50 |
| 07105 | Ethene | 74-85-1 | 50 U | 50 | 50 |
| 07105 | Methane | 74-82-8 | 9,100 | 150 | 50 |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.30 U | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|-------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 170410003A | 02/10/2017 16:50 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 170410003A | 02/13/2017 18:10 | Johanna C Kennedy | 50 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17044987131B | 02/14/2017 07:09 | Clinton M Wilson | 1 |

Sample Description: BDC-05-21-170207 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825350
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 13:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050010A | 02/14/2017 02:15 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050010 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-21-170207 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825351
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 13:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0066 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050010A | 02/14/2017 02:17 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050010 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-21-170207 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825352
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 13:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050011A | 02/14/2017 00:46 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050011 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-21-170207 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825353
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 13:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0062 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050011A | 02/14/2017 00:47 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050011 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-23-170207 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825354
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 14:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50
Reported: 02/21/2017 10:59

0523-

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | | | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 2.1 | ug/l 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 1.3 | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | | | |
| 00273 | Total Organic Carbon | n.a. | 7.1 | mg/l 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|-------------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H170482AA | 02/17/2017 16:02 | Kerri E Legerlotz | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H170482AA | 02/17/2017 16:02 | Kerri E Legerlotz | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17045667605B | 02/15/2017 00:17 | Drew M Gerhart | 1 |

Sample Description: BDC-05-23-170207 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825355
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 14:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

0523V

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|-------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 2.2 | mg/l 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|------------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17040120121A | 02/10/2017 00:02 | Hallie A Burnett | 1 |

Sample Description: BDC-05-23-170207 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825356
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 14:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050011A | 02/14/2017 00:49 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050011 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-23-170207 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825357
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 14:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0157 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050011A | 02/14/2017 00:37 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050011 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-23-170207 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825358
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 14:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------|-------------|-----------------------|-----------------|
| Metals Dissolved | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050011A | 02/14/2017 00:54 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050011 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-23-170207 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825359
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017 14:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0158 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050011A | 02/14/2017 00:56 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050011 | 02/12/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: Trip Blank Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8825360
LL Group # 1763309
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/07/2017

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/21/2017 10:59

0523T

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.2 U | 0.2 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|--------------|--------|-----------|------------------------|-------------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H170482AA | 02/17/2017 14:20 | Kerri E Legerlotz | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H170482AA | 02/17/2017 14:20 | Kerri E Legerlotz | 1 |

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/21/2017 10:59

Group Number: 1763309

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.

Method Blank

| Analysis Name | Result | LOQ |
|-----------------------------|---|---------|
| | ug/l | ug/l |
| Batch number: H170482AA | Sample number(s): 8825336,8825342,8825348,8825354,8825360 | |
| cis-1,2-Dichloroethene | 0.2 U | 0.2 |
| Tetrachloroethene | 0.2 U | 0.2 |
| Trichloroethene | 0.2 U | 0.2 |
| Vinyl Chloride | 0.2 U | 0.2 |
| Analysis Name | Result | MDL |
| | ug/l | ug/l |
| Batch number: 170410003A | Sample number(s): 8825337,8825343,8825349 | |
| Acetylene | 1.0 U | 1.0 |
| Ethane | 1.0 U | 1.0 |
| Ethene | 1.0 U | 1.0 |
| Methane | 3.0 U | 3.0 |
| | mg/l | mg/l |
| Batch number: 170417050010A | Sample number(s): 8825338-8825341,8825344-8825347,8825350-8825351 | |
| Arsenic | 0.00040 U | 0.00040 |
| Copper | 0.00034 U | 0.00034 |
| Batch number: 170417050011A | Sample number(s): 8825352-8825353,8825356-8825359 | |
| Arsenic | 0.00040 U | 0.00040 |
| Copper | 0.00034 U | 0.00034 |
| Analysis Name | Result | LOQ |
| | mg/l | mg/l |
| Batch number: 17045667605A | Sample number(s): 8825336 | |
| Total Organic Carbon | 1.0 U | 1.0 |
| Batch number: 17045667605B | Sample number(s): 8825342,8825348,8825354 | |
| Total Organic Carbon | 1.0 U | 1.0 |
| Analysis Name | Result | MDL |
| | mg/l | mg/l |
| Batch number: 17040120121A | Sample number(s): 8825337,8825355 | |
| Sulfate | 0.30 U | 0.30 |
| Batch number: 17040120901A | Sample number(s): 8825343 | |
| Sulfate | 0.30 U | 0.30 |
| Batch number: 17044987131B | Sample number(s): 8825349 | |
| Sulfate | 0.30 U | 0.30 |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/21/2017 10:59

Group Number: 1763309

LCS/LCSD

| Analysis Name | LCS Spike Added ug/l | LCS Conc ug/l | LCSD Spike Added ug/l | LCSD Conc ug/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|-----------------------------|---|---------------|-----------------------|----------------|----------|-----------|-----------------|-----|---------|
| Batch number: H170482AA | Sample number(s): 8825336,8825342,8825348,8825354,8825360 | | | | | | | | |
| cis-1,2-Dichloroethene | 5.00 | 4.90 | 5.00 | 4.80 | 98 | 96 | 80-120 | 2 | 30 |
| Tetrachloroethene | 5.00 | 5.06 | 5.00 | 4.86 | 101 | 97 | 80-120 | 4 | 30 |
| Trichloroethene | 5.00 | 5.04 | 5.00 | 4.92 | 101 | 98 | 80-120 | 2 | 30 |
| Vinyl Chloride | 5.00 | 5.64 | 5.00 | 5.58 | 113 | 112 | 62-128 | 1 | 30 |
| | ug/l | ug/l | ug/l | ug/l | | | | | |
| Batch number: 170410003A | Sample number(s): 8825337,8825343,8825349 | | | | | | | | |
| Acetylene | 51.2 | 42.83 | 51.2 | 41.85 | 84 | 82 | 61-148 | 2 | 20 |
| Ethane | 59.2 | 53.67 | 59.2 | 51.26 | 91 | 87 | 85-115 | 5 | 20 |
| Ethene | 60.8 | 54.34 | 60.8 | 52.12 | 89 | 86 | 83-115 | 4 | 20 |
| Methane | 59.8 | 57.59 | 59.8 | 54.87 | 96 | 92 | 85-115 | 5 | 20 |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 170417050010A | Sample number(s): 8825338-8825341,8825344-8825347,8825350-8825351 | | | | | | | | |
| Arsenic | 0.0100 | 0.0101 | | | 101 | | 85-115 | | |
| Copper | 0.0500 | 0.0514 | | | 103 | | 85-115 | | |
| Batch number: 170417050011A | Sample number(s): 8825352-8825353,8825356-8825359 | | | | | | | | |
| Arsenic | 0.0100 | 0.00980 | | | 98 | | 85-115 | | |
| Copper | 0.0500 | 0.0500 | | | 100 | | 85-115 | | |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17045667605A | Sample number(s): 8825336 | | | | | | | | |
| Total Organic Carbon | 25 | 24.92 | | | 100 | | 91-113 | | |
| Batch number: 17045667605B | Sample number(s): 8825342,8825348,8825354 | | | | | | | | |
| Total Organic Carbon | 25 | 24.92 | | | 100 | | 91-113 | | |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17040120121A | Sample number(s): 8825337,8825355 | | | | | | | | |
| Sulfate | 7.50 | 7.56 | | | 101 | | 90-110 | | |
| Batch number: 17040120901A | Sample number(s): 8825343 | | | | | | | | |
| Sulfate | 7.50 | 7.47 | | | 100 | | 90-110 | | |
| Batch number: 17044987131B | Sample number(s): 8825349 | | | | | | | | |
| Sulfate | 7.50 | 7.16 | | | 95 | | 90-110 | | |

MS/MSD

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

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/21/2017 10:59

Group Number: 1763309

MS/MSD

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

| Analysis Name | Unspiked Conc mg/l | MS Spike Added mg/l | MS Conc mg/l | MSD Spike Added mg/l | MSD Conc mg/l | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|-----------------------------|---|---------------------|--------------|----------------------|---------------|---------|----------|---------------|-----|---------|
| Batch number: 170417050010A | Sample number(s): 8825338-8825341,8825344-8825347,8825350-8825351 UNSPK: 8825345, P825345 | | | | | | | | | |
| Arsenic | 0.0112 | 0.0100 | 0.0202 | | | 89 | | 70-130 | | |
| Copper | 0.000442 | 0.0500 | 0.0520 | | | 103 | | 70-130 | | |
| Batch number: 170417050011A | Sample number(s): 8825352-8825353,8825356-8825359 UNSPK: 8825357, P825357 | | | | | | | | | |
| Arsenic | 0.0157 | 0.0100 | 0.0246 | | | 89 | | 70-130 | | |
| Copper | 0.000473 | 0.0500 | 0.0489 | | | 97 | | 70-130 | | |
| | mg/l | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17045667605A | Sample number(s): 8825336 UNSPK: P826659 | | | | | | | | | |
| Total Organic Carbon | 9.04 | 10 | 18.94 | | | 99 | | 64-148 | | |
| Batch number: 17045667605B | Sample number(s): 8825342,8825348,8825354 UNSPK: P828102 | | | | | | | | | |
| Total Organic Carbon | 1.10 | 10 | 11.08 | | | 100 | | 64-148 | | |
| | mg/l | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17040120121A | Sample number(s): 8825337,8825355 UNSPK: P823471 | | | | | | | | | |
| Sulfate | 5.82 | 25 | 30.5 | | | 99 | | 90-110 | | |
| Batch number: 17040120901A | Sample number(s): 8825343 UNSPK: P815632 | | | | | | | | | |
| Sulfate | 57.59 | 25 | 86.82 | | | 117* | | 90-110 | | |
| Batch number: 17044987131B | Sample number(s): 8825349 UNSPK: P826550 | | | | | | | | | |
| Sulfate | 502.97 | 250 | 803.43 | | | 120* | | 90-110 | | |

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | BKG Conc mg/l | DUP Conc mg/l | DUP RPD | DUP RPD Max |
|-----------------------------|---|---------------|----------|-------------|
| Batch number: 170417050010A | Sample number(s): 8825338-8825341,8825344-8825347,8825350-8825351 BKG: 8825345, P825345 | | | |
| Arsenic | 0.0112 | 0.0112 | 1 | 20 |
| Copper | 0.000442 | 0.000494 | 11 (1) | 20 |
| Batch number: 170417050011A | Sample number(s): 8825352-8825353,8825356-8825359 BKG: 8825357, P825357 | | | |
| Arsenic | 0.0157 | 0.0161 | 3 | 20 |
| Copper | 0.000473 | 0.00034 U | 200* (1) | 20 |
| | mg/l | mg/l | | |
| Batch number: 17045667605A | Sample number(s): 8825336 BKG: P826659 | | | |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/21/2017 10:59

Group Number: 1763309

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | BKG Conc mg/l | DUP Conc mg/l | DUP RPD | DUP RPD Max |
|----------------------------|--|------------------|---------|-------------|
| Total Organic Carbon | 9.04 | 9.38 | 4* | 3 |
| Batch number: 17045667605B | Sample number(s): 8825342, 8825348, 8825354 BKG: P828102 | | | |
| Total Organic Carbon | 1.10 | 1.04 | 5* (1) | 3 |
| | mg/l | mg/l | | |
| Batch number: 17040120121A | Sample number(s): 8825337, 8825355 BKG: P823471 | | | |
| Sulfate | 5.82 | 5.90 | 1 (1) | 15 |
| Batch number: 17040120901A | Sample number(s): 8825343 BKG: P815632 | | | |
| Sulfate | 57.59 | 57.49 | 0 | 15 |
| Batch number: 17044987131B | Sample number(s): 8825349 BKG: P826550 | | | |
| Sulfate | 502.97 | 514.59 | 2 | 15 |

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 VC, TCE, PCE, cis1,2-DCE
Batch number: H170482AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---------|----------------------|-----------------------|------------|----------------------|
| 8825336 | 105 | 107 | 97 | 89 |
| 8825342 | 107 | 106 | 97 | 91 |
| 8825348 | 106 | 105 | 96 | 91 |
| 8825354 | 108 | 105 | 97 | 91 |
| 8825360 | 106 | 106 | 95 | 90 |
| Blank | 104 | 105 | 98 | 91 |
| LCS | 108 | 107 | 94 | 95 |
| LCSD | 105 | 103 | 94 | 94 |
| Limits: | 77-114 | 74-113 | 77-110 | 78-110 |

Analysis Name: AMEE by RSK-175
Batch number: 170410003A

| | Propene |
|-----------|---------|
| 8825337 | 93 |
| 8825337DL | 107 |
| 8825343 | 93 |
| 8825343DL | 95 |
| 8825349 | 72 |
| 8825349DL | 107 |
| Blank | 103 |
| LCS | 101 |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/21/2017 10:59

Group Number: 1763309

Surrogate Quality Control (continued)

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

Analysis Name: AMEE by RSK-175
Batch number: 170410003A

| | Propene |
|---------|---------|
| LCSD | 97 |
| Limits: | 44-123 |

*- Outside of specification

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

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

Boeing Chain of Custody



Lancaster Laboratories

Acct. # 13419 Group # 1703309 Sample # 8825336-60
 For Eurofins Lancaster Laboratories use only
 Please print. Instructions on reverse side correspond.

| 1 Client Information | | 2 Sample Identification | | 3 Collected | | 4 Matrix | | 5 No. of Containers | | 6 Turnaround Time Requested (please circle) | | 7 | | | |
|--|--|--|--|---|--|---|--|--|--|---|--|------------------|--|---|--|
| Site Location: <u>Tukwila, WA</u> Site Project: <u>Boeing Development Center</u> Site Program/#: <u>SUPLU-17/0025217-099-039</u> Boeing PM: <u>Lizabeth Mahot</u> Consultant Contact: <u>Chris Kimmel</u> Report To: <u>Chris Kimmel & Lizabeth Mahot</u> Invoice To: <input checked="" type="checkbox"/> Boeing EHS <input type="checkbox"/> Other (specify): Sampler: <u>Barani Huesza</u> # of Coolers: <u>1</u> | | BDC-05-02-170207 BDC-05-16-170207 BDC-05-21-170207 BDC-05-23-170207 TRIPBLANKS | | Date: <u>2/7/17</u> Time: <u>1121</u> <u>2/7/17</u> <u>1246</u> <u>2/7/17</u> <u>1341</u> <u>2/7/17</u> <u>1441</u> - - | | Matrix: <u>AQ</u> <u>AQ</u> <u>AQ</u> <u>AQ</u> <u>AQ</u> | | No. of Containers: <u>11</u> <u>11</u> <u>11</u> <u>9</u> <u>2</u> | | 5 day 48 hour 72 hour Date needed: _____ | | 4 day 24 hour | | Received by: _____ Date/Time: _____ Received by: _____ Date/Time: _____ Received by: _____ Date/Time: _____ Temperature upon Receipt: _____ °C Custody Seals Intact?: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 4 Analyses Requested VOC's (8260C) X HMEF (OSKOP-175 Mtd) X TOC (SM5310C) X Sulfate (300.0) X Dissolved As/Cu (200.8) X | | | | | | | | | | 5 Remarks/Comments * Dissolved metals samples have been field filtered 1 of 1 | | | | | |

Client: Boeing

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Timestamp: 02/08/2017 9:50
 Number of Packages: 1 Number of Projects: 2

Arrival Condition Summary

| | | | |
|--------------------------------------|-----|-------------------------------------|-----|
| Shipping Container Sealed: | Yes | Sample IDs on COC match Containers: | Yes |
| Custody Seal Present: | Yes | Sample Date/Times match COC: | Yes |
| Custody Seal Intact: | Yes | VOA Vial Headspace ≥ 6mm: | No |
| Samples Chilled: | Yes | Total Trip Blank Qty: | 2 |
| Paperwork Enclosed: | Yes | Trip Blank Type: | HCL |
| Samples Intact: | Yes | Air Quality Samples Present: | No |
| Missing Samples: | No | | |
| Extra Samples: | No | | |
| Discrepancy in Container Qty on COC: | No | | |

Unpacked by Timothy Cubberley (6520) at 11:13 on 02/08/2017

Samples Chilled Details

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

| Cooler # | Thermometer ID | Corrected Temp | Therm. Type | Ice Type | Ice Present? | Ice Container | Elevated Temp? |
|----------|----------------|----------------|-------------|----------|--------------|---------------|----------------|
| 1 | DT131 | 1.9 | DT | Wet | Y | Bagged | N |

Explanation of Symbols and Abbreviations

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

| | | | |
|-------------------------|--|-----------------|-------------------------------|
| BMQL | Below Minimum Quantitation Level | mg | milligram(s) |
| C | degrees Celsius | mL | milliliter(s) |
| cfu | colony forming units | MPN | Most Probable Number |
| CP Units | cobalt-chloroplatinate units | N.D. | none detected |
| F | degrees Fahrenheit | ng | nanogram(s) |
| g | gram(s) | NTU | nephelometric turbidity units |
| IU | International Units | pg/L | picogram/liter |
| kg | kilogram(s) | RL | Reporting Limit |
| L | liter(s) | TNTC | Too Numerous To Count |
| lb. | pound(s) | µg | microgram(s) |
| m3 | cubic meter(s) | µL | microliter(s) |
| meq | milliequivalents | umhos/cm | micromhos/cm |
| < | less than | | |
| > | greater than | | |
| ppm | parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas. | | |
| ppb | parts per billion | | |
| Dry weight basis | Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis. | | |

Laboratory Data Qualifiers:

- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

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

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

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

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

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

ANALYTICAL RESULTS

Prepared by:

Prepared for:

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

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Report Date: February 27, 2017

Project: Boeing_DC:SWMU-17 s-ann

Submission Date: 02/09/2017

Group Number: 1764100

State of Sample Origin: WA

| <u>Client Sample Description</u> | Lancaster Labs <u>(LL) #</u> |
|--|---------------------------------|
| BDC-05-22-170208 Water | 8828359 |
| BDC-05-22-170208 Water | 8828360 |
| BDC-05-22-170208 Total Metals Water | 8828361 |
| BDC-05-22-170208 Total Metals Water | 8828362 |
| BDC-05-22-170208 Dissolved Metals Water | 8828363 |
| BDC-05-22-170208 Dissolved Metals Water | 8828364 |
| BDC-05-20-170208 Water | 8828365 |
| BDC-05-20-170208 Water | 8828366 |
| BDC-05-20-170208 Total Metals Water | 8828367 |
| BDC-05-20-170208 Total Metals Water | 8828368 |
| BDC-05-20-170208 Dissolved Metals Water | 8828369 |
| BDC-05-20-170208 Dissolved Metals Water | 8828370 |
| BDC-05-DUP-170208 Water | 8828371 |
| BDC-05-DUP-170208 Water | 8828372 |
| BDC-05-DUP-170208 Total Metals Water | 8828373 |
| BDC-05-DUP-170208 Total Metals Water | 8828374 |
| BDC-05-DUP-170208 Dissolved Metals Water | 8828375 |
| BDC-05-DUP-170208 Dissolved Metals Water | 8828376 |
| BDC-05-16-170208 Water | 8828377 |
| BDC-05-16-170208 Water | 8828378 |
| BDC-05-16-170208 Total Metals Water | 8828379 |
| BDC-05-16-170208 Total Metals Water | 8828380 |
| BDC-05-16-170208 Dissolved Metals Water | 8828381 |
| BDC-05-16-170208 Dissolved Metals Water | 8828382 |
| BDC-05-19-170208 Water | 8828383 |
| BDC-05-19-170208 Water | 8828384 |
| BDC-05-19-170208 Total Metals Water | 8828385 |
| BDC-05-19-170208 Total Metals Water | 8828386 |
| BDC-05-19-170208 Dissolved Metals Water | 8828387 |
| BDC-05-19-170208 Dissolved Metals Water | 8828388 |
| BDC-05-12-170208 Water | 8828389 |
| BDC-05-12-170208 Water | 8828390 |

| | |
|---|---------|
| BDC-05-12-170208 Total Metals Water | 8828391 |
| BDC-05-12-170208 Total Metals Water | 8828392 |
| BDC-05-12-170208 Dissolved Metals Water | 8828393 |
| BDC-05-12-170208 Dissolved Metals Water | 8828394 |
| BDC-05-24-170208 Water | 8828395 |
| BDC-05-24-170208 Water | 8828396 |
| BDC-05-24-170208 Total Metals Water | 8828397 |
| BDC-05-24-170208 Total Metals Water | 8828398 |
| BDC-05-24-170208 Dissolved Metals Water | 8828399 |
| BDC-05-24-170208 Dissolved Metals Water | 8828400 |
| TRIP BLANK Water | 8828401 |

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To The Boeing Company
Electronic Copy To Landau

Attn: Lindsey E. Mahrt
Attn: Chris Kimmel

Respectfully Submitted,



Kay Hower

(717) 556-7364

Project Name: Boeing_DC:SWMU-17 s-ann
LL Group #: 1764100

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 #: 17045987151A (Sample number(s): 8828396 UNSPK: P830165 BKG: P830165)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Sulfate

Sample Description: BDC-05-22-170208 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828359
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 07:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

DC221

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | | | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 8.4 | ug/1 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.3 | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.2 U | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | | | |
| 00273 | Total Organic Carbon | n.a. | 5.9 | mg/1 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|-------------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H170482AA | 02/17/2017 19:46 | Kerri E Legerlotz | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H170482AA | 02/17/2017 19:46 | Kerri E Legerlotz | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17045667602A | 02/14/2017 19:10 | Drew M Gerhart | 1 |

Sample Description: BDC-05-22-170208 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828360
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 07:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|----------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 0.34 J | mg/l 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|------------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17044987902A | 02/14/2017 09:20 | Clinton M Wilson | 1 |

Sample Description: BDC-05-22-170208 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828361
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 07:41 by JH The Boeing Company
PO Box 3707
Submitted: 02/09/2017 13:50 MC 1W-12
Reported: 02/27/2017 13:03 Seattle WA 98124

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050014A | 02/16/2017 01:55 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050014 | 02/14/2017 07:03 | James L Mertz | 1 |

Sample Description: BDC-05-22-170208 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828362
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 07:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0259 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050014A | 02/16/2017 01:57 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050014 | 02/14/2017 07:03 | James L Mertz | 1 |

Sample Description: BDC-05-22-170208 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828363
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 07:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050014A | 02/16/2017 01:59 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050014 | 02/14/2017 07:03 | James L Mertz | 1 |

Sample Description: BDC-05-22-170208 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828364
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 07:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0260 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050014A | 02/16/2017 02:04 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050014 | 02/14/2017 07:03 | James L Mertz | 1 |

Sample Description: BDC-05-20-170208 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828365
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 08:26 by JH

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PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

DC201

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|------------------------|------------------------|-----------------------|-------------|-----------------------|-----------------|
| GC/MS Volatiles | | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 1.8 | 0.2 | 1 |
| Wet Chemistry | | SM 5310 C-2000 | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 13.0 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|-------------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H170482AA | 02/17/2017 20:06 | Kerri E Legerlotz | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H170482AA | 02/17/2017 20:06 | Kerri E Legerlotz | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17045667602A | 02/14/2017 19:23 | Drew M Gerhart | 1 |

Sample Description: BDC-05-20-170208 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828366
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 08:26 by JH

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PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50
Reported: 02/27/2017 13:03

DC202

| CAT No. | Analysis Name | CAS Number | Result | Method | Detection Limit | Dilution Factor |
|-------------------------|---------------|----------------------------|-------------|--------|-----------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 2.8 J | | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 5.2 | | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 5,600 E | | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 50 U | | 50 | 50 |
| 07105 | Ethane | 74-84-0 | 50 U | | 50 | 50 |
| 07105 | Ethene | 74-85-1 | 50 U | | 50 | 50 |
| 07105 | Methane | 74-82-8 | 7,100 | | 150 | 50 |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.30 U | | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|-------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 170410003A | 02/10/2017 17:26 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 170410003A | 02/13/2017 18:46 | Johanna C Kennedy | 50 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17044987902A | 02/14/2017 09:35 | Clinton M Wilson | 1 |

Sample Description: BDC-05-20-170208 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828367
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 08:26 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050014A | 02/16/2017 01:47 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050014 | 02/14/2017 07:03 | James L Mertz | 1 |

Sample Description: BDC-05-20-170208 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828368
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 08:26 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0290 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050014A | 02/16/2017 02:06 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050014 | 02/14/2017 07:03 | James L Mertz | 1 |

Sample Description: BDC-05-20-170208 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828369
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 08:26 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050014A | 02/16/2017 02:07 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050014 | 02/14/2017 07:03 | James L Mertz | 1 |

Sample Description: BDC-05-20-170208 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828370
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 08:26 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0299 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050014A | 02/16/2017 02:09 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050014 | 02/14/2017 07:03 | James L Mertz | 1 |

Sample Description: BDC-05-DUP-170208 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828371
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 09:00 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

DCFD1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|------------------------|------------------------|-----------------------|-------------|-----------------------|-----------------|
| GC/MS Volatiles | | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.4 | 0.2 | 1 |
| Wet Chemistry | | SM 5310 C-2000 | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 12.2 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|-------------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H170521AA | 02/21/2017 19:44 | Kerri E Legerlotz | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H170521AA | 02/21/2017 19:44 | Kerri E Legerlotz | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17045667602A | 02/14/2017 19:36 | Drew M Gerhart | 1 |

Sample Description: BDC-05-DUP-170208 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828372
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 09:00 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50
Reported: 02/27/2017 13:03

DCFD2

| CAT No. | Analysis Name | CAS Number | Result | | Method Detection Limit | Dilution Factor |
|-------------------------|----------------|----------------------------|---------------|----------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 | U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 3.4 | J | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 | U | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 13,000 | E | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 100 | U | 100 | 100 |
| 07105 | Ethane | 74-84-0 | 100 | U | 100 | 100 |
| 07105 | Ethene | 74-85-1 | 100 | U | 100 | 100 |
| 07105 | Methane | 74-82-8 | 16,000 | | 300 | 100 |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.33 | J | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|-------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 170410003A | 02/10/2017 17:45 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 170410003A | 02/13/2017 19:05 | Johanna C Kennedy | 100 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17044987902A | 02/14/2017 09:50 | Clinton M Wilson | 1 |

Sample Description: BDC-05-DUP-170208 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828373
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 09:00 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|--------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0027 | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050014A | 02/16/2017 02:11 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050014 | 02/14/2017 07:03 | James L Mertz | 1 |

Sample Description: BDC-05-DUP-170208 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828374
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 09:00 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0185 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050014A | 02/16/2017 02:13 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050014 | 02/14/2017 07:03 | James L Mertz | 1 |

Sample Description: BDC-05-DUP-170208 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828375
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 09:00 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050015A | 02/16/2017 11:04 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050015 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-DUP-170208 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828376
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 09:00 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0119 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050015A | 02/16/2017 11:06 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050015 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-16-170208 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828377
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 09:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

DC161

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|------------------------|------------------------|-----------------------|-------------|-----------------------|-----------------|
| GC/MS Volatiles | | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.8 | 0.2 | 1 |
| Wet Chemistry | | SM 5310 C-2000 | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 17.7 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|-------------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H170521AA | 02/21/2017 20:05 | Kerri E Legerlotz | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H170521AA | 02/21/2017 20:05 | Kerri E Legerlotz | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17045667602A | 02/14/2017 19:49 | Drew M Gerhart | 1 |

Sample Description: BDC-05-16-170208 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828378
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 09:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50
Reported: 02/27/2017 13:03

DC162

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|----------------|----------------------------|----------------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 6.7 | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 U | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 7,700 E | 3.0 | 1 |
| Trial ID: DL | | | | | |
| 07105 | Acetylene | 74-86-2 | 50 U | 50 | 50 |
| 07105 | Ethane | 74-84-0 | 50 U | 50 | 50 |
| 07105 | Ethene | 74-85-1 | 50 U | 50 | 50 |
| 07105 | Methane | 74-82-8 | 10,000 | 150 | 50 |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.30 U | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|-------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 170410003A | 02/10/2017 18:21 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 170410003A | 02/13/2017 19:23 | Johanna C Kennedy | 50 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17044987902A | 02/14/2017 10:05 | Clinton M Wilson | 1 |

Sample Description: BDC-05-16-170208 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828379
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 09:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050015A | 02/16/2017 11:07 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050015 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-16-170208 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828380
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 09:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0327 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050015A | 02/16/2017 11:13 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050015 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-16-170208 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828381
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 09:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050015A | 02/16/2017 11:14 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050015 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-16-170208 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828382
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 09:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0322 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050015A | 02/16/2017 11:16 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050015 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-19-170208 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828383
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 10:11 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

DC191

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|------------------------|------------------------|-----------------------|-------------|-----------------------|-----------------|
| GC/MS Volatiles | | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.3 | 0.2 | 1 |
| Wet Chemistry | | SM 5310 C-2000 | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 12.1 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|-------------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H170521AA | 02/21/2017 20:25 | Kerri E Legerlotz | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H170521AA | 02/21/2017 20:25 | Kerri E Legerlotz | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17045667602A | 02/14/2017 20:02 | Drew M Gerhart | 1 |

Sample Description: BDC-05-19-170208 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828384
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 10:11 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50
Reported: 02/27/2017 13:03

DC192

| CAT No. | Analysis Name | CAS Number | Result | | Method Detection Limit | Dilution Factor |
|-------------------------|----------------|----------------------------|---------------|----------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 | U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 3.2 | J | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 | U | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 12,000 | E | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 100 | U | 100 | 100 |
| 07105 | Ethane | 74-84-0 | 100 | U | 100 | 100 |
| 07105 | Ethene | 74-85-1 | 100 | U | 100 | 100 |
| 07105 | Methane | 74-82-8 | 16,000 | | 300 | 100 |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.32 | J | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|-------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 170410003A | 02/10/2017 18:39 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 170410003A | 02/13/2017 19:41 | Johanna C Kennedy | 100 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17044987902A | 02/14/2017 10:19 | Clinton M Wilson | 1 |

Sample Description: BDC-05-19-170208 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828385
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 10:11 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|--------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0030 | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050015A | 02/16/2017 11:18 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050015 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-19-170208 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828386
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 10:11 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0228 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050015A | 02/16/2017 11:19 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050015 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-19-170208 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828387
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 10:11 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050015A | 02/16/2017 10:55 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050015 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-19-170208 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828388
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 10:11 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0107 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050015A | 02/16/2017 11:21 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050015 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-12-170208 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828389
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 11:01 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

DC121

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|------------------------|------------------------|-----------------------|-------------|-----------------------|-----------------|
| GC/MS Volatiles | | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.4 | 0.2 | 1 |
| Wet Chemistry | | SM 5310 C-2000 | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 8.6 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H170523AA | 02/21/2017 23:42 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H170523AA | 02/21/2017 23:42 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17045667602A | 02/14/2017 20:30 | Drew M Gerhart | 1 |

Sample Description: BDC-05-12-170208 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828390
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 11:01 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50
Reported: 02/27/2017 13:03

DC122

| CAT No. | Analysis Name | CAS Number | Result | Method | Detection Limit | Dilution Factor |
|-------------------------|----------------|----------------------------|----------------|--------|-----------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 1.9 J | | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 U | | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 6,800 E | | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 50 U | | 50 | 50 |
| 07105 | Ethane | 74-84-0 | 50 U | | 50 | 50 |
| 07105 | Ethene | 74-85-1 | 50 U | | 50 | 50 |
| 07105 | Methane | 74-82-8 | 12,000 | | 150 | 50 |
| Trial ID: REDL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 50 U | | 50 | 50 |
| 07105 | Ethane | 74-84-0 | 50 U | | 50 | 50 |
| 07105 | Ethene | 74-85-1 | 50 U | | 50 | 50 |
| 07105 | Methane | 74-82-8 | 12,000 | | 150 | 50 |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.30 U | | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|---------|--------------|------------------------|-------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 170410003A | 02/10/2017 18:58 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 170410003A | 02/13/2017 20:00 | Johanna C Kennedy | 50 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 3-RED L | 170410003A | 02/17/2017 11:27 | Johanna C Kennedy | 50 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17044987902A | 02/14/2017 10:34 | Clinton M Wilson | 1 |

Sample Description: BDC-05-12-170208 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828391
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 11:01 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050016A | 02/15/2017 16:15 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050016 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-12-170208 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828392
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 11:01 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0057 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050016A | 02/15/2017 16:17 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050016 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-12-170208 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828393
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 11:01 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050016A | 02/15/2017 16:07 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050016 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-12-170208 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828394
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 11:01 by JH The Boeing Company
PO Box 3707
Submitted: 02/09/2017 13:50 MC 1W-12
Reported: 02/27/2017 13:03 Seattle WA 98124

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0071 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050016A | 02/15/2017 16:19 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050016 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-24-170208 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828395
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 11:46 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

DC241

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|----------------------|------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 1.3 | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.3 | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 2.1 | 0.2 | 1 |
| Wet Chemistry | SM 5310 C-2000 | | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 4.0 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H170523AA | 02/22/2017 00:02 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H170523AA | 02/22/2017 00:02 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17045667602A | 02/14/2017 20:43 | Drew M Gerhart | 1 |

Sample Description: BDC-05-24-170208 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828396
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 11:46 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50
Reported: 02/27/2017 13:03

DC242

| CAT No. | Analysis Name | CAS Number | Result | Method | Detection Limit | Dilution Factor |
|-------------------------|---------------|----------------------------|-------------|--------|-----------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 3.2 J | | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 2.7 J | | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 4,600 E | | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 20 U | | 20 | 20 |
| 07105 | Ethane | 74-84-0 | 20 U | | 20 | 20 |
| 07105 | Ethene | 74-85-1 | 20 U | | 20 | 20 |
| 07105 | Methane | 74-82-8 | 5,900 | | 60 | 20 |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 1.8 | | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|-------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 170410003A | 02/10/2017 19:16 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 170410003A | 02/13/2017 20:18 | Johanna C Kennedy | 20 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17045987151A | 02/15/2017 02:20 | Clinton M Wilson | 1 |

Sample Description: BDC-05-24-170208 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828397
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 11:46 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050016A | 02/15/2017 16:24 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050016 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-24-170208 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828398
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 11:46 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0027 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050016A | 02/15/2017 16:26 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050016 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-24-170208 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828399
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 11:46 by JH The Boeing Company
PO Box 3707
Submitted: 02/09/2017 13:50 MC 1W-12
Reported: 02/27/2017 13:03 Seattle WA 98124

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------|----------------------------|--------------------------------|----------------|-----------------------|-----------------|
| 06033 | Metals Dissolved Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0042 | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 170417050016A | 02/15/2017 16:28 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050016 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-24-170208 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828400
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017 11:46 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-------------------------|--------------------------|----------|------------------------|-----------------|
| | Metals Dissolved | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0020 J | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 170417050016A | 02/15/2017 16:29 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 170417050016 | 02/13/2017 22:00 | Annamaria Kuhns | 1 |

Sample Description: TRIP BLANK Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8828401
LL Group # 1764100
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 02/08/2017

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/09/2017 13:50

Reported: 02/27/2017 13:03

DC-TB

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.2 U | 0.2 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|--------------|--------|-----------|------------------------|-------------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H170521AA | 02/21/2017 19:24 | Kerri E Legerlotz | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H170521AA | 02/21/2017 19:24 | Kerri E Legerlotz | 1 |

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/27/2017 13:03

Group Number: 1764100

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.

Method Blank

| Analysis Name | Result | LOQ |
|-----------------------------|---|---------|
| | ug/l | ug/l |
| Batch number: H170482AA | Sample number(s): 8828359,8828365 | |
| cis-1,2-Dichloroethene | 0.2 U | 0.2 |
| Tetrachloroethene | 0.2 U | 0.2 |
| Trichloroethene | 0.2 U | 0.2 |
| Vinyl Chloride | 0.2 U | 0.2 |
| Batch number: H170521AA | Sample number(s): 8828371,8828377,8828383,8828401 | |
| cis-1,2-Dichloroethene | 0.2 U | 0.2 |
| Tetrachloroethene | 0.2 U | 0.2 |
| Trichloroethene | 0.2 U | 0.2 |
| Vinyl Chloride | 0.2 U | 0.2 |
| Batch number: H170523AA | Sample number(s): 8828389,8828395 | |
| cis-1,2-Dichloroethene | 0.2 U | 0.2 |
| Tetrachloroethene | 0.2 U | 0.2 |
| Trichloroethene | 0.2 U | 0.2 |
| Vinyl Chloride | 0.2 U | 0.2 |
| Analysis Name | Result | MDL |
| | ug/l | ug/l |
| Batch number: 170410003A | Sample number(s): 8828366,8828372,8828378,8828384,8828390,8828396 | |
| Acetylene | 1.0 U | 1.0 |
| Ethane | 1.0 U | 1.0 |
| Ethene | 1.0 U | 1.0 |
| Methane | 3.0 U | 3.0 |
| | mg/l | mg/l |
| Batch number: 170417050014A | Sample number(s): 8828361-8828364,8828367-8828370,8828373-8828374 | |
| Arsenic | 0.00040 U | 0.00040 |
| Copper | 0.00034 U | 0.00034 |
| Batch number: 170417050015A | Sample number(s): 8828375-8828376,8828379-8828382,8828385-8828388 | |
| Arsenic | 0.00040 U | 0.00040 |
| Copper | 0.00034 U | 0.00034 |
| Batch number: 170417050016A | Sample number(s): 8828391-8828394,8828397-8828400 | |
| Arsenic | 0.00040 U | 0.00040 |
| Copper | 0.00034 U | 0.00034 |
| Analysis Name | Result | LOQ |
| | mg/l | mg/l |
| Batch number: 17045667602A | Sample number(s): 8828359,8828365,8828371,8828377,8828383,8828389,8828395 | |
| Total Organic Carbon | 1.0 U | 1.0 |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/27/2017 13:03

Group Number: 1764100

Method Blank (continued)

| Analysis Name | Result | LOQ |
|------------------------------------|--------|------|
| | mg/l | mg/l |
| Batch number: 17044987902A Sulfate | 0.30 U | 0.30 |
| Batch number: 17045987151A Sulfate | 0.30 U | 0.30 |

LCS/LCSD

| Analysis Name | LCS Spike Added | LCS Conc | LCSD Spike Added | LCSD Conc | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|-----------------------------|---|----------|------------------|-----------|----------|-----------|-----------------|-----|---------|
| | ug/l | ug/l | ug/l | ug/l | | | | | |
| Batch number: H170482AA | Sample number(s): 8828359,8828365 | | | | | | | | |
| cis-1,2-Dichloroethene | 5.00 | 4.90 | 5.00 | 4.80 | 98 | 96 | 80-120 | 2 | 30 |
| Tetrachloroethene | 5.00 | 5.06 | 5.00 | 4.86 | 101 | 97 | 80-120 | 4 | 30 |
| Trichloroethene | 5.00 | 5.04 | 5.00 | 4.92 | 101 | 98 | 80-120 | 2 | 30 |
| Vinyl Chloride | 5.00 | 5.64 | 5.00 | 5.58 | 113 | 112 | 62-128 | 1 | 30 |
| Batch number: H170521AA | Sample number(s): 8828371,8828377,8828383,8828401 | | | | | | | | |
| cis-1,2-Dichloroethene | 5.00 | 4.94 | 5.00 | 4.83 | 99 | 97 | 80-120 | 2 | 30 |
| Tetrachloroethene | 5.00 | 5.12 | 5.00 | 4.90 | 102 | 98 | 80-120 | 5 | 30 |
| Trichloroethene | 5.00 | 5.13 | 5.00 | 4.86 | 103 | 97 | 80-120 | 5 | 30 |
| Vinyl Chloride | 5.00 | 5.57 | 5.00 | 5.20 | 111 | 104 | 62-128 | 7 | 30 |
| Batch number: H170523AA | Sample number(s): 8828389,8828395 | | | | | | | | |
| cis-1,2-Dichloroethene | 5.00 | 4.95 | 5.00 | 4.99 | 99 | 100 | 80-120 | 1 | 30 |
| Tetrachloroethene | 5.00 | 4.93 | 5.00 | 4.93 | 99 | 99 | 80-120 | 0 | 30 |
| Trichloroethene | 5.00 | 5.06 | 5.00 | 4.98 | 101 | 100 | 80-120 | 2 | 30 |
| Vinyl Chloride | 5.00 | 5.75 | 5.00 | 5.75 | 115 | 115 | 62-128 | 0 | 30 |
| Batch number: 170410003A | Sample number(s): 8828366,8828372,8828378,8828384,8828390,8828396 | | | | | | | | |
| Acetylene | 51.2 | 42.83 | 51.2 | 41.85 | 84 | 82 | 61-148 | 2 | 20 |
| Ethane | 59.2 | 53.67 | 59.2 | 51.26 | 91 | 87 | 85-115 | 5 | 20 |
| Ethene | 60.8 | 54.34 | 60.8 | 52.12 | 89 | 86 | 83-115 | 4 | 20 |
| Methane | 59.8 | 57.59 | 59.8 | 54.87 | 96 | 92 | 85-115 | 5 | 20 |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 170417050014A | Sample number(s): 8828361-8828364,8828367-8828370,8828373-8828374 | | | | | | | | |
| Arsenic | 0.0100 | 0.0102 | | | 102 | | 85-115 | | |
| Copper | 0.0500 | 0.0504 | | | 101 | | 85-115 | | |
| Batch number: 170417050015A | Sample number(s): 8828375-8828376,8828379-8828382,8828385-8828388 | | | | | | | | |
| Arsenic | 0.0100 | 0.0102 | | | 102 | | 85-115 | | |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/27/2017 13:03

Group Number: 1764100

LCS/LCSD (continued)

| Analysis Name | LCS Spike Added mg/l | LCS Conc mg/l | LCSD Spike Added mg/l | LCSD Conc mg/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|-----------------------------|---|------------------|--------------------------|-------------------|----------|-----------|-----------------|-----|---------|
| Copper | 0.0500 | 0.0493 | | | 99 | | 85-115 | | |
| Batch number: 170417050016A | Sample number(s): 8828391-8828394,8828397-8828400 | | | | | | | | |
| Arsenic | 0.0100 | 0.00925 | | | 92 | | 85-115 | | |
| Copper | 0.0500 | 0.0479 | | | 96 | | 85-115 | | |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17045667602A | Sample number(s): 8828359,8828365,8828371,8828377,8828383,8828389,8828395 | | | | | | | | |
| Total Organic Carbon | 25 | 26.05 | | | 104 | | 91-113 | | |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17044987902A | Sample number(s): 8828360,8828366,8828372,8828378,8828384,8828390 | | | | | | | | |
| Sulfate | 7.50 | 7.27 | | | 97 | | 90-110 | | |
| Batch number: 17045987151A | Sample number(s): 8828396 | | | | | | | | |
| Sulfate | 7.50 | 7.60 | | | 101 | | 90-110 | | |

MS/MSD

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

| Analysis Name | Unspiked Conc mg/l | MS Spike Added mg/l | MS Conc mg/l | MSD Spike Added mg/l | MSD Conc mg/l | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|-----------------------------|---|------------------------|-----------------|-------------------------|------------------|---------|----------|---------------|-----|---------|
| Batch number: 170417050014A | Sample number(s): 8828361-8828364,8828367-8828370,8828373-8828374 UNSPK: 8828367, P828367 | | | | | | | | | |
| Arsenic | 0.0307 | 0.0100 | 0.0414 | | | 107 | | 70-130 | | |
| Copper | 0.000387 | 0.0500 | 0.0509 | | | 101 | | 70-130 | | |
| Batch number: 170417050015A | Sample number(s): 8828375-8828376,8828379-8828382,8828385-8828388 UNSPK: 8828387, P828387 | | | | | | | | | |
| Arsenic | 0.0113 | 0.0100 | 0.0210 | | | 97 | | 70-130 | | |
| Copper | 0.00034 U | 0.0500 | 0.0506 | | | 101 | | 70-130 | | |
| Batch number: 170417050016A | Sample number(s): 8828391-8828394,8828397-8828400 UNSPK: 8828393, P828393 | | | | | | | | | |
| Arsenic | 0.00596 | 0.0100 | 0.0165 | | | 105 | | 70-130 | | |
| Copper | 0.00034 U | 0.0500 | 0.0482 | | | 96 | | 70-130 | | |
| | mg/l | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17045667602A | Sample number(s): 8828359,8828365,8828371,8828377,8828383,8828389,8828395 UNSPK: P795164 | | | | | | | | | |
| Total Organic Carbon | 12.94 | 10 | 22.69 | | | 98 | | 64-148 | | |
| | mg/l | mg/l | mg/l | mg/l | 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.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/27/2017 13:03

Group Number: 1764100

MS/MSD (continued)

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

| Analysis Name | Unspiked Conc mg/l | MS Spike Added mg/l | MS Conc mg/l | MSD Spike Added mg/l | MSD Conc mg/l | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|------------------------------------|--------------------|---------------------|--------------|---|---------------|---------|----------|--------------------------|-----|---------|
| Batch number: 17044987902A Sulfate | 20.13 | 25 | 42.79 | Sample number(s): 8828360,8828366,8828372,8828378,8828384,8828390 | | 91 | | UNSPK: P833590 90-110 | | |
| Batch number: 17045987151A Sulfate | 52.03 | 25 | 85.4 | Sample number(s): 8828396 UNSPK: P830165 | | 133* | | 90-110 | | |

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | BKG Conc mg/l | DUP Conc mg/l | DUP RPD | DUP RPD Max |
|------------------------------------|---|-----------------------|---------|-------------|
| Batch number: 170417050014A | Sample number(s): 8828361-8828364,8828367-8828370,8828373-8828374 | BKG: 8828367, P828367 | | |
| Arsenic | 0.0307 | 0.0306 | 0 | 20 |
| Copper | 0.000387 | 0.000400 | 3 (1) | 20 |
| Batch number: 170417050015A | Sample number(s): 8828375-8828376,8828379-8828382,8828385-8828388 | BKG: 8828387, P828387 | | |
| Arsenic | 0.0113 | 0.0112 | 1 | 20 |
| Copper | 0.00034 U | 0.00034 U | 0 (1) | 20 |
| Batch number: 170417050016A | Sample number(s): 8828391-8828394,8828397-8828400 | BKG: 8828393, P828393 | | |
| Arsenic | 0.00596 | 0.00644 | 8 (1) | 20 |
| Copper | 0.00034 U | 0.00034 U | 0 (1) | 20 |
| Batch number: 17045667602A | Sample number(s): 8828359,8828365,8828371,8828377,8828383,8828389,8828395 | BKG: P795164 | | |
| Total Organic Carbon | 12.94 | 12.76 | 1 | 3 |
| Batch number: 17044987902A Sulfate | 20.13 | 19.91 | 1 (1) | 15 |
| Batch number: 17045987151A Sulfate | 52.03 | 52.49 | 1 | 15 |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/27/2017 13:03

Group Number: 1764100

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 VC, TCE, PCE, cis1,2-DCE
Batch number: H170482AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---------|----------------------|-----------------------|------------|----------------------|
| 8828359 | 108 | 107 | 95 | 92 |
| 8828365 | 106 | 110 | 97 | 91 |
| Blank | 104 | 105 | 98 | 91 |
| LCS | 108 | 107 | 94 | 95 |
| LCSD | 105 | 103 | 94 | 94 |
| Limits: | 77-114 | 74-113 | 77-110 | 78-110 |

Analysis Name: 8260C VC, TCE, PCE, cis1,2-DCE
Batch number: H170521AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---------|----------------------|-----------------------|------------|----------------------|
| 8828371 | 107 | 109 | 95 | 93 |
| 8828377 | 106 | 109 | 95 | 93 |
| 8828383 | 108 | 113 | 93 | 92 |
| 8828401 | 107 | 106 | 93 | 93 |
| Blank | 107 | 105 | 97 | 91 |
| LCS | 107 | 105 | 95 | 95 |
| LCSD | 108 | 101 | 94 | 95 |
| Limits: | 77-114 | 74-113 | 77-110 | 78-110 |

Analysis Name: 8260C VC, TCE, PCE, cis1,2-DCE
Batch number: H170523AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---------|----------------------|-----------------------|------------|----------------------|
| 8828389 | 106 | 103 | 94 | 91 |
| 8828395 | 106 | 104 | 95 | 89 |
| Blank | 106 | 105 | 95 | 90 |
| LCS | 109 | 108 | 95 | 95 |
| LCSD | 106 | 102 | 93 | 93 |
| Limits: | 77-114 | 74-113 | 77-110 | 78-110 |

Analysis Name: AMEE by RSK-175
Batch number: 170410003A

| | Propene |
|-----------|---------|
| 8828366 | 80 |
| 8828366DL | 101 |
| 8828372 | 77 |
| 8828372DL | 100 |
| 8828378 | 88 |
| 8828378DL | 102 |
| 8828384 | 87 |
| 8828384DL | 99 |
| 8828390 | 78 |
| 8828390DL | 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.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/27/2017 13:03

Group Number: 1764100

Surrogate Quality Control (continued)

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

Analysis Name: AMEE by RSK-175
Batch number: 170410003A

| | Propene |
|-------------|---------|
| 8828390REDL | 94 |
| 8828396 | 82 |
| 8828396DL | 103 |
| Blank | 103 |
| LCS | 101 |
| LCS D | 97 |

Limits: 44-123

*- Outside of specification

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

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



Lancaster Laboratories

Acct. # 13419

Group # 16410

For Eurofins Lancaster Laboratories use only
Sample # 8828359-401

Please print. Instructions on reverse side correspond.

Client Information

Site Location: Tukwila, WA
 Site Project: Boeing Developmental Center
 Site Program#: SWMU-17-0025217-099-039
 Boeing PM: Lindsey Mahrt
 Consultant Contact: Chris Kimmel
 Report To: Chris Kimmel & Lindsey Mahrt
 Invoice To: Boeing EHS Other (specify):
 Sampler: Seaxani Huerta # of Coolers: 1

Sample Identification

| Sample ID | Collected | | Matrix | No. of Containers |
|-------------------|-----------|------|--------|-------------------|
| | Date | Time | | |
| BDC-05-22-170208 | 2/3/17 | 741 | AA | 9 |
| BDC-05-20-170208 | 2/4/17 | 826 | AA | #13 |
| BDC-05-DUP-170208 | 2/8/17 | 900 | AA | 11 |
| BDC-05-16-170208 | 2/8/17 | 921 | AA | 11 |
| BDC-05-19-170208 | 2/8/17 | 1011 | AA | 11 |
| BDC-05-12-170208 | 2/8/17 | 1101 | AA | 11 |
| BDC-05-24-170208 | 2/8/17 | 1146 | AA | 11 |
| TRIP BLANKS | - | - | AA | 2 |

Analyses Requested

| Analysis | Requested | Completed | Remarks/Comments |
|---------------------------------|-----------|-----------|---|
| AMEE (R&S 8-175 Mod) | X | | Dissolved Metals samples have been Field Filtered 1 of 1 |
| WC's (S260C) | X | | |
| TC (SM5310C) | X | | |
| Substrate (300 e) | X | | |
| Total & dissolved Hg, Cu (2008) | X | | |
| Batch Metals GC | X | | |
| | | | |
| | | | |

Turnaround Time Requested (please circle)

Standard 72 hour 48 hour 5 day 4 day 24 hour

Date needed: _____

Relinquished by: *[Signature]*

Date/Time: 2/9/17 1300

Received by: *[Signature]*

Date/Time: _____

Relinquished by: *[Signature]*

Date/Time: _____

Received by: *[Signature]*

Date/Time: 2-9-17 1330

Relinquished by commercial carrier (circle):

UPS FedEx Other: Custody Seals Intact? Yes No

Client: Boeing

Delivery and Receipt Information

Delivery Method: UPS Arrival Timestamp: 02/09/2017 13:50
 Number of Packages: 1 Number of Projects: 1

Arrival Condition Summary

| | | | |
|--------------------------------------|-----|-------------------------------------|-----------|
| Shipping Container Sealed: | Yes | Sample IDs on COC match Containers: | Yes |
| Custody Seal Present: | Yes | Sample Date/Times match COC: | Yes |
| Custody Seal Intact: | Yes | VOA Vial Headspace ≥ 6mm: | Yes |
| Samples Chilled: | Yes | VOA IDs (≥ 6mm): | See Below |
| Paperwork Enclosed: | Yes | Total Trip Blank Qty: | 2 |
| Samples Intact: | Yes | Trip Blank Type: | HCl |
| Missing Samples: | No | Air Quality Samples Present: | No |
| Extra Samples: | No | | |
| Discrepancy in Container Qty on COC: | No | | |

VOA Vial IDs (Headspace ≥ 6mm): 2 of 2 TB.

Unpacked by Melvin Sanchez (8943) at 15:56 on 02/09/2017

Samples Chilled Details

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

| <u>Cooler #</u> | <u>Thermometer ID</u> | <u>Corrected Temp</u> | <u>Therm. Type</u> | <u>Ice Type</u> | <u>Ice Present?</u> | <u>Ice Container</u> | <u>Elevated Temp?</u> |
|-----------------|-----------------------|-----------------------|--------------------|-----------------|---------------------|----------------------|-----------------------|
| 1 | DT131 | 3.1 | DT | Wet | Y | Bagged | N |

General Comments: Received Metals Batch QC: BDC-05-20-170208.

Explanation of Symbols and Abbreviations

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

| | | | |
|-------------------------|--|-----------------|-------------------------------|
| BMQL | Below Minimum Quantitation Level | mg | milligram(s) |
| C | degrees Celsius | mL | milliliter(s) |
| cfu | colony forming units | MPN | Most Probable Number |
| CP Units | cobalt-chloroplatinate units | N.D. | none detected |
| F | degrees Fahrenheit | ng | nanogram(s) |
| g | gram(s) | NTU | nephelometric turbidity units |
| IU | International Units | pg/L | picogram/liter |
| kg | kilogram(s) | RL | Reporting Limit |
| L | liter(s) | TNTC | Too Numerous To Count |
| lb. | pound(s) | µg | microgram(s) |
| m3 | cubic meter(s) | µL | microliter(s) |
| meq | milliequivalents | umhos/cm | micromhos/cm |
| < | less than | | |
| > | greater than | | |
| ppm | parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas. | | |
| ppb | parts per billion | | |
| Dry weight basis | Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis. | | |

Laboratory Data Qualifiers:

- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

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

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

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

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

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

ANALYTICAL RESULTS

Prepared by:

Prepared for:

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

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Report Date: May 26, 2017

Project: Boeing_DC:SWMU-17 s-ann

Submittal Date: 05/04/2017

Group Number: 1796929

State of Sample Origin: WA

| <u>Client Sample Description</u> | Lancaster Labs (LL) # |
|---|--------------------------|
| BDC-05-05-170503 Water | 8973561 |
| BDC-05-05-170503 Water | 8973562 |
| BDC-05-05-170503 Total Metals Water | 8973563 |
| BDC-05-05-170503 Total Metals Water | 8973564 |
| BDC-05-05-170503 Dissolved Metals Water | 8973565 |
| BDC-05-05-170503 Dissolved Metals Water | 8973566 |
| BDC-05-04-170503 Water | 8973567 |
| BDC-05-04-170503 Water | 8973568 |
| BDC-05-04-170503 Total Metals Water | 8973569 |
| BDC-05-04-170503 Total Metals Water | 8973570 |
| BDC-05-04-170503 Dissolved Metals Water | 8973571 |
| BDC-05-04-170503 Dissolved Metals Water | 8973572 |
| BDC-05-18-170503 Water | 8973573 |
| BDC-05-18-170503 Water | 8973574 |
| BDC-05-18-170503 Total Metals Water | 8973575 |
| BDC-05-18-170503 Total Metals Water | 8973576 |
| BDC-05-18-170503 Dissolved Metals Water | 8973577 |
| BDC-05-18-170503 Dissolved Metals Water | 8973578 |
| BDC-05-21-170503 Water | 8973579 |
| BDC-05-21-170503 Water | 8973580 |
| BDC-05-21-170503 Total Metals Water | 8973581 |
| BDC-05-21-170503 Total Metals Water | 8973582 |
| BDC-05-21-170503 Dissolved Metals Water | 8973583 |
| BDC-05-21-170503 Dissolved Metals Water | 8973584 |
| BDC-05-23-170503 Water | 8973585 |
| BDC-05-23-170503 Water | 8973586 |
| BDC-05-23-170503 Total Metals Water | 8973587 |
| BDC-05-23-170503 Total Metals Water | 8973588 |
| BDC-05-23-170503 Dissolved Metals Water | 8973589 |
| BDC-05-23-170503 Dissolved Metals Water | 8973590 |
| BDC-Dup3-170503 Water | 8973591 |
| BDC-Dup3-170503 Water | 8973592 |

REVISED

| | |
|--|---------|
| BDC-Dup3-170503 Total Metals Water | 8973593 |
| BDC-Dup3-170503 Total Metals Water | 8973594 |
| BDC-Dup3-170503 Dissolved Metals Water | 8973595 |
| BDC-Dup3-170503 Dissolved Metals Water | 8973596 |
| Trip Blank Water | 8973597 |

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To The Boeing Company
Electronic Copy To Landau

Attn: Lindsey E. Mahrt
Attn: Chris Kimmel

Respectfully Submitted,



Kay Hower

(717) 556-7364

Project Name: Boeing_DC:SWMU-17 s-ann
LL Group #: 1796929

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**

Sample #s: 8973592

The container used for this analysis was submitted with headspace.

Batch #: 171270001A (Sample number(s): 8973574, 8973580, 8973592 UNSPK: P974857)

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: Methane, Ethane

EPA 300.0, wet Chemistry

Sample #s: 8973567

This sample was originally analyzed within the 48 hour holding time for nitrite nitrogen, however the continuing calibration standard bracketing the sample were outside of the 90% to 110% acceptance window with a recovery of 85%. The analysis was repeated on 5/9/2017 with results of non detect, comparable to the initial in hold trial results. Per the client, both trials are being reported.

May 26, 2017

Ms. Lindsey E. Mahrt
The Boeing Company
PO Box 3707
MC 1W-12
Seattle, WA 98124

Dear Ms. Mahrt

I am writing to inform you of revised analytical reports that are being issued for the following:

Project: Boeing_DC: SWMU-17 s-ann
Group No.: 1796929

| ELLE Sample No. | Client Sample Identification | Collection Date |
|-----------------|------------------------------|------------------|
| 8973592 | BDC-Dup3-170503 | 05/03/2017 16:00 |

The correction to the data affects the RSK-175 analysis only.

In response to your inquiry regarding the compounds reported by the RSK-175 method, the additional compounds n-butane, isobutene, and propane have been removed from sample BDC-Dup3-170503(8973592). The results for the removed compounds were non-detect.

The revised analytical report reflects this correction and is enclosed.

You are a valued client and we apologize for any inconvenience that this incident may have caused. If you have any questions or require further assistance, please call me at 717-656-2300, Ext. 1103. We appreciate your business and look forward to continuing to serve your laboratory needs.

Sincerely,



Ana Spencer
Project Manager
Client Services

AS/mk
Enclosures

cc: Kay Hower

REVISED

Sample Description: BDC-05-05-170503 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973561
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 11:30 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

DC551

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | | | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.4 | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.7 | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.2 U | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | | | |
| 00273 | Total Organic Carbon | n.a. | 1.9 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171285AA | 05/09/2017 03:47 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171285AA | 05/09/2017 03:47 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17125667605B | 05/05/2017 23:06 | Drew M Gerhart | 1 |

REVISED

Sample Description: BDC-05-05-170503 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973562
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 11:30 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

DC552

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|--------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 21.3 | mg/l 1.5 | 5 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|------------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17132987312A | 05/13/2017 12:55 | Clinton M Wilson | 5 |

Sample Description: BDC-05-05-170503 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973563
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 11:30 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|--------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0028 | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705009A | 05/12/2017 04:59 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705009 | 05/11/2017 06:37 | James L Mertz | 1 |

Sample Description: BDC-05-05-170503 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973564
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 11:30 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|-----------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.00087 J | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705009A | 05/12/2017 05:08 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705009 | 05/11/2017 06:37 | James L Mertz | 1 |

REVISED

Sample Description: BDC-05-05-170503 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973565
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 11:30 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705009A | 05/12/2017 05:10 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705009 | 05/11/2017 06:37 | James L Mertz | 1 |

Sample Description: BDC-05-05-170503 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973566
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 11:30 by JA The Boeing Company
PO Box 3707
Submitted: 05/04/2017 09:30 MC 1W-12
Reported: 05/26/2017 11:38 Seattle WA 98124

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|---------------|--------------------------------|-------------------|------------------------|-----------------|
| Metals Dissolved | | | | | |
| 06025 | Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.00040 U | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705009A | 05/12/2017 05:12 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705009 | 05/11/2017 06:37 | James L Mertz | 1 |

Sample Description: BDC-05-04-170503 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973567
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 12:31 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30
Reported: 05/26/2017 11:38

DC541

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | | | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.3 | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 1.2 | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.4 | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.2 U | 0.2 | 1 |
| Wet Chemistry EPA 300.0 | | | | | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 8.8 | 1.0 | 10 |
| 01506 | Nitrite Nitrogen | 14797-65-0 | 0.10 U | 0.10 | 1 |
| This sample was originally analyzed within the 48 hour holding time for nitrite nitrogen, however the continuing calibration standard bracketing the sample were outside of the 90% to 110% acceptance window with a recovery of 85%. The analysis was repeated on 5/9/2017 with results of non detect, comparable to the initial in hold trial results. Per the client, both trials are being reported. | | | | | |
| 01506 | Nitrite Nitrogen | 14797-65-0 | 0.10 U | 0.10 | 1 |
| This sample was originally analyzed within the 48 hour holding time for nitrite nitrogen, however the continuing calibration standard bracketing the sample were outside of the 90% to 110% acceptance window with a recovery of 85%. The analysis was repeated on 5/9/2017 with results of non detect, comparable to the initial in hold trial results. Per the client, both trials are being reported. | | | | | |
| SM 5310 C-2000 | | | | | |
| 00273 | Total Organic Carbon | n.a. | 3.3 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171285AA | 05/09/2017 04:07 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171285AA | 05/09/2017 04:07 | Don V Viray | 1 |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 3 | 17124249106A | 05/05/2017 10:49 | Zachary W Enck | 10 |
| 01506 | Nitrite Nitrogen | EPA 300.0 | 1 | 17124249106A | 05/09/2017 04:28 | Zachary W Enck | 1 |
| 01506 | Nitrite Nitrogen | EPA 300.0 | 2 | 17124249106A | 05/05/2017 10:34 | Zachary W Enck | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17125667605B | 05/05/2017 23:20 | Drew M Gerhart | 1 |

REVISED

Sample Description: BDC-05-04-170503 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973568
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 12:31 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

DC542

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|--------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 12.0 | mg/l 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|------------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17132987312A | 05/13/2017 12:06 | Clinton M Wilson | 1 |

Sample Description: BDC-05-04-170503 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973569
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 12:31 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|--------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0034 | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705009A | 05/12/2017 05:17 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705009 | 05/11/2017 06:37 | James L Mertz | 1 |

REVISED

Sample Description: BDC-05-04-170503 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973570
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 12:31 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|----------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0011 J | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705009A | 05/12/2017 05:19 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705009 | 05/11/2017 06:37 | James L Mertz | 1 |

REVISED

Sample Description: BDC-05-04-170503 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973571
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 12:31 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------|----------------------------|--------------------------------|----------------|-----------------------|-----------------|
| 06033 | Metals Dissolved Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0029 | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705009A | 05/12/2017 05:21 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705009 | 05/11/2017 06:37 | James L Mertz | 1 |

REVISED

Sample Description: BDC-05-04-170503 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973572
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 12:31 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-------------------------|--------------------------|-----------|------------------------|-----------------|
| | Metals Dissolved | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.00071 J | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705009A | 05/12/2017 05:23 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705009 | 05/11/2017 06:37 | James L Mertz | 1 |

REVISED

Sample Description: BDC-05-18-170503 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973573
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 13:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30
Reported: 05/26/2017 11:38

D5181

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|----------------------|------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 1.3 | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 3.6 | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 4.6 | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.2 U | 0.2 | 1 |
| Wet Chemistry | SM 5310 C-2000 | | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 1.7 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171285AA | 05/09/2017 04:28 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171285AA | 05/09/2017 04:28 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17125667605B | 05/05/2017 23:51 | Drew M Gerhart | 1 |

REVISED

Sample Description: BDC-05-18-170503 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973574
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 13:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30
Reported: 05/26/2017 11:38

D5182

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|---------------|----------------------------|-------------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 1.0 U | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 U | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 95 | 3.0 | 1 |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 8.1 | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|-------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171270001A | 05/08/2017 11:33 | Johanna C Kennedy | 1 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17132987312A | 05/13/2017 13:45 | Clinton M Wilson | 1 |

REVISED

Sample Description: BDC-05-18-170503 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973575
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 13:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705009A | 05/12/2017 05:24 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705009 | 05/11/2017 06:37 | James L Mertz | 1 |

Sample Description: BDC-05-18-170503 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973576
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 13:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0065 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705009A | 05/12/2017 05:26 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705009 | 05/11/2017 06:37 | James L Mertz | 1 |

Sample Description: BDC-05-18-170503 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973577
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 13:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705010A | 05/12/2017 03:49 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705010 | 05/11/2017 07:10 | James L Mertz | 1 |

REVISED

Sample Description: BDC-05-18-170503 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973578
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 13:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|------------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0017 J | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705010A | 05/12/2017 03:58 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705010 | 05/11/2017 07:10 | James L Mertz | 1 |

Sample Description: BDC-05-21-170503 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973579
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 14:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

D5211

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | | | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.7 | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 2.0 | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | | | |
| 00273 | Total Organic Carbon | n.a. | 9.1 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171285AA | 05/09/2017 04:48 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171285AA | 05/09/2017 04:48 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17125667605B | 05/06/2017 00:05 | Drew M Gerhart | 1 |

Sample Description: BDC-05-21-170503 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973580
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 14:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30
Reported: 05/26/2017 11:38

D5212

| CAT No. | Analysis Name | CAS Number | Result | | Method Detection Limit | Dilution Factor |
|-------------------------|---------------|----------------------------|-------------|---|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 | U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 1.3 | J | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 2.8 | J | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 4,200 | E | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 20 | U | 20 | 20 |
| 07105 | Ethane | 74-84-0 | 20 | U | 20 | 20 |
| 07105 | Ethene | 74-85-1 | 20 | U | 20 | 20 |
| 07105 | Methane | 74-82-8 | 3,400 | | 60 | 20 |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.64 | J | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|-------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171270001A | 05/08/2017 11:48 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171270001A | 05/17/2017 12:59 | Johanna C Kennedy | 20 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17132987312A | 05/13/2017 14:02 | Clinton M Wilson | 1 |

Sample Description: BDC-05-21-170503 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973581
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 14:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705010A | 05/12/2017 04:00 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705010 | 05/11/2017 07:10 | James L Mertz | 1 |

Sample Description: BDC-05-21-170503 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973582
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 14:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0089 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705010A | 05/12/2017 04:02 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705010 | 05/11/2017 07:10 | James L Mertz | 1 |

Sample Description: BDC-05-21-170503 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973583
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 14:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705010A | 05/12/2017 04:07 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705010 | 05/11/2017 07:10 | James L Mertz | 1 |

REVISED

Sample Description: BDC-05-21-170503 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973584
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 14:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0090 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705010A | 05/12/2017 04:09 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705010 | 05/11/2017 07:10 | James L Mertz | 1 |

Sample Description: BDC-05-23-170503 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973585
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 15:36 by JA

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PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

D5231

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | | | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 2.0 | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.5 | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | | | |
| 00273 | Total Organic Carbon | n.a. | 7.2 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171285AA | 05/09/2017 05:08 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171285AA | 05/09/2017 05:08 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17125667605B | 05/06/2017 00:19 | Drew M Gerhart | 1 |

REVISED

Sample Description: BDC-05-23-170503 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973586
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 15:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

D5232

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|--------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 10.9 | mg/l 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|------------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17132987312A | 05/13/2017 14:18 | Clinton M Wilson | 1 |

REVISED

Sample Description: BDC-05-23-170503 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973587
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 15:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705010A | 05/12/2017 04:11 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705010 | 05/11/2017 07:10 | James L Mertz | 1 |

Sample Description: BDC-05-23-170503 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973588
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 15:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0260 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705010A | 05/12/2017 04:13 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705010 | 05/11/2017 07:10 | James L Mertz | 1 |

Sample Description: BDC-05-23-170503 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973589
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 15:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705010A | 05/12/2017 04:15 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705010 | 05/11/2017 07:10 | James L Mertz | 1 |

REVISED

Sample Description: BDC-05-23-170503 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973590
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 15:36 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0256 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705010A | 05/12/2017 04:16 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705010 | 05/11/2017 07:10 | James L Mertz | 1 |

Sample Description: BDC-Dup3-170503 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973591
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 16:00 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

DDU31

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | | | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.7 | ug/1 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 1.9 | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | | | |
| 00273 | Total Organic Carbon | n.a. | 9.2 | mg/1 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171285AA | 05/09/2017 05:29 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171285AA | 05/09/2017 05:29 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17125667605B | 05/06/2017 00:33 | Drew M Gerhart | 1 |

Sample Description: BDC-Dup3-170503 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973592
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 16:00 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30
Reported: 05/26/2017 11:38

DDU32

| CAT No. | Analysis Name | CAS Number | Result | Method | Detection Limit | Dilution Factor |
|--|---------------|----------------------------|-------------|--------|-----------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 1.3 J | | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 2.8 J | | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 4,200 E | | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 20 U | | 20 | 20 |
| 07105 | Ethane | 74-84-0 | 20 U | | 20 | 20 |
| 07105 | Ethene | 74-85-1 | 20 U | | 20 | 20 |
| 07105 | Methane | 74-82-8 | 4,900 | | 60 | 20 |
| The container used for this analysis was submitted with headspace. | | | | | | |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.65 J | | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|-------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171270001A | 05/08/2017 12:04 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171270001A | 05/08/2017 15:52 | Johanna C Kennedy | 20 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17132987312A | 05/13/2017 14:35 | Clinton M Wilson | 1 |

REVISED

Sample Description: BDC-Dup3-170503 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973593
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 16:00 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|-------------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705008A | 05/12/2017 02:54 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705008 | 05/11/2017 06:37 | James L Mertz | 1 |

Sample Description: BDC-Dup3-170503 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973594
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 16:00 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0089 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705008A | 05/12/2017 02:55 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705008 | 05/11/2017 06:37 | James L Mertz | 1 |

Sample Description: BDC-Dup3-170503 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973595
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 16:00 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705008A | 05/12/2017 03:01 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705008 | 05/11/2017 06:37 | James L Mertz | 1 |

REVISED

Sample Description: BDC-Dup3-170503 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973596
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017 16:00 by JA

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0088 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705008A | 05/12/2017 03:03 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705008 | 05/11/2017 06:37 | James L Mertz | 1 |

REVISED

Sample Description: Trip Blank Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8973597
LL Group # 1796929
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/03/2017

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/26/2017 11:38

S17BT

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.2 U | 0.2 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|--------------|--------|-----------|------------------------|-------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171285AA | 05/09/2017 03:27 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171285AA | 05/09/2017 03:27 | Don V Viray | 1 |

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/26/2017 11:38

Group Number: 1796929

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.

Method Blank

| Analysis Name | Result | LOQ |
|-------------------------|---|------|
| | ug/l | ug/l |
| Batch number: H171285AA | Sample number(s): 8973561,8973567,8973573,8973579,8973585,8973591,8973597 | |
| cis-1,2-Dichloroethene | 0.5 U | 0.5 |
| Tetrachloroethene | 0.5 U | 0.5 |
| Trichloroethene | 0.5 U | 0.5 |
| Vinyl Chloride | 0.5 U | 0.5 |

| Analysis Name | Result | MDL |
|--------------------------|---|------|
| | ug/l | ug/l |
| Batch number: 171270001A | Sample number(s): 8973574,8973580,8973592 | |
| Acetylene | 1.0 U | 1.0 |
| Ethane | 1.0 U | 1.0 |
| Ethene | 1.0 U | 1.0 |
| Methane | 3.0 U | 3.0 |

| | mg/l | mg/l |
|-----------------------------|---|---------|
| Batch number: 171300705008A | Sample number(s): 8973593-8973596 | |
| Arsenic | 0.00040 U | 0.00040 |
| Copper | 0.00074 J | 0.00021 |
| Batch number: 171300705009A | Sample number(s): 8973563-8973566,8973569-8973572,8973575-8973576 | |
| Arsenic | 0.00040 U | 0.00040 |
| Copper | 0.00068 J | 0.00021 |
| Batch number: 171300705010A | Sample number(s): 8973577-8973578,8973581-8973584,8973587-8973590 | |
| Arsenic | 0.00040 U | 0.00040 |
| Copper | 0.00021 U | 0.00021 |

| Analysis Name | Result | LOQ |
|----------------------------|---------------------------|------|
| | mg/l | mg/l |
| Batch number: 17124249106A | Sample number(s): 8973567 | |
| Nitrate Nitrogen | 0.10 U | 0.10 |
| Nitrite Nitrogen | 0.10 U | 0.10 |

| | | |
|----------------------------|---|-----|
| Batch number: 17125667605B | Sample number(s): 8973561,8973567,8973573,8973579,8973585,8973591 | |
| Total Organic Carbon | 1.0 U | 1.0 |

| Analysis Name | Result | MDL |
|----------------------------|---|------|
| | mg/l | mg/l |
| Batch number: 17132987312A | Sample number(s): 8973562,8973568,8973574,8973580,8973586,8973592 | |
| Sulfate | 0.30 U | 0.30 |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/26/2017 11:38

Group Number: 1796929

LCS/LCSD

| Analysis Name | LCS Spike Added ug/l | LCS Conc ug/l | LCSD Spike Added ug/l | LCSD Conc ug/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|-----------------------------|---|---------------|-----------------------|----------------|----------|-----------|-----------------|-----|---------|
| Batch number: H171285AA | Sample number(s): 8973561,8973567,8973573,8973579,8973585,8973591,8973597 | | | | | | | | |
| cis-1,2-Dichloroethene | 5.00 | 5.39 | 5.00 | 5.47 | 108 | 109 | 80-120 | 2 | 30 |
| Tetrachloroethene | 5.00 | 4.93 | 5.00 | 5.08 | 99 | 102 | 80-120 | 3 | 30 |
| Trichloroethene | 5.00 | 5.08 | 5.00 | 5.13 | 102 | 103 | 80-120 | 1 | 30 |
| Vinyl Chloride | 5.00 | 5.14 | 5.00 | 5.08 | 103 | 102 | 62-128 | 1 | 30 |
| | ug/l | ug/l | ug/l | ug/l | | | | | |
| Batch number: 171270001A | Sample number(s): 8973574,8973580,8973592 | | | | | | | | |
| Acetylene | 51.1 | 43.96 | | | 86 | | 61-148 | | |
| Ethane | 58.4 | 55.08 | | | 94 | | 85-115 | | |
| Ethene | 60.8 | 55.85 | | | 92 | | 83-115 | | |
| Methane | 59.8 | 57.07 | | | 95 | | 85-115 | | |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 171300705008A | Sample number(s): 8973593-8973596 | | | | | | | | |
| Arsenic | 0.0100 | 0.00959 | | | 96 | | 85-115 | | |
| Copper | 0.0500 | 0.0488 | | | 98 | | 85-115 | | |
| Batch number: 171300705009A | Sample number(s): 8973563-8973566,8973569-8973572,8973575-8973576 | | | | | | | | |
| Arsenic | 0.0100 | 0.0101 | | | 101 | | 80-120 | | |
| Copper | 0.0500 | 0.0503 | | | 101 | | 80-120 | | |
| Batch number: 171300705010A | Sample number(s): 8973577-8973578,8973581-8973584,8973587-8973590 | | | | | | | | |
| Arsenic | 0.0100 | 0.00997 | | | 100 | | 85-115 | | |
| Copper | 0.0500 | 0.0490 | | | 98 | | 85-115 | | |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17124249106A | Sample number(s): 8973567 | | | | | | | | |
| Nitrate Nitrogen | 0.750 | 0.735 | | | 98 | | 90-110 | | |
| Nitrite Nitrogen | 0.750 | 0.731 | | | 98 | | 90-110 | | |
| Batch number: 17125667605B | Sample number(s): 8973561,8973567,8973573,8973579,8973585,8973591 | | | | | | | | |
| Total Organic Carbon | 25 | 24.5 | | | 98 | | 91-113 | | |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17132987312A | Sample number(s): 8973562,8973568,8973574,8973580,8973586,8973592 | | | | | | | | |
| Sulfate | 7.50 | 7.14 | | | 95 | | 90-110 | | |

MS/MSD

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

| Analysis Name | Unspiked Conc | MS Spike Added | MS Conc | MSD Spike Added | MSD Conc | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|---------------|---------------|----------------|---------|-----------------|----------|---------|----------|---------------|-----|---------|
|---------------|---------------|----------------|---------|-----------------|----------|---------|----------|---------------|-----|---------|

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/26/2017 11:38

Group Number: 1796929

MS/MSD

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

| Analysis Name | Unspiked Conc ug/l | MS Spike Added ug/l | MS Conc ug/l | MSD Spike Added ug/l | MSD Conc ug/l | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|-----------------------------|---|---------------------|--------------|----------------------|---------------|-----------|-----------|---------------|-----|---------|
| Batch number: 171270001A | Sample number(s): 8973574,8973580,8973592 UNSPK: P974857 | | | | | | | | | |
| Acetylene | 1.0 U | 51.1 | 42.63 | 51.1 | 42.17 | 83 | | 61-148 | 1 | 20 |
| Ethane | 503.89 | 58.4 | 537.3 | 58.4 | 527.83 | 57 (2) | 41 (2) | 74-131 | 2 | 30 |
| Ethene | 1.0 U | 60.8 | 63.18 | 60.8 | 61.99 | 104 | 102 | 72-133 | 2 | 30 |
| Methane | 18565.78 | 59.8 | 17638 | 59.8 | 17585.46 | -1550 (2) | -1638 (2) | 73-125 | 0 | 30 |
| | mg/l | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 171300705008A | Sample number(s): 8973593-8973596 UNSPK: P977629 | | | | | | | | | |
| Arsenic | 0.0306 | 0.0100 | 0.0424 | 0.0100 | 0.0405 | 118 | 99 | 70-130 | 5 | 20 |
| Copper | 0.000255 | 0.0500 | 0.0490 | 0.0500 | 0.0475 | 98 | 95 | 70-130 | 3 | 20 |
| Batch number: 171300705009A | Sample number(s): 8973563-8973566,8973569-8973572,8973575-8973576 UNSPK: 8973563, P973563 | | | | | | | | | |
| Arsenic | 0.000878 | 0.0100 | 0.0115 | | | 106 | | 70-130 | | |
| Copper | 0.00276 | 0.0500 | 0.0510 | | | 96 | | 70-130 | | |
| Batch number: 171300705010A | Sample number(s): 8973577-8973578,8973581-8973584,8973587-8973590 UNSPK: 8973577, P973577 | | | | | | | | | |
| Arsenic | 0.00164 | 0.0100 | 0.0122 | | | 105 | | 70-130 | | |
| Copper | 0.000383 | 0.0500 | 0.0498 | | | 99 | | 70-130 | | |
| | mg/l | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17124249106A | Sample number(s): 8973567 UNSPK: P974902 | | | | | | | | | |
| Nitrate Nitrogen | 1.61 | 5.00 | 6.39 | | | 96 | | 90-110 | | |
| Nitrite Nitrogen | 0.10 U | 0.500 | 0.481 | | | 96 | | 90-110 | | |
| Batch number: 17125667605B | Sample number(s): 8973561,8973567,8973573,8973579,8973585,8973591 UNSPK: P974856 | | | | | | | | | |
| Total Organic Carbon | 22.3 | 10 | 31.87 | | | 96 | | 64-148 | | |
| | mg/l | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17132987312A | Sample number(s): 8973562,8973568,8973574,8973580,8973586,8973592 UNSPK: 8973568 | | | | | | | | | |
| Sulfate | 11.95 | 10 | 21.35 | | | 94 | | 90-110 | | |

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | BKG Conc mg/l | DUP Conc mg/l | DUP RPD | DUP RPD Max |
|-----------------------------|--|---------------|---------|-------------|
| Batch number: 171300705008A | Sample number(s): 8973593-8973596 BKG: P977629 | | | |
| Arsenic | 0.0306 | 0.0325 | 6 | 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.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/26/2017 11:38

Group Number: 1796929

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | BKG Conc mg/l | DUP Conc mg/l | DUP RPD | DUP RPD Max |
|-----------------------------|---|------------------|---------|-------------|
| Copper | 0.000255 | 0.000253 | 1 (1) | 20 |
| Batch number: 171300705009A | Sample number(s): 8973563-8973566,8973569-8973572,8973575-8973576 BKG: 8973563, P973563 | | | |
| Arsenic | 0.000878 | 0.000938 | 7 (1) | 20 |
| Copper | 0.00276 | 0.00266 | 4 (1) | 20 |
| Batch number: 171300705010A | Sample number(s): 8973577-8973578,8973581-8973584,8973587-8973590 BKG: 8973577, P973577 | | | |
| Arsenic | 0.00164 | 0.00152 | 7 (1) | 20 |
| Copper | 0.000383 | 0.000378 | 1 (1) | 20 |
| Batch number: 17124249106A | Sample number(s): 8973567 BKG: P974902 | | | |
| Nitrate Nitrogen | 1.61 | 1.61 | 0 | 15 |
| Nitrite Nitrogen | 0.10 U | 0.10 U | 0 (1) | 15 |
| Batch number: 17125667605B | Sample number(s): 8973561,8973567,8973573,8973579,8973585,8973591 BKG: P974856 | | | |
| Total Organic Carbon | 22.3 | 22.88 | 3 | 9 |
| Batch number: 17132987312A | Sample number(s): 8973562,8973568,8973574,8973580,8973586,8973592 BKG: 8973568 | | | |
| Sulfate | 11.95 | 11.92 | 0 | 15 |

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 VC, TCE, PCE, cis1,2-DCE
Batch number: H171285AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---------|----------------------|-----------------------|------------|----------------------|
| 8973561 | 102 | 107 | 103 | 97 |
| 8973567 | 100 | 101 | 105 | 97 |
| 8973573 | 102 | 105 | 104 | 98 |
| 8973579 | 99 | 100 | 105 | 98 |
| 8973585 | 99 | 96 | 106 | 98 |
| 8973591 | 101 | 101 | 105 | 99 |
| 8973597 | 101 | 102 | 104 | 97 |
| Blank | 102 | 100 | 103 | 100 |
| LCS | 104 | 104 | 100 | 105 |
| LCSD | 103 | 102 | 101 | 104 |
| Limits: | 77-114 | 74-113 | 77-110 | 78-110 |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/26/2017 11:38

Group Number: 1796929

Surrogate Quality Control (continued)

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

Analysis Name: AMEE by RSK-175
Batch number: 171270001A

| | Propene |
|-----------|---------|
| 8973574 | 80 |
| 8973580 | 80 |
| 8973580DL | 108 |
| 8973592 | 77 |
| 8973592DL | 89 |
| Blank | 92 |
| LCS | 91 |
| MS | 74 |
| MSD | 72 |

Limits: 44-123

*- Outside of specification

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

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

Boeing Chain of Custody



**Lancaster
Laboratories**

Acct. # 13419

For Eurofins Lancaster Laboratories use only
Group # 1796929 Sample # 8973561-97
Please print. Instructions on reverse side correspond.

| (1) Client Information | | | | | (4) Analyses Requested | | | | | | | | | | (5) Remarks/Comments | | | | | | | | | | | | | | | | | | | | | |
|--|----------------------|---------------|------------------|--------------------------|---|---|---|--|--|--|-----------|--|-----|--|----------------------------|----------------------|---------------|------------------|--------------------------|----------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|
| Site Location: <u>Tukwila, WA</u> | | | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">VOCS (5260C)</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">AMEE (P&SOP-175 MOD)</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">TOC (SM5310C)</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Sul Fute (300-c)</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Nitrate, Nitrite (300-c)</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">T/D Arsenic/Aspart (200-S)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table> | | | | | | | | | | VOCS (5260C) | AMEE (P&SOP-175 MOD) | TOC (SM5310C) | Sul Fute (300-c) | Nitrate, Nitrite (300-c) | T/D Arsenic/Aspart (200-S) | | | | | | | | | | | | | | | | * Dissolved metals samples have been field filtered * Short hold times * * Nitrates * |
| VOCS (5260C) | AMEE (P&SOP-175 MOD) | TOC (SM5310C) | Sul Fute (300-c) | Nitrate, Nitrite (300-c) | | | | | | | | | | | T/D Arsenic/Aspart (200-S) | | | | | | | | | | | | | | | | | | | | | |
| Site Project: <u>Boeing Developmental Center</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Site Program#: <u>SWM11-17 / 0025217-099-039</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Boeing PM: <u>Jennifer Parsons / Lindsey Mahrt</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Consultant Contact: <u>Christine Kimmel</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Report To: <u>J Parsons, C Kimmel, L Mahrt</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Invoice To: <input checked="" type="checkbox"/> Boeing EHS <input type="checkbox"/> Other (specify): _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sampler: <u>Jeovani Auesta</u> # of Coolers: <u>1</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (2) Sample Identification | | Collected | | (3) Matrix | No. of Containers | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Date | Time | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BDC-05-05-170503 | | 5/3/17 | 1136 | AQ | 9 | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BDC-05-04-170503 | | 5/3/17 | 1231 | AQ | 9 | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BDC-05-18-170503 | | 5/3/17 | 1336 | AQ | 11 | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BDC-05-21-170503 | | 5/3/17 | 1436 | AQ | 11 | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BDC-05-23-170503 | | 5/3/17 | 1536 | AQ | 9 | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BDC-Dup3-170503 | | 5/3/17 | 1600 | | 11 | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TRIP BLANKS | | - | - | AQ | 2 | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (6) Turnaround Time Requested (please circle) <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <input checked="" type="radio"/> Standard 72 hour Date needed: _____ </div> <div style="text-align: center;"> <input type="radio"/> 5 day 48 hour </div> <div style="text-align: center;"> <input type="radio"/> 4 day 24 hour </div> </div> | | | | | Relinquished by: <u>J Auesta</u> | | Date/Time: <u>5/3/17 @ 1700</u> | | Received by: | | Date/Time | | (7) | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | Relinquished by: | | Date/Time | | Received by: | | Date/Time | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | Relinquished by: | | Date/Time | | Received by: | | Date/Time | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | Relinquished by commercial carrier (circle): <input checked="" type="radio"/> UPS <input checked="" type="radio"/> FedEx <input type="radio"/> Other: <u>ES 3 5/4/17</u> | | Temperature upon Receipt: <u>1.1 °C</u> | | Custody Seals Intact?: <input checked="" type="radio"/> Yes <input type="radio"/> No | | | | | | | | | | | | | | | | | | | | | | | | | | | |



Client: BOEING

Delivery and Receipt Information

| | | | |
|---------------------|------------|---------------------|------------------------|
| Delivery Method: | <u>UPS</u> | Arrival Timestamp: | <u>05/04/2017 9:30</u> |
| Number of Packages: | <u>1</u> | Number of Projects: | <u>1</u> |

Arrival Condition Summary

| | | | |
|--------------------------------------|-----|-------------------------------------|-----|
| Shipping Container Sealed: | Yes | Sample IDs on COC match Containers: | Yes |
| Custody Seal Present: | Yes | Sample Date/Times match COC: | Yes |
| Custody Seal Intact: | Yes | VOA Vial Headspace \geq 6mm: | No |
| Samples Chilled: | Yes | Total Trip Blank Qty: | 2 |
| Paperwork Enclosed: | Yes | Trip Blank Type: | HCL |
| Samples Intact: | Yes | Air Quality Samples Present: | No |
| Missing Samples: | No | | |
| Extra Samples: | No | | |
| Discrepancy in Container Qty on COC: | No | | |

Unpacked by Evelyn Shank (12390) at 10:19 on 05/04/2017

Samples Chilled Details

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

| Cooler # | Thermometer ID | Corrected Temp | Therm. Type | Ice Type | Ice Present? | Ice Container | Elevated Temp? |
|----------|----------------|----------------|-------------|----------|--------------|---------------|----------------|
| 1 | DT121 | 1.1 | DT | Wet | Y | Bagged | N |

Explanation of Symbols and Abbreviations

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

| | | | |
|-------------------------|--|-----------------|-------------------------------|
| BMQL | Below Minimum Quantitation Level | mg | milligram(s) |
| C | degrees Celsius | mL | milliliter(s) |
| cfu | colony forming units | MPN | Most Probable Number |
| CP Units | cobalt-chloroplatinate units | N.D. | none detected |
| F | degrees Fahrenheit | ng | nanogram(s) |
| g | gram(s) | NTU | nephelometric turbidity units |
| IU | International Units | pg/L | picogram/liter |
| kg | kilogram(s) | RL | Reporting Limit |
| L | liter(s) | TNTC | Too Numerous To Count |
| lb. | pound(s) | µg | microgram(s) |
| m3 | cubic meter(s) | µL | microliter(s) |
| meq | milliequivalents | umhos/cm | micromhos/cm |
| < | less than | | |
| > | greater than | | |
| ppm | parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas. | | |
| ppb | parts per billion | | |
| Dry weight basis | Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis. | | |

Laboratory Data Qualifiers:

- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

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

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

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

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

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

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Report Date: May 18, 2017

Project: Boeing_DC:SWMU-17 s-ann

Submittal Date: 05/06/2017

Group Number: 1798197

State of Sample Origin: WA

| <u>Client Sample Description</u> | Lancaster Labs <u>(LL) #</u> |
|---|---------------------------------|
| BDC-05-08-170504 Water | 8979692 |
| BDC-05-08-170504 Water | 8979693 |
| BDC-05-02-170504 Water | 8979694 |
| BDC-05-02-170504 Water | 8979695 |
| BDC-05-02-170504 Total Metals Water | 8979696 |
| BDC-05-02-170504 Total Metals Water | 8979697 |
| BDC-05-02-170504 Dissolved Metals Water | 8979698 |
| BDC-05-02-170504 Dissolved Metals Water | 8979699 |
| BDC-05-07-170504 Water | 8979700 |
| BDC-05-07-170504 Water | 8979701 |
| BDC-05-07-170504 Total Metals Water | 8979702 |
| BDC-05-07-170504 Total Metals Water | 8979703 |
| BDC-05-07-170504 Dissolved Metals Water | 8979704 |
| BDC-05-07-170504 Dissolved Metals Water | 8979705 |
| BDC-05-09-170504 Water | 8979706 |
| BDC-05-09-170504 Water | 8979707 |
| BDC-05-09-170504 Total Metals Water | 8979708 |
| BDC-05-09-170504 Total Metals Water | 8979709 |
| BDC-05-09-170504 Dissolved Metals Water | 8979710 |
| BDC-05-09-170504 Dissolved Metals Water | 8979711 |
| BDC-05-10-170504 Water | 8979712 |
| BDC-05-10-170504 Water | 8979713 |
| BDC-05-10-170504 Total Metals Water | 8979714 |
| BDC-05-10-170504 Total Metals Water | 8979715 |
| BDC-05-10-170504 Dissolved Metals Water | 8979716 |
| BDC-05-10-170504 Dissolved Metals Water | 8979717 |
| BDC-05-11-170504 Water | 8979718 |
| BDC-05-11-170504 Water | 8979719 |
| BDC-05-11-170504 Total Metals Water | 8979720 |
| BDC-05-11-170504 Total Metals Water | 8979721 |
| BDC-05-11-170504 Dissolved Metals Water | 8979722 |
| BDC-05-11-170504 Dissolved Metals Water | 8979723 |

| | |
|---|---------|
| BDC-05-03-170504 Water | 8979724 |
| BDC-05-03-170504 Water | 8979725 |
| BDC-05-03-170504 Total Metals Water | 8979726 |
| BDC-05-03-170504 Total Metals Water | 8979727 |
| BDC-05-03-170504 Dissolved Metals Water | 8979728 |
| BDC-05-03-170504 Dissolved Metals Water | 8979729 |
| BDC-05-12-170504 Water | 8979730 |
| BDC-05-12-170504 Water | 8979731 |
| BDC-05-12-170504 Total Metals Water | 8979732 |
| BDC-05-12-170504 Total Metals Water | 8979733 |
| BDC-05-12-170504 Dissolved Metals Water | 8979734 |
| BDC-05-12-170504 Dissolved Metals Water | 8979735 |
| BDC-05-19-170504 Water | 8979736 |
| BDC-05-19-170504 Water | 8979737 |
| BDC-05-19-170504 Total Metals Water | 8979738 |
| BDC-05-19-170504 Total Metals Water | 8979739 |
| BDC-05-19-170504 Dissolved Metals Water | 8979740 |
| BDC-05-19-170504 Dissolved Metals Water | 8979741 |
| BDC-05-13-170504 Water | 8979742 |
| BDC-05-13-170504 Water | 8979743 |
| BDC-05-13-170504 Total Metals Water | 8979744 |
| BDC-05-13-170504 Total Metals Water | 8979745 |
| BDC-05-13-170504 Dissolved Metals Water | 8979746 |
| BDC-05-13-170504 Dissolved Metals Water | 8979747 |
| BDC-05-24-170504 Water | 8979748 |
| BDC-05-24-170504 Water | 8979749 |
| BDC-05-24-170504 Total Metals Water | 8979750 |
| BDC-05-24-170504 Total Metals Water | 8979751 |
| BDC-05-24-170504 Dissolved Metals Water | 8979752 |
| BDC-05-24-170504 Dissolved Metals Water | 8979753 |
| BDC-05-15-170504 Water | 8979754 |
| BDC-05-15-170504 Water | 8979755 |
| BDC-05-15-170504 Total Metals Water | 8979756 |
| BDC-05-15-170504 Total Metals Water | 8979757 |
| BDC-05-15-170504 Dissolved Metals Water | 8979758 |
| BDC-05-15-170504 Dissolved Metals Water | 8979759 |
| BDC-05-14-170504 Water | 8979760 |
| BDC-05-14-170504 Water | 8979761 |
| BDC-05-14-170504 Total Metals Water | 8979762 |
| BDC-05-14-170504 Total Metals Water | 8979763 |
| BDC-05-14-170504 Dissolved Metals Water | 8979764 |
| BDC-05-14-170504 Dissolved Metals Water | 8979765 |
| BDC-05-22-170504 Water | 8979766 |
| BDC-05-22-170504 Water | 8979767 |
| BDC-05-22-170504 Total Metals Water | 8979768 |
| BDC-05-22-170504 Total Metals Water | 8979769 |
| BDC-05-22-170504 Dissolved Metals Water | 8979770 |
| BDC-05-22-170504 Dissolved Metals Water | 8979771 |
| BDC-05-20-170504 Water | 8979772 |
| BDC-05-20-170504 Water | 8979773 |
| BDC-05-20-170504 Total Metals Water | 8979774 |
| BDC-05-20-170504 Total Metals Water | 8979775 |

| | |
|---|---------|
| BDC-05-20-170504 Dissolved Metals Water | 8979776 |
| BDC-05-20-170504 Dissolved Metals Water | 8979777 |
| BDC-05-17-170504 Water | 8979778 |
| BDC-05-17-170504 Water | 8979779 |
| BDC-05-17-170504 Total Metals Water | 8979780 |
| BDC-05-17-170504 Total Metals Water | 8979781 |
| BDC-05-17-170504 Dissolved Metals Water | 8979782 |
| BDC-05-17-170504 Dissolved Metals Water | 8979783 |
| BDC-05-16-170504 Water | 8979784 |
| BDC-05-16-170504 Water | 8979785 |
| BDC-05-16-170504 Total Metals Water | 8979786 |
| BDC-05-16-170504 Total Metals Water | 8979787 |
| BDC-05-16-170504 Dissolved Metals Water | 8979788 |
| BDC-05-16-170504 Dissolved Metals Water | 8979789 |
| TRIP BLANK Water | 8979790 |

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

| | | |
|--------------------|--------------------|------------------------|
| Electronic Copy To | The Boeing Company | Attn: Jennifer Parsons |
| Electronic Copy To | The Boeing Company | Attn: Lindsey E. Mahrt |
| Electronic Copy To | Landau | Attn: Chris Kimmel |

Respectfully Submitted,



Kay Hower

(717) 556-7364

Project Name: Boeing_DC:SWMU-17 s-ann
LL Group #: 1798197

General Comments:

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

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

Project specific QC samples are included in this data set

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

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

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

Analysis Specific Comments:**SW-846 8260C, GC/MS volatiles**

Batch #: H171341AA (Sample number(s): 8979730, 8979736, 8979742, 8979748, 8979754, 8979760, 8979766, 8979772, 8979778, 8979784, 8979790 UNSPK: 8979784)

The recovery(ies) for the following analyte(s) in the MS and/or MSD exceeded the acceptance window indicating a positive bias: cis-1,2-Dichloroethene, Tetrachloroethene

RSKSOP-175 modified, GC Miscellaneous

Sample #s: 8979761, 8979779

Reporting limits were raised due to interference from the sample matrix.

Batch #: 171270001A (Sample number(s): 8979695, 8979701, 8979707, 8979713, 8979719, 8979725, 8979731, 8979737 UNSPK: P974857)

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: Methane, Ethane

Batch #: 171280032A (Sample number(s): 8979743, 8979749, 8979755, 8979761, 8979773, 8979779, 8979785 UNSPK: 8979785)

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

EPA 200.8 rev 5.4, Metals

Batch #: 171320705006A (Sample number(s): 8979786-8979789 UNSPK: 8979786 BKG: 8979786)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Copper

EPA 200.8 rev 5.4, Metals Dissolved

Batch #: 171320705006A (Sample number(s): 8979786-8979789 UNSPK: 8979786 BKG: 8979786)

The duplicate RPD for the following analyte(s) exceeded the acceptance window:
Copper

Sample Description: BDC-05-08-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979692
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 06:56 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

05081

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|------------------------|------------------------|-----------------------|-------------|-----------------------|-----------------|
| GC/MS Volatiles | | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.5 | 0.2 | 1 |
| Wet Chemistry | | SM 5310 C-2000 | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 5.7 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171302AA | 05/11/2017 02:58 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171302AA | 05/11/2017 02:58 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667604B | 05/10/2017 21:36 | Drew M Gerhart | 1 |

Sample Description: BDC-05-08-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979693
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 06:56 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

05082

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|----------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 0.41 J | mg/l 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|----------------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106A | 05/16/2017 23:25 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-02-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979694
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 07:31 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

05021

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | | | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.4 | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 4.2 | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 2.0 | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.4 | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | | | |
| 00273 | Total Organic Carbon | n.a. | 15.6 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171302AA | 05/11/2017 03:18 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171302AA | 05/11/2017 03:18 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667604B | 05/10/2017 21:50 | Drew M Gerhart | 1 |

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: BDC-05-02-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979695
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 07:31 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55
Reported: 05/18/2017 13:51

05022

| CAT No. | Analysis Name | CAS Number | Result | Method | Detection Limit | Dilution Factor |
|-------------------------|----------------|----------------------------|----------------|--------|-----------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 3.6 J | | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 U | | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 4,200 E | | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 20 U | | 20 | 20 |
| 07105 | Ethane | 74-84-0 | 20 U | | 20 | 20 |
| 07105 | Ethene | 74-85-1 | 20 U | | 20 | 20 |
| 07105 | Methane | 74-82-8 | 5,000 | | 60 | 20 |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 23.2 | | 1.5 | 5 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171270001A | 05/08/2017 13:05 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171270001A | 05/08/2017 17:50 | Johanna C Kennedy | 20 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106A | 05/17/2017 01:36 | Alexandria M Lanager | 5 |

Sample Description: BDC-05-02-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979696
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 07:31 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|--------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0065 | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705016A | 05/12/2017 06:09 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705016 | 05/11/2017 16:10 | JoElla L Rice | 1 |

Sample Description: BDC-05-02-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979697
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 07:31 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0021 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705016A | 05/12/2017 06:18 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705016 | 05/11/2017 16:10 | JoElla L Rice | 1 |

Sample Description: BDC-05-02-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979698
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 07:31 by JH The Boeing Company
PO Box 3707
Submitted: 05/06/2017 09:55 MC 1W-12
Reported: 05/18/2017 13:51 Seattle WA 98124

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------|----------------------------|--------------------------------|----------------|-----------------------|-----------------|
| 06033 | Metals Dissolved Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0044 | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705016A | 05/12/2017 06:20 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705016 | 05/11/2017 16:10 | JoElla L Rice | 1 |

Sample Description: BDC-05-02-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979699
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 07:31 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|------------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0013 J | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705016A | 05/12/2017 06:22 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705016 | 05/11/2017 16:10 | JoElla L Rice | 1 |

Sample Description: BDC-05-07-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979700
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 08:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

05071

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 1.2 | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.3 | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.3 | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 3.6 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171302AA | 05/11/2017 03:39 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171302AA | 05/11/2017 03:39 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667604B | 05/10/2017 22:21 | Drew M Gerhart | 1 |

Sample Description: BDC-05-07-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979701
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 08:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55
Reported: 05/18/2017 13:51

05072

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|---------------|----------------------------|-------------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 1.0 U | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 U | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 3,100 E | 3.0 | 1 |
| Trial ID: DL | | | | | |
| 07105 | Acetylene | 74-86-2 | 20 U | 20 | 20 |
| 07105 | Ethane | 74-84-0 | 20 U | 20 | 20 |
| 07105 | Ethene | 74-85-1 | 20 U | 20 | 20 |
| 07105 | Methane | 74-82-8 | 3,100 | 60 | 20 |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 3.3 | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171270001A | 05/08/2017 13:20 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171270001A | 05/08/2017 18:07 | Johanna C Kennedy | 20 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106A | 05/17/2017 02:32 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-07-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979702
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 08:06 by JH

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PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705016A | 05/12/2017 06:27 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705016 | 05/11/2017 16:10 | JoElla L Rice | 1 |

Sample Description: BDC-05-07-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979703
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 08:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|-----------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.00097 J | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705016A | 05/12/2017 06:29 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705016 | 05/11/2017 16:10 | JoElla L Rice | 1 |

Sample Description: BDC-05-07-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979704
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 08:06 by JH The Boeing Company
PO Box 3707
Submitted: 05/06/2017 09:55 MC 1W-12
Reported: 05/18/2017 13:51 Seattle WA 98124

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705016A | 05/12/2017 06:31 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705016 | 05/11/2017 16:10 | JoElla L Rice | 1 |

Sample Description: BDC-05-07-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979705
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 08:06 by JH The Boeing Company
PO Box 3707
Submitted: 05/06/2017 09:55 MC 1W-12
Reported: 05/18/2017 13:51 Seattle WA 98124

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|---------------|--------------------------------|-------------------|------------------------|-----------------|
| Metals Dissolved | | | | | |
| 06025 | Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.00040 U | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705016A | 05/12/2017 06:33 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705016 | 05/11/2017 16:10 | JoElla L Rice | 1 |

Sample Description: BDC-05-09-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979706
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 08:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

05091

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | | | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.4 | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 2.8 | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | | | |
| 00273 | Total Organic Carbon | n.a. | 4.3 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171302AA | 05/11/2017 03:59 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171302AA | 05/11/2017 03:59 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667604B | 05/10/2017 22:35 | Drew M Gerhart | 1 |

Sample Description: BDC-05-09-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979707
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 08:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55
Reported: 05/18/2017 13:51

05092

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|---------------|----------------------------|-------------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 9.0 | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 J | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 4,400 E | 3.0 | 1 |
| Trial ID: DL | | | | | |
| 07105 | Acetylene | 74-86-2 | 50 U | 50 | 50 |
| 07105 | Ethane | 74-84-0 | 50 U | 50 | 50 |
| 07105 | Ethene | 74-85-1 | 50 U | 50 | 50 |
| 07105 | Methane | 74-82-8 | 5,300 | 150 | 50 |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 4.3 | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171270001A | 05/08/2017 13:35 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171270001A | 05/08/2017 18:24 | Johanna C Kennedy | 50 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106A | 05/17/2017 03:10 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-09-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979708
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 08:36 by JH The Boeing Company
PO Box 3707
Submitted: 05/06/2017 09:55 MC 1W-12
Reported: 05/18/2017 13:51 Seattle WA 98124

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|-------------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705016A | 05/12/2017 06:35 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705016 | 05/11/2017 16:10 | JoElla L Rice | 1 |

Sample Description: BDC-05-09-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979709
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 08:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0059 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|---------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705016A | 05/12/2017 06:37 | Sarah L Burt | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705016 | 05/11/2017 16:10 | JoElla L Rice | 1 |

Sample Description: BDC-05-09-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979710
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 08:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705017A | 05/15/2017 16:04 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705017 | 05/12/2017 05:14 | James L Mertz | 1 |

Sample Description: BDC-05-09-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979711
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 08:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0063 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705017A | 05/15/2017 16:13 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705017 | 05/12/2017 05:14 | James L Mertz | 1 |

Sample Description: BDC-05-10-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979712
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 09:06 by JH

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PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

10051

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | | | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.3 | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 1.8 | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | | | |
| 00273 | Total Organic Carbon | n.a. | 6.0 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171302AA | 05/11/2017 04:19 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171302AA | 05/11/2017 04:19 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667604B | 05/10/2017 22:49 | Drew M Gerhart | 1 |

Sample Description: BDC-05-10-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979713
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 09:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

10052

| CAT No. | Analysis Name | CAS Number | Result | Method | Detection Limit | Dilution Factor |
|-------------------------|---------------|----------------------------|-------------|--------|-----------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 | U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 15 | | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 | J | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 3,700 | E | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 20 | U | 20 | 20 |
| 07105 | Ethane | 74-84-0 | 20 | U | 20 | 20 |
| 07105 | Ethene | 74-85-1 | 20 | U | 20 | 20 |
| 07105 | Methane | 74-82-8 | 4,000 | | 60 | 20 |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 1.7 | | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171270001A | 05/08/2017 14:11 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171270001A | 05/08/2017 18:41 | Johanna C Kennedy | 20 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106A | 05/17/2017 03:47 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-10-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979714
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 09:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705017A | 05/15/2017 16:14 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705017 | 05/12/2017 05:14 | James L Mertz | 1 |

Sample Description: BDC-05-10-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979715
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 09:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0148 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705017A | 05/15/2017 16:16 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705017 | 05/12/2017 05:14 | James L Mertz | 1 |

Sample Description: BDC-05-10-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979716
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 09:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705017A | 05/15/2017 16:21 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705017 | 05/12/2017 05:14 | James L Mertz | 1 |

Sample Description: BDC-05-10-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979717
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 09:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0136 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705017A | 05/15/2017 16:23 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705017 | 05/12/2017 05:14 | James L Mertz | 1 |

Sample Description: BDC-05-11-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979718
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 09:46 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

11051

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|------------------------|------------------------|-----------------------|-------------|-----------------------|-----------------|
| GC/MS Volatiles | | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.8 | 0.2 | 1 |
| Wet Chemistry | | SM 5310 C-2000 | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 9.2 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171302AA | 05/11/2017 04:40 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171302AA | 05/11/2017 04:40 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667604B | 05/10/2017 23:03 | Drew M Gerhart | 1 |

Sample Description: BDC-05-11-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979719
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 09:46 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55
Reported: 05/18/2017 13:51

11052

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|---------------|----------------------------|-------------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 6.8 | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 2.5 J | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 7,700 E | 3.0 | 1 |
| Trial ID: DL | | | | | |
| 07105 | Acetylene | 74-86-2 | 50 U | 50 | 50 |
| 07105 | Ethane | 74-84-0 | 50 U | 50 | 50 |
| 07105 | Ethene | 74-85-1 | 50 U | 50 | 50 |
| 07105 | Methane | 74-82-8 | 9,000 | 150 | 50 |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.30 U | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171270001A | 05/08/2017 14:28 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171270001A | 05/08/2017 18:58 | Johanna C Kennedy | 50 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106A | 05/17/2017 04:25 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-11-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979720
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 09:46 by JH The Boeing Company
PO Box 3707
Submitted: 05/06/2017 09:55 MC 1W-12
Reported: 05/18/2017 13:51 Seattle WA 98124

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705017A | 05/15/2017 16:24 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705017 | 05/12/2017 05:14 | James L Mertz | 1 |

Sample Description: BDC-05-11-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979721
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 09:46 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0182 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705017A | 05/15/2017 16:26 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705017 | 05/12/2017 05:14 | James L Mertz | 1 |

Sample Description: BDC-05-11-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979722
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 09:46 by JH The Boeing Company
PO Box 3707
Submitted: 05/06/2017 09:55 MC 1W-12
Reported: 05/18/2017 13:51 Seattle WA 98124

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705017A | 05/15/2017 16:28 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705017 | 05/12/2017 05:14 | James L Mertz | 1 |

Sample Description: BDC-05-11-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979723
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 09:46 by JH

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PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0180 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705017A | 05/15/2017 16:29 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705017 | 05/12/2017 05:14 | James L Mertz | 1 |

Sample Description: BDC-05-03-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979724
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 10:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

03051

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|------------------------|------------------------|-----------------------|-------------|-----------------------|-----------------|
| GC/MS Volatiles | | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 1.4 | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.3 | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.2 U | 0.2 | 1 |
| Wet Chemistry | | SM 5310 C-2000 | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 2.8 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171302AA | 05/11/2017 05:00 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171302AA | 05/11/2017 05:00 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667604B | 05/10/2017 23:18 | Drew M Gerhart | 1 |

Sample Description: BDC-05-03-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979725
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 10:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

03052

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|---------------|----------------------------|-------------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 1.0 U | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 U | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 3.0 U | 3.0 | 1 |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 7.2 | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171270001A | 05/08/2017 14:45 | Johanna C Kennedy | 1 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106A | 05/17/2017 05:02 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-03-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979726
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 10:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|--------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0027 | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705018A | 05/15/2017 18:23 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705018 | 05/14/2017 05:53 | James L Mertz | 1 |

Sample Description: BDC-05-03-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979727
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 10:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0027 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705018A | 05/15/2017 18:32 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705018 | 05/14/2017 05:53 | James L Mertz | 1 |

Sample Description: BDC-05-03-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979728
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 10:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------|-------------|-----------------------|-----------------|
| Metals Dissolved | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705018A | 05/15/2017 18:33 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705018 | 05/14/2017 05:53 | James L Mertz | 1 |

Sample Description: BDC-05-03-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979729
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 10:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|---------------|--------------------------------|-------------------|------------------------|-----------------|
| Metals Dissolved | | | | | |
| 06025 | Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.00040 U | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705018A | 05/15/2017 18:35 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705018 | 05/14/2017 05:53 | James L Mertz | 1 |

Sample Description: BDC-05-12-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979730
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 10:51 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

12051

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|------------------------|------------------------|-----------------------|-------------|-----------------------|-----------------|
| GC/MS Volatiles | | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.3 | 0.2 | 1 |
| Wet Chemistry | | SM 5310 C-2000 | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 8.1 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171341AA | 05/14/2017 20:02 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171341AA | 05/14/2017 20:02 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667604B | 05/10/2017 23:32 | Drew M Gerhart | 1 |

Sample Description: BDC-05-12-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979731
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 10:51 by JH

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Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

12052

| CAT No. | Analysis Name | CAS Number | Result | | Method Detection Limit | Dilution Factor |
|-------------------------|----------------|----------------------------|---------------|----------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 | U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 2.4 | J | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 | U | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 10,000 | E | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 100 | U | 100 | 100 |
| 07105 | Ethane | 74-84-0 | 100 | U | 100 | 100 |
| 07105 | Ethene | 74-85-1 | 100 | U | 100 | 100 |
| 07105 | Methane | 74-82-8 | 11,000 | | 300 | 100 |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.30 | U | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171270001A | 05/08/2017 15:02 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171270001A | 05/08/2017 19:15 | Johanna C Kennedy | 100 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106A | 05/17/2017 06:17 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-12-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979732
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 10:51 by JH

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Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705018A | 05/15/2017 18:40 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705018 | 05/14/2017 05:53 | James L Mertz | 1 |

Sample Description: BDC-05-12-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979733
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 10:51 by JH

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Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0096 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705018A | 05/15/2017 18:42 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705018 | 05/14/2017 05:53 | James L Mertz | 1 |

Sample Description: BDC-05-12-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979734
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 10:51 by JH

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MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705018A | 05/15/2017 18:43 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705018 | 05/14/2017 05:53 | James L Mertz | 1 |

Sample Description: BDC-05-12-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979735
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 10:51 by JH

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Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0091 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705018A | 05/15/2017 18:45 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705018 | 05/14/2017 05:53 | James L Mertz | 1 |

Sample Description: BDC-05-19-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979736
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 11:26 by JH

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Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

05191

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | | | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.4 | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | | | |
| 00273 | Total Organic Carbon | n.a. | 11.6 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171341AA | 05/14/2017 20:22 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171341AA | 05/14/2017 20:22 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667605A | 05/11/2017 01:13 | Drew M Gerhart | 1 |

Sample Description: BDC-05-19-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979737
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 11:26 by JH

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PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55
Reported: 05/18/2017 13:51

05192

| CAT No. | Analysis Name | CAS Number | Result | | Method Detection Limit | Dilution Factor |
|-------------------------|----------------|----------------------------|---------------|----------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 | U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 2.3 | J | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 | U | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 13,000 | E | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 100 | U | 100 | 100 |
| 07105 | Ethane | 74-84-0 | 100 | U | 100 | 100 |
| 07105 | Ethene | 74-85-1 | 100 | U | 100 | 100 |
| 07105 | Methane | 74-82-8 | 13,000 | | 300 | 100 |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.43 | J | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171270001A | 05/08/2017 15:18 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171270001A | 05/08/2017 19:32 | Johanna C Kennedy | 100 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106A | 05/17/2017 06:55 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-19-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979738
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 11:26 by JH

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MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705018A | 05/15/2017 18:47 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705018 | 05/14/2017 05:53 | James L Mertz | 1 |

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Sample Description: BDC-05-19-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979739
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 11:26 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0204 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705018A | 05/15/2017 18:48 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705018 | 05/14/2017 05:53 | James L Mertz | 1 |

Sample Description: BDC-05-19-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979740
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 11:26 by JH

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MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705019A | 05/16/2017 11:46 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705019 | 05/15/2017 22:25 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-19-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979741
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 11:26 by JH

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Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0132 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705019A | 05/16/2017 11:55 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705019 | 05/15/2017 22:25 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-13-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979742
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 12:01 by JH

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MC 1W-12
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Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

05131

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|------------------------|------------------------|-----------------------|-------------|-----------------------|-----------------|
| GC/MS Volatiles | | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 1.1 | 0.2 | 1 |
| Wet Chemistry | | SM 5310 C-2000 | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 11.6 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171341AA | 05/14/2017 20:43 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171341AA | 05/14/2017 20:43 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667605A | 05/11/2017 01:28 | Drew M Gerhart | 1 |

Sample Description: BDC-05-13-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979743
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 12:01 by JH

The Boeing Company
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Submitted: 05/06/2017 09:55
Reported: 05/18/2017 13:51

05132

| CAT No. | Analysis Name | CAS Number | Result | | Method Detection Limit | Dilution Factor |
|-------------------------|---------------|----------------------------|-------------|---|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 | U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 12 | | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.4 | J | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 11,000 | E | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 100 | U | 100 | 100 |
| 07105 | Ethane | 74-84-0 | 100 | U | 100 | 100 |
| 07105 | Ethene | 74-85-1 | 100 | U | 100 | 100 |
| 07105 | Methane | 74-82-8 | 14,000 | | 300 | 100 |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.30 | U | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171280032A | 05/08/2017 12:45 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171280032A | 05/09/2017 14:54 | Johanna C Kennedy | 100 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106A | 05/17/2017 07:32 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-13-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979744
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 12:01 by JH

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Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|-------------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705019A | 05/16/2017 11:56 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705019 | 05/15/2017 22:25 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-13-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979745
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 12:01 by JH

The Boeing Company
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Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0271 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705019A | 05/16/2017 11:58 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705019 | 05/15/2017 22:25 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-13-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979746
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 12:01 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705019A | 05/16/2017 12:03 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705019 | 05/15/2017 22:25 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-13-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979747
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 12:01 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0271 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705019A | 05/16/2017 12:05 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705019 | 05/15/2017 22:25 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-24-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979748
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 12:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

524-1

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | | | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.4 | ug/l 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.5 | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | | | |
| 00273 | Total Organic Carbon | n.a. | 4.8 | mg/l 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171341AA | 05/14/2017 21:03 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171341AA | 05/14/2017 21:03 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667605A | 05/11/2017 01:42 | Drew M Gerhart | 1 |

Sample Description: BDC-05-24-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979749
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 12:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

524-2

| CAT No. | Analysis Name | CAS Number | Result | Method | Detection Limit | Dilution Factor |
|-------------------------|----------------|----------------------------|----------------|--------|-----------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 3.7 J | | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 U | | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 5,100 E | | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 50 U | | 50 | 50 |
| 07105 | Ethane | 74-84-0 | 50 U | | 50 | 50 |
| 07105 | Ethene | 74-85-1 | 50 U | | 50 | 50 |
| 07105 | Methane | 74-82-8 | 5,900 | | 150 | 50 |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 1.5 | | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171280032A | 05/08/2017 13:03 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171280032A | 05/09/2017 15:13 | Johanna C Kennedy | 50 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106B | 05/17/2017 10:40 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-24-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979750
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 12:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|-------------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705019A | 05/16/2017 12:06 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705019 | 05/15/2017 22:25 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-24-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979751
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 12:41 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0038 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705019A | 05/16/2017 12:08 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705019 | 05/15/2017 22:25 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-24-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979752
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 12:41 by JH

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PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705019A | 05/16/2017 12:10 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705019 | 05/15/2017 22:25 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-24-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979753
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 12:41 by JH

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MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0027 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705019A | 05/16/2017 12:11 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705019 | 05/15/2017 22:25 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-15-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979754
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 14:16 by JH

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PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

05151

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|------------------------|------------------------|-----------------------|-------------|-----------------------|-----------------|
| GC/MS Volatiles | | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.7 | 0.2 | 1 |
| Wet Chemistry | | SM 5310 C-2000 | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 23.9 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171341AA | 05/14/2017 21:23 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171341AA | 05/14/2017 21:23 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667605A | 05/11/2017 01:56 | Drew M Gerhart | 1 |

Sample Description: BDC-05-15-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979755
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 14:16 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55
Reported: 05/18/2017 13:51

05152

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|---------------|----------------------------|-------------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 17 | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.0 U | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 9,600 E | 3.0 | 1 |
| Trial ID: DL | | | | | |
| 07105 | Acetylene | 74-86-2 | 50 U | 50 | 50 |
| 07105 | Ethane | 74-84-0 | 50 U | 50 | 50 |
| 07105 | Ethene | 74-85-1 | 50 U | 50 | 50 |
| 07105 | Methane | 74-82-8 | 10,000 | 150 | 50 |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.41 J | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171280032A | 05/08/2017 13:22 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171280032A | 05/09/2017 15:32 | Johanna C Kennedy | 50 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106B | 05/17/2017 11:18 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-15-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979756
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 14:16 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705020A | 05/15/2017 17:14 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705020 | 05/12/2017 05:58 | James L Mertz | 1 |

Sample Description: BDC-05-15-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979757
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 14:16 by JH

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PO Box 3707
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Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0480 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705020A | 05/15/2017 17:22 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705020 | 05/12/2017 05:58 | James L Mertz | 1 |

Sample Description: BDC-05-15-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979758
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 14:16 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705020A | 05/15/2017 17:24 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705020 | 05/12/2017 05:58 | James L Mertz | 1 |

Sample Description: BDC-05-15-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979759
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 14:16 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0489 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705020A | 05/15/2017 17:25 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705020 | 05/12/2017 05:58 | James L Mertz | 1 |

Sample Description: BDC-05-14-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979760
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 13:26 by JH

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PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

05141

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | | | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.3 | ug/1 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 1 | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | | | |
| 00273 | Total Organic Carbon | n.a. | 21.8 | mg/1 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171341AA | 05/14/2017 21:43 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171341AA | 05/14/2017 21:43 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667605A | 05/11/2017 02:10 | Drew M Gerhart | 1 |

Sample Description: BDC-05-14-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979761
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 13:26 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55
Reported: 05/18/2017 13:51

05142

| CAT No. | Analysis Name | CAS Number | Result | | Method Detection Limit | Dilution Factor |
|-------------------------|----------------|----------------------------|---------------|----------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 | U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 8.9 | | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 2.0 | U | 2.0 | 1 |
| 07105 | Methane | 74-82-8 | 11,000 | E | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 100 | U | 100 | 100 |
| 07105 | Ethane | 74-84-0 | 100 | U | 100 | 100 |
| 07105 | Ethene | 74-85-1 | 100 | U | 100 | 100 |
| 07105 | Methane | 74-82-8 | 12,000 | | 300 | 100 |

Reporting limits were raised due to interference from the sample matrix.

| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
|----------------------|----------------|------------------|-------------|-------------|---|
| 00228 | Sulfate | 14808-79-8 | 3.8 | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171280032A | 05/08/2017 13:40 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171280032A | 05/09/2017 15:50 | Johanna C Kennedy | 100 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106B | 05/17/2017 11:55 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-14-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979762
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 13:26 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705020A | 05/15/2017 17:31 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705020 | 05/12/2017 05:58 | James L Mertz | 1 |

Sample Description: BDC-05-14-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979763
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 13:26 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0230 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705020A | 05/15/2017 17:32 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705020 | 05/12/2017 05:58 | James L Mertz | 1 |

Sample Description: BDC-05-14-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979764
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 13:26 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705020A | 05/15/2017 17:34 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705020 | 05/12/2017 05:58 | James L Mertz | 1 |

Sample Description: BDC-05-14-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979765
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 13:26 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0207 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705020A | 05/15/2017 17:36 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705020 | 05/12/2017 05:58 | James L Mertz | 1 |

Sample Description: BDC-05-22-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979766
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 15:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

05221

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------------------|------------------------|------------|--------|-----------------------|-----------------|
| GC/MS Volatiles SW-846 8260C | | | | | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 9.4 | ug/l 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.6 | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.2 U | 0.2 | 1 |
| Wet Chemistry SM 5310 C-2000 | | | | | |
| 00273 | Total Organic Carbon | n.a. | 6.0 | mg/l 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171341AA | 05/14/2017 22:04 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171341AA | 05/14/2017 22:04 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667605A | 05/11/2017 02:24 | Drew M Gerhart | 1 |

Sample Description: BDC-05-22-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979767
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 15:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

05222

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|-------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 6.6 | mg/l 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|----------------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106B | 05/17/2017 12:14 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-22-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979768
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 15:06 by JH The Boeing Company
PO Box 3707
Submitted: 05/06/2017 09:55 MC 1W-12
Reported: 05/18/2017 13:51 Seattle WA 98124

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705020A | 05/15/2017 17:37 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705020 | 05/12/2017 05:58 | James L Mertz | 1 |

Sample Description: BDC-05-22-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979769
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 15:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0280 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705020A | 05/15/2017 17:39 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705020 | 05/12/2017 05:58 | James L Mertz | 1 |

Sample Description: BDC-05-22-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979770
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 15:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705021A | 05/15/2017 14:51 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705021 | 05/12/2017 06:06 | James L Mertz | 1 |

Sample Description: BDC-05-22-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979771
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 15:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0298 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705021A | 05/15/2017 14:59 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705021 | 05/12/2017 06:06 | James L Mertz | 1 |

Sample Description: BDC-05-20-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979772
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 15:51 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

05201

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|------------------------|------------------------|-----------------------|-------------|-----------------------|-----------------|
| GC/MS Volatiles | | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 1.2 | 0.2 | 1 |
| Wet Chemistry | | SM 5310 C-2000 | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 12.9 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171341AA | 05/14/2017 22:24 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171341AA | 05/14/2017 22:24 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667605A | 05/11/2017 02:38 | Drew M Gerhart | 1 |

Sample Description: BDC-05-20-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979773
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 15:51 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55
Reported: 05/18/2017 13:51

05202

| CAT No. | Analysis Name | CAS Number | Result | Method | Detection Limit | Dilution Factor |
|-------------------------|---------------|----------------------------|-------------|--------|-----------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 4.3 J | | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 2.3 J | | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 4,700 E | | 3.0 | 1 |
| Trial ID: DL | | | | | | |
| 07105 | Acetylene | 74-86-2 | 20 U | | 20 | 20 |
| 07105 | Ethane | 74-84-0 | 20 U | | 20 | 20 |
| 07105 | Ethene | 74-85-1 | 20 U | | 20 | 20 |
| 07105 | Methane | 74-82-8 | 4,300 | | 60 | 20 |
| Wet Chemistry | | EPA 300.0 | mg/l | | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 1.2 | | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171280032A | 05/08/2017 13:59 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171280032A | 05/09/2017 16:28 | Johanna C Kennedy | 20 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106B | 05/17/2017 12:33 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-20-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979774
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 15:51 by JH The Boeing Company
PO Box 3707
Submitted: 05/06/2017 09:55 MC 1W-12
Reported: 05/18/2017 13:51 Seattle WA 98124

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705021A | 05/15/2017 15:01 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705021 | 05/12/2017 06:06 | James L Mertz | 1 |

Sample Description: BDC-05-20-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979775
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 15:51 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0271 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705021A | 05/15/2017 15:03 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705021 | 05/12/2017 06:06 | James L Mertz | 1 |

Sample Description: BDC-05-20-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979776
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 15:51 by JH The Boeing Company
PO Box 3707
Submitted: 05/06/2017 09:55 MC 1W-12
Reported: 05/18/2017 13:51 Seattle WA 98124

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705021A | 05/15/2017 15:08 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705021 | 05/12/2017 06:06 | James L Mertz | 1 |

Sample Description: BDC-05-20-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979777
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 15:51 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0264 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705021A | 05/15/2017 15:09 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705021 | 05/12/2017 06:06 | James L Mertz | 1 |

Sample Description: BDC-05-17-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979778
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 16:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

05171

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|------------------------|------------------------|-----------------------|-------------|-----------------------|-----------------|
| GC/MS Volatiles | | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.9 | 0.2 | 1 |
| Wet Chemistry | | SM 5310 C-2000 | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 19.2 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171341AA | 05/14/2017 22:45 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171341AA | 05/14/2017 22:45 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667605A | 05/11/2017 02:53 | Drew M Gerhart | 1 |

Sample Description: BDC-05-17-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979779
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 16:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

517-2

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|----------------|----------------------------|----------------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 13 | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 2.0 U | 2.0 | 1 |
| 07105 | Methane | 74-82-8 | 9,500 E | 3.0 | 1 |
| Trial ID: DL | | | | | |
| 07105 | Acetylene | 74-86-2 | 50 U | 50 | 50 |
| 07105 | Ethane | 74-84-0 | 50 U | 50 | 50 |
| 07105 | Ethene | 74-85-1 | 50 U | 50 | 50 |
| 07105 | Methane | 74-82-8 | 11,000 | 150 | 50 |

Reporting limits were raised due to interference from the sample matrix.

| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
|----------------------|---------|------------------|-------------|-------------|---|
| 00228 | Sulfate | 14808-79-8 | 0.30 U | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171280032A | 05/08/2017 14:36 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171280032A | 05/09/2017 16:47 | Johanna C Kennedy | 50 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106B | 05/17/2017 12:51 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-17-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979780
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 16:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705021A | 05/15/2017 15:11 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705021 | 05/12/2017 06:06 | James L Mertz | 1 |

Sample Description: BDC-05-17-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979781
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 16:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0444 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705021A | 05/15/2017 15:13 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705021 | 05/12/2017 06:06 | James L Mertz | 1 |

Sample Description: BDC-05-17-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979782
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 16:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171300705021A | 05/15/2017 15:15 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705021 | 05/12/2017 06:06 | James L Mertz | 1 |

Sample Description: BDC-05-17-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979783
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 16:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0368 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171300705021A | 05/15/2017 15:16 | Patrick J Engle | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171300705021 | 05/12/2017 06:06 | James L Mertz | 1 |

Sample Description: BDC-05-16-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979784
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 17:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

05161

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|------------------------|------------------------|-----------------------|-------------|-----------------------|-----------------|
| GC/MS Volatiles | | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 1.3 | 0.2 | 1 |
| Wet Chemistry | | SM 5310 C-2000 | mg/l | mg/l | |
| 00273 | Total Organic Carbon | n.a. | 17.0 | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|----------------|--------|--------------|------------------------|----------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171341AA | 05/14/2017 19:01 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171341AA | 05/14/2017 19:01 | Don V Viray | 1 |
| 00273 | Total Organic Carbon | SM 5310 C-2000 | 1 | 17130667604A | 05/10/2017 17:34 | Drew M Gerhart | 1 |

Sample Description: BDC-05-16-170504 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979785
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 17:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55
Reported: 05/18/2017 13:51

05162

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|-------------------------|---------------|----------------------------|-------------|------------------------|-----------------|
| GC Miscellaneous | | RSKSOP-175 modified | ug/l | ug/l | |
| 07105 | Acetylene | 74-86-2 | 1.0 U | 1.0 | 1 |
| 07105 | Ethane | 74-84-0 | 12 | 1.0 | 1 |
| 07105 | Ethene | 74-85-1 | 1.6 J | 1.0 | 1 |
| 07105 | Methane | 74-82-8 | 8,100 E | 3.0 | 1 |
| Trial ID: DL | | | | | |
| 07105 | Acetylene | 74-86-2 | 50 U | 50 | 50 |
| 07105 | Ethane | 74-84-0 | 50 U | 50 | 50 |
| 07105 | Ethene | 74-85-1 | 50 U | 50 | 50 |
| 07105 | Methane | 74-82-8 | 9,100 | 150 | 50 |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00228 | Sulfate | 14808-79-8 | 0.30 U | 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 1 | 171280032A | 05/08/2017 11:50 | Johanna C Kennedy | 1 |
| 07105 | AMEE by RSK-175 | RSKSOP-175 modified | 2-DL | 171280032A | 05/09/2017 17:06 | Johanna C Kennedy | 50 |
| 00228 | Sulfate | EPA 300.0 | 1 | 17136972106B | 05/17/2017 08:10 | Alexandria M Lanager | 1 |

Sample Description: BDC-05-16-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979786
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 17:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------|--------------------------|------------|----------|-----------------------|-----------------|
| Metals | EPA 200.8 rev 5.4 | | mg/l | mg/l | |
| 06033 | Copper | 7440-50-8 | 0.0020 U | 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171320705006A | 05/16/2017 12:27 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171320705006 | 05/15/2017 22:25 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-16-170504 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979787
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 17:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------------|---------------|--------------------------|--------|------------------------|-----------------|
| Metals | | EPA 200.8 rev 5.4 | mg/l | mg/l | |
| 06025 | Arsenic | 7440-38-2 | 0.0291 | 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171320705006A | 05/16/2017 12:35 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171320705006 | 05/15/2017 22:25 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-16-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979788
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 17:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|-------------------------|---------------|--------------------------------|------------------|-----------------------|-----------------|
| Metals Dissolved | | | | | |
| 06033 | Copper | EPA 200.8 rev 5.4 7440-50-8 | mg/l 0.0020 U | mg/l 0.0020 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06033 | Copper | EPA 200.8 rev 5.4 | 1 | 171320705006A | 05/16/2017 12:40 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171320705006 | 05/15/2017 22:25 | Annamaria Kuhns | 1 |

Sample Description: BDC-05-16-170504 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979789
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017 17:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|--------------------------|--------------------------------|----------------|------------------------|-----------------|
| 06025 | Metals Dissolved Arsenic | EPA 200.8 rev 5.4 7440-38-2 | mg/l 0.0269 | mg/l 0.00040 | 1 |

Sample Comments

State of Washington Lab Certification No. C457
This sample was field filtered for dissolved metals.

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 |
|---------|-----------------------|-------------------|--------|---------------|------------------------|-----------------|-----------------|
| 06025 | Arsenic | EPA 200.8 rev 5.4 | 1 | 171320705006A | 05/16/2017 12:42 | Choon Y Tian | 1 |
| 07050 | ICP/MS EPA-600 Digest | EPA 200.8 rev 5.4 | 1 | 171320705006 | 05/15/2017 22:25 | Annamaria Kuhns | 1 |

Sample Description: TRIP BLANK Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 8979790
LL Group # 1798197
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 05/04/2017

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/06/2017 09:55

Reported: 05/18/2017 13:51

S20TB

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Trichloroethene | 79-01-6 | 0.2 U | 0.2 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.2 U | 0.2 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|--------------------------------|--------------|--------|-----------|------------------------|-------------|-----------------|
| 11996 | 8260C VC, TCE, PCE, cis1,2-DCE | SW-846 8260C | 1 | H171341AA | 05/14/2017 18:40 | Don V Viray | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | H171341AA | 05/14/2017 18:40 | Don V Viray | 1 |

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/18/2017 13:51

Group Number: 1798197

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.

Method Blank

| Analysis Name | Result | LOQ |
|-----------------------------|---|---------|
| | ug/l | ug/l |
| Batch number: H171302AA | Sample number(s): 8979692, 8979694, 8979700, 8979706, 8979712, 8979718, 8979724 | |
| cis-1,2-Dichloroethene | 0.2 U | 0.2 |
| Tetrachloroethene | 0.2 U | 0.2 |
| Trichloroethene | 0.2 U | 0.2 |
| Vinyl Chloride | 0.2 U | 0.2 |
| Batch number: H171341AA | Sample number(s): 8979730, 8979736, 8979742, 8979748, 8979754, 8979760, 8979766, 8979772, 8979778, 8979784, 8979790 | |
| cis-1,2-Dichloroethene | 0.2 U | 0.2 |
| Tetrachloroethene | 0.2 U | 0.2 |
| Trichloroethene | 0.2 U | 0.2 |
| Vinyl Chloride | 0.2 U | 0.2 |
| Analysis Name | Result | MDL |
| | ug/l | ug/l |
| Batch number: 171270001A | Sample number(s): 8979695, 8979701, 8979707, 8979713, 8979719, 8979725, 8979731, 8979737 | |
| Acetylene | 1.0 U | 1.0 |
| Ethane | 1.0 U | 1.0 |
| Ethene | 1.0 U | 1.0 |
| Methane | 3.0 U | 3.0 |
| Batch number: 171280032A | Sample number(s): 8979743, 8979749, 8979755, 8979761, 8979773, 8979779, 8979785 | |
| Acetylene | 1.0 U | 1.0 |
| Ethane | 1.0 U | 1.0 |
| Ethene | 1.0 U | 1.0 |
| Methane | 3.0 U | 3.0 |
| | mg/l | mg/l |
| Batch number: 171300705016A | Sample number(s): 8979696-8979699, 8979702-8979705, 8979708-8979709 | |
| Arsenic | 0.00040 U | 0.00040 |
| Copper | 0.00021 U | 0.00021 |
| Batch number: 171300705017A | Sample number(s): 8979710-8979711, 8979714-8979717, 8979720-8979723 | |
| Arsenic | 0.00040 U | 0.00040 |
| Copper | 0.00034 U | 0.00034 |
| Batch number: 171300705018A | Sample number(s): 8979726-8979729, 8979732-8979735, 8979738-8979739 | |
| Arsenic | 0.00040 U | 0.00040 |
| Copper | 0.00034 U | 0.00034 |
| Batch number: 171300705019A | Sample number(s): 8979740-8979741, 8979744-8979747, 8979750-8979753 | |
| Arsenic | 0.00040 U | 0.00040 |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/18/2017 13:51

Group Number: 1798197

Method Blank (continued)

| Analysis Name | Result | MDL |
|-----------------------------|--|---------|
| | mg/l | mg/l |
| Copper | 0.00034 U | 0.00034 |
| Batch number: 171300705020A | Sample number(s): 8979756-8979759, 8979762-8979765, 8979768-8979769 | |
| Arsenic | 0.00040 U | 0.00040 |
| Copper | 0.00034 U | 0.00034 |
| Batch number: 171300705021A | Sample number(s): 8979770-8979771, 8979774-8979777, 8979780-8979783 | |
| Arsenic | 0.00040 U | 0.00040 |
| Copper | 0.00034 U | 0.00034 |
| Batch number: 171320705006A | Sample number(s): 8979786-8979789 | |
| Arsenic | 0.00040 U | 0.00040 |
| Copper | 0.0016 J | 0.00034 |
| Analysis Name | Result | LOQ |
| | mg/l | mg/l |
| Batch number: 17130667604A | Sample number(s): 8979784 | |
| Total Organic Carbon | 1.0 U | 1.0 |
| Batch number: 17130667604B | Sample number(s): 8979692, 8979694, 8979700, 8979706, 8979712, 8979718, 8979724, 8979730 | |
| Total Organic Carbon | 1.0 U | 1.0 |
| Batch number: 17130667605A | Sample number(s): 8979736, 8979742, 8979748, 8979754, 8979760, 8979766, 8979772, 8979778 | |
| Total Organic Carbon | 1.0 U | 1.0 |
| Analysis Name | Result | MDL |
| | mg/l | mg/l |
| Batch number: 17136972106A | Sample number(s): 8979693, 8979695, 8979701, 8979707, 8979713, 8979719, 8979725, 8979731, 8979737, 8979743 | |
| Sulfate | 0.30 U | 0.30 |
| Batch number: 17136972106B | Sample number(s): 8979749, 8979755, 8979761, 8979767, 8979773, 8979779, 8979785 | |
| Sulfate | 0.30 U | 0.30 |

LCS/LCSD

| Analysis Name | LCS Spike Added | LCS Conc | LCSD Spike Added | LCSD Conc | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|-------------------------|---|----------|------------------|-----------|----------|-----------|-----------------|-----|---------|
| | ug/l | ug/l | ug/l | ug/l | | | | | |
| Batch number: H171302AA | Sample number(s): 8979692, 8979694, 8979700, 8979706, 8979712, 8979718, 8979724 | | | | | | | | |
| cis-1,2-Dichloroethene | 5.00 | 5.29 | 5.00 | 5.10 | 106 | 102 | 80-120 | 4 | 30 |
| Tetrachloroethene | 5.00 | 5.18 | 5.00 | 5.24 | 104 | 105 | 80-120 | 1 | 30 |
| Trichloroethene | 5.00 | 5.06 | 5.00 | 4.95 | 101 | 99 | 80-120 | 2 | 30 |
| Vinyl Chloride | 5.00 | 4.42 | 5.00 | 4.87 | 88 | 97 | 62-128 | 10 | 30 |
| Batch number: H171341AA | Sample number(s): 8979730, 8979736, 8979742, 8979748, 8979754, 8979760, 8979766, 8979772, 8979778, 8979784, 8979790 | | | | | | | | |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/18/2017 13:51

Group Number: 1798197

LCS/LCSD (continued)

| Analysis Name | LCS Spike Added ug/l | LCS Conc ug/l | LCSD Spike Added ug/l | LCSD Conc ug/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|-----------------------------|---|------------------|--------------------------|-------------------|----------|-----------|-----------------|-----|---------|
| cis-1,2-Dichloroethene | 5.00 | 5.26 | | | 105 | | 80-120 | | |
| Tetrachloroethene | 5.00 | 5.13 | | | 103 | | 80-120 | | |
| Trichloroethene | 5.00 | 4.87 | | | 97 | | 80-120 | | |
| Vinyl Chloride | 5.00 | 4.73 | | | 95 | | 62-128 | | |
| | ug/l | ug/l | ug/l | ug/l | | | | | |
| Batch number: 171270001A | Sample number(s): 8979695,8979701,8979707,8979713,8979719,8979725,8979731,8979737 | | | | | | | | |
| Acetylene | 51.1 | 43.96 | | | 86 | | 61-148 | | |
| Ethane | 58.4 | 55.08 | | | 94 | | 85-115 | | |
| Ethene | 60.8 | 55.85 | | | 92 | | 83-115 | | |
| Methane | 59.8 | 57.07 | | | 95 | | 85-115 | | |
| Batch number: 171280032A | Sample number(s): 8979743,8979749,8979755,8979761,8979773,8979779,8979785 | | | | | | | | |
| Acetylene | 51.1 | 43.07 | | | 84 | | 61-148 | | |
| Ethane | 58.4 | 51.09 | | | 87 | | 85-115 | | |
| Ethene | 60.8 | 51.88 | | | 85 | | 83-115 | | |
| Methane | 59.8 | 53.46 | | | 89 | | 85-115 | | |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 171300705016A | Sample number(s): 8979696-8979699,8979702-8979705,8979708-8979709 | | | | | | | | |
| Arsenic | 0.0100 | 0.0103 | | | 103 | | 85-115 | | |
| Copper | 0.0500 | 0.0479 | | | 96 | | 85-115 | | |
| Batch number: 171300705017A | Sample number(s): 8979710-8979711,8979714-8979717,8979720-8979723 | | | | | | | | |
| Arsenic | 0.0100 | 0.0105 | | | 105 | | 85-115 | | |
| Copper | 0.0500 | 0.0516 | | | 103 | | 85-115 | | |
| Batch number: 171300705018A | Sample number(s): 8979726-8979729,8979732-8979735,8979738-8979739 | | | | | | | | |
| Arsenic | 0.0100 | 0.0104 | | | 104 | | 85-115 | | |
| Copper | 0.0500 | 0.0515 | | | 103 | | 85-115 | | |
| Batch number: 171300705019A | Sample number(s): 8979740-8979741,8979744-8979747,8979750-8979753 | | | | | | | | |
| Arsenic | 0.0100 | 0.0100 | | | 100 | | 85-115 | | |
| Copper | 0.0500 | 0.0504 | | | 101 | | 85-115 | | |
| Batch number: 171300705020A | Sample number(s): 8979756-8979759,8979762-8979765,8979768-8979769 | | | | | | | | |
| Arsenic | 0.0100 | 0.0115 | | | 115 | | 85-115 | | |
| Copper | 0.0500 | 0.0528 | | | 106 | | 85-115 | | |
| Batch number: 171300705021A | Sample number(s): 8979770-8979771,8979774-8979777,8979780-8979783 | | | | | | | | |
| Arsenic | 0.0100 | 0.0108 | | | 108 | | 85-115 | | |
| Copper | 0.0500 | 0.0528 | | | 106 | | 85-115 | | |
| Batch number: 171320705006A | Sample number(s): 8979786-8979789 | | | | | | | | |
| Arsenic | 0.0100 | 0.00965 | | | 97 | | 85-115 | | |
| Copper | 0.0500 | 0.0481 | | | 96 | | 85-115 | | |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17130667604A | Sample number(s): 8979784 | | | | | | | | |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/18/2017 13:51

Group Number: 1798197

LCS/LCSD (continued)

| Analysis Name | LCS Spike Added mg/l | LCS Conc mg/l | LCSD Spike Added mg/l | LCSD Conc mg/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|----------------------------|--|------------------|--------------------------|-------------------|----------|-----------|-----------------|-----|---------|
| Total Organic Carbon | 25 | 25.44 | | | 102 | | 91-113 | | |
| Batch number: 17130667604B | Sample number(s): 8979692, 8979694, 8979700, 8979706, 8979712, 8979718, 8979724, 8979730 | | | | | | | | |
| Total Organic Carbon | 25 | 25.44 | | | 102 | | 91-113 | | |
| Batch number: 17130667605A | Sample number(s): 8979736, 8979742, 8979748, 8979754, 8979760, 8979766, 8979772, 8979778 | | | | | | | | |
| Total Organic Carbon | 25 | 25.12 | | | 100 | | 91-113 | | |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17136972106A | Sample number(s): 8979693, 8979695, 8979701, 8979707, 8979713, 8979719, 8979725, 8979731, 8979737, 8979743 | | | | | | | | |
| Sulfate | 7.50 | 7.60 | | | 101 | | 90-110 | | |
| Batch number: 17136972106B | Sample number(s): 8979749, 8979755, 8979761, 8979767, 8979773, 8979779, 8979785 | | | | | | | | |
| Sulfate | 7.50 | 7.60 | | | 101 | | 90-110 | | |

MS/MSD

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

| Analysis Name | Unspiked Conc ug/l | MS Spike Added ug/l | MS Conc ug/l | MSD Spike Added ug/l | MSD Conc ug/l | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|--------------------------|---|------------------------|-----------------|-------------------------|------------------|--------------|--------------|---------------|-----|---------|
| Batch number: H171341AA | Sample number(s): 8979730, 8979736, 8979742, 8979748, 8979754, 8979760, 8979766, 8979772, 8979778, 8979784, 8979790 UNSPK: 8979784 | | | | | | | | | |
| cis-1,2-Dichloroethene | 0.114 | 5.00 | 5.96 | 5.00 | 6.23 | 117 | 122* | 80-120 | 4 | 30 |
| Tetrachloroethene | 0.2 U | 5.00 | 6.14 | 5.00 | 6.12 | 123* | 122* | 80-120 | 0 | 30 |
| Trichloroethene | 0.2 U | 5.00 | 5.66 | 5.00 | 5.81 | 113 | 116 | 80-120 | 3 | 30 |
| Vinyl Chloride | 1.33 | 5.00 | 7.04 | 5.00 | 7.11 | 114 | 115 | 62-128 | 1 | 30 |
| | ug/l | ug/l | ug/l | ug/l | ug/l | | | | | |
| Batch number: 171270001A | Sample number(s): 8979695, 8979701, 8979707, 8979713, 8979719, 8979725, 8979731, 8979737 UNSPK: P974857 | | | | | | | | | |
| Acetylene | 1.0 U | 51.1 | 42.63 | 51.1 | 42.17 | 83 | 83 | 61-148 | 1 | 20 |
| Ethane | 503.89 | 58.4 | 537.3 | 58.4 | 527.83 | 57 (2) | 41 (2) | 74-131 | 2 | 30 |
| Ethene | 1.0 U | 60.8 | 63.18 | 60.8 | 61.99 | 104 | 102 | 72-133 | 2 | 30 |
| Methane | 18565.78 | 59.8 | 17638 | 59.8 | 17585.46 | -1550 (2) | -1638 (2) | 73-125 | 0 | 30 |
| Batch number: 171280032A | Sample number(s): 8979743, 8979749, 8979755, 8979761, 8979773, 8979779, 8979785 UNSPK: 8979785 | | | | | | | | | |
| Acetylene | 1.0 U | 51.1 | 49.3 | 51.1 | 45.75 | 96 | 90 | 61-148 | 7 | 20 |
| Ethane | 11.82 | 58.4 | 71.15 | 58.4 | 69.6 | 102 | 99 | 74-131 | 2 | 30 |
| Ethene | 1.58 | 60.8 | 72.63 | 60.8 | 68.28 | 117 | 110 | 72-133 | 6 | 30 |

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/18/2017 13:51

Group Number: 1798197

MS/MSD (continued)

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

| Analysis Name | Unspiked Conc ug/l | MS Spike Added ug/l | MS Conc ug/l | MSD Spike Added ug/l | MSD Conc ug/l | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|-----------------------------|--|---------------------|--------------|----------------------|---------------|----------|----------|---------------|-----|---------|
| Methane | 8119.65 | 59.8 | 7983.04 | 59.8 | 7694.49 | -227 (2) | -710 (2) | 73-125 | 4 | 30 |
| | mg/l | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 171300705016A | Sample number(s): 8979696-8979699,8979702-8979705,8979708-8979709 UNSPK: 8979696, P979696 | | | | | | | | | |
| Arsenic | 0.00241 | 0.0100 | 0.0131 | | | 107 | | 70-130 | | |
| Copper | 0.00652 | 0.0500 | 0.0548 | | | 97 | | 70-130 | | |
| Batch number: 171300705017A | Sample number(s): 8979710-8979711,8979714-8979717,8979720-8979723 UNSPK: 8979710, P979710 | | | | | | | | | |
| Arsenic | 0.00542 | 0.0100 | 0.0165 | | | 110 | | 70-130 | | |
| Copper | 0.00034 U | 0.0500 | 0.0499 | | | 100 | | 70-130 | | |
| Batch number: 171300705018A | Sample number(s): 8979726-8979729,8979732-8979735,8979738-8979739 UNSPK: 8979726, P979726 | | | | | | | | | |
| Arsenic | 0.00276 | 0.0100 | 0.0136 | | | 109 | | 70-130 | | |
| Copper | 0.00266 | 0.0500 | 0.0549 | | | 104 | | 70-130 | | |
| Batch number: 171300705019A | Sample number(s): 8979740-8979741,8979744-8979747,8979750-8979753 UNSPK: 8979740, P979740 | | | | | | | | | |
| Arsenic | 0.0135 | 0.0100 | 0.0239 | | | 104 | | 70-130 | | |
| Copper | 0.00034 U | 0.0500 | 0.0491 | | | 98 | | 70-130 | | |
| Batch number: 171300705020A | Sample number(s): 8979756-8979759,8979762-8979765,8979768-8979769 UNSPK: 8979756, P979756 | | | | | | | | | |
| Arsenic | 0.0486 | 0.0100 | 0.0592 | | | 106 (2) | | 70-130 | | |
| Copper | 0.000658 | 0.0500 | 0.0518 | | | 102 | | 70-130 | | |
| Batch number: 171300705021A | Sample number(s): 8979770-8979771,8979774-8979777,8979780-8979783 UNSPK: 8979770, P979770 | | | | | | | | | |
| Arsenic | 0.0296 | 0.0100 | 0.0379 | | | 83 | | 70-130 | | |
| Copper | 0.00034 U | 0.0500 | 0.0500 | | | 100 | | 70-130 | | |
| Batch number: 171320705006A | Sample number(s): 8979786-8979789 UNSPK: 8979786, P979786 | | | | | | | | | |
| Arsenic | 0.0296 | 0.0100 | 0.0382 | | | 85 | | 70-130 | | |
| Copper | 0.00034 U | 0.0500 | 0.0458 | | | 92 | | 70-130 | | |
| | mg/l | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17130667604A | Sample number(s): 8979784 UNSPK: 8979784 | | | | | | | | | |
| Total Organic Carbon | 17.05 | 10 | 27.24 | | | 102 | | 64-148 | | |
| Batch number: 17130667604B | Sample number(s): 8979692,8979694,8979700,8979706,8979712,8979718,8979724,8979730 UNSPK: P983687 | | | | | | | | | |
| Total Organic Carbon | 97.16 | 50 | 150.14 | | | 106 | | 64-148 | | |

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/18/2017 13:51

Group Number: 1798197

MS/MSD (continued)

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

| Analysis Name | Unspiked Conc mg/l | MS Spike Added mg/l | MS Conc mg/l | MSD Spike Added mg/l | MSD Conc mg/l | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|----------------------------|---|---------------------|--------------|----------------------|---------------|---------|----------|---------------|-----|---------|
| Batch number: 17130667605A | Sample number(s): 8979736, 8979742, 8979748, 8979754, 8979760, 8979766, 8979772, 8979778 UNSPK: P975635 | | | | | | | | | |
| Total Organic Carbon | 1.60 | 10 | 12.27 | | | 107 | | 64-148 | | |
| | mg/l | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17136972106A | Sample number(s): 8979693, 8979695, 8979701, 8979707, 8979713, 8979719, 8979725, 8979731, 8979737, 8979743 UNSPK: 8979693 | | | | | | | | | |
| Sulfate | 0.414 | 5.00 | 5.26 | | | 97 | | 90-110 | | |
| Batch number: 17136972106B | Sample number(s): 8979749, 8979755, 8979761, 8979767, 8979773, 8979779, 8979785 UNSPK: 8979785 | | | | | | | | | |
| Sulfate | 0.30 U | 5.00 | 5.24 | | | 105 | | 90-110 | | |

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | BKG Conc mg/l | DUP Conc mg/l | DUP RPD | DUP RPD Max |
|-----------------------------|---|---------------|---------|-------------|
| Batch number: 171300705016A | Sample number(s): 8979696-8979699, 8979702-8979705, 8979708-8979709 BKG: 8979696, P979696 | | | |
| Arsenic | 0.00241 | 0.00250 | 4 (1) | 20 |
| Copper | 0.00652 | 0.00643 | 1 (1) | 20 |
| Batch number: 171300705017A | Sample number(s): 8979710-8979711, 8979714-8979717, 8979720-8979723 BKG: 8979710, P979710 | | | |
| Arsenic | 0.00542 | 0.00572 | 5 (1) | 20 |
| Copper | 0.00034 U | 0.00034 U | 0 (1) | 20 |
| Batch number: 171300705018A | Sample number(s): 8979726-8979729, 8979732-8979735, 8979738-8979739 BKG: 8979726, P979726 | | | |
| Arsenic | 0.00276 | 0.00257 | 7 (1) | 20 |
| Copper | 0.00266 | 0.00271 | 2 (1) | 20 |
| Batch number: 171300705019A | Sample number(s): 8979740-8979741, 8979744-8979747, 8979750-8979753 BKG: 8979740, P979740 | | | |
| Arsenic | 0.0135 | 0.0137 | 2 | 20 |
| Copper | 0.00034 U | 0.00034 U | 0 (1) | 20 |
| Batch number: 171300705020A | Sample number(s): 8979756-8979759, 8979762-8979765, 8979768-8979769 BKG: 8979756, P979756 | | | |
| Arsenic | 0.0486 | 0.0481 | 1 | 20 |
| Copper | 0.000658 | 0.000604 | 9 (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.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/18/2017 13:51

Group Number: 1798197

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | BKG Conc mg/l | DUP Conc mg/l | DUP RPD | DUP RPD Max |
|-----------------------------|--|------------------|----------|-------------|
| Batch number: 171300705021A | Sample number(s): 8979770-8979771,8979774-8979777,8979780-8979783 BKG: 8979770, P979770 | | | |
| Arsenic | 0.0296 | 0.0279 | 6 | 20 |
| Copper | 0.00034 U | 0.00034 U | 0 (1) | 20 |
| Batch number: 171320705006A | Sample number(s): 8979786-8979789 BKG: 8979786, P979786 | | | |
| Arsenic | 0.0296 | 0.0289 | 3 | 20 |
| Copper | 0.00034 U | 0.000365 | 200* (1) | 20 |
| | mg/l | mg/l | | |
| Batch number: 17130667604A | Sample number(s): 8979784 BKG: 8979784 | | | |
| Total Organic Carbon | 17.05 | 17.17 | 1 | 9 |
| Batch number: 17130667604B | Sample number(s): 8979692,8979694,8979700,8979706,8979712,8979718,8979724,8979730 BKG: P983687 | | | |
| Total Organic Carbon | 97.16 | 97.24 | 0 | 9 |
| Batch number: 17130667605A | Sample number(s): 8979736,8979742,8979748,8979754,8979760,8979766,8979772,8979778 BKG: P975635 | | | |
| Total Organic Carbon | 1.60 | 1.60 | 0 (1) | 9 |
| | mg/l | mg/l | | |
| Batch number: 17136972106A | Sample number(s): 8979693,8979695,8979701,8979707,8979713,8979719,8979725,8979731,8979737,8979743 BKG: 8979693 | | | |
| Sulfate | 0.414 | 0.401 | 3 (1) | 15 |
| Batch number: 17136972106B | Sample number(s): 8979749,8979755,8979761,8979767,8979773,8979779,8979785 BKG: 8979785 | | | |
| Sulfate | 0.30 U | 0.30 U | 0 (1) | 15 |

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 VC, TCE, PCE, cis1,2-DCE
Batch number: H171302AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---------|----------------------|-----------------------|------------|----------------------|
| 8979692 | 103 | 103 | 100 | 99 |
| 8979694 | 105 | 107 | 101 | 97 |
| 8979700 | 103 | 108 | 100 | 98 |
| 8979706 | 102 | 103 | 102 | 96 |
| 8979712 | 102 | 101 | 104 | 98 |
| 8979718 | 101 | 105 | 102 | 95 |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/18/2017 13:51

Group Number: 1798197

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 VC, TCE, PCE, cis1,2-DCE
Batch number: H171302AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---------|----------------------|-----------------------|------------|----------------------|
| 8979724 | 100 | 100 | 103 | 95 |
| Blank | 105 | 102 | 101 | 99 |
| LCS | 101 | 103 | 101 | 103 |
| LCSD | 99 | 99 | 103 | 102 |
| Limits: | 77-114 | 74-113 | 77-110 | 78-110 |

Analysis Name: 8260C VC, TCE, PCE, cis1,2-DCE
Batch number: H171341AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---------|----------------------|-----------------------|------------|----------------------|
| 8979730 | 106 | 107 | 100 | 97 |
| 8979736 | 106 | 109 | 100 | 97 |
| 8979742 | 106 | 108 | 101 | 100 |
| 8979748 | 105 | 111 | 101 | 96 |
| 8979754 | 105 | 107 | 101 | 95 |
| 8979760 | 104 | 105 | 102 | 97 |
| 8979766 | 105 | 111 | 102 | 97 |
| 8979772 | 104 | 106 | 104 | 95 |
| 8979778 | 105 | 107 | 102 | 96 |
| 8979784 | 104 | 107 | 102 | 97 |
| 8979790 | 101 | 109 | 104 | 97 |
| Blank | 103 | 106 | 103 | 95 |
| LCS | 103 | 108 | 100 | 104 |
| MS | 99 | 103 | 103 | 103 |
| MSD | 99 | 106 | 101 | 104 |
| Limits: | 77-114 | 74-113 | 77-110 | 78-110 |

Analysis Name: AMEE by RSK-175
Batch number: 171270001A

| | Propene |
|-----------|---------|
| 8979695 | 78 |
| 8979695DL | 94 |
| 8979701 | 83 |
| 8979701DL | 87 |
| 8979707 | 83 |
| 8979707DL | 94 |
| 8979713 | 90 |
| 8979713DL | 91 |
| 8979719 | 85 |
| 8979719DL | 98 |
| 8979725 | 82 |
| 8979731 | 88 |
| 8979731DL | 93 |
| 8979737 | 90 |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/18/2017 13:51

Group Number: 1798197

Surrogate Quality Control (continued)

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

Analysis Name: AMEE by RSK-175
Batch number: 171270001A

| Propene | |
|-----------|----|
| 8979737DL | 86 |
| Blank | 92 |
| LCS | 91 |
| MS | 74 |
| MSD | 72 |

Limits: 44-123

Analysis Name: AMEE by RSK-175
Batch number: 171280032A

| Propene | |
|-----------|----|
| 8979743 | 85 |
| 8979743DL | 89 |
| 8979749 | 87 |
| 8979749DL | 85 |
| 8979755 | 83 |
| 8979755DL | 89 |
| 8979761 | 83 |
| 8979761DL | 89 |
| 8979773 | 85 |
| 8979773DL | 93 |
| 8979779 | 86 |
| 8979779DL | 94 |
| 8979785 | 81 |
| 8979785DL | 86 |
| Blank | 98 |
| LCS | 99 |
| MS | 84 |
| MSD | 79 |

Limits: 44-123

*- Outside of specification

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

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

Boeing Chain of Custody



Lancaster Laboratories

Acct. # 13419

For Eurofins Lancaster Laboratories use only
Group # 174897 Sample # 87796927
Please print. Instructions on reverse side correspond.

8779692790
GMM 5/5/17
B. Smith
GWS 5/4/17

| 1 Client Information | | | | | 4 Analyses Requested | | | | | 5 Remarks/Comments | | | | | | | | |
|--|---------------|-------------|-----------|-----------|---|---|--------------------------------|---|---------------------------------|--|--------------------------------|--|--|---|--|--|--|--|
| Site Location: <u>Tukwila, WA</u> | | | | | <div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">VOCs (42600)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">AMEE (251600-175 Mod)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TCC (5M53100)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Sulphate (300.0)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">T/D Asmic (copper (200.8))</div> </div> | | | | | Page 1 of 2 | | | | | | | | |
| Site Project: <u>Boeing Developmental Center</u> | | | | | | | | | | | | | | | | | | |
| Site Program/ #: <u>SUM10-17/0025217-099-039</u> | | | | | | | | | | | | | | | | | | |
| Boeing PM: <u>Jennifer Parsons / Lindsey Mahrt</u> | | | | | | | | | | | | | | | | | | |
| Consultant Contact: <u>C Kimmel</u> | | | | | | | | | | | | | | | | | | |
| Report To: <u>J Parsons, L Mahrt, C Kimmel</u> | | | | | | | | | | | | | | | | | | |
| Invoice To: <input checked="" type="checkbox"/> Boeing EHS <input type="checkbox"/> Other (specify): _____ | | | | | | | | | | | | | | | | | | |
| Sampler: <u>Jessamini Hueska</u> # of Coolers: <u>3</u> | | | | | | | | | | | | | | | | | | |
| 2 Sample Identification | | 3 Collected | | 3 Matrix | No. of Containers | | | | | | | | | | | | | |
| Date | Time | | | | | | | | | | | | | | | | | |
| <u>BDC-05-08-170504</u> | <u>5/4/17</u> | <u>656</u> | <u>AQ</u> | <u>7</u> | X | | X | X | | | | | | | | | | |
| <u>BDC-05-02-170504</u> | <u>5/4/17</u> | <u>731</u> | <u>AQ</u> | <u>11</u> | X | X | X | X | X | | | | | | | | | |
| <u>BDC-05-07-170504</u> | <u>5/4/17</u> | <u>806</u> | <u>AQ</u> | <u>11</u> | X | X | X | X | X | | | | | | | | | |
| <u>BDC-05-09-170504</u> | <u>5/4/17</u> | <u>836</u> | <u>AQ</u> | <u>11</u> | X | X | X | X | X | | | | | | | | | |
| <u>BDC-05-10-170504</u> | <u>5/4/17</u> | <u>906</u> | <u>AQ</u> | <u>11</u> | X | X | X | X | X | | | | | | | | | |
| <u>BDC-05-11-170504</u> | <u>5/4/17</u> | <u>946</u> | <u>AQ</u> | <u>11</u> | X | X | X | X | X | | | | | | | | | |
| <u>BDC-05-03-170504</u> | <u>5/4/17</u> | <u>1021</u> | <u>AQ</u> | <u>11</u> | X | X | X | X | X | | | | | | | | | |
| <u>BDC-05-12-170504</u> | <u>5/4/17</u> | <u>1051</u> | <u>AQ</u> | <u>11</u> | X | X | X | X | X | | | | | | | | | |
| <u>BDC-05-14-170504</u> | <u>5/4/17</u> | <u>1126</u> | <u>AQ</u> | <u>11</u> | X | X | X | X | X | | | | | | | | | |
| <u>BDC-05-13-170504</u> | <u>5/4/17</u> | <u>1201</u> | <u>AQ</u> | <u>11</u> | X | X | X | X | X | | | | | | | | | |
| <u>BDC-05-24-170504</u> | <u>5/4/17</u> | <u>1241</u> | <u>AQ</u> | <u>11</u> | X | X | X | X | X | | | | | | | | | |
| <u>BDC-05-15-170504</u> | <u>5/4/17</u> | <u>1416</u> | <u>AQ</u> | <u>11</u> | X | X | X | X | X | | | | | | | | | |
| <u>BDC-05-14-170504</u> | <u>5/4/17</u> | <u>1326</u> | <u>AQ</u> | <u>11</u> | X | X | X | X | X | | | | | | | | | |
| <u>BDC-05-22-170504</u> | <u>5/4/17</u> | <u>1506</u> | <u>AQ</u> | <u>9</u> | X | | X | X | X | | | | | | | | | |
| <u>BDC-05-20-170504</u> | <u>5/4/17</u> | <u>1551</u> | <u>AQ</u> | <u>11</u> | X | X | X | X | X | | | | | | | | | |
| 6 Turnaround Time Requested (please circle) <input checked="" type="radio"/> Standard 5 day 4 day <input type="radio"/> 72 hour 48 hour 24 hour Date needed: _____ | | | | | Relinquished by: <u>[Signature]</u> | | Date/Time: <u>5/5/17 12:25</u> | | Received by: <u>[Signature]</u> | | Date/Time: <u>5/5/17 12:25</u> | | | | | | | |
| | | | | | Relinquished by: _____ | | Date/Time: _____ | | Received by: _____ | | Date/Time: _____ | | | | | | | |
| | | | | | Relinquished by: _____ | | Date/Time: _____ | | Received by: <u>[Signature]</u> | | Date/Time: <u>5/5/17 9:55</u> | | | | | | | |
| | | | | | Relinquished by commercial carrier (circle): | | | | | UPS <input checked="" type="radio"/> FedEx Other: _____ | | Temperature upon Receipt: <u>8.6-17C</u> | | Custody Seals Intact?: <input checked="" type="radio"/> Yes No | | | | |

Boeing Chain of Custody



Lancaster Laboratories

Acct. # 13419 For Eurofins Lancaster Laboratories use only Group # 1778197 Sample # 8479692-740
 Please print. Instructions on reverse side correspond.

| 1 Client Information | 4 Analyses Requested | 5 Remarks/Comments | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|----------------------|----------------------------|--|----------------------------|-----------------------------------|---|-----------------------------------|---|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|--|
| Site Location: <u>Tukwila, WA</u> Site Project: <u>Boeing Developmental Center</u> Site Program/#: <u>SWMOL-17 / 0025217.099.039</u> Boeing PM: <u>Jennifer Parsons / Lindsay Martin</u> Consultant Contact: <u>Chris Kimmel</u> Report To: <u>J Parsons, C Kimmel, L Martin</u> Invoice To: <input checked="" type="checkbox"/> Boeing EHS <input type="checkbox"/> Other (specify): _____ Sampler: <u>Jeovani Guerra</u> # of Coolers: <u>3</u> | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 5%;"></td> <td style="border: 1px solid black; width: 5%;"></td> <td style="border: 1px solid black; width: 10%;"><u>VOC's (4260C)</u></td> <td style="border: 1px solid black; width: 10%;"><u>AMEE (65KSP-175MSD)</u></td> <td style="border: 1px solid black; width: 10%;"><u>TOC (SM5310C)</u></td> <td style="border: 1px solid black; width: 10%;"><u>Sulfurhex (300.0)</u></td> <td style="border: 1px solid black; width: 10%;"><u>T/D Arsenic/Copper (200.8)</u></td> <td style="border: 1px solid black; width: 10%;"></td> <td style="border: 1px solid black; width: 10%;"></td> <td style="border: 1px solid black; width: 10%;"></td> <td style="border: 1px solid black; width: 10%;"></td> <td style="border: 1px solid black; width: 10%;"></td> <td style="border: 1px solid black; width: 10%;"></td> </tr> </table> | | | <u>VOC's (4260C)</u> | <u>AMEE (65KSP-175MSD)</u> | <u>TOC (SM5310C)</u> | <u>Sulfurhex (300.0)</u> | <u>T/D Arsenic/Copper (200.8)</u> | | | | | | | <p>Page 2 of 2</p> <p>2 per cooler w/ VOC's</p> | | | | | | | | | | |
| | | <u>VOC's (4260C)</u> | <u>AMEE (65KSP-175MSD)</u> | <u>TOC (SM5310C)</u> | <u>Sulfurhex (300.0)</u> | <u>T/D Arsenic/Copper (200.8)</u> | | | | | | | | | | | | | | | | | | | |
| 2 Sample Identification | 3 Collected | 3 Matrix | 3 No. of Containers | | | | | | | | | | | | | | | | | | | | | | |
| | Date | Time | | | | | | | | | | | | | | | | | | | | | | | |
| <u>BDC-05-17-170504</u> | <u>5/4/17</u> | <u>1636</u> | <u>AQ</u> | <u>11</u> | X | X | X | X | X | | | | | | | | | | | | | | | | |
| <u>BDC-05-16-170504</u> | <u>5/4/17</u> | <u>1706</u> | <u>AQ</u> | <u>33</u> | X | X | X | X | X | X | | | | | | | | | | | | | | | |
| <u>TRIP BLANKS</u> | <u>-</u> | <u>-</u> | <u>AQ</u> | <u>4</u> | X | | | | | | | | | | | | | | | | | | | | |
| 6 Turnaround Time Requested (please circle) Standard 5 day 4 day 72 hour 48 hour 24 hour Date needed: _____ | | | | Relinquished by: <u>[Signature]</u> Date/Time: <u>5/5/17 12:15</u> Relinquished by: _____ Date/Time: _____ Relinquished by: _____ Date/Time: _____ | | | Received by: <u>[Signature]</u> Date/Time: <u>5/5/17 12:15</u> Received by: _____ Date/Time: _____ Received by: <u>[Signature]</u> Date/Time: <u>5/6/17 9:55</u> | | | Relinquished by commercial carrier (circle): UPS <u>FedEx</u> Other: _____ Temperature upon Receipt: <u>0.6-1.7 °C</u> Custody Seals Intact?: <u>Yes</u> No | | | | | | | | | | | | | | | |



Client: Boeing

Delivery and Receipt Information

Delivery Method: SeaTac Arrival Timestamp: 05/06/2017 9:55
 Number of Packages: 3 Number of Projects: 1
 State/Province of Origin: WA

Arrival Condition Summary

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

Unpacked by Simon Nies (25112) at 11:45 on 05/06/2017

Samples Chilled Details

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

| Cooler # | Thermometer ID | Corrected Temp | Therm. Type | Ice Type | Ice Present? | Ice Container | Elevated Temp? |
|----------|----------------|----------------|-------------|----------|--------------|---------------|----------------|
| 1 | DT146 | 1.0 | DT | Wet | Y | Bagged | N |
| 2 | DT146 | 1.7 | DT | Wet | Y | Bagged | N |
| 3 | DT146 | 0.6 | DT | Wet | Y | Bagged | N |

Explanation of Symbols and Abbreviations

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

| | | | |
|-------------------------|--|-----------------|-------------------------------|
| BMQL | Below Minimum Quantitation Level | mg | milligram(s) |
| C | degrees Celsius | mL | milliliter(s) |
| cfu | colony forming units | MPN | Most Probable Number |
| CP Units | cobalt-chloroplatinate units | N.D. | none detected |
| F | degrees Fahrenheit | ng | nanogram(s) |
| g | gram(s) | NTU | nephelometric turbidity units |
| IU | International Units | pg/L | picogram/liter |
| kg | kilogram(s) | RL | Reporting Limit |
| L | liter(s) | TNTC | Too Numerous To Count |
| lb. | pound(s) | µg | microgram(s) |
| m3 | cubic meter(s) | µL | microliter(s) |
| meq | milliequivalents | umhos/cm | micromhos/cm |
| < | less than | | |
| > | greater than | | |
| ppm | parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas. | | |
| ppb | parts per billion | | |
| Dry weight basis | Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis. | | |

Laboratory Data Qualifiers:

- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

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

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

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

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

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AOC-5

(Groundwater Sample Collection Forms and Analytical Data)

Groundwater Low-Flow Sample Collection Form

Project Name: Regional GW Monitoring - Dev. Center Project Number: 0025217.099.039
 Event: August Quarterly Date/Time: 2/ 7 /2017 @ 956
 Sample Number: BDC-101- 170207 Weather: 30'S, CLOUDY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 10.97 Time: 930 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 2/ 7 /17 @ 932 End Purge: Date/Time: 2/ 7 /17 @ 950 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other

| Time | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 935 | 10.5 | 362 | 5.08 | 6.69 | 42.8 | | 10.97 | | |
| 938 | 10 | 382 | 4.7 | 6.65 | 47.8 | | 10.97 | | |
| 941 | 9.7 | 396 | 4.46 | 6.61 | 52.7 | | 10.97 | | |
| 944 | 9.6 | 400 | 4.42 | 6.6 | 54.6 | | | | |
| 947 | 9.6 | 403 | 4.35 | 6.59 | 56 | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type DED BLADDER
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|-----------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 9.6 | 404 | 4.33 | 6.59 | 56.7 | | | | |
| 2 | 9.6 | 406 | 4.27 | 6.58 | 56.9 | | | | |
| 3 | 9.6 | 407 | 4.23 | 6.58 | 57.1 | | | | |
| 4 | 9.6 | 407 | 4.2 | 6.58 | 57.4 | | | | |
| Average: | 9.6 | 406.0 | 4.3 | 6.6 | 57.0 | #DIV/0! | #DIV/0! | #DIV/0! | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 5 | VOC's (8260C) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | VOC (Boeing (38) short list) |
| | |
| | |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 2/7/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Regional GW Monitoring - Dev. Center Project Number: 0025217.099.039
 Event: August Quarterly Date/Time: 2/ 7 /2017 @ 926
 Sample Number: BDC-102- 170207 Weather: 30'S, CLOUDY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 10.73 Time: 900 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 2/ 7 /17 @ 902 End Purge: Date/Time: 2/ 7 /17 @ 924 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other

| Time | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 905 | 11.6 | 494 | 1.26 | 6.57 | 37.4 | | 10.73 | | |
| 908 | 10.6 | 482 | 1.31 | 6.61 | 28.8 | | 10.73 | | |
| 911 | 9.4 | 467 | 1.17 | 6.56 | 22.4 | | 10.73 | | |
| 914 | 8.8 | 459 | 1.05 | 6.51 | 17.5 | | | | |
| 917 | 8.3 | 454 | 0.93 | 6.47 | 15 | | | | |
| 920 | 8.1 | 450 | 0.89 | 6.44 | 13.8 | | | | |
| 922 | 7.9 | 448 | 0.81 | 6.39 | 12.6 | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type DED BLADDER
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____

Sample Description (color, turbidity, odor, sheen, etc.): SLIGHTLY TURBID, LIGHT BROWN TINT, NO/NS

| Replicate | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|-----------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 7.9 | 448 | 0.81 | 6.38 | 12.4 | | | | |
| 2 | 7.9 | 448 | 0.79 | 6.38 | 12.2 | | | | |
| 3 | 7.8 | 448 | 0.79 | 6.37 | 12.2 | | | | |
| 4 | 7.8 | 448 | 6.37 | 12 | | | | | |
| Average: | 7.9 | 448 | 2.19 | 7.78 | 12.3 | #DIV/0! | #DIV/0! | #DIV/0! | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 5 | VOC's (8260C) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | VOC (Boeing (38) short list) |
| | |
| | |
| | |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 2/7/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Regional GW Monitoring - Dev. Center Project Number: 0025217.099.039
 Event: August Quarterly Date/Time: 2/ 7 /2017 @ 856
 Sample Number: BDC-103- 170207 Weather: 30'S, CLOUDY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 10.69 Time: 827 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 2/ 7 /17 @ 830 End Purge: Date/Time: 2/ 7 /17 @ 845 Gallons Purged: 0.25
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other

| Time | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 833 | 8.3 | 1259 | 0.65 | 6.15 | 89.1 | | 10.78 | | |
| 836 | 7.9 | 1260 | 0.43 | 6.23 | 82.9 | | 10.81 | | |
| 839 | 7.2 | 1246 | 0.42 | 6.26 | 79 | | 10.83 | | |
| 842 | 6.9 | 1241 | 0.41 | 6.27 | 77.7 | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS,NO/NS

| Replicate | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|-----------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 6.9 | 1240 | 0.41 | 6.27 | 77.5 | | | | |
| 2 | 6.9 | 1239 | 0.4 | 6.27 | 77.3 | | | | |
| 3 | 6.9 | 1238 | 0.41 | 6.27 | 77.1 | | | | |
| 4 | 6.8 | 1237 | 0.41 | 6.27 | 76.8 | | | | |
| Average: | 6.9 | 1239 | 0.41 | 6.27 | 77.2 | #DIV/0! | #DIV/0! | #DIV/0! | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 5 | VOC's (8260C) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | VOC (Boeing (38) short list) |
| | |
| | |
| | |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 2/7/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Regional GW Monitoring - Dev. Center Project Number: 0025217.099.039
 Event: August Quarterly Date/Time: 2/ 7 /2017 @ 821
 Sample Number: BDC-104- 170207 Weather: 30'S, CLOUDY
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 10.51 Time: 751 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 2/ 7 /17 @ 756 End Purge: Date/Time: 2/ 7 /17 @ 812 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other

| Time | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 759 | 9.4 | 63 | 2.66 | 6.32 | 24.2 | | 10.51 | | |
| 802 | 8.6 | 60 | 2.44 | 6.17 | 41.7 | | 10.53 | | |
| 805 | 11.6 | 64 | 2.11 | 5.97 | 57.6 | | 10.55 | | |
| 807 | 11.8 | 65 | 2.11 | 5.94 | 63.3 | | | | |
| 810 | 11.7 | 64 | 2.06 | 5.93 | 68.4 | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|-----------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 11.7 | 64 | 2.03 | 5.93 | 69 | | | | |
| 2 | 11.7 | 64 | 2.04 | 5.93 | 69 | | | | |
| 3 | 11.7 | 64 | 2.01 | 5.93 | 69.2 | | | | |
| 4 | 11.7 | 64 | 2.03 | 5.93 | 69.4 | | | | |
| Average: | 11.7 | 64 | 2.03 | 5.93 | 69.2 | #DIV/0! | #DIV/0! | #DIV/0! | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 5 | VOC's (8260C) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing (38) short list) |
| | |
| | |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 2/7/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 3 /2017 @ 1111
 Sample Number: BDC-101- 170503 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.02 Time: 1041 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 3 /2017 @ 1046 End Purge: Date/Time: 05/ 3 /2017 @ 1058 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1049 | 15.1 | 516 | 6.07 | 6.34 | 70.5 | | 11.02 | <0.25 | |
| 1052 | 15 | 516 | 5.9 | 6.36 | 70.8 | | | 0.25 | |
| 1055 | 15.1 | 518 | 6.01 | 6.43 | 69.2 | | 11.02 | <0.50 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type DED BLADDER
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 15.1 | 517 | 5.93 | 6.43 | 69.1 | | | | |
| 2 | 15.1 | 518 | 5.73 | 6.44 | 69.1 | | | | |
| 3 | 15.1 | 518 | 5.85 | 6.44 | 69 | | | | |
| 4 | 15.1 | 517 | 5.88 | 6.44 | 69 | | | | |
| Average: | 15.1 | 518 | 5.85 | 6.44 | 69.1 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 5 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/3/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 3 /2017 @ 1036
 Sample Number: BDC-102- 170503 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 10.86 Time: 1005 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 3 /2017 @ 1010 End Purge: Date/Time: 05/ 3 /2017 @ 1033 Gallons Purged: 0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 1013 | 15.6 | 692 | 1.55 | 6.17 | 73.4 | | 10.86 | <0.25 | |
| 1016 | 15.7 | 733 | 2.22 | 6.19 | 61.8 | | | <0.25 | |
| 1019 | 15.7 | 744 | 2.43 | 6.2 | 53.2 | | | 0.25 | |
| 1022 | 15.6 | 744 | 0.95 | 6.26 | 12.7 | | | <0.50 | |
| 1025 | 15.6 | 735 | 0.72 | 6.27 | 2.3 | | | <0.50 | |
| 1028 | 15.7 | 729 | 0.56 | 6.29 | -6.8 | | | 0.5 | |
| 1030 | 15.8 | 728 | 0.53 | 6.29 | -10.2 | | | <0.75 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type DED BLADDER
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): SLIGHTLY TURBID, YELLOWISH COLOR, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 15.8 | 726 | 0.53 | 6.29 | -10.8 | | | | |
| 2 | 15.8 | 725 | 0.53 | 6.29 | -11.2 | | | | |
| 3 | 15.8 | 726 | 0.51 | 6.29 | -11.6 | | | | |
| 4 | 15.8 | 725 | 0.51 | 6.3 | -12 | | | | |
| Average: | 15.8 | 726 | 0.52 | 6.29 | -11.4 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 5 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silicic acid) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | _____ |
| | _____ |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/3/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 3 /2017 @ 936
 Sample Number: BDC-103- 170503 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 10.76 Time: 906 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 3 /2017 @ 912 End Purge: Date/Time: 05/ 3 /2017 @ 924 Gallons Purged: 0.25
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|--------------|---------------|-------------|---------------|-----------|-----------------|----------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 915 | 14.7 | 1608 | 0.7 | 6.35 | 64.1 | | 10.83 | <0.25 | |
| 918 | 14.8 | 1599 | 0.71 | 6.29 | 65.4 | | | <0.25 | |
| 921 | 14.8 | 1592 | 0.73 | 6.25 | 66.7 | | 10.89 | <0.25 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 14.7 | 1592 | 0.75 | 6.25 | 66.9 | | | | |
| 2 | 14.7 | 1590 | 0.77 | 6.25 | 67 | | | | |
| 3 | 14.7 | 1590 | 0.78 | 6.24 | 67.1 | | | | |
| 4 | 14.7 | 1590 | 0.81 | 6.24 | 67.2 | | | | |
| Average: | 14.7 | 1591 | 0.78 | 6.25 | 67.1 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 5 | (8260) (8010) (8020) (NWT PH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWT PH-D) (NWT PH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | |
| | |
| | others |

Duplicate Sample No(s): BDC-DUP2-170503 @ 800
 Comments: Duplicate location
 Signature: JHA Date: 5/3/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/3 /2017 @ 800
 Sample Number: BDC-DUP2 170503 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) _____ Time: _____ Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/3 /2017 @ End Purge: Date/Time: 05/3 /2017 @ Gallons Purged: _____
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|-----------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | through cell | |

SEE BDC-103 SCF FOR PURGE DATA

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type _____
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): _____

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 14.7 | 1591 | 0.76 | 6.25 | 67 | | | | |
| 2 | 14.7 | 1590 | 0.78 | 6.25 | 67 | | | | |
| 3 | 14.7 | 1590 | 0.8 | 6.24 | 67.1 | | | | |
| 4 | 14.7 | 1590 | 0.84 | 6.24 | 67.2 | | | | |
| Average: | 14.7 | 1590 | 0.80 | 6.25 | 67.1 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 5 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | others |

Duplicate Sample No(s): _____
 Comments: Duplicate to BDC-103-170503 @ 936
 Signature: JHA Date: 5/3/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 3 /2017 @ 1006
 Sample Number: BDC-104 170503 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 10.52 Time: 938 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 3 /2017 @ 942 End Purge: Date/Time: 05/ 3 /2017 @ 957 Gallons Purged: 0.5
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 945 | 15 | 403.9 | 3.14 | 6.01 | 73.8 | | 10.55 | <0.25 | |
| 948 | 15.1 | 398.1 | 3.08 | 5.94 | 79.5 | | | <0.25 | |
| 951 | 14.9 | 391.5 | 3.1 | 5.85 | 83.2 | | 10.57 | 0.25 | |
| 954 | 14.9 | 389.7 | 3.03 | 5.84 | 82.2 | | | <0.50 | |
| | | | | | | | | | |
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SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): SLIGHTLY CLOUDY, COLORLESS, NO.NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 14.9 | 389.6 | 3.06 | 5.85 | 81.5 | | | | |
| 2 | 14.9 | 389.4 | 3.05 | 5.85 | 81.2 | | | | |
| 3 | 14.9 | 389.2 | 3.06 | 5.85 | 80.6 | | | | |
| 4 | 14.9 | 389.3 | 3.06 | 5.85 | 80.1 | | | | |
| Average: | 14.9 | 389.4 | 3.06 | 5.85 | 80.9 | #DIV/0! | | | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 5 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/3/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/3 /2017 @ 851
 Sample Number: MW-17A- 170503 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.97 Time: 820 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 3 /2017 @ 826 End Purge: Date/Time: 05/ 3 /2017 @ 837 Gallons Purged: 0.25
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|--------------|---------------|-------------|---------------|-----------|-----------------|----------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 829 | 16.3 | 7618 | 0.69 | 7.41 | -236.4 | | 12.11 | <0.25 | |
| 832 | 16.5 | 7597 | 0.67 | 7.4 | -231 | | 12.22 | <0.25 | TURNED PUMP D |
| 835 | 16.5 | 7584 | 0.66 | 7.4 | -230.8 | | 12.25 | <0.25 | |
| | | | | | | | | | |
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SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____

Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, DARK BROWN/AMBER TINT, STRONG INJECTION FLUID ODOR, NS (FOAMY)

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 16.5 | 7575 | 0.62 | 7.4 | -227.8 | | | | |
| 2 | 16.5 | 7572 | 0.62 | 7.4 | -226.1 | | | | |
| 3 | 16.5 | 7569 | 0.63 | 7.4 | -224.2 | | | | |
| 4 | 16.5 | 7565 | 0.62 | 7.39 | -221.7 | | | | |
| Average: | 16.5 | 7570 | 0.62 | 7.40 | -225.0 | #DIV/0! | | 2.2 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|---|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silic) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | |
| | others |

Duplicate Sample No(s): _____
 Comments: LETTING WELL RECHARGE ~5 MIN BEFORE SAMPLING
 Signature: JHA Date: 5/3/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/3 /2017 @ 806
 Sample Number: MW-18A- 170503 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.73 Time: 737 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 3 /2017 @ 742 End Purge: Date/Time: 05/ 3 /2017 @ 805 Gallons Purged: 0.75
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|---------------|---------------|----------------|----------------------|------------------|-----------------|--------------------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 745 | 14.8 | 419.5 | 1.76 | 6.5 | 43.1 | | 11.73 | <0.25 | |
| 748 | 14.8 | 442.1 | 1.73 | 6.49 | 51.8 | | | <0.25 | |
| 751 | 14.9 | 455.2 | 1.48 | 6.49 | 57.3 | | 11.73 | 0.25 | |
| 754 | 15.1 | 482.2 | 1.43 | 6.51 | 60.6 | | | <0.50 | |
| 757 | 15.1 | 489.2 | 1.46 | 6.51 | 61.6 | | | <0.50 | |
| 800 | 15 | 505 | 1.32 | 6.51 | 62.9 | | | 0.5 | |
| 802 | 15 | 514 | 1.24 | 6.5 | 63.8 | | | <0.75 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 15 | 516 | 1.24 | 6.5 | 63.8 | | | | |
| 2 | 15 | 517 | 1.22 | 6.51 | 63.7 | | | | |
| 3 | 15 | 517 | 1.21 | 6.51 | 63.6 | | | | |
| 4 | 15 | 518 | 1.22 | 6.51 | 63.7 | | | | |
| Average: | 15 | 517 | 1.22 | 6.51 | 63.7 | #DIV/0! | | 0.0 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| 3 | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): _____
 Comments: _____
 Signature: JHA Date: 5/3/2017

Groundwater Low-Flow Sample Collection Form

Project Name: Developmental Center Project Number: 0025217.099.039
 Event: Semiannual May 2017 Date/Time: 05/ 3 /2017 @ 726
 Sample Number: MW-21A- 170503 Weather: 40'S, OVERCAST
 Landau Representative: JHA

WATER LEVEL/WELL/PURGE DATA

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe: _____
 DTW Before Purging (ft) 11.97 Time: 650 Flow through cell vol. _____ GW Meter No.(s) HERON 1
 Begin Purge: Date/Time: 05/ 3 /2017 @ 700 End Purge: Date/Time: 05/ 3 /2017 @ 718 Gallons Purged: <0.50
 Purge water disposed to: 55-gal Drum Storage Tank Ground Other _____

| Time | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Internal Purge Volume (gal) | Comments/Observations |
|--|--------------|---------------|-------------|---------------|-----------|-----------------|----------|----------------------------------|-----------------------|
| Purge Goals: Stabilization of Parameters for three consecutive readings within the following limits | | | | | | | | >= 1 flow through cell | |
| | +/- 3% | +/- 3% | +/- 10% | +/- 0.1 units | +/- 10 mV | +/- 10% | < 0.3 ft | | |
| 703 | 13.9 | 259.7 | 4.67 | 5.44 | 106.7 | | 11.99 | <0.25 | |
| 706 | 13.9 | 255 | 4.15 | 5.46 | 106.3 | | | <0.25 | |
| 709 | 13.8 | 252.1 | 3.73 | 5.53 | 103.7 | | | <0.25 | |
| 712 | 13.8 | 251.2 | 3.56 | 5.58 | 102.1 | | 11.99 | 0.25 | |
| 715 | 13.8 | 250.2 | 3.46 | 5.62 | 100.3 | | | <0.50 | |

SAMPLE COLLECTION DATA

Sample Collected With: Bailer Pump/Pump Type PERISTALTIC
 Made of: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 (By Numerical Order) Other _____
 Sample Description (color, turbidity, odor, sheen, etc.): CLEAR WITH SAND/SILT IN SAMPLE, COLORLESS, NO/NS

| Replicate | Temp (°F/°C) | Cond. (uS/cm) | D.O. (mg/L) | pH | ORP (mV) | Turbidity (NTU) | DTW (ft) | Ferrous iron (Fe II) | Comments/Observations |
|-----------|--------------|---------------|-------------|------|----------|-----------------|----------|----------------------|-----------------------|
| 1 | 13.8 | 250.1 | 3.43 | 5.63 | 100 | | | | |
| 2 | 13.8 | 250 | 3.42 | 5.63 | 99.8 | | | | |
| 3 | 13.8 | 249.9 | 3.4 | 5.64 | 99.7 | | | | |
| 4 | 13.8 | 249.9 | 3.39 | 5.65 | 99.5 | | | | |
| Average: | 13.8 | 250 | 3.41 | 5.64 | 99.8 | #DIV/0! | | 0.0 mg/L | |

| QUANTITY | TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|----------|--|
| | (8260) (8010) (8020) (NWTPH-G) (NWTPH-Gx) (BTEX) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| | (8270) (PAH) (NWTPH-D) (NWTPH-Dx) (TPH-HCID) (8081) (8141) (Oil & Grease) WA <input type="checkbox"/> OR <input type="checkbox"/> |
| 2 | (pH) (Conductivity) (TDS) (TSS) (BOD) (Turbidity) (Alkalinity) (HCO3/CO3) (Cl) (SO4) (NO3) (NO2) (F) |
| | (COD) (TOC) (Total PO4) (Total Kiedahl Nitrogen) (NH3) (NO3/NO2) |
| | (Total Cyanide) (WAD Cyanide) (Free Cyanide) |
| | (Total Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) |
| | (Dissolved Metals) (As) (Sb) (Ba) (Be) (Ca) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mg) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hg) (K) (Na) (Hardness) (Silica) |
| | VOC (Boeing short list) |
| | Methane Ethane Ethene Acetylene |
| | Ferrous Iron test |
| | others |

Duplicate Sample No(s): MSMSD location
 Comments: WATER LEVEL AT 12.05' AFTER SAMPLING. TUBING 1.5-2' FROM WELL BOTTOM.
 Signature: JHA Date: 5/3/2017

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Report Date: February 15, 2017

Project: Boeing_DC:AOC-5

Submittal Date: 02/08/2017

Group Number: 1763292

State of Sample Origin: WA

Client Sample Description

| | Lancaster Labs (LL) # |
|----------------------|--------------------------|
| BDC-104-170217 Water | 8825273 |
| BDC-104-170217 Water | 8825274 |
| BDC-103-170217 Water | 8825275 |
| BDC-103-170217 Water | 8825276 |
| BDC-102-170217 Water | 8825277 |
| BDC-102-170217 Water | 8825278 |
| BDC-101-170217 Water | 8825279 |
| BDC-101-170217 Water | 8825280 |
| Trip Blank Water | 8825281 |

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To The Boeing Company
Electronic Copy To Landau

Attn: Lindsey E. Mahrt
Attn: Chris Kimmel

Respectfully Submitted,



Kay Hower

(717) 556-7364

Project Name: Boeing_DC:AOC-5
LL Group #: 1763292

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****Sample #s: 8825275**

Sample was originally analyzed within the 48 hour holding time, however the result exceeded the calibration range. Sample was reanalyzed at a greater dilution past hold on 02/10/2017. Trial one was analyzed at a dilution factor of one which had an estimated result of 271 mg/l, however no defined peak could be seen. Trial two was analyzed at a dilution factor of ten which had an estimated result of 244 mg/l also no defined peak. Both trial one and two were analyzed within hold. Reporting past hold trial per client request.

Batch #: 17044987131B (Sample number(s): 8825280 UNSPK: P826550 BKG: P826550)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Sulfate

Sample Description: BDC-104-170217 Water
Boeing_DC: AOC-5

LL Sample # WW 8825273
LL Group # 1763292
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 02/07/2017 08:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/15/2017 15:28

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|----------------------|-----------------------|----------------------------|-------------|-----------------------|-----------------|
| GC Volatiles | | ECY 97-602 NWTPH-Gx | ug/l | ug/l | |
| 08274 | NWTPH-Gx water C7-C12 | n.a. | 250 U | 250 | 1 |
| GC Volatiles | | SW-846 8021B | ug/l | ug/l | |
| 02102 | Benzene | 71-43-2 | 1.0 U | 1.0 | 1 |
| 02102 | Ethylbenzene | 100-41-4 | 1.0 U | 1.0 | 1 |
| 02102 | Toluene | 108-88-3 | 1.0 U | 1.0 | 1 |
| 02102 | m,p-Xylene | 179601-23-1 | 1.0 U | 1.0 | 1 |
| 02102 | o-Xylene | 95-47-6 | 1.0 U | 1.0 | 1 |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 0.58 | 0.10 | 1 |
| 01506 | Nitrite Nitrogen | 14797-65-0 | 0.10 U | 0.10 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|------------------------|--------|--------------|------------------------|------------------|-----------------|
| 08274 | NWTPH-Gx water C7-C12 | ECY 97-602 NWTPH-Gx | 1 | 17043A94A | 02/13/2017 16:33 | Brett W Kenyon | 1 |
| 02102 | 8021B BTEX Water | SW-846 8021B | 1 | 17043A94A | 02/13/2017 16:33 | Brett W Kenyon | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 17043A94A | 02/13/2017 16:33 | Brett W Kenyon | 1 |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 1 | 17039987131A | 02/08/2017 20:39 | Clinton M Wilson | 1 |
| 01506 | Nitrite Nitrogen | EPA 300.0 | 1 | 17039987131A | 02/08/2017 20:39 | Clinton M Wilson | 1 |

Sample Description: BDC-104-170217 Water
Boeing_DC: AOC-5

LL Sample # WW 8825274
LL Group # 1763292
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 02/07/2017 08:21 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/15/2017 15:28

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|-------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 5.2 | mg/l 0.30 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|------------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17044987131A | 02/13/2017 23:02 | Clinton M Wilson | 1 |

Sample Description: BDC-103-170217 Water
Boeing_DC: AOC-5

LL Sample # WW 8825275
LL Group # 1763292
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 02/07/2017 08:56 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/15/2017 15:28

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|----------------------|---|-------------|-------------|-----------------------|-----------------|
| GC Volatiles | | | | | |
| | ECY 97-602 NWTPH-Gx | | ug/l | ug/l | |
| 08274 | NWTPH-Gx water C7-C12 | n.a. | 250 U | 250 | 1 |
| GC Volatiles | | | | | |
| | SW-846 8021B | | ug/l | ug/l | |
| 02102 | Benzene | 71-43-2 | 1.0 U | 1.0 | 1 |
| 02102 | Ethylbenzene | 100-41-4 | 1.0 U | 1.0 | 1 |
| 02102 | Toluene | 108-88-3 | 1.0 U | 1.0 | 1 |
| 02102 | m,p-Xylene | 179601-23-1 | 1.0 U | 1.0 | 1 |
| 02102 | o-Xylene | 95-47-6 | 2.1 | 1.0 | 1 |
| Wet Chemistry | | | | | |
| | EPA 300.0 | | mg/l | mg/l | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 194 | 10.0 | 100 |
| | Sample was originally analyzed within the 48 hour holding time, however the result exceeded the calibration range. Sample was reanalyzed at a greater dilution past hold on 02/10/2017. Trial one was analyzed at a dilution factor of one which had an estimated result of 271 mg/l, however no defined peak could be seen. Trial two was analyzed at a dilution factor of ten which had an estimated result of 244 mg/l also no defined peak. Both trial one and two were analyzed within hold. Reporting past hold trial per client request. | | | | |
| 01506 | Nitrite Nitrogen | 14797-65-0 | 0.15 | 0.10 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 08274 | NWTPH-Gx water C7-C12 | ECY 97-602 NWTPH-Gx | 1 | 17043A94A | 02/13/2017 16:58 | Brett W Kenyon | 1 |
| 02102 | 8021B BTEX Water | SW-846 8021B | 1 | 17043A94A | 02/13/2017 16:58 | Brett W Kenyon | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 17043A94A | 02/13/2017 16:58 | Brett W Kenyon | 1 |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 1 | 17039987131A | 02/10/2017 20:25 | Alexandria M Lanager | 100 |
| 01506 | Nitrite Nitrogen | EPA 300.0 | 1 | 17039987131A | 02/08/2017 21:08 | Clinton M Wilson | 1 |

Sample Description: BDC-103-170217 Water
Boeing_DC: AOC-5

LL Sample # WW 8825276
LL Group # 1763292
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 02/07/2017 08:56 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/15/2017 15:28

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|--------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 47.4 | mg/l 3.0 | 10 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|------------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17044987131A | 02/13/2017 23:45 | Clinton M Wilson | 10 |

Sample Description: BDC-102-170217 Water
Boeing_DC: AOC-5

LL Sample # WW 8825277
LL Group # 1763292
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 02/07/2017 09:26 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/15/2017 15:28

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|----------------------|-----------------------|-----------------|-------------|-----------------------|-----------------|
| GC Volatiles | | | | | |
| | ECY 97-602 | NWTPH-Gx | ug/l | ug/l | |
| 08274 | NWTPH-Gx water C7-C12 | n.a. | 250 U | 250 | 1 |
| GC Volatiles | | | | | |
| | SW-846 | 8021B | ug/l | ug/l | |
| 02102 | Benzene | 71-43-2 | 1.0 U | 1.0 | 1 |
| 02102 | Ethylbenzene | 100-41-4 | 1.0 U | 1.0 | 1 |
| 02102 | Toluene | 108-88-3 | 1.0 U | 1.0 | 1 |
| 02102 | m,p-Xylene | 179601-23-1 | 1.0 U | 1.0 | 1 |
| 02102 | o-Xylene | 95-47-6 | 1.0 U | 1.0 | 1 |
| Wet Chemistry | | | | | |
| | EPA 300.0 | | mg/l | mg/l | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 4.9 | 1.0 | 10 |
| 01506 | Nitrite Nitrogen | 14797-65-0 | 0.10 U | 0.10 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|--------------|--------|--------------|------------------------|------------------|-----------------|
| 08274 | NWTPH-Gx water C7-C12 | ECY 97-602 | 1 | 17043A94A | 02/13/2017 17:24 | Brett W Kenyon | 1 |
| | | NWTPH-Gx | | | | | |
| 02102 | 8021B BTEX Water | SW-846 8021B | 1 | 17043A94A | 02/13/2017 17:24 | Brett W Kenyon | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 17043A94A | 02/13/2017 17:24 | Brett W Kenyon | 1 |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 1 | 17039987131A | 02/08/2017 21:51 | Clinton M Wilson | 10 |
| 01506 | Nitrite Nitrogen | EPA 300.0 | 1 | 17039987131A | 02/08/2017 21:37 | Clinton M Wilson | 1 |

Sample Description: BDC-102-170217 Water
Boeing_DC: AOC-5

LL Sample # WW 8825278
LL Group # 1763292
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 02/07/2017 09:26 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/15/2017 15:28

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|--------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 23.8 | mg/l 3.0 | 10 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|------------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17044987131A | 02/14/2017 00:13 | Clinton M Wilson | 10 |

Sample Description: BDC-101-170217 Water
Boeing_DC: AOC-5

LL Sample # WW 8825279
LL Group # 1763292
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 02/07/2017 09:56 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/15/2017 15:28

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|----------------------|-----------------------|----------------------------|-------------|-----------------------|-----------------|
| GC Volatiles | | ECY 97-602 NWTPH-Gx | ug/l | ug/l | |
| 08274 | NWTPH-Gx water C7-C12 | n.a. | 250 U | 250 | 1 |
| GC Volatiles | | SW-846 8021B | ug/l | ug/l | |
| 02102 | Benzene | 71-43-2 | 1.0 U | 1.0 | 1 |
| 02102 | Ethylbenzene | 100-41-4 | 1.0 U | 1.0 | 1 |
| 02102 | Toluene | 108-88-3 | 1.0 U | 1.0 | 1 |
| 02102 | m,p-Xylene | 179601-23-1 | 1.0 U | 1.0 | 1 |
| 02102 | o-Xylene | 95-47-6 | 1.0 U | 1.0 | 1 |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 17.1 | 1.0 | 10 |
| 01506 | Nitrite Nitrogen | 14797-65-0 | 0.10 U | 0.10 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|------------------------|--------|--------------|------------------------|------------------|-----------------|
| 08274 | NWTPH-Gx water C7-C12 | ECY 97-602 NWTPH-Gx | 1 | 17043A94A | 02/13/2017 17:49 | Brett W Kenyon | 1 |
| 02102 | 8021B BTEX Water | SW-846 8021B | 1 | 17043A94A | 02/13/2017 17:49 | Brett W Kenyon | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 17043A94A | 02/13/2017 17:49 | Brett W Kenyon | 1 |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 1 | 17039987131A | 02/08/2017 22:20 | Clinton M Wilson | 10 |
| 01506 | Nitrite Nitrogen | EPA 300.0 | 1 | 17039987131A | 02/08/2017 22:05 | Clinton M Wilson | 1 |

Sample Description: BDC-101-170217 Water
Boeing_DC: AOC-5

LL Sample # WW 8825280
LL Group # 1763292
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 02/07/2017 09:56 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/15/2017 15:28

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|--------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 54.3 | mg/l 3.0 | 10 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|------------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17044987131B | 02/14/2017 06:26 | Clinton M Wilson | 10 |

Sample Description: Trip Blank Water
Boeing_DC: AOC-5

LL Sample # WW 8825281
LL Group # 1763292
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 02/07/2017

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 02/08/2017 09:50

Reported: 02/15/2017 15:28

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------------------|-----------------------|---------------------|-----------------|-----------------------|-----------------|
| GC Volatiles | | ECY 97-602 | NWTPH-Gx | ug/l | |
| 08274 | NWTPH-Gx water C7-C12 | n.a. | 250 U | 250 | 1 |
| GC Volatiles | | SW-846 8021B | ug/l | ug/l | |
| 02102 | Benzene | 71-43-2 | 1.0 U | 1.0 | 1 |
| 02102 | Ethylbenzene | 100-41-4 | 1.0 U | 1.0 | 1 |
| 02102 | Toluene | 108-88-3 | 1.0 U | 1.0 | 1 |
| 02102 | m,p-Xylene | 179601-23-1 | 1.0 U | 1.0 | 1 |
| 02102 | o-Xylene | 95-47-6 | 1.0 U | 1.0 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|------------------------|--------|-----------|------------------------|----------------|-----------------|
| 08274 | NWTPH-Gx water C7-C12 | ECY 97-602 NWTPH-Gx | 1 | 17043A94A | 02/13/2017 13:05 | Brett W Kenyon | 1 |
| 02102 | 8021B BTEX Water | SW-846 8021B | 1 | 17043A94A | 02/13/2017 13:05 | Brett W Kenyon | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 17043A94A | 02/13/2017 13:05 | Brett W Kenyon | 1 |

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/15/2017 15:28

Group Number: 1763292

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.

Method Blank

| Analysis Name | Result | LOQ |
|----------------------------|---|------|
| | ug/l | ug/l |
| Batch number: 17043A94A | Sample number(s): 8825273, 8825275, 8825277, 8825279, 8825281 | |
| Benzene | 1.0 U | 1.0 |
| Ethylbenzene | 1.0 U | 1.0 |
| NWTPH-Gx water C7-C12 | 250 U | 250 |
| Toluene | 1.0 U | 1.0 |
| m,p-Xylene | 1.0 U | 1.0 |
| o-Xylene | 1.0 U | 1.0 |
| | mg/l | mg/l |
| Batch number: 17039987131A | Sample number(s): 8825273, 8825275, 8825277, 8825279 | |
| Nitrate Nitrogen | 0.10 U | 0.10 |
| Nitrite Nitrogen | 0.10 U | 0.10 |

| Analysis Name | Result | MDL |
|----------------------------|---|------|
| | mg/l | mg/l |
| Batch number: 17044987131A | Sample number(s): 8825274, 8825276, 8825278 | |
| Sulfate | 0.30 U | 0.30 |
| Batch number: 17044987131B | Sample number(s): 8825280 | |
| Sulfate | 0.30 U | 0.30 |

LCS/LCSD

| Analysis Name | LCS Spike Added | LCS Conc | LCSD Spike Added | LCSD Conc | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|----------------------------|---|----------|------------------|-----------|----------|-----------|-----------------|-----|---------|
| | ug/l | ug/l | ug/l | ug/l | | | | | |
| Batch number: 17043A94A | Sample number(s): 8825273, 8825275, 8825277, 8825279, 8825281 | | | | | | | | |
| Benzene | 20 | 20.18 | | | 101 | | 80-120 | | |
| Ethylbenzene | 20.1 | 19.87 | | | 99 | | 80-120 | | |
| NWTPH-Gx water C7-C12 | 1100 | 1201.99 | | | 109 | | 79-120 | | |
| Toluene | 20.2 | 20.27 | | | 100 | | 80-120 | | |
| m,p-Xylene | 40.2 | 41.6 | | | 103 | | 80-120 | | |
| o-Xylene | 20 | 20 | | | 100 | | 80-120 | | |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17039987131A | Sample number(s): 8825273, 8825275, 8825277, 8825279 | | | | | | | | |
| Nitrate Nitrogen | 0.750 | 0.772 | | | 103 | | 90-110 | | |
| Nitrite Nitrogen | 0.750 | 0.745 | | | 99 | | 90-110 | | |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/15/2017 15:28

Group Number: 1763292

LCS/LCSD (continued)

| Analysis Name | LCS Spike Added mg/l | LCS Conc mg/l | LCSD Spike Added mg/l | LCSD Conc mg/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|------------------------------------|-------------------------|------------------|---|-------------------|----------|-----------|-----------------|-----|---------|
| Batch number: 17044987131A Sulfate | 7.50 | 7.16 | Sample number(s): 8825274, 8825276, 8825278 | | 95 | | 90-110 | | |
| Batch number: 17044987131B Sulfate | 7.50 | 7.16 | Sample number(s): 8825280 | | 95 | | 90-110 | | |

MS/MSD

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

| Analysis Name | Unspiked Conc ug/l | MS Spike Added ug/l | MS Conc ug/l | MSD Spike Added ug/l | MSD Conc ug/l | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|---|-----------------------|------------------------|-----------------|--|------------------|---------|----------|---------------|-----|---------|
| Batch number: 17043A94A Benzene | 1.0 U | 20 | 21.46 | 20 | 21.94 | 107 | 110 | 80-120 | 2 | 30 |
| Ethylbenzene | 0.286 | 20.1 | 21.44 | 20.1 | 21.9 | 105 | 108 | 80-120 | 2 | 30 |
| NWTPH-Gx water C7-C12 | 587.37 | 1100 | 1846.82 | 1100 | 1847.24 | 114 | 115 | 79-120 | 0 | 30 |
| Toluene | 1.0 U | 20.2 | 21.45 | 20.2 | 21.85 | 106 | 108 | 80-120 | 2 | 30 |
| m,p-Xylene | 1.0 U | 40.2 | 44.83 | 40.2 | 45.23 | 112 | 113 | 80-120 | 1 | 30 |
| o-Xylene | 0.492 | 20 | 21.32 | 20 | 21.59 | 104 | 106 | 80-120 | 1 | 30 |
| Batch number: 17039987131A Nitrate Nitrogen | 9.87 | 5.00 | 14.65 | Sample number(s): 8825273, 8825275, 8825277, 8825279, 8825281 UNSPK: P828445 | | 96 | | 90-110 | | |
| Nitrite Nitrogen | 0.50 U | 5.00 | 4.78 | Sample number(s): 8825273, 8825275, 8825277, 8825279 UNSPK: P824406 | | 96 | | 90-110 | | |
| Batch number: 17044987131A Sulfate | 5.27 | 25 | 29.06 | Sample number(s): 8825274, 8825276, 8825278 UNSPK: P820876 | | 95 | | 90-110 | | |
| Batch number: 17044987131B Sulfate | 502.97 | 250 | 803.43 | Sample number(s): 8825280 UNSPK: P826550 | | 120* | | 90-110 | | |

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | BKG Conc | DUP Conc | DUP RPD | DUP RPD Max |
|---------------|----------|----------|---------|-------------|
|---------------|----------|----------|---------|-------------|

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/15/2017 15:28

Group Number: 1763292

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | BKG Conc mg/l | DUP Conc mg/l | DUP RPD | DUP RPD Max |
|----------------------------|--|------------------|---------|-------------|
| Batch number: 17039987131A | Sample number(s): 8825273,8825275,8825277,8825279 BKG: P824406 | | | |
| Nitrate Nitrogen | 9.87 | 9.80 | 1 | 15 |
| Nitrite Nitrogen | 0.50 U | 0.50 U | 0 (1) | 15 |
| | mg/l | mg/l | | |
| Batch number: 17044987131A | Sample number(s): 8825274,8825276,8825278 BKG: P820876 | | | |
| Sulfate | 5.27 | 5.45 | 3 (1) | 15 |
| Batch number: 17044987131B | Sample number(s): 8825280 BKG: P826550 | | | |
| Sulfate | 502.97 | 514.59 | 2 | 15 |

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: 8021B BTEX Water
Batch number: 17043A94A

| | Trifluorotoluene-P | Trifluorotoluene-F |
|---------|--------------------|--------------------|
| 8825273 | 89 | 92 |
| 8825275 | 87 | 85 |
| 8825277 | 87 | 80 |
| 8825279 | 87 | 80 |
| 8825281 | 87 | 80 |
| Blank | 87 | 81 |
| LCS | 86 | 88 |
| MS | 85 | 86 |
| MSD | 87 | 86 |
| Limits: | 51-120 | 63-135 |

*- Outside of specification

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

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



Lancaster Laboratories

Acct. # 13419 Group # 1763292 Sample # 8825273-81
 For Eurofins Lancaster Laboratories use only. Instructions on reverse side correspond.

| 1 Client Information | | 2 Sample Identification | | | | 3 Collected | | | | 4 Analyses Requested | | | | 5 Remarks/Comments | |
|--|-----------------------------|-------------------------|--------|-------------------|--------|-------------|-------------------------------------|------------------|---------------|----------------------|-----------------|-------------------------|-----------|--------------------|-----------|
| Site Location: | Tukwila, WA | Sample ID | Matrix | No. of Containers | Date | Time | Boeing EHS | Other (specify): | # of Coolers: | TRP-G (AMTPH-G) | Sulfate (300.0) | Nitrate/Nitrite (300.0) | Date/Time | Received by: | Date/Time |
| Site Project: | Boeing Developmental Center | | | | | | | | | | | | | | |
| Site Program#: | ACC-S/0025217-019-039 | BDC-104-170207 | AG | 7 | 2/7/17 | 821 | <input checked="" type="checkbox"/> | | 1 | X | X | X | | | |
| Boeing PM: | Lindsey Mahrt | BDC-103-170207 | AG | 7 | 2/7/17 | 856 | <input type="checkbox"/> | | | X | X | X | | | |
| Consultant Contact: | Chris Kimmel | BDC-102-170207 | AG | 7 | 2/7/17 | 926 | <input type="checkbox"/> | | | X | X | X | | | |
| Report To: | C. Kimmel, L. Mahrt | BDC-101-170207 | AG | 7 | 2/7/17 | 950 | <input type="checkbox"/> | | | X | X | X | | | |
| Invoice To: | | TRPD BLANKS | | 4 | | | <input type="checkbox"/> | | | X | X | X | | | |
| Sampler: | Sevani Huerta | | | | | | <input type="checkbox"/> | | | | | | | | |
| 6 Turnaround Time Requested (please circle) | | | | | | | | | | | | | | | |
| Standard | 72 hour | 5 day | 4 day | | | | | | | | | | | | |
| | 48 hour | 24 hour | | | | | | | | | | | | | |
| Date needed: _____ | | | | | | | | | | | | | | | |
| Relinquished by: <u>[Signature]</u> Date/Time: <u>2/7/17 1600</u> | | | | | | | | | | | | | | | |
| Relinquished by: _____ Date/Time: _____ | | | | | | | | | | | | | | | |
| Relinquished by: _____ Date/Time: _____ | | | | | | | | | | | | | | | |
| Relinquished by commercial carrier (circle): UPS <input checked="" type="radio"/> FedEx <input type="radio"/> Other: _____ Temperature upon Receipt: <u>1.4</u> °C Custody Seals Intact?: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | | | |

Client: Boeing

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Timestamp: 02/08/2017 9:50
 Number of Packages: 1 Number of Projects: 2

Arrival Condition Summary

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

Unpacked by Timothy Cubberley (6520) at 11:13 on 02/08/2017

Samples Chilled Details

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

| Cooler # | Thermometer ID | Corrected Temp | Therm. Type | Ice Type | Ice Present? | Ice Container | Elevated Temp? |
|----------|----------------|----------------|-------------|----------|--------------|---------------|----------------|
| 1 | DT131 | 1.9 | DT | Wet | Y | Bagged | N |

Explanation of Symbols and Abbreviations

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

| | | | |
|-------------------------|--|-----------------|-------------------------------|
| BMQL | Below Minimum Quantitation Level | mg | milligram(s) |
| C | degrees Celsius | mL | milliliter(s) |
| cfu | colony forming units | MPN | Most Probable Number |
| CP Units | cobalt-chloroplatinate units | N.D. | none detected |
| F | degrees Fahrenheit | ng | nanogram(s) |
| g | gram(s) | NTU | nephelometric turbidity units |
| IU | International Units | pg/L | picogram/liter |
| kg | kilogram(s) | RL | Reporting Limit |
| L | liter(s) | TNTC | Too Numerous To Count |
| lb. | pound(s) | µg | microgram(s) |
| m3 | cubic meter(s) | µL | microliter(s) |
| meq | milliequivalents | umhos/cm | micromhos/cm |
| < | less than | | |
| > | greater than | | |
| ppm | parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas. | | |
| ppb | parts per billion | | |
| Dry weight basis | Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis. | | |

Laboratory Data Qualifiers:

- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

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

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

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

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

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

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Report Date: May 24, 2017

Project: Boeing_DC:AOC-5

Submittal Date: 05/04/2017

Group Number: 1797118

State of Sample Origin: WA

Client Sample Description

| | Lancaster Labs (LL) # |
|-----------------------|--------------------------|
| MW-21A-170503 Water | 8974842 |
| BDC-DUP2-170503 Water | 8974843 |
| BDC-DUP2-170503 Water | 8974844 |
| MW-18A-170503 Water | 8974845 |
| MW-17A-170503 Water | 8974846 |
| BDC-103-170503 Water | 8974847 |
| BDC-103-170503 Water | 8974848 |
| BDC-104-170503 Water | 8974849 |
| BDC-104-170503 Water | 8974850 |
| BDC-102-170503 Water | 8974851 |
| BDC-102-170503 Water | 8974852 |
| BDC-101-170503 Water | 8974853 |
| BDC-101-170503 Water | 8974854 |
| TRIP BLANK Water | 8974855 |

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

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To The Boeing Company
Electronic Copy To Landau

Attn: Lindsey E. Mahrt
Attn: Chris Kimmel

REVISED

Respectfully Submitted,



Kay Hower

(717) 556-7364

Project Name: Boeing_DC:AOC-5
LL Group #: 1797118

General Comments:

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

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

Project specific QC samples are included in this data set

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

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

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

Analysis Specific Comments:

SW-846 8260C, GC/MS Volatiles

Sample #s: 8974846

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) |
|---------------|-------------------|
| acrolein | -30 |
| vinyl acetate | -32 |

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.

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

| Analyte | Response (%Drift) |
|----------------|-------------------|
| vinyl chloride | 27 |
| 2-hexanone | -24 |

Since the analyst observed that the sample foamed while purging, an anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor.

Sample #s: 8974855

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

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

| Analyte | Response (%Drift) |
|----------------|-------------------|
| vinyl chloride | 27 |
| acrolein | -30 |
| vinyl acetate | -32 |
| 2-hexanone | -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 #: H171301AA (Sample number(s): 8974846, 8974855 UNSPK: P974856)

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: Naphthalene

EPA 300.0, Wet Chemistry

Sample #s: 8974849, 8974851

Sample was originally analyzed within the 48 hour holding time; however the a bracketing continuing calibration verification (CCV) was outside of the 90-110% acceptance range with a recovery of 114%.

Sample #s: 8974847

Sample was originally analyzed within the 48 hour holding time; however the result exceeded the calibration range and also had a continuing calibration verification (CCV) outside of the 90-110% acceptance range with a recovery of 114%.

Sample #s: 8974843

Sample was originally analyzed within the 48 hour holding time; however the result exceeded the calibration range.

Sample #s: 8974853

Sample was originally analyzed within the 48 hour holding time; however a continuing calibration verification (CCV) was outside of the 90-110% acceptance range with a recovery of 114%.

Batch #: 17124249113B (Sample number(s): 8974842, 8974846-8974847, 8974849, 8974851, 8974853 UNSPK: 8974842 BKG: 8974842)

The recovery(ies) for the following analyte(s) in the MS were below the acceptance window: Nitrate Nitrogen

May 24, 2017

Ms. Lindsey E. Mahrt
The Boeing Company
MC 1W-12
PO Box 3707
Seattle, WA 98124

Dear Ms. Mahrt:

I am writing to inform you of revised analytical reports that are being issued for the following:

Project: Boeing_DC:AOC-5
Group No.: 1797118

| ELLE Sample No. | Client Sample Identification | Collection Date |
|-----------------|------------------------------|-----------------|
| 8974843 | BDC-DUP2-170503 Water | 05/03/2017 |
| 8974847 | BDC-103-170503 Water | 05/03/2017 |
| 8974849 | BDC-104-170503 Water | 05/03/2017 |
| 8974851 | BDC-102-170503 Water | 05/03/2017 |
| 8974853 | BDC-101-170503 Water | 05/03/2017 |

The correction to the data affects the Nitrate Nitrogen analysis only.

In response to your inquiry an E flag was added to the reported trials that were over the calibration range for the following ELLE Sample Nos. 8974843 and 8974847. At your request both trials have been reported for ELLE Sample Nos.: 8974843, 8974847, 8974849, 8974851 and 8974853.

The revised analytical report reflects this correction and is enclosed.

You are a valued client and we apologize for any inconvenience that this incident may have caused. If you have any questions or require further assistance, please call me at 717-656-2300, Ext. 1575. We appreciate your business and look forward to continuing to serve your laboratory needs.

Sincerely,



Sandra J. Miller
Chemist
Instrumental Water Quality

SJM/mc
Enclosures

cc: Kay G. Hower

REVISED

Sample Description: MW-21A-170503 Water
Boeing_DC: AOC-5

LL Sample # WW 8974842
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017 07:26 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/24/2017 12:33

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------|--------------------------------|-------------------------|--------------|-----------------------|-----------------|
| 00368 | Wet Chemistry Nitrate Nitrogen | EPA 300.0 14797-55-8 | mg/l 0.19 | mg/l 0.10 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|------------------|-----------|--------|--------------|------------------------|----------------|-----------------|
| 00368 | Nitrate Nitrogen | EPA 300.0 | 1 | 17124249113B | 05/05/2017 04:46 | Zachary W Enck | 1 |

Sample Description: BDC-DUP2-170503 Water
Boeing_DC: AOC-5

LL Sample # WW 8974843
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017 08:00 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/24/2017 12:33

DCFD2

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--|-----------------------|----------------------------|-------------|-----------------------|-----------------|
| GC Volatiles | | ECY 97-602 NWTPH-Gx | ug/l | ug/l | |
| 08274 | NWTPH-Gx water C7-C12 | n.a. | 250 U | 250 | 1 |
| GC Volatiles | | SW-846 8021B | ug/l | ug/l | |
| 02102 | Benzene | 71-43-2 | 1.0 U | 1.0 | 1 |
| 02102 | Ethylbenzene | 100-41-4 | 1.0 U | 1.0 | 1 |
| 02102 | Toluene | 108-88-3 | 1.0 U | 1.0 | 1 |
| 02102 | m,p-Xylene | 179601-23-1 | 1.0 U | 1.0 | 1 |
| 02102 | o-Xylene | 95-47-6 | 1.0 U | 1.0 | 1 |
| Wet Chemistry | | EPA 300.0 | mg/l | mg/l | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 201 | 20.0 | 200 |
| Sample was originally analyzed within the 48 hour holding time; however the result exceeded the calibration range. | | | | | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 312 E | 1.0 | 10 |
| Sample was originally analyzed within the 48 hour holding time; however the result exceeded the calibration range. | | | | | |
| 01506 | Nitrite Nitrogen | 14797-65-0 | 0.39 | 0.10 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|---------------------|--------|--------------|------------------------|----------------------|-----------------|
| 08274 | NWTPH-Gx water C7-C12 | ECY 97-602 NWTPH-Gx | 1 | 17131A94A | 05/11/2017 19:12 | Marie D Beamenderfer | 1 |
| 02102 | 8021B BTEX Water | SW-846 8021B | 1 | 17131A94A | 05/11/2017 19:12 | Marie D Beamenderfer | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 17131A94A | 05/11/2017 19:12 | Marie D Beamenderfer | 1 |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 1 | 17124249113A | 05/05/2017 03:56 | Zachary W Enck | 10 |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 2 | 17124249113A | 05/05/2017 03:56 | Clinton M Wilson | 200 |
| 01506 | Nitrite Nitrogen | EPA 300.0 | 1 | 17124249113A | 05/05/2017 03:39 | Zachary W Enck | 1 |

Sample Description: BDC-DUP2-170503 Water
Boeing_DC: AOC-5

LL Sample # WW 8974844
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017 08:00 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/24/2017 12:33

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|--------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 49.5 | mg/l 1.5 | 5 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|----------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17132987312B | 05/15/2017 18:16 | Zachary W Enck | 5 |

Sample Description: MW-18A-170503 Water
Boeing_DC: AOC-5

LL Sample # WW 8974845
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017 08:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/24/2017 12:33

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---------|--------------------------------|-------------------------|--------------|-----------------------|-----------------|
| 00368 | Wet Chemistry Nitrate Nitrogen | EPA 300.0 14797-55-8 | mg/l 0.26 | mg/l 0.10 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|------------------|-----------|--------|--------------|------------------------|----------------|-----------------|
| 00368 | Nitrate Nitrogen | EPA 300.0 | 1 | 17124249113A | 05/05/2017 04:13 | Zachary W Enck | 1 |

Sample Description: MW-17A-170503 Water
Boeing_DC: AOC-5

LL Sample # WW 8974846
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017 08:51 by JH

The Boeing Company

Submitted: 05/04/2017 09:30

PO Box 3707

Reported: 05/24/2017 12:33

MC 1W-12

Seattle WA 98124

DC17A

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|-------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 6.6 | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 U | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloroethane | 75-34-3 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dichloroethane | 107-06-2 | 0.2 U | 0.2 | 1 |
| 11996 | 1,1-Dichloroethene | 75-35-4 | 0.2 U | 0.2 | 1 |
| 11996 | cis-1,2-Dichloroethene | 156-59-2 | 0.8 | 0.2 | 1 |
| 11996 | trans-1,2-Dichloroethene | 156-60-5 | 0.2 U | 0.2 | 1 |
| 11996 | 1,2-Dichloropropane | 78-87-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 8.5 | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 0.5 U | 0.5 | 1 |

Sample Description: MW-17A-170503 Water
Boeing_DC: AOC-5

LL Sample # WW 8974846
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017 08:51 by JH

The Boeing Company

PO Box 3707

Submitted: 05/04/2017 09:30

MC 1W-12

Reported: 05/24/2017 12:33

Seattle WA 98124

DC17A

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|--------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.2 U | 0.2 | 1 |
| 11996 | Tetrachloroethene | 127-18-4 | 0.2 U | 0.2 | 1 |
| 11996 | Toluene | 108-88-3 | 2.0 | 0.2 | 1 |
| 11996 | 112Trichloro122Trifluoroethane | 76-13-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 0.5 U | 0.5 | 1 |
| 11996 | Vinyl Acetate | 108-05-4 | 0.5 U | 0.5 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 2.2 | 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 |

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) |
|---------------|-------------------|
| acrolein | -30 |
| vinyl acetate | -32 |

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.

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

| Analyte | Response (%Drift) |
|----------------|-------------------|
| vinyl chloride | 27 |
| 2-hexanone | -24 |

Since the analyst observed that the sample foamed while purging, an

Sample Description: MW-17A-170503 Water
Boeing_DC: AOC-5

LL Sample # WW 8974846
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017 08:51 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/24/2017 12:33

DC17A

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|----------------------|---|------------|--------|-----------------------|-----------------|
| | anti-foaming agent was added to the sample so that it could be analyzed at a lower dilution factor. | | | | |
| Wet Chemistry | EPA 300.0 | | mg/l | mg/l | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 0.10 U | 0.10 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|----------------------|--------------|--------|--------------|------------------------|-----------------|-----------------|
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171301AA | 05/10/2017 17:10 | Kevin A Sposito | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030C | 1 | H171301AA | 05/10/2017 17:10 | Kevin A Sposito | 1 |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 1 | 17124249113B | 05/05/2017 07:01 | Zachary W Enck | 1 |

Sample Description: BDC-103-170503 Water
Boeing_DC: AOC-5

LL Sample # WW 8974847
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017 09:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/24/2017 12:33

DC103

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|---|-----------------------|-----------------|-------------|-----------------------|-----------------|
| GC Volatiles | | | | | |
| | ECY 97-602 | NWTPH-Gx | ug/l | ug/l | |
| 08274 | NWTPH-Gx water C7-C12 | n.a. | 250 U | 250 | 1 |
| GC Volatiles | | | | | |
| | SW-846 | 8021B | ug/l | ug/l | |
| 02102 | Benzene | 71-43-2 | 1.0 U | 1.0 | 1 |
| 02102 | Ethylbenzene | 100-41-4 | 1.0 U | 1.0 | 1 |
| 02102 | Toluene | 108-88-3 | 1.0 U | 1.0 | 1 |
| 02102 | m,p-Xylene | 179601-23-1 | 1.0 U | 1.0 | 1 |
| 02102 | o-Xylene | 95-47-6 | 1.7 | 1.0 | 1 |
| Wet Chemistry | | | | | |
| | EPA 300.0 | | mg/l | mg/l | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 215 | 20.0 | 200 |
| Sample was originally analyzed within the 48 hour holding time; however the result exceeded the calibration range and also had a continuing calibration verification (CCV) outside of the 90-110% acceptance range with a recovery of 114%. | | | | | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 285 E | 1.0 | 10 |
| Sample was originally analyzed within the 48 hour holding time; however the result exceeded the calibration range and also had a continuing calibration verification (CCV) outside of the 90-110% acceptance range with a recovery of 114%. | | | | | |
| 01506 | Nitrite Nitrogen | 14797-65-0 | 0.40 | 0.10 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|--------------|--------|--------------|------------------------|------------------|-----------------|
| 08274 | NWTPH-Gx water C7-C12 | ECY 97-602 | 1 | 17131A94A | 05/11/2017 20:29 | Marie D | 1 |
| | | NWTPH-Gx | | | | Beamenderfer | |
| 02102 | 8021B BTEX Water | SW-846 8021B | 1 | 17131A94A | 05/11/2017 20:29 | Marie D | 1 |
| | | | | | | Beamenderfer | |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 17131A94A | 05/11/2017 20:29 | Marie D | 1 |
| | | | | | | Beamenderfer | |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 1 | 17124249113B | 05/05/2017 07:52 | Zachary W Enck | 10 |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 2 | 17124249113B | 05/06/2017 14:09 | Clinton M Wilson | 200 |
| 01506 | Nitrite Nitrogen | EPA 300.0 | 1 | 17124249113B | 05/05/2017 07:35 | Zachary W Enck | 1 |

Sample Description: BDC-103-170503 Water
Boeing_DC: AOC-5

LL Sample # WW 8974848
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017 09:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/24/2017 12:33

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|--------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 49.4 | mg/l 3.0 | 10 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|------------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17132987312B | 05/13/2017 18:43 | Clinton M Wilson | 10 |

Sample Description: BDC-104-170503 Water
Boeing_DC: AOC-5

LL Sample # WW 8974849
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017 10:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/24/2017 12:33

DC104

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|----------------------|---|-------------|-------------|-----------------------|-----------------|
| GC Volatiles | | | | | |
| | ECY 97-602 NWTPH-Gx | | ug/l | ug/l | |
| 08274 | NWTPH-Gx water C7-C12 | n.a. | 250 U | 250 | 1 |
| GC Volatiles | | | | | |
| | SW-846 8021B | | ug/l | ug/l | |
| 02102 | Benzene | 71-43-2 | 1.0 U | 1.0 | 1 |
| 02102 | Ethylbenzene | 100-41-4 | 1.0 U | 1.0 | 1 |
| 02102 | Toluene | 108-88-3 | 1.0 U | 1.0 | 1 |
| 02102 | m,p-Xylene | 179601-23-1 | 1.0 U | 1.0 | 1 |
| 02102 | o-Xylene | 95-47-6 | 1.0 U | 1.0 | 1 |
| Wet Chemistry | | | | | |
| | EPA 300.0 | | mg/l | mg/l | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 23.6 | 1.0 | 10 |
| | Sample was originally analyzed within the 48 hour holding time; however the a bracketing continuing calibration verification (CCV) was outside of the 90-110% acceptance range with a recovery of 114%. | | | | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 23.7 | 1.0 | 10 |
| | Sample was originally analyzed within the 48 hour holding time; however the a bracketing continuing calibration verification (CCV) was outside of the 90-110% acceptance range with a recovery of 114%. | | | | |
| 01506 | Nitrite Nitrogen | 14797-65-0 | 0.10 U | 0.10 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|--------------|--------|--------------|------------------------|------------------|-----------------|
| 08274 | NWTPH-Gx water C7-C12 | ECY 97-602 | 1 | 17131A94A | 05/11/2017 17:56 | Marie D | 1 |
| | | NWTPH-Gx | | | | Beamenderfer | |
| 02102 | 8021B BTEX Water | SW-846 8021B | 1 | 17131A94A | 05/11/2017 17:56 | Marie D | 1 |
| | | | | | | Beamenderfer | |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 17131A94A | 05/11/2017 17:56 | Marie D | 1 |
| | | | | | | Beamenderfer | |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 1 | 17124249113B | 05/05/2017 08:25 | Zachary W Enck | 10 |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 2 | 17124249113B | 05/06/2017 14:25 | Clinton M Wilson | 10 |
| 01506 | Nitrite Nitrogen | EPA 300.0 | 1 | 17124249113B | 05/05/2017 08:09 | Zachary W Enck | 1 |

REVISED

Sample Description: BDC-104-170503 Water
Boeing_DC: AOC-5

LL Sample # WW 8974850
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017 10:06 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/24/2017 12:33

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|--------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 84.3 | mg/l 3.0 | 10 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|------------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17132987312B | 05/13/2017 19:16 | Clinton M Wilson | 10 |

Sample Description: BDC-102-170503 Water
Boeing_DC: AOC-5

LL Sample # WW 8974851
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017 10:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30
Reported: 05/24/2017 12:33

DC102

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|----------------------|---|-------------|-------------|-----------------------|-----------------|
| GC Volatiles | | | | | |
| | ECY 97-602 NWTPH-Gx | | ug/l | ug/l | |
| 08274 | NWTPH-Gx water C7-C12 | n.a. | 250 U | 250 | 1 |
| GC Volatiles | | | | | |
| | SW-846 8021B | | ug/l | ug/l | |
| 02102 | Benzene | 71-43-2 | 1.0 U | 1.0 | 1 |
| 02102 | Ethylbenzene | 100-41-4 | 1.0 U | 1.0 | 1 |
| 02102 | Toluene | 108-88-3 | 1.0 U | 1.0 | 1 |
| 02102 | m,p-Xylene | 179601-23-1 | 1.0 U | 1.0 | 1 |
| 02102 | o-Xylene | 95-47-6 | 1.0 U | 1.0 | 1 |
| Wet Chemistry | | | | | |
| | EPA 300.0 | | mg/l | mg/l | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 25.2 | 1.0 | 10 |
| | Sample was originally analyzed within the 48 hour holding time; however the a bracketing continuing calibration verification (CCV) was outside of the 90-110% acceptance range with a recovery of 114%. | | | | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 25.5 | 1.0 | 10 |
| | Sample was originally analyzed within the 48 hour holding time; however the a bracketing continuing calibration verification (CCV) was outside of the 90-110% acceptance range with a recovery of 114%. | | | | |
| 01506 | Nitrite Nitrogen | 14797-65-0 | 0.10 U | 0.10 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|--------------|--------|--------------|------------------------|----------------------|-----------------|
| 08274 | NWTPH-Gx water C7-C12 | ECY 97-602 | 1 | 17131A94A | 05/11/2017 18:21 | Marie D Beamenderfer | 1 |
| 02102 | 8021B BTEX Water | NWTPH-Gx | | | | | |
| | | SW-846 8021B | 1 | 17131A94A | 05/11/2017 18:21 | Marie D Beamenderfer | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 17131A94A | 05/11/2017 18:21 | Marie D Beamenderfer | 1 |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 1 | 17124249113B | 05/05/2017 08:59 | Zachary W Enck | 10 |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 2 | 17124249113B | 05/06/2017 14:42 | Clinton M Wilson | 10 |
| 01506 | Nitrite Nitrogen | EPA 300.0 | 1 | 17124249113B | 05/05/2017 08:42 | Zachary W Enck | 1 |

REVISED

Sample Description: BDC-102-170503 Water
Boeing_DC: AOC-5

LL Sample # WW 8974852
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017 10:36 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/24/2017 12:33

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|--------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 42.9 | mg/l 1.5 | 5 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|------------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17132987312B | 05/13/2017 20:22 | Clinton M Wilson | 5 |

Sample Description: BDC-101-170503 Water
Boeing_DC: AOC-5

LL Sample # WW 8974853
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017 11:11 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/24/2017 12:33

DC101

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|----------------------|--|-------------|-------------|-----------------------|-----------------|
| GC Volatiles | | | | | |
| | ECY 97-602 NWTPH-Gx | | ug/l | ug/l | |
| 08274 | NWTPH-Gx water C7-C12 | n.a. | 250 U | 250 | 1 |
| GC Volatiles | | | | | |
| | SW-846 8021B | | ug/l | ug/l | |
| 02102 | Benzene | 71-43-2 | 1.0 U | 1.0 | 1 |
| 02102 | Ethylbenzene | 100-41-4 | 1.0 U | 1.0 | 1 |
| 02102 | Toluene | 108-88-3 | 1.0 U | 1.0 | 1 |
| 02102 | m,p-Xylene | 179601-23-1 | 1.0 U | 1.0 | 1 |
| 02102 | o-Xylene | 95-47-6 | 1.0 U | 1.0 | 1 |
| Wet Chemistry | | | | | |
| | EPA 300.0 | | mg/l | mg/l | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 24.5 | 1.0 | 10 |
| | Sample was originally analyzed within the 48 hour holding time; however a continuing calibration verification (CCV) was outside of the 90-110% acceptance range with a recovery of 114%. | | | | |
| 00368 | Nitrate Nitrogen | 14797-55-8 | 24.5 | 1.0 | 10 |
| | Sample was originally analyzed within the 48 hour holding time; however a continuing calibration verification (CCV) was outside of the 90-110% acceptance range with a recovery of 114%. | | | | |
| 01506 | Nitrite Nitrogen | 14797-65-0 | 0.10 U | 0.10 | 1 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|-----------------------|--------------|--------|--------------|------------------------|------------------|-----------------|
| 08274 | NWTPH-Gx water C7-C12 | ECY 97-602 | 1 | 17131A94A | 05/11/2017 18:47 | Marie D | 1 |
| | | NWTPH-Gx | | | | Beamenderfer | |
| 02102 | 8021B BTEX Water | SW-846 8021B | 1 | 17131A94A | 05/11/2017 18:47 | Marie D | 1 |
| | | | | | | Beamenderfer | |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 17131A94A | 05/11/2017 18:47 | Marie D | 1 |
| | | | | | | Beamenderfer | |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 1 | 17124249113B | 05/05/2017 11:14 | Zachary W Enck | 10 |
| 00368 | Nitrate Nitrogen | EPA 300.0 | 2 | 17124249113B | 05/06/2017 14:59 | Clinton M Wilson | 10 |
| 01506 | Nitrite Nitrogen | EPA 300.0 | 1 | 17124249113B | 05/05/2017 09:16 | Zachary W Enck | 1 |

Sample Description: BDC-101-170503 Water
Boeing_DC: AOC-5

LL Sample # WW 8974854
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017 11:11 by JH

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/24/2017 12:33

| CAT No. | Analysis Name | CAS Number | Result | Method Detection Limit | Dilution Factor |
|---------|-----------------------|-------------------------|--------------|------------------------|-----------------|
| 00228 | Wet Chemistry Sulfate | EPA 300.0 14808-79-8 | mg/l 65.5 | mg/l 3.0 | 10 |

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---------|---------------|-----------|--------|--------------|------------------------|------------------|-----------------|
| 00228 | Sulfate | EPA 300.0 | 1 | 17132987312B | 05/13/2017 20:39 | Clinton M Wilson | 10 |

Sample Description: TRIP BLANK Water
Boeing_DC: AOC-5

LL Sample # WW 8974855
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30
Reported: 05/24/2017 12:33

BDCTB

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|-----------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Acetone | 67-64-1 | 5.0 U | 5.0 | 1 |
| 11996 | Acrolein | 107-02-8 | 25 U | 25 | 1 |
| 11996 | Acrylonitrile | 107-13-1 | 5.0 U | 5.0 | 1 |
| 11996 | Benzene | 71-43-2 | 0.2 U | 0.2 | 1 |
| 11996 | Bromobenzene | 108-86-1 | 0.5 U | 0.5 | 1 |
| 11996 | Bromochloromethane | 74-97-5 | 0.5 U | 0.5 | 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 | n-Butylbenzene | 104-51-8 | 0.5 U | 0.5 | 1 |
| 11996 | sec-Butylbenzene | 135-98-8 | 0.5 U | 0.5 | 1 |
| 11996 | tert-Butylbenzene | 98-06-6 | 0.5 U | 0.5 | 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 | 2-Chlorotoluene | 95-49-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Chlorotoluene | 106-43-4 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2-Dibromo-3-chloropropane | 96-12-8 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromochloromethane | 124-48-1 | 0.5 U | 0.5 | 1 |
| 11996 | Dibromomethane | 74-95-3 | 0.5 U | 0.5 | 1 |
| 11996 | trans-1,4-Dichloro-2-butene | 110-57-6 | 5.0 U | 5.0 | 1 |
| 11996 | 1,2-Dichlorobenzene | 95-50-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3-Dichlorobenzene | 541-73-1 | 0.5 U | 0.5 | 1 |
| 11996 | 1,4-Dichlorobenzene | 106-46-7 | 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 | 1,3-Dichloropropane | 142-28-9 | 0.5 U | 0.5 | 1 |
| 11996 | 2,2-Dichloropropane | 594-20-7 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1-Dichloropropene | 563-58-6 | 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 | Ethylene dibromide | 106-93-4 | 0.5 U | 0.5 | 1 |
| 11996 | Hexachlorobutadiene | 87-68-3 | 0.5 U | 0.5 | 1 |
| 11996 | 2-Hexanone | 591-78-6 | 5.0 U | 5.0 | 1 |
| 11996 | Isopropylbenzene | 98-82-8 | 0.5 U | 0.5 | 1 |
| 11996 | 4-Isopropyltoluene | 99-87-6 | 0.5 U | 0.5 | 1 |
| 11996 | Methyl Iodide | 74-88-4 | 0.5 U | 0.5 | 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 | Naphthalene | 91-20-3 | 0.5 U | 0.5 | 1 |
| 11996 | n-Propylbenzene | 103-65-1 | 0.5 U | 0.5 | 1 |

Sample Description: TRIP BLANK Water
Boeing_DC: AOC-5

LL Sample # WW 8974855
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/24/2017 12:33

BDCTB

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation | Dilution Factor |
|--------------|--------------------------------|---------------------|-------------|-----------------------|-----------------|
| GC/MS | Volatiles | SW-846 8260C | ug/l | ug/l | |
| 11996 | Styrene | 100-42-5 | 0.5 U | 0.5 | 1 |
| 11996 | 1,1,1,2-Tetrachloroethane | 630-20-6 | 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 | 1,2,3-Trichlorobenzene | 87-61-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,2,4-Trichlorobenzene | 120-82-1 | 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 | 1,2,3-Trichloropropane | 96-18-4 | 1.0 U | 1.0 | 1 |
| 11996 | 1,2,4-Trimethylbenzene | 95-63-6 | 0.5 U | 0.5 | 1 |
| 11996 | 1,3,5-Trimethylbenzene | 108-67-8 | 0.5 U | 0.5 | 1 |
| 11996 | Vinyl Acetate | 108-05-4 | 0.5 U | 0.5 | 1 |
| 11996 | Vinyl Chloride | 75-01-4 | 0.2 U | 0.2 | 1 |
| 11996 | m,p-Xylene | 179601-23-1 | 0.5 U | 0.5 | 1 |
| 11996 | o-Xylene | 95-47-6 | 0.5 U | 0.5 | 1 |

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

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

| Analyte | Response (%Drift) |
|----------------|-------------------|
| vinyl chloride | 27 |
| acrolein | -30 |
| vinyl acetate | -32 |
| 2-hexanone | -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 Volatiles | ECY 97-602 NWTPH-Gx | ug/l | ug/l |
|-----------------------------|---------------------|-------|------|
| 08274 NWTPH-Gx water C7-C12 | n.a. | 250 U | 250 |

| GC Volatiles | SW-846 8021B | ug/l | ug/l |
|--------------------|--------------|-------|------|
| 02102 Benzene | 71-43-2 | 1.0 U | 1.0 |
| 02102 Ethylbenzene | 100-41-4 | 1.0 U | 1.0 |
| 02102 Toluene | 108-88-3 | 1.0 U | 1.0 |
| 02102 m,p-Xylene | 179601-23-1 | 1.0 U | 1.0 |
| 02102 o-Xylene | 95-47-6 | 1.0 U | 1.0 |

Sample Description: TRIP BLANK Water
Boeing_DC: AOC-5

LL Sample # WW 8974855
LL Group # 1797118
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 05/03/2017

The Boeing Company
PO Box 3707
MC 1W-12
Seattle WA 98124

Submitted: 05/04/2017 09:30

Reported: 05/24/2017 12:33

BDCTB

Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis | | Analyst | Dilution Factor |
|---------|-----------------------|------------------------|--------|-----------|------------|-------|-------------------------|-----------------|
| | | | | | Date | Time | | |
| 11996 | 8260C Boeing 69 | SW-846 8260C | 1 | H171301AA | 05/10/2017 | 11:14 | Kevin A Sposito | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030C | 1 | H171301AA | 05/10/2017 | 11:14 | Kevin A Sposito | 1 |
| 08274 | NWTPH-Gx water C7-C12 | ECY 97-602 NWTPH-Gx | 1 | 17131A94A | 05/11/2017 | 17:30 | Marie D Beamenderfer | 1 |
| 02102 | 8021B BTEX Water | SW-846 8021B | 1 | 17131A94A | 05/11/2017 | 17:30 | Marie D Beamenderfer | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 17131A94A | 05/11/2017 | 17:30 | Marie D Beamenderfer | 1 |

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/24/2017 12:33

Group Number: 1797118

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.

Method Blank

| Analysis Name | Result | | LOQ |
|-----------------------------|-----------------------------------|---|------|
| | ug/l | | ug/l |
| Batch number: H171301AA | Sample number(s): 8974846,8974855 | | |
| Acetone | 5.0 | U | 5.0 |
| Acrolein | 25 | U | 25 |
| Acrylonitrile | 5.0 | U | 5.0 |
| Benzene | 0.2 | U | 0.2 |
| Bromobenzene | 0.5 | U | 0.5 |
| Bromochloromethane | 0.5 | U | 0.5 |
| Bromodichloromethane | 0.5 | U | 0.5 |
| Bromoform | 0.5 | U | 0.5 |
| Bromomethane | 0.5 | U | 0.5 |
| 2-Butanone | 5.0 | U | 5.0 |
| n-Butylbenzene | 0.5 | U | 0.5 |
| sec-Butylbenzene | 0.5 | U | 0.5 |
| tert-Butylbenzene | 0.5 | U | 0.5 |
| Carbon Disulfide | 0.5 | U | 0.5 |
| Carbon Tetrachloride | 0.2 | U | 0.2 |
| Chlorobenzene | 0.5 | U | 0.5 |
| Chloroethane | 0.5 | U | 0.5 |
| Chloroform | 0.2 | U | 0.2 |
| Chloromethane | 0.5 | U | 0.5 |
| 2-Chlorotoluene | 0.5 | U | 0.5 |
| 4-Chlorotoluene | 0.5 | U | 0.5 |
| 1,2-Dibromo-3-chloropropane | 0.5 | U | 0.5 |
| Dibromochloromethane | 0.5 | U | 0.5 |
| Dibromomethane | 0.5 | U | 0.5 |
| trans-1,4-Dichloro-2-butene | 5.0 | U | 5.0 |
| 1,2-Dichlorobenzene | 0.5 | U | 0.5 |
| 1,3-Dichlorobenzene | 0.5 | U | 0.5 |
| 1,4-Dichlorobenzene | 0.5 | U | 0.5 |
| 1,1-Dichloroethane | 0.5 | U | 0.5 |
| 1,2-Dichloroethane | 0.2 | U | 0.2 |
| 1,1-Dichloroethene | 0.2 | U | 0.2 |
| cis-1,2-Dichloroethene | 0.2 | U | 0.2 |
| trans-1,2-Dichloroethene | 0.2 | U | 0.2 |
| 1,2-Dichloropropane | 0.5 | U | 0.5 |
| 1,3-Dichloropropane | 0.5 | U | 0.5 |
| 2,2-Dichloropropane | 0.5 | U | 0.5 |
| 1,1-Dichloropropene | 0.5 | U | 0.5 |
| cis-1,3-Dichloropropene | 0.2 | U | 0.2 |
| trans-1,3-Dichloropropene | 0.2 | U | 0.2 |
| Ethylbenzene | 0.5 | U | 0.5 |

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/24/2017 12:33

Group Number: 1797118

Method Blank (continued)

| Analysis Name | Result | LOQ |
|--------------------------------|--|------|
| | ug/l | ug/l |
| Ethylene dibromide | 0.5 U | 0.5 |
| Hexachlorobutadiene | 0.5 U | 0.5 |
| 2-Hexanone | 5.0 U | 5.0 |
| Isopropylbenzene | 0.5 U | 0.5 |
| 4-Isopropyltoluene | 0.5 U | 0.5 |
| Methyl Iodide | 0.5 U | 0.5 |
| 4-Methyl-2-pentanone | 5.0 U | 5.0 |
| Methylene Chloride | 0.5 U | 0.5 |
| Naphthalene | 0.5 U | 0.5 |
| n-Propylbenzene | 0.5 U | 0.5 |
| Styrene | 0.5 U | 0.5 |
| 1,1,1,2-Tetrachloroethane | 0.5 U | 0.5 |
| 1,1,2,2-Tetrachloroethane | 0.2 U | 0.2 |
| Tetrachloroethene | 0.2 U | 0.2 |
| Toluene | 0.2 U | 0.2 |
| 112Trichloro122Trifluoroethane | 0.5 U | 0.5 |
| 1,2,3-Trichlorobenzene | 0.5 U | 0.5 |
| 1,2,4-Trichlorobenzene | 0.5 U | 0.5 |
| 1,1,1-Trichloroethane | 0.5 U | 0.5 |
| 1,1,2-Trichloroethane | 0.2 U | 0.2 |
| Trichloroethene | 0.2 U | 0.2 |
| Trichlorofluoromethane | 0.5 U | 0.5 |
| 1,2,3-Trichloropropane | 1.0 U | 1.0 |
| 1,2,4-Trimethylbenzene | 0.5 U | 0.5 |
| 1,3,5-Trimethylbenzene | 0.5 U | 0.5 |
| Vinyl Acetate | 0.5 U | 0.5 |
| Vinyl Chloride | 0.2 U | 0.2 |
| m,p-Xylene | 0.5 U | 0.5 |
| o-Xylene | 0.5 U | 0.5 |
| Batch number: 17131A94A | Sample number(s): 8974843, 8974847, 8974849, 8974851, 8974853, 8974855 | |
| Benzene | 1.0 U | 1.0 |
| Ethylbenzene | 1.0 U | 1.0 |
| NWTPH-Gx water C7-C12 | 250 U | 250 |
| Toluene | 1.0 U | 1.0 |
| m,p-Xylene | 1.0 U | 1.0 |
| o-Xylene | 1.0 U | 1.0 |
| | mg/l | mg/l |
| Batch number: 17124249113A | Sample number(s): 8974843, 8974845 | |
| Nitrate Nitrogen | 0.10 U | 0.10 |
| Nitrite Nitrogen | 0.10 U | 0.10 |
| Batch number: 17124249113B | Sample number(s): 8974842, 8974846-8974847, 8974849, 8974851, 8974853 | |
| Nitrate Nitrogen | 0.10 U | 0.10 |
| Nitrite Nitrogen | 0.10 U | 0.10 |
| Analysis Name | Result | MDL |
| | mg/l | 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.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/24/2017 12:33

Group Number: 1797118

Method Blank (continued)

| Analysis Name | Result | MDL |
|----------------------------|---|------|
| | mg/l | mg/l |
| Batch number: 17132987312B | Sample number(s): 8974844, 8974848, 8974850, 8974852, 8974854 | |
| Sulfate | 0.30 U | 0.30 |

LCS/LCSD

| Analysis Name | LCS Spike Added | LCS Conc | LCSD Spike Added | LCSD Conc | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|-----------------------------|------------------------------------|----------|------------------|-----------|----------|-----------|-----------------|-----|---------|
| | ug/l | ug/l | ug/l | ug/l | | | | | |
| Batch number: H171301AA | Sample number(s): 8974846, 8974855 | | | | | | | | |
| Acetone | 37.5 | 35.82 | | | 96 | | 60-133 | | |
| Acrolein | 37.5 | 21.95 | | | 59 | | 39-141 | | |
| Acrylonitrile | 25 | 23.28 | | | 93 | | 63-141 | | |
| Benzene | 5.00 | 5.03 | | | 101 | | 80-120 | | |
| Bromobenzene | 5.00 | 4.95 | | | 99 | | 80-120 | | |
| Bromochloromethane | 5.00 | 5.14 | | | 103 | | 80-125 | | |
| Bromodichloromethane | 5.00 | 5.21 | | | 104 | | 80-125 | | |
| Bromoform | 5.00 | 5.77 | | | 115 | | 62-128 | | |
| Bromomethane | 5.00 | 4.90 | | | 98 | | 64-125 | | |
| 2-Butanone | 37.5 | 30.43 | | | 81 | | 57-144 | | |
| n-Butylbenzene | 5.00 | 5.40 | | | 108 | | 80-120 | | |
| sec-Butylbenzene | 5.00 | 5.29 | | | 106 | | 80-120 | | |
| tert-Butylbenzene | 5.00 | 5.13 | | | 103 | | 74-124 | | |
| Carbon Disulfide | 5.00 | 5.27 | | | 105 | | 62-127 | | |
| Carbon Tetrachloride | 5.00 | 5.16 | | | 103 | | 76-129 | | |
| Chlorobenzene | 5.00 | 5.15 | | | 103 | | 80-120 | | |
| Chloroethane | 5.00 | 4.74 | | | 95 | | 63-125 | | |
| Chloroform | 5.00 | 4.96 | | | 99 | | 80-120 | | |
| Chloromethane | 5.00 | 4.84 | | | 97 | | 55-126 | | |
| 2-Chlorotoluene | 5.00 | 5.16 | | | 103 | | 80-120 | | |
| 4-Chlorotoluene | 5.00 | 5.28 | | | 106 | | 80-120 | | |
| 1,2-Dibromo-3-chloropropane | 5.00 | 4.19 | | | 84 | | 47-153 | | |
| Dibromochloromethane | 5.00 | 5.32 | | | 106 | | 78-127 | | |
| Dibromomethane | 5.00 | 5.38 | | | 108 | | 80-122 | | |
| trans-1,4-Dichloro-2-butene | 25 | 20.97 | | | 84 | | 10-176 | | |
| 1,2-Dichlorobenzene | 5.00 | 4.96 | | | 99 | | 80-120 | | |
| 1,3-Dichlorobenzene | 5.00 | 4.88 | | | 98 | | 80-120 | | |
| 1,4-Dichlorobenzene | 5.00 | 4.72 | | | 94 | | 80-120 | | |
| 1,1-Dichloroethane | 5.00 | 5.03 | | | 101 | | 80-120 | | |
| 1,2-Dichloroethane | 5.00 | 5.20 | | | 104 | | 72-127 | | |
| 1,1-Dichloroethene | 5.00 | 5.09 | | | 102 | | 76-120 | | |
| cis-1,2-Dichloroethene | 5.00 | 5.20 | | | 104 | | 80-120 | | |
| trans-1,2-Dichloroethene | 5.00 | 5.18 | | | 104 | | 80-120 | | |
| 1,2-Dichloropropane | 5.00 | 5.17 | | | 103 | | 80-120 | | |
| 1,3-Dichloropropane | 5.00 | 5.23 | | | 105 | | 80-120 | | |
| 2,2-Dichloropropane | 5.00 | 5.23 | | | 105 | | 72-126 | | |

*- Outside of specification

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

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/24/2017 12:33

Group Number: 1797118

LCS/LCSD (continued)

| Analysis Name | LCS Spike Added ug/l | LCS Conc ug/l | LCSD Spike Added ug/l | LCSD Conc ug/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---------------------------------------|--|------------------|--------------------------|-------------------|----------|-----------|-----------------|-----|---------|
| 1,1-Dichloropropene | 5.00 | 5.05 | | | 101 | | 77-120 | | |
| cis-1,3-Dichloropropene | 5.00 | 5.48 | | | 110 | | 80-120 | | |
| trans-1,3-Dichloropropene | 5.00 | 5.44 | | | 109 | | 77-121 | | |
| Ethylbenzene | 5.00 | 5.23 | | | 105 | | 80-120 | | |
| Ethylene dibromide | 5.00 | 5.25 | | | 105 | | 80-120 | | |
| Hexachlorobutadiene | 5.00 | 4.35 | | | 87 | | 74-120 | | |
| 2-Hexanone | 25 | 18.05 | | | 72 | | 61-138 | | |
| Isopropylbenzene | 5.00 | 5.42 | | | 108 | | 80-120 | | |
| 4-Isopropyltoluene | 5.00 | 5.48 | | | 110 | | 80-120 | | |
| Methyl Iodide | 5.00 | 5.01 | | | 100 | | 70-120 | | |
| 4-Methyl-2-pentanone | 25 | 19.08 | | | 76 | | 65-135 | | |
| Methylene Chloride | 5.00 | 5.03 | | | 101 | | 80-120 | | |
| Naphthalene | 5.00 | 4.78 | | | 96 | | 65-131 | | |
| n-Propylbenzene | 5.00 | 5.20 | | | 104 | | 79-120 | | |
| Styrene | 5.00 | 5.50 | | | 110 | | 80-120 | | |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.17 | | | 103 | | 80-120 | | |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.98 | | | 100 | | 75-123 | | |
| Tetrachloroethene | 5.00 | 4.96 | | | 99 | | 80-120 | | |
| Toluene | 5.00 | 5.14 | | | 103 | | 80-120 | | |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 5.00 | 5.28 | | | 106 | | 75-120 | | |
| 1,2,3-Trichlorobenzene | 5.00 | 4.29 | | | 86 | | 66-120 | | |
| 1,2,4-Trichlorobenzene | 5.00 | 4.58 | | | 92 | | 67-120 | | |
| 1,1,1-Trichloroethane | 5.00 | 4.91 | | | 98 | | 79-120 | | |
| 1,1,2-Trichloroethane | 5.00 | 5.43 | | | 109 | | 80-120 | | |
| Trichloroethene | 5.00 | 4.92 | | | 98 | | 80-120 | | |
| Trichlorofluoromethane | 5.00 | 4.66 | | | 93 | | 65-134 | | |
| 1,2,3-Trichloropropane | 5.00 | 5.26 | | | 105 | | 80-125 | | |
| 1,2,4-Trimethylbenzene | 5.00 | 5.33 | | | 107 | | 80-120 | | |
| 1,3,5-Trimethylbenzene | 5.00 | 5.31 | | | 106 | | 80-120 | | |
| Vinyl Acetate | 12.5 | 13.74 | | | 110 | | 55-129 | | |
| Vinyl Chloride | 5.00 | 5.20 | | | 104 | | 62-128 | | |
| m,p-Xylene | 10 | 10.78 | | | 108 | | 80-120 | | |
| o-Xylene | 5.00 | 5.28 | | | 106 | | 80-120 | | |
| | ug/l | ug/l | ug/l | ug/l | | | | | |
| Batch number: 17131A94A | Sample number(s): 8974843, 8974847, 8974849, 8974851, 8974853, 8974855 | | | | | | | | |
| Benzene | 20 | 19.54 | | | 98 | | 80-120 | | |
| Ethylbenzene | 20.1 | 19.83 | | | 99 | | 80-120 | | |
| NWTPH-Gx water C7-C12 | 1100 | 1175.12 | | | 107 | | 79-120 | | |
| Toluene | 20.2 | 20.64 | | | 102 | | 80-120 | | |
| m,p-Xylene | 40.2 | 41.21 | | | 103 | | 80-120 | | |
| o-Xylene | 20 | 19.86 | | | 99 | | 80-120 | | |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17124249113A | Sample number(s): 8974843, 8974845 | | | | | | | | |
| Nitrate Nitrogen | 0.750 | 0.737 | | | 98 | | 90-110 | | |

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/24/2017 12:33

Group Number: 1797118

LCS/LCSD (continued)

| Analysis Name | LCS Spike Added mg/l | LCS Conc mg/l | LCSD Spike Added mg/l | LCSD Conc mg/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|----------------------------|---|------------------|--------------------------|-------------------|----------|-----------|-----------------|-----|---------|
| Nitrite Nitrogen | 0.750 | 0.727 | | | 97 | | 90-110 | | |
| Batch number: 17124249113B | Sample number(s): 8974842, 8974846-8974847, 8974849, 8974851, 8974853 | | | | | | | | |
| Nitrate Nitrogen | 0.750 | 0.737 | | | 98 | | 90-110 | | |
| Nitrite Nitrogen | 0.750 | 0.727 | | | 97 | | 90-110 | | |
| | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17132987312B | Sample number(s): 8974844, 8974848, 8974850, 8974852, 8974854 | | | | | | | | |
| Sulfate | 7.50 | 7.14 | | | 95 | | 90-110 | | |

MS/MSD

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

| Analysis Name | Unspiked Conc ug/l | MS Spike Added ug/l | MS Conc ug/l | MSD Spike Added ug/l | MSD Conc ug/l | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max | |
|-----------------------------|---|------------------------|-----------------|-------------------------|------------------|---------|----------|---------------|--------|---------|----|
| Batch number: H171301AA | Sample number(s): 8974846, 8974855 UNSPK: P974856 | | | | | | | | | | |
| Acetone | 5.0 | U | 37.5 | 35.06 | 37.5 | 37.68 | 93 | 100 | 60-133 | 7 | 30 |
| Acrolein | 25 | U | 37.5 | 24.54 | 37.5 | 25.69 | 65 | 69 | 39-141 | 5 | 30 |
| Acrylonitrile | 5.0 | U | 25 | 25.81 | 25 | 25.24 | 103 | 101 | 63-141 | 2 | 30 |
| Benzene | 0.2 | U | 5.00 | 5.24 | 5.00 | 5.26 | 105 | 105 | 80-120 | 0 | 30 |
| Bromobenzene | 0.5 | U | 5.00 | 4.87 | 5.00 | 4.85 | 97 | 97 | 80-120 | 0 | 30 |
| Bromochloromethane | 0.5 | U | 5.00 | 5.00 | 5.00 | 4.93 | 100 | 99 | 80-125 | 1 | 30 |
| Bromodichloromethane | 0.5 | U | 5.00 | 5.29 | 5.00 | 5.31 | 106 | 106 | 80-125 | 0 | 30 |
| Bromoform | 0.5 | U | 5.00 | 5.47 | 5.00 | 5.59 | 109 | 112 | 62-128 | 2 | 30 |
| Bromomethane | 0.5 | U | 5.00 | 5.32 | 5.00 | 5.02 | 106 | 100 | 64-125 | 6 | 30 |
| 2-Butanone | 5.0 | U | 37.5 | 32.74 | 37.5 | 32.55 | 87 | 87 | 57-144 | 1 | 30 |
| n-Butylbenzene | 0.5 | U | 5.00 | 5.65 | 5.00 | 5.81 | 113 | 116 | 80-120 | 3 | 30 |
| sec-Butylbenzene | 0.5 | U | 5.00 | 5.46 | 5.00 | 5.48 | 109 | 110 | 80-120 | 0 | 30 |
| tert-Butylbenzene | 0.5 | U | 5.00 | 5.51 | 5.00 | 5.40 | 110 | 108 | 74-124 | 2 | 30 |
| Carbon Disulfide | 0.5 | U | 5.00 | 6.33 | 5.00 | 6.31 | 127 | 126 | 62-127 | 0 | 30 |
| Carbon Tetrachloride | 0.2 | U | 5.00 | 5.48 | 5.00 | 5.58 | 110 | 112 | 76-129 | 2 | 30 |
| Chlorobenzene | 0.5 | U | 5.00 | 5.23 | 5.00 | 5.17 | 105 | 103 | 80-120 | 1 | 30 |
| Chloroethane | 0.5 | U | 5.00 | 5.32 | 5.00 | 5.18 | 106 | 104 | 63-125 | 3 | 30 |
| Chloroform | 0.2 | U | 5.00 | 5.02 | 5.00 | 5.00 | 100 | 100 | 80-120 | 0 | 30 |
| Chloromethane | 0.5 | U | 5.00 | 4.92 | 5.00 | 4.69 | 98 | 94 | 55-126 | 5 | 30 |
| 2-Chlorotoluene | 0.5 | U | 5.00 | 5.28 | 5.00 | 5.18 | 106 | 104 | 80-120 | 2 | 30 |
| 4-Chlorotoluene | 0.5 | U | 5.00 | 5.14 | 5.00 | 5.30 | 103 | 106 | 80-120 | 3 | 30 |
| 1,2-Dibromo-3-chloropropane | 0.5 | U | 5.00 | 5.00 | 5.00 | 4.77 | 100 | 95 | 47-153 | 5 | 30 |
| Dibromochloromethane | 0.5 | U | 5.00 | 5.40 | 5.00 | 5.39 | 108 | 108 | 78-127 | 0 | 30 |
| Dibromomethane | 0.5 | U | 5.00 | 5.05 | 5.00 | 5.09 | 101 | 102 | 80-122 | 1 | 30 |
| trans-1,4-Dichloro-2-butene | 5.0 | U | 25 | 22.46 | 25 | 23.93 | 90 | 96 | 10-176 | 6 | 30 |
| 1,2-Dichlorobenzene | 0.5 | U | 5.00 | 4.85 | 5.00 | 4.88 | 97 | 98 | 80-120 | 1 | 30 |

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/24/2017 12:33

Group Number: 1797118

MS/MSD (continued)

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

| Analysis Name | Unspiked Conc ug/l | MS Spike Added ug/l | MS Conc ug/l | MSD Spike Added ug/l | MSD Conc ug/l | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|--------------------------------|--------------------|---------------------|--------------|----------------------|---------------|---------|----------|---------------|-----|---------|
| 1,3-Dichlorobenzene | 0.5 U | 5.00 | 4.76 | 5.00 | 4.89 | 95 | 98 | 80-120 | 3 | 30 |
| 1,4-Dichlorobenzene | 0.5 U | 5.00 | 4.72 | 5.00 | 4.68 | 94 | 94 | 80-120 | 1 | 30 |
| 1,1-Dichloroethane | 0.5 U | 5.00 | 5.23 | 5.00 | 5.22 | 105 | 104 | 80-120 | 0 | 30 |
| 1,2-Dichloroethane | 0.2 U | 5.00 | 4.98 | 5.00 | 5.22 | 100 | 104 | 72-127 | 5 | 30 |
| 1,1-Dichloroethene | 0.2 U | 5.00 | 5.51 | 5.00 | 5.42 | 110 | 108 | 76-120 | 2 | 30 |
| cis-1,2-Dichloroethene | 0.115 | 5.00 | 5.55 | 5.00 | 5.48 | 109 | 107 | 80-120 | 1 | 30 |
| trans-1,2-Dichloroethene | 0.654 | 5.00 | 6.10 | 5.00 | 6.03 | 109 | 108 | 80-120 | 1 | 30 |
| 1,2-Dichloropropane | 0.5 U | 5.00 | 5.06 | 5.00 | 5.21 | 101 | 104 | 80-120 | 3 | 30 |
| 1,3-Dichloropropane | 0.5 U | 5.00 | 5.15 | 5.00 | 5.07 | 103 | 101 | 80-120 | 1 | 30 |
| 2,2-Dichloropropane | 0.5 U | 5.00 | 5.57 | 5.00 | 5.53 | 111 | 111 | 72-126 | 1 | 30 |
| 1,1-Dichloropropene | 0.5 U | 5.00 | 5.44 | 5.00 | 5.44 | 109 | 109 | 77-120 | 0 | 30 |
| cis-1,3-Dichloropropene | 0.2 U | 5.00 | 5.47 | 5.00 | 5.56 | 109 | 111 | 80-120 | 2 | 30 |
| trans-1,3-Dichloropropene | 0.2 U | 5.00 | 5.31 | 5.00 | 5.33 | 106 | 107 | 77-121 | 0 | 30 |
| Ethylbenzene | 0.5 U | 5.00 | 5.42 | 5.00 | 5.38 | 108 | 108 | 80-120 | 1 | 30 |
| Ethylene dibromide | 0.5 U | 5.00 | 4.99 | 5.00 | 5.01 | 100 | 100 | 80-120 | 0 | 30 |
| Hexachlorobutadiene | 0.5 U | 5.00 | 4.64 | 5.00 | 4.86 | 93 | 97 | 74-120 | 5 | 30 |
| 2-Hexanone | 5.0 U | 25 | 20.8 | 25 | 20.35 | 83 | 81 | 61-138 | 2 | 30 |
| Isopropylbenzene | 0.5 U | 5.00 | 5.63 | 5.00 | 5.61 | 113 | 112 | 80-120 | 0 | 30 |
| 4-Isopropyltoluene | 0.5 U | 5.00 | 5.61 | 5.00 | 5.62 | 112 | 112 | 80-120 | 0 | 30 |
| Methyl Iodide | 0.5 U | 5.00 | 5.19 | 5.00 | 5.14 | 104 | 103 | 70-120 | 1 | 30 |
| 4-Methyl-2-pentanone | 5.0 U | 25 | 21.92 | 25 | 21.33 | 88 | 85 | 65-135 | 3 | 30 |
| Methylene Chloride | 0.5 U | 5.00 | 5.04 | 5.00 | 5.13 | 101 | 103 | 80-120 | 2 | 30 |
| Naphthalene | 69.59 | 5.00 | 72.22 | 5.00 | 73.45 | 52 (2) | 77 (2) | 65-131 | 2 | 30 |
| n-Propylbenzene | 0.5 U | 5.00 | 5.29 | 5.00 | 5.33 | 106 | 107 | 79-120 | 1 | 30 |
| Styrene | 0.5 U | 5.00 | 5.48 | 5.00 | 5.48 | 110 | 110 | 80-120 | 0 | 30 |
| 1,1,1,2-Tetrachloroethane | 0.5 U | 5.00 | 5.08 | 5.00 | 5.13 | 102 | 103 | 80-120 | 1 | 30 |
| 1,1,2,2-Tetrachloroethane | 0.2 U | 5.00 | 4.76 | 5.00 | 4.70 | 95 | 94 | 75-123 | 1 | 30 |
| Tetrachloroethene | 0.2 U | 5.00 | 5.40 | 5.00 | 5.30 | 108 | 106 | 80-120 | 2 | 30 |
| Toluene | 0.144 | 5.00 | 5.49 | 5.00 | 5.48 | 107 | 107 | 80-120 | 0 | 30 |
| 112Trichloro122Trifluoroethane | 0.5 U | 5.00 | 5.82 | 5.00 | 5.80 | 116 | 116 | 75-120 | 0 | 30 |
| 1,2,3-Trichlorobenzene | 0.5 U | 5.00 | 4.29 | 5.00 | 4.49 | 86 | 90 | 66-120 | 4 | 30 |
| 1,2,4-Trichlorobenzene | 0.5 U | 5.00 | 4.75 | 5.00 | 4.89 | 95 | 98 | 67-120 | 3 | 30 |
| 1,1,1-Trichloroethane | 0.5 U | 5.00 | 5.23 | 5.00 | 5.23 | 105 | 105 | 79-120 | 0 | 30 |
| 1,1,2-Trichloroethane | 0.2 U | 5.00 | 5.27 | 5.00 | 5.20 | 105 | 104 | 80-120 | 1 | 30 |
| Trichloroethene | 0.2 U | 5.00 | 5.29 | 5.00 | 5.23 | 106 | 105 | 80-120 | 1 | 30 |
| Trichlorofluoromethane | 0.5 U | 5.00 | 4.82 | 5.00 | 5.38 | 96 | 108 | 65-134 | 11 | 30 |
| 1,2,3-Trichloropropane | 1.0 U | 5.00 | 4.76 | 5.00 | 4.52 | 95 | 90 | 80-125 | 5 | 30 |
| 1,2,4-Trimethylbenzene | 0.124 | 5.00 | 5.49 | 5.00 | 5.44 | 107 | 106 | 80-120 | 1 | 30 |
| 1,3,5-Trimethylbenzene | 0.5 U | 5.00 | 5.34 | 5.00 | 5.39 | 107 | 108 | 80-120 | 1 | 30 |
| Vinyl Acetate | 0.5 U | 12.5 | 13.07 | 12.5 | 12.78 | 105 | 102 | 55-129 | 2 | 30 |
| Vinyl Chloride | 0.2 U | 5.00 | 5.54 | 5.00 | 5.51 | 111 | 110 | 62-128 | 0 | 30 |
| m,p-Xylene | 0.181 | 10 | 11.1 | 10 | 11.01 | 109 | 108 | 80-120 | 1 | 30 |
| o-Xylene | 0.146 | 5.00 | 5.46 | 5.00 | 5.50 | 106 | 107 | 80-120 | 1 | 30 |

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/24/2017 12:33

Group Number: 1797118

MS/MSD (continued)

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

| Analysis Name | Unspiked Conc ug/l | MS Spike Added ug/l | MS Conc ug/l | MSD Spike Added ug/l | MSD Conc ug/l | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|----------------------------|---|---------------------|--------------|----------------------|---------------|---------|----------|---------------|-----|---------|
| Batch number: 17131A94A | Sample number(s): 8974843,8974847,8974849,8974851,8974853,8974855 UNSPK: 8974843,8974847 | | | | | | | | | |
| Benzene | 1.0 U | 20 | 20.83 | 20 | 21.34 | 104 | 107 | 80-120 | 2 | 30 |
| Ethylbenzene | 1.0 U | 20.1 | 21.27 | 20.1 | 21.61 | 106 | 108 | 80-120 | 2 | 30 |
| NWTPH-Gx water C7-C12 | 250 U | 1100 | 1203.59 | 1100 | 1229.62 | 109 | 112 | 79-120 | 2 | 30 |
| Toluene | 1.0 U | 20.2 | 21.65 | 20.2 | 22.01 | 107 | 109 | 80-120 | 2 | 30 |
| m,p-Xylene | 1.0 U | 40.2 | 44.22 | 40.2 | 44.72 | 110 | 111 | 80-120 | 1 | 30 |
| o-Xylene | 0.553 | 20 | 21.95 | 20 | 21.93 | 107 | 107 | 80-120 | 0 | 30 |
| | mg/l | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17124249113A | Sample number(s): 8974843,8974845 UNSPK: P973769 | | | | | | | | | |
| Nitrate Nitrogen | 0.50 U | 2.50 | 2.73 | | | 109 | | 90-110 | | |
| Nitrite Nitrogen | 0.50 U | 2.50 | 2.42 | | | 97 | | 90-110 | | |
| Batch number: 17124249113B | Sample number(s): 8974842,8974846-8974847,8974849,8974851,8974853 UNSPK: 8974842, P974842 | | | | | | | | | |
| Nitrate Nitrogen | 0.194 | 0.500 | 0.634 | | | 88* | | 90-110 | | |
| Nitrite Nitrogen | 0.10 U | 0.500 | 0.494 | | | 99 | | 90-110 | | |
| | mg/l | mg/l | mg/l | mg/l | mg/l | | | | | |
| Batch number: 17132987312B | Sample number(s): 8974844,8974848,8974850,8974852,8974854 UNSPK: P974857 | | | | | | | | | |
| Sulfate | 0.30 U | 10 | 9.82 | | | 98 | | 90-110 | | |

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | BKG Conc mg/l | DUP Conc mg/l | DUP RPD | DUP RPD Max |
|----------------------------|---|---------------|---------|-------------|
| Batch number: 17124249113A | Sample number(s): 8974843,8974845 BKG: P973769 | | | |
| Nitrate Nitrogen | 0.50 U | 0.50 U | 0 (1) | 15 |
| Nitrite Nitrogen | 0.50 U | 0.50 U | 0 (1) | 15 |
| Batch number: 17124249113B | Sample number(s): 8974842,8974846-8974847,8974849,8974851,8974853 BKG: 8974842, P974842 | | | |
| Nitrate Nitrogen | 0.194 | 0.181 | 7 (1) | 15 |
| Nitrite Nitrogen | 0.10 U | 0.10 U | 0 (1) | 15 |
| | mg/l | mg/l | | |
| Batch number: 17132987312B | Sample number(s): 8974844,8974848,8974850,8974852,8974854 BKG: P974857 | | | |
| Sulfate | 0.30 U | 0.30 U | 0 (1) | 15 |

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/24/2017 12:33

Group Number: 1797118

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 Boeing 69
Batch number: H171301AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---------|----------------------|-----------------------|------------|----------------------|
| 8974846 | 95 | 104 | 106 | 107 |
| 8974855 | 100 | 104 | 105 | 101 |
| Blank | 101 | 100 | 104 | 98 |
| LCS | 102 | 101 | 103 | 103 |
| MS | 103 | 100 | 101 | 104 |
| MSD | 102 | 103 | 100 | 103 |
| Limits: | 77-114 | 74-113 | 77-110 | 78-110 |

Analysis Name: 8021B BTEX Water
Batch number: 17131A94A

| | Trifluorotoluene-P | Trifluorotoluene-F |
|---------|--------------------|--------------------|
| 8974843 | 86 | 91 |
| 8974847 | 87 | 86 |
| 8974849 | 85 | 79 |
| 8974851 | 87 | 79 |
| 8974853 | 86 | 79 |
| 8974855 | 86 | 79 |
| Blank | 86 | 79 |
| LCS | 85 | 85 |
| MS | 84 | 82 |
| MSD | 86 | 83 |
| Limits: | 51-120 | 63-135 |

*- Outside of specification

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

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

Boeing Chain of Custody



Lancaster Laboratories

Acct. # 13419

For Eurofins Lancaster Laboratories use only
 Group # 1797116 Sample # 8974842-55
 Please print. Instructions on reverse side correspond.

| ① Client Information | | | | | ④ Analyses Requested | | | | | | | | | | ⑤ Remarks/Comments | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------------|--|-----------------|--------------------------|---|---|---|---|---|---|--|--|--|--|--------------------|--------------|-----------------|-----------------|--------------------------|-----------------|--------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Site Location: <u>Tukwila, Wa</u> | | | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">VOC's (8260C)</td> <td style="width: 5%;">BETX (4021B)</td> <td style="width: 5%;">TPH-G (NWTPH-G)</td> <td style="width: 5%;">Sulfate (300.0)</td> <td style="width: 5%;">Nitrate, Nitrite (300.0)</td> <td style="width: 5%;">Nitrate (300.0)</td> <td style="width: 5%;">MS/MSD</td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> | | | | | | | | | | VOC's (8260C) | BETX (4021B) | TPH-G (NWTPH-G) | Sulfate (300.0) | Nitrate, Nitrite (300.0) | Nitrate (300.0) | MS/MSD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOC's (8260C) | BETX (4021B) | TPH-G (NWTPH-G) | Sulfate (300.0) | Nitrate, Nitrite (300.0) | | | | | | | | | | | Nitrate (300.0) | MS/MSD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Site Project: <u>Boeing Developmental Center</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Site Program#: <u>AOC D5 / 0025217-099-039</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Boeing PM: <u>Jennifer Parsons / Lindsey Mahrt</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Consultant Contact: <u>Christine Kimmel</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Report To: <u>J. Parsons, C. Kimmel, L. Mahrt</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Invoice To: <input checked="" type="checkbox"/> Boeing EHS <input type="checkbox"/> Other (specify): _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sampler: <u>Jeanami Huerta</u> # of Coolers: <u>1</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ② Sample Identification | | Collected | | ③ Matrix | No. of Containers | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Date | Time | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MW-21A-170503 | | 5/3/17 | 726 | AQ | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BDC-DUP2-170503 | | 5/3/17 | 800 | AQ | 7 | | X | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MW-18A-170503 | | 5/3/17 | 806 | AQ | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MW-17A-170503 | | 5/3/17 | 851 | AQ | 5 | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BDC-103-170503 | | 5/3/17 | 936 | AQ | 7 | | X | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BDC-104-170503 | | 5/3/17 | 1006 | AQ | 7 | | X | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BDC-102-170503 | | 5/3/17 | 1036 | AQ | 7 | | X | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BDC-101-170503 | | 5/3/17 | 1111 | AQ | 7 | | X | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TZIPP BLANKS | | - | - | AQ | 6 | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ⑥ Turnaround Time Requested (please circle) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="radio"/> Standard 5 day 4 day <input type="radio"/> 72 hour 48 hour 24 hour Date needed: _____ | | Relinquished by: <u>[Signature]</u> Date/Time: <u>5/3/17 0700</u> Relinquished by: _____ Date/Time: _____ Relinquished by: _____ Date/Time: _____ Relinquished by commercial carrier (circle): <input checked="" type="radio"/> UPS FedEx Other: _____ | | | | | | | | | | Received by: _____ Date/Time: _____ Received by: _____ Date/Time: _____ Received by: <u>[Signature]</u> Date/Time: <u>5/4/17 9:30</u> Temperature upon Receipt: <u>1.3</u> °C Custody Seals Intact?: <input checked="" type="radio"/> Yes <input type="radio"/> No | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



Client: Boeing

Delivery and Receipt Information

Delivery Method: UPS Arrival Timestamp: 05/04/2017 9:30
 Number of Packages: 1 Number of Projects: 1

Arrival Condition Summary

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

VOA Vial IDs (Headspace \geq 6mm): 1 Trip Blank

Unpacked by Nia Smith (12375) at 10:53 on 05/04/2017

Samples Chilled Details

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

| Cooler # | Thermometer ID | Corrected Temp | Therm. Type | Ice Type | Ice Present? | Ice Container | Elevated Temp? |
|----------|----------------|----------------|-------------|----------|--------------|---------------|----------------|
| 1 | DT146 | 1.3 | DT | Wet | Y | Bagged | N |

Explanation of Symbols and Abbreviations

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

| | | | |
|-------------------------|--|-----------------|-------------------------------|
| BMQL | Below Minimum Quantitation Level | mg | milligram(s) |
| C | degrees Celsius | mL | milliliter(s) |
| cfu | colony forming units | MPN | Most Probable Number |
| CP Units | cobalt-chloroplatinate units | N.D. | none detected |
| F | degrees Fahrenheit | ng | nanogram(s) |
| g | gram(s) | NTU | nephelometric turbidity units |
| IU | International Units | pg/L | picogram/liter |
| kg | kilogram(s) | RL | Reporting Limit |
| L | liter(s) | TNTC | Too Numerous To Count |
| lb. | pound(s) | µg | microgram(s) |
| m3 | cubic meter(s) | µL | microliter(s) |
| meq | milliequivalents | umhos/cm | micromhos/cm |
| < | less than | | |
| > | greater than | | |
| ppm | parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas. | | |
| ppb | parts per billion | | |
| Dry weight basis | Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis. | | |

Laboratory Data Qualifiers:

- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

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

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

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

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