

December 17, 2015

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

**RE: APRIL 2015 SEMIANNUAL GROUNDWATER MONITORING REPORT
BOEING DEVELOPMENTAL CENTER, TUKWILA, WASHINGTON**

Dear Byung:

This letter and attached data constitutes the semiannual letter report for groundwater monitoring at The Boeing Company Developmental Center in Tukwila, Washington. This report covers the period following the November 2014 semiannual sampling event (and corresponding report) through the semiannual event in April 2015. This report 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 Units (SWMU)-20 and SWMU-17, and Area of Concern (AOC)-05. All other SWMUs and AOCs identified in the 1994 RFA have been excluded from further investigation based on determinations that they do not pose a threat to human health or the environment.

Groundwater monitoring during the reporting period was performed in January and April 2015 at SWMU-17 and AOC-05; and in April 2015 at SWMU-20 wells. 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 compounds (VOCs) concentrations trend charts are provided for key constituents present in SWMU-20. Included for AOC-05 are a well location figure; 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) and BTEX, and nitrate. A well location figure and tables of current data and cumulative data are provided for SWMU-17. Summary tables include proposed cleanup levels (CULs) from the May 7, 2013 *Proposed Cleanup Standards and Comparison to Site Data* document.

At SWMU-20, *in situ* anaerobic bioremediation continues for treatment of tetrachloroethene (PCE), trichloroethene (TCE), and breakdown products following the last electron donor injection performed in August 2008. Groundwater monitoring results indicate that enhanced treatment continues at and near injection wells, as indicated by the persistence of sulfate-reducing to methanogenic aquifer redox conditions, total organic carbon

(TOC) levels generally above 10 milligrams per liter (mg/L), and the detection of end product ethane at several wells (see SWMU-20 Cleanup Action Summary – Source Zone table). At all source-zone wells, PCE and TCE remain below reporting limits and breakdown products cis-1,2-dichloroethene (cDCE) and vinyl chloride (VC) are either below reporting limits or are detected at very low concentrations. cDCE concentrations are below reporting limits or less than 1 micrograms per liter ($\mu\text{g/L}$) at all locations, well below the proposed CUL (134 $\mu\text{g/L}$). VC detections at source zone wells are below the proposed CUL (2.4 $\mu\text{g/L}$) with the exception of wells MW-06A (3.3 $\mu\text{g/L}$). Following the successful source zone bioremediation that resulted from donor injection to source-zone wells, the highest PCE and TCE concentrations are now present at wells located crossgradient (north; MW-13A and MW-17A) or upgradient (east; MW-16A) of the treated source zone and the highest VC concentrations are at downgradient wells (see SWMU-20 Non-Source Zone Wells Summary table). PCE is less than the proposed CUL (5.3 $\mu\text{g/L}$) at all wells and TCE detections exceed the proposed CUL (1.4 $\mu\text{g/L}$) at only one crossgradient well (MW-17A at 2.3 $\mu\text{g/L}$). VC detections at all non-source zone wells are at or below the proposed CUL (2.4 $\mu\text{g/L}$). Semiannual monitoring will continue in SWMU-20 to evaluate potential source zone rebound and trends at crossgradient wells. Ongoing semiannual groundwater monitoring in SWMU-20 constitutes MNA with enhancement of natural attenuation due to residual effects of prior bioremediation injections. Boeing implemented electron donor injection in October and November 2015 at wells where concentrations remain above or near the proposed cleanup levels. The donor injection work was performed in accordance with the September 10, 2015 work plan addendum. Ecology approved a reduction in the monitoring program for SWMU-20 that was implemented during the April 2015 sampling event. Ecology noted in the sampling reduction approval that reporting limits had been elevated at some wells in the recent past. It should be noted that lower reporting limits were achieved at these wells beginning in November 2014, as a lab issue regarding potential foaming of samples and resulting sample dilution was resolved.

At AOC-05, *in situ* anaerobic bioremediation continues for treatment of TPH-G and BTEX. The last (ninth) injection of nitrate electron acceptor solution took place (at well BDC-103 only) in November 2013. At downgradient wells BDC-101 and BDC-102, and at previously impacted well BDC-104, TPH-G and BTEX remain below reporting limits. At BDC-103, concentrations of TPH-G and BTEX were below reporting limits during both the January and April 2015 sampling events. Nitrate in April at BDC-103 (74.8 mg/L) remains adequate for continued biotreatment. Nitrate monitoring is also performed at the two nearest downgradient wells and at four wells located farther downgradient. Nitrate concentrations were above the 10 mg/L action level at downgradient wells BDC-101 and BDC-102 in January and April. Nitrate continued to be below the action level at the four wells farther downgradient (BDC-05-04, MW-17A, MW-18A, and MW-21A). Based on these results, additional nitrate injection is not needed. Groundwater sampling at AOC-05 wells will continue on a quarterly basis to evaluate potential contaminant rebound. 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.

At SWMU-17, groundwater monitoring results from January and April 2015 show that *in situ* anaerobic bioremediation continues to be enhanced following the August 2011 electron donor injection. Increases in one or more breakdown or end products (cDCE, VC, and ethene) have been observed at all injection wells following injection. In April 2015, PCE, TCE, and cDCE concentrations were below proposed CULs at all wells except BDC-05-18 where TCE concentrations (2.0 µg/L) exceeded the proposed CUL (1.4 µg/L). Final breakdown product VC was present at 8 wells above the proposed CUL (2.4 µg/L) in April; concentrations for these 8 wells ranged from 2.5 to 8.3 µg/L. Complete reductive dechlorination beyond VC continues to be indicated by end products ethene and/or ethane, which were detected in April at 14 of 17 wells analyzed. Non-toxic end products ethene and ethane are predominant on a molar basis over TCE, cDCE, and VC at 14 of the 15 wells where detected. Low sulfate and elevated concentrations of methane persist at most wells, indicating a continuation of the highly reduced aquifer redox conditions required for complete dechlorination, despite decreasing TOC at injection wells (4 to 29 mg/L). Quarterly and semiannual monitoring will continue for evaluation of treatment progress. Additional donor injection within SWMU-17 is not necessary at this time.

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, P.E., L.G.
Principal Engineer

CLJ/tam

Enclosures: Developmental Center Groundwater Monitoring – April 2015
 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: James Bet, Boeing EHS Remediation (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
APRIL 2015***

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APRIL 2015***

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
APRIL 2015

Sample Name:	DC-MW-6A	DC-MW-6B	DC-MW-9A	DC-MW-10C	DC-MW-11A	DC-MW-13A	DC-MW-13C	DC-MW-14C	DC-MW-15C	DC-MW-16A
Lab SDG:	1557636	1557636	1557636	1557636	1557636	1557636	1557636	1557636	1557636	1557636
Lab Sample ID:	7869037	7869039	7869031	7869025	7869026	7869023	7869024	7869034	7869033	7869028
Sample Date:	4/29/2015	4/29/2015	4/29/2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/29/2015	4/29/2015	4/28/2015
Test ID: VOA SW8260C (µg/L)										
Acetone	5.0 U									
Acrolein	25 U									
Acrylonitrile	5.0 U									
Benzene	0.2 U									
Bromobenzene	0.5 U									
Bromochloromethane	0.5 U									
Bromodichloromethane	0.5 U									
Bromoform	0.5 U									
Bromomethane	0.5 U									
2-Butanone	5.0 U									
n-Butylbenzene	0.5 U									
sec-Butylbenzene	0.5 U									
tert-Butylbenzene	0.5 U									
Carbon Disulfide	0.5 U									
Carbon Tetrachloride	0.2 U									
Chlorobenzene	0.5 U									
Chloroethane	0.5 U									
Chloroform	0.2 U									
Chloromethane	0.5 U									
2-Chlorotoluene	0.5 U									
4-Chlorotoluene	0.5 U									
1,2-Dibromo-3-chloropropane	0.5 U									
Dibromochloromethane	0.5 U									
Dibromomethane	0.5 U									
trans-1,4-Dichloro-2-butene	5.0 U									
1,2-Dichlorobenzene	0.5 U									
1,3-Dichlorobenzene	0.5 U									
1,4-Dichlorobenzene	0.5 U									
1,1-Dichloroethane	0.5 U									
1,2-Dichloroethane	0.2 U									
1,1-Dichloroethene	0.2 U									
cis-1,2-Dichloroethene	0.6	0.2 U	0.2 U	2.2	21	0.2 U	0.2 U	0.2 U	0.6	0.3
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.3	0.2	0.7	0.2 U	0.2	0.2 U	0.3	0.2 U
1,2-Dichloropropane	0.5 U									
1,3-Dichloropropane	0.5 U									
2,2-Dichloropropane	0.5 U									
1,1-Dichloropropene	0.5 U									
cis-1,3-Dichloropropene	0.2 U									
trans-1,3-Dichloropropene	0.2 U									
Ethylbenzene	0.5 U									
Ethylene Dibromide	0.5 U									
Hexachlorobutadiene	0.5 U									
2-Hexanone	5.0 U									
Isopropylbenzene	0.5 U									
4-Isopropyltoluene	0.5 U									
Methyl Iodide	0.5 U									

SWMU-20 VOA/CONVENTIONALS DATA
DEVELOPMENTAL CENTER GROUNDWATER MONITORING
APRIL 2015

Sample Name:	DC-MW-6A	DC-MW-6B	DC-MW-9A	DC-MW-10C	DC-MW-11A	DC-MW-13A	DC-MW-13C	DC-MW-14C	DC-MW-15C	DC-MW-16A
Lab SDG:	1557636	1557636	1557636	1557636	1557636	1557636	1557636	1557636	1557636	1557636
Lab Sample ID:	7869037	7869039	7869031	7869025	7869026	7869023	7869024	7869034	7869033	7869028
Sample Date:	4/29/2015	4/29/2015	4/29/2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/29/2015	4/29/2015	4/28/2015
4-Methyl-2-Pentanone (MIBK)	5.0 U									
Methylene Chloride	0.5 U									
Naphthalene	0.5 U	0.5 U	2.6	10	0.5 U	0.5 U	3.3	0.5 U	0.5 U	0.5 U
n-Propylbenzene	0.5 U									
Styrene	0.5 U									
1,1,1,2-Tetrachloroethane	0.5 U									
1,1,2,2-Tetrachloroethane	0.2 U									
Tetrachloroethene	0.2 U	1.8	0.2 U	0.2 U	0.2 U	1.4				
Toluene	0.2 U									
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U									
1,2,3-Trichlorobenzene	0.5 U									
1,2,4-Trichlorobenzene	0.5 U									
1,1,1-Trichloroethane	0.5 U									
1,1,2-Trichloroethane	0.2 U									
Trichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.5	0.4	0.2 U	0.2 U	0.2 U	1.4
Trichlorofluoromethane	0.5 U									
1,2,3-Trichloropropane	1.0 U									
1,2,4-Trimethylbenzene	0.5 U									
1,3,5-Trimethylbenzene	0.5 U									
Vinyl Acetate	0.5 U									
Vinyl Chloride	3.3	1.8	0.2 U	1.7	0.3	0.2 U	0.3	0.2 U	2.4	0.2 U
m,p-Xylene	0.5 U									
o-Xylene	0.5 U									
NATURAL ATTENUATION PARAMETERS										
Method Modified RSK175 (µg/L)										
Methane	430	1300	27000							
Ethane	1.0 U	1.0 U	28							
Ethene	1.0 U	1.0 U	1.0 U							
Conventional Parameters										
Sulfate (mg/L) (EPA 300.0)	17.5	0.99 J	0.58 J							
Total Organic Carbon (mg/L) (SM20 5310C)	5.2	4.0	17.8							

SWMU-20 VOA/CONVENTIONALS DATA
DEVELOPMENTAL CENTER GROUNDWATER MONITORING
APRIL 2015

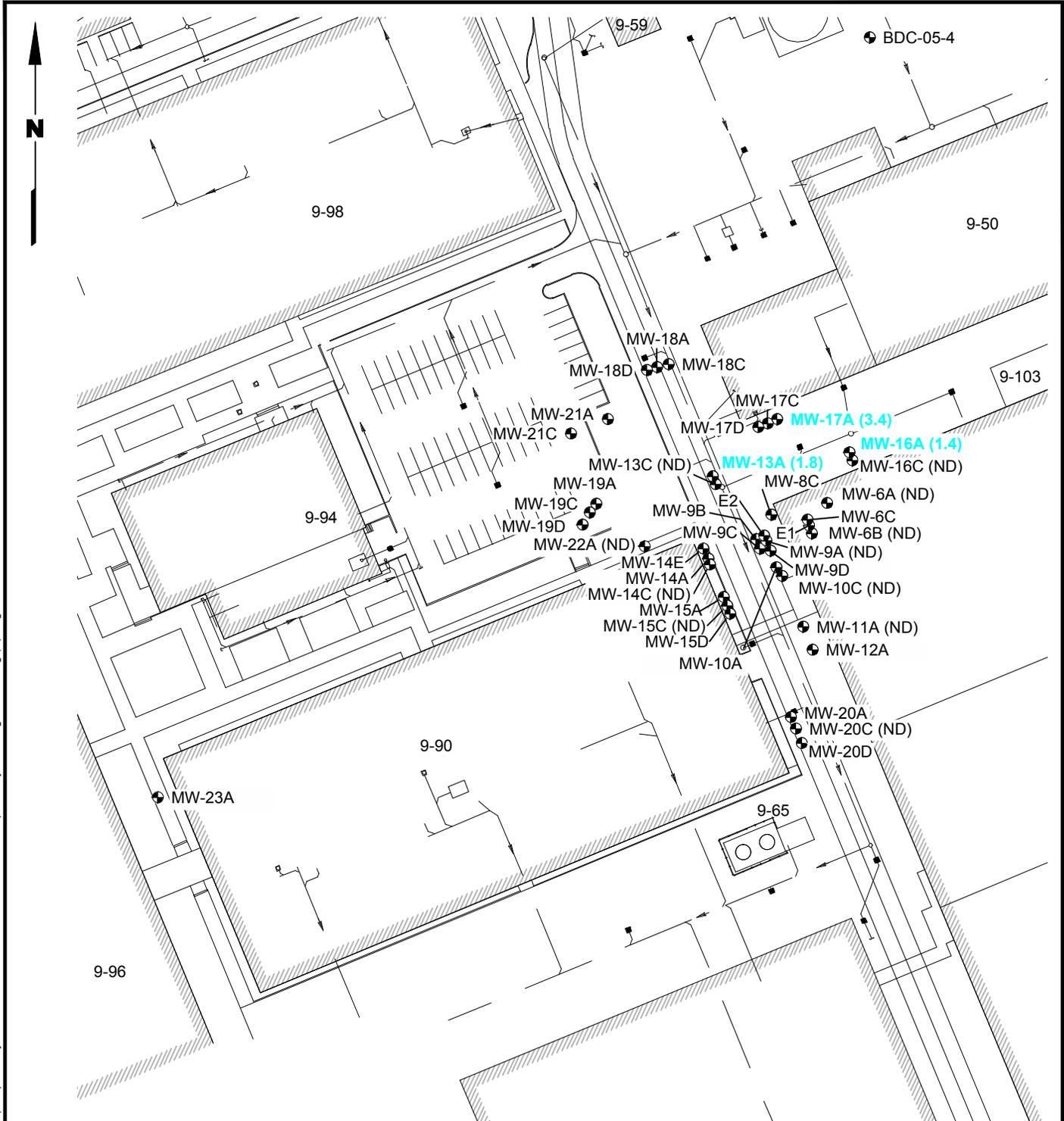
Sample Name:	DC-MW-16C	DC-MW17A	DC-MW-20C	Dup of DC-MW-20C	DC-MW-22A	TRIP BLANK
Lab SDG:	1557636	1557636	1557636	1557636	1557636	1557636
Lab Sample ID:	7869029	7869022	7869027	7869030	7869035	7869041
Sample Date:	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/29/2015	4/1/2015
Test ID: VOA SW8260C (µg/L)						
Acetone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acrolein	25 U	25 U	25 U	25 U	25 U	25 U
Acrylonitrile	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	0.2 U	0.2 U	0.2	0.2	0.3	0.2 U
Bromobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
n-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,4-Dichloro-2-butene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	2.2	0.4	0.7	0.8	0.6	0.2 U
trans-1,2-Dichloroethene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	2.0	0.5 U
Ethylene Dibromide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Isopropylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Isopropyltoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl Iodide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

**SWMU-20 VOA/CONVENTIONALS DATA
DEVELOPMENTAL CENTER GROUNDWATER MONITORING
APRIL 2015**

Sample Name:	DC-MW-16C	DC-MW17A	DC-MW-20C	Dup of DC-MW-20C	DC-MW-22A	TRIP BLANK
Lab SDG:	1557636	1557636	1557636	1557636	1557636	1557636
Lab Sample ID:	7869029	7869022	7869027	7869030	7869035	7869041
Sample Date:	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/29/2015	4/1/2015
4-Methyl-2-Pentanone (MIBK)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Naphthalene	0.5 U	0.5 U	0.5 U	0.5 U	6.2	0.5 U
n-Propylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	0.2 U	3.4	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	0.2 U	0.2 U	0.2 U	0.2 U	0.7	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	0.2 U	2.3	0.2 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	4.1	0.5 U
1,3,5-Trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Acetate	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	1.2	0.2 U	1.0	1.0	1.5	0.2 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.9	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	2.9	0.5 U
NATURAL ATTENUATION PARAMETERS						
Method Modified RSK175 (µg/L)						
Methane					4300	
Ethane					1.0 U	
Ethene					1.0 U	
Conventional Parameters						
Sulfate (mg/L) (EPA 300.0)					2.0	
Total Organic Carbon (mg/L) (SM20 5310C)					14.8	

U = Indicates the compound was not detected at the reported concentration.

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

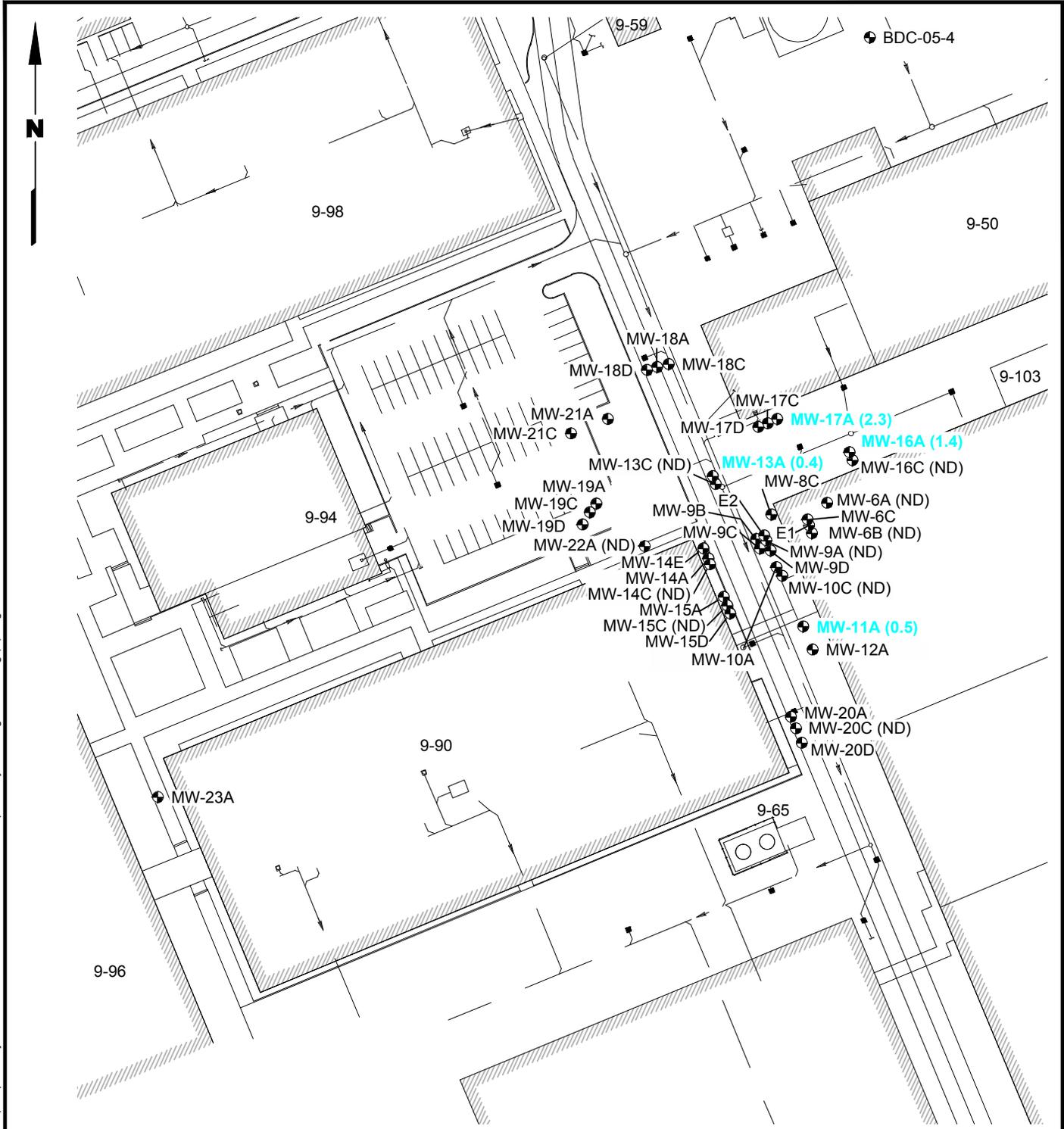


Legend

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

Boeing Developmental Center Tukwila, Washington	SWMU-20 Tetrachloroethene April 2015 Groundwater Concentrations	Figure 1
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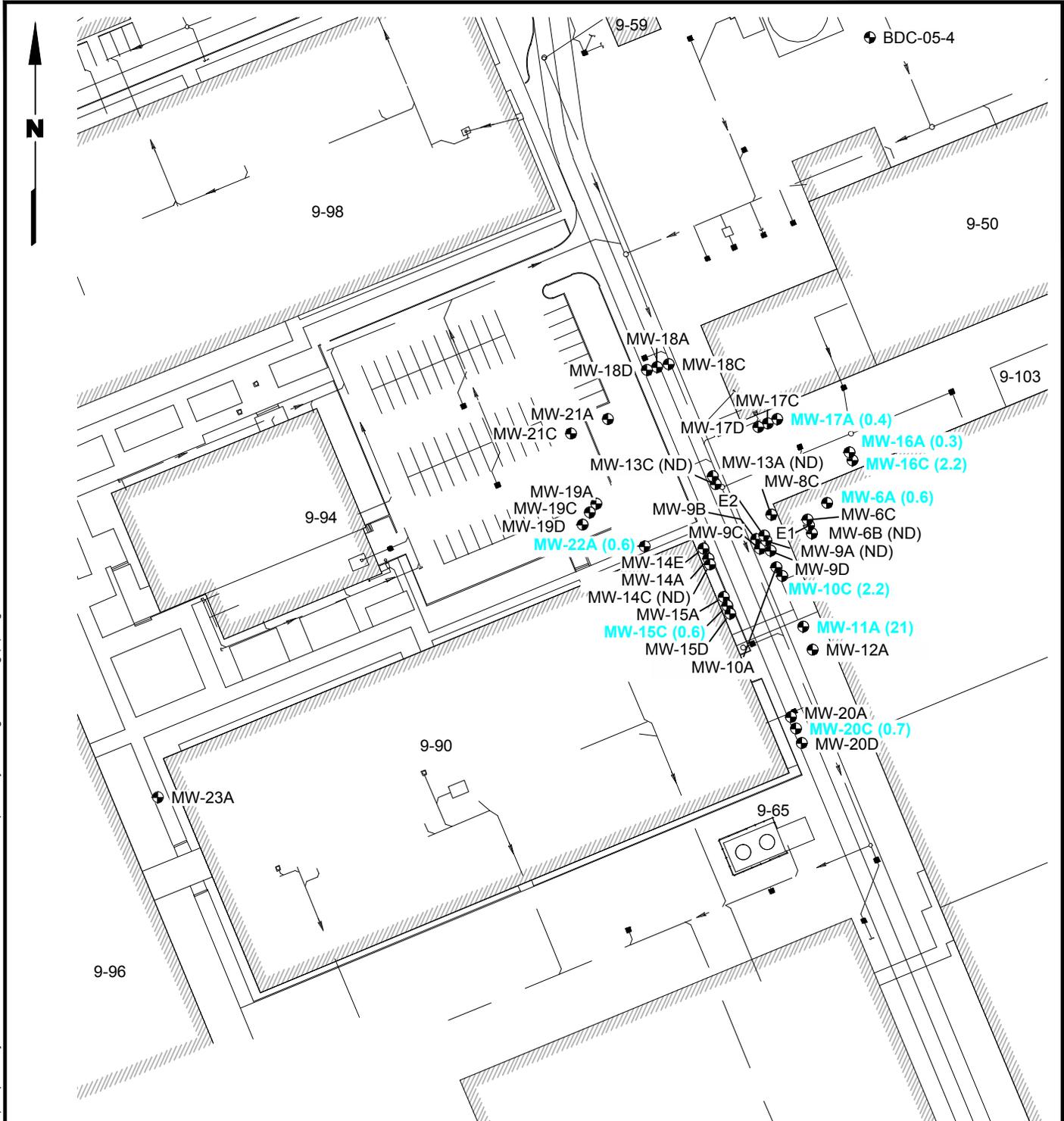


Legend

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



Boeing Developmental Center Tukwila, Washington	SWMU-20 Trichloroethene April 2015 Groundwater Concentrations	Figure 2
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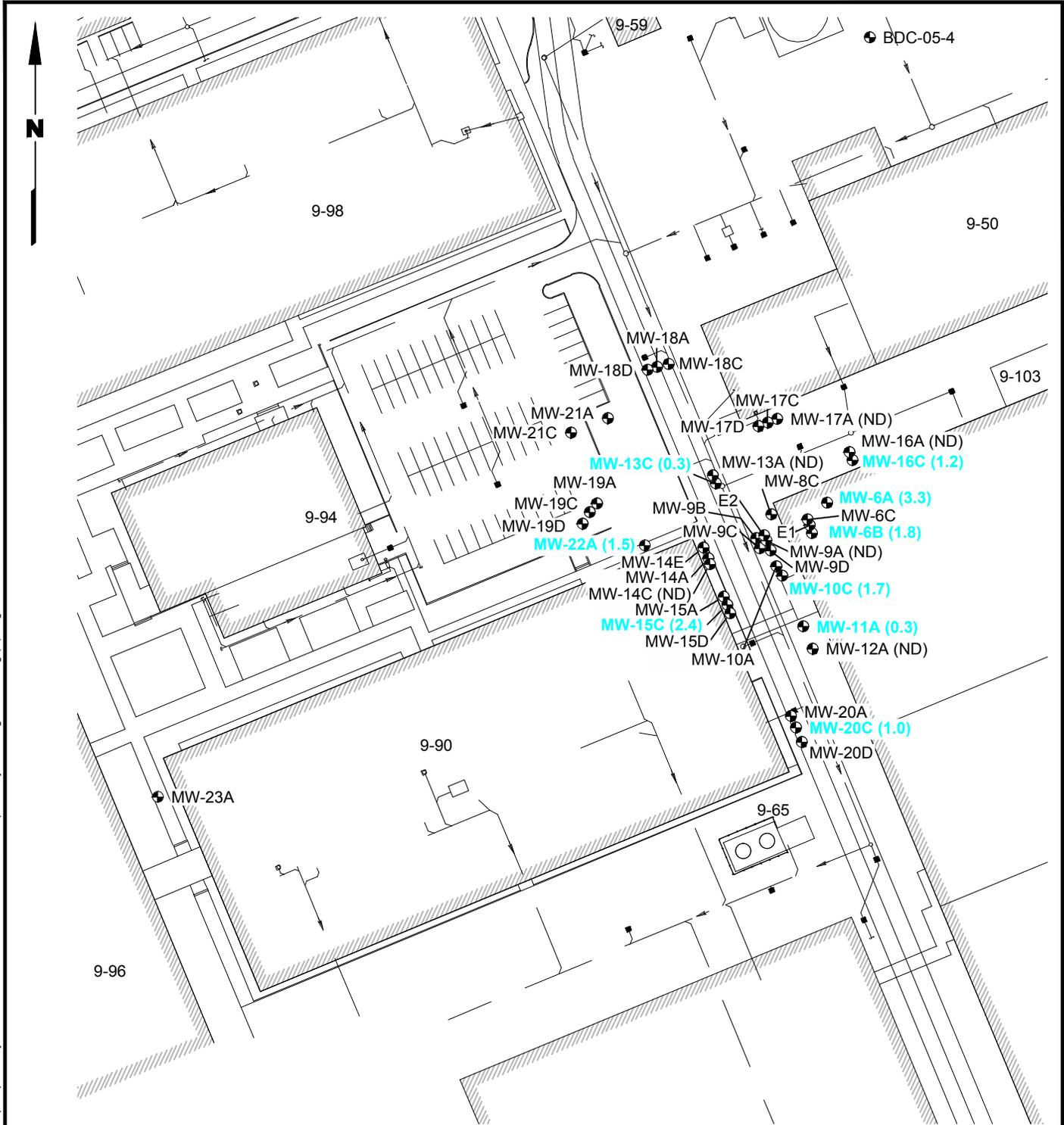


Legend

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



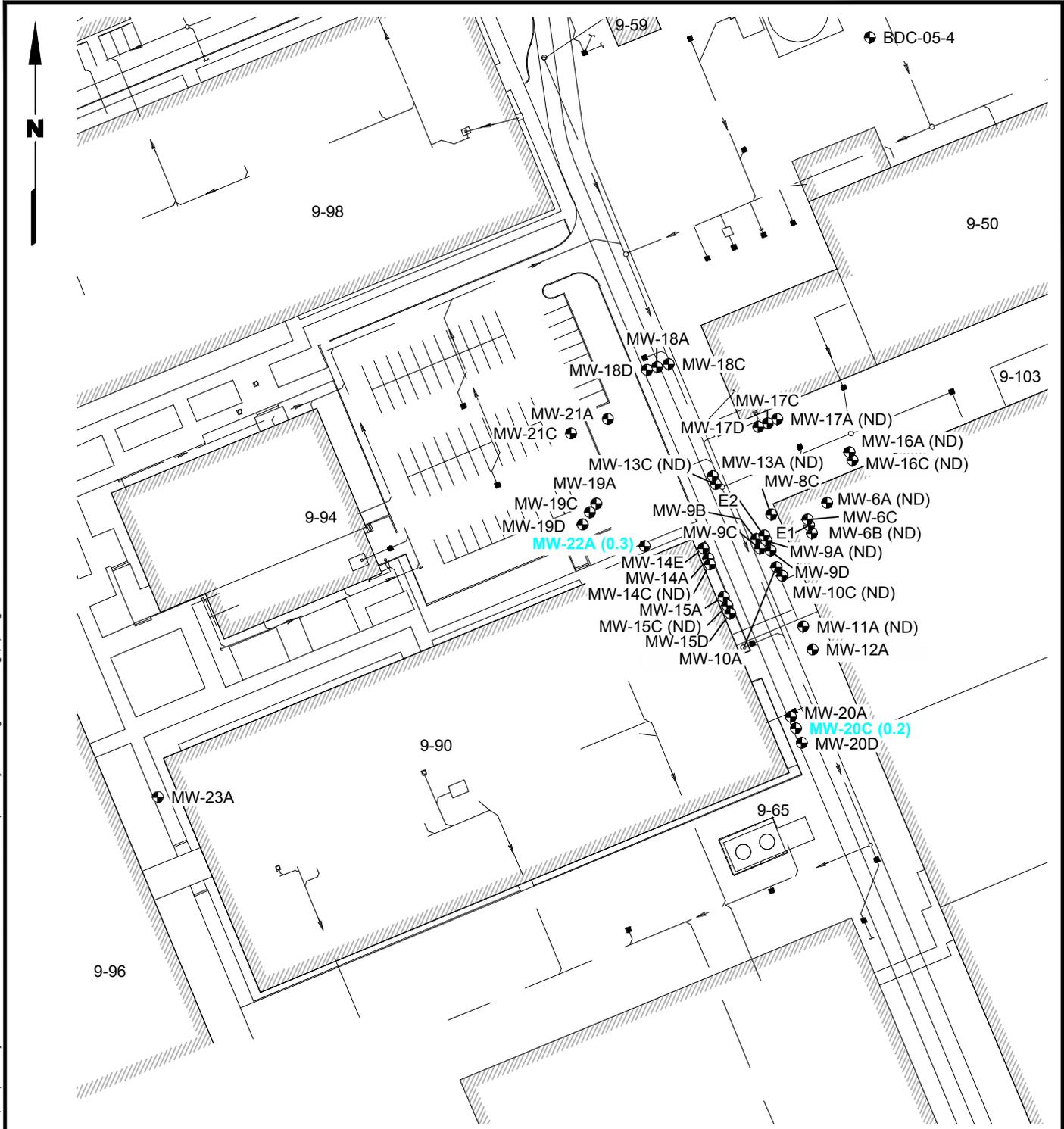
Boeing Developmental Center Tukwila, Washington	SWMU-20 Cis-1,2-Dichloroethene April 2015 Groundwater Concentrations	Figure 3
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- Legend**
-  Monitoring Well Location
 - (ND) Vinyl Chloride Not Detected at 0.2 µg/L Detection Limit
 - (3.3) Vinyl Chloride Groundwater Concentration in µg/L



Boeing Developmental Center Tukwila, Washington	SWMU-20 Vinyl Chloride April 2015 Groundwater Concentrations	Figure 4
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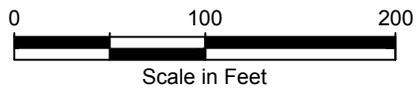
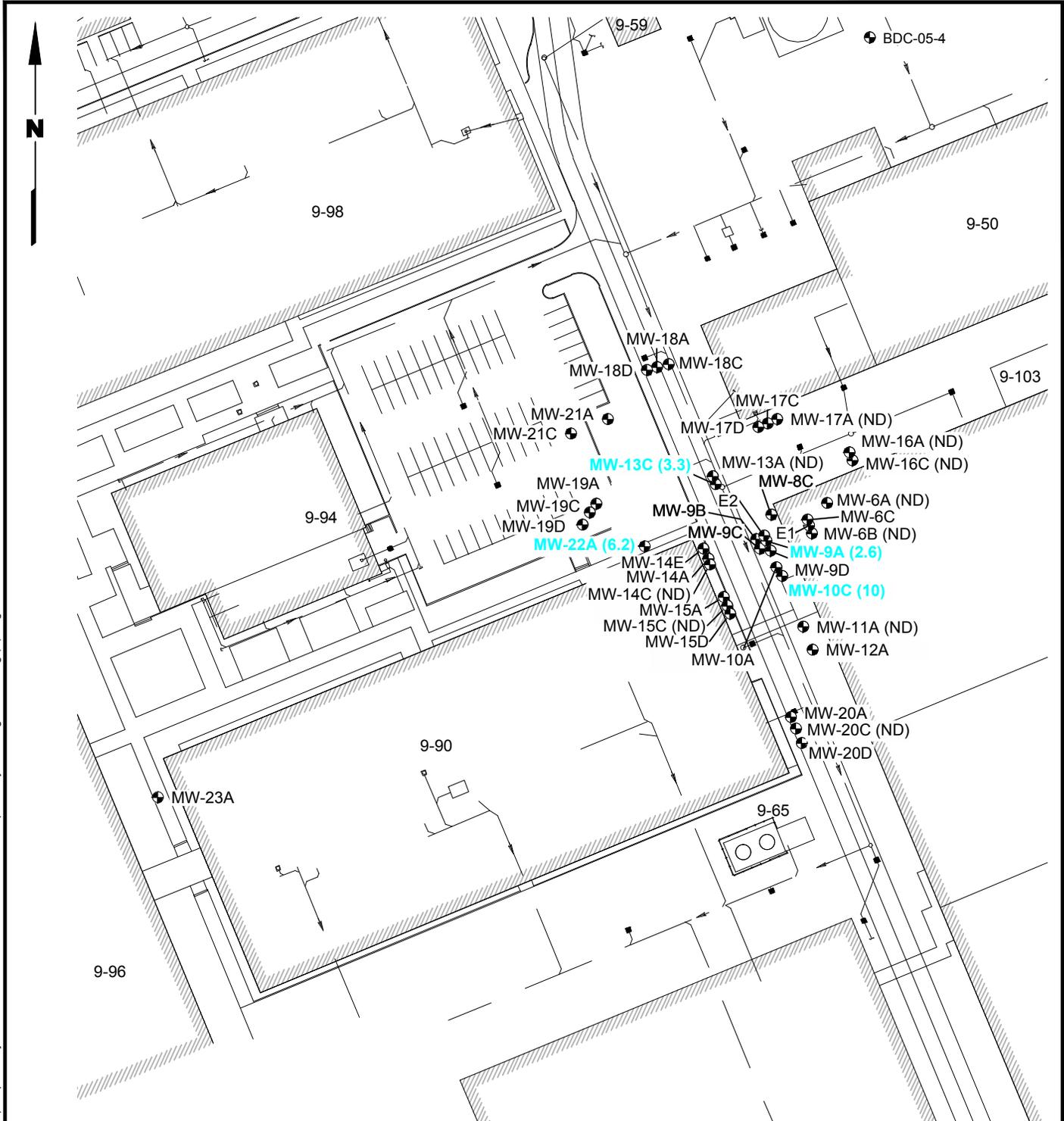
Legend

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



Boeing Developmental Center Tukwila, Washington	SWMU-20 Benzene April 2015 Groundwater Concentrations	Figure 5
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- Legend**
-  Monitoring Well Location
 - (ND) Naphthalene Not Detected at 0.2 µg/L Detection Limit
 - (6.2) Naphthalene Groundwater Concentration in µg/L



Boeing Developmental Center Tukwila, Washington	SWMU-20 Naphthalene April 2015 Groundwater Concentrations	Figure 6
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**SWMU-20 ANALYTICAL RESULTS SUMMARY
DEVELOPMENTAL CENTER GROUNDWATER MONITORING
JANUARY 1994 THROUGH PRESENT**

TETRACHLOROETHENE (µg/L)

	Jan-94	May-95	Oct-95	Feb-96	May-96	Aug-96	Nov-96	Feb-97	May-97	Aug-97	Nov-97	Jun-98	Oct-98	Jun-99	Nov-99	Jun-00	Dec-00	Jun-01	Dec-01	Jun-02	Dec-02	Jun-03	Nov-03	May-04	Aug-04	Oct-04	Feb-05	Mar-05	May-05
06A	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	<1.0	<1.0	<1.0	<1.0	nt	<1.0
06B	27	5.87	14.4	9.62 J	26.18	13.7	14.3	21.5	21.3	17	16.9	18.9	16.3	22.6	2.3	6	10.19	2.6	2.4	10	10	7.9	3.9	9.5	1.9	<1.0	<1.0	nt	<2.0
06C	22	<1.00	<10.00	<10.00	<1.00	<2.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00
08C	16	<1.00	<5.00	<5.00	<3.33	<10.00	13.5	<5.00	<4.00	<4.00	<4.00	7.8	<5.00	<1.00	<2.00	<2.00	<2.00	<1.00	<1.00	<1.00	<1.00	<3.0	<5.0	<1.00	nt	<1.00	nt	<1.00	
09A	420	2568.25	1589	1970	785.7	114	272	98	76	96.9	56.6	39.4	94	5.1	38	40	36.6	12.65	16	14	540	1800	1000	150	<3.0	<5.0	<10	nt	<1.00
09B	820	1972.65	668.1	1266	934.6	78.9	75.9	44.3	35	10.9	21.5	31.3	<10.00	6.74	3.6	<2.00	6.62	1.18	2.1	<1.00	<1.00	1.0	250	<3.0	<5.0	<5.0	<10	nt	<1.00
09C	nd	11.32	<5.00	<10.00	1.24	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00
09D	8.8	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00
10A	180	635.8	754 E	468.85	242.1	114	342	67.5	77.8	76.5	70.3	72.5	86.4	38	21.5	16.6	21.63	30.3	11	24	24	34	58	29	14	15	4.7	nt	4.2
10C	6.9	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00
11A	5.2	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00
12A	3.9	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00
13A	10	4.17	<5.00	<5.00	6.82	3	2.1	3.2	2.1	1.7	1.5	1.6	1.3	<1.00	<1.00	1.2	<1.00	<1.00	1.6	2.7	2.4	3.4	3.0	5.1	nt	4.3	nt	nt	6.1
13C	5.1	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00
14A	410	4.42	<5.00	133.57	96.06	11.2	<5.00	<4.00	<2.00	<2.00	<2.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<10
14C	7.2	9.02	10.53	8.64 J	5.44	6.1	<1.00	<10.00	<10.00	<10.00	<2.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00
14E	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00
15A	11	<1.00	<5.00	<5.00	<5.00	<2.00	<1.00	<4.00	<2.00	<1.00	<2.00	<3.33	<10.00	<1.00	<10.00	<10.00	<10.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.0	<5.0	<5.0	nt	<5.0	nt	<5.0
15C	13	<1.00	<33.30	<5.00	<1.00	1.1	<1.00	<2.00	<10.00	<10.00	<10.00	<3.33	<1.00	<2.00	<2.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00
15D	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00
16A	1.6	1.10	<5.00	<5.00	<1.00	1.7	<1.00	1.1	<1.00	<1.00	<1.00	1.64	1.03	1.3	2.3	2.2	<1.00	<1.00	<1.00	<1.00	1.2	1.2	1.1	1.2	nt	1.2	nt	nt	1.2
16C	nd	<1.00	<5.00	<10.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00
17A	36	1.39	<5.00	<5.00	1.55	<1.00	1.3	2.7	1.90 J	2.2	<1.00	2.6	2.4	2.5	2.1	2.6	4.15	nt	<1.00	3.8	4.6	4.6	4.8	4.8	nt	5.2	nt	nt	nt
17C	36	<1.00	<5.00	<5.00	<1.00	1.6	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	nt										
17D	46	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	nt									
18A	5.4	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	<1.00	nt	nt	nt	nt	nt
18C	4.6	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00
18D	4.6	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt											
19A	6	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	nt	<1.00	nt	nt	<1.00	nt	<1.00
19C	6.5	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00
19D	9.5	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt										
20A	3.4	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt										
20C	3.9	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00
20D	4.3	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt										
21A	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt						
21C	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	nt							
22A	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	<1.00	<1.00
23A	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	<1.00	<1.00

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

TETRACHLOROETHENE (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
06A	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<0.2	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2
06B	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2
06C	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	nt										
08C	nt	<1.0	nt	<1.0	nt	<5.0	nt	<3.0	<5.0	<5.0	<1.0	<3.0	nt											
09A	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<0.2	1.9	<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
09B	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	nt										
09C	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<3.0	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										
10A	2.7	3.3	3.7	1.8	1.6	<0.2	1.2	1.1	1.2	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	nt
10C	nt	<1.0	nt	<1.0	nt	<0.2	nt	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
11A	nt	<1.0	nt	<1.0	nt	<1.0	nt	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<2.0	<2.0	<2.0	<2.0	<0.2	<0.2
12A	nt	<1.0	nt	<1.0	nt	<0.2	nt	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	0.2	<0.2	<0.2	<0.2	0.3	0.3	nt
13A	nt	6.0	nt	7.1	nt	8.3	nt	8.2	6.4	8.7	6.5	7.7	9.2	9.4	3.6	3.9	1.6	2.3	2.2	4.5	2.2	3.1	2.3	1.8
13C	nt	<1.0	nt	<1.0	nt	<0.2	nt	<0.2	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<2.0	<2.0	<2.0	<1.0	<0.2	<0.2
14A	<10	<3.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	nt
14C	nt	<1.0	nt	<1.0	nt	<0.2	nt	<1.0	<1.0	<1.0	<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
14E	nt	<1.0	nt	<1.0	nt	<0.2	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt										
15A	nt	<5.0	nt	<5.0	nt	<3.0	nt	<1.0	<1.0	<3.0	<1.0	<3.0	<1.0	<1.0	<1.0	<10	<0.2	<0.1	<0.2	<0.5	<0.2	<0.2	<0.2	nt
15C	nt	<1.0	nt	<1.0	nt	<0.2	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<2.0	<5.0	<2.0	<2.0	<0.2	<0.2
15D	nt	<1.0	nt	<1.0	nt	<1.0	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt										
16A	nt	1.3	nt	1.0	nt	<0.2	nt	1.1	1.7	1.2	1.5	1.6	2.2	1.4	1.3	1.6	1.4	1.6	1.1	1.4	2.1	1.4	1.6	1.4
16C	nt	<1.0	nt	<1.0	nt	1.2	nt	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2
17A	nt	4.0	nt	4.2	nt	2.2	nt	4.7	4.2	4.3	4.2	3.2	3.7	4.0	2.3	3.1	2.6	3.1	2.8	3.6	3.9	3.6	2.9	3.4
17C	nt																							
17D	nt																							
18A	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										
18D	nt																							
19A	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt										
19C	nt	<1.0	nt	<1.0	nt	<0.2	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt										
19D	nt																							
20A	nt																							
20C	nt	<1.0	nt	<1.0	nt	<0.2	nt	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<2.0	<5.0	<2.0	<2.0	<0.2	<0.2
20D	nt																							
21A	nt																							
21C	nt																							
22A	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
23A	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	nt										

nd = Not Detected.

nt = Not Tested.

J = Indicates the 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.

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

TRICHLOROETHENE (µg/L)

	Jan-94	May-95	Oct-95	Feb-96	May-96	Aug-96	Nov-96	Feb-97	May-97	Aug-97	Nov-97	Jun-98	Oct-98	Jun-99	Nov-99	Jun-00	Dec-00	Jun-01	Dec-01	Jun-02	Dec-02	Jun-03	Nov-03	May-04	Aug-04	Oct-04	Feb-05	Mar-05	May-05	
06A	nt	1.0	<1.0	<1.0	<1.0	nt	<1.0																							
06B	4.2	3.57	6.00 J	<5.00	7.37	3.5	2.5	4.9	4.7	4.6	6.5	3.5	2.6	4.54	2.2	4.7	8.71	5.83	4.7	5.9	4.5	2.9	1.0	3.2	1.2	<1.0	<1.0	nt	<2.0	
06C	1.6	<1.00	31.36	<10.00	<1.00	<2.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	91.6	<2.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	
08C	21	3.16	<5.00	<5.00	<3.33	<10.00	26.2	<5.00	<4.00	<4.00	<4.00	26.6	<5.00	<1.00	<2.00	<2.00	<2.00	<1.00	<1.00	<1.00	<1.00	<3.0	<5.0	<1.00	<1.00	<1.00	nt	<1.00		
09A	500	1796.5	1507	2318	1160	90.8	191	49.3	51.1	69.2	56.4	15.4	77	3.5	35	23	24.3	25.21	32	24	580	990	1500	230	11	19	<10	nt	<1.00	
09B	160	1463	524.7	1206	554	58.6	35.2	28.7	31.5	4.9	15.4	20.65	<10.00	7.5	4.8	2.6	11.2	5.79	4.8	2.5	12	9.7	370	4.2	16	17	<10	nt	<1.00	
09C	nd	19.41	<5.00	<10.00	3.54	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00		
09D	2.2	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00	
10A	120	333.23	411 E	268.41	115.3	56.7	128	28.4	38.2	36.6	48.8	23.8	33.9	19.2	14	8.3	13.11	17.02	18	24	29	32	49	27	12	15	4.8	nt	5.4	
10C	3.9	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00	
11A	7	2.41	<5.00	<5.00	2.54	1.9	1	<1.00	<1.00	1.2	1.6	<1.00	1.03	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1.9	2.2	2.2	2.8	2.1	nt	2.0	nt	nt	2.0	
12A	5.5	1.13	<5.00	<5.00	<1.00	1.7	1.2	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00	
13A	31	12.23	<5.00	9.57 J	16.52	3.4	3.4	2	1.5	2.9	3	1.1	1.7	1.8	2.3	2.4	2.12	1.28	<1.00	3.4	3.3	3.9	3.8	4.6	nt	4.0	nt	nt	4.6	
13C	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00	
14A	600	6.25	<5.00	151.58	146.72	84.1	2.8	<4.00	<2.00	<2.00	<2.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	2.9	39	<5.0	nt	<10	
14C	6.6	14.41	21.93	13.33	7.61	12.5	<1.00	<10.00	<10.00	<10.00	<2.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00	
14E	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00	
15A	7.5	<1.00	<5.00	<5.00	<5.00	<2.00	<1.00	<4.00	<2.00	<1.00	<2.00	<3.33	<10.00	<1.00	<10.00	<10.00	<10.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.0	<5.0	<5.0	nt	<5.0	nt	<5.0	
15C	12	<1.00	<33.30	<5.00	<1.00	7.5	<1.00	<2.00	12	<10.00	<10.00	<3.33	<1.00	<2.00	<2.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00	
15D	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00											
16A	4.4	5.02	<5.00	<5.00	2.57	4	2.1	2.6	2	1.9	<1.00	<1.00	<1.00	1.01	1.4	1.2	1.08	<1.00	<1.00	<1.00	1.5	1.3	1.2	1.2	nt	1.3	nt	nt	1.8	
16C	nd	<1.00	<5.00	<10.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00	
17A	7.2	17.42	17.04	<5.00	7.28	<1.00	9.8	17.5	4.9	18	2	<1.00	12.4	11.1	11.5	6.6	13.99	nt	5.9	7.4	7.5	7.4	7.9	6.5	nt	4.8	nt	nt	nt	
17C	2.1	<1.00	<5.00	<5.00	<1.00	14.1	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt											
17D	2.3	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	nt											
18A	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	nt	<1.00	nt	nt	nt	nt	nt	
18C	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00	
18D	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt											
19A	1.5	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	<1.00	nt	nt	<1.00	nt	<1.00	
19C	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00	
19D	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt											
20A	1.1	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt											
20C	1.8	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	<1.00	
20D	1.5	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt											
21A	nt	nt	nt	nt	<1.00		<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt							
21C	nt	<1.00	<1.00	<1.00	<1.00	nt																								
22A	nt	<1.00	<1.00																											
23A	nt	<1.00	<1.00																											

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

TRICHLOROETHENE (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
06A	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<0.2	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2
06B	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2
06C	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	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										
09A	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	0.2	4.6	<1.0	<1.0	<1.0	<1.0	<2.0	<0.2	<0.2	<2.0	<2.0	<2.0	<2.0	<0.2	<0.2
09B	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	nt										
09C	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<3.0	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										
10A	6.3	6.7	9.6	3.7	1.6	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	nt
10C	nt	<1.0	nt	<1.0	nt	<0.2	nt	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
11A	nt	2.0	nt	1.1	nt	1.5	nt	1.5	1.1	1.2	1.2	<1.0	1.0	1.1	<1.0	<1.0	0.5	0.7	<2.0	<2.0	<2.0	<2.0	0.4	0.5
12A	nt	<1.0	nt	<1.0	nt	0.7	nt	<1.0	<1.0	0.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.6	<0.2	0.4	<0.2	0.5	<0.2	<0.2	nt
13A	nt	4.5	nt	4.6	nt	6.5	nt	7.0	4.2	6.8	3.7	5.6	6.0	5.3	2.8	2.4	<1.0	0.8	0.8	2.5	0.6	1.3	0.5	0.4
13C	nt	<1.0	nt	<1.0	nt	<0.2	nt	<0.2	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<2.0	<2.0	<2.0	<2.0	<1.0	<0.2	<0.2
14A	<10	<3.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	nt
14C	nt	<1.0	nt	<1.0	nt	<0.2	nt	<1.0	<1.0	<1.0	<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
14E	nt	<1.0	nt	<1.0	nt	<0.2	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt										
15A	nt	<5.0	nt	<5.0	nt	<3.0	nt	<1.0	<1.0	<3.0	<1.0	<3.0	<1.0	<1.0	<1.0	<10	<0.2	<1.0	<0.2	<0.5	<0.2	<0.2	<0.2	nt
15C	nt	<1.0	nt	<1.0	nt	<0.2	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	3.2	<5.0	<2.0	<2.0	<0.2	<0.2
15D	nt	<1.0	nt	<1.0	nt	<1.0	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt										
16A	nt	2.2	nt	1.4	nt	0.8	nt	1.3	1.2	1.3	1.4	1.6	1.5	1.4	1.1	1.4	1.3	1.7	1.5	1.5	1.8	1.6	1.5	1.4
16C	nt	<1.0	nt	<1.0	nt	2.3	nt	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2
17A	nt	5.4	nt	4.4	nt	6.3	nt	5.3	4.3	5.1	5.2	4.9	4.5	3.1	4.8	2.2	2.8	2.0	3.5	2.8	3.4	2.6	3.1	2.3
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
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
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
18C	nt	<1.0	nt	<1.0	nt	<0.2	nt	<0.2	<1.0	<0.2	<1.0	<1.0	<1.0	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
19A	<1.0	<1.0	<1.0	<1.0	<1.0	0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt										
19C	nt	<1.0	nt	<1.0	nt	<0.2	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	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
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
20C	nt	<1.0	nt	<1.0	nt	0.2	nt	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<2.0	<5.0	<2.0	<2.0	<0.2	<0.2	
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
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
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
22A	<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	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
23A	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	nt										

nd = Not Detected.

nt = Not Tested.

J = Indicates the 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.

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

CIS-1,2-DICHLOROETHENE (µg/L)

	Jan-94	May-95	Oct-95	Feb-96	May-96	Aug-96	Nov-96	Feb-97	May-97	Aug-97	Nov-97	Jun-98	Oct-98	Jun-99	Nov-99	Jun-00	Dec-00	Jun-01	Dec-01	Jun-02	Dec-02	Jun-03	Nov-03	May-04	Aug-04	Oct-04	Feb-05	Mar-05	May-05	
06A	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	23	45	2.6	3.3	nt	2.6	
06B	23	43.71	53.75	29.45	58.31	46.3	30.5	37.4	60.9	61.8	76.4	66.7	9.9	70.1	49.7	71.5	91.77	63.94	27	40	23	13	11	10	13	10	11	nt	5.5	
06C	7.9	14.57	99.09	<10.00	1.01	107	1.9	3.1	22.1	28.3	12.3	1.1	181 E	<2.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1.4	<1.00	3.6	nt	1.1	
08C	44	14.95	<5.00	5.55 J	8	1.1	37.6	<5.00	37.3	46.1	42.3	38.4	<5.00	1.1	<2.00	3.2	<2.00	<1.00	<1.00	<1.00	<1.00	<3.00	<5.00	<1.00	nt	<1.00	nt	nt	<1.00	
09A	2500	5790.9	3286	7484	6143	443	816	520	258	206.E	199	94.3	680	15.5	187	421	60.75	266.6	100	280	1600	2300	2300	970	370	460	41	nt	<1.00	
09B	940	5010.35	1307 E	3407 E	1521	207	142	164 E	510	35.1	111	939 E	178	122.04	41.2	102.4	135.2	112.3	100	<180	180	140	850	250	530	300	890	nt	12	
09C	520	431.66	159.69	70	33.67	29.8	1.6	4.6	2.6	2	1.7	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1.1	6.7	2.7	4.1	8.9	4.0	1.7	<1.00	1.7	nt	1.2	
09D	5.1	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	nt	nt	<1.00	
10A	470	421.26	297 E	249.16	159.2	90.1	17.8	29	66.1	58.5	74.1	29.3	6.9	33.3	20.6	10.6	14.14	14.09	36	80	110	88	98	80	170	100	24	nt	26	
10C	14	1.93	<5.00	<5.00	1.01	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	3.7	3.3	14	6.2	4.3	nt	6.4	nt	nt	4.0	
11A	54	15.86	10.82	7.17 J	10.27	9.3	6.4	4.9	6.6	6.1	4.2	2.8	2.3	2.1	1.1	1.5	1.55	1.27	2.1	6.0	12	17	18	21	nt	20	nt	nt	20	
12A	20	2.30	17.5	<5.00	1.09	9.5	6.6	<1.00	6.1	3.7	3	1.7	1.7	1.8	1.03	1.9	2.07	1.46	2.2	1.8	3.3	1.4	4	1.8	nt	4.4	nt	nt	2.0	
13A	8.2	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	1.6	<1.00	<1.00	1.2	1.3	1.2	1.2	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	nt	nt	<1.00	
13C	16	1.14	<5.00	<5.00	<1.00	1.3	<1.00	1.3	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1.4	<1.00	<1.00	nt	<1.00	nt	nt	<1.00	
14A	590	15.50	9.83 J	294.36	115.94	249	114	6.4	24.2	18.3	9.5	4.9	3.7	7	3.2	3.8	<1.00	<1.00	<1.00	<1.00	<1.00	7.2	23	170	140	560	1200	300	nt	<10
14C	110	187.91	1017.82	237.4	70.06	326	211	183	163	136	82.7	25.6	21.7	6.2	<1.00	1.2	2.83	1.64	<1.00	1.5	2.4	31	13	63	nt	22	nt	nt	11	
14E	1.1	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	nt	nt	<1.00	
15A	9.1	3.29	<5.00	<5.00	<5.00	3.6	3.5	4.5	5	5.5	5.5	15.65	<10.00	<1.00	<10.00	<10.00	<10.00	4.99	4.9	2.8	2.8	<5.00	<5.00	<5.00	nt	<5.00	nt	nt	<5.00	
15C	92	69.14	640.52	93.62	1.47	463	532	187	1470	1100	719	785 E	90.5	53.2	28.4	1.01	2.53	<1.00	1.1	<1.00	<1.00	2.9	5.7	9.1	nt	11	nt	nt	13	
15D	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	nt	nt	<1.00	
16A	5.5	12.63	5.38 J	<5.00	25.39	12	3.2	6.2	2.4	1.7	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1.76	1.82	2.6	<1.00	1.2	2.4	1.3	2.3	nt	1.8	nt	nt	2.6	
16C	14	11.83	6.24 J	<10.00	5.66	2.6	1.6	1.6	1.13	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	2.4	nt	nt	2.8	
17A	4.3	1.38	<5.00	<5.00	1.09	<1.00	1.4	1.2	2.90 J	4.13	<1.00	2.3	3.8	4.1	4.3	2.3	2.1	nt	2	<1.00	1.0	1.4	1.6	1.0	nt	1.2	nt	nt	nt	
17C	5.3	<1.00	<5.00	<5.00	1.19	1.6	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	nt												
17D	1.8	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	nt												
18A	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	<1.00	nt	nt	nt	nt	nt	
18C	1.3	2.02	<5.00	<5.00	<1.00	1	<1.00	<1.00	<1.00	<1.00	1.1	1.8	2.8	1.9	2.1	1.3	1.59	1.42	<1.00	<1.00	<1.00	1.7	<1.00	<1.00	nt	<1.00	nt	nt	<1.00	
18D	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt											
19A	2.4	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	<1.00	nt	nt	<1.00	nt	<1.00	
19C	1.7	1.17	<5.00	<5.00	1.37	1.3	<1.00	<1.00	1.2	1.2	1.2	2	1.2	1.4	<1.00	1.03	<1.00	1.01	<1.00	<1.00	<1.00	<1.00	1	<1.00	nt	<1.00	nt	nt	<1.00	
19D	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt											
20A	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt											
20C	16	7.34	6.06 J	<5.00	2.46	2.5	2.1	1.9	1.6	<1.00	<1.00	<1.00	1.5	<1.00	<1.00	1.3	<1.00	1.09	1.1	<1.00	1.3	2.1	1.6	1.4	nt	1.7	nt	nt	1.7	
20D	1.8	2.22	<5.00	<5.00	46.38	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt											
21A	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt							
21C	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	<1.00	<1.00	<1.00	1.3	nt								
22A	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	3.5	2.3	
23A	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	<1.00	<1.00	

**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
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
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	<0.2	0.5	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	<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										
08C	nt	<1.0	nt	<1.0	nt	<5.0	nt	<3.0	<5.0	<5.0	<5.0	<1.0	<3.0	nt										
09A	<1.0	<1.0	<1.0	<1.0	<1.0	0.3	<1.0	<1.0	<1.0	110	160	<10	<5.0	<1.0	<1.0	<2.0	0.2	0.2	<2.0	<2.0	<2.0	<2.0	<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										
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										
09D	nt	<1.0	nt	<1.0	nt	<1.0	nt	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	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
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
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
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
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
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	<2.0	<2.0	<2.0	<2.0	<1.0	<0.2	<0.2
14A	<10	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
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
14E	nt	<1.0	nt	<1.0	nt	<0.2	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	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	<10	0.3	<1.0	0.4	0.6	0.5	0.6	0.4	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
15D	nt	<1.0	nt	<1.0	nt	<1.0	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	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
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
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
17C	nt																							
17D	nt																							
18A	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										
18D	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										
19C	nt	<1.0	nt	<1.0	nt	0.3	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt										
19D	nt																							
20A	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
20D	nt																							
21A	nt																							
21C	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
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										

nd = Not Detected.

nt = Not Tested.

J = Indicates the 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.

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

VINYL CHLORIDE (µg/L)

	Jan-94	May-95	Oct-95	Feb-96	May-96	Aug-96	Nov-96	Feb-97	May-97	Aug-97	Nov-97	Jun-98	Oct-98	Jun-99	Nov-99	Jun-00	Dec-00	Jun-01	Dec-01	Jun-02	Dec-02	Jun-03	Nov-03	May-04	Aug-04	Oct-04	Feb-05	Mar-05	May-05	Aug-05	Nov-05	Feb-06	
06A	nt	4.0	5.9	31	<1.0	nt	<1.0	<1.0	1.2	4.8																							
06B	13	36.53	31.8	52.29	44.78	54.5	49.4	63.7	88.7	55	62.7	46.3	4.2	48.4	25.9	8	21.58	10.62	8.9	12	11	8.4	17	9.4	2.3	3.6	<1.0	nt	<2.0	1.6	1.3	1.4	
06C	30	20.89	34.09	38.34	22.06	164	12	18.3	50.3	39.5	26.1	6	54.6	4.4	<1.00	<1.00	<1.00	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt	<1.0	<1.0	<1.0	<1.0	
08C	130	42.13	32.69	35.33	35.96	129	41.2	201	488	256	210	20.6	<5.00	49.7	21.4	2.4	<2.00	<1.00	<1.0	<1.0	<1.0	<3.0	<5.0	2.8	nt	3.5	nt	<1.0	nt	<1.0	nt		
09A	240	917.05	449	1385	844.9	124	228	80.9	185	127	135	83.8	425	14	278	499	17.95	86.44	7.8	46	150	120	180	37	150	220	37	nt	<1.0	<1.0	<1.0	<1.0	
09B	140	648.6	175.6	836	228.2	104	62.6	41.7	270	20.9	50.7	439.56	132	152.36	66.6	82.6	146.7	78.9	110	7.6	27	19	360	<3.0	100	340	520	nt	24	1.7	<1.0	1.3	
09C	190	233.79	185 E	71.74	50.13	106	19.4	59.8	147	102.5	87.8	1.1	<1.00	59	16.4	<1.00	<1.00	<1.00	<1.0	18	8.6	5.6	8.0	3.3	<1.0	1.5	<1.0	nt	<1.0	2.2	<1.0	<1.0	
09D	nd	1.37	<5.00	<5.00	<1.00	1	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt	<1.0	nt	nt	<1.0	nt	<1.0	nt	
10A	120	116.25	16.12	31.6	651.2	80.9	16.7	48.2	33.4	9.8	8.8	8.7	1.3	12.1	3.5	3	3.32	3.32	2.9	28	54	36	9.1	6.4	4.0	23	6.8	nt	7.2	76	73	150	
10C	39	28.29	33.16	40.41	18.69	11.6	10.1	9	<1.00	4.3	3.8	1.7	1.6	2.8	1.4	2.1	<1.00	<1.00	<1.0	8.4	15	15	8.8	4.0	nt	11	nt	nt	1.9	nt	1.0	nt	
11A	39	26.80	8.37 J	12.14	14.04	3.8	1.8	<1.00	<1.00	<1.00	3.4	<1.00	<1.00	1.1	<1.00	<1.00	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt	<1.0	nt	nt	<1.0	nt	<1.0	nt	
12A	14	<1.00	17.16	<5.00	<1.00	2.9	8.6	<1.00	9.4	6.7	1.1	1.3	<1.00	2.7	1.06	<1.00	<1.00	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt	<1.0	nt	nt	<1.0	nt	<1.0	nt	
13A	12	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt	<1.0	nt	nt	<1.0	nt	<1.0	nt	
13C	760	3.03	<5.00	15.24	11.48	3.6	1.9	2.5	2.2	<1.00	<1.00	1	1.6	1.8	<1.00	<1.00	<1.00	<1.00	<1.0	1.6	3.3	4.9	2.2	2.5	nt	3.3	nt	nt	<1.0	nt	3.8	nt	
14A	170	11.38	30.32	44.4	36.4	339	232	162	270	158	70	29.1	13.74	58.2	20.9	19.7	<1.00	<1.00	<1.0	<1.0	69	28	240	110	180	650	1000	nt	<10	<10	<3.0	<1.0	
14C	120	103.49	1587.3	1477	134.78	414	175	1296	307	148	144	39.4	56.4	30.2	<1.00	<1.00	4.67	1.21	<1.0	<1.0	4.4	50	35	44	nt	75	nt	nt	6.1	nt	1.8	nt	
14E	10	1.43	<5.00	<5.00	<1.00	1.3	<1.00	<1.00	1.3	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt	<1.0	nt	nt	<1.0	nt	<1.0	nt	
15A	16	13.84	31.2	54.62	19.45	19.4	23	20.4	23.5	17.4	18.6	61.61	17.2	2.9	37	16	<10.00	3.86	1.8	2.0	3.3	<5.0	<5.0	<5.0	nt	<5.0	nt	nt	<5.0	nt	<5.0	nt	
15C	38	38.79	142.38	69.81	5.12	104	220	69	598	519	500	772 E	194 E	121.2	49.2	1.4	21.32	<1.00	1.5	<1.0	1.3	5.6	16	11	nt	17	nt	nt	6.4	nt	<1.0	nt	
15D	nt	8.6	5.2	<1.00	<1.00	<1.00	<1.00	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt	<1.0	nt	nt	<1.0	nt	<1.0	nt										
16A	6	9.18	<5.00	<5.00	8.42	4.4	<1.00	<1.00	2.2	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt	<1.0	nt	nt	<1.0	nt	<1.0	nt	
16C	15	23.46	38.59	45.16	31.71	20.8	11.8	11.3	9.1	3	<1.00	1.4	<1.00	1.9	<1.00	<1.00	<1.00	<1.00	<1.0	<1.0	1.4	3.8	2.6	5.4	nt	8.5	nt	nt	7.7	nt	12	nt	
17A	nd	<1.00	<5.00	<5.00	<1.00	1	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt	<1.0	nt	nt	nt	nt	<1.0	nt	
17C	10	2.32	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	nt	nt													
17D	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	nt	nt													
18A	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	<1.0	nt	nt							
18C	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1.1	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt	<1.0	nt	nt	<1.0	nt	<1.0	nt	
18D	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt													
19A	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	<1.0	nt	nt	<1.0	nt	<1.0	<1.0	<1.0	<1.0	<1.0
19C	5.5	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt	<1.0	nt	<1.0	nt	<1.0	nt	nt	
19D	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt													
20A	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt													
20C	47	20.12	12.63	13.77	8.32	6.7	3.4	3.3	3.4	<1.00	<1.00	1.6	1.8	<1.00	1.9	<1.00	1.06	<1.00	<1.0	1.4	2.7	4.0	3.1	2.4	nt	4.6	nt	nt	2.3	nt	2.9	nt	
20D	nd	6.98	<5.00	<5.00	31.12	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt												
21A	nt	nt	nt	nt	<1.00		<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.0	<1.0	<1.0	nt	nt										
21C	nt	<1.00	<1.0	<1.0	<1.0	nt	nt																										
22A	nt	2.0	2.9	3.2	2.2	3.3																											
23A	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0																										

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

VINYL CHLORIDE (µg/L)

	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
06A	1.6	1.5	2.1	6.7	2.9	1.2	1.4	<1.0	<4.0	<1.0	1.9	1.7	1.4	0.8	1.2	0.8	1.3	2.4	1.5	2.7	3.3
06B	1.3	1.1	2.6	9.5	6.5	1	<1.0	<1.0	<1.0	<1.0	4.2	5.4	5.2	0.8	6.0	3.7	4.3	2.5	2.4	1.8	1.8
06C	<1.0	<1.0	<0.2	<1.0	<1.0	0.3	<1.0	<1.0	<1.0	<1.0	nt										
08C	<1.0	nt	<5.0	nt	<3.0	<5.0	<5.0	<5.0	<1.0	<3.0	nt										
09A	<1.0	1.2	1.1	<1.0	2.8	<1.0	85	42	<10	<5.0	<1.0	<1.0	<2.0	<0.2	<0.2	<2.0	<2.0	<2.0	<2.0	<0.2	<0.2
09B	<1.0	<1.0	0.5	<1.0	<1.0	<1.0	0.4	<1.0	<1.0	<1.0	nt										
09C	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	0.2	<1.0	<1.0	<3.0	nt										
09D	<1.0	nt	<1.0	nt	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	nt										
10A	19	20	9.2	35	44	78	180	5.0	<2.0	<1.0	<1.0	<1.0	<2.0	0.4	0.4	0.4	0.3	0.4	<1.0	0.3	nt
10C	2.2	nt	2.6	nt	5.8	5.6	6.9	7.5	<1.0	<1.0	<1.0	4.4	4.7	4.3	4.0	4.4	4.5	3.7	2.9	2.5	1.7
11A	<1.0	nt	<1.0	nt	<1.0	<1.0	0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.4	0.4	<2.0	<2.0	<2.0	<2.0	0.4	0.3
12A	<1.0	nt	<0.2	nt	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt
13A	<1.0	nt	<0.2	nt	<0.2	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
13C	2.2	nt	3.4	nt	4.4	2	0.6	2.2	<1.0	<1.0	<1.0	<1.0	<1.0	0.3	<2.0	<2.0	<2.0	<2.0	<1.0	0.2	0.3
14A	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	0.2	<0.2	<0.5	<0.2	0.3	0.2	nt
14C	<1.0	nt	1.0	nt	2.5	11	22	4.3	1.1	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<2.0	<2.0	<2.0	<1.0	<0.2	<0.2
14E	<1.0	nt	<0.2	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt										
15A	<5.0	nt	<3.0	nt	2.6	1.3	<3.0	<2.0	<3.0	1.4	1.6	1.4	<1.0	1.0	1.2	0.8	1.1	0.8	1.0	0.5	nt
15C	<1.0	nt	<0.2	nt	2.2	2.5	6.6	6.6	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<2.0	<5.0	2.3	2.9	2.5	2.4
15D	<1.0	nt	<1.0	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt										
16A	<1.0	nt	<0.2	nt	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2
16C	6.3	nt	<0.2	nt	10	8.9	7.9	8.8	6.3	5.6	3.4	2.8	3.2	2.5	4.2	3.8	2.8	2.1	1.2	1.3	1.2
17A	<1.0	nt	<0.2	nt	<0.2	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
17C	nt																				
17D	nt																				
18A	nt																				
18C	<1.0	nt	<0.2	nt	0.2	<1.0	0.2	<1.0	<1.0	<1.0	nt										
18D	nt																				
19A	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt										
19C	<1.0	nt	<0.2	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	nt										
19D	nt																				
20A	nt																				
20C	1.6	nt	1.5	nt	1.8	1.3	2.5	2.7	2.0	2.3	1.8	1.4	1.8	2.1	1.5	<2.0	<5.0	<2.0	<2.0	0.7	1.0
20D	nt																				
21A	nt																				
21C	nt																				
22A	1.7	2.4	2.4	2.3	2.7	1.3	1.9	3.1	2.5	1.8	1.7	2.7	2.2	1.7	2.0	1.8	2.0	1.7	1.6	1.5	1.5
23A	<1.0	<1.0	<0.2	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	nt										

nd = Not Detected.
nt = Not Tested.
J = Indicates the 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.

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

BENZENE (µg/L)

	Jan-94	May-95	Oct-95	Feb-96	May-96	Aug-96	Nov-96	Feb-97	May-97	Aug-97	Nov-97	Jun-98	Oct-98	Jun-99	Nov-99	Jun-00	Dec-00	Jun-01	Dec-01	Jun-02	Dec-02	Jun-03	Nov-03	May-04	Aug-04	Oct-04	Feb-05	Mar-05	May-05	Aug-05	Nov-05	Feb-06	
06A	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	<1.0	<1.0	<1.0	<1.0	nt	<1.0	<1.0	<1.0	<1.0	
06B	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1.3	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<2.0	<1.0	<1.0	<1.0	
06C	nd	8.64	230.09	29.96	13.7	5.6	2.9	3.4	4.6	4.1	4.2	4.2	5.7	2.8	2.7	<1.00	2.76	1.94	1.7	<1.00	<1.00	<1.00	2.2	<1.00	<1.00	1.9	1.2	nt	1.7	1.9	1.9	1.3	
08C	nd	225.74	135.58	104.73	104.6	31.8	121	27.5	6.1	<4.00	<4.00	13.6	<5.00	<1.00	<2.00	15.8	<2.00	<1.00	<1.00	5.4	4.4	<3.0	<5.0	2.0	nt	1.3	nt	<1.0	nt	<1.0	nt		
09A	nd	<1.00	<5.00	<500.00	<50.00	<3.33	<10.00	<4.00	<5.00	<1.00	<4.00	<1.00	<10.00	<1.00	<10.00	<10.00	<5.00	<1.00	<1.00	<1.00	<1.00	<15	<20	<20	<3.0	<5.0	<10	nt	<1.0	<1.0	<1.0	<1.0	
09B	nd	19.76	<33.30	<50.00	<10.00	2.5	<1.00	<1.00	7.5	3.1	3.3	<3.33	<10.00	<2.00	<2.00	<2.00	<2.00	<1.00	1.2	<1.00	<1.00	<1.00	<1.00	<3.0	<5.0	<5.0	<10	nt	<1.0	<1.0	<1.0	<1.0	
09C	nd	<1.00	<5.00	<10.00	<1.00	9.6	2.4	6.3	9.3	4.8	3.6	1.7	2.5	1.7	<1.00	1.5	1.36	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.0	<1.0	<1.0	<1.0	
09D	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.0	nt	<1.0	nt			
10A	nd	<1.00	<5.00	<50.00	<10.00	<1.00	<3.33	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.0	<1.0	<1.0	<1.0	
10C	nd	1.15	<5.00	<5.00	1.33	1.4	1.4	1.5	1.4	1.2	1.3	1.3	1.1	1.1	<1.00	1.4	1.23	<1.00	1.3	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.0	nt	<1.0	nt			
11A	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.0	nt	<1.0	nt			
12A	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.0	nt	<1.0	nt			
13A	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.0	nt	<1.0	nt			
13C	nd	4.88	69.66	33.56	25.76	75	34.1	36.5	20.5	7.6	6.8	3.9	3.3	3	<1.00	2	2.31	1.16	<1.00	<1.00	3.6	6.9	2.7	4.2	nt	1.3	nt	nt	1.9	nt	3.0	nt	
14A	nd	<1.00	<5.00	<20.00	<1.00	<10.00	<5.00	<4.00	<2.00	<2.00	<2.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.0	<10	<10	<3.0	<1.0	
14C	nd	<1.00	<5.00	<5.00	26.44	22	11.7	<10.00	<10.00	<10.00	4.3	2.8	4.64	2.5	1.2	1.4	1.33	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.0	nt	nt	<1.0	nt	<1.0	nt	
14E	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.0	nt	<1.0	nt			
15A	nd	<1.00	<5.00	<5.00	<5.00	<2.00	<1.00	<4.00	<2.00	<1.00	<2.00	<3.33	<10.00	<1.00	<10.00	<10.00	<10.00	<1.00	<1.00	<1.00	<1.00	<5.0	<5.0	<5.0	nt	<5.0	nt	nt	<5.0	nt	<5.0	nt	
15C	nd	<1.00	<33.30	<5.00	<1.00	<3.33	<1.00	<2.00	<10.00	<10.00	<10.00	<3.33	5.2	5.2	5.4	<1.00	4.28	2.92	3.2	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	nt	nt	<1.00	nt	<1.00	nt	
15D	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.0	nt	<1.0	nt			
16A	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	2	<1.00	10.9	49.8	1.6	46.03	33.88	15	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.0	nt	<1.0	nt	<1.0	nt	
16C	nd	<1.00	<5.00	<10.00	<1.00	3.3	31.2	11.3	14.4	18.8	1.7	15	8.3	10	6.4	7.8	4.33	4.99	4.5	1.7	2.6	1.2	2.8	<1.00	nt	1.0	nt	nt	<1.0	nt	<1.0	nt	
17A	nd	<1.00	<5.00	<5.00	<1.00	78.8	2.7	<1.00	<1.00	<1.00	<1.00	11.2	<1.00	<1.00	<1.00	1.5	<1.00	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	nt	nt	nt	nt	<1.00	nt	
17C	nd	142.64	73.23	34.26	92.46	40.6	22.5	36.6	4.7	21.8	8.53	5.6	2.7	3.7	2.4	2.1	nt	<1.00	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	
17D	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	
18A	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.0	nt	nt	nt	nt	nt	
18C	14	8.77	5.28 J	<5.00	5.79	5.4	3.1	3.6	4	2.9	2.7	1.5	1.4	1.5	<1.00	1.1	1.26	<1.00	<1.00	<1.00	<1.00	2.2	<1.00	<1.00	nt	<1.00	nt	nt	<1.00	nt	<1.00	nt	
18D	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	nt	nt	nt	
19A	1.1	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	<1.00	nt	nt	<1.00	nt	<1.00	<1.00	<1.00	<1.00	
19C	61	17.57	13.44	7.14 J	10.46	6.8	5.6	6.8	6.2	3.4	2.9	2.2	1.8	1.8	1.3	1.2	1.43	1.3	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.00	nt	<1.00	nt	<1.00	nt	
19D	3.9	3.60	<5.00	<5.00	2.42	2.2	1.6	1.9	1.7	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
20A	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	nt	nt	
20C	nd	<1.00	<5.00	<5.00	<1.00	1.1	<1.00	1.1	1.1	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1.1	<1.00	<1.00	nt	<1.00	nt	<1.00	nt	<1.00	nt	
20D	nd	<1.00	<5.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	nt	nt	
21A	nt	nt	nt	nt	<1.00		<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	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	<1.00	<1.00	<1.00	<1.00	nt	nt										

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

BENZENE (µg/L)

	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
06A	<1.0	<1.0	0.4	<1.0	<1.0	0.3	<1.0	<1.0	<4.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2
06B	<1.0	<1.0	<0.2	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2
06C	1.3	1.2	1.2	<1.0	<1.0	0.9	<1.0	<1.0	<1.0	<1.0	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
08C	<10	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
09A	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<0.2	<1.0	<10	<5.0	<1.0	<1.0	<2.0	<0.2	<0.2	<2.0	<2.0	<2.0	<2.0	<0.2	<0.2
09B	<1.0	<1.0	<0.2	<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
09C	<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
09D	<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
10A	<1.0	<1.0	0.3	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<1.0	<0.2	nt
10C	<1.0	nt	0.2	nt	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
11A	<1.0	nt	<1.0	nt	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<2.0	<2.0	<2.0	<2.0	<0.2	<0.2
12A	<1.0	nt	<0.2	nt	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	nt
13A	<1.0	nt	<0.2	nt	<0.2	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
13C	2.1	nt	2.1	nt	1.2	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<2.0	<2.0	<2.0	<1.0	<0.2	<0.2
14A	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	nt
14C	<1.0	nt	<0.2	nt	<1.0	<1.0	<1.0	<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
14E	<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
15A	<5.0	nt	<3.0	nt	<1.0	<1.0	<3.0	<1.0	<3.0	<1.0	<1.0	<1.0	<10	0.4	<1.0	0.4	<0.5	0.3	0.3	0.2	nt
15C	<1.0	nt	0.4	nt	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<2.0	<5.0	<2.0	<2.0	<0.2	<0.2
15D	<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
16A	<1.0	nt	<0.2	nt	<1.0	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2
16C	<1.0	nt	<0.2	nt	<1.0	<1.0	0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2
17A	<1.0	nt	<0.2	nt	<0.2	<1.0	<0.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
17C	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
18A	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
18C	<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
18D		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	<0.2	<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
19C	<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
19D	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
20C	<1.0	nt	0.5	nt	0.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.4	<2.0	<5.0	<2.0	<2.0	0.2	0.2	
20D	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
21C	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
22A	<1.0	<1.0	0.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.2	0.4	0.4	0.5	0.3	0.4	0.5	0.3
23A	<1.0	<1.0	<0.2	<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

nd = Not Detected.
nt = Not Tested.
J = Indicates the 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.

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

NAPHTHALENE (µg/L)

	Jan-94	May-95	Oct-95	Feb-96	May-96	Aug-96	Nov-96	Feb-97	May-97	Aug-97	Nov-97	Jun-98	Oct-98	Jun-99	Nov-99	Jun-00	Dec-00	Jun-01	Dec-01	Jun-02	Dec-02	Jun-03	Nov-03	May-04	Aug-04	Oct-04	Feb-05	Mar-05	May-05	Aug-05	Nov-05	Feb-06		
06A	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	<5.0	<5.0	<5.0	<5.0	nt	<5.0	<5.0	<5.0	<5.0		
06B	nt	nt	nt	nt	<1.00	2.8	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1.4	<1.00	<1.00	<1.00	<1.00	4.5	1.8	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<10	<5.0	<5.0	<5.0			
06C	nt	nt	nt	nt	29.26	10.4	9.1	8.8	7.2	<1.00	18.4	3	25.1	3.4	<1.00	7.7	44.97	9.73	2.8	<5.0	<5.0	<5.0	<5.0	220	14	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0			
08C	nt	nt	nt	nt	351.9	401	155	370	234	118	292	600 E	38.6	230	137	109.2	174.1	125	210	180 J	290	390	300	130	nt	180	nt	130	nt	82	nt			
09A	nt	nt	nt	nt	<50.00	<3.33	<10.00	<4.00	<5.00	<1.00	7	<1.00	<10.00	<1.00	<10.00	<10.00	8.65	3.63	<1.0	<5.0	<5.0	<75	<100	<100	<15	<25	<50	nt	<5.0	<5.0	<5.0	<5.0		
09B	nt	nt	nt	nt	<10.00	<2.00	<1.00	<1.00	13.8	22.4	<2.00	<3.33	<10.00	3.4	4.6	<2.00	11.2	2.24	3.1	<5.0	<5.0	<5.0	<5.0	<15	<25	<25	<50	nt	<5.0	<5.0	<5.0	<5.0		
09C	nt	nt	nt	nt	<1.00	1.2	<1.00	8.8	6.5	<1.00	25	<1.00	<1.00	9.9	6.8	<1.00	1.67	1.8	1.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	7.7	68	nt	51	29	12	5.1		
09D	nt	nt	nt	nt	<1.00	1.3	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<5.0	nt	<5.0	nt	<5.0	nt		
10A	nt	nt	nt	nt	<10.00	4.2	<3.33	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<5.0	<5.0	<5.0	<5.0			
10C	nt	nt	nt	nt	14.27	30.5	6.3	56.1	6.4	7.6	5.8	2.8	<1.00	3.8	4.7	2.7	5.77	<1.00	36	5.0	<5.0	<5.0	<5.0	9.4	nt	<5.0	nt	nt	<5.0	nt	<5.0	nt		
11A	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	5.1	<1.00	<1.00	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<5.0	nt	nt	<5.0	nt	<5.0	nt		
12A	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<5.0	nt	nt	<5.0	nt	<5.0	nt		
13A	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<5.0	nt	nt	<5.0	nt	<5.0	nt		
13C	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<5.0	nt	nt	<5.0	nt	<5.0	nt		
14A	nt	nt	nt	nt	<1.00	<10.00	<5.00	<4.00	<2.00	<2.00	<2.00	<2.00	<1.00	<1.00	150	4.8	235	113.23	84.7	35	5.7	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<25	nt	<50	<50	<15	<5.0
14C	nt	nt	nt	nt	<2.00	<10.00	<1.00	<10.00	<10.00	<10.00	11.8	7.2	6.5	6.3	7.3	17.2	8.7	6.79	3.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<5.0	nt	<5.0	nt	<5.0	nt	<5.0	nt
14E	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<5.0	nt	nt	<5.0	nt	<5.0	nt		
15A	nt	nt	nt	nt	423.67	239	152	247	136	67.3	465 E	1721 E	916	58.9	561	797	695.6	985.5	1100	840 J	510	370	490	700	nt	430	nt	nt	440	nt	390	nt		
15C	nt	nt	nt	nt	<1.00	1	<1.00	4.4	<10.00	<10.00	<10.00	<3.33	4.8	<2.00	<2.00	29.8	<1.00	<1.00	<1.0	<5.0 J	<5.0	<5.0	<5.0	<5.0	nt	<5.0	nt	nt	<5.0	nt	<5.0	nt		
15D	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	7.4	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<5.0	nt	nt	<5.0	nt	<5.0	nt		
16A	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	3.1	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<5.0	nt	nt	<5.0	nt	<5.0	nt		
16C	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<5.0	nt	nt	<5.0	nt	<5.0	nt		
17A	nt	nt	nt	nt	<1.00	62	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<5.0	nt	nt	nt	nt	<5.0	nt		
17C	nt	nt	nt	nt	<1.00	<1.00	26.6	<1.00	0.6	37.3	106	<1.00	<1.00	31.9	16.6	13.7	nt	12.12	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	
17D	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	
18A	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	nt	<5.0	nt	nt	nt	nt	nt	nt	nt	nt	
18C	nt	nt	nt	nt	<1.00	<1.00	<1.00	1.7	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1.1	<1.00	<1.00	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<5.0	nt	nt	<5.0	nt	<5.0	nt		
18D	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	
19A	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1.54	nt	nt	nt	nt	nt	nt	<5.0	nt	nt	<5.0	nt	<5.0	<5.0	<5.0	<5.0	
19C	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<5.0	nt	nt	<5.0	nt	<5.0	nt		
19D	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	
20A	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	5.48	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	
20C	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1.81	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	nt	<5.0	nt	nt	<5.0	nt	<5.0	nt		
20D	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	
21A	nt	nt	nt	nt	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.0	<5.0	<5.0	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	207.4	<1.0	<5.0	<5.0	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	
22A	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	9.9	140	180	170	210 J	
23A	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	19	130	100	<5.0	45		

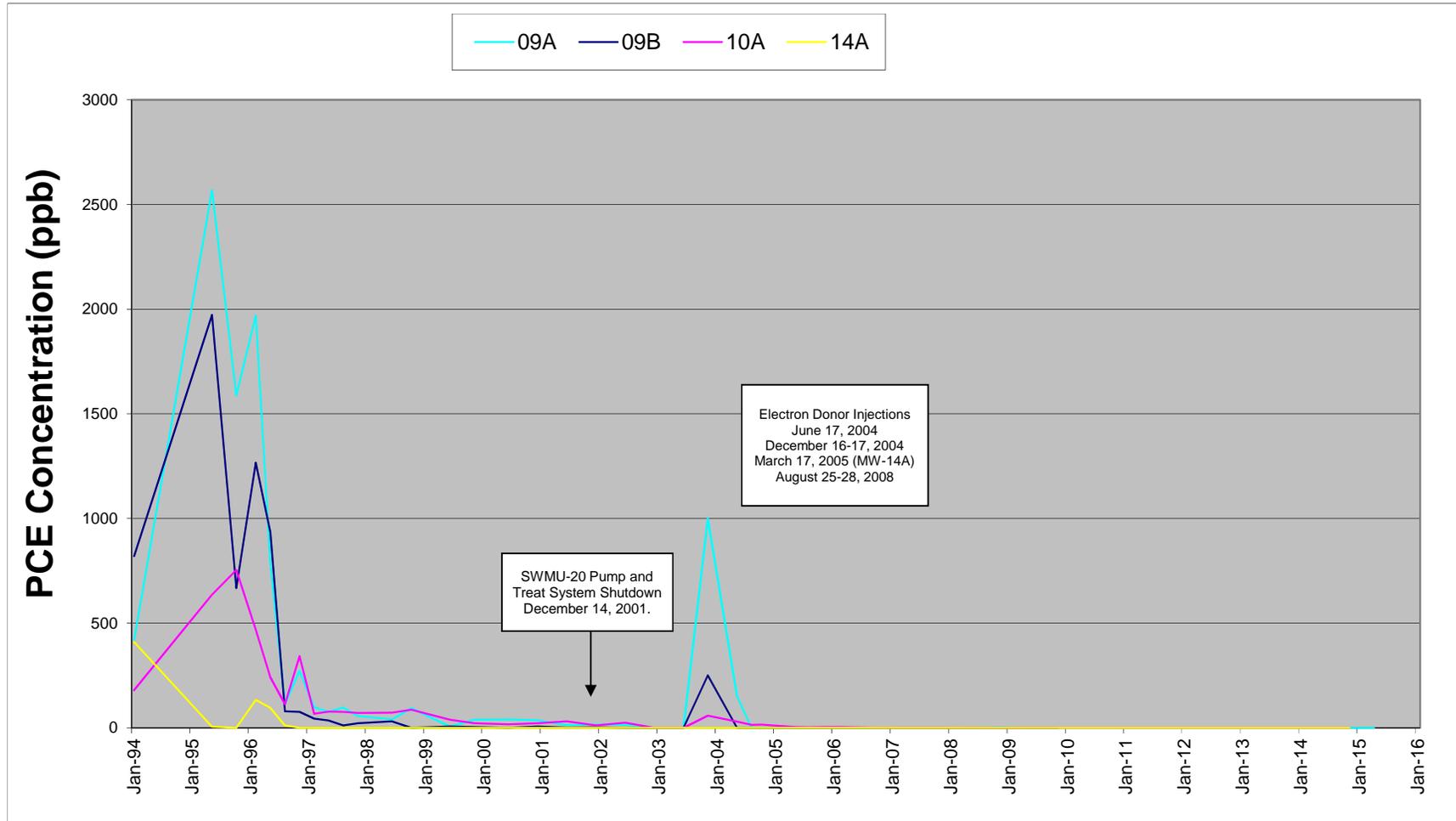
**SWMU-20 ANALYTICAL RESULTS SUMMARY
DEVELOPMENTAL CENTER GROUNDWATER MONITORING
JANUARY 1994 THROUGH PRESENT**

NAPHTHALENE (µg/L)

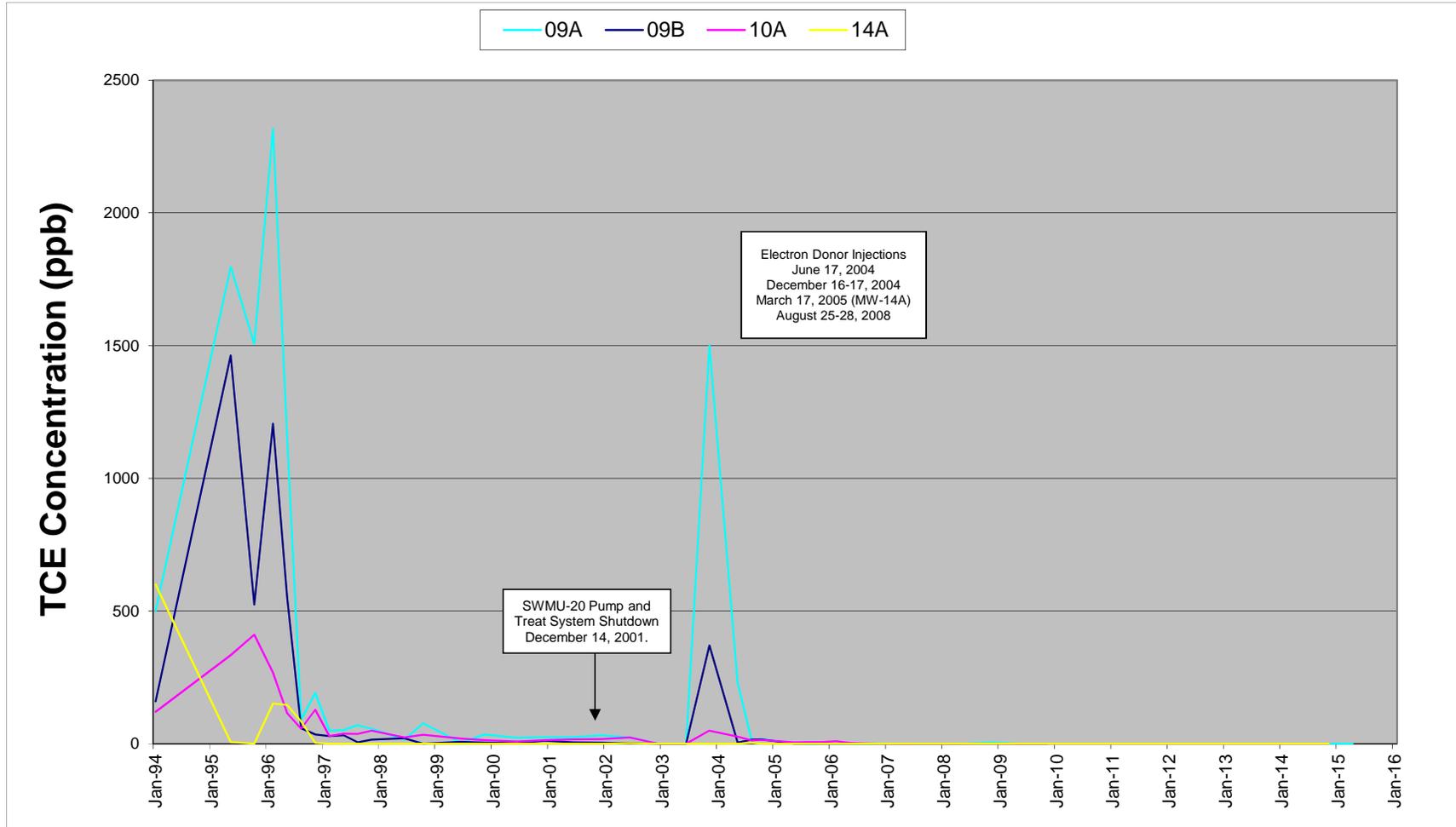
	May-06	Aug-06	Nov-06	Feb-07	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Nov-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	Apr-15
06A	<5.0	<5.0	<0.5	<5.0	<5.0	<0.5	<5.0	<5.0	<20	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
06B	<5.0	<5.0	0.6	<5.0	<5.0	<0.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
06C	<5.0	<5.0	5.0	<5.0	<5.0	4.6	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	nt	nt	nt	nt	nt	nt	nt	nt	nt
08C	910	nt	440	nt	500	540	180	1100	62	65	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
09A	<5.0	<5.0	<0.5	<5.0	<5.0	<5.0	<0.5	<5.0	<50	<25	<5.0	<5.0	<5.0	5.3	9.5	7.5	56	23	9.9	8.7	2.6
09B	<5.0	<5.0	<0.5	<5.0	<5.0	<5.0	0.6	<5.0	<5.0	<5.0	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
09C	<5.0	<5.0	14	18	5.5	<5.0	6.7	<5.0	56	69	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
09D	<5.0	nt	<2.5	nt	<5.0	<5.0	<0.5	<5.0	<5.0	<5.0	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
10A	<5.0	<5.0	<0.5	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<0.5	nt
10C	<5.0	nt	<0.5	nt	<5.0	<5.0	<0.5	<5.0	100	39	12	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	10
11A	<5.0	nt	<5.0	nt	<5.0	<5.0	<0.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5
12A	<5.0	nt	<0.5	nt	<5.0	<5.0	<0.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	nt
13A	<5.0	nt	<0.5	nt	<0.5	<5.0	<0.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
13C	<5.0	nt	16	nt	16	<5.0	0.5	<5.0	<5.0	<5.0	22	6.5	<5.0	<5.0	<0.5	<5.0	<5.0	<5.0	<2.5	<0.5	3.3
14A	<10	<5.0	7.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0.5	<0.5	0.8	<0.5	0.7	<0.5	<0.5	nt
14C	<5.0	nt	6.3	nt	6.2	<5.0	<5.0	<5.0	<5.0	<5.0	15	<5.0	<5.0	<0.5	<0.5	<5.0	<5.0	<5.0	<2.5	<0.5	<0.5
14E	<5.0	nt	<0.5	nt	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
15A	220	nt	180	nt	72	170	180	230	170	190	310	240	210	190	170	120	84	180	89	190	nt
15C	<5.0	nt	<0.5	nt	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5
15D	<5.0	nt	<2.5	nt	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
16A	<5.0	nt	<0.5	nt	<5.0	<5.0	<0.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
16C	<5.0	nt	<0.5	nt	<5.0	<5.0	<0.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
17A	<5.0	nt	<0.5	nt	<0.5	<5.0	<0.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
17C	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							
18A	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt							
18C	<5.0	nt	<0.5	nt	0.6	<5.0	<0.5	86	47	<5.0	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							
19A	<5.0	<5.0	<0.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
19C	<5.0	nt	0.5	nt	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	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							
20A	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt							
20C	<5.0	nt	0.8	nt	<0.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5	<5.0	<5.0	<5.0	<5.0	<0.5	<0.5
20D	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							
21C	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt							
22A	120	200	140	110	100	25	41	32	51	15	14	16	20	12	15	9.2	11	7.1	9.8	6.5	6.2
23A	69	140	9.0	26	36	6.1	5.3	<5.0	9.8	<5.0	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt

nd = Not Detected.
nt = Not Tested.
J = Indicates the 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.

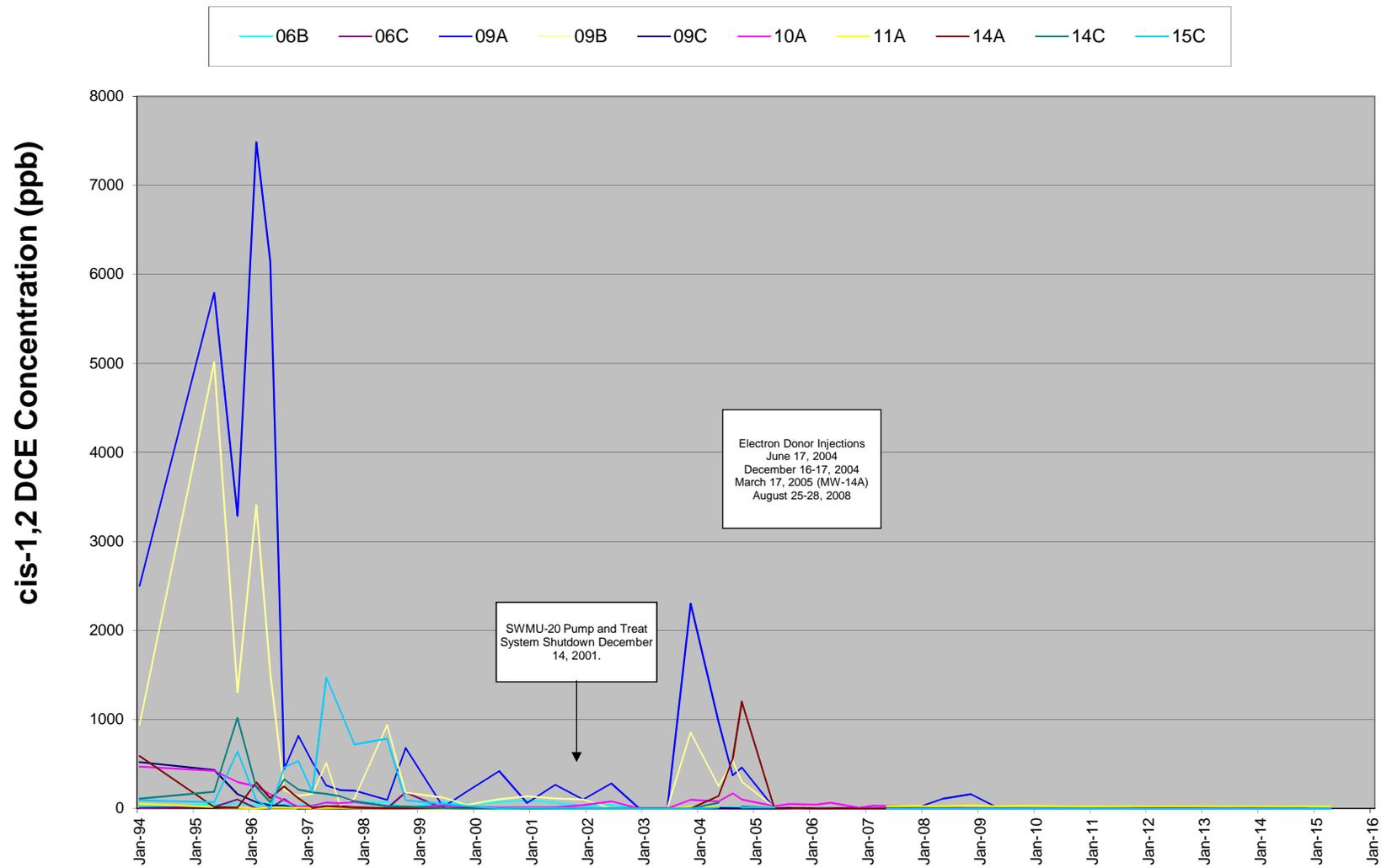
DEVELOPMENTAL CENTER WELLS TETRACHLOROETHENE CONCENTRATIONS (Wells with PCE Historically Detected over 50 ppb)



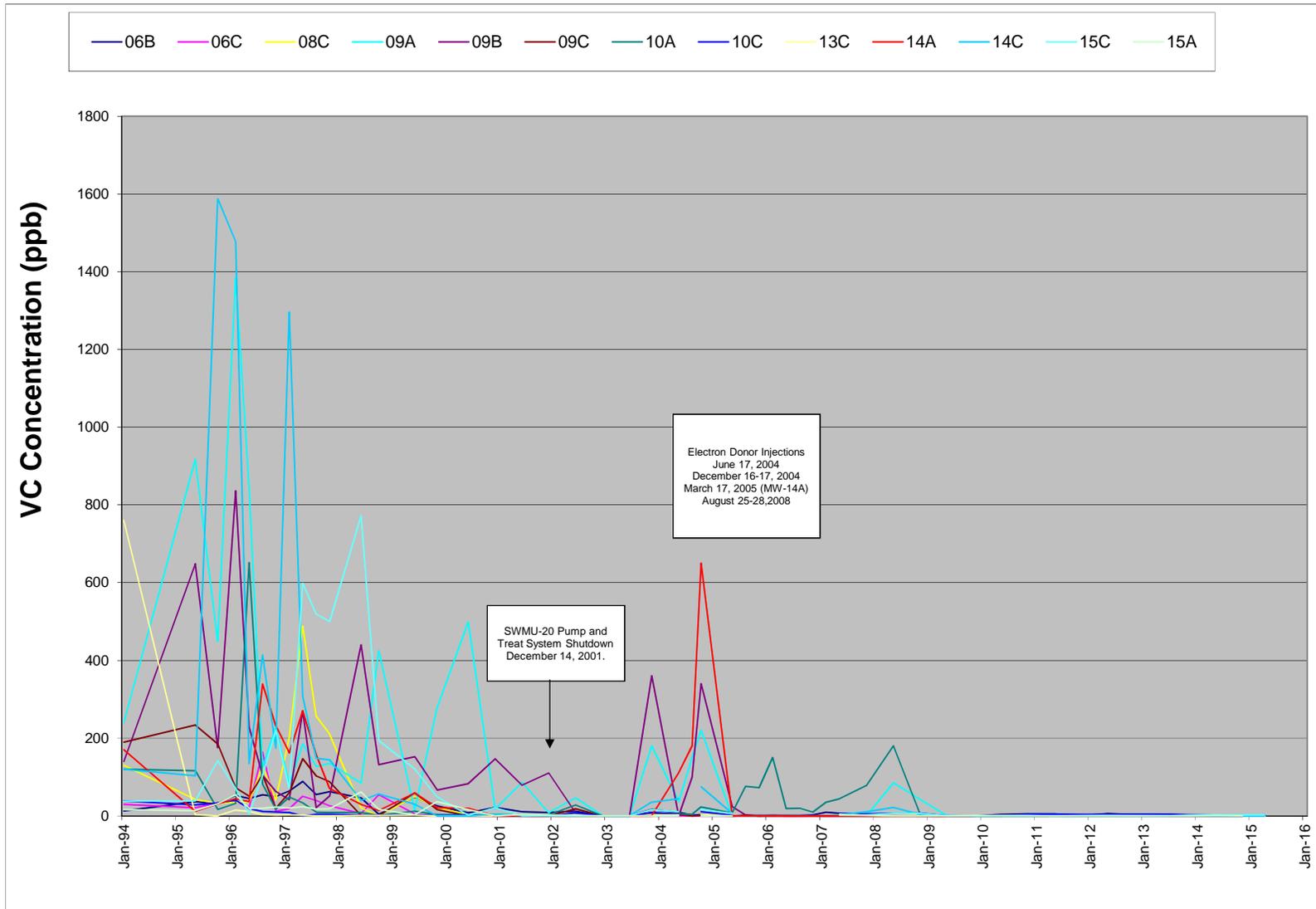
DEVELOPMENTAL CENTER WELLS TRICHLOROETHENE CONCENTRATIONS (Wells with TCE Historically Detected over 50 ppb)



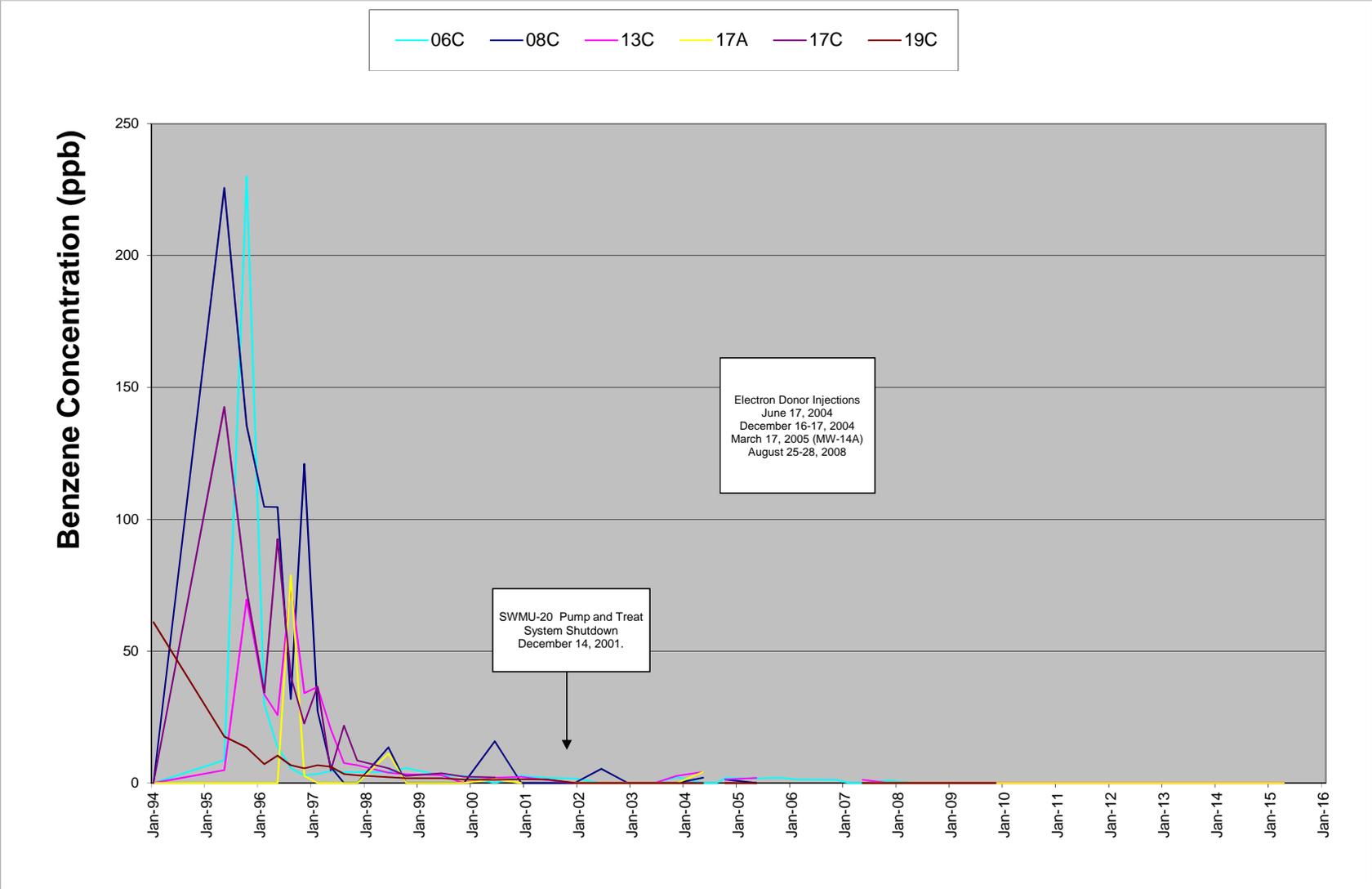
DEVELOPMENTAL CENTER WELLS CIS-1,2 DICHLOROETHENE CONCENTRATIONS (Wells with cis-1,2 DCE Historically Detected over 50 ppb)



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	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	---
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	---
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	---

**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	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)	---	---								
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	---
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	<1.1	<1.2	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	---
09A	05/15/2006	697	515			<1.0	<1.0	<1.0	<1.0	<11	<12	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	---

**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	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	05/19/2008	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	---
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	<11	<12	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
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	---

**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	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)	---	---								
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
14A	05/16/2005	333	151	60		<10	<10	<10	<10	<0.50	<0.50	5.90	45	4.0	<2.0	590	6.4	8620	---
14A	08/22/2005	431	249	158		<10	<10	<10	<10	<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	<11	<12	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	---

**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	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	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	---
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	---

**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	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	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	---
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	---
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	---

**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	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	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 = Detect

µg/L = micrograms pr liter

mg/L = milligrams per liter

mV = millivolts

NA = Not analyzed

Box = Exceedance of proposed CUL

(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)

(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).

6/17/2004 for elapsed time relative to injection

12/16/2004 for elapsed time relative to injection

3/17/2005 for elapsed time relative to injection

8/25/2008 for elapsed time relative to injection

**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	5.3 PCE (µg/L)	1.4 TCE (µg/L)	134 cDCE (µg/L)	2.4 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			<1.0	<1.0	<1.0	<1.0
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

**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	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-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
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

**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	5.3 PCE (µg/L)	1.4 TCE (µg/L)	134 cDCE (µg/L)	2.4 VC (µg/L)
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-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-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

**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	5.3 PCE (µg/L)	1.4 TCE (µg/L)	134 cDCE (µg/L)	2.4 VC (µg/L)
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-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
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

**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	5.3 PCE (µg/L)	1.4 TCE (µg/L)	134 cDCE (µg/L)	2.4 VC (µg/L)
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-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

**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	5.3 PCE (µg/L)	1.4 TCE (µg/L)	134 cDCE (µg/L)	2.4 VC (µg/L)
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-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
MW-17A	4/28/2015	3967	3785		2437	3.4	2.3	0.4	<0.2
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

**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	5.3 PCE (µg/L)	1.4 TCE (µg/L)	134 cDCE (µg/L)	2.4 VC (µg/L)
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
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

PCE = Tetrachloroethene

TCE = Trichloroethene

cDCE = cis-1,2-Dichloroethene

VC = Vinyl Chloride

µg/L - micrograms per liter

Bold = Detect

Box = Exceedance of proposed CUL

(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)

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

6/17/2004 for elapsed time relative to injection

12/16/2004 for elapsed time relative to injection

3/17/2005 for elapsed time relative to injection

8/25/2008 for elapsed time relative to injection

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

*DEVELOPMENTAL CENTER
GROUNDWATER MONITORING
APRIL 2015*

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
JANUARY AND APRIL 2015**

Sample Name: LLI SDG: LLI Sample ID: Sample Date:	BDC-05-02 1533426 7749120 1/21/2015	BDC-05-02 1557098 7866297 4/27/2015	BDC-05-02-Dup 1557098 7866315 4/27/2015	BDC-05-03 1557098 7866285 4/27/2015	BDC-05-04 1557098 7866303 4/27/2015	BDC-05-05 1557098 7866309 4/27/2015	BDC-05-07 1557098 7866291 4/27/2015	BDC-05-08 1557098 7866279 4/27/2015	BDC-05-09 1557098 7866273 4/27/2015	BDC-05-10 1557098 7866267 4/27/2015	BDC-05-11 1557098 7866255 4/27/2015	BDC-05-12 1533426 7749118 1/21/2015	BDC-05-12 1557098 7866249 4/27/2015	BDC-05-13 1557098 7866231 4/27/2015	BDC-05-14 1557098 7866225 4/27/2015	BDC-05-15 1557098 7866243 4/27/2015	BDC-05-16 1533426 7749122 1/21/2015	BDC-05-16 1557098 7866183 4/26/2015	BDC-05-17 1557098 7866177 4/26/2015	
Test ID: VOA SW8260C (µg/L)																				
Vinyl Chloride	1.7	3.4	3.6	0.4	0.2 U	0.2 U	5.3	2.3	8.3	2.9	3.5	2.8	1.4	1.9	1.6	1.9	2.9	2.3	1.5	
cis-1,2-Dichloroethene	1.7	1.2	1.2	0.2 U	1.0	0.2 U	0.6	0.8	0.4	0.2 U	0.4	0.2 U	0.2 U	0.2 U	0.2					
Trichloroethene	0.6	1.1	1.2	0.4	0.4	1.0	0.2 U													
Tetrachloroethene	1.2	2.7	2.8	1.5	1.0	0.4	0.2 U													
Test ID: Total Metals (mg/L)																				
Arsenic (EPA 200.8)		0.0180	0.0180	0.0020 J	0.0039	0.0006 J	0.0042	0.0192	0.0074	0.0257	0.0186		0.0168	0.0193	0.0182	0.0555		0.0478	0.0391	
Copper (EPA 200.8)		0.0037	0.0031	0.0038	0.0046	0.0026	0.0020 U	0.0042	0.0020 U	0.0034	0.0020 U		0.0020 U	0.0020 U	0.0020 U	0.0020 U		0.0024	0.0040	
Test ID: Dissolved Metals (mg/L)																				
Arsenic (EPA 200.8)		0.0112	0.0105	0.0026	0.0013 J	0.0009 J	0.0047	0.0106	0.0091	0.0244	0.0172		0.0170	0.0183	0.0153	0.0522		0.0458	0.0323	
Copper (EPA 200.8)		0.0020 U	0.0020 U	0.0020 U	0.0028	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)	8.9	14.3	12.2	4.1	16.3	16.1	0.30 U	0.30 U	0.68 J	0.30 U	0.81 J	0.45 J	0.30 U	0.30 U	1.8	0.30 U	0.70 J	0.30 U	0.30 U	
Total Organic Carbon (SM5310C)	40.0	15.9	16.4	1.7	2.7	1.0 U	5.5	9.4	4.0	10.3	7.6	22.6	13.2	8.9	18.9	25.6	33.6	23.8	29.0	
Test ID: Dissolved Gases; Mod RSK-175 (µg/L)																				
Methane	12000	9800	11000	740			3500		7500	14000	6200	17000	21000	12000	11000	18000	21000	22000	21000	
Ethane	4.7 J	6.4	6.2	1.0 U			1.0 U		4.3 J	8.3	1.0 U	5.0	2.2 J	1.6 J	1.1 J	5.1	6.1	5.7	3.0 J	
Ethene	1.0 U	3.0 J	3.0 J	1.0 U			1.6 J		5.0	7.2	2.1 J	1.5 J	1.2 J	2.5 J	1.0 U	3.2 J	5.7	2.4 J	2.7 J	
Acetylene	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
JANUARY AND APRIL 2015**

Sample Name: LLI SDG: LLI Sample ID: Sample Date:	BDC-05-18 1533426 7749102 1/21/2015	BDC-05-18 1557098 7866189 4/26/2015	BDC-05-19 1533426 7749116 1/21/2015	BDC-05-19 1557098 7866237 4/27/2015	BDC-05-20 1533426 7749106 1/21/2015	BDC-05-20 1557098 7866195 4/26/2015	BDC-05-21 1533426 7749104 1/21/2015	BDC-05-21 1557098 7866201 4/27/2015	BDC-05-22 1533426 7749108 1/21/2015	BDC-05-22 1557098 7866207 4/27/2015	BDC-05-23 1533426 7749110 1/21/2015	BDC-05-23 1557098 7866213 4/27/2015	BDC-05-24 1533426 7749112 1/21/2015	BDC-05-24-Dup 1533426 7749114 1/21/2015	BDC-05-24 1557098 7866219 4/27/2015	BDC-05-24-Dup 1557098 7866261 4/27/2015	Trip Blank 1533426 7749124 1/21/2015	Trip Blank 1557098 7866321 4/26/2015
Test ID: VOA SW8260C (µg/L)																		
Vinyl Chloride	0.2 U	0.3	3.8	1.6	3.8	6.9	3.5	4.4	0.2 U	0.2 U	1.7	2.4	1.6	1.5	2.5	2.5	0.2 U	0.2 U
cis-1,2-Dichloroethene	1.5	1.0	0.2 U	0.2 U	0.5	0.4	1.1	1.5	4.2	4.2	2.8	2.9	2.1	2.0	0.9	0.9	0.2 U	0.2 U
Trichloroethene	1.1	2.0	0.2 U	0.7	0.5	0.2 U	0.2 U	0.4	0.4	0.5	0.5	0.2 U	0.2 U					
Tetrachloroethene	0.9	0.8	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)		0.0272		0.0313		0.0276		0.0129		0.0252		0.0216			0.0028	0.0024		
Copper (EPA 200.8)		0.0027		0.0055		0.0020 U		0.0020 U		0.0037		0.0020 U			0.0020 U	0.0020 U		
Test ID: Dissolved Metals (mg/L)																		
Arsenic (EPA 200.8)		0.0038		0.0225		0.0230		0.0111		0.0263		0.0209			0.0028	0.0021		
Copper (EPA 200.8)		0.0020 U			0.0020 U	0.0020 U												
Test ID: Conventional (mg/L)																		
Sulfate (EPA 300.0)	2.0 J	3.6	0.55 J	0.30 U	0.59 J	0.30 U	0.97 J	1.9	1.2	0.30 U	0.66 J	0.74 J	2.3	2.4	0.97 J	0.93 J		
Total Organic Carbon (SM5310C)	1.2	4.1	31.4	20.1	13.8	11.4	6.3	5.4	7.3	5.2	9.5	7.5	3.8	3.6	3.2	3.0		
Test ID: Dissolved Gases; Mod RSK-175 (µg/L)																		
Methane	1800	950	18000	19000	13000	14000	1800	4800					5400	5500	3200	3200		5.0 U
Ethane	1.0 U	1.0 U	4.0 J	3.5 J	2.6 J	1.6 J	1.0 U	1.0 U					1.0 U	1.0 U	1.0 U	1.1 J		5.0 U
Ethene	1.0 U	1.0 U	1.3 J	1.0 U	2.7 J	4.8 J	2.2 J	2.7 J					2.5 J	2.6 J	2.5 J	2.8 J		5.0 U
Acetylene	1.0 U					1.0 U	1.0 U	1.0 U	1.0 U		5.0 U							

µg/L = micrograms per liter.

mg/L = milligrams per liter.

EPA = U.S. Environmental Protection Agency

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

J = Indicates the 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

Well	Date	Pilot Injection Elapsed Time From Injection (days)	Full Injection #1 Elapsed Time From Injection (days)	Volatile Organic Compounds								Metals				Aquifer Redox Conditions					Donor Indicators		Comments	Volatile Organic Compounds - Molar Fraction (b)					
				PCE	TCE	cDCE	VC	Ethene	Ethane	Acetylene	As, Tot	As, Dis	Cu, Tot	Cu, Dis	DO	Nitrate	Iron II	Sulfate	Methane	ORP	TOC	pH		PCE	TCE	cDCE	VC	Ethene	Ethane
				(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg-N/L)	(mg/L)	(mg/L)	(mg/L)	(mV)	(mg/L)								
Proposed Groundwater Cleanup Levels (a)																													
				5.3	1.4	134	2.4	NA	NA	NA	0.008	0.008	0.008	0.008															
BDC-05-07	5/13/2009	197		11	13	7.5	<1.0	<1.1	<1.2	<1.1	0.002	0.001	0.016	0.008	0.29	6.8	0.4	27.2	7.9	34	7.3	6.47							
BDC-05-07	8/16/2009	292		11	12	13	<1.0	<1.1	<1.2	<1.1	0.002	0.001	0.010	<0.002	0.74	2.3	2.0	23.2	6.8	67	8.2	6.73	0.27	0.41	0.32	0.00	0.00	0.00	
BDC-05-07	11/13/2009	381		6.5	5.3	5.6	<1.0	<1.1	<1.2	<1.1	0.002	0.001	0.004	<0.002	0.50	<0.1	2.8	5.7	4.7	16	9.1	6.48	0.29	0.29	0.42	0.00	0.00	0.00	
BDC-05-07	2/16/2010	476		6.4	6.9	28	<1.0	<1.1	<1.2	<1.1	0.004	0.003	0.017	0.006	1.04	<0.1	2.5	20.4	5.2	839	14.7	6.88	0.10	0.14	0.76	0.00	0.00	0.00	
BDC-05-07	5/18/2010	567		5.8	9.2	41	1.2	<1.1	<1.2	<1.1	0.009	0.003	0.009	<0.002	1.06	<0.5	2.0	16.4	6.0	525	14.8	6.77	0.06	0.13	0.77	0.04	0.00	0.00	
BDC-05-07	8/17/2010	658		2.8	7.8	19	<1.0	<1.1	<1.2	<1.1	0.006	0.003	0.008	<0.002	2.30	<0.1	2.5	8.6	7.1	-15	18.8	7.34	0.06	0.22	0.72	0.00	0.00	0.00	
BDC-05-07	11/9/2010	742		<1.0	9.4	20	<1.0	<1.1	<1.2	<1.1	0.008	0.005	0.009	<0.002	2.42	<0.1	2.2	15.2	5.1	13	15.2	7.35	0.00	0.26	0.74	0.00	0.00	0.00	
BDC-05-07	2/15/2011	840		<1.0	8.7	20	<1.0	<1.1	<1.2	<1.1	0.013	0.010	0.012	0.002	3.02	<0.1	2.8	11.8	5.1	21	14.0	7.16	0.00	0.24	0.76	0.00	0.00	0.00	
BDC-05-07	5/2/2011	916	-108	5.2	11	17	<0.2	<1.1	<1.2	<1.1	0.017	0.004	0.014	0.003	2.14	0.1	2.6	15.6	3.2	33	16.8	6.90	0.11	0.29	0.60	0.00	0.00	0.00	
BDC-05-07	11/2/2011	1100	76	11	6.9	39	<1.0	<1.1	<1.2	<1.1	0.042	0.035	0.010	0.006	2.06	<0.1	2.4	<1.0	16.1	-51	1780	6.31	0.13	0.10	0.77	0.00	0.00	0.00	
BDC-05-07	5/7/2012	1287	263	0.8	<0.2	23	0.9	<1.0	<1.0	<1.0	0.026	0.024	0.003	<0.002	0.17		1.6	0.4	27.0	100	48.5	6.34	0.02	0.00	0.93	0.06	0.00	0.00	
BDC-05-07	11/15/2012	1479	455	<0.2	0.4	24	0.8	<1.0	<1.0	<1.0	0.016	0.017	<0.002	<0.002	0.01		1.6	<0.3	23.0	3.0	26	6.60	0.00	0.01	0.94	0.05	0.00	0.00	
BDC-05-07	5/22/2013	1667	643	<0.2	0.3	8.6	0.5	<1.0	<1.0	<1.0	0.006	0.007	<0.002	<0.002	0.17		1.4	0.45	11.0	-372	10.5	8.09	0.00	0.02	0.90	0.08	0.00	0.00	
BDC-05-07	11/13/2013	1842	818	<0.2	<0.2	3.4	1.6	<1.0	1.3	<1.0	0.006	0.007	<0.002	<0.002	2.12		1.2	<0.30	8.5	-276	8.8	6.70	0.00	0.00	0.34	0.25	0.00	0.42	
BDC-05-07	5/13/2014	2023	999	<0.2	0.2	2.5	1.4	<1.0	<1.0	<1.0	0.004	0.004	<0.002	<0.002	3.65		2.0	1.8	3.7	-368	9.1	6.55	0.00	0.03	0.52	0.45	0.00	0.00	
BDC-05-07	11/11/2014	2205	1181	<0.2	<0.2	4.1	13	26	3.0	<1.0	0.006	0.005	<0.002	<0.002	0.21		2.6	0.72	14.0	-74	17.7	6.37	0.00	0.00	0.03	0.16	0.73	0.08	
BDC-05-07	4/27/2015	2372	1348	<0.2	<0.2	0.6	5.3	1.6	<1.0	<1.0	0.004	0.005	<0.002	<0.002	0.06		2.0	<0.30	3.5	-50	5.5	6.27	0.00	0.00	0.04	0.57	0.39	0.00	
BDC-05-08	10/23/2008	-5		1.1	3.7	3.5	<0.2	<1.1	<1.2	<1.1	0.007	<0.001	0.004	<0.002	1.90	0.3	0.0	8.9	4.7	-12.0	5.1	6.65	0.09	0.40	0.51	0.00	0.00	0.00	
(MW 24 hr XG)	11/20/2008	23		1.1	3.4	4.2	<0.2	<1.1	<1.2	<1.1	0.035	0.004	0.036	<0.002	0.80	0.7	2.2	7.2	5.5	-43	5.9	6.63	0.09	0.34	0.57	0.00	0.00	0.00	
	12/16/2008	49		1.2	4.3	4.3	<1.0	<1.1	<1.2	<1.1	0.008	0.001	0.006	<0.002	0.50	0.9	4.6	21.8	3.6	-99	5.4	6.61	0.09	0.39	0.53	0.00	0.00	0.00	
BDC-05-08	1/16/2009	80		1.3	4.2	3.6	<1.0	<1.1	<1.2	<1.1	0.008	0.002	0.007	<0.002	0.25	1.7	3.0	7.0	6.9	-185	5.8	6.59	0.10	0.42	0.48	0.00	0.00	0.00	
BDC-05-08	2/11/2009	106		<1.0	3.2	3.9	<1.0	<1.1	<1.2	<1.1	0.019	0.001	0.010	<0.002	2.38	0.3	4.4	4.7	4.4	-78	7.0	6.69	0.00	0.38	0.62	0.00	0.00	0.00	
BDC-05-08	3/9/2009	132		<1.0	2.7	3.5	<1.0	<1.1	<1.2	<1.1	0.009	0.003	0.007	<0.002	0.07	<0.1	3.6	3.8	4.9	-4	6.7	6.65	0.00	0.00	0.36	0.64	0.00	0.00	
BDC-05-08	4/16/2009	170		<1.0	2.3	4.4	<1.0	<1.1	<1.2	<1.1	0.007	0.003	0.006	<0.002	0.42	<0.1	2.0	1.7	6.7	-8	6.8	6.80	0.00	0.28	0.72	0.00	0.00	0.00	
BDC-05-08	5/13/2009	197		<1.0	1.6	3.0	<1.0	<1.1	<1.2	<1.1	0.009	0.003	0.007	0.002	1.77	<0.1	4.0	0.8	11.4	-13	6.0	6.87	0.00	0.00	0.28	0.72	0.00	0.00	
BDC-05-08	8/16/2009	292		<1.0	2.1	3.5	<1.0	<1.1	<1.2	<1.1	0.012	0.008	<0.002	<0.002	0.87	<0.1	2.8	5.3	13.2	-20	6.1	7.15	0.00	0.31	0.69	0.00	0.00	0.00	
BDC-05-08	11/13/2009	381		<1.0	1.2	3.1	<1.0	<1.1	<1.2	<1.1	0.011	0.008	0.007	<0.002	0.73	<0.1	2.8	3.3	17.4	0.8	8.4	6.44	0.00	0.22	0.78	0.00	0.00	0.00	
BDC-05-08	2/16/2010	476		<1.0	<1.0	2.3	<1.0	<1.1	<1.2	<1.1	0.024	0.009	0.024	<0.002	0.63	<0.1	3.0	0.8	13.1	841	8.3	6.76	0.00	0.00	1.00	0.00	0.00	0.00	
BDC-05-08	5/18/2010	567		<1.0	<1.0	2.4	<1.0	<1.1	<1.2	<1.1	0.031	0.011	0.027	<0.002	0.96	<0.1	3.0	0.8	14.9	451	7.3	6.92	0.00	0.00	1.00	0.00	0.00	0.00	
BDC-05-08	8/17/2010	658		<1.0	<1.0	2.3	<1.0	<1.1	<1.2	<1.1	0.014	0.009	0.013	<0.002	2.57	<0.1	3.2	0.5	10.1	-30	7.2	7.30	0.00	0.00	1.00	0.00	0.00	0.00	
BDC-05-08	11/9/2010	742		<1.0	<1.0	3.5	<1.0	<1.1	<1.2	<1.1	0.031	0.012	0.031	<0.002	2.74	<0.1	2.4	0.3	14.2	59	7.6	7.17	0.00	0.00	1.00	0.00	0.00	0.00	
BDC-05-08	2/15/2011	840		<1.0	<1.0	2.1	<1.0	<1.1	<1.2	<1.1	0.021	0.010	0.016	<0.002	2.36	<0.1	5.0	0.3	14.1	66	8.7	7.08	0.00	0.00	1.00	0.00	0.00	0.00	
BDC-05-08	5/2/2011	916	-108	<0.2	<0.2	2.2	<0.2	<1.1	<1.2	<1.1	0.029	0.010	0.024	<0.002	2.15	<0.1	2.4	0.7	7.8	-28	8.0	7.17	0.00	0.00	1.00	0.00	0.00	0.00	
BDC-05-08	11/2/2011	1100	76	<1.0	<1.0	2.4	<1.0				0.014	0.010	0.012	0.003	1.15	<0.1	1.2	0.8		-53	7.3	6.88	0.00	0.00	1.00	0.00	0.00	0.00	
BDC-05-08	5/6/2012	1286	262	<0.2	<0.2	2.7	<0.2				0.021	0.020	0.007	0.002	0.01		2.5	0.4		42	12.4	6.77	0.00	0.00	1.00	0.00	0.00	0.00	
BDC-05-08	11/16/2012	1480	456	<0.5	<0.5	1.3	<0.5				0.014	0.010	0.005	<0.002	0.01		1.0	<0.3		5	8.1	6.91	0.00	0.00	1.00	0.00	0.00	0.00	
BDC-05-08	5/23/2013	1668	644	<0.2	<0.2	0.4	<0.2				0.008	0.007	0.002	<0.002	0.39		1.3	<0.3		-249	5.7	7.68	0.00	0.00	1.00	0.00	0.00	0.00	
BDC-05-08	11/13/2013	1842	818	<0.2	<0.2	4.3	0.8				0.012	0.010	0.003	<0.002	2.02		1.4	<0.30		-275	15.0	6.73	0.00	0.00	0.78	0.22	0.00	0.00	
BDC-05-08	5/13/2014	2023	999	<0.2	<																								

**GROUNDWATER DATA SUMMARY
BOEING DEVELOPMENTAL CENTER SWMU-17**

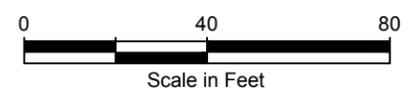
Well	Date	Pilot Injection Elapsed Time From Injection (days)	Full Injection #1 Elapsed Time From Injection (days)	Volatile Organic Compounds								Metals				Aquifer Redox Conditions					Donor Indicators		Comments	Volatile Organic Compounds - Molar Fraction (b)						
				PCE (µg/L)	TCE (µg/L)	cDCE (µg/L)	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	
				5.3	1.4	134	2.4	NA	NA	NA	0.008	0.008	0.008	0.008																
BDC-05-16	8/28/2013		741	<1.0	<1.0	<1.0	4.0	4.2	<3.0	<1.0			1.77		1.4	<0.30	26.0	-316	31.6	6.57			0.00	0.00	0.00	0.30	0.70	0.00		
BDC-05-16	11/13/2013		818	<1.0	<1.0	<1.0	4.3	3.2	<1.0	<1.0	0.048	0.046	<0.002	<0.002	2.04		2.2	<0.30	24.0	-263	36.0	6.64			0.00	0.00	0.00	0.38	0.62	0.00
BDC-05-16	2/11/2014		908	<1.0	<1.0	<1.0	2.1	2.0	<7.0	<1.0			4.05		2.0	<0.30	25.0	-236	28.9	6.67			0.00	0.00	0.00	0.32	0.68	0.00		
BDC-05-16	5/12/2014		998	<1.0	1.3	<1.0	4.9	4.9	<1.0	<1.0	0.044	0.041	<0.002	<0.002	3.67		1.3	<0.30	28.0	-229	28.7	6.67			0.00	0.04	0.00	0.30	0.66	0.00
BDC-05-16	8/6/2014		1084	<1.0	<1.0	<1.0	2.4	1.9	<1.0	<1.0			5.07		1.4	<0.30	23.0	-176	27.8	7.27			0.00	0.00	0.00	0.36	0.64	0.00		
BDC-05-16	11/11/2014		1181	<1.0	<1.0	<1.0	4.6	3.9	5.4	<1.0	0.056	0.055	<0.002	<0.002	0.08		1.2	0.82	26.0	-104	38.7	6.24			0.00	0.00	0.00	0.19	0.35	0.46
BDC-05-16	1/21/2015		1252	<0.2	<0.2	<0.2	2.9	5.7	6.1	<1.0			0.18		1.3	0.70	21.0	-135	33.6	6.31			0.00	0.00	0.00	0.10	0.45	0.45		
BDC-05-16	4/26/2015		1347	<0.2	<0.2	<0.2	2.3	2.4	5.7	<1.0	0.048	0.046	0.002	<0.002	0.11		1.4	<0.30	22.0	-118	23.8	6.40			0.00	0.00	0.00	0.12	0.27	0.61
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			0.11	0.29	0.60	0.00	0.00	0.00
	11/1/2011		75	3.2	4.8	5.1	<1.0	<1.1	<1.2	<1.1	0.053	0.047	0.005	<0.002	2.61	<1.0	2.4	23.9	2.8	-50	3500	5.74			0.18	0.34	0.49	0.00	0.00	0.00
	5/6/2012		262	<2.0	<2.0	9.3	5.6	<1.0	<1.0	<1.0	0.058	0.026	0.003	<0.002	0.24		2.0	0.7	15.0	182	839	6.08			0.00	0.00	0.52	0.48	0.00	0.00
BDC-05-17	11/15/2012		455	<5.0	<5.0	<5.0	5.4	2.0	<1.0	<1.0	0.081	0.062	<0.002	<0.002	0.02		1.0	<0.3	23.0	13	73.5	6.62			0.00	0.00	0.00	0.55	0.45	0.00
BDC-05-17	5/23/2013		644	<0.2	<0.2	0.7	5.1	4.3	<3.0	<1.0	0.142	0.062	<0.002	<0.002	0.44		1.2	<0.3	26.0	-259	45.8	7.54			0.00	0.00	0.03	0.34	0.63	0.00
BDC-05-17	11/13/2013		818	<0.2	<0.2	0.5	4.0	3.0	2.2	<1.0	0.057	0.037	<0.002	<0.002	2.21		2.0	<0.30	26.0	-266	49.8	6.57			0.00	0.00	0.02	0.26	0.43	0.29
BDC-05-17	5/12/2014		998	<0.2	<0.2	0.4	3.2	2.5	6.0	<1.0	0.038	0.033	<0.002	<0.002	0.60		1.8	<0.30	25.0	-368	44.1	6.64			0.00	0.00	0.01	0.15	0.26	0.58
BDC-05-17	11/11/2014		1181	<0.2	<0.2	0.3	2.7	3.9	5.9	<1.0	0.038	0.036	<0.002	<0.002	4.06		2.0	0.74	26.0	-123	52.0	6.35			0.00	0.00	0.01	0.11	0.36	0.51
BDC-05-17	4/26/2015		1347	<0.2	<0.2	0.2	1.5	2.7	3.0	<1.0	0.039	0.032	0.004	<0.002	0.25		1.4	<0.30	21.0	-127	29.0	6.44			0.00	0.00	0.01	0.11	0.43	0.45
BDC-05-18 (MW 12 ft XG)	7/31/2011		-18	3.6	5.0	6.6	<1.0	<1.1	<1.2	<1.1	0.019	0.020	<0.002	<0.002	1.57	<0.1	2.4	4.5	3.9	-19	3.2	7.13			0.17	0.30	0.53	0.00	0.00	0.00
	11/1/2011		75	2.8	4.0	7.6	<1.0	<1.1	<1.2	<1.1	0.019	0.020	0.003	0.003	1.37	<0.1	2.2	1.2	4.3	-106	21.7	6.88			0.13	0.24	0.62	0.00	0.00	0.00
	2/19/2012		185	1.8	3.7	12	<0.2	<1.0	<1.0	<1.0			0.19	<0.5	0.19	<0.5	1.2	<1.5	11.0	9	2.7	6.66			0.07	0.17	0.76	0.00	0.00	0.00
BDC-05-18	5/6/2012		262	2.0	4.0	9.6	<0.2	<1.0	<1.0	<1.0	0.013	0.013	<0.002	<0.002	0.21		2.5	2.1	7.5	132	2.5	6.39			0.09	0.22	0.70	0.00	0.00	0.00
BDC-05-18	9/5/2012		384	1.5	3.1	11	0.2	<1.0	<1.0	<1.0			0.13		0.13		1.5	2.0	7.9	58	1.8	6.91			0.06	0.16	0.76	0.02	0.00	0.00
BDC-05-18	11/15/2012		455	1.0	4.3	16	<0.5	<1.0	<1.0	<1.0	0.015	0.014	<0.002	<0.002	0.48		1.4	2.4	8.3	25	1.7	6.62			0.03	0.16	0.81	0.00	0.00	0.00
BDC-05-18	2/25/2013		557	2.0	4.6	5.7	<0.2	<1.0	<1.0	<1.0			0.25		0.25		2.0	9.2	1.3	72	2.0	6.53			0.11	0.33	0.56	0.00	0.00	0.00
BDC-05-18	5/23/2013		644	3.1	5.2	4.1	<0.2	<1.0	<1.0	<1.0	0.014	0.014	<0.002	<0.002	0.30		1.5	7.0	1.0	-262	1.3	7.24			0.19	0.39	0.42	0.00	0.00	0.00
BDC-05-18	8/28/2013		741	2.2	3.7	7.4	<0.2	<1.0	<1.0	<1.0			0.76		0.76		1.6	4.1	1.5	-309	2.2	6.25			0.11	0.24	0.65	0.00	0.00	0.00
BDC-05-18	11/14/2013		819	1.2	1.8	1.4	0.2	<1.0	<1.0	<1.0	0.006	0.002	<0.002	<0.002	2.53		1.0	4.7	0.68	-164	<1.0	7.03			0.19	0.36	0.37	0.08	0.00	0.00
BDC-05-18	2/11/2014		908	1.7	2.1	5.4	0.3	<1.0	<1.0	<1.0			2.53		2.53		1.2	3.2	3.70	-224	1.4	6.68			0.12	0.18	0.64	0.06	0.00	0.00
BDC-05-18	5/13/2014		999	2.0	2.4	4.4	0.3	<1.0	<1.0	<1.0	0.001	0.002	<0.002	<0.002	3.54		1.5	6.7	3.2	-208	2.6	6.44			0.15	0.23	0.56	0.06	0.00	0.00
BDC-05-18	8/6/2014		1084	0.7	0.9	0.5	<0.2	<1.0	<1.0	<1.0			4.21		4.21		0.4	2.9	0.012	-49	1.4	8.05			0.26	0.42	0.32	0.00	0.00	0.00
BDC-05-18	11/10/2014		1180	0.4	1.1	1.2	<0.2	<1.0	<1.0	<1.0	0.006	0.002	<0.002	<0.002	0.78		0.5	3.0	0.058	3.2	<1.0	6.56			0.10	0.36	0.53	0.00	0.00	0.00
BDC-05-18	1/21/2015		1252	0.9	1.1	1.5	<0.2	<1.0	<1.0	<1.0			0.21		0.21		1.0	2.0	1.8	11.6	1.2	6.32			0.19	0.29	0.53	0.00	0.00	0.00
BDC-05-18	4/26/2015		1347	0.8	2.0	1.0	0.3	<1.0	<1.0	<1.0	0.027	0.004	0.003	<0.002	0.28		1.0	3.6	0.95	33	4.1	6.11			0.14	0.43	0.29	0.14	0.00	0.00
BDC-05-19 (MW 10 ft DG)	7/31/2011		-18	15	21	23	<1.0	<1.1	<1.2	<1.1	0.002	0.001	0.002	<0.002	1.81	0.2	2.6	5.2	4.7	34	7.3	6.97			0.19	0.33	0.49	0.00	0.00	0.00
	11/1/2011		75	9.1	13	36	4.1	<1.1	<1.2	<1.1	0.020	0.020	0.007	<0.002	1.53	<1.0	1.8	2.5	4.5	-142	170	6.82			0.09	0.17	0.63	0.11	0.00	0.00
	2/19/2012		185	<1.0	1.7	68	14	1.4	<1.0	<1.0			0.85	<0.5	0.85	<0.5	2.0	<1.5	22.0	36	296	6.40			0.00	0.01	0.71	0.23	0.05	0.00
BDC-05-19	5/6/2012		262	0.7	1.4	52	23	1.8	<1.0	<1.0	0.058	0.052	0.032	0.008	0.02		2.0	1.4	25.0	69	244	6.39			0.00	0.01	0.55	0.37	0.07	0.00
BDC-05-19	9/5/2012		384	<2.0	<2.0	13	15	3.9	<1.0	<1.0			0.19		0.19		1.8	1.4	19.0	73	68.0	6.43			0.00	0.00	0.26	0.47	0.27	0.00
BDC-05-19	11/15/2012		455	<1.0	1.1	9.9	15	5.5	<1.0	<1.0	0.088	0.074	0.006	<0.002	0.21		1.6	1.8												



- Legend**
- + New Monitoring Well
 - + Existing Monitoring Well
 - + New Injection Wells
 - + 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 (May 2009)
 - SWMU-17 Solid Waste Management Unit

Note

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



***DEVELOPMENTAL CENTER
GROUNDWATER MONITORING
APRIL 2015***

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**

Well	Date	ORC Injection	Pilot Injection	Full Scale Injection 1	Full Scale Injection 2	Full Scale Injection 3	Full Scale Injection 4	Full Scale Injection 5	Full Scale Injection 6	Full Scale Injection 7	Full Scale Injection 8	Full Scale Injection 9	Volatile Organic Compounds (all units in ug/L)						Aquifer Redox Conditions						Donor Indicators		Comments		
		BDC-103	BDC-103	BDC-103/104	BDC-103/104	BDC-103/104	BDC-103/104	BDC-103/104	BDC-103/104	BDC-103	BDC-103	BDC-103	BDC-103	TPH-G (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Total Xylenes (µg/L)	DO (mg/L)	Nitrate (mg-N/L)	Nitrite (mg-N/L)	Iron II (mg/L)	Sulfate (mg/L)	Methane (µg/L)		ORP (mV)	TOC (mg/L)
Proposed Groundwater Cleanup Levels (a)													0.8	2.0	1294	1.7	NA	NA	1546										
BDC-101	6/11/2001												3.0	11.9	<1.0	113.1			109.2										
BDC-101	9/4/2001												5.0	7.13	10.7	50.4			53.8										
BDC-101	12/3/2001												6.5	95	1.6	750			650										
BDC-101	3/13/2002												<0.25	1.4	<1.0	4.4			<1.0										
BDC-101	4/29/2002	-8											<0.25	<1.0	<1.0	2.2	<1.0	<1.0	<1.0										
BDC-101	6/3/2002	27											<0.25	1.0	<1.0	<1.0	<1.0	<1.0	<1.0										
BDC-101	7/1/2002	55											<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0										
BDC-101	8/1/2002	86											<0.25	3.1	<1.0	2.4	<1.0	<1.0	<1.0										
BDC-101	12/2/2002	209											0.61	4.3	<1.0	21	27	6.4	33.4										
BDC-101	3/10/2003	307											<0.25	1.0	<1.0	4.5	3.2	<1.0	3.2										
BDC-101	6/3/2003	392											<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0										
BDC-101	11/19/2003	561											0.42	13	<1.0	15	35	<1.0	35		0.36	1.1	0.010	0.2	16	240	120.3		
BDC-101	4/28/2004	722											<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0										
BDC-101	10/18/2004	895											0.64	10	<1.0	15	43	<1.0	43										
BDC-101	5/10/2005	1099											<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0										
BDC-101	11/10/2005	1283											0.25	7.6	<1.0	2.6	42	<1.0	42		0.96	4.4			34.3		259	2.05	
BDC-101	5/15/2006	1469											<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		2.78	17.8	0.059	0.0	64.1		80		
BDC-101	11/20/2006	1658	-59										1.1	10	<1.0	15	72.0	<1.0	72		0.92	0.122	0.016	2.4	8.7		174		
BDC-101	2/20/2007	1750	33										<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		2.39	15.0	0.047	0.2	50.0		277	6.63	
BDC-101	3/19/2007	1777	60										<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		5.97	8.83	0.037	0.5	38.5		213	6.60	
BDC-101	4/24/2007	1813	96										<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		3.09	9.59	0.041	0.5	34.1		136	6.46	
BDC-101	5/17/2007	1836	119										<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		2.35	9.95	0.046	0.4	35.7		297	6.55	
BDC-101	11/26/2007	2029	312										<0.25	<1.0	<1.0	2.1	6.5	<1.0	6.5		2.30	5.88	0.032	0.0	26.8		287		
BDC-101	2/18/2008	2113	396	-8									<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		3.55	8.10	0.040	0.0	31.5		341	6.29	
BDC-101	3/27/2008	2151	434	30									<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		3.19	9.3	<0.10	0.2	40.0		506		
BDC-101	5/15/2008	2200	483	79	-40								<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		2.57	6.8	<0.10	0.0	24.6		176	6.44	
BDC-101	7/16/2008	2262	545	141	22								<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		3.34	5.3	<0.10	0.0	21.8		-232	6.52	
BDC-101	9/15/2008	2323	606	202	83	-45							<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		1.22	5.33	0.023	0.0	28.7		153		
BDC-101	11/20/2008	2389	672	268	149	21							0.44	1.6	<1.0	<1.0	<1.0	<1.0	<1.0		1.45	2.9	0.1	0.8	17.1		-22	6.65	
BDC-101	1/16/2009	2446	729	325	206	78							<0.25	1.1	<1.0	<1.0	<1.0	<1.0	<1.0		0	4.40	0.042	0.4	29.5		-245	6.50	
BDC-101	2/11/2009	2472	755	351	232	104							<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		2.62	8.5	<0.1	0.4	39.6		-16	6.43	
BDC-101	3/9/2009	2498	781	377	258	130							<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		0.93	9.4	<0.1	0.0	46.8		54	6.54	
BDC-101	4/16/2009	2536	819	415	296	168							<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		1.69	9.0	<0.1	0.0	36.0		131	6.61	
BDC-101	5/14/2009	2564	847	443	324	196	-34						<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		1.00	13.0	<0.1	0.0	44.4		68	6.81	
BDC-101	7/17/2009	2628	911	507	388	260	30						<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		2.80	12.6	<0.1	0.0	49.0		19	7.17	
BDC-101	9/9/2009	2682	965	561	442	314	84	-49					<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		1.25	6.2	<0.1	0.0	31.7		179	6.90	
BDC-101	11/12/2009	2746	1029	625	506	378	148	15					0.35	1.8	<1.0	6.6	16	<1.0	16		1.37	11.3	<0.1	0.0-0.2	36.7		124	6.53	
BDC-101	2/17/2010	2843	1126	722	603	475	245	112					<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		2.86	13.9	<0.1	0.0	48.7		640	6.55	
BDC-101	5/17/2010	2932	1215	811	692	564	334	201					<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		3.20	20.7	<1.0	0.0	58.7		372	6.86	
BDC-101	8/16/2010	3023	1306	902	783	655	425	292	-37				<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		2.21	15.6	<0.1	0.0	56.9		76	7.21	
BDC-101	11/8/2010	3107	1390	986	867	739	509	376	47				<0.25	2.0	<1.0	<1.0	<1.0	<1.0	<1.0		2.02	2.2	<0.1	0.4	14.7		145	6.97	
BDC-101	2/16/2011	3207	1490	1086	967	839	609	476	147				<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		7.46	23.9	<0.1	0.0	68.2		161	7.30	
BDC-101	5/3/2011	3283	1566	1162	1043	915	685	552	223				<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		5.57	23.7	<0.1	0.0	66.2		208	6.99	
BDC-101	8/1/2011	3373	1656	1252	1133	1005	775	642	313				<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		5.50	17.9	<0.1	0.0	48.1		150	7.07	
BDC-101	11/1/2011	3465	1748	1344	1225	1097	867	734	405	-105			<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		6.69	6.1	<0.1	0.0	24.8		40	7.23	
BDC-101	2/19/2012	3575	1858	1454	1335	1207	977	844	515	5			<0.25	2.0	<1.0	<1.0	<2.0	<1.0	<2.0		0.53	6.6		0.3	27.7		12	6.81	
BDC-101	5/3/2012	3649	1932	1528	1409	1281	1051	918	589	79			<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0		3.75	15.9		0.0	51.2		263	6.60	
BDC-101	9/4/2012	3773	2056	1652	1533	1405	1175	1042	713	203	-49		<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0		0.88	13.8	<0.10	0.0	36.0		154	6.97	
BDC-101	11/13/2012	3843	2126	1722	1603	1475	1245	1112	783	273	21		<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0		0.41	10.3	<0.10	0.0	40.4		150	6.90	
BDC-101	2/20/2013	3942	2225	1821	1702	1574	1344	1211	882	372	120		<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0		2.55	21.3	<0.10	0.2	68.0		73	6.83	
BDC-101	5/20/2013	4031	2314	1910	1791	1663	1433	1300	971	461	209		<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0		3.35	17	<0.10	0.0	52.9		-190	6.72	
BDC-101	8/28/2013	4131	2414	2010	1891	1763	1533	1400	1071	561	309	-76	<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0		1.99	10.5	<0.10	0.0	41.5		-277	6.46	
BDC-101	11/19/2013	4214	2497	2093	1974	1846	1616	1483	1154	644	392	7</																	

**AOC-05 CLEANUP ACTION SUMMARY
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

Well	Date	ORC Injection	Pilot Injection	Full Scale Injection 1	Full Scale Injection 2	Full Scale Injection 3	Full Scale Injection 4	Full Scale Injection 5	Full Scale Injection 6	Full Scale Injection 7	Full Scale Injection 8	Full Scale Injection 9	Volatile Organic Compounds (all units in ug/L)						Aquifer Redox Conditions						Donor Indicators		Comments			
		BDC-103	BDC-103	BDC-103/104	BDC-103/104	BDC-103/104	BDC-103/104	BDC-103/104	BDC-103/104	BDC-103	BDC-103	BDC-103	BDC-103	TPH-G (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Total Xylenes (µg/L)	DO (mg/L)	Nitrate (mg-N/L)	Nitrite (mg-N/L)	Iron II (mg/L)	Sulfate (mg/L)	Methane (µg/L)		ORP (mV)	TOC (mg/L)	pH
Proposed Groundwater Cleanup Levels (a)													0.8	2.0	1294	1.7	NA	NA	1546											
BDC-102	6/11/2001												0.55	5.33	<1.0	<1.0			<1.0											
BDC-102	9/4/2001												0.38	1.61	1.89	<1.0			1.87											
BDC-102	12/3/2001												1.6	3.7	<1.0	<1.0			3.49											
BDC-102	3/13/2002												0.50	1.3	<1.0	<1.0			<1.0											
BDC-102	4/29/2002	-8											0.33	2.6	<1.0	<1.0	1.1	<1.0	1.1											
BDC-102	6/3/2002	27											<0.25	4.4	<1.0	<1.0	<1.0	<1.0	<1.0											
BDC-102	7/1/2002	55											0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0											
BDC-102	8/1/2002	86											<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0											
BDC-102	12/2/2002	209											<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0											
BDC-102	3/10/2003	307											0.26	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0											
BDC-102	6/3/2003	392											<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0											
BDC-102	11/19/2003	561											0.99	120	<1.0	8.5	<1.0	<1.0	<1.0	0.38	0.19	0.011	5.5	46	1100	122.2				
BDC-102	4/28/2004	722											0.40	10	<1.0	<1.0	3.0	<1.0	3.0											
BDC-102	10/18/2004	895											0.33	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0											
BDC-102	5/10/2005	1099											<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0											
BDC-102	11/10/2005	1283											<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.82	4.4			34.0		122	18.4			
BDC-102	5/15/2006	1469											<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.21	4.72	0.175	2.2	35.7		-11				
BDC-102	11/20/2006	1658	-59										<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.25	<0.250	<0.250	2.2	9.2		163				
BDC-102	2/20/2007	1750	33										<0.25	5.8	<1.0	<1.0	<1.0	<1.0	<1.0	0.47	0.749	0.027	3.0	25.3		-145	6.54			
BDC-102	3/19/2007	1777	60										<0.25	18	<1.0	<1.0	32	<1.0	32	0.88	0.938	0.072	3.0	31.0		-98	6.67			
BDC-102	4/24/2007	1813	96										0.53	6.1	<1.0	3.1	100	<1.0	100	1.20	1.94	0.051	2.8	40.4		-93	6.51			
BDC-102	5/17/2007	1836	119										<0.25	1.8	<1.0	<1.0	7.4	<1.0	7.4	0.84	2.78	0.108	2.6	33.9		286	6.52			
BDC-102	11/26/2007	2029	312										<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.29	1.03	0.247	3.0	55.7		46				
BDC-102	2/18/2008	2113	396	-8									<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.51	3.91	0.054	2.8	42.8		431	5.97			
BDC-102	3/27/2008	2151	434	30									<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.85	1.3	<0.10	2.5	17.9		233				
BDC-102	5/15/2008	2200	483	79	-40								<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.40	3.0	<0.10	3.5	19.2		-115	6.56			
BDC-102	7/16/2008	2262	545	141	22								<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.46	2.5	<0.10	3.2	13.7		-312	6.67			
BDC-102	9/15/2008	2323	606	202	83	-45							<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.22	4.28	0.056	3.0	31.6		191				
BDC-102	11/20/2008	2389	672	268	149	21							<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.70	0.40	<0.10	2.0	5.6		-70	6.69			
BDC-102	1/16/2009	2446	729	325	206	78							<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.00	<0.100	0.200	2.5	8.3		-235	6.70			
BDC-102	2/11/2009	2472	755	351	232	104							<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.65	2.4	<0.1	3.0	20.4		-70	6.61			
BDC-102	3/9/2009	2498	781	377	258	130							<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.00	0.9	<0.1	3.0	8.7		-46	6.65			
BDC-102	4/16/2009	2536	819	415	296	168							<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.30	0.6	<0.1	3.0	8.3		-7	6.66			
BDC-102	5/14/2009	2564	847	443	324	196	-34						<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.29	0.9	<0.1	3.4	9.8		-35	6.78			
BDC-102	7/17/2009	2628	911	507	388	260	30						<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.66	4.9	<0.1	2.2	28.6		-11	6.46			
BDC-102	9/9/2009	2682	965	561	442	314	84	-49					<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.91	0.4	<0.1	2.7	5.5		2.8	6.66			
BDC-102	11/12/2009	2746	1029	625	506	378	148	15					<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.93	0.2	<0.1	3.2	2.4		-42.0	6.49			
BDC-102	2/17/2010	2843	1126	722	603	475	245	112					<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.90	3.4	0.2	2.8	17.2		892	6.56			
BDC-102	5/17/2010	2932	1215	811	692	564	334	201					<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.35	8.4	<1.0	3.0	30.1		440	6.61			
BDC-102	8/16/2010	3023	1306	902	783	655	425	292	-37				<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.61	8.9	<0.1	3.0	27.8		82	6.60			
BDC-102	11/8/2010	3107	1390	986	867	739	509	376	47				<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.34	0.4	<0.1	2.0	6.9		45	7.09			
BDC-102	2/16/2011	3207	1490	1086	967	839	609	476	147				<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.68	3.5	<0.1	2.2	43.3		399	6.88			
BDC-102	5/3/2011	3283	1566	1162	1043	915	685	552	223				<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.60	12.1	<0.1	2.0	32.4		40	6.70			
BDC-102	8/1/2011	3373	1656	1252	1133	1005	775	642	313				<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	7.01	13.6	<0.1	2.1	28.7		11	6.88			
BDC-102	11/1/2011	3465	1748	1344	1225	1097	867	734	405	-105			<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.45	9.8	<0.1	1.5	30.9		-48	7.19			
BDC-102	2/19/2012	3575	1858	1454	1335	1207	977	844	515	5			<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	0.25	2.4		1.0	15.4		21	6.60			
BDC-102	5/3/2012	3649	1932	1528	1409	1281	1051	918	589	79			<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	0.22	11.3		2.5	40.2		248	6.44			
BDC-102	9/4/2012	3773	2056	1652	1533	1405	1175	1042	713	203	-49		<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	0.20	13.2	<5.0	1.5	39.2</						

**AOC-05 CLEANUP ACTION SUMMARY
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

Well	Date	ORC	Pilot	Full Scale	Volatile Organic Compounds (all units in ug/L)						Aquifer Redox Conditions						Donor Indicators												
		Injection	Injection	Injection 1	Injection 2	Injection 3	Injection 4	Injection 5	Injection 6	Injection 7	Injection 8	Injection 9	TPH-G	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Total Xylenes	DO	Nitrate	Nitrite	Iron II	Sulfate	Methane	ORP	TOC	pH	
		BDC-103	BDC-103	BDC-103/104	BDC-103/104	BDC-103/104	BDC-103/104	BDC-103/104	BDC-103	BDC-103	BDC-103	BDC-103	Volatil Organic Compounds (all units in ug/L)						Aquifer Redox Conditions						Donor Indicators				
		Elapsed Time from Injection (days)	TPH-G (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	m,p-Xylene (ug/L)	o-Xylene (ug/L)	Total Xylenes (ug/L)	DO (mg/L)	Nitrate (mg-N/L)	Nitrite (mg-N/L)	Iron II (mg/L)	Sulfate (mg/L)	Methane (ug/L)	ORP (mV)	TOC (mg/L)	pH											
Proposed Groundwater Cleanup Levels (a)													0.8	2.0	1294	1.7	NA	NA	1546										
BDC-103	6/11/2001												177	875	12,010	1,985			11,430										
BDC-103	9/4/2001												123	494	3,760	419			2,636										
BDC-103 (b)	12/3/2001												120	5,100	2,300,000	10,000			3,400,000										
BDC-103	3/13/2002												200	1,700	17,000	4,900			26,400										
BDC-103	4/29/2002	-8											200	980	16,000	5,400	20,000	7,000	27,000										
BDC-103	6/3/2002	27											200	960	17,000	5,100	20,000	7,100	27,100										
BDC-103	7/1/2002	55											240	1,300	16,000	5,200	20,000	6,800	26,800										
BDC-103	8/1/2002	86											270	4,600	18,000	5,200	19,000	6,600	25,600										
BDC-103	12/2/2002	209											250	1,400	15,000	5,000	22,000	6,900	28,900										
BDC-103	3/10/2003	307											180	780	13,000	5,200	20,000	6,700	26,700										
BDC-103	6/3/2003	392											220	900	10,000	5,000	20,000	6,600	26,600										
BDC-103	11/19/2003	561											180	850	8,300	4,500	18,000	5,500	23,500	0.38	0.012	0.011	5.5	53	630	-75.9			
BDC-103	4/28/2004	722											160	1,600	6,600	3,900	16,000	5,100	21,100										
BDC-103	10/18/2004	895											140	2,100	5,500	3,700	15,000	4,400	19,400										
BDC-103	5/10/2005	1099											110	2,200	5,500	3,800	14,000	3,200	17,200										
BDC-103	11/10/2005	1283											90	2,200	3,500	3,700	12,000	2,500	15,000	0.72	<1.0			11.9		147	15.4		
BDC-103	5/15/2006	1469											84	1,600	3,800	3,100	10,000	2,200	12,000	0.92	<0.010	0.054	3.5	15.2		106			
BDC-103	11/20/2006	1658	-59										51	2,000	730	2,200	3,900	1,000	4,900	1.23	<0.10	<0.10	2.4	28.3		202			
BDC-103	2/20/2007	1750	33										26	460	420	140	3,600	1,600	5,200	0.31	60.8	11.1	0.5	99.2		109	6.54		
BDC-103	3/19/2007	1777	60										30	490	88	130	3,500	1,700	5,200	0.63	27.9	8.28	0.4	141		4	6.79		
BDC-103	4/24/2007	1813	96										36	820	440	220	3500	1800	5300	0.84	7.54	3.56	2.4	59.2		-14	6.70		
BDC-103	5/17/2007	1836	119										77	1,400	4,300	1,100	8,300	3,200	11,500	0.61	0.138	0.079	3.6	169		244	6.82		
BDC-103	11/26/2007	2029	312										190	3,300	21,000	4,000	11,000	4,900	15,900	3.37	0.063	0.049	3.6	49.1		-118			
BDC-103	2/18/2008	2113	396	-8									66	1,100	2,600	700	7,500	1,900	9,400	2.06	7.75	0.134	2.8	163		552	5.97		
BDC-103	3/27/2008	2151	434	30									84	1,500	1,900	1,100	9,700	3,000	12,700	1.60	54.1	18	4.0	115.0		182			
BDC-103	5/15/2008	2200	483	79	-40								91	2,700	4,400	1,400	11,000	3,600	14,600	1.38	<0.10	<0.10	3.2	192		-138	7.11		
BDC-103	7/16/2008	2262	545	141	22								79	1,800	440	490	10,000	3,100	13,100	1.61	56.1	16.6	2.8	149		-226	6.72		
BDC-103	9/15/2008	2323	606	202	83	-45							110	2,300	7,600	1,500	10,000	3,600	13,600	0.48	0.330	0.218	3.2	218		189			
BDC-103	11/20/2008	2389	672	268	149	21							47	1,200	260	110	7,000	2,100	9,100	0.21	152	12.5	2.0	120		-1.2	6.66		
BDC-103	1/16/2009	2446	729	325	206	78							11	190	220	12	1,000	480	1,480	0.24	193	2.32	0.6	62.5		-181	6.19		
BDC-103	2/11/2009	2472	755	351	232	104							36	820	510	<100	2,900	1,500	4,400	1.66	82.0	6.7	0.8	178		-65	6.69		
BDC-103	3/9/2009	2498	781	377	258	130							27	1100	440	18	2,400	1,200	3,600	0	47.3	2.4	0.4	192		17	6.80		
BDC-103	4/16/2009	2536	819	415	296	168							30	710	310	<50	2,700	1,200	3,900	0.95	64.8	5.6	0.2-0.4	194		62	6.77		
BDC-103	5/14/2009	2564	847	443	324	196	-34						30	680	320	20	2,400	1,500	3,900	0.48	49.8	4.8	0.8	222		20	6.85		
BDC-103	7/17/2009	2628	911	507	388	260	30						19	410	280	32	630	1,000	1,630	2.60	26.6	2.0	1.0	104		29	6.98		
BDC-103	9/9/2009	2682	965	561	442	314	84	-49					21	620	270	83	700	1200	1,900	0.88	<0.1	<0.1	2.5	134		2.8	7.01		
BDC-103	11/12/2009	2746	1029	625	506	378	148	15					24	340	140	27	1,800	1,200	3,000	1.42	94.1	7.7	0.4	71.7		117	6.11		
BDC-103	2/17/2010	2843	1126	722	603	475	245	112					0.73	10	<1.0	<1.0	3.1	22	25	1.45	123	1.1	0.0	60.3		939	6.22		
BDC-103	5/17/2010	2932	1215	811	692	564	334	201					3.1	79	44	5.2	60	86	146	1.56	67.9	2.6	0.4	71.6		436	6.63		
BDC-103	8/16/2010	3023	1306	902	783	655	425	292	-37				8.0	740	380	110	420	320	740	2.24	2.4	0.1	2.0	72.5		184	6.96		
BDC-103	11/8/2010	3107	1390	986	867	739	509	376	47				6.3	240	11	1.7	180	540	720	7.46	55.8	1.5	0.0	123		199	7.05		
BDC-103	2/16/2011	3207	1490	1086	967	839	609	476	147				0.28	4.6	<1.0	<1.0	<1.0	5.4	5.4	5.18	133	0.6	74.6		508	6.52			
BDC-103	5/3/2011	3283	1566	1162	1043	915	685	552	223				<0.25	9.1	<1.0	<1.0	<1.0	2.2	2.2	2.15	140	0.2	0.0	74.4		393	6.35		
BDC-103	8/1/2011	3373	1656	1252	1133	1005	775	642	313				0.30	76	<1.0	1.8	7.8	2.5	10.3	5.67	57.6	<0.1	0.2	63.2		168	7.09		
BDC-103	11/1/2011	3465	1748	1344	1225	1097	867	734	405	-105			33	1300	2200	780	2300	1300	3,600	1.72	<0.1	<0.1	1.2	8.1		-226	7.38		
BDC-103	2/19/2012	3575	1858	1454	1335	1207	977	844	515	5			2.2	5.1	31	19	260	69	329	0.21	143	0.3	57.1		36	6.41			
BDC-103	5/3/2012	3649	1932	1528	1409	1281	1051	918	589	79			<0.25	16	1.4	<1.0	3.6	14	17.6	0.11	149	0.83	0.0	56.2		239	6.49		
BDC-103	9/4/2012	3773	2056	1652	1533	1405	1175	1042	713	203	-49		0.72	530	24.0	9.4	40	42	82	0.45	7.2	<0.10	0.4	66.9		146	6.80		
BDC-103	11/13/2012	3843	2126	1722	1603	1475	1245	1112	783	273	21		4.5	120	9.5	3.7	210	380	590	1.02	165	2.8	0.4	93.6		108	6.50		
BDC-103	2/20/2013	3942	2225	1821	1702	1574	1344	1211	882	372	120		<0.25	<1.0	<1.0	<1.0	<2.0	3.4	3.4	0.14	161	0.60	0.2	51.6		109	6.42		
BDC-103	5/20/2013	4031	2314	1910	1791	1663	1433	1300	971	461	209		<0.25	9.3	<1.0	<1.0	4.4	1.8	6.2	0.29	161	<0.10	0.0	47.1		-281	7.47		
BDC-103	8/28/2013	4131	2414	2010																									

**AOC-05 CLEANUP ACTION SUMMARY
DEVELOPMENTAL CENTER GROUNDWATER MONITORING**

Well	Date	ORC	Pilot	Full Scale	Volatile Organic Compounds (all units in ug/L)						Aquifer Redox Conditions					Donor Indicators		Comments									
		BDC-103	BDC-103	BDC-103/104	BDC-103/104	BDC-103/104	BDC-103/104	BDC-103/104	BDC-103	BDC-103	BDC-103	BDC-103	TPH-G	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Total Xylenes	DO	Nitrate	Nitrite	Iron II	Sulfate	Methane		ORP
		Elapsed Time from Injection (days)	(mg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(mg-N/L)	(mg-N/L)	(mg/L)	(mg/L)	(µg/L)	(mV)	(mg/L)											
Proposed Groundwater Cleanup Levels (a)													0.8	2.0	1294	1.7	NA	NA	1546								
BDC-104	2/18/2008	2113	396	-8								2.9	<1.0	<1.0	47	180	28	208	2.09	1.63	0.072	3.0	18.7		598		
BDC-104	3/27/2008	2151	434	30								3.2	<1.0	<1.0	22	220	52	272	1.34	161	0.1	0.5	52.2		259		
BDC-104	5/15/2008	2200	483	79	-40							1.0	<1.0	<1.0	7.0	26	22	48	1.24	28.7	0.7	0.4	26.6		94	6.69	
BDC-104	7/16/2008	2262	545	141	22							2.3	<1.0	2.9	3.3	110	50	160	1.56	196	0.4	0.0	74.7		-221	7.17	
BDC-104	9/15/2008	2323	606	202	83	-45						0.64	<1.0	2.6	<1.0	20	16	36	0.06	122	0.729	0.0	38.4		191		
BDC-104	11/20/2008	2389	672	268	149	21						<0.25	<1.0	<1.0	<1.0	1.4	4.1	5.5	0.96	67.2	<0.10	0.2	24.3		-27	7.46	
BDC-104	1/16/2009	2446	729	325	206	78						0.26	<1.0	<1.0	<1.0	<1.0	5.5	5.5	0.05	71.4	0.204	0.6	34.6		-164	6.86	
BDC-104	2/11/2009	2472	755	351	232	104						<0.25	<1.0	<1.0	<1.0	1.3	1.1	2.4	1.78	95.4 J	0.1	0.2	20.1		-75	6.68	
BDC-104	3/9/2009	2498	781	377	258	130						<0.25	<1.0	<1.0	<1.0	1.3	1.1	2.4	0	91.5	<0.1	0.0	19.2		20	6.67	
BDC-104	4/16/2009	2536	819	415	296	168						<0.25	<1.0	<1.0	<1.0	<1.0	1.6	1.6	0.34	67.2	<0.1	0.0	21.6		67	6.63	
BDC-104	5/14/2009	2564	847	443	324	196	-34					<0.25	<1.0	<1.0	<1.0	<1.0	1.4	1.4	0.51	63.4	<0.1	0.0	20.1		6	6.70	
BDC-104	7/17/2009	2628	911	507	388	260	30					<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.41	21.0	0.5	1.0	30.8		-3	7.30	
BDC-104	9/9/2009	2682	965	561	442	314	84	-49				<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.63	39.8	0.1	0.8	41.6		61	7.20	
BDC-104	11/12/2009	2746	1029	625	506	378	148	15				<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.99	115	1.4	0.0	24.1		68	6.49	
BDC-104	2/17/2010	2843	1126	722	603	475	245	112				<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.73	119	0.1	0.0	111		868	6.93	
BDC-104	5/17/2010	2932	1215	811	692	564	334	201				<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.98	47.4	<1.0	0.6	30.5		482	6.74	
BDC-104	8/16/2010	3023	1306	902	783	655	425	292	-37			<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.59	38.4	0.2	2.5	23.6		76	6.92	
BDC-104	11/8/2010	3107	1390	986	867	739	509	376	47			<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.87	32.5	<0.1	0.0	18.6		115	7.23	
BDC-104	2/16/2011	3207	1490	1086	967	839	609	476	147			<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.48	40.0	<0.1	0.4	24.1		423	6.71	
BDC-104	5/3/2011	3283	1566	1162	1043	915	685	552	223			<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.19	31.3	<0.1	1.2	26.8		231	6.63	
BDC-104	8/1/2011	3373	1656	1252	1133	1005	775	642	313			<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.10	11.7	<0.1	0.0	21.2		121	7.20	
BDC-104	11/1/2011	3465	1748	1344	1225	1097	867	734	405	-105		<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.43	14.6	<0.1	0.0	18.7		-53	7.40	
BDC-104	2/19/2012	3575	1858	1454	1335	1207	977	844	515	5		<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	0.26	21.6		0.0	29.2		66	6.23	
BDC-104	5/3/2012	3649	1932	1528	1409	1281	1051	918	589	79		<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	0.06	19.4		1.5	26.5		207	6.78	
BDC-104	9/4/2012	3773	2056	1652	1533	1405	1175	1042	713	203	-49	<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	0.68	12.3	<0.10	0.5	22.1		130	7.11	
BDC-104	11/13/2012	3843	2126	1722	1603	1475	1245	1112	783	273	21	<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	0.24	0.80	<0.10		5.1		64	7.19	
BDC-104	2/20/2013	3942	2225	1821	1702	1574	1344	1211	882	372	120	0.28	<1.0	6.5	<1.0	17	3.3	20.3	0.44	2.5	<0.10	0.2	3.6		82	6.96	
BDC-104	5/20/2013	4031	2314	1910	1791	1663	1433	1300	971	461	209	<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	2.01	20.0	<0.10	0.0	20.8		-230	7.16	
BDC-104	8/28/2013	4131	2414	2010	1891	1763	1533	1400	1071	561	309	<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	0.52	16.4	<0.10	1.0	35.3		-322	6.82	
BDC-104	11/19/2013	4214	2497	2093	1974	1846	1616	1483	1154	644	392	<0.25	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	8.09	0.47	<0.10	0.0	3.1		-35	7.16	
BDC-104	2/11/2014	4298	2581	2177	2058	1930	1700	1567	1238	728	476	<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6.11	0.54	<0.10	0.0	3.4		-135	7.04	
BDC-104	5/6/2014	4382	2665	2261	2142	2014	1784	1651	1322	812	560	<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8.49	0.35	<0.10	0.0	4.2		-113	6.82	
BDC-104	8/7/2014	4475	2758	2354	2235	2107	1877	1744	1415	905	653	<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.04	2.9	<0.10	0.0	4.4		64	7.44	
BDC-104	11/4/2014	4564	2847	2443	2324	2196	1966	1833	1504	994	742	<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.66	2.1	<0.10	0.0	10.1		39	6.50	
BDC-104	1/21/2015	4642	2925	2521	2402	2274	2044	1911	1582	1072	820	<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.02	11.3	<0.10	0.0	36.3		135	5.87	
BDC-104	4/28/2015	4739	3022	2618	2499	2371	2141	2008	1679	1169	917	<0.25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.37	11.3	<0.10	0.0	74.4		85	6.09	

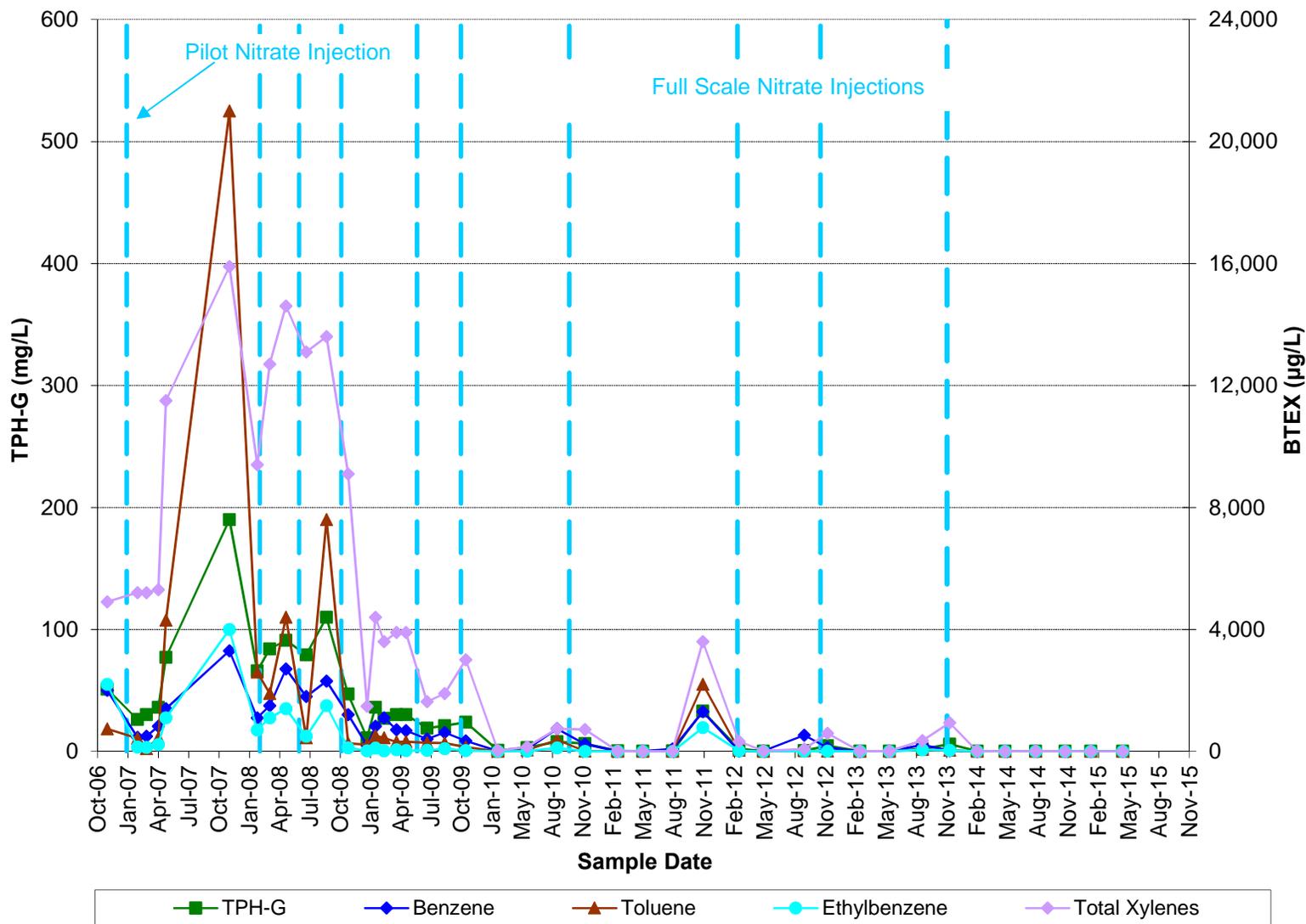
TPH-G = Total Petroleum Hydrocarbon-Gasoline
 DO = Dissolved Oxygen
 ORP = Oxidation Reduction Potential
 TOC = Total Organic Carbon
 NA = Not Applicable, not available
 µg/L = micrograms per liter
 mg/L = milligrams per liter
 mV = millivolts
 NA = Not Analyzed
 = No sample collected or sample not analyzed for specified constituent.
 Box = Exceedance of proposed CUL

Injection dates
 5/7/2002 ORC
 1/18/2007 57 Pilot -scale nitrate
 2/26/2008 13 1st full scale injection
 6/24/2008 4 2nd full scale injection
 10/30/2008 4 3rd full scale injection
 6/17/2009 8 4th full scale injection (start ammonium phosphate, 1/3 ammonium nitrate dose to both wells)
 10/28/2009 4 5th full scale injection (103 full dose, 104 half dose)
 9/22/2010 11 6th full scale injection (103 only full dose)
 2/14/2012 17 7th full scale injection (103 only full dose)
 10/23/2012 8 8th full scale injection (103 only 1.5x volume dose)
 11/12/2013 13 9th full scale injection (103 only 1.5x volume dose)

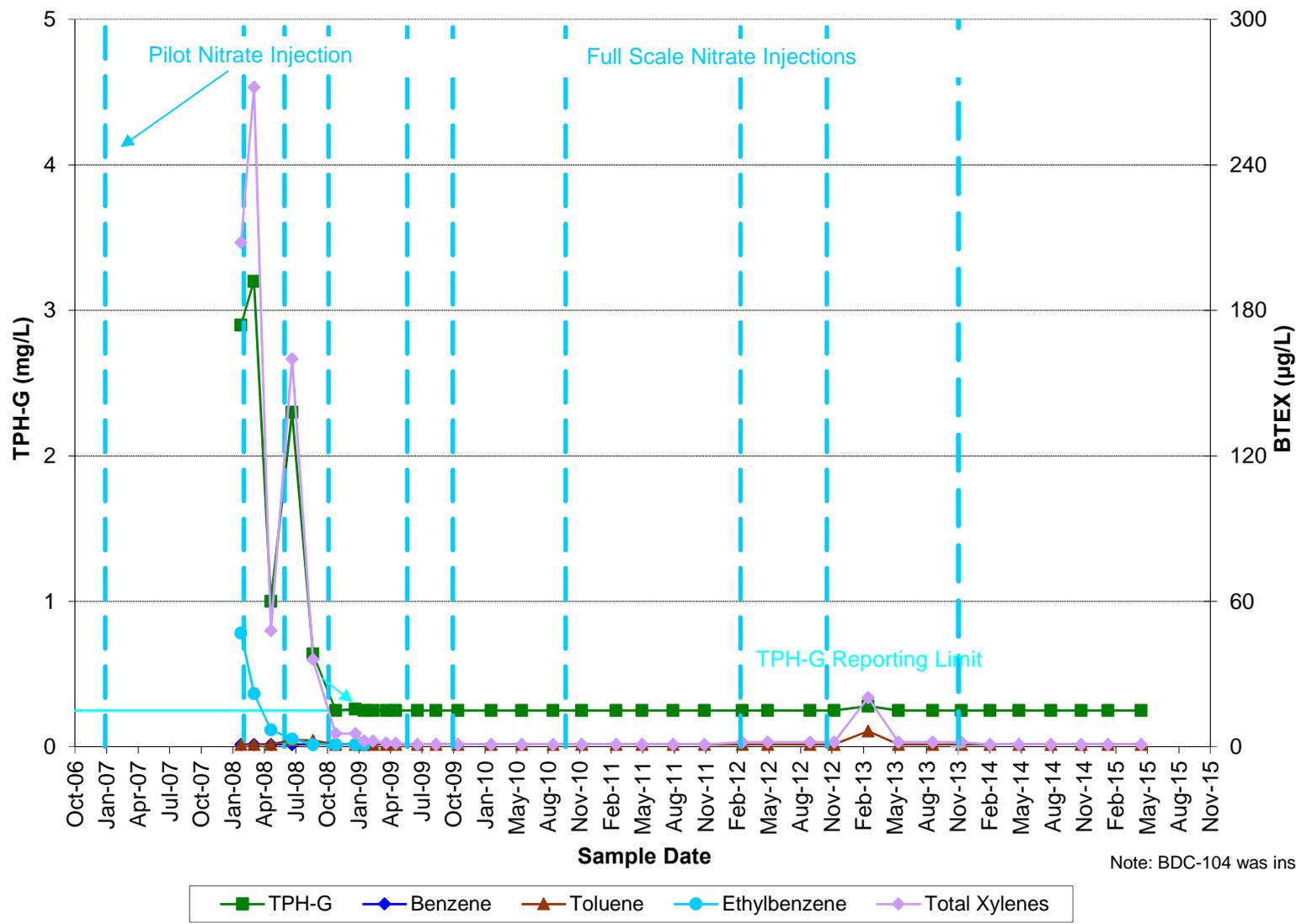
(a) Proposed Cleanup Standards and Comparison to Site Data, Boeing Developmental Center, Tukwila, Washington (Landau Associates, 5/7/13).
 (b) BTEX data questionable for this event. Concentrations inconsistent with TPH-G data for indicated event and BTEX data from other events.

2/19/12 = LLI 1290767, 1291164

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

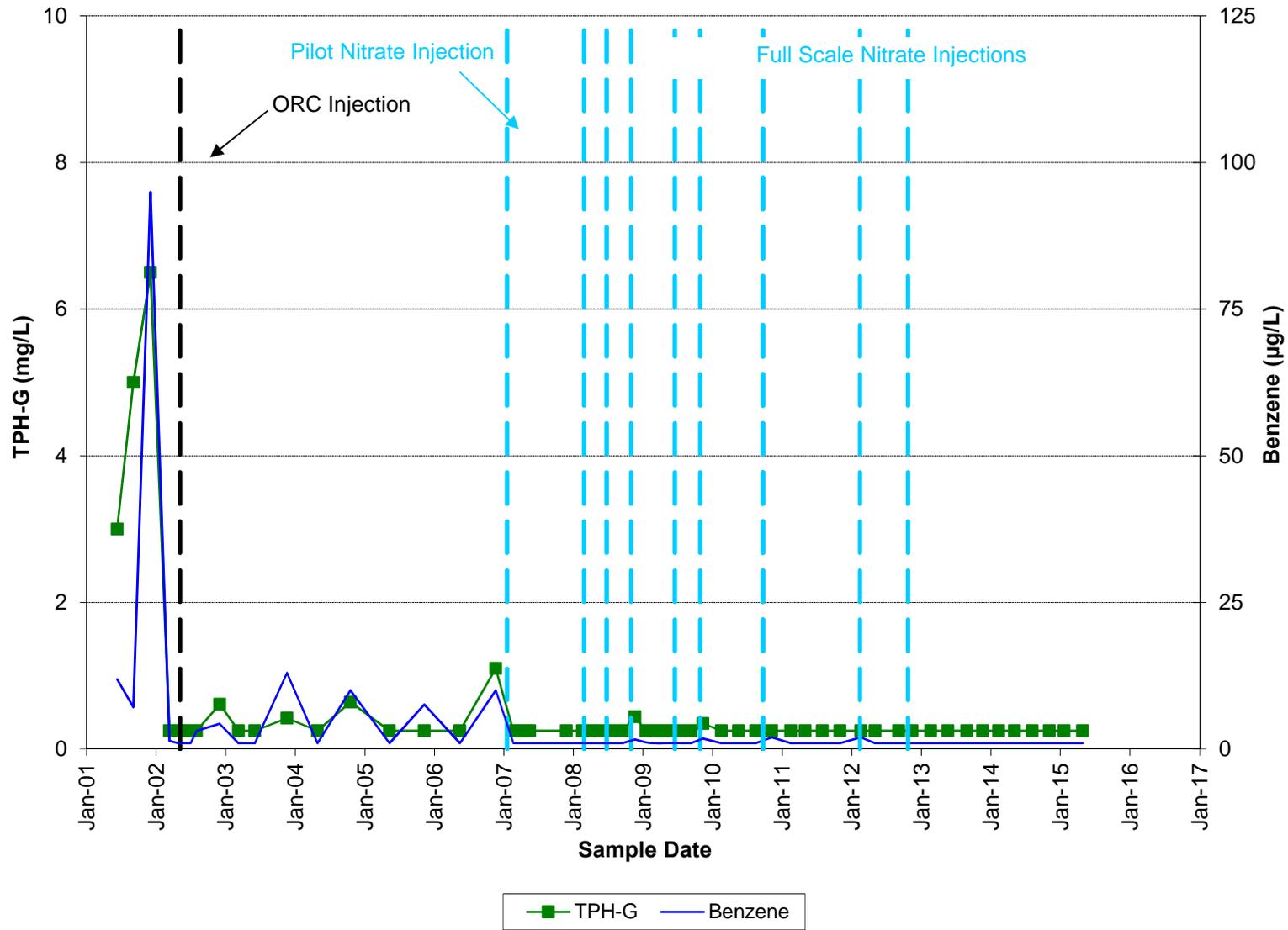


BDC-104 TPH-G and BTEX Concentrations Beginning with 2007 Pilot Testing

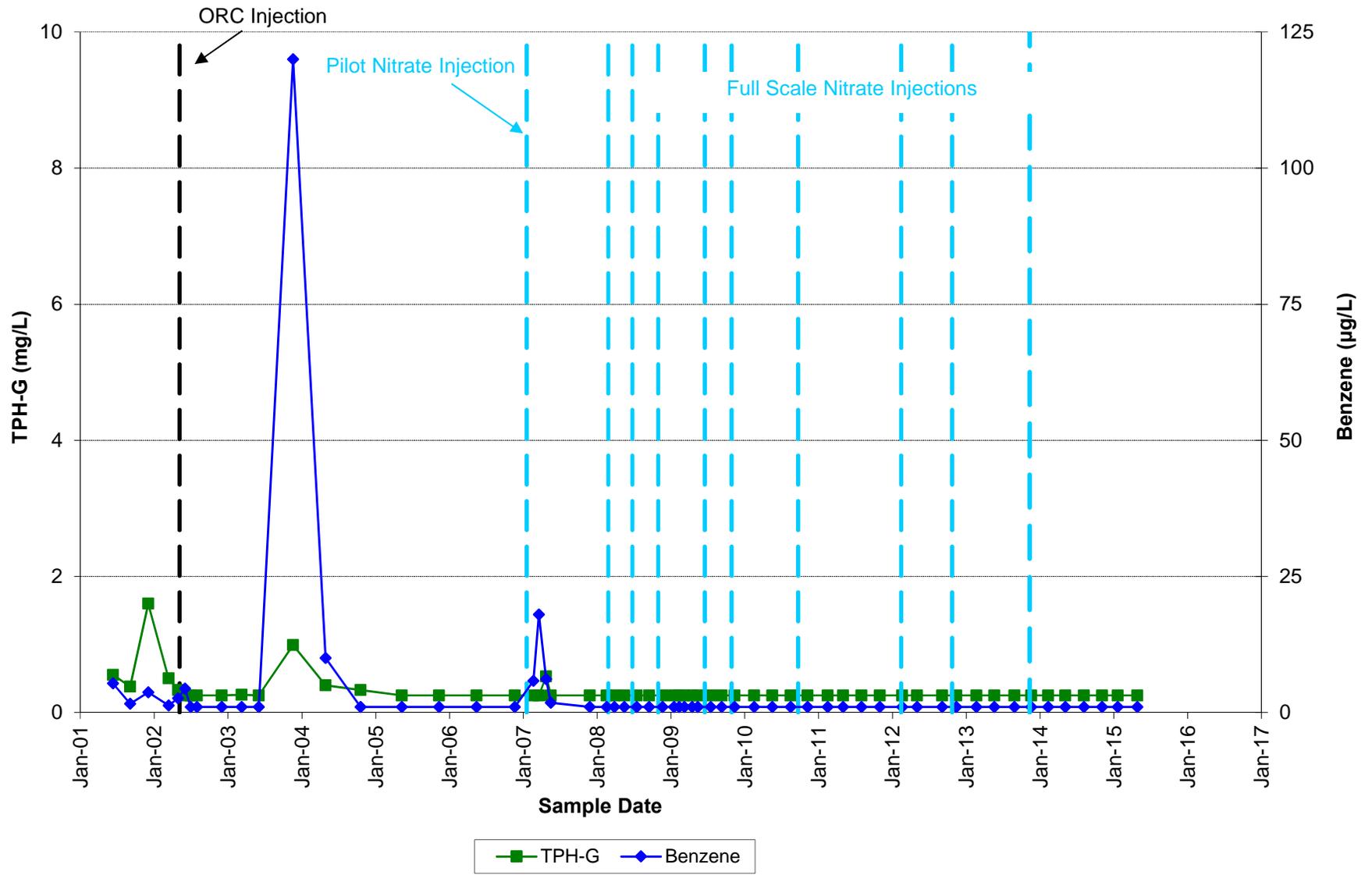


Note: BDC-104 was installed February 2008

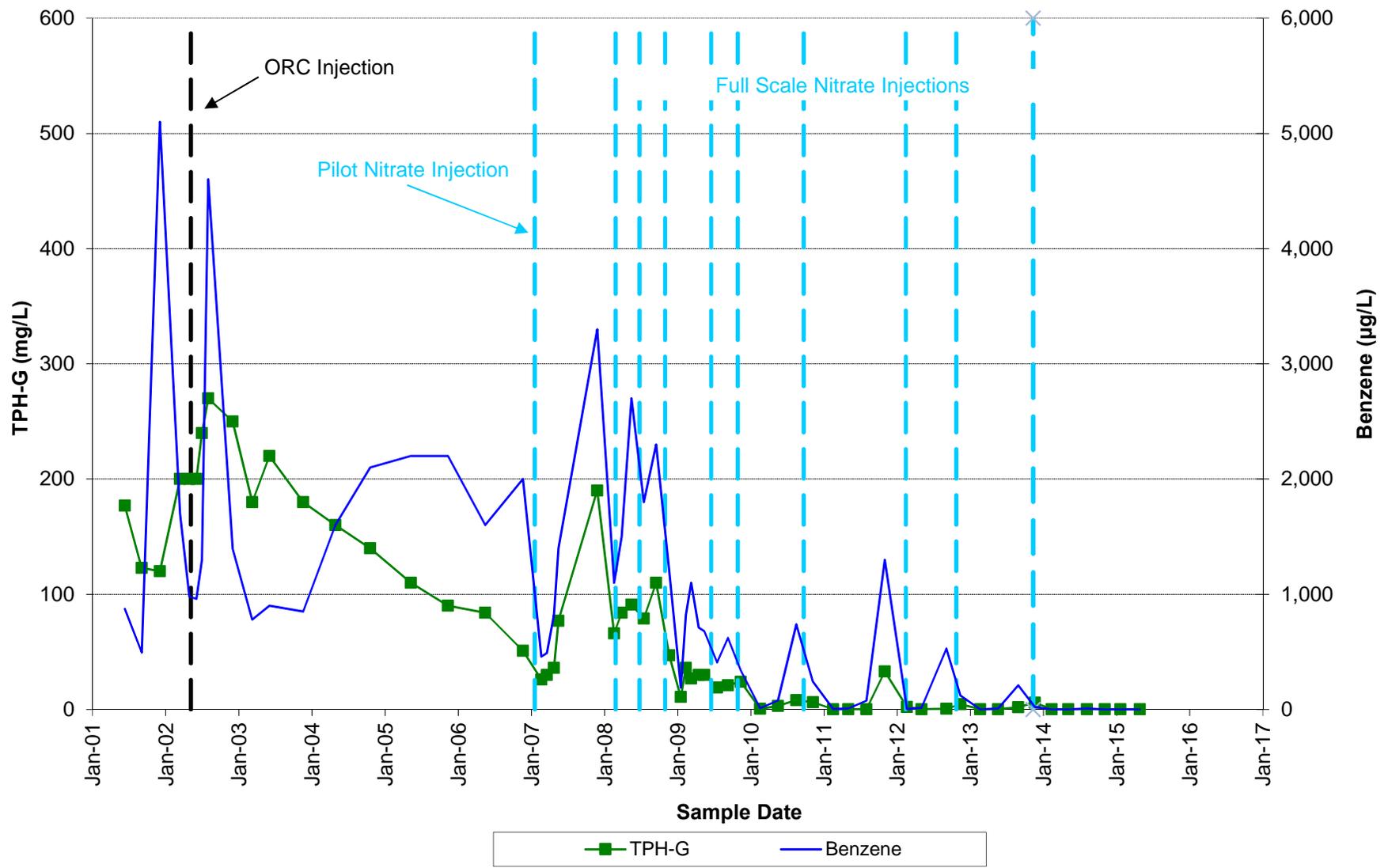
BDC-101 TPH-G and Benzene Concentrations Since 2001



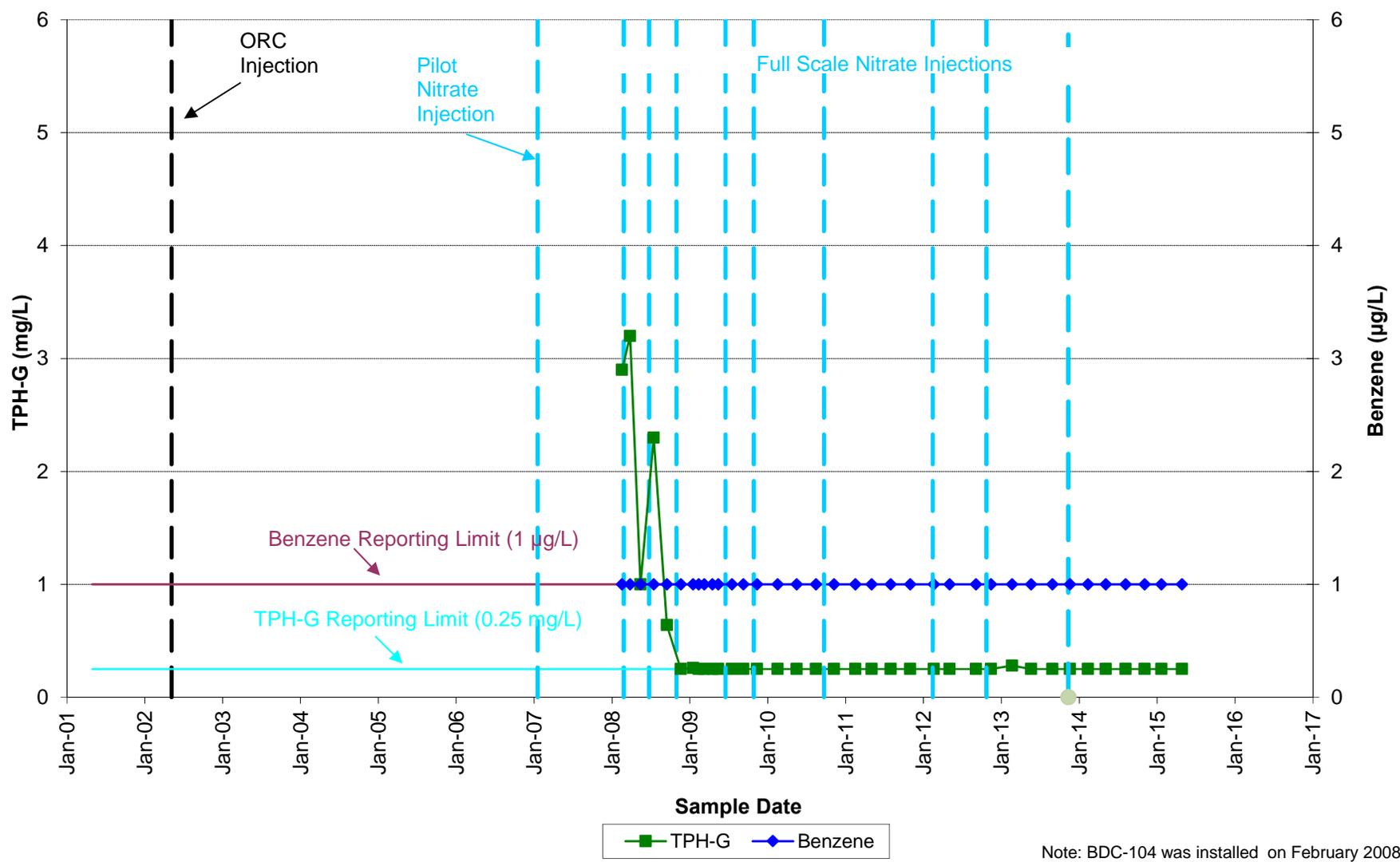
BDC-102 TPH-G and Benzene Concentrations Since 2001



BDC-103 TPH-G and Benzene Concentrations Since 2001

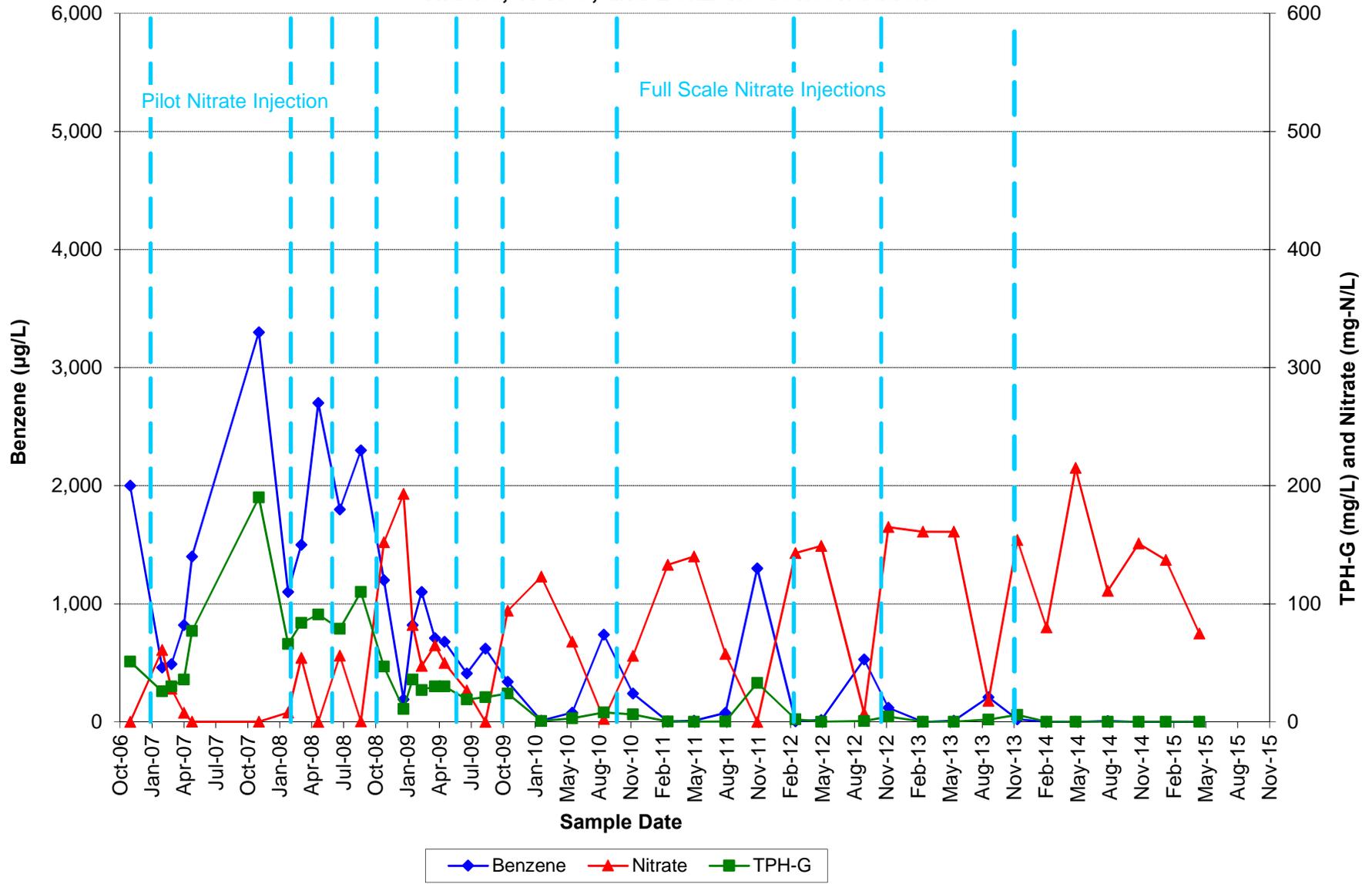


BDC-104 TPH-G and Benzene Concentrations Since 2001

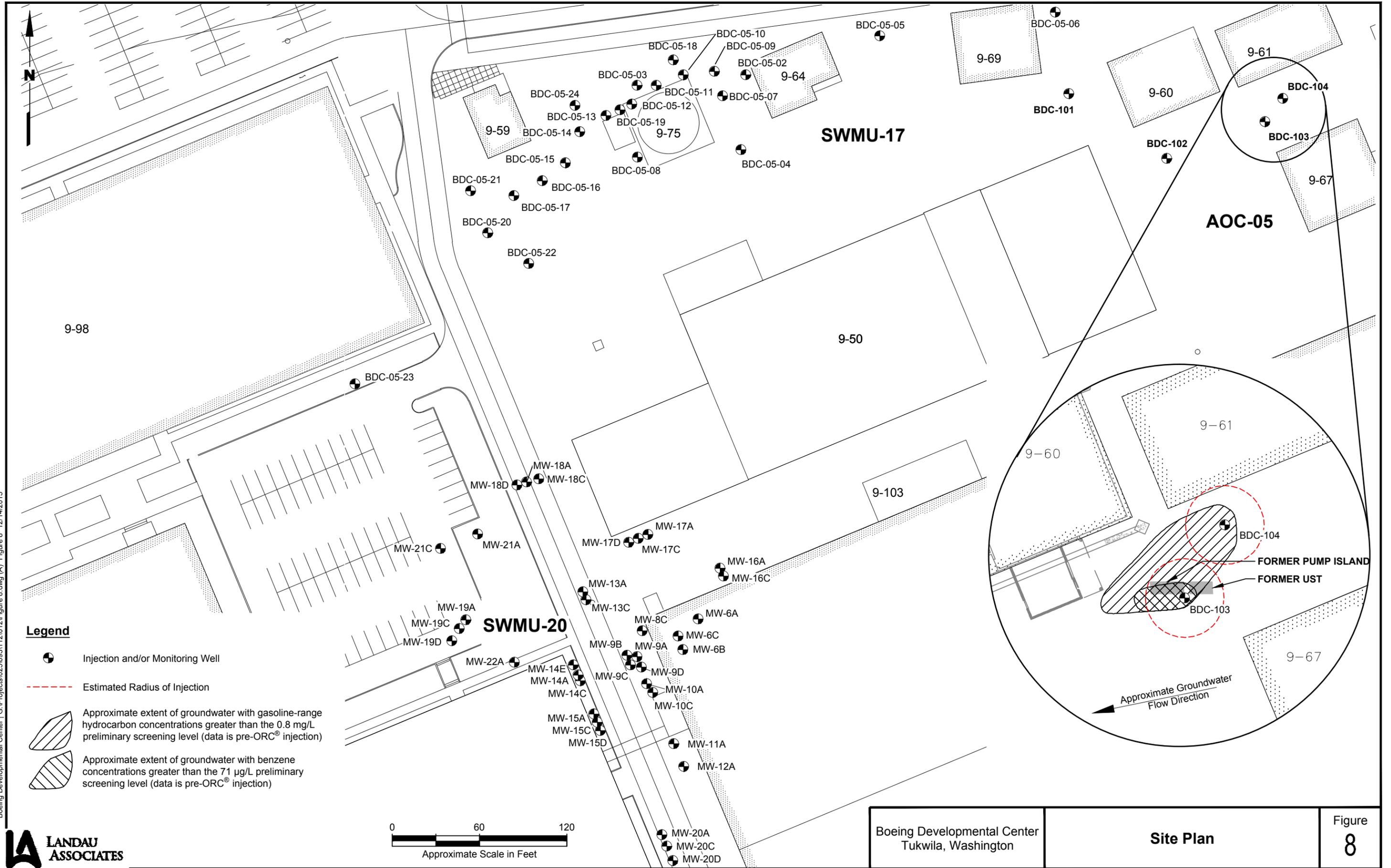


Note: BDC-104 was installed on February 2008

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

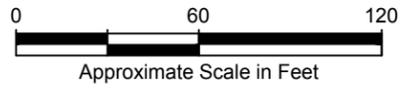


Boeing Developmental Center | G:\Projects\025093112\012\Figure 8.dwg (A) Figure 8" 12/14/2015



Legend

-  Injection and/or Monitoring Well
-  Estimated Radius of Injection
-  Approximate extent of groundwater with gasoline-range hydrocarbon concentrations greater than the 0.8 mg/L preliminary screening level (data is pre-ORC® injection)
-  Approximate extent of groundwater with benzene concentrations greater than the 71 µg/L preliminary screening level (data is pre-ORC® injection)



Boeing Developmental Center Tukwila, Washington	Site Plan	Figure 8
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*DEVELOPMENTAL CENTER
GROUNDWATER MONITORING
APRIL 2015*

GROUNDWATER ELEVATION INFORMATION

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

**DEVELOPMENTAL CENTER
CUMULATIVE WATER LEVEL MEASUREMENTS**

Well Location / Bldg.	Well ID No.	April 2015		January 2015		November 2014		August 2014		May 2014		Feb 2014		Nov 2013		August 2013	
		Depth to Water	Water Elevation														
9-101-bldg.	MW-6A	12.65	2.15			12.22	2.58			12.10	2.70			12.82	1.98		
9-101-bldg.	MW-6B	13.02	2.07			12.58	2.51			14.44	0.65			13.16	1.93		
9-101-bldg.	MW-6C																
9-101-bldg.	MW-8C																
9-101-bldg.	MW-9A	12.64	2.10			12.18	2.56			12.07	2.67			12.88	1.86		
9-101-bldg.	MW-9B																
9-101-bldg.	MW-9C																
9-101-bldg.	MW-9D																
9-101-bldg.	MW-10A					12.14	2.55			11.98	2.71			12.81	1.88		
9-101-bldg.	MW-10C	12.57	2.05			12.06	2.56			11.91	2.71			12.73	1.89		
9-101-bldg.	MW-11A	12.74	2.14			12.31	2.57			12.10	2.78			12.89	1.99		
9-101-bldg.	MW-12A					12.38	2.45			12.17	2.66			12.98	1.85		
9-101-bldg.	MW-13A	12.19	1.95			11.71	2.43			11.62	2.52			12.37	1.77		
9-101-bldg.	MW-13C	12.07	1.95			11.59	2.43			11.49	2.53			12.23	1.79		
9-101-bldg.	MW-14A					11.93	2.44			11.85	2.52			12.59	1.78		
9-101-bldg.	MW-14C	11.95	2.02			11.54	2.43			11.49	2.48			12.17	1.80		
9-101-bldg.	MW-14E																
9-101-bldg.	MW-15A					11.77	2.40			11.72	2.45			12.44	1.73		
9-101-bldg.	MW-15C	12.29	1.88			11.70	2.47			11.71	2.46			12.42	1.75		
9-101-bldg.	MW-15D																
9-101-bldg.	MW-16A	12.85	2.14			12.40	2.59			12.22	2.77			13.06	1.93		
9-101-bldg.	MW-16C	13.02	2.02			12.58	2.46			12.32	2.72			13.24	1.80		
9-101-bldg.	MW-17A	12.67	2.13			12.25	2.55			12.11	2.69			12.90	1.90		
9-101-bldg.	MW-17C																
9-101-bldg.	MW-17D																
9-101-bldg.	MW-18A	12.26	2.04			11.86	2.44			11.70	2.60			12.23	2.07		
9-101-bldg.	MW-18C																
9-101-bldg.	MW-18D																
9-101-bldg.	MW-19A																
9-101-bldg.	MW-19C																
9-101-bldg.	MW-19D																
9-101-bldg.	MW-20A																
9-101-bldg.	MW-20C	12.19	1.96			11.61	2.54			11.58	2.57			12.40	1.75		
9-101-bldg.	MW-20D																
9-101-bldg.	MW-22A	12.33	1.92			11.96	2.29			11.90	2.35			12.42	1.83		
9-101-bldg.	MW-23A																
9-101/9-50 bldg.	MW-21A	12.48	1.97			12.06	2.39			11.90	2.55			12.39	2.06		
9-101/9-50 bldg.	MW-21C																
9-64-bldg.	BDC-05-02	12.07	2.34	11.49	2.92	11.77	2.64	12.26	2.15	11.69	2.72	12.21	2.20	12.36	2.05	12.47	1.94
9-64-bldg.	BDC-05-03	12.19	2.22			11.79	2.62			11.76	2.65			12.43	1.98		
9-64-bldg.	BDC-05-04	12.26	2.33			11.95	2.64			11.93	2.66			12.51	2.08		
9-64-bldg.	BDC-05-05	11.86	2.58			11.53	2.91			11.47	2.97			12.15	2.29		
9-64-bldg.	BDC-05-07	11.67	2.32			11.37	2.62			11.29	2.70			11.96	2.03		
9-64-bldg.	BDC-05-08	12.47	2.20			12.10	2.57			12.07	2.60			12.72	1.95		
9-64-bldg.	BDC-05-09	12.10	2.31			11.79	2.62			11.71	2.70			12.37	2.04		
9-64-bldg.	BDC-05-10	12.11	2.30			11.72	2.69			11.70	2.71			12.36	2.05		
9-64-bldg.	BDC-05-11	12.33	2.32			11.93	2.72			11.91	2.74			12.59	2.06		
9-64-bldg.	BDC-05-12	12.43	2.29	11.83	2.89	12.06	2.66	12.58	2.14	12.01	2.71	12.53	2.19	12.88	1.84	12.78	1.94
9-64-bldg.	BDC-05-13	12.20	2.23			11.85	2.58			11.86	2.57			12.44	1.99		
9-64-bldg.	BDC-05-14	12.03	2.19			11.70	2.52			11.68	2.54			12.25	1.97		
9-64-bldg.	BDC-05-15	11.83	2.14			11.47	2.50			11.42	2.55			12.04	1.93		
9-64-bldg.	BDC-05-16	11.90	2.17	11.31	2.76	11.65	2.42	12.04	2.03	11.60	2.47	12.00	2.07	12.16	1.91	12.25	1.82
9-64-bldg.	BDC-05-17	12.12	2.13			11.86	2.39			11.83	2.42			12.34	1.91		
9-64-bldg.	BDC-05-18	11.50	2.29	10.98	2.81	11.14	2.65	11.51	2.28	11.16	2.63	11.62	2.17	11.71	2.08	11.90	1.89
9-64-bldg.	BDC-05-19	12.33	2.23	11.61	2.95	11.96	2.60	12.47	2.09	11.91	2.65	12.43	2.13	12.58	1.98	12.68	1.88
9-64-bldg.	BDC-05-20	12.25	2.09	11.64	2.70	11.92	2.42	12.45	1.89	11.95	2.39	12.28	2.06	12.46	1.88	12.55	1.79

**DEVELOPMENTAL CENTER
CUMULATIVE WATER LEVEL MEASUREMENTS**

Well Location / Bldg.	Well ID No.	April 2015		January 2015		November 2014		August 2014		May 2014		Feb 2014		Nov 2013		August 2013	
		Depth to Water	Water Elevation														
9-64-bldg.	BDC-05-21	12.10	2.09	11.51	2.68	11.80	2.39	12.29	1.90	11.79	2.40	12.15	2.04	12.30	1.89	12.42	1.77
9-64-bldg.	BDC-05-22	12.04	2.12	11.47	2.69	11.74	2.42	12.25	1.91	11.75	2.41	12.08	2.08	12.25	1.91	12.38	1.78
9-64-bldg.	BDC-05-23	12.51	1.95	11.98	2.48	12.27	2.19	12.81	1.65	12.36	2.10	12.51	1.95	12.74	1.72	12.83	1.63
9-64-bldg.	BDC-05-24	12.00	2.19	11.43	2.76	11.65	2.54	12.12	2.07	11.64	2.55	12.04	2.15	12.22	1.97	12.34	1.85
9-60 bldg.	BDC-101	11.75	2.72	11.22	3.25	11.44	3.03	12.08	2.39	11.22	3.25	11.97	2.50	11.99	2.48	12.27	2.20
9-60 bldg.	BDC-102	11.57	2.70	11.01	3.26	11.20	3.07	11.87	2.40	10.97	3.30	11.73	2.54	11.75	2.52	12.04	2.23
9-60 bldg.	BDC-103	11.49	2.85	10.93	3.41	11.01	3.33	11.88	2.46	10.85	3.49	11.75	2.59	11.66	2.68	12.06	2.28
9-60 bldg.	BDC-104	11.23	2.93	10.74	3.42	10.88	3.28	11.67	2.49	10.66	3.50	11.45	2.71	11.51	2.65	11.87	2.29
9-52-bldg.	952MW-1																
9-52-bldg.	952MW-2																
9-52-bldg.	952MW-3																
9-52-bldg. (west)	MW-5																
9-04-bldg. (north)	MW-2																
9-04-bldg. (north)	MW-7																
9-04-bldg. (north)	MW-8																
9-04-bldg. (north)	MW-9																

**DEVELOPMENTAL CENTER
CUMULATIVE WATER LEVEL MEASUREMENTS**

Well Location / Bldg.	Well ID No.	May 2013		Feb 2013		Nov 2012		May 2012		Nov 2011		July 2011		May 2011		Nov 2010		May 2010	
		Depth to Water	Water Elevation																
9-101-bldg.	MW-6A	12.92	1.88			12.82	1.98	12.61	2.19	12.99	1.81			12.50	2.30	12.70	2.10	12.69	2.11
9-101-bldg.	MW-6B	13.27	1.82			13.17	1.92	12.96	2.13	13.29	1.80			12.81	2.28	13.06	2.03	13.04	2.05
9-101-bldg.	MW-6C																		
9-101-bldg.	MW-8C																		
9-101-bldg.	MW-9A	12.80	1.94			12.83	1.91	12.54	2.20	13.03	1.71			12.53	2.21	12.65	2.09	12.65	2.09
9-101-bldg.	MW-9B																		
9-101-bldg.	MW-9C																		
9-101-bldg.	MW-9D																		
9-101-bldg.	MW-10A	12.72	1.97			12.77	1.92	12.55	2.14	12.97	1.72			12.47	2.22	12.64	2.05	12.62	2.07
9-101-bldg.	MW-10C	12.65	1.97			12.70	1.92	12.49	2.13	12.90	1.72			12.38	2.24	12.55	2.07	12.53	2.09
9-101-bldg.	MW-11A	12.84	2.04			12.19	2.69	12.65	2.23	13.03	1.85			12.62	2.26	12.59	2.29	12.69	2.19
9-101-bldg.	MW-12A	12.88	1.95			13.01	1.82	12.70	2.13	13.23	1.60			12.71	2.12	12.68	2.15	12.73	2.10
9-101-bldg.	MW-13A	12.36	1.78			12.27	1.87	12.20	1.94	12.66	1.48			12.11	2.03	12.08	2.06	12.14	2.00
9-101-bldg.	MW-13C	12.22	1.80			12.11	1.91	12.06	1.96	12.52	1.50			11.94	2.08	11.92	2.10	12.02	2.00
9-101-bldg.	MW-14A	12.65	1.72			12.53	1.84	12.46	1.91	12.71	1.66			12.16	2.21	12.22	2.15	12.39	1.98
9-101-bldg.	MW-14C	12.25	1.72			12.07	1.90	12.09	1.88	12.20	1.77			12.78	1.19	11.82	2.15	12.00	1.97
9-101-bldg.	MW-14E																		
9-101-bldg.	MW-15A	12.48	1.69			12.34	1.83	12.16	2.01	12.51	1.66			11.87	2.30	12.12	2.05	12.22	1.95
9-101-bldg.	MW-15C	12.54	1.63			12.27	1.90	12.36	1.81	12.44	1.73			11.49	2.68	12.00	2.17	12.17	2.00
9-101-bldg.	MW-15D																		
9-101-bldg.	MW-16A	13.07	1.92			13.02	1.97	12.81	2.18	13.19	1.80			12.67	2.32	12.84	2.15	12.88	2.11
9-101-bldg.	MW-16C	13.25	1.79			13.17	1.87	13.01	2.03	13.33	1.71			12.84	2.20	13.02	2.02	13.04	2.00
9-101-bldg.	MW-17A	12.98	1.82			12.78	2.02	12.26	2.54	12.73	2.07	12.84	1.96	12.45	2.35	12.65	2.15	12.63	2.17
9-101-bldg.	MW-17C																		
9-101-bldg.	MW-17D																		
9-101-bldg.	MW-18A	12.58	1.72			12.39	1.91	11.90	2.40	12.84	1.46	12.43	1.87	12.14	2.16	12.22	2.08	12.25	2.05
9-101-bldg.	MW-18C																		
9-101-bldg.	MW-18D																		
9-101-bldg.	MW-19A	10.74	1.49																
9-101-bldg.	MW-19C																		
9-101-bldg.	MW-19D																		
9-101-bldg.	MW-20A																		
9-101-bldg.	MW-20C	12.50	1.65			12.22	1.93	12.18	1.97	12.76	1.39			12.27	1.88	11.87	2.28	12.06	2.09
9-101-bldg.	MW-20D																		
9-101-bldg.	MW-22A	12.72	1.53			12.42	1.83	12.35	1.90	12.52	1.73			12.14	2.11	12.40	1.85	12.30	1.95
9-101-bldg.	MW-23A																		
9-101/9-50 bldg.	MW-21A	12.80	1.65			12.60	1.85	12.13	2.32	13.05	1.40	12.67	1.78	12.41	2.04	12.43	2.02	12.45	2.00
9-101/9-50 bldg.	MW-21C																		
9-64-bldg.	BDC-05-02	12.29	2.12	12.19	2.22	12.31	2.10	11.81	2.60	12.63	1.78	12.35	2.06	11.81	2.60	12.10	2.31	12.14	2.27
9-64-bldg.	BDC-05-03	12.36	2.05			12.36	2.05	11.95	2.46	12.77	1.64			11.94	2.47	12.21	2.20	12.24	2.17
9-64-bldg.	BDC-05-04	12.17	2.42			12.52	2.07	12.05	2.54	12.82	1.77			12.03	2.56	12.30	2.29	12.33	2.26
9-64-bldg.	BDC-05-05	12.13	2.31			13.40	1.04	11.65	2.79	12.50	1.94			11.61	2.83	11.95	2.49	11.97	2.47
9-64-bldg.	BDC-05-07	11.92	2.07			11.97	2.02	11.40	2.59	12.23	1.76			11.42	2.57	11.95	2.04	11.75	2.24
9-64-bldg.	BDC-05-08	12.64	2.03			12.64	2.03	12.28	2.39	13.02	1.65			12.20	2.47	12.49	2.18	12.51	2.16
9-64-bldg.	BDC-05-09	12.31	2.10			12.36	2.05	11.90	2.51	12.68	1.73	12.27	2.13						
9-64-bldg.	BDC-05-10	12.31	2.10			12.30	2.11	11.95	2.46	12.74	1.67	12.27	2.14						
9-64-bldg.	BDC-05-11	12.51	2.14			12.55	2.10	12.13	2.52	12.92	1.73	12.60	2.05						
9-64-bldg.	BDC-05-12	12.61	2.11	12.53	2.19	12.66	2.06	12.24	2.48	13.00	1.72	12.57	2.15						
9-64-bldg.	BDC-05-13	12.40	2.03			12.44	1.99	12.02	2.41	12.78	1.65	12.35	2.08						
9-64-bldg.	BDC-05-14	12.21	2.01			12.29	1.93	11.83	2.39	12.55	1.67	12.23	1.99						
9-64-bldg.	BDC-05-15	12.07	1.90			11.97	2.00	11.63	2.34	12.34	1.63	11.95	2.02						
9-64-bldg.	BDC-05-16	12.19	1.88	12.04	2.03	12.09	1.98	11.78	2.29	12.44	1.63	12.05	2.02						
9-64-bldg.	BDC-05-17	12.30	1.95			12.27	1.98	11.65	2.60	12.60	1.65	12.27	1.98						
9-64-bldg.	BDC-05-18	11.72	2.07	11.63	2.16	11.75	2.04	11.34	2.45	12.10	1.69	11.84	1.95						
9-64-bldg.	BDC-05-19	12.52	2.04	12.44	2.12	12.60	1.96	12.15	2.41	12.90	1.66	12.59	1.97						
9-64-bldg.	BDC-05-20	12.38	1.96	12.41	1.93	12.44	1.90	12.08	2.26	12.75	1.59	12.47	1.87						

**DEVELOPMENTAL CENTER
CUMULATIVE WATER LEVEL MEASUREMENTS**

Well Location / Bldg.	Well ID No.	May 2013		Feb 2013		Nov 2012		May 2012		Nov 2011		July 2011		May 2011		Nov 2010		May 2010	
		Depth to Water	Water Elevation																
9-64-bldg.	BDC-05-21	12.26	1.93	12.25	1.94	12.30	1.89	11.94	2.25	12.59	1.60	12.34	1.85						
9-64-bldg.	BDC-05-22	12.22	1.94	12.18	1.98	12.24	1.92	11.87	2.29	12.54	1.62	12.27	1.89						
9-64-bldg.	BDC-05-23	12.70	1.76	12.56	1.90	12.74	1.72	12.39	2.07	13.08	1.38	12.79	1.67						
9-64-bldg.	BDC-05-24	12.19	2.00	12.09	2.10	12.20	1.99	11.82	2.37	12.59	1.60	12.28	1.91						
9-60 bldg.	BDC-101	11.99	2.48	11.77	2.70	12.20	2.27	11.32	3.15	12.46	2.01	12.16	2.31	11.48	2.99	11.92	2.55	11.82	2.65
9-60 bldg.	BDC-102	11.79	2.48	11.55	2.72	11.93	2.34	11.13	3.14	12.16	2.11	11.92	2.35	11.20	3.07	11.67	2.60	11.57	2.70
9-60 bldg.	BDC-103	11.71	2.63	11.43	2.91	11.88	2.46	11.09	3.25	12.20	2.14	11.90	2.44	10.96	3.38	11.63	2.71	11.54	2.80
9-60 bldg.	BDC-104	11.51	2.65	11.24	2.92	11.78	2.38	10.93	3.23	12.00	2.16	11.72	2.44	10.97	3.19	11.45	2.71	11.32	2.84
9-52-bldg.	952MW-1																		
9-52-bldg.	952MW-2																		
9-52-bldg.	952MW-3																		
9-52-bldg. (west)	MW-5																		
9-04-bldg. (north)	MW-2																		
9-04-bldg. (north)	MW-7																		
9-04-bldg. (north)	MW-8																		
9-04-bldg. (north)	MW-9																		

**DEVELOPMENTAL CENTER
CUMULATIVE WATER LEVEL MEASUREMENTS**

Well Location / Bldg.	Well ID No.	Nov 2009		May 2009		Nov 2008		May 2008		Nov 2007		May 2007		February 2007		Nov 2006		Aug 2006		May 2006		
		Depth to Water	Water Elevation																			
9-101-bldg.	MW-6A	12.42	2.38	12.73	2.07	12.79	2.01	12.87	1.93	13.08	1.72	12.97	1.83	12.42	2.38	12.30	2.50	13.16	1.64	12.77	2.03	
9-101-bldg.	MW-6B	12.73	2.36	13.08	2.01	13.12	1.97	13.21	1.88	13.46	1.63	13.32	1.77	12.75	2.34	12.67	2.42	13.50	1.59	13.09	2.00	
9-101-bldg.	MW-6C	12.72	2.35	13.05	2.02	13.06	2.01	13.13	1.94	13.41	1.66	13.27	1.80	12.69	2.38	12.65	2.42	13.41	1.66	13.07	2.00	
9-101-bldg.	MW-8C	12.70	2.22	13.01	1.91	12.88	2.04	13.16	1.76	13.28	1.64	13.00	1.92			12.21	2.71			13.18	1.74	
9-101-bldg.	MW-9A	12.43	2.31	12.77	1.97	12.69	2.05	12.93	1.81	13.07	1.67	12.90	1.84	12.36	2.38	12.12	2.62	13.05	1.69	13.00	1.74	
9-101-bldg.	MW-9B	12.30	2.29	12.64	1.95	12.68	1.91	12.75	1.84	12.91	1.68	12.71	1.88	12.19	2.40	11.95	2.64	12.87	1.72	13.81	0.78	
9-101-bldg.	MW-9C	12.40	2.26	12.67	1.99	12.66	2.00	12.82	1.84	13.02	1.64	12.81	1.85	12.20	2.46	12.05	2.61	13.01	1.65	12.91	1.75	
9-101-bldg.	MW-9D	12.43	2.23	12.79	1.87	12.78	1.88	12.90	1.76	13.56	1.10	12.88	1.78			12.30	2.36			13.15	1.51	
9-101-bldg.	MW-10A	12.46	2.23	12.65	2.04	12.68	2.01	12.89	1.80	13.05	1.64	12.72	1.97	12.35	2.34	12.06	2.63	12.88	1.81	12.98	1.71	
9-101-bldg.	MW-10C	12.41	2.21	12.60	2.02	12.62	2.00	12.78	1.84	12.96	1.66	12.77	1.85			11.99	2.63			12.88	1.74	
9-101-bldg.	MW-11A	12.52	2.36	12.81	2.07	12.81	2.07	13.16	1.72	13.16	1.72	12.96	1.92			11.85	3.03			12.80	2.08	
9-101-bldg.	MW-12A	12.56	2.27	12.96	1.87	12.91	1.92	13.22	1.61	13.24	1.59	13.00	1.83			11.89	2.94			12.97	1.86	
9-101-bldg.	MW-13A	11.89	2.25	12.29	1.85	12.25	1.89	12.62	1.52	12.42	1.72	12.33	1.81			11.50	2.64			12.48	1.66	
9-101-bldg.	MW-13C	11.71	2.31	12.14	1.88	12.12	1.90	12.46	1.56	12.29	1.73	12.20	1.82			11.35	2.67			12.33	1.69	
9-101-bldg.	MW-14A	12.10	2.27	12.50	1.87	12.50	1.87	12.64	1.73	12.55	1.82	12.73	1.64	12.03	2.34	11.46	2.91	12.83	1.54	12.59	1.78	
9-101-bldg.	MW-14C	11.65	2.32	12.20	1.77	12.08	1.89	12.14	1.83	12.00	1.97	12.32	1.65			11.72	2.25			12.26	1.71	
9-101-bldg.	MW-14E	7.20	6.98	7.55	6.63	7.51	6.67	8.07	6.11	6.83	7.35	7.59	6.59			6.71	7.47			8.78	5.40	
9-101-bldg.	MW-15A	11.89	2.28	12.44	1.73	12.31	1.86	12.35	1.82	12.24	1.93	12.52	1.65			11.93	2.24			12.05	2.12	
9-101-bldg.	MW-15C	11.85	2.32	12.46	1.71	12.23	1.94	12.50	1.67	12.30	1.87	12.55	1.62			11.91	2.26			12.37	1.80	
9-101-bldg.	MW-15D	12.02	2.39	12.78	1.63	12.47	1.94	12.68	1.73	12.53	1.88	12.76	1.65			12.14	2.27			12.52	1.89	
9-101-bldg.	MW-16A	12.68	2.31	12.98	2.01	12.95	2.04	13.17	1.82	12.53	2.46	13.11	1.88			12.05	2.94			13.04	1.95	
9-101-bldg.	MW-16C	12.63	2.41	13.12	1.92	13.13	1.91	13.34	1.70	13.33	1.71	13.23	1.81			12.22	2.82			13.23	1.81	
9-101-bldg.	MW-17A	12.55	2.25	12.75	2.05	12.80	2.00	13.07	1.73	13.00	1.80	12.80	2.00			12.04	2.76			12.85	1.95	
9-101-bldg.	MW-17C																					
9-101-bldg.	MW-17D																					
9-101-bldg.	MW-18A	12.21	2.09	12.42	1.88	12.37	1.93	12.72	1.58	12.46	1.84	12.45	1.85			11.57	2.73			12.43	1.87	
9-101-bldg.	MW-18C	12.36	2.27	12.66	1.97	12.67	1.96	12.98	1.65	12.88	1.75	12.74	1.89			11.85	2.78			12.70	1.93	
9-101-bldg.	MW-18D																					
9-101-bldg.	MW-19A	10.11	2.12	10.49	1.74	10.47	1.76	10.49	1.74	10.68	1.55	10.55	1.68	9.92	2.31	9.59	2.64	10.77	1.46	10.44	1.79	
9-101-bldg.	MW-19C	9.98	2.25	10.44	1.79	10.33	1.90	10.41	1.82	10.59	1.64	10.50	1.73			9.50	2.73			10.32	1.91	
9-101-bldg.	MW-19D																					
9-101-bldg.	MW-20A	12.37	1.94	12.56	1.75	12.69	1.62	12.60	1.71	12.76	1.55	12.30	2.01			12.10	2.21			12.09	2.22	
9-101-bldg.	MW-20C	11.70	2.45	12.15	2.00	12.13	2.02	12.50	1.65	12.39	1.76	12.28	1.87			11.67	2.48			12.05	2.10	
9-101-bldg.	MW-20D																					
9-101-bldg.	MW-22A	12.04	2.21	12.57	1.68	12.35	1.90	12.50	1.75	12.25	2.00	12.64	1.61	11.90	2.35	12.11	2.14	12.77	1.48	12.41	1.84	
9-101-bldg.	MW-23A	11.86	2.41	13.27	1.00	12.67	1.60	12.67	1.60	12.83	1.44	12.90	1.37	12.03	2.24	13.02	1.25	12.94	1.33	12.49	1.78	
9-101/9-50 bldg.	MW-21A	12.37	2.08																		12.68	1.77
9-101/9-50 bldg.	MW-21C																					
9-64-bldg.	BDC-05-02	12.05	2.36	12.19	2.22	12.20	2.21	12.28	2.09	12.31	2.06	12.23	2.14			11.53	2.84			12.21	2.16	
9-64-bldg.	BDC-05-03	12.11	2.30	12.29	2.12	12.28	2.13	12.47	1.94	12.51	1.90	12.45	1.96			11.75	2.66			12.40	2.01	
9-64-bldg.	BDC-05-04	12.22	2.37	12.40	2.19	12.35	2.24	12.58	2.01	12.57	2.02	12.54	2.05			11.85	2.74			12.54	2.05	
9-64-bldg.	BDC-05-05	11.89	2.55	12.02	2.42	12.00	2.44	12.18	2.26	12.30	2.14	12.07	2.37			11.51	2.93			12.16	2.28	
9-64-bldg.	BDC-05-07	11.95	2.04	11.82	2.17	11.80	2.19	12.02	1.97	12.03	1.96	11.96	2.03			11.27	2.72			11.94	2.05	
9-64-bldg.	BDC-05-08	12.39	2.28	12.79	1.88	12.57	2.10															
9-64-bldg.	BDC-05-09																					
9-64-bldg.	BDC-05-10																					
9-64-bldg.	BDC-05-11																					
9-64-bldg.	BDC-05-12																					
9-64-bldg.	BDC-05-13																					
9-64-bldg.	BDC-05-14																					
9-64-bldg.	BDC-05-15																					
9-64-bldg.	BDC-05-16																					
9-64-bldg.	BDC-05-17																					
9-64-bldg.	BDC-05-18																					
9-64-bldg.	BDC-05-19																					
9-64-bldg.	BDC-05-20																					

**DEVELOPMENTAL CENTER
CUMULATIVE WATER LEVEL MEASUREMENTS**

Well Location / Bldg.	Well ID No.	Nov 2009		May 2009		Nov 2008		May 2008		Nov 2007		May 2007		February 2007		Nov 2006		Aug 2006		May 2006	
		Depth to Water	Water Elevation																		
9-64-bldg.	BDC-05-21																				
9-64-bldg.	BDC-05-22																				
9-64-bldg.	BDC-05-23																				
9-64-bldg.	BDC-05-24																				
9-60 bldg.	BDC-101	11.82	2.65	11.89	2.58	11.95	2.52	12.29	2.18	12.22	2.25	12.13	2.34			11.42	3.05			12.07	2.40
9-60 bldg.	BDC-102	11.58	2.69	11.64	2.63	11.67	2.60	12.08	2.19	11.86	2.41	11.89	2.38			11.13	3.14			11.85	2.42
9-60 bldg.	BDC-103	11.55	2.79	11.61	2.73	11.68	2.66	12.02	2.32	11.93	2.41	11.87	2.47			11.10	3.24			11.78	2.56
9-60 bldg.	BDC-104	11.36	2.80	11.40	2.76	11.51	2.65	11.84	2.32												
9-52-bldg.	952MW-1																				
9-52-bldg.	952MW-2																				
9-52-bldg.	952MW-3																				
9-52-bldg. (west)	MW-5																				
9-04-bldg. (north)	MW-2																				
9-04-bldg. (north)	MW-7																				
9-04-bldg. (north)	MW-8																				
9-04-bldg. (north)	MW-9																				

**DEVELOPMENTAL CENTER
CUMULATIVE WATER LEVEL MEASUREMENTS**

Well Location / Bldg.	Well ID No.	February 2006		November 2005		August 2005		May 2005		February 2005		October 2004		August 2004		May 2004		November 2003		June 2003	
		Depth to Water	Water Elevation																		
9-101-bldg.	MW-6A	12.42	2.38	12.80	2.00	13.02	1.78	12.52	2.28	12.68	2.12	12.90	1.90	13.06	1.74						
9-101-bldg.	MW-6B	12.75	2.34	13.15	1.94	13.35	1.74	12.88	2.21	12.97	2.12	13.25	1.84	13.40	1.69	13.00	1.83	12.88	1.95	13.30	1.53
9-101-bldg.	MW-6C	12.71	2.36	13.14	1.93	13.32	1.75	12.87	2.20	12.90	2.17	13.18	1.89	13.37	1.70	13.14	1.85	13.03	1.96	13.44	1.55
9-101-bldg.	MW-8C			13.00	1.92			12.64	2.28			12.91	2.01			13.11	1.81	13.11	1.81	13.39	1.53
9-101-bldg.	MW-9A	12.37	2.37	12.73	2.01	13.08	1.66	12.53	2.21	12.51	2.23	12.92	1.82	13.05	1.69	12.82	1.82	12.78	1.86	13.00	1.64
9-101-bldg.	MW-9B	12.19	2.40	12.69	1.90	12.90	1.69	12.17	2.42	10.80	3.79	12.76	1.83	12.90	1.69	12.77	1.95	12.82	1.90	13.08	1.64
9-101-bldg.	MW-9C	12.26	2.40	12.69	1.97	12.93	1.73	12.55	2.11	12.46	2.20	12.87	1.79	13.01	1.65	12.85	1.83	12.77	1.91	13.09	1.59
9-101-bldg.	MW-9D			12.90	1.76			12.90	1.76			13.92	0.74			12.92	1.74	13.04	1.62	13.39	1.27
9-101-bldg.	MW-10A	11.93	2.76	12.73	1.96	12.85	1.84	12.52	2.17	12.58	2.11	12.95	1.74	13.05	1.64	12.93	1.76	12.83	1.86	13.08	1.61
9-101-bldg.	MW-10C			12.63	1.99			12.45	2.17			12.74	1.88			12.80	1.82	12.71	1.91	12.97	1.65
9-101-bldg.	MW-11A			12.92	1.96			12.42	2.46			12.78	2.10			13.12	1.76	12.91	1.97	13.14	1.74
9-101-bldg.	MW-12A			12.98	1.85			12.58	2.25			12.86	1.97			13.21	1.62	13.00	1.83	13.23	1.60
9-101-bldg.	MW-13A			12.26	1.88			11.97	2.17			12.35	1.79			12.47	1.67	12.18	1.96	12.49	1.65
9-101-bldg.	MW-13C			12.10	1.92			11.78	2.24			12.19	1.83			12.35	1.67	12.02	2.00	12.30	1.72
9-101-bldg.	MW-14A	11.95	2.42	12.39	1.98	12.56	1.81	12.35	2.02	12.38	2.09	12.60	1.87	12.94	1.53	12.71	1.76	12.57	1.90	12.91	1.56
9-101-bldg.	MW-14C			12.13	1.84			11.84	2.13			12.09	1.88			12.16	1.81	12.07	1.90	12.43	1.54
9-101-bldg.	MW-14E			7.87	6.31			7.29	6.89			7.58	6.60			6.94	7.24	7.26	6.92	8.56	5.62
9-101-bldg.	MW-15A			12.42	1.75			11.74	2.43			12.17	2.00			12.67	1.50	12.36	1.81	12.57	1.60
9-101-bldg.	MW-15C			12.50	1.67			12.02	2.15			12.31	1.86			12.72	1.45	12.37	1.80	12.56	1.61
9-101-bldg.	MW-15D			12.63	1.78			12.20	2.21			12.56	1.85			12.88	1.53	12.64	1.77	12.41	2.00
9-101-bldg.	MW-16A			13.05	1.94			12.67	2.32			12.97	2.02			13.19	1.80	12.96	2.03	13.35	1.64
9-101-bldg.	MW-16C			13.22	1.82			12.83	2.21			13.15	1.89			13.38	1.66	13.15	1.89	13.51	1.53
9-101-bldg.	MW-17A			12.74	2.30							12.81	1.99			13.05	1.75	12.83	1.97	13.10	1.70
9-101-bldg.	MW-17C			12.83	2.21							12.80	2.05			13.11	1.74				
9-101-bldg.	MW-17D			12.82	2.22							12.97	1.90			13.20	1.67				
9-101-bldg.	MW-18A			12.44	1.86			12.11	2.19			12.43	1.87			12.57	1.73	12.36	1.94		
9-101-bldg.	MW-18C			12.72	1.91			12.36	2.27			12.75	1.88			12.84	1.79	12.62	2.01	12.89	1.74
9-101-bldg.	MW-18D			12.42	2.21							12.42	1.84			12.60	1.66				
9-101-bldg.	MW-19A	10.22	2.01	10.43	1.80	10.70	1.53	10.22	2.01	10.19	2.04	10.54	1.69			10.85	1.38	10.39	1.84		
9-101-bldg.	MW-19C			10.36	1.87			10.22	2.01			10.43	1.80			10.22	2.01	10.31	1.92	10.55	1.68
9-101-bldg.	MW-19D			10.69	1.54							10.67	1.56			10.86	1.37				
9-101-bldg.	MW-20A			12.68	1.63			12.33	1.98			12.75	1.56			12.73	1.58	12.58	1.73		
9-101-bldg.	MW-20C			12.30	1.85			11.90	2.25			12.39	1.76			12.66	1.49	12.24	1.91	12.48	1.67
9-101-bldg.	MW-20D			12.66	1.49							12.80	1.63			13.17	1.26				
9-101-bldg.	MW-22A	12.25	2.00	12.55	1.70	12.81	1.44	12.38	1.87												
9-101-bldg.	MW-23A	12.44	1.83	12.78	1.49	13.73	0.54	13.55	0.72												
9-101/9-50 bldg.	MW-21A																				
9-101/9-50 bldg.	MW-21C																				
9-64-bldg.	BDC-05-02			12.21	2.16			11.86	2.51			12.40	1.97			12.24	2.13	12.08	2.29	12.47	1.90
9-64-bldg.	BDC-05-03			12.43	1.98			12.07	2.34			12.60	1.81			12.46	1.95	12.28	2.13	12.66	1.75
9-64-bldg.	BDC-05-04			12.52	2.07			12.17	2.42			12.72	1.87			12.55	2.04	12.40	2.19	12.80	1.79
9-64-bldg.	BDC-05-05			12.16	2.28			11.87	2.57			12.41	2.03			12.12	2.32	12.13	2.31	12.51	1.93
9-64-bldg.	BDC-05-07			11.96	2.03			11.59	2.40			12.14	1.85			11.97	2.02	11.81	2.18	12.18	1.81
9-64-bldg.	BDC-05-08																				
9-64-bldg.	BDC-05-09																				
9-64-bldg.	BDC-05-10																				
9-64-bldg.	BDC-05-11																				
9-64-bldg.	BDC-05-12																				
9-64-bldg.	BDC-05-13																				
9-64-bldg.	BDC-05-14																				
9-64-bldg.	BDC-05-15																				
9-64-bldg.	BDC-05-16																				
9-64-bldg.	BDC-05-17																				
9-64-bldg.	BDC-05-18																				
9-64-bldg.	BDC-05-19																				
9-64-bldg.	BDC-05-20																				

**DEVELOPMENTAL CENTER
CUMULATIVE WATER LEVEL MEASUREMENTS**

Well Location / Bldg.	Well ID No.	February 2006		November 2005		August 2005		May 2005		February 2005		October 2004		August 2004		May 2004		November 2003		June 2003	
		Depth to Water	Water Elevation																		
9-64-bldg.	BDC-05-21																				
9-64-bldg.	BDC-05-22																				
9-64-bldg.	BDC-05-23																				
9-64-bldg.	BDC-05-24																				
9-60 bldg.	BDC-101			11.91	2.56			11.73	2.74			12.31	2.16			12.04	2.43	12.08	2.39	12.43	2.04
9-60 bldg.	BDC-102			11.79	2.48			11.53	2.74			11.97	2.30			11.84	2.43	11.82	2.45	12.24	2.03
9-60 bldg.	BDC-103			11.81	2.53			11.50	2.84			12.08	2.26			11.79	2.55	11.72	2.62	12.27	2.07
9-60 bldg.	BDC-104																				
9-52-bldg.	952MW-1																				
9-52-bldg.	952MW-2																				
9-52-bldg.	952MW-3																				
9-52-bldg. (west)	MW-5																				
9-04-bldg. (north)	MW-2															9.96	2.71	9.78	2.89		
9-04-bldg. (north)	MW-7															10.90	2.79	10.72	2.97		
9-04-bldg. (north)	MW-8															11.10	2.82	10.88	3.04		
9-04-bldg. (north)	MW-9															11.03		10.84			

**DEVELOPMENTAL CENTER
CUMULATIVE WATER LEVEL MEASUREMENTS**

Well Location / Bldg.	Well ID No.	December 2002		June 2002		December 2001		June 2001		December 2000		June 2000		November 1999	
		Depth to Water	Water Elevation												
9-101-bldg.	MW-6A														
9-101-bldg.	MW-6B	13.01	1.82	13.21	1.62	12.45	2.38	13.50	1.33	13.55	1.28	13.01	1.82	13.33	1.50
9-101-bldg.	MW-6C	13.16	1.83	13.36	1.63	12.60	2.39	13.67	1.32	13.70	1.29	13.15	1.84	13.50	1.49
9-101-bldg.	MW-8C	13.19	1.73	13.27	1.65	12.89	2.03	13.85	1.07	13.71	1.21	13.13	1.79	13.79	1.13
9-101-bldg.	MW-9A	12.90	1.74	12.94	1.70	12.69	1.95	13.76	0.88	13.72	0.92	12.78	1.86	13.67	0.97
9-101-bldg.	MW-9B	12.96	1.76	13.00	1.72	12.82	1.90	13.90	0.82	13.82	0.90	12.81	1.91	13.90	0.82
9-101-bldg.	MW-9C	12.90	1.78	12.94	1.74	12.61	2.07	13.64	1.04	13.57	1.11	12.75	1.93	13.60	1.08
9-101-bldg.	MW-9D	13.17	1.49	13.20	1.46	12.25	2.41	13.15	1.51	13.03	1.63	12.74	1.92	13.00	1.66
9-101-bldg.	MW-10A	13.03	1.66	12.94	1.75	12.52	2.17	13.52	1.17	13.62	1.07	12.84	1.85	13.50	1.19
9-101-bldg.	MW-10C	12.90	1.72	12.84	1.78	12.32	2.30	13.37	1.25	13.40	1.22	12.74	1.88	13.29	1.33
9-101-bldg.	MW-11A	13.13	1.75	12.97	1.91	12.28	2.60	13.35	1.53	13.52	1.36	12.91	1.97	13.20	1.68
9-101-bldg.	MW-12A	13.20	1.63	13.03	1.80	12.33	2.50	13.35	1.48	13.50	1.33	13.02	1.81	13.21	1.62
9-101-bldg.	MW-13A	12.38	1.76	12.50	1.64	11.92	2.22	12.59	1.55	12.76	1.38	12.50	1.64	12.33	1.81
9-101-bldg.	MW-13C	12.22	1.80	12.31	1.71	11.45	2.57	12.43	1.59	12.69	1.33	12.37	1.65	12.21	1.81
9-101-bldg.	MW-14A	12.70	1.77	12.85	1.62	12.16	2.31	13.00	1.47	12.98	1.49	12.70	1.77	12.78	1.69
9-101-bldg.	MW-14C	12.18	1.79	12.33	1.64	11.60	2.37	12.59	1.38	12.49	1.48	12.17	1.80	12.35	1.62
9-101-bldg.	MW-14E	7.69	6.49	7.64	6.54	6.10	8.08	7.83	6.35	7.44	6.74	7.45	6.73	7.90	6.28
9-101-bldg.	MW-15A	12.55	1.62	12.52	1.65	11.82	2.35	12.66	1.51	12.82	1.35	12.40	1.77	12.35	1.82
9-101-bldg.	MW-15C	12.47	1.70	12.50	1.67	11.73	2.44	12.80	1.37	12.77	1.40	12.36	1.81	12.49	1.68
9-101-bldg.	MW-15D	12.80	1.61	13.02	1.39	11.90	2.51	12.88	1.53	12.90	1.51	12.59	1.82	12.44	1.97
9-101-bldg.	MW-16A	13.03	1.96	13.02	1.97	12.45	2.54	13.55	1.44	13.50	1.49	13.19	1.80	13.34	1.65
9-101-bldg.	MW-16C	13.33	1.71	13.29	1.75	12.62	2.42	13.77	1.27	13.67	1.37	13.36	1.68	13.52	1.52
9-101-bldg.	MW-17A	12.99	1.81	13.07	1.73	12.34	2.46			13.32	1.48	13.05	1.75	13.03	1.77
9-101-bldg.	MW-17C							13.25	1.60			13.10	1.75	13.05	1.80
9-101-bldg.	MW-17D							13.20	1.67			13.25	1.62	12.82	2.05
9-101-bldg.	MW-18A					11.82	2.48	12.61	1.69	12.84	1.46	12.55	1.75	12.38	1.92
9-101-bldg.	MW-18C	12.82	1.81	12.92	1.71			12.87	1.76	13.12	1.51	12.83	1.80	12.61	2.02
9-101-bldg.	MW-18D							12.58	1.68	12.85	1.41	12.52	1.74	12.33	1.93
9-101-bldg.	MW-19A					9.93	2.30	10.62	1.61	10.93	1.30	10.68	1.55	10.42	1.81
9-101-bldg.	MW-19C	10.41	1.82	10.71	1.52			10.55	1.68	10.89	1.34	10.65	1.58	10.35	1.88
9-101-bldg.	MW-19D							11.00	1.23	10.90	1.33	10.71	1.52	11.05	1.18
9-101-bldg.	MW-20A					12.20	2.11	12.60	1.71	12.89	1.42	12.44	1.87	12.75	1.56
9-101-bldg.	MW-20C	12.26	1.89	12.55	1.60			12.50	1.65	12.69	1.46	12.16	1.99	12.44	1.71
9-101-bldg.	MW-20D							12.83	1.60	12.87	1.56	12.41	2.02	12.66	1.77
9-101-bldg.	MW-22A														
9-101-bldg.	MW-23A														
9-101/9-50 bldg.	MW-21A	12.79	1.66	12.74	1.71	12.05	2.40	12.77	1.68	13.04	1.41	12.93	1.52	12.50	1.95
9-101/9-50 bldg.	MW-21C	10.53	1.67	10.52	1.68	9.87	2.33	10.50	1.70						
9-64-bldg.	BDC-05-02	12.40	1.97	12.25	2.12	11.45	2.92	12.38	1.99	12.56	1.81	12.37	2.00	12.03	2.34
9-64-bldg.	BDC-05-03	12.60	1.81	12.47	1.94	11.70	2.71	12.56	1.85	12.82	1.59	12.56	1.85	12.33	2.08
9-64-bldg.	BDC-05-04	12.71	1.88	12.57	2.02	11.78	2.81	12.69	1.90	12.86	1.73	12.65	1.94	12.33	2.26
9-64-bldg.	BDC-05-05	12.42	2.02	12.22	2.22	11.38	3.06	12.37	2.07	12.53	1.91	12.36	2.08	11.96	2.48
9-64-bldg.	BDC-05-07	12.11	1.88	12.02	1.97	11.18	2.81	12.10	1.89	12.28	1.71	12.08	1.91	11.72	2.27
9-64-bldg.	BDC-05-08														
9-64-bldg.	BDC-05-09														
9-64-bldg.	BDC-05-10														
9-64-bldg.	BDC-05-11														
9-64-bldg.	BDC-05-12														
9-64-bldg.	BDC-05-13														
9-64-bldg.	BDC-05-14														
9-64-bldg.	BDC-05-15														
9-64-bldg.	BDC-05-16														
9-64-bldg.	BDC-05-17														
9-64-bldg.	BDC-05-18														
9-64-bldg.	BDC-05-19														
9-64-bldg.	BDC-05-20														

**DEVELOPMENTAL CENTER
CUMULATIVE WATER LEVEL MEASUREMENTS**

Well Location / Bldg.	Well ID No.	December 2002		June 2002		December 2001		June 2001		December 2000		June 2000		November 1999	
		Depth to Water	Water Elevation												
9-64-bldg.	BDC-05-21														
9-64-bldg.	BDC-05-22														
9-64-bldg.	BDC-05-23														
9-64-bldg.	BDC-05-24														
9-60 bldg.	BDC-101	12.34	2.13	12.07	2.40	11.29	3.18	12.30	2.17						
9-60 bldg.	BDC-102	12.14	2.13	11.82	2.45	11.05	3.22	12.06	2.21						
9-60 bldg.	BDC-103	12.15	2.19	11.81	2.53	11.03	3.31	12.04	2.30						
9-60 bldg.	BDC-104														
9-52-bldg.	952MW-1			11.10	2.38	10.21	3.27	11.25	2.23	11.50	1.98			10.97	2.51
9-52-bldg.	952MW-2			11.37	2.63	10.46	3.54	11.48	2.52	11.76	2.24			11.25	2.75
9-52-bldg.	952MW-3			11.40	2.36	10.52	3.24	11.55	2.21	11.85	1.91			11.28	2.48
9-52-bldg. (west)	MW-5													10.53	2.42
9-04-bldg. (north)	MW-2							10.03	2.64			10.19	2.48	9.53	3.14
9-04-bldg. (north)	MW-7					9.96	3.73	11.05	2.64						
9-04-bldg. (north)	MW-8					10.08	3.84	11.23	2.69						
9-04-bldg. (north)	MW-9					10.08		11.23	-11.23						

Notes:

Depth to Water measurements taken from top of well casing
 Top of casing elevation altered in wells MW-6B, MW-6C, MW-9A, MW-9B, and MW-9C by installation of threaded fitting on 6/19/2004.
 Top of casing elevation was lowered in well MW-14A by 0.10 ft on 3/17/2005; resurveyed 9/9/05.
 Top of casing elevation at wells MS-22A and MW-23A measured 9/9/05.
 BDC05-02 was modified in October 2008 for utilization as an injection well. Elevation changed from 14.37 to 14.41 ft; total depth changed from 25.35 to 25.27.

*DEVELOPMENTAL CENTER
GROUNDWATER MONITORING
APRIL 2015*

GROUNDWATER SAMPLE COLLECTION FORMS

ANALYTICAL DATA

(DVD)

SWMU-20

(Groundwater Sample Collection Forms and Analytical Data)

Boeing Chain of Custody



Lancaster Laboratories

Acct. # _____ Group # _____ Sample # _____
 For Lancaster Laboratories use only
 Please print. Instructions on reverse side correspond.

① #13419 Client Information					④ Analyses Requested										⑤ Remarks/Comments					
Site Location: <u>BOEING Co</u>					38 VOC's 8260 BOEING ALIST	57 METHANE ETHANE, STANE	91 T.O.C.	55 SULFATE												
Site Project: <u>DEV. CTR</u>																				
Site Program/ #: <u>SWMU-20 SEMI-ANNUAL EVENT</u>																				
Boeing PM: <u>JAMES BET</u>																				
Consultant Contact: <u>LANDAU</u>																				
Report To: <u>LANDAU</u>																				
Invoice To: <input checked="" type="checkbox"/> Boeing EHS <input type="checkbox"/> Other (specify): _____																				
Sampler: <u>CHARLES HARDY</u> # of Coolers: <u>1</u>																				
② Sample Identification		③ Collected		Matrix	No. of Containers															
Date	Time																			
MW-17A-150428	4-28-2015	1225	Ag	3	X															
MW-13A-150428	4-28-2015	1245	Ag	3	X															
MW-13C-150428	4-28-2015	1310	Ag	3	X															
MW-10C-150428	4-28-2015	1340	Ag	3	X															
MW-11A-150428	4-28-2015	1405	Ag	3	X															
MW-20C-150428	4-28-2015	1430	Ag	3	X															
MW-16A-150428	4-28-2015	1500	Ag	3	X															
MW-16C-150428	4-28-2015	1520	Ag	3	X															
MW-DUP-150428	4-28-2015	-	Ag	3	X															
MW-09A-150429	4-29-2015	515	Ag	9	X	X	X	X												
MW-15C-150429	4-29-2015	555	Ag	3	X															
MW-14C-150429	4-29-2015	630	Ag	3	X															
MW-22A-150429	4-29-2015	715	Ag	9	X	X	X	X												
MW-06A-150429	4-29-2015	810	Ag	9	X	X	X	X												
MW-06B-150429	4-29-2015	850	Ag	9	X	X	X	X												
⑥ Turnaround Time Requested (please circle) <u>4-1-20A</u>					Relinquished by: <u>CHARLES HARDY</u> <i>(Signature)</i>					Date/Time <u>1100</u>		Received by: _____		Date/Time <u>⑦</u>						
Standard <input checked="" type="checkbox"/> 5 day 4 day 72 hour 48 hour 24 hour					Relinquished by: _____					Date/Time _____		Received by: _____		Date/Time _____						
Date needed: _____					Relinquished by commercial carrier (circle): UPS FedEx Other: _____					Date/Time _____		Received by: _____		Date/Time _____						
										Temperature upon Receipt: _____ °C		Custody Seals Intact?: Yes No								

BOEING Groundwater Sample Collection Form

41th Sample event

Project Site: Dev. Ctr. Area: 9-101 SWMU-20 CWA#7KX056

Event: 2nd Quarter 2015 labor Salco#1007645

SAMPLE ID: DC-MW-06a-150429 (yyymmdd)

Date Collected: April/May 29, 2015 COC Time: 8:10

Collector: Charles Hardy

Well Information

Well I. D.: MW-06A Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 10 (Sch.) Material: PVC, Stainless Steel, Other GFRP

Total Depth of Well: 24.25 (ft.) historical or measured

Present Water Level: 12.65 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.75 ft - 12.65 ft = 12.07 ft x 0.776 Liters/ft = 9.37 Liters

Purge Rate: _____ l. + _____ min. = _____ Liters/minute

Begin Purge: 7:57 time

End Purge: 8:10 time

Volume Purged: _____ Liters

Purge water disposal to: 55-gal drum. Storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/ntu's)	Observations
<u>7:57</u>	<u>≈ 250 mL</u>	<u>18.7</u>	<u>280</u>	<u>2.52</u>	<u>6.67</u>	<u>-15</u>		
<u>8:01</u>	<u>≈ 700</u>	<u>18.8</u>	<u>283</u>	<u>2.73</u>	<u>6.67</u>	<u>-18</u>		
<u>8:03</u>	<u>≈ 1.1 L</u>	<u>18.9</u>	<u>282</u>	<u>2.46</u>	<u>6.67</u>	<u>-27</u>		
<u>8:05</u>	<u>≈ 1.5</u>	<u>18.9</u>	<u>280</u> ✓	<u>2.43</u>	<u>6.66</u> ✓	<u>-37</u>		
<u>8:07</u>	<u>≈ 1.9</u>	<u>18.9</u>	<u>280</u> ✓	<u>2.42</u>	<u>6.66</u> ✓	<u>-47</u>		
<u>8:09</u>	<u>2.35</u>	<u>18.9</u>	<u>278</u> ✓	<u>2.40</u> ✓	<u>6.65</u> ✓	<u>-51</u>		
<u>8:11</u>	<u>≈ 2.5</u>	<u>18.9</u>	<u>278</u>	<u>2.36</u>	<u>6.65</u>	<u>-59</u>		
<u>8:13</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:15</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:17</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:19</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:21</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:23</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:25</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:27</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:29</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:31</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:33</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:35</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:37</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:39</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:41</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:43</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:45</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:47</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:49</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:51</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:53</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:55</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:57</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		
<u>8:59</u>	<u>≈</u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>		

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
<u>3</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>HCl</u>	<input checked="" type="checkbox"/> No	<u>VOC's 8260,</u>
<u>2</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>H-Cl</u>	<input checked="" type="checkbox"/> No	<u>Ethene, Ethane, Methane 8310 modified</u>
<u>2</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>H3PO4</u>	<input checked="" type="checkbox"/> No	<u>Total Organic Carbon Method 9060,</u>
<u>2</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>none</u>	<input checked="" type="checkbox"/> No	<u>Sulfate IC E300</u>
<u>0</u>	<u>mL</u>	<input type="checkbox"/> Glass	<u>none</u>	<input type="checkbox"/> No	<u></u>

Comments: Hach Kit Fe++ 3.0 mg/L

Signature: C.H. Hardy Date: April 29, 2015 Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-101 SWMU-20 CWA#7KX056

Event: 2nd Quarter 2015 labor Salco#1007645

41th Sample event

SAMPLE ID: DC-MW-066-150429 (yymmdd)

Collector: Charles Hardy

Date Collected: April/May 29, 2015 COC Time: 850

Well Information

Well I. D.: MW-066 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 10 (Sch.) Material: PVC, Stainless Steel, Other GFRP

Total Depth of Well: 27.20 (ft.) historical or measured

Present Water Level: 13.02 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 27.20 ft - 13.02 ft = 14.18 ft x 0.776 Liters/ft = 11.0 Liters

Purge Rate: 5.25 l. + 26 min. = 0.202 Liters/minute

Begin Purge: 824 time

End Purge: 850 time

Volume Purged: 5.25 Liters

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Purge water disposal to: 55-gal drum, Storage tank, treatment system, ground, other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV Others (w/ .ntu's)	Observations
826	~ 100	19.3	174	2.15	6.69	-19	
828	~ 800	19.2	162	0.96	6.71	-23	
830	~ 1.2 L	19.3	161	0.85	6.69	-25	
832	~ 1.7	19.2	166	0.80	6.67	-28	
834	~ 2.1	19.3	173	0.74	6.64	-30	
836	~ 2.45	19.2	177	0.68	6.63	-32	
838	~ 2.8	19.2	181	0.68	6.62	-33	
840	~ 3.25	19.2	187	0.64	6.61	-35	
842	~ 3.65	19.2	189	0.60	6.60	-36	
844	~ 4.05	19.3	192	0.59	6.59	-36	
846	~ 4.45	19.2	194	0.63	6.58	-37	
848	~ 4.85	19.2	195	0.56	6.57	-38	
850	~ 5.25	19.2	196	0.52	6.56	-39	

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene, HDPE, PVC, Teflon, Stainless Steel, Other _____

Decontamination: N/A dedicated system, Alconox Wash, Tap Rinse, D.I. Rinse, Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
<u>3</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>HCl</u>	<input checked="" type="checkbox"/> No	<u>VOC's 8260</u>
<u>2</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>H-Cl</u>	<input checked="" type="checkbox"/> No	<u>Ethene, Ethane, Methane 8310 modified</u>
<u>2</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>H3PO4</u>	<input checked="" type="checkbox"/> No	<u>Total Organic Carbon Method 9060</u>
<u>2</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>none</u>	<input checked="" type="checkbox"/> No	<u>Sulfate IC E300</u>
<u>0</u>	<u>mL</u>	<input type="checkbox"/> Glass	<u>none</u>	<input type="checkbox"/> No	

Comments: Hach Kit Fe++ 1.0 mg/L

Signature: C.H. Hardy

Date: April 29, 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-101 SWMU-20 CWA#7KX056

Event: 2nd Quarter 2015 Labor Salco# 1007645

41th Sample event

SAMPLE ID: DC-MW-09a.-150429 (yyymmdd)

Collector: Charles Hardy

Date Collected: April/May 29, 2015 COC Time: 5:15

Well Information

Well I. D.: MW-09a Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 10 (Sch.) Material: PVC, Stainless Steel, Other GFRP

Total Depth of Well: 21.3 (ft.) historical or measured

Present Water Level: 12.64 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 21.3 ft - 12.64 ft = 8.66 ft x 0.776 Liters/ft = 6.72 Liters

Purge Rate: 3.3 l. + 1.56 min. = 0.204 Liters/minute

Begin Purge: 4:59 time

End Purge: 5:15 time

Volume Purged: 3.3 Liters

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
1"	1"		0.170	0.140
2"	2"	0.776	0.658	0.579
2.5"	2.5"		0.942	0.833
4"	4"	2.995	2.502	2.260

Purge water disposal to: 55-gal drum, Storage tank, treatment system, ground, other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	Conductivity +/- 3%	D. Q. (mg/l) +/- 10%	pH +/- 0.10 unit	ORP mV	Others (w/ntu's)	Observations
501	500 ml	17.2	522	0.56	6.72	8		
503	900	17.0	502	0.66	6.58	-21		
505	1.3 l	17.1	491	0.43	6.53	-38		
507	1.7	17.1	480	0.33	6.50	-47		
509	2.1	17.2	475	0.28	6.47	-53		
511	2.5	17.1	476	0.25	6.45	-57		
513	2.9	17.1	477	0.22	6.44	-61		
515	3.3	17.2	479	0.20	6.42	-63		
515								

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene, HDPE, PVC, Teflon, Stainless Steel, Other _____

Decontamination: N/A dedicated system, Alconox Wash, Tap Rinse, D.I. Rinse, Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

(9)

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	HCl	<input type="checkbox"/> No	VOC's 8260,
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	Ethene, Ethane, Methane 8310 modified
2	40 mL	<input checked="" type="checkbox"/> Glass	H ₃ PO ₄	<input type="checkbox"/> No	Total Organic Carbon Method 9060,
2	40 mL	<input checked="" type="checkbox"/> Glass	none	<input type="checkbox"/> No	Sulfate IC E300
0	mL	<input checked="" type="checkbox"/> Glass	none	<input type="checkbox"/> No	

Comments: Hach Kit Fe++ 1.4 mg/L

Signature: C.H. Hardy

Date: April 29 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-101 SWMU-20 CWA#7KX056

Event: 2nd Quarter 2015 labor Salco#1007645

41th Sample event

SAMPLE ID: DC-MW-10c-150428 (yyymmdd)

Collector: Charles Hardy

Date Collected: April/May 28, 2015 COC Time: 1340

Well Information

Well I. D.: MW-10c Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 40.40 (ft.) historical or measured

Present Water Level: 12.57 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 40.40 ft - 12.57 ft = 27.83 ft x 0.638 Liters/ft = 18.31 Liters

Purge Rate: 3.5 l. + 12 min. = 0.211 Liters/minute

Begin Purge: 1322 time

End Purge: 1340 time

Volume Purged: 3.5 Liters

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Purge water disposal to: 55-gal drum. Storage tank

treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/1, ntu's)	Observations
13 1:24	= 5.11	17.1	409	3.66	6.85	-39		
1:26	= 600 ml	18.0	365	0.40	6.73	-31		
1:28	= 1.0 L	18.0	348	0.18	6.67	-32		
1:30	= 1.4	18.1	344	0.17	6.64	-34		
1:32	= 1.95	18.1	340	0.15	6.62	-35		
1:34	2.3	18.1	337	0.15	6.60	-37		OK
1:36	2.6	18.2	334	0.11	6.60	-38		
1:38	= 3.05	18.2	325	0.10	6.59	-38		
13! 1:40	= 3.5	18.3	320	0.09	6.58	-39		
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Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	HCl	<input checked="" type="checkbox"/> No	VOC's 8260,
2	40 mL	<input type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	Ethene, Ethane, Methane 8310 modified
2	40 mL	<input type="checkbox"/> Glass	H3PO4	<input type="checkbox"/> No	Total Organic Carbon Method 9060,
2	40 mL	<input type="checkbox"/> Glass	none	<input type="checkbox"/> No	Sulfate IC E300
0	- mL	<input type="checkbox"/> Glass	none	<input type="checkbox"/> No	

Comments: Hach Kit Fe++

Signature: C.H. Hardy

Date: APRIL 28 2015

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BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-101 SWMU-20 CWA#7KX056

Event: 2nd Quarter 2015 labor Salco#1007645

41th Sample event

SAMPLE ID: DC-MW-11a-150428 (vymddd)

Collector: Charles Hardy

Date Collected: April/May, 28, 2015 COC Time: 1405

Well Information

Well I. D.: MW-11a Well Condition: Secure? Yes No: Describe Condition: New Lock

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other

Total Depth of Well: 19.90 (ft.) historical or measured

Present Water Level: 12.74 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 19.90 ft - 12.74 ft = 7.16 ft x 0.658 Liters/ft = 4.71 Liters

Purge Rate: 2.5 l. + 12 min. = 0.208 Liters/minute

Begin Purge: 14:1133 time

End Purge: 14:212405 time

Volume Purged: 2.5 Liters

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
1"	1"		0.170	0.140
2"	2"	0.776	0.658	0.579
2.5"	2.5"		0.942	0.833
4"	4"	2.995	2.502	2.260

Purge water disposal to: 55-gal drum, Storage tank, treatment system, ground, other

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. Ø. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/l. ntu's)	Observations
155	= 450	17.4	1,100	0.17	6.47	-50		
157	= 850	17.5	1,099	0.14	6.48	-49		
159	= 1.3 L	17.5	1,104	0.09	6.57	-47		
201	= 1.7	17.5	1,107	0.13	6.52	-46		X
203	= 2.1	17.5	1,106	0.10	6.53	-46		
14: 205	= 2.5	17.5	1,111	0.13	6.54	-46		
207	=							
209	=							
14: 210	=							
=								
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Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene, HDPE, PVC, Teflon, Stainless Steel, Other

Decontamination: N/A dedicated system, Alconox Wash, Tap Rinse, D.I. Rinse, Other

Sample Description: (color, turbidity, odor, sheen, etc):

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	HCl	<input checked="" type="checkbox"/> No	VOC's 8260,
2	40 mL	<input type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	Ethene, Ethane, Methane 8310 modified
2	40 mL	<input type="checkbox"/> Glass	H3PO4	<input type="checkbox"/> No	Total Organic Carbon Method 9060,
2	40 mL	<input type="checkbox"/> Glass	none	<input type="checkbox"/> No	Sulfate IC E300
0	mL	<input type="checkbox"/> Glass	none	<input type="checkbox"/> No	

Comments: Hach Kit Fe++

Signature: C.H. Hardy Date: April 28 2015 Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-101 SWMU-20 CWA#7KX056

Event: 2nd Quarter 2015 labor Salco#1007645

41th Sample event

SAMPLE ID: DC-MW-13a-150428 (symmdd)

Collector: Charles Hardy

Date Collected: April/May, 28, 2015 COC Time: 1245

Well Information

Well I. D.: MW-13a Well Condition: Secure? Yes No: Describe Condition NEW LOCK

Info.: Size: 2 (inches) (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 242.79/193 (ft.) historical or measured

Present Water Level: 12.19 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 19.37 ft - 12.19 ft = 7.18 ft x 0.658 Liters/ft = 4.72 Liters

Purge Rate: 5.35 l. + 26 min. = 0.206 Liters/minute

Begin Purge: 12:19 time

End Purge: 1245 time

Volume Purged: 5 Liters

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Purge water disposal to: 55-gal drum, Storage tank

treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	Conductivity +/- 3%	D. O. (mg/l) +/- 10%	pH +/- 0.10 unit	ORP mV Others (w/ .ntu's)	Observations
1221	~ 100 ml	16.6	423	1.46	7.15	20	
1223	~ 600	16.5	289	1.33	6.88	61	
1225	~ 1.0 L	16.6	201	1.29	6.71	76	
1227	~ 1.5	16.5	180	1.24	6.58	84	
1229	~ 1.9	16.5	174	1.24	6.52	87	
1231	~ 2.3	16.5	166	1.25	6.43	91	
1233	~ 2.7	16.4	167	1.26	6.38	91	
1235	~ 3.15	16.3	167	1.27	6.32	93	
1237	~ 3.55	16.3	165	1.34	6.28	94	
1239	~ 4.0	16.3	163	1.22	6.29	94	
1241	~ 4.5	16.3	159	1.19	6.23	94	
1243	~ 4.9	16.1	158	1.22	6.21	94	
1245	~ 5.35	16.1	157	1.14	6.18	94	
=	=	=	=	=	=	=	=
=	=	=	=	=	=	=	=
=	=	=	=	=	=	=	=

Sample Collection Information

Sample Collected with: disposable Bailor, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	HCl	<input checked="" type="checkbox"/> No	VOC's 8260,
2	40 mL	<input type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	Ethene, Ethane, Methane 8310 modified
2	40 mL	<input type="checkbox"/> Glass	H ₃ PO ₄	<input type="checkbox"/> No	Total Organic Carbon Method 9060,
2	40 mL	<input type="checkbox"/> Glass	none	<input type="checkbox"/> No	Sulfate IC E300
0	mL	<input type="checkbox"/> Glass	none	<input type="checkbox"/> No	

Comments: Hach Kit Fe++

Signature: C.H. Hardy

Date: APRIL 28, 2015

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BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-101 SWMU-20 CWA#7KX056

Event: 2nd Quarter 2015 labor Salco#1007645

41th Sample event

SAMPLE ID: DC-MW-13c-150423 (yyymmdd)

Collector: Charles Hardy

Date Collected: April/May, 23, 2015 COC Time: 1310

Well Information

Well I. D.: MW-13c Well Condition: Secure? Yes No Describe Condition: New to ck

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other

Total Depth of Well: 35.62 (ft.) historical or measured

Present Water Level: 12.07 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 35.62 ft. - 12.07 ft = 23.55 ft x 0.658 Liters/ft = 15.50 Liters

Purge Rate: 4.2 l. + 19 min. = 0.221 Liters/minute

Begin Purge: 1251 time

End Purge: 1310 time

Volume Purged: 4.2 Liters

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
1"	1"		0.170	0.140
2"	2"	0.776	0.658	0.579
2.5"	2.5"		0.942	0.833
4"	4"	2.995	2.502	2.260

Purge water disposal to: 55-gal drum, Storage tank

treatment system ground other

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV Others (w/ntu's)	Observations
1253	= 200 mL	15.8	924	0.27	6.25	18.6	
1255	= 700	16.0	700	0.15	6.43	-34	
1257	= 1.15 L	16.0	660	0.16	6.47	-45	
1259	= 1.6	16.0	628	0.15	6.48	-52	
1301	= 2.1	15.9	611	0.12	6.50	-57	
1303	= 2.6	16.2	605	0.11	6.50	-60	
1305	= 3.0	16.3	602	0.10	6.52	-63	
1308	= 3.7	16.3	595	0.11	6.51	-66	
1309	= 3.95	16.4	594	0.12	6.53	-67	
1310	= 4.2	16.4	594	0.10	6.53	-68	
1313	=						
1315	=						
	=						
	=						
	=						
	=						

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other

Sample Description: (color, turbidity, odor, sheen, etc):

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	HCl	<input checked="" type="checkbox"/> No	VOC's 8260,
2	40 mL	<input type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	Ethene, Ethane, Methane 8310 modified
2	40 mL	<input type="checkbox"/> Glass	H ₃ PO ₄	<input type="checkbox"/> No	Total Organic Carbon Method 9060,
2	40 mL	<input type="checkbox"/> Glass	none	<input type="checkbox"/> No	Sulfate IC E300
0	mL	<input type="checkbox"/> Glass	none	<input type="checkbox"/> No	

Comments: Hach Kit Fe++

Signature: C.H. Hardy

Date: ARR 12 28 2015

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BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-101 SWMU-20 CWA#7KX056

Event: 2nd Quarter 2015 labor Salco#1007645

41th Sample event

SAMPLE ID: DC-MW-14c-150429 (yymmdd)

Collector: Charles Hardy

Date Collected: April/May, 29, 2015 COC Time: _____

Well Information

Well I. D.: MW-14c Well Condition: Secure? Yes No Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 33.30 (ft.) historical or measured

Present Water Level: 11.95 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 33.30 ft - 11.95 ft = _____ ft x 26.58 Liters/ft = _____ Liters

Purge Rate: _____ l. + 21 min. = _____ Liters/minute

Begin Purge: 6:09 time

End Purge: 6:30 time

Volume Purged: _____ Liters

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Purge water disposal to: 55-gal drum. Storage tank

treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/ ,ntu's)	Observations
<u>6:11</u>	<u>= 6:11</u>	<u>16.9</u>	<u>635</u>	<u>0.82</u>	<u>6.42</u>	<u>-40</u>		
<u>6:13</u>	<u>= 2:00</u>	<u>17.5</u>	<u>702</u>	<u>0.32</u>	<u>6.40</u>	<u>-43</u>		
<u>6:15</u>	<u>= 5:00</u>	<u>17.9</u>	<u>727</u>	<u>0.72</u>	<u>6.39</u>	<u>-46</u>		
<u>6:17</u>	<u>= 7:00</u>	<u>18.3</u>	<u>731</u>	<u>0.83</u>	<u>6.46</u>	<u>-53</u>		
<u>6:19</u>	<u>= 9:00</u>	<u>18.9</u>	<u>734</u>	<u>0.33</u>	<u>6.48</u>	<u>-53</u>		
<u>6:21</u>	<u>= 1.1</u>	<u>19.0</u>	<u>608</u>	<u>0.13</u>	<u>6.53</u>	<u>-57</u>		
<u>6:23</u>	<u>= 1.3</u>	<u>18.3</u>	<u>619</u>	<u>0.11</u>	<u>6.51</u>	<u>-58</u>		
<u>6:25</u>	<u>= 1.5</u>	<u>17.0</u>	<u>611</u>	<u>0.12</u>	<u>6.50</u>	<u>-58</u>		
<u>6:27</u>	<u>= 1.7</u>	<u>19.3</u>	<u>600</u>	<u>0.08</u>	<u>6.49</u>			
<u>6:29</u>	<u>= 1.9</u>	<u>18.8</u>	<u>486?</u>	<u>0.07</u>	<u>6.56</u>	<u>-60</u>		
<u>6:30</u>	<u>2.0</u>	<u>18.7</u>	<u>492</u>	<u>0.06</u>	<u>6.54</u>	<u>-60</u>		
<u>~</u>								
<u>~</u>								
<u>~</u>								
<u>~</u>								
<u>~</u>								

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
<u>3</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>HCl</u>	<input type="checkbox"/> No	<u>VOC's 8260,</u>
<u>2</u>	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>H-Cl</u>	<input type="checkbox"/> No	<u>Ethene, Ethane, Methane 8310 modified</u>
<u>2</u>	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>H3PO4</u>	<input type="checkbox"/> No	<u>Total Organic Carbon Method 9060,</u>
<u>2</u>	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>none</u>	<input type="checkbox"/> No	<u>Sulfate IC E300</u>
<u>0</u>	<u>mL</u>	<input type="checkbox"/> Glass	<u>none</u>	<input type="checkbox"/> No	

Comments: Hach Kit Fe++

Signature: C.H. Hardy 

Date: _____ 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-101 SWMU-20 CWA#7KX056

Event: 2nd Quarter 2015 labor Salco#1007645

41th Sample event

SAMPLE ID: DC-MW-15c-150429 (yyymmdd)

Collector: Charles Hardy

Date Collected: April/May, 29, 2015 COC Time: 555

Well Information

Well I. D.: MW-15c Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 34.35 (ft.) historical or measured

Present Water Level: 12.29 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 34.35 ft - 12.29 ft = 22.06 ft x 0.65² Liters/ft = 14.52 Liters

Purge Rate: 3.75 l. + 16 min. = 0.234 Liters/minute

Begin Purge: 5:39 time

End Purge: 5:55 time

Volume Purged: 3 Liters

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
1"	1"		0.170	0.140
2"	2"	0.776	0.658	0.579
2.5"	2.5"		0.942	0.833
4"	4"	2.995	2.502	2.260

Purge water disposal to: 55-gal drum, Storage tank

treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/ .ntu's)	Observations
541	= 250 mL	20.3	416	1.46	6.68	-41		
543	= 800	20.0	363 ₃₅₂	0.38	6.67	-55		
545	= 1.3 L	20.0	350 ₃₃₉	0.22	6.67	-64		
547	= 1.8 L	20.0	342 ₃₃₂	0.15	6.67 ^{ok}	-70		
549	= 2.3	19.9	337 ₃₂₇	0.14	6.67 [✓]	-73		
551	= 2.75	19.9	334	0.15 [✓]	6.67 [✓]	-74		
553	= 3.2	19.9	330	0.14 [✓]	6.66 [✓]	-74		
555	= 3.75	19.9	326 [✓]	0.13	6.66	-75		
557	=							
559	=							
60	=							

Sample Collection Information

Sample Collected with: disposable Bailor, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	HCl	<input checked="" type="checkbox"/> No	VOC's 8260,
2	40 mL	<input type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	Ethene, Ethane, Methane 8310 modified
2	40 mL	<input type="checkbox"/> Glass	H3PO4	<input type="checkbox"/> No	Total Organic Carbon Method 9060,
2	40 mL	<input type="checkbox"/> Glass	none	<input type="checkbox"/> No	Sulfate IC E300
0	mL	<input type="checkbox"/> Glass	none	<input type="checkbox"/> No	

Comments: Hach Kit FC+ +

Signature: C.H. Hardy

Date: APRIL 29 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-101 SWMU-20 CWA#7KX056

Event: 2nd Quarter 2015 labor Salco#1007645

41th Sample event

SAMPLE ID: DC-MW-16a-150428 (yyymmdd)

Collector: Charles Hardy

Date Collected: April/May 23, 2015 COC Time: 1500

Well Information

Well I. D.: MW-16A Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 20.55 (ft.) historical or measured

Present Water Level: 12.85 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 20.55 ft - 12.85 ft = 7.70 ft x φ 6.58 Liters/ft = 5.07 Liters

Purge Rate: 4.75 l. + 17 min. = φ.279 Liters/minute

Begin Purge: 14: 2:43 time

End Purge: 15: 3:00 time

Volume Purged: 4.75 Liters

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Purge water disposal to: 55-gal drum. Storage tank

treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/ntu's)	Observations
<u>14: 2:45</u>	<u>= 1.00 ml</u>	<u>16.3</u>	<u>293</u>	<u>3.17</u>	<u>6.86</u>	<u>-25</u>		
<u>2:47</u>	<u>= 9.50</u>	<u>16.5</u>	<u>285</u>	<u>2.15</u>	<u>6.72</u>	<u>-14</u>		
<u>2:49</u>	<u>= 1.6 L</u>	<u>16.6</u>	<u>275</u>	<u>1.83</u>	<u>6.66</u>	<u>-9</u>		
<u>2:51</u>	<u>= 2.1</u>	<u>16.7</u>	<u>264</u>	<u>1.22</u>	<u>6.64</u>	<u>-6.0</u>		
<u>2:53</u>	<u>= 2.7</u>	<u>16.6</u>	<u>260</u>	<u>1.22</u>	<u>6.61</u>	<u>-3.0</u>		
<u>2:55</u>	<u>= 3.3</u>	<u>16.7</u>	<u>249</u> ²⁴⁰	<u>1.12</u>	<u>6.61</u>	<u>-1.2</u>		
<u>2:57</u>	<u>= 3.8</u>	<u>16.7</u>	<u>246</u>	<u>1.04</u>	<u>6.60</u>	<u>0.2</u>		
<u>2:59</u>	<u>= 4.4</u>	<u>16.7</u>	<u>245</u>	<u>0.94</u>	<u>6.58</u>	<u>2.4</u>		
<u>15: 3:00</u>	<u>= 4.75</u>	<u>16.7</u>	<u>237</u>	<u>0.84</u>	<u>6.58</u>	<u>2.3</u>		
<u>3:03</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>		
<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>		
<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>		
<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>		
<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>		
<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>		
<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>		
<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>		

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
<u>3</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>HCl</u>	<input checked="" type="checkbox"/> No	<u>VOC's 8260,</u>
<u>2</u>	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>H-Cl</u>	<input type="checkbox"/> No	<u>Ethene, Ethane, Methane 8310 modified</u>
<u>2</u>	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>H₃PO₄</u>	<input type="checkbox"/> No	<u>Total Organic Carbon Method 9060,</u>
<u>2</u>	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>none</u>	<input type="checkbox"/> No	<u>Sulfate IC E300</u>
<u>0</u>	<u>mL</u>	<input type="checkbox"/> Glass	<u>none</u>	<input type="checkbox"/> No	

Comments: Hach Kit Fe++

Signature: C.H. Hardy

Date: APRIL 23 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-101 SWMU-20 CWA#7KX056

Event: 2nd Quarter 2015 labor Salco#1007645

41th Sample event

SAMPLE ID: DC-MW-16c-150428 (yyymmdd)

Collector: Charles Hardy

Date Collected: April/May, 28, 2015 COC Time: 1320

Well Information

Well I. D.: MW-16c Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 38.30 (ft.) historical or measured

Present Water Level: 13.02 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 38.30 ft. - 13.02 ft = 25.28 ft x 0.658 Liters/ft = 16.63 Liters

Purge Rate: 3.25 l. + 15 min. = 0.217 Liters/minute

Begin Purge: 3:05 time

End Purge: 3:20 time

Volume Purged: 3.25 Liters

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Purge water disposal to: 55-gal drum. Storage tank treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. Q. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/ .ntu's)	Observations
<u>308</u>	<u>= 5.00</u>	<u>16.4</u>	<u>330</u>	<u>0.66</u>	<u>6.48</u>	<u>1.0</u>		
<u>309</u>	<u>= 9.00</u>	<u>16.5</u>	<u>334</u>	<u>0.30</u>	<u>6.51</u>	<u>-13</u>		
<u>311</u>	<u>= 1.2</u>	<u>16.5</u>	<u>334</u>	<u>0.20</u>	<u>6.53</u>	<u>-23</u>		
<u>313</u>	<u>= 1.7</u>	<u>16.6</u>	<u>333</u>	<u>0.14</u>	<u>6.53</u>	<u>-30</u>		
<u>315</u>	<u>= 2.1</u>	<u>16.5</u>	<u>331</u> ✓	<u>0.15</u>	<u>6.52</u> ✓	<u>-35</u>		<u>OK</u>
<u>317</u>	<u>= 2.6</u>	<u>16.6</u>	<u>330</u> ✓	<u>0.20</u>	<u>6.52</u> ✓	<u>-37</u>		
<u>319</u>	<u>= 3.05</u>	<u>16.5</u>	<u>337</u> ✓	<u>0.25</u>	<u>6.48</u> ✓	<u>-38</u>		
<u>320</u>	<u>= 3.25</u>	<u>16.5</u>	<u>339</u>	<u>0.24</u>	<u>6.48</u>	<u>-38</u>		
"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
<u>3</u>	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>HCl</u>	<input type="checkbox"/> No	<u>VOC's 8260,</u>
<u>2</u>	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>H-Cl</u>	<input type="checkbox"/> No	<u>Ethene, Ethane, Methane 8310 modified</u>
<u>2</u>	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>H3PO4</u>	<input type="checkbox"/> No	<u>Total Organic Carbon Method 9060,</u>
<u>2</u>	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>none</u>	<input type="checkbox"/> No	<u>Sulfate IC E300</u>
<u>0</u>	<u>mL</u>	<input type="checkbox"/> Glass	<u>none</u>	<input type="checkbox"/> No	

Comments: Hach Kit Fe++

Signature: C.H. Hardy

Date: 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-101 SWMU-20 CWA#7KX056

Event: 2nd Quarter 2015 labor Salco#1007645

41th Sample event

SAMPLE ID: 2-MW-17a-150428 (yymmdd)

Collector: Charles Hardy

Date Collected: April/May 28, 2015 COC Time: 725

Well Information

Well I. D.: MW-17a Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) ⁴⁰ (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 19.0 (ft.) historical or measured

Present Water Level: 12.67 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 19.0 ft - 12.67 ft = 6.33 ft x 0.658 Liters/ft = 4.17 Liters

Purge Rate: 3.16 l. + 16 min. = 7.197 Liters/minute

Begin Purge: 709 time

End Purge: 725 time

Volume Purged: 3.4 Liters

Casing Diameter	10s	Sch 40	Sch 80
1"		0.170	0.140
2"	0.776	0.658	0.579
2.5"		0.942	0.833
4"	2.995	2.502	2.260

Purge water disposal to: 55-gal drum, Storage tank treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/ .ntu's)	Observations
711	2.00	17.3	1,328	0.49	6.14			
713	7.00	17.3	1,410	0.40	6.23	60.6		
715	1.1	17.9	1,437	0.30	6.34	58		
717	1.5	17.3	1,457	0.25	6.38	58		
719	1.95	17.9	1,459	0.23	6.40	55		
721	2.35	18.0	1,461	0.23	6.42	58		
723	2.75	17.9	1,460	0.24	6.44	54		
725	3.15	17.9	1,457	0.22	6.41	57		
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Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	HCl	<input checked="" type="checkbox"/> No	VOC's 8260,
2	40 mL	<input type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	Ethene, Ethane, Methane 8310 modified
2	40 mL	<input type="checkbox"/> Glass	H ₃ PO ₄	<input type="checkbox"/> No	Total Organic Carbon Method 9060,
2	40 mL	<input type="checkbox"/> Glass	none	<input type="checkbox"/> No	Sulfate IC E300
0	mL	<input type="checkbox"/> Glass	none	<input type="checkbox"/> No	

Comments: Hach Kit Fe++

Signature: C.H. Hardy

Date: April 23, 2015

Continued on Back

BOEING Groundwater Sample *DUP* Collection Form

Project Site: Dev. Ctr. Area: 9-101 SWMU-20 CWA#7KX056
 Event: 2nd Quarter 2015 labor Salco#1007645
 SAMPLE I.D.: DC-MW-20c-150428 (yyymmdd)
 Date Collected: April/May 28, 2015 COC Time: 1436

41th Sample event

Collector: Charles Hardy

Well Information

Well I. D.: MW-20c Well Condition: Secure? Yes No; Describe Condition: _____
 Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____
 Total Depth of Well: 35.32 (ft.) historical or measured
 Present Water Level: 12.19 (ft.) Measured from: Well Casing, or Protective Monument
 Traditional Purge Volume Calc.: 35.32 ft - 12.19 ft = 23.13 ft x 0.658 Liters/ft = 15.22 Liters
 Purge Rate: 2.8 l. + 15 min. = 0.187 Liters/minute
 Begin Purge: 14:25 time
 End Purge: 14:30 time
 Volume Purged: 2.8 Liters

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
1"	1"		0.170	0.140
2"	2"	0.776	0.658	0.579
2.5"	2.5"		0.942	0.833
4"	4"	2.995	2.502	2.260

Purge water disposal to: 55-gal drum, Storage tank, treatment system, ground, other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/ntu's)	Observations
<i>14</i> 217	<u>200 ml</u>	<u>17.2</u>	<u>679</u>	<u>0.23</u>	<u>6.75</u>	<u>-31</u>		
219	<u>600</u>	<u>17.6</u>	<u>636</u>	<u>0.11</u>	<u>6.68</u>	<u>-41</u>		
221	<u>1.0 L</u>	<u>17.7</u>	<u>627</u>	<u>0.10</u>	<u>6.63</u>	<u>-46</u>		
223	<u>1.4</u>	<u>17.8</u>	<u>607</u>	<u>0.06</u>	<u>6.62</u>	<u>-50</u>		
<i>19</i> 225	<u>1.8</u>	<u>17.8</u>	<u>606</u>	<u>0.06</u>	<u>6.59</u>	<u>-53</u>		
227	<u>2.2</u>	<u>17.8</u>	<u>602</u>	<u>0.06</u>	<u>6.57</u>	<u>-54</u>		
229	<u>2.6</u>	<u>17.8</u>	<u>606</u>	<u>0.06</u>	<u>6.55</u>	<u>-56</u>		<u>OK</u>
<i>14</i> 230	<u>2.8</u>	<u>17.8</u>	<u>606</u>	<u>0.06</u>	<u>6.56</u>	<u>-57</u>		

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

DUP

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
<i>2</i> 3	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>HCl</u>	<input checked="" type="checkbox"/> No	<u>VOC's 8260,</u>
<i>2</i> 2	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>H-Cl</u>	<input type="checkbox"/> No	<u>Ethene, Ethane, Methane 8310 modified</u>
<i>2</i> 2	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>H3PO4</u>	<input type="checkbox"/> No	<u>Total Organic Carbon Method 9060,</u>
<i>2</i> 2	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>none</u>	<input type="checkbox"/> No	<u>Sulfate IC E300</u>
<i>0</i> 0	<u>mL</u>	<input type="checkbox"/> Glass	<u>none</u>	<input type="checkbox"/> No	

Comments: Hach Kit Fe++
 Signature: C.H. Hardy Date: April 28 2015 Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-101 SWMU-20 CWA#7KX056

Event: 2nd Quarter 2015 labor Salco#1007645

SAMPLE ID: DC-MW-22a-150429 (yyymmdd)

Date Collected: April/May, 29, 2015 COC Time: 7:15

Collector: Charles Hardy

41th Sample event

Well Information

Well I. D.: MW-22a Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 19.20 (ft.) historical or measured

Present Water Level: 12.33 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 19.20 ft - 12.33 ft = 6.87 ft x 0.65 Liters/ft = 4.52 Liters

Purge Rate: 5.8 l. + 20 min. = 0.290 Liters/minute

Begin Purge: 6:55 time

End Purge: 7:15 time

Volume Purged: 5.8 Liters

Casing Diameter	10s	Sch 40	Sch 80
1"		0.170	0.140
2"	0.776	0.658	0.579
2.5"		0.942	0.833
4"	2.995	2.502	2.260

Purge water disposal to: 55-gal drum, Storage tank

treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/ntu's)	Observations
6:57	3.00	15.7	573	0.38	6.48	-15		
6:59	1.1 L	16.1	559	0.18	6.47	-46		
7:01	1.7	16.0	543	0.13	6.46	-56		
7:03	2.25	16.0	520	0.12	6.46	-66		
7:05	2.8	16.0	516	0.11	6.46	-71		
7:07	3.35	16.1	512	0.11	6.46	-76		
7:09	4.0	16.1	508	0.08	6.47	-80		
7:11	4.6	16.2	503	0.09	6.48	-83		
7:13	5.2	16.1	499	0.10	6.48	-85		
7:15	5.8	16.3	495	0.09	6.48	-87		
~								
~								
~								
~								
~								
~								

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	HCl	<input checked="" type="checkbox"/> No	VOC's 8260,
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Ethene, Ethane, Methane 8310 modified
2	40 mL	<input checked="" type="checkbox"/> Glass	H ₃ PO ₄	<input checked="" type="checkbox"/> No	Total Organic Carbon Method 9060,
2	40 mL	<input checked="" type="checkbox"/> Glass	none	<input checked="" type="checkbox"/> No	Sulfate IC E300
0	mL	<input type="checkbox"/> Glass	none	<input type="checkbox"/> No	

Comments: Hach Kit Fe++ 1.0 mg/l

Signature: C.H. Hardy

Date: _____ 2015

Continued on Back

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

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

May 11, 2015

Project: Boeing_DC: SWMU-20 s-ann

Submittal Date: 04/30/2015

Group Number: 1557636

State of Sample Origin: WA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
MW-17A-150428 Water	7869022
MW-13A-150428 Water	7869023
MW-13C-150428 Water	7869024
MW-10C-150428 Water	7869025
MW-11A-150428 Water	7869026
MW-20C-150428 Water	7869027
MW-16A-150428 Water	7869028
MW-16C-150428 Water	7869029
MW-DUP-150428 Water	7869030
MW-09A-150429 Water	7869031
MW-09A-150429 Water	7869032
MW-15C-150429 Water	7869033
MW-14C-150429 Water	7869034
MW-22A-150429 Water	7869035
MW-22A-150429 Water	7869036
MW-06A-150429 Water	7869037
MW-06A-150429 Water	7869038
MW-06B-150429 Water	7869039
MW-06B-150429 Water	7869040
Trip Blank Water	7869041

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

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

ELECTRONIC The Boeing Company
COPY TO

Attn: Paul Yount

ELECTRONIC COPY TO	The Boeing Company	Attn: Nancy Ballew
ELECTRONIC COPY TO	The Boeing Company	Attn: Jim Bet
ELECTRONIC COPY TO	Landau	Attn: Clint Jacob
ELECTRONIC COPY TO	Landau Associates	Attn: Terry McGourty
ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen

Respectfully Submitted,



Kay Hower
Manager

(510) 672-3979

Project Name: Boeing_DC: SWMU-20 s-ann
LL Group #: 1557636

General Comments:

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

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

Project specific QC samples are not included in this data set

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

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

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

Analysis Specific Comments:**RSKSOP-175 modified, GC Miscellaneous**

Batch #: 151240002A (Sample number(s): 7869032, 7869036, 7869038, 7869040 UNSPK: 7869032)

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

Sample Description: MW-17A-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869022
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 07:25 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

17A20

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
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: MW-17A-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869022
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 07:25 by CH

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

Submitted: 04/30/2015 09:35

Reported: 05/11/2015 11:29

17A20

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
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	3.4	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5 U	0.5	1
11996	1,2,3-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	2.3	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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 69	SW-846 8260C	1	H151251AA	05/05/2015 12:26	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 12:26	Kerri E Legerlotz	1

Sample Description: MW-13A-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869023
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 12:45 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

13A20

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
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: MW-13A-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869023
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 12:45 by CH

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

Submitted: 04/30/2015 09:35

Reported: 05/11/2015 11:29

13A20

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
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	1.8	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5 U	0.5	1
11996	1,2,3-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	0.2 U	0.2	1
11996	m,p-Xylene	179601-23-1	0.5 U	0.5	1
11996	o-Xylene	95-47-6	0.5 U	0.5	1

General Sample Comments

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	H151251AA	05/05/2015 12:48	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 12:48	Kerri E Legerlotz	1

Sample Description: MW-13C-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869024
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 13:10 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

13C20

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	3.3	0.5	1
11996	n-Propylbenzene	103-65-1	0.5 U	0.5	1
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: MW-13C-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869024
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 13:10 by CH

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

Submitted: 04/30/2015 09:35

Reported: 05/11/2015 11:29

13C20

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
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	0.3	0.2	1
11996	m,p-Xylene	179601-23-1	0.5 U	0.5	1
11996	o-Xylene	95-47-6	0.5 U	0.5	1

General Sample Comments

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	H151251AA	05/05/2015 13:09	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 13:09	Kerri E Legerlotz	1

Sample Description: MW-10C-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869025
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 13:40 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

10C20

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	2.2	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	10	0.5	1
11996	n-Propylbenzene	103-65-1	0.5 U	0.5	1
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: MW-10C-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869025
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 13:40 by CH

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

Submitted: 04/30/2015 09:35

Reported: 05/11/2015 11:29

10C20

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
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	1.7	0.2	1
11996	m,p-Xylene	179601-23-1	0.5 U	0.5	1
11996	o-Xylene	95-47-6	0.5 U	0.5	1

General Sample Comments

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	H151251AA	05/05/2015 13:30	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 13:30	Kerri E Legerlotz	1

Sample Description: MW-11A-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869026
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 14:05 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

11A20

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	21	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
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: MW-11A-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869026
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 14:05 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

11A20

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
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	0.5	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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 69	SW-846 8260C	1	H151251AA	05/05/2015 13:51	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 13:51	Kerri E Legerlotz	1

Sample Description: MW-20C-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869027
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 14:30 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

20C20

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	0.7	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2 U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5 U	0.5	1
11996	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
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: MW-20C-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869027
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 14:30 by CH

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

Submitted: 04/30/2015 09:35

Reported: 05/11/2015 11:29

20C20

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
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	1	0.2	1
11996	m,p-Xylene	179601-23-1	0.5 U	0.5	1
11996	o-Xylene	95-47-6	0.5 U	0.5	1

General Sample Comments

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	H151251AA	05/05/2015 14:13	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 14:13	Kerri E Legerlotz	1

Sample Description: MW-16A-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869028
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 15:00 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

16A20

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	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
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: MW-16A-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869028
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 15:00 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

16A20

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
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	1.4	0.2	1
11996	Toluene	108-88-3	0.2 U	0.2	1
11996	112Trichloro122Trifluoroethane	76-13-1	0.5 U	0.5	1
11996	1,2,3-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	1.4	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	0.2 U	0.2	1
11996	m,p-Xylene	179601-23-1	0.5 U	0.5	1
11996	o-Xylene	95-47-6	0.5 U	0.5	1

General Sample Comments

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	H151251AA	05/05/2015 14:34	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 14:34	Kerri E Legerlotz	1

Sample Description: MW-16C-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869029
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 15:20 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

16C20

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	2.2	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2 U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5 U	0.5	1
11996	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
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: MW-16C-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869029
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 15:20 by CH

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

Submitted: 04/30/2015 09:35

Reported: 05/11/2015 11:29

16C20

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
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	1.2	0.2	1
11996	m,p-Xylene	179601-23-1	0.5 U	0.5	1
11996	o-Xylene	95-47-6	0.5 U	0.5	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 69	SW-846 8260C	1	H151251AA	05/05/2015 14:56	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 14:56	Kerri E Legerlotz	1

Sample Description: MW-DUP-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869030
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

FD-20

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	0.8	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	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
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: MW-DUP-150428 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869030
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/28/2015 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

FD-20

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
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	1	0.2	1
11996	m,p-Xylene	179601-23-1	0.5 U	0.5	1
11996	o-Xylene	95-47-6	0.5 U	0.5	1

General Sample Comments

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	H151251AA	05/05/2015 15:17	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 15:17	Kerri E Legerlotz	1

Sample Description: MW-09A-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869031
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 05:15 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

9A120

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	0.3	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	2.6	0.5	1
11996	n-Propylbenzene	103-65-1	0.5 U	0.5	1
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: MW-09A-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869031
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 05:15 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

9A120

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	
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
Wet Chemistry		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	17.8	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 69	SW-846 8260C	1	H151251AA	05/05/2015 15:39	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 15:39	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15125049501A	05/05/2015 05:19	James S Mathiot	1

Sample Description: MW-09A-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869032
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 05:15 by CH

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

Submitted: 04/30/2015 09:35

Reported: 05/11/2015 11:29

9A220

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	28	1.0	1
07105	Ethene	74-85-1	1.0 U	1.0	1
07105	Methane	74-82-8	20,000 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	27,000	600	200
Wet Chemistry					
		EPA 300.0	mg/l	mg/l	
00228	Sulfate	14808-79-8	0.58 J	0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	MEE by RSK-175	RSKSOP-175 modified	1	151240002A	05/04/2015 18:20	Tracy A Cole	1
07105	MEE by RSK-175	RSKSOP-175 modified	2-DL	151240002A	05/05/2015 12:36	Tracy A Cole	200
00228	Sulfate	EPA 300.0	1	15121667901A	05/01/2015 10:20	Drew M Gerhart	1

Sample Description: MW-15C-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869033
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 05:55 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

15C20

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	0.6	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
11996	n-Propylbenzene	103-65-1	0.5 U	0.5	1
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: MW-15C-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869033
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 05:55 by CH

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

Submitted: 04/30/2015 09:35

Reported: 05/11/2015 11:29

15C20

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
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	2.4	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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 69	SW-846 8260C	1	H151251AA	05/05/2015 16:00	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 16:00	Kerri E Legerlotz	1

Sample Description: MW-14C-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869034
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 06:30 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

14C20

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
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: MW-14C-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869034
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 06:30 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

14C20

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 69	SW-846 8260C	1	H151251AA	05/05/2015 16:21	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 16:21	Kerri E Legerlotz	1

Sample Description: MW-22A-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869035
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 07:15 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

22120

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	0.3	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	0.6	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2 U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5 U	0.5	1
11996	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	2.0	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	6.2	0.5	1
11996	n-Propylbenzene	103-65-1	0.5 U	0.5	1
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: MW-22A-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869035
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 07:15 by CH

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

Submitted: 04/30/2015 09:35

Reported: 05/11/2015 11:29

22120

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
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	0.7	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	4.1	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	1.5	0.2	1
11996	m,p-Xylene	179601-23-1	0.9	0.5	1
11996	o-Xylene	95-47-6	2.9	0.5	1
Wet Chemistry	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	14.8	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 69	SW-846 8260C	1	H151251AA	05/05/2015 16:43	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 16:43	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15125049501A	05/05/2015 05:34	James S Mathiot	1

Sample Description: MW-22A-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869036
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 07:15 by CH

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

Submitted: 04/30/2015 09:35

Reported: 05/11/2015 11:29

22220

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	3,400 E	3.0	1
Trial ID: DL					
07105	Ethane	74-84-0	50 U	50	50
07105	Ethene	74-85-1	50 U	50	50
07105	Methane	74-82-8	4,300	150	50
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00228	Sulfate	14808-79-8	2.0	0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	MEE by RSK-175	RSKSOP-175 modified	1	151240002A	05/04/2015 19:10	Tracy A Cole	1
07105	MEE by RSK-175	RSKSOP-175 modified	2-DL	151240002A	05/05/2015 12:53	Tracy A Cole	50
00228	Sulfate	EPA 300.0	1	15121667901A	05/01/2015 10:37	Drew M Gerhart	1

Sample Description: MW-06A-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869037
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 08:10 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

6A120

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	0.6	0.2	1
11996	trans-1,2-Dichloroethene	156-60-5	0.2 U	0.2	1
11996	1,2-Dichloropropane	78-87-5	0.5 U	0.5	1
11996	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
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: MW-06A-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869037
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 08:10 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

6A120

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	
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	3.3	0.2	1
11996	m,p-Xylene	179601-23-1	0.5 U	0.5	1
11996	o-Xylene	95-47-6	0.5 U	0.5	1
Wet Chemistry		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	5.2	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 69	SW-846 8260C	1	H151251AA	05/05/2015 17:04	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 17:04	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15125049501A	05/05/2015 06:06	James S Mathiot	1

Sample Description: MW-06A-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869038
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 08:10 by CH

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

Submitted: 04/30/2015 09:35

Reported: 05/11/2015 11:29

6A220

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	430	3.0	1
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00228	Sulfate	14808-79-8	17.5	0.60	2

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	MEE by RSK-175	RSKSOP-175 modified	1	151240002A	05/04/2015 19:27	Tracy A Cole	1
00228	Sulfate	EPA 300.0	1	15121667901A	05/02/2015 20:50	Drew M Gerhart	2

Sample Description: MW-06B-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869039
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 08:50 by CH

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

Submitted: 04/30/2015 09:35
Reported: 05/11/2015 11:29

6B120

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
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: MW-06B-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869039
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 08:50 by CH

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

Submitted: 04/30/2015 09:35

Reported: 05/11/2015 11:29

6B120

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	
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	1.8	0.2	1
11996	m,p-Xylene	179601-23-1	0.5 U	0.5	1
11996	o-Xylene	95-47-6	0.5 U	0.5	1
Wet Chemistry		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	4.0	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 69	SW-846 8260C	1	H151251AA	05/05/2015 17:25	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 17:25	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15125049501A	05/05/2015 06:21	James S Mathiot	1

Sample Description: MW-06B-150429 Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869040
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/29/2015 08:50 by CH

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

Submitted: 04/30/2015 09:35

Reported: 05/11/2015 11:29

6B220

CAT No.	Analysis Name	CAS Number	Result	Method	Detection Limit	Dilution Factor
GC Miscellaneous		RSKSOP-175 modified	ug/l	ug/l		
Trial ID: RE						
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	1,200 E	3.0		1
Trial ID: REDL						
07105	Ethane	74-84-0	100 U	100		100
07105	Ethene	74-85-1	100 U	100		100
07105	Methane	74-82-8	1,300	300		100
Wet Chemistry		EPA 300.0	mg/l	mg/l		
00228	Sulfate	14808-79-8	0.99 J	0.30		1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	MEE by RSK-175	RSKSOP-175 modified	1-RE	151240002A	05/05/2015 13:27	Tracy A Cole	1
07105	MEE by RSK-175	RSKSOP-175 modified	2-RED	151240002A	05/05/2015 13:10	Tracy A Cole	100
00228	Sulfate	EPA 300.0	L	15121667901A	05/01/2015 11:10	Drew M Gerhart	1

Sample Description: Trip Blank Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869041
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/01/2015

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

Submitted: 04/30/2015 09:35

Reported: 05/11/2015 11:29

S20TB

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
11996	Styrene	100-42-5	0.5 U	0.5	1

Sample Description: Trip Blank Water
Boeing_DC: SWMU-20 s-ann

LL Sample # WW 7869041
LL Group # 1557636
Account # 13419

Project Name: Boeing_DC: SWMU-20 s-ann

Collected: 04/01/2015

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

Submitted: 04/30/2015 09:35

Reported: 05/11/2015 11:29

S20TB

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C Boeing 69	SW-846 8260C	1	H151251AA	05/05/2015 12:05	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151251AA	05/05/2015 12:05	Kerri E Legerlotz	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/11/2015 11:29

Group Number: 1557636

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

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

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H151251AA	Sample number(s): 7869022-7869031, 7869033-7869035, 7869037, 7869039, 7869041							
Acetone	5.0 U	5.0	ug/l	99	105	66-132	6	30
Acrolein	25 U	25.	ug/l	91	94	44-122	3	30
Acrylonitrile	5.0 U	5.0	ug/l	111	117	75-133	5	30
Benzene	0.2 U	0.2	ug/l	96	95	80-120	1	30
Bromobenzene	0.5 U	0.5	ug/l	95	100	80-120	5	30
Bromochloromethane	0.5 U	0.5	ug/l	98	99	80-125	2	30
Bromodichloromethane	0.5 U	0.5	ug/l	92	94	80-120	2	30
Bromoform	0.5 U	0.5	ug/l	91	92	64-134	1	30
Bromomethane	0.5 U	0.5	ug/l	85	85	62-126	1	30
2-Butanone	5.0 U	5.0	ug/l	111	112	75-128	1	30
n-Butylbenzene	0.5 U	0.5	ug/l	100	103	80-120	3	30
sec-Butylbenzene	0.5 U	0.5	ug/l	99	100	80-120	1	30
tert-Butylbenzene	0.5 U	0.5	ug/l	98	100	80-120	3	30
Carbon Disulfide	0.5 U	0.5	ug/l	94	94	70-128	1	30
Carbon Tetrachloride	0.2 U	0.2	ug/l	96	96	80-135	0	30
Chlorobenzene	0.5 U	0.5	ug/l	98	98	80-120	0	30
Chloroethane	0.5 U	0.5	ug/l	88	87	68-120	1	30
Chloroform	0.2 U	0.2	ug/l	97	96	80-120	1	30
Chloromethane	0.5 U	0.5	ug/l	80	79	55-125	1	30
2-Chlorotoluene	0.5 U	0.5	ug/l	100	102	80-120	2	30
4-Chlorotoluene	0.5 U	0.5	ug/l	100	102	80-120	1	30
1,2-Dibromo-3-chloropropane	0.5 U	0.5	ug/l	101	111	72-136	9	30
Dibromochloromethane	0.5 U	0.5	ug/l	97	99	80-126	3	30
Dibromomethane	0.5 U	0.5	ug/l	94	94	80-120	0	30
trans-1,4-Dichloro-2-butene	5.0 U	5.0	ug/l	127	131	14-166	3	30
1,2-Dichlorobenzene	0.5 U	0.5	ug/l	95	97	80-120	3	30
1,3-Dichlorobenzene	0.5 U	0.5	ug/l	96	98	80-120	2	30
1,4-Dichlorobenzene	0.5 U	0.5	ug/l	97	99	80-120	2	30
1,1-Dichloroethane	0.5 U	0.5	ug/l	95	95	80-120	0	30
1,2-Dichloroethane	0.2 U	0.2	ug/l	92	92	80-125	0	30
1,1-Dichloroethene	0.2 U	0.2	ug/l	97	95	80-120	1	30
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	96	96	80-120	0	30
trans-1,2-Dichloroethene	0.2 U	0.2	ug/l	97	96	80-120	0	30
1,2-Dichloropropane	0.5 U	0.5	ug/l	96	97	80-120	1	30
1,3-Dichloropropane	0.5 U	0.5	ug/l	96	99	80-120	3	30
2,2-Dichloropropane	0.5 U	0.5	ug/l	94	94	60-139	0	30
1,1-Dichloropropene	0.5 U	0.5	ug/l	101	100	80-120	1	30
cis-1,3-Dichloropropene	0.2 U	0.2	ug/l	94	93	80-120	0	30
trans-1,3-Dichloropropene	0.2 U	0.2	ug/l	98	99	77-126	1	30
Ethylbenzene	0.5 U	0.5	ug/l	96	96	80-120	0	30
Ethylene dibromide	0.5 U	0.5	ug/l	99	100	80-120	1	30
Hexachlorobutadiene	0.5 U	0.5	ug/l	87	88	74-123	2	30
2-Hexanone	5.0 U	5.0	ug/l	116	124	72-124	7	30

*- Outside of specification

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/11/2015 11:29

Group Number: 1557636

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Isopropylbenzene	0.5 U	0.5	ug/l	95	96	80-120	1	30
4-Isopropyltoluene	0.5 U	0.5	ug/l	96	97	80-120	1	30
Methyl Iodide	0.5 U	0.5	ug/l	94	94	79-120	0	30
4-Methyl-2-pentanone	5.0 U	5.0	ug/l	113	120	71-123	6	30
Methylene Chloride	0.5 U	0.5	ug/l	95	95	80-120	0	30
Naphthalene	0.5 U	0.5	ug/l	79	85	72-120	7	30
n-Propylbenzene	0.5 U	0.5	ug/l	100	101	80-120	1	30
Styrene	0.5 U	0.5	ug/l	99	100	80-120	1	30
1,1,1,2-Tetrachloroethane	0.5 U	0.5	ug/l	96	97	80-120	1	30
1,1,2,2-Tetrachloroethane	0.2 U	0.2	ug/l	102	106	80-120	4	30
Tetrachloroethene	0.2 U	0.2	ug/l	97	97	80-120	0	30
Toluene	0.2 U	0.2	ug/l	98	98	80-120	0	30
1,1,2-Trichloroethane	0.5 U	0.5	ug/l	100	97	75-120	2	30
1,2,3-Trichlorobenzene	0.5 U	0.5	ug/l	79	83	75-120	6	30
1,2,4-Trichlorobenzene	0.5 U	0.5	ug/l	83	87	80-120	5	30
1,1,1-Trichloroethane	0.5 U	0.5	ug/l	92	93	80-120	1	30
1,1,2-Trichloroethane	0.2 U	0.2	ug/l	98	102	80-120	4	30
Trichloroethene	0.2 U	0.2	ug/l	97	96	80-120	1	30
Trichlorofluoromethane	0.5 U	0.5	ug/l	92	89	64-141	4	30
1,2,3-Trichloropropane	1.0 U	1.0	ug/l	102	108	80-120	6	30
1,2,4-Trimethylbenzene	0.5 U	0.5	ug/l	99	101	80-120	2	30
1,3,5-Trimethylbenzene	0.5 U	0.5	ug/l	99	101	80-120	2	30
Vinyl Acetate	0.5 U	0.5	ug/l	98	98	18-200	0	30
Vinyl Chloride	0.2 U	0.2	ug/l	87	85	59-124	3	30
m,p-Xylene	0.5 U	0.5	ug/l	97	98	80-120	0	30
o-Xylene	0.5 U	0.5	ug/l	96	97	80-120	0	30

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 151240002A	Sample number(s): 7869032,7869036,7869038,7869040							
Ethane	1.0 U	1.0	ug/l	98		85-115		
Ethene	1.0 U	1.0	ug/l	98		83-115		
Methane	3.0 U	3.0	ug/l	103		85-115		

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 15125049501A	Sample number(s): 7869031,7869035,7869037,7869039							
Total Organic Carbon	1.0 U	1.0	mg/l	100		91-113		

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 15121667901A	Sample number(s): 7869032,7869036,7869038,7869040							
Sulfate	0.30 U	0.30	mg/l	102		90-110		

Sample Matrix Quality Control

*- Outside of specification

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

Quality Control Summary

Client Name: The Boeing Company

Group Number: 1557636

Reported: 05/11/2015 11:29

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 151240002A	Sample number(s): 7869032,7869036,7869038,7869040 UNSPK: 7869032								
Ethane	89	81	53-122	6	20				
Ethene	109	102	35-162	7	20				
Methane	-2813 (2)	-5936 (2)	46-129	11	20				
Batch number: 15125049501A	Sample number(s): 7869031,7869035,7869037,7869039 UNSPK: P870280 BKG: P870280								
Total Organic Carbon	98		63-142			5.1	4.9	3 (1)	4
Batch number: 15121667901A	Sample number(s): 7869032,7869036,7869038,7869040 UNSPK: P868371 BKG: P868371								
Sulfate	101		90-110			138	138	0	20

Surrogate Quality Control

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

Analysis Name: 8260C Boeing 69
Batch number: H151251AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7869022	100	102	102	96
7869023	99	102	101	95
7869024	101	100	100	97
7869025	100	102	100	97
7869026	100	102	101	96
7869027	99	101	100	97
7869028	101	102	100	95
7869029	100	102	101	96
7869030	100	102	100	97
7869031	99	100	99	96
7869033	100	101	99	96
7869034	100	103	100	97
7869035	99	100	99	99
7869037	98	99	100	97
7869039	99	102	100	97
7869041	98	102	102	95
Blank	98	101	100	96
LCS	97	100	101	99
LCSD	97	98	102	99
Limits:	77-114	74-113	77-110	78-110

Analysis Name: MEE by RSK-175
Batch number: 151240002A
Propene

7869032	80
7869032	92
DL	
7869036	75
7869036	98

*- Outside of specification

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/11/2015 11:29

Group Number: 1557636

Surrogate Quality Control

DL	
7869038	83
7869040	84
RE	
7869040	99
REDL	
Blank	100
LCS	102
MS	81
MSD	76

Limits: 47-116

*- Outside of specification

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

Client: Boeing

Delivery and Receipt Information

Delivery Method:	<u>SeaTac</u>	Arrival Timestamp:	<u>04/30/2015 9:35</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>WA</u>		

Arrival Condition Summary

Shipping Container Sealed:	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 Jordan Woods (6698) at 15:00 on 04/30/2015

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	DT146	0.8	DT	Wet	Y	Bagged	N

G# 1557636

RT 729
FZ
10:30
0000
04:30

Expanded Billable Stamp

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

Package Weight
**FedEx
Priority
Overnight®**

007920

Release Signature For nonresidential deliveries.	Employee Number	For FedEx Use Only Basic Charges
↑ Sign within this area. Please do not remove.	Other	Total Charges

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

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

M-10091 Rev. 3/10

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

SATURDAY DELIVERY
Shipments tendered on Friday are delivered on Saturday to most locations.

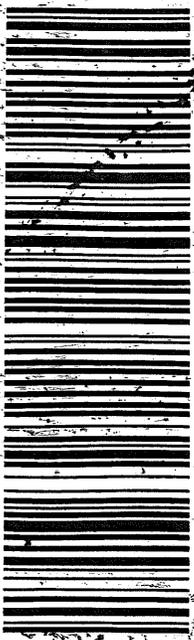


Form ID
0667

8018 9478 0000

FedEx
TRK# 8018 9478 0000
0667

XH LNSA



THU - 30 APR 10:30A
PRIORITY OVERNIGHT
1760
PA - US MDT

#2279758 04/29 537J1/25E2/EE48

Explanation of Symbols and Abbreviations

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

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

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \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...

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

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

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

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

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

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

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SWMU-17

(Groundwater Sample Collection Forms and Analytical Data)

Boeing Chain of Custody



Lancaster Laboratories

For Eurofins Lancaster Laboratories use only
 Acct. # _____ Group # _____ Sample # _____
 Please print. Instructions on reverse side correspond.

① # 13415 Client Information					④ Analyses Requested						⑤ Remarks/Comments	
Site Location: <u>BOEING</u>					38 H-VOCs; B260 V.C. PCE, TCE, CDOCE	57 METHUENE, ETHANE, ETHERE, ACETYLENE	91 TOC	55 SULFATE				
Site Project: <u>DEVELOPMENTAL CENTER D.C.</u>												
Site Program#: <u>SWMU-17</u> <u>HQth EXENT</u>												
Boeing PM: <u>JAMES BET</u>												
Consultant Contact: <u>LANDAU</u>												
Report To: <u>LANDAU</u>												
Invoice To: <input checked="" type="checkbox"/> Boeing EHS <input type="checkbox"/> Other (specify): _____												
Sampler: <u>CHARLES HARDY</u> # of Coolers: <u>1</u>												
② Sample Identification		③ Collected		Matrix	No. of Containers							
Date	Time											
<u>BDC-05-18-150121</u>	<u>1-21-2015</u>	<u>920</u>	<u>Ag</u>	<u>9</u>	X	X	X	X				
<u>BDC-05-21-150121</u>	<u>1-21-2015</u>	<u>935</u>	<u>Ag</u>	<u>9</u>	X	X	X	X				
<u>BDC-05-20-150121</u>	<u>1-21-2015</u>	<u>1025</u>	<u>Ag</u>	<u>9</u>	X	X	X	X				
<u>BDC-05-22-150121</u>	<u>1-21-2015</u>	<u>1105</u>	<u>Ag</u>	<u>7</u>	X		X	X				
<u>BDC-05-23-150121</u>	<u>1-21-2015</u>	<u>1135</u>	<u>Ag</u>	<u>7</u>	X		X	X				
<u>BDC-05-24-150121</u>	<u>1-21-2015</u>	<u>1210</u>	<u>Ag</u>	<u>9</u>	X	X	X	X				
<u>BDC-05-DUP-150121</u>	<u>1-21-2015</u>	<u>-</u>	<u>Ag</u>	<u>9</u>	X	X	X	X				
<u>BDC-05-19-150121</u>	<u>1-21-2015</u>	<u>1355</u>	<u>Ag</u>	<u>9</u>	X	X	X	X				
<u>BDC-05-12-150121</u>	<u>1-21-2015</u>	<u>1425</u>	<u>Ag</u>	<u>9</u>	X	X	X	X				
<u>BDC-05-02-150121</u>	<u>1-21-2015</u>	<u>1455</u>	<u>Ag</u>	<u>9</u>	X	X	X	X				
<u>BDC-05-16-150121</u>	<u>1-21-2015</u>	<u>1530</u>	<u>Ag</u>	<u>9</u>	X	X	X	X				
<u>BDC</u>												
<u>TRIP BLANKS</u>	<u>1-15-2015</u>	<u>-</u>	<u>Ag</u>	<u>4</u>	X	X						
⑥ Turnaround Time Requested (please circle)					Relinquished by: <u>CH Hardy</u>		Date/Time: <u>JAN 22 2015 800</u>		Received by: _____		Date/Time: ⑦ _____	
<input checked="" type="radio"/> Standard 5 day 4 day <input type="radio"/> 72 hour 48 hour 24 hour Date needed: _____					Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____	
					Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____	
					Relinquished by commercial carrier (circle): <input type="radio"/> UPS <input checked="" type="radio"/> FedEx Other: _____				Temperature upon Receipt: _____ °C			
									Custody Seals Intact?: Yes No			

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 1st Quarter 2015 labor alco#1007645

49th Sample event

SAMPLE ID: BDC-05-02-150121 (yymmdd)

Collector: Charles Hardy

Date Collected: Jan./Feb., 21, 2015 COC Time: _____

Well Information

Well I. D.: BDC-05-02 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 4 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 25.35 (ft.) historical or measured

Present Water Level: 11.99 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 25.35 ft - 11.99 ft = 13.82 ft x 2.502 Liters/ft = 34.68 Liters

Purge Rate: 3.45 l. + 17 min. = _____ Liters/minute 2.502

Begin Purge: 1438 time

End Purge: 1455 time

Volume Purged: 3.45 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
1"	1"		0.170	0.140
2"	2"	0.776	0.658	0.579
2.5"	2.5"		0.942	0.833
4"	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
1440	~100 ml	14.8	494	0.60	6.16	-108	
1442	~500 ml	15.0	502	0.42	6.23	-121	
1444	~950 ml	15.1	505	0.39	6.30	-128	
1446	~1.4 L	15.2	504	0.33	6.33	-132	
1448	~1.85	15.3	504	0.22	6.36	-134	
1450	~2.3 L	15.3	500	0.22	6.36	-135	OK
1452	~2.75	15.3	495	0.19	6.35	-135	
1454	~3.2	15.3	490	0.17	6.35	-135	
1455	~3.45	15.3	488	0.16	6.36	-135	
~	~	~	~	~	~	~	~
~	~	~	~	~	~	~	~
~	~	~	~	~	~	~	~
~	~	~	~	~	~	~	~
~	~	~	~	~	~	~	~

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H ₃ PO ₄	<input type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic Glass	none	<input type="checkbox"/> No	Sulfate
+	250 mL	<input type="checkbox"/> Plastic	N N O ₃	<input type="checkbox"/> No	Total Metals (post inj. Cu & As)
+	250 mL	<input type="checkbox"/> Plastic	N N O ₃	<input type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe⁺⁺ = 0.6 mg/L

Signature: C.H. Hardy

Date: JAN 21, 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 1st Quarter 2015 labor alco#1007645

49th Sample event

SAMPLE ID: BDC-05-12-150121 (yyymmdd)

Collector: Charles Hardy

Date Collected: Jan/Feb., 21, 2015 COC Time: 1425

Well Information

Well I. D.: BDC-05-12 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.87 (ft.) historical or measured

Present Water Level: 11.83 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc 24.87 ft - 11.83 ft = 13.04 ft x 0.658 Liters/ft = 8.58 Liters

Purge Rate: 3.5 l. + 16 min. = 0.219 Liters/minute

Begin Purge: 1409 time

End Purge: 1425 time

Volume Purged: 3.5 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
1"			0.170	0.140
2"		0.776	0.658	0.579
2.5"			0.942	0.833
4"		2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
1411	= 100 mL	16.7	223	1.12	6.13	-36	
1413	= 550	17.1	224	0.50	6.19	-101	
1415	= 1.0 L	17.2	223	0.28	6.20	-106	
1417	= 1.5 L	17.3	224	0.20	6.20	-103	
1419	= 2.0 L	17.2	227	0.14	6.24	-112	
1421	= 2.5	17.3	228	0.13	6.24	-114	
1423	= 3.0	17.3	232 ^{x230}	0.12	6.24	-115	
1425	= 3.5	17.3	233	0.12	6.25	-115	
~							
~							
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~							

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

① Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	VOC 8260 PCE, TCE, cis- & trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H3PO4	<input type="checkbox"/> No	TOCs
2	40 mL	<input type="checkbox"/> Plastic ^{Glass}	none	<input type="checkbox"/> No	Sulfate
+	250 mL	<input type="checkbox"/> Plastic	N N O3	<input type="checkbox"/> No	Total Metals (post inj. Cu & As)
+	250 mL	<input type="checkbox"/> Plastic	N N O3	<input type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 2.2 mg/L

Signature: Charles Hardy Date: Jan 21 2015 Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 1st Quarter 2015 labor alco#1007645

49th Sample event

SAMPLE ID: B DC-05-16-20150121 (yyymmdd)

Collector: Charles Hardy

Date Collected: Jan. Feb., 21, 2015 COC Time: 1530

Well Information

Well I. D.: BDC-05-16 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 4 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.89 (ft.) historical or measured

Present Water Level: 11.31 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.89 ft - 11.31 ft = 13.58 ft x 0.653 Liters/ft = 8.94 Liters

Purge Rate: 2.4 l. + 13 min. = 0.184 Liters/minute

Begin Purge: 1517 time

End Purge: 1530 time

Volume Purged: 2.4 Liters

Purge water disposal to: 55-gal drum, storage tank

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
1519	= 100	14.7	548	0.56	6.23	-107	
1521	= 500	15.0	562	0.38	6.25	-117	
1523	= 900	15.2	565	0.23	6.27		
1525	= 1.35	15.2	565	0.21	6.29 OK	-130	
-1527	= 1.8	15.2	564 OK	0.17	6.30 V	-123	
1529	= 2.2	15.3	561	0.17	6.30	-135	
1530	= 2.4	15.3	559	0.18	6.31	-135	
1533	=						
1535	=						

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H3PO4	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic <u>GLASS</u>	none	<input checked="" type="checkbox"/> No	Sulfate
X	250 mL	<input type="checkbox"/> Plastic	N N O3	<input type="checkbox"/> No	Total Metals (post inj. Cu & As)
X	250 mL	<input type="checkbox"/> Plastic	N N O3	<input type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 1.3 mg/L

Signature: Charles Hardy

Date: JAN 21 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 1st Quarter 2015 labor alco#1007645

49th Sample event

SAMPLE ID: BDC-05-19-150121 (yymmdd)

Collector: Charles Hardy

Date Collected: Jan./Feb., 21, 2015 COC Time: 1355

Well Information

Well I. D.: BDC-05-19 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.85 (ft.) historical or measured

Present Water Level: 11.61 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.85 ft - 11.61 ft = 13.24 ft x 0.658 Liters/ft = 8.71 Liters

Purge Rate: 3.1 l. + 16 min. = 0.194 Liters/minute

Begin Purge: 19:39 time

End Purge: 1355 time

Volume Purged: 3.1 Liters

Purge water disposal to: 55-gal drum, storage tank

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	Conductivity +/- 3%	D.O. (mg/l) +/- 10%	pH +/- 0.10 unit	ORP (mV)	Other (waterlevel, turb)
1341	= 250 mL	16.5	220	0.82	6.12	-72	
1343	= 700	16.6	222	0.55	6.18	-86	
1345	= 1.1 L	16.6	223	0.43	6.17	-91	
1347	= 1.55	16.5	224 ✓	0.36	6.18 ✓	-95	
1349	= 1.9	16.4	227 ✓	0.30	6.17 ✓	-96	
1351	= 2.35	16.5	228 ✓	0.25	6.19 ✓	-100	
1353	= 2.7	16.4	229 ✓	0.21	6.19 ✓	-101	
1355	= 3.1	16.5	229	0.19	6.19 ✓	-102	
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

(9)

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H3PO4	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic Glass	none	<input checked="" type="checkbox"/> No	Sulfate
X	250 mL	<input type="checkbox"/> Plastic	N N O3	<input type="checkbox"/> No	Total Metals (post inj. Cu & As)
X	250 mL	<input type="checkbox"/> Plastic	N N O3	<input type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 2.2 mg/L

Signature: C. Hardy

Date: JAN 21 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM
 Event: 1st Quarter 2015 labor alco#1007645
 SAMPLE ID: B DC-05-18-150121 (yymmdd)
 Date Collected: Jan. Feb. 21, 2015 COC Time: 920

49th Sample event

Collector: Charles Hardy

Well Information

Well I. D.: BDC-05-18 Well Condition: Secure? Yes No: Describe Condition: _____
 Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____
 Total Depth of Well: 24.69 (ft.) historical or measured
 Present Water Level: 10.98 (ft.) Measured from: Well Casing, or Protective Monument
 Traditional Purge Volume Calc.: 24.69 ft - 10.98 ft = 13.71 ft x 0.658 Liters/ft = 9.02 Liters
 Purge Rate: 2.0 l. + 19 min. = 0.143 Liters/minute

Begin Purge: 906 time
 End Purge: 920 time
 Volume Purged: 2.0 Liters

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
908	~200ml	13.3	119	0.57	6.22	24	
910	~550	11.5	106	0.31	6.35	7.8	
912	~850	11.0	101	0.24	6.33	7.0	
914	~1.1 L	11.0	99	0.22	6.38	6.5	
916	~1.4	11.0	97	0.21	6.36	8.0	
918	~1.7	10.8	95	0.23	6.34	10.1	
920	~2.0	10.9	95	0.21	6.32	11.6	

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H3PO4	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic <u>GLASS</u>	none	<input checked="" type="checkbox"/> No	Sulfate
+	250 mL	<input type="checkbox"/> Plastic	N N O3	<input type="checkbox"/> No	Total Metals (post inj. Cu & As)
+	250 mL	<input type="checkbox"/> Plastic	N N O3	<input type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 1.0 mg/L

Signature: C. Hardy Date: JAN 21 2015 Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 1st Quarter 2015 labor alco#1007645

49th Sample event

SAMPLE ID: BDC-05-20-150121 (vymdd)

Collector: Charles Hardy

Date Collected: Jan/Feb. 21, 2015 COC Time: 1025

Well Information

Well I. D.: BDC-05-20 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.80 (ft.) historical or measured

Present Water Level: 11.64 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.80 ft - 11.64 ft = 13.16 ft x 0.658 Liters/ft = 8.66 Liters

Purge Rate: 2.45 l. + 16 min. = 0.153 Liters/minute

Begin Purge: 1009 time

End Purge: 1025 time

Volume Purged: 2.45 Liters

Purge water disposal to: 55-gal drum, storage tank

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
1011	= 100 mL	15.5	380	1.87	6.33	-93	
1013	= 500 mL	15.6	390	1.08	6.33	-104	
1015	= 800	15.5	392	0.77	6.41	-109	
1017	= 1.15 L	15.5	393	0.61	6.42	-117	
1019	= 1.45 L	15.6	394	0.49	6.43	-114	
1021	= 1.8	15.7	394	0.39	6.45	-117	
1023	= 2.15	15.7	394	0.33	6.47	-119	
1025	= 2.45	15.6	392	0.27	6.47	-120	
~	~	~	~	~	~	~	~
~	~	~	~	~	~	~	~
~	~	~	~	~	~	~	~
~	~	~	~	~	~	~	~
~	~	~	~	~	~	~	~
~	~	~	~	~	~	~	~

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

9 Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H ₃ PO ₄	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic (GLASS)	none	<input checked="" type="checkbox"/> No	Sulfate
✓	250 mL	<input type="checkbox"/> Plastic	N N O ₃	<input type="checkbox"/> No	Total Metals (post inj. Cu & As)
✓	250 mL	<input type="checkbox"/> Plastic	N N O ₃	<input type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 1.0 mg/L

Signature: Charles Hardy

Date: JAN. 21 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 1st Quarter 2015 labor alco#1007645

49th Sample event

SAMPLE ID: BDC-05-21-150121 (yyymmdd)

Collector: Charles Hardy

Date Collected: Jan./Feb., 21, 2015 COC Time: _____

Well Information

Well I. D.: BDC-05-21 Well Condition: Secure? Yes No: Describe Condition: mon. flooded.

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.86 (ft.) historical or measured

Present Water Level: 11.51 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.86 ft - 11.51 ft = 13.35 ft x 6.58 Liters/ft = 87.8 Liters

Purge Rate: 2.45 l. + 15 min. = 163 Liters/minute

Begin Purge: 9:40 time

End Purge: 9:55 time

Volume Purged: _____ Liters

Purge water disposal to: 55-gal drum, storage tank

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
942	= 100 mL	17.6	187	0.54	6.32	-77	
944	= 450 mL	18.7	207	0.26	6.44	-108	
946	= 800	18.9	217	0.22	6.47	-117	
948	= 1.15 L	19.1	221	0.23	6.49	-122	
950	= 1.5 L	19.0	223	0.19	6.48	-124	
952	= 1.85	18.9	223	0.16	6.49	-124	
954	= 2.25	19.0	225	0.16	6.47	-124	
955	= 2.45	19.0	225	0.15	6.43	-124	
~							
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Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H ₃ PO ₄	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic <u>GLASS</u>	none	<input checked="" type="checkbox"/> No	Sulfate
X	250 mL	<input type="checkbox"/> Plastic	N N O ₃	<input type="checkbox"/> No	Total Metals (post inj. Cu & As)
X	250 mL	<input type="checkbox"/> Plastic	N N O ₃	<input type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 10⁰ mg/L

Signature: C. Hardy

Date: JAN, 21 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 1st Quarter 2015 labor alco#1007645

49th Sample event

SAMPLE ID: BDC-05-22-150121 (yymmdd)

Collector: Charles Hardy

Date Collected: Jan/Feb, 21, 2015 COC Time: 1105

Well Information

Well I. D.: BDC-05-22 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 25.07 (ft.) historical or measured

Present Water Level: 11.47 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 25.07 ft - 11.47 ft = 13.6 ft x 0.658 Liters/ft = 8.95 Liters

Purge Rate: 2.85 l. + 13 min. = 0.158 Liters/minute

Begin Purge: 1047 time

End Purge: 1105 time

Volume Purged: _____ Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
<u>1049</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
<u>1051</u>	<u>250ml</u>	<u>14.8</u>	<u>373</u>	<u>2.45</u>	<u>6.46</u>	<u>-119</u>	<u>-</u>
<u>1053</u>	<u>700</u>	<u>14.9</u>	<u>376</u>	<u>1.55</u>	<u>6.52</u>	<u>-131</u>	<u>-</u>
<u>1055</u>	<u>1.05L</u>	<u>14.9</u>	<u>377</u>	<u>1.01</u>	<u>6.51</u>	<u>-135</u>	<u>-</u>
<u>1057</u>	<u>1.4L</u>	<u>15.0</u>	<u>378</u>	<u>0.74</u>	<u>6.51</u>	<u>-136</u>	<u>-</u>
<u>1059</u>	<u>1.75</u>	<u>15.1</u>	<u>379</u>	<u>0.57</u>	<u>6.52</u>	<u>-138</u>	<u>-</u>
<u>1201</u>	<u>2.15</u>	<u>15.2</u>	<u>380</u>	<u>0.43</u>	<u>6.52</u>	<u>-139</u>	<u>-</u>
<u>1203</u>	<u>2.5L</u>	<u>15.2</u>	<u>380</u>	<u>0.36</u>	<u>6.52</u>	<u>-139</u>	<u>-</u>
<u>1205</u>	<u>2.85</u>	<u>15.2</u>	<u>380</u>	<u>0.30</u>	<u>6.53</u>	<u>-140</u>	<u>-</u>
<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>
<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>
<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>
<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>
<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
<u>3</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>H-Cl</u>	<input checked="" type="checkbox"/> No	<u>VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.</u>
<u>2</u>	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>H-Cl</u>	<input type="checkbox"/> No	<u>Methane, Ethane, Ethene, Acetylene</u>
<u>2</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>H3PO4</u>	<input checked="" type="checkbox"/> No	<u>TOCs</u>
<u>2</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Plastic Glass	<u>none</u>	<input checked="" type="checkbox"/> No	<u>Sulfate</u>
<u>1</u>	<u>250 mL</u>	<input type="checkbox"/> Plastic	<u>NN O3</u>	<input type="checkbox"/> No	<u>Total Metals (post inj. Cu & As)</u>
<u>1</u>	<u>250 mL</u>	<input type="checkbox"/> Plastic	<u>NN O3</u>	<input type="checkbox"/> Yes	<u>Dissolved Metals (same as Total)</u>

Comments: Hach field test Fe++ = 1.0 mg/L

Signature: C. Hardy

Date: Jan 21 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 1st Quarter 2015 labor alco#1007645

49th Sample event

SAMPLE ID: B DC-05-23-150121 (yvmmdd)

Collector: Charles Hardy

Date Collected: Jan. Feb., 21, 2015 COC Time: 1135

Well Information

Well I. D.: BDC-05-23 Well Condition: Secure? Yes No: Describe Condition: new flooded

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.75 (ft.) historical or measured

Present Water Level: 11.98 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.75 ft - 11.98 ft = 12.75 ft x φ658 Liters/ft = 8.39 Liters

Purge Rate: 2.4 l. + 13 min. = φ200 Liters/minute

Begin Purge: 1122 time

End Purge: 1135 time

Volume Purged: 2.4 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
1"			0.170	0.140
2"		0.776	0.658	0.579
2.5"			0.942	0.833
4"		2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
1124	~200ml	14.2	392	1.30	6.97	-122	
1126	~600	14.5	395	φ.53	6.98	-131	
1128	~1.0 L	14.6	398	φ.27	6.99	-135	
1130	~1.4	14.7	400 ✓	φ.22	6.99 ✓	-139	
1132	~1.8 L	14.8	401 ✓	φ.15	6.51 ✓	-146	
1134	~2.15 L	14.7	402 ✓	φ.14	6.49 ✓	-142	
1135	~2.4	14.8	404	φ.13	6.49	-144	
1138	=						
1140	=						
	=						
	=						
	=						
	=						
	=						
	=						

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H ₃ PO ₄	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Elastic GLASS	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input type="checkbox"/> Plastic	N N O ₃	<input type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input type="checkbox"/> Plastic	N N O ₃	<input type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 1.4 mg/L

Signature: Charles Hardy

Date: JAN. 21 2015

Continued on Back

BOEING Groundwater Sample ^{DUP} Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 1st Quarter 2015 labor alco#1007645

49th Sample event

SAMPLE ID: BDC-05-24-150121 (yymmdd)

Collector: Charles Hardy

Date Collected: Jan./Feb. 21, 2015 COC Time: 1210

Well Information

Well I. D.: BDC-05-24 Well Condition: Secure? Yes No: Describe Condition: non flooded

Info.: Size: 2 (inches) 90 (Sch.) Material: PVC, Stainless Steel, Other

Total Depth of Well: 24.73 (ft.) historical or measured

Present Water Level: 11.43 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.73 ft - 11.43 ft = 13.3 ft x 0.658 Liters/ft = 8.75 Liters

Purge Rate: 2.85 l. + 17 min. = 0.168 Liters/minute

Begin Purge: 1153 time

End Purge: 1210 time

Volume Purged: 2.85 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
1155	= 100ml	14.8	169	1.38	6.41	-31	
1157	= 400ml	15.4	163	0.73	6.34	-33	
1139	= 750	16.0	159	0.45	6.35	-39	
1201	= 1.05	16.1	159	0.34	6.34	-43	
1203	= 1.5	16.1	163	0.22	6.30	-47	OK
1205	= 1.9	16.1	176	0.20	6.29	-55	
1207	= 2.3	16.1	182	0.17	6.31		
1209	= 2.7	16.1	189	0.15	6.30	-64	
1210	2.85	16.1	192	0.14	6.31	-65	
=							
=							
=							
=							
=							

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other

Sample Description: (color, turbidity, odor, sheen, etc):

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H3PO4	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic (LABS)	none	<input checked="" type="checkbox"/> No	Sulfate
X	250 mL	<input type="checkbox"/> Plastic	N N O3	<input type="checkbox"/> No	Total Metals (post inj. Cu & As)
A	250 mL	<input type="checkbox"/> Plastic	N N O3	<input type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 2.0 mg/L

Signature: C.H. Hardy

Date: JAN 21 2015

Continued on Back

BOTTLE REQUEST FORM

Prepared by: Charles 'Duffy' Hardy

Client: Boeing EHS

Contact: Jim Bet (Boeing) /Clint Jacob (Landau)

Ship To: Charles 'Duffy' Hardy (206-290-6572)

Boeing @ Western Processing Superfund

20015 72nd Ave South

Kent, WA 98032

Project Name: Boeing_DC: SWMU-17 qrt

Sampling Frequency: Quarterly February & August.

Sampling Date: ~Jan. 26th - 30th, 2015

Need By Date: Jan. 22, 2015



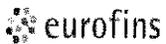
of coolers: As needed

Trip Blanks?: 2 sets, two shipments

Labels?: Provide loose labels

Boxed?: No

No. Of Samples	Analysis Requested	Sample Matrix	Bottle Size	No. Bottles Per Sample	Preservative
11	VOC's EPA 8260 SHORT LIST*	Water	40-mL VOA	3	HCl
9	Dissolved Gases (methane, ethane, ethene, acetylene) by RSK-175	Water	40-mL VOA	2	HCl
11	Total Organic Carbon	Water	amber 40-mL	2	H ₃ PO ₄
11	Sulfate IC E300	Water	40-mL	2	None
Comments:	*VOC's SHORT analyte LIST = V.C. PCE, TCE, cDCE well list see revised Landau Table 4 SWMU-17 BDC-05-02, -12, -16, -18, -19, -20, -21, -22, -23, & -24 no metals quarterly				



Sample Container Record

Order Number: 166335
Order Date: 01/13/2015
Page 1 of 2
Standard Frm#: 154723

Client: 13419
The Boeing Company
Boeing_DC:SWMU-17 qrt

Ship To:
Boeing
Boeing@ Western Process. Sfund
20015 72nd Ave South
Kent, WA 98032
Attn: Charles 'Duffy' Hardy

Do not overfill or rinse out any vials for TOC - Preservative will be lost.

Group: 1

Number of Sample Locations: 9

One complete set of bottles listed below must be filled for each of the 9 sample location(s).

<u>Sample Description</u>	<u>QC Type</u>
BDC-05-02 Water	
BDC-05-12 Water	
BDC-05-16 Water	
BDC-05-18 Water	
BDC-05-19 Water	
BDC-05-20 Water	
BDC-05-21 Water	
BDC-05-24 Water	
DUP Water	

<u>Count</u>	<u>Code</u>	<u>Description</u>	<u>Preservative</u>	<u>Analysis Name</u>	<u>Hold Time</u>
3	38	40 ml glass vial (GC/MS)	HCl	VC, PCE, TCE, cDCE	14 days
2	55	40 ml glass vial	None	Sulfate	28 days
2	57	40 ml glass vial	HCl	AMEE by RSK-175	14 days
2	91	40 ml amber vial	H3PO4	Total Organic Carbon	28 days

Group: 2

Number of Sample Locations: 2

One complete set of bottles listed below must be filled for each of the 2 sample location(s).

<u>Sample Description</u>	<u>QC Type</u>
BDC-05-22 Water	
BDC-05-23 Water	

<u>Count</u>	<u>Code</u>	<u>Description</u>	<u>Preservative</u>	<u>Analysis Name</u>	<u>Hold Time</u>
3	38	40 ml glass vial (GC/MS)	HCl	VC, PCE, TCE, cDCE	14 days
2	55	40 ml glass vial	None	Sulfate	28 days
2	91	40 ml amber vial	H3PO4	Total Organic Carbon	28 days

If you have any questions, please contact your Client Service Representative, Kay Hower, at (717)656-2300 xCA

Date Needed:

01/19/2015

Pack By:

01/15/2015

Shipping Method:

FEDEX 2 Day Ground

This order is:

Per your Request

Client: 13419
The Boeing Company
Boeing_DC:SWMU-17 qrt

Ship To:
Boeing
Boeing@ Western Process. Sfund
20015 72nd Ave South
Kent, WA 98032
Attn: Charles 'Duffy' Hardy

Do not overfill or rinse out any vials for TOC - Preservative will be lost.

Group: 3

Number of Sample Locations: 2

<u>Sample Description</u>	<u>QC Type</u>
Trip Blank Water	Trip Blank

<u>Count</u>	<u>Code</u>	<u>Description</u>	<u>Preservative</u>	<u>Analysis Name</u>	<u>Hold Time</u>
2	38	40 ml glass vial (GC/MS)	HCl	VC, PCE, TCE, cDCE	14 days
2	57	40 ml glass vial	HCl	AMEE by RSK-175	14 days

Sample Acceptance Policy

Samples must be submitted in a manner that meets the criteria listed below. If these criteria are not met, the laboratory will contact the client to discuss how to proceed with testing. If the client decides to proceed with testing, a comment describing the variation will appear on the analytical report.

- Documentation must be complete and include: sample identification, the location, date and time of collection, collector's name or initials, preservation type, sample type, required analyses, and any special remarks concerning the sample.
- Proper sample labeling must include unique identification on a durable (water resistant) label using indelible ink.
- Samples must be collected in appropriate containers with sufficient volume to perform tests. The laboratory will provide appropriate bottleware.
- Samples must be shipped promptly to meet specified holding times with adequate packing materials to prevent damage during shipment and adequate wet ice to meet method temperature requirements (0-6°C, not frozen).

If you have any questions, please contact your Client Service Representative, Kay Hower, at (717)656-2300 xCA

Date Needed: 01/19/2015	Pack By: 01/15/2015	Shipping Method: FEDEX 2 Day Ground	This order is: Per your Request
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Boeing Chain of Custody



Lancaster Laboratories

For Lancaster Laboratories use only
 Acct. # _____ Group # _____ Sample # _____
 Please print. Instructions on reverse side correspond.

PAGE 2 of 2

① #13419 Client Information					④ Analyses Requested								⑤ Remarks/Comments
Site Location: <u>BOEING</u>					38 VOC 8260 BOEING 211	57 METHANE ACETYLENE ETHANE ETHERE	91 TOL	55 SULFATE	08 TOTAL METALS CU	08 DISSOLVED METALS CU	LLF BATEL QC.		
Site Project: <u>DEY. CTR</u>													
Site Program/ #: <u>SWMU-17 SGM1-ANMUK</u>													
Boeing PM: <u>JAMES BET</u>													
Consultant Contact: <u>LANDAU</u>													
Report To: <u>LANDAU</u>													
Invoice To: <input checked="" type="checkbox"/> Boeing EHS <input type="checkbox"/> Other (specify): _____													
Sampler: <u>CHARLES HARDY</u> # of Coolers: <u>4</u>													
② Sample Identification		③ Collected		③ Matrix	No. of Containers								
Date	Time												
<u>BDC-05-10-150427</u>	<u>4.27.2015</u>	<u>1055</u>	<u>Ag</u>	<u>11</u>	X	X	X	X	X	X			
<u>BDC-05-09-150427</u>	<u>4.27.2015</u>	<u>1130</u>	<u>Ag</u>	<u>11</u>	X	X	X	X	X	X			
<u>BDC-05-08-150427</u>	<u>4.27.2015</u>	<u>1205</u>	<u>Ag</u>	<u>9</u>	X	X	X	X	X	X			
<u>BDC-05-03-150427</u>	<u>4.27.2015</u>	<u>1235</u>	<u>Ag</u>	<u>11</u>	X	X	X	X	X	X			
<u>BDC-05-07-150427</u>	<u>4.27.2015</u>	<u>1305</u>	<u>Ag</u>	<u>11</u>	X	X	X	X	X	X			
<u>BDC-05-02-150427</u>	<u>4.27.2015</u>	<u>1335</u>	<u>Ag</u>	<u>11</u>	X	X	X	X	X	X			
<u>BDC-05-04-150427</u>	<u>4.27.2015</u>	<u>1410</u>	<u>Ag</u>	<u>9+2</u>	X	X	X	X	X	X	<u>3x</u>		
<u>BDC-05-05-150427</u>	<u>4.27.2015</u>	<u>1440</u>	<u>Ag</u>	<u>9</u>	X	X	X	X	X	X			
<u>BDC-05-DUP2-150427</u>	<u>4.27.2015</u>	<u>-</u>	<u>Ag</u>	<u>11</u>	X	X	X	X	X	X			
<u>TRIP BLANKS</u>	<u>4.1.2015</u>	<u>-</u>	<u>Ag</u>	<u>6</u>	X	X							
					254 Bottles								
⑥ Turnaround Time Requested (please circle)					Relinquished by:		Date/Time		Received by:		Date/Time		⑦
<input checked="" type="radio"/> Standard 5 day 4 day <input type="radio"/> 72 hour 48 hour 24 hour Date needed: _____					<u>CHARLES HARDY</u>		<u>4.28.2015</u>						
					Relinquished by:		Date/Time		Received by:		Date/Time		
					Relinquished by:		Date/Time		Received by:		Date/Time		
					Relinquished by commercial carrier (circle):				Temperature upon Receipt: _____ °C				
					<input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Other: _____				Custody Seals Intact?: Yes No				

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

50th Sample event

SAMPLE ID: BDC-05-03-150429 (yyymmdd)

Collector: Charles Hardy

Date Collected: April/May 27, 2015 COC Time: 1235

Well Information

Well I. D.: BDC-05-03 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 25.47 (ft.) historical or measured

Present Water Level: 12.19 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 25.47 ft - 12.19 ft = 13.28 ft x 0.658 Liters/ft = 8.74 Liters

Purge Rate: 3.0 l. + 14 min. = 0.232 Liters/minute

Begin Purge: 1221 time

End Purge: 1235 time

Volume Purged: 3.25 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D.O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
1223	~ 350ml	16.9	125	0.97	6.16	23	
1225	~ 800	17.0	124	0.89	6.01	33	
1227	~ 1.3	17.0	127	0.84	5.92	38	
1229	~ 1.75	17.0	134	0.78	5.89	40	
1231	~ 2.25	17.0	131	0.81	5.85	44	
1233	~ 2.7	17.0	130	0.90	5.85	46	
1235	~ 3.45	16.9	129	0.93	5.85	48	
1237							
1239							
12							

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H3PO4	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: *Hach field test Fe++ = 0.6 mg/L

Signature: C. Hardy

Date: APRIL 27, 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM
 Event: 2nd Quarter 2015 labor alco#1007645

Collector: Charles Hardy

50th Sample event

SAMPLE ID: BDC-05-04-150427 (yyymmdd)
 Date Collected: April 27, 2015 COC Time: 1410

Well Information
 Well I. D.: BDC-05-04 Well Condition: Secure? Yes No: Describe Condition: _____
 Info.: Size: 4 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____
 Total Depth of Well: 25.36 (ft.) historical or measured

Present Water Level: 12.26 (ft.) Measured from: Well Casing, or Protective Monument
 Traditional Purge Volume Calc.: 25.36 ft - 12.26 ft = 13.10 ft x 2.502 Liters/ft = 32.78 Liters
 Purge Rate: 2.55 l. + 12 min. = 0.2125 Liters/minute

Begin Purge: 13:58 time

End Purge: 1410 time

Volume Purged: 2.55 Liters

Purge water disposal to: 55-gal drum, storage tank

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
1400	= 200	16.6	299	0.85	6.52	16	
202	= 650	16.2	290	0.17	6.18	33	
204	= 1.2	16.2	289	0.12	6.05	40	
206	= 1.6	16.2	289	0.09	5.98	43	
208	= 2.05	16.3	289	0.10	5.95	45	
1410	= 2.55	16.2	289	0.09	5.92	48	

Sample Collection Information
 Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____
 Quantity Size Type Preservative Field Filtered Laboratory Analysis Method

3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H ₃ PO ₄	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O ₃	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O ₃	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: * Hach field test Fe++ = 0.9 mg/L

Signature: C. Hardy

Date: April 27, 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

SAMPLE ID: B DC-05-05-150427 (yyymmdd)

Date Collected: April/May 27, 2015 COC Time: 1430

Collector: Charles Hardy

50th Sample event

Well Information

Well I. D.: BDC-05-05 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 4 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.18 (ft.) historical or measured

Present Water Level: 11.86 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.18 ft - 11.86 ft = 12.32 ft x 2.502 Liters/ft = 30.82 Liters

Purge Rate: 2.5 l. + 11 min. = 0.227 Liters/minute

Begin Purge: 1429 time

End Purge: 1440 time

Volume Purged: 2.5 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
14 231	= 2.50	16.0	252	3.34	6.45	21	
233	= 7.50	15.9	251	3.12	6.34	26	
235	= 1.3	15.9	251	3.13	6.27	30	
237	= 1.75	15.7	250	3.03	6.25	30	
239	= 2.25	15.9	251	3.10	6.26	31	
14 240	= 2.5	16.0	251	3.14	6.25	31	
≈							
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Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input type="checkbox"/> Glass	H3PO4	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 0 mg/L

Signature: Charles Hardy Date: APRIL 27 2015 Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

50th Sample event

SAMPLE ID: BDC-05-07-150427 (yyymmdd)

Collector: Charles Hardy

Date Collected: April/May 27, 2015 COC Time: 1305

Well Information

Well I. D.: BDC-05-07 Well Condition: Secure? Yes No; Describe Condition: Boil Logs Broken

Info.: Size: 4 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other

Total Depth of Well: 25.30 (ft.) historical or measured

Present Water Level: 11.67 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 25.30 ft - 11.67 ft = 13.63 ft x 2.502 Liters/ft = 34.17 Liters

Purge Rate: 3.05 l. + 12 min. = 0.254 Liters/minute

Begin Purge: 1253 time

End Purge: 1305 time

Volume Purged: 3.05 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D.O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
1255	300ml	16.5	236	0.12	6.23	552	
1257	900	16.5	236	0.06	6.22	-18	
1259	1.5	16.4	236	0.05	6.24	-30	
1301	2.00	16.5	236	0.06	6.26	-40	
1303	2.5	16.4	236	0.05	6.28	-47	
1305	3.05	16.4	236	0.06	6.27	-50	
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other

Sample Description: (color, turbidity, odor, sheen, etc):

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H ₃ PO ₄	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O ₃	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O ₃	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: *Hach field test Fe++ = 2.0 mg/L

Signature: C. Hardy

Date: April 27 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

50th Sample event

SAMPLE ID: B DC-05-08-150427 (yymmdd)

Collector: Charles Hardy

Date Collected: April/May 27 2015 COC Time: 1205

Well Information

Well I. D.: BDC-05-08 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 26.75 (ft.) historical or measured

Present Water Level: 12.47 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 26.75 ft - 12.47 ft = 14.28 ft x 0.658 Liters/ft = 9.40 Liters

Purge Rate: 3.66 l. + 15 min. = 0.243 Liters/minute

Begin Purge: 1150 time

End Purge: 1205 time

Volume Purged: 3.45 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
1152	≈ 350	16.5	334	0.17	6.32	-44	
1154	≈ 900	16.5	311	0.15	6.29	-63	
1156	≈ 1.4	16.4	294	0.15	6.33	-76	
1158	≈ 1.9	16.4	290	0.09	6.33	-81	
1200	≈ 2.4	16.6	291	0.09	6.35	-86	
1202	≈ 2.9	16.5	292	0.07	6.36	-89	
1204	≈ 3.4	16.5	294	0.06	6.37	-91	
1205	≈ 3.65	16.5	295	0.05	6.36	-90	
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Sample Collection Information

Sample Collected with: disposable **Bailer**, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible **Pump**

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
<u>3</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>H-Cl</u>	<input checked="" type="checkbox"/> No	<u>VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.</u>
<u>2</u>	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>H-Cl</u>	<input checked="" type="checkbox"/> No	<u>Methane, Ethane, Ethene, Acetylene</u>
<u>2</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>H3PO4</u>	<input checked="" type="checkbox"/> No	<u>TOCs</u>
<u>2</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Plastic	<u>none</u>	<input checked="" type="checkbox"/> No	<u>Sulfate</u>
<u>1</u>	<u>250 mL</u>	<input checked="" type="checkbox"/> Plastic	<u>N N O3</u>	<input checked="" type="checkbox"/> No	<u>Total Metals (post inj. Cu & As)</u>
<u>1</u>	<u>250 mL</u>	<input checked="" type="checkbox"/> Plastic	<u>N N O3</u>	<input checked="" type="checkbox"/> Yes	<u>Dissolved Metals (same as Total)</u>

Comments: Hach field test Fe++ = 0.6 mg/L

Signature: C. Hardy

Date: ARRIL 27 2015

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BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

50th Sample event SAMPLE I D: BDC-05-09-15 0427 (yyymmdd)

Collector: Charles Hardy

Date Collected: April/May 27, 2015 COC Time: 1130

Well Information

Well I. D. BDC-05-09 Well Condition: Secure? Yes No: Describe Condition: Flooded

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other

Total Depth of Well: 24.55 (ft.) historical or measured

Present Water Level: 12.10 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.55 ft - 12.1 ft = 12.45 ft x 0.658 Liters/ft = 8.19 Liters

Purge Rate: 3.9 l. + 14 min. = 0.243 Liters/minute

Begin Purge: 1115 time

End Purge: 1130 time

Volume Purged: 3.9 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D.O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
1118	= 400	16.0	136	0.11	6.32	-17	
1120	= 800	16.1	137	0.06	6.21	-24	
1122	= 1.4	16.0	136	0.06	6.20	-34	
1124	= 1.9	16.0	136	0.06	6.21	-35	
1126	= 2.4	16.0	136	0.06	6.20	-43	
1128	= 2.9	16.0	136	0.03	6.24	-49	
1130	= 3.4	16.0	136	0.04	6.27	-53	
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Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other

Sample Description: (color, turbidity, odor, sheen, etc):

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H3PO4	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 1.4 mg/L

Signature: C.H. Hardy

Date: APRIL 27 2015

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BOEING Groundwater Sample Collection Form

50th Sample event

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

SAMPLE ID: BDC-05-10-150427 (yymmdd)

Date Collected: April/May, 27, 2015 COC Time: 1055

Collector: Charles Hardy

Well Information

Well I. D.: BDC-05-10 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.57 (ft.) historical or measured

Present Water Level: 12.11 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.57 ft - 12.11 ft = 12.46 ft x 1.83 Liters/ft = 8.20 Liters

Purge Rate: 2.8 l. + 12 min. = 2.33 Liters/minute

Begin Purge: 1043 time

End Purge: 1055 time

Volume Purged: 2.8 Liters

Purge water disposal to: 55-gal drum, storage tank

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

treatment system ground other

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
1045	= 300	16.1	240	0.12	6.17	-22	
1047	= 800	16.2	241	0.06	6.15	-41	
1049	= 1.3 L	16.1	243	0.07	6.20	-54	
1051	= 1.8	16.1	293	0.05	6.23	-62	
1053	= 2.3	16.2	242	0.05	6.24	-66	
1055	= 2.8	16.2	239	0.04	6.24	-68	
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"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No
2	40 mL	<input checked="" type="checkbox"/> Glass	H3PO4	<input checked="" type="checkbox"/> No
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> No
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> Yes

Laboratory Analysis Method
 VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
 Methane, Ethane, Ethene, Acetylene
 TOCs
 Sulfate
 Total Metals (post inj. Cu & As)
 Dissolved Metals (same as Total)

Comments: *Hach field test Fe++ = 0.8 mg/L

Signature: C. Hardy

Date: APRIL 27 2015

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BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

SAMPLE ID: BDC-05-12-150427 (yyymmdd)

Date Collected: April/May 27, 2015 COC Time: 940

50th Sample event

Collector: Charles Hardy

Well Information

Well I. D.: BDC-05-12 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.87 (ft.) historical or measured

Present Water Level: 12.43 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.87 ft - 12.43 ft = 12.44 ft x 0.658 Liters/ft = 8.19 Liters

Purge Rate: 3.6 l. + 18 min. = 0.2 Liters/minute

Begin Purge: 922 time

End Purge: 940 time

Volume Purged: 3.6 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
924	—	16.9	231 1.37	231 1.37	6.73	-35	
926	400	16.6	490 0.9	219.09	6.97	-55	
928	800	16.6	218	0.08	6.37	-62	
930	1.2	16.7	217	0.07	6.35	-69	
932	1.65	16.7	218	0.06	6.32	-75	
934	2.1	16.7	218	0.07	6.32	-72	
936	2.60	16.7	218	0.07	6.30	-81	
938	3.1	16.6	217	0.07	6.29	-83	
940	3.6	16.6	218	0.07	6.29	-84	
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Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H3PO4	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 1.1 mg/L

Signature: C.H. Hardy

Date: APRIL 27 2015

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BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

SAMPLE I D: B DC-05-13-150427 (yyymmdd)

Date Collected: April/May 27, 2015 COC Time: 800

50th Sample event

Collector: Charles Hardy

Well Information

Well I. D.: BDC-05-15 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.78 (ft.) historical or measured

Present Water Level: 12.20 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.78 ft - 12.20 ft = 12.57 ft x 0.658 Liters/ft = 8.34 Liters

Purge Rate: 3.8 l. + 1.9 min. = 0.271 Liters/minute

Begin Purge: 746 time

End Purge: 800 time

Volume Purged: 3.8 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
748	~400 ml	16.1	199	0.70	6.49	-74	
750	~950	16.0	195	0.20	6.45	-88	
752	~1.5	16.2	194	0.13	6.45	-93	
754	~2.1 L	16.4	193	0.10	6.46	-96	
756	~2.7	16.3	194 ✓	0.10	6.46	-99	
758	~3.2	16.3	194 ✓	0.09	6.46	-101	
800	~3.8	16.3	195 ✓	0.09	6.45	-102	
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Sample Collection Information

Sample Collected with: disposable **Bailer**, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible **Pump**

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H ₃ PO ₄	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O ₃	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O ₃	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: *Hach field test Fe++ = 0.8 mg/L

Signature: C. Hardy

Date: APRIL 27, 2015

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BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

SAMPLE ID: B DC-05-14-150427 (yyymmdd)

Date Collected: April/May, 27, 2015 COC Time: 730

50th Sample event

Collector: Charles Hardy

Well Information

Well I. D.: BDC-05-14 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.85 (ft.) historical or measured

Present Water Level: 12.03 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.85 ft - 12.03 ft = 12.82 ft x 0.658 Liters/ft = 8.44 Liters

Purge Rate: _____ l. + 11 min. = _____ Liters/minute

Begin Purge: 719 time

End Purge: 730 time

Volume Purged: _____ Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
721	≈ 400 ml	16.1	432	0.33	6.15	-57	
723	≈ 900	16.2	442	0.19	6.21	-76	
725	≈ 1.45	16.1	443	0.12	6.22	-81	
727	≈ 2.0	16.1	444	0.12	6.22	-84	
729	≈ 2.6	16.2	439	0.12	6.23	-87	
730	≈ 2.8	16.2	437	0.11	6.25	-88	
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Sample Collection Information

Sample Collected with: disposable **Bailer**, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible **Pump**

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H3PO4	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 1.4 mg/L

Signature: C. Hardy

Date: APRIL 27 2015

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BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

50th Sample event

SAMPLE ID: B DC-05- 15 - 150427 (yyymmdd)

Collector: Charles Hardy

Date Collected: April/May, 27, 2015 COC Time: 9:05

Well Information

Well I. D.: BDC-05-15 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.48 (ft.) historical or measured

Present Water Level: 11.83 (ft.) Measured from Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.48 ft - 11.83 ft = 12.65 ft x 0.658 Liters/ft = 8.32 Liters

Purge Rate: 3.0 l. + 14 min. = 0.214 Liters/minute

Begin Purge: 8:52 time

End Purge: 9:05 time

Volume Purged: 3.0 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
8:54	≈ 300ml	15.6	525	0.14	6.20	-74	
8:56	≈ 800	15.7	531	0.08	6.27	-97	
8:58	≈ 1.3	15.7	531	0.07	6.30	-104	
9:00	≈ 1.8	15.7	528	0.07	6.31	-108	
9:02	≈ 2.3	15.7	524	0.08	6.35	-112	
9:04	≈ 2.75	15.7	524	0.07	6.37	-114	OK
9:05	≈ 3.0	15.7	522	0.06	6.37	-115	
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Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H3PO4	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 0.8 mg/L

Signature: C. Hardy Date: April 27 2015 Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

SAMPLE I D: B DC-05-16-150426 (yymmdd)

Date Collected: April/May 26, 2015 COC Time: 1610

Collector: Charles Hardy

50th Sample event

Well Information

Well I. D.: BDC-05-16 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.89 (ft.) historical or measured

Present Water Level: 11.90 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.89 ft - 11.90 ft = 12.99 ft x 0.658 Liters/ft = 8.55 Liters

Purge Rate: _____ l. + _____ min. = _____ Liters/minute

Begin Purge: 3:58 time

End Purge: 4:10 time 1610

Volume Purged: 2.9 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

16'

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D _o (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
400	= 350 mL	16.0	576	0.16	6.53	-109	
402	= 900	15.9	570	0.14	6.97	-110	
404	= 1.4	16.0	567	0.11	6.44	-112	
406	= 1.9	16.0	567	0.11	6.41	-114	
408	= 2	16.0	564	0.13	6.47	-117	
410	= 2.9	16.0	563	0.11	6.40	-118	
412	=						
444	=						
41	=						
	=						
	=						
	=						
	=						
	=						
	=						
	=						
	=						

Sample Collection Information

Sample Collected with: disposable **Bailer**, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible **Pump**

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H ₃ PO ₄	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O ₃	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O ₃	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 1.4 mg/L

Signature: C. Hardy

Date: April 26 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

50th Sample event

SAMPLE ID: B DC-05-17-150426 (yyymmdd)

Collector: Charles Hardy

Date Collected: April 26, 2015 COC Time: 15:40

Well Information

Well I. D.: BDC-05-17 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.82 (ft.) historical or measured

Present Water Level: 12.12 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.82 ft - 12.12 ft = 12.7 ft x 0.658 Liters/ft = 8.36 Liters

Purge Rate: 4.05 l. + 17 min. = 0.238 Liters/minute

Begin Purge: 3:23 time

End Purge: 3:40 time 15:40

Volume Purged: 4.05 Liters

Purge water disposal to: 55-gal drum, storage tank

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
1"	1"		0.170	0.140
2"	2"	0.776	0.658	0.579
2.5"	2.5"		0.942	0.833
4"	4"	2.995	2.502	2.260

treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
325	300 ml	16.0	943	0.85	6.75	-107	
327	800	16.1	883	0.59	6.59	-109	
329	1.35	16.3	842	0.52	6.51	-119	
331	1.8	16.4	828	0.50	6.50	-119	
333	2.3	16.3	798	0.43	6.48	-122	
335	2.8	16.3	792	0.34	6.46	-124	
337	3.3	16.2	780	0.30	6.45	-126	
339	3.8	16.2	782	0.26	6.44	-127	
15:340	4.05	16.2	778	0.25	6.44	-127	
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

(1)

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H ₃ PO ₄	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O ₃	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O ₃	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 1.4 mg/L

Signature: C. Hardy

Date: APRIL 26 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

50th Sample event

SAMPLE ID: B DC-05-18-150426 (yyymmdd)

Collector: Charles Hardy

Date Collected: April/May, 26, 2015 COC Time: 1650

Well Information

Well I. D.: BDC-05-18 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.69 (ft.) historical or measured

Present Water Level: 11.50 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.69 ft - 11.5 ft = 13.19 ft x 0.658 Liters/ft = 868 Liters

Purge Rate: 5.7 l. + 21 min. = 0.271 Liters/minute

Begin Purge: 4:34 time

1655 End Purge: 4:55 time

Volume Purged: 5.7 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
<u>436</u>	<u>= 5.00</u>	<u>15.9</u>	<u>68</u>	<u>105</u>	<u>6.87</u>	<u>-2.9</u>	
<u>438</u>	<u>= 1.05</u>	<u>16.0</u>	<u>67</u>	<u>0.29</u>	<u>6.62</u>	<u>+14</u>	
<u>440</u>	<u>= 1.55</u>	<u>16.0</u>	<u>68</u>	<u>0.18</u>	<u>6.99</u>	<u>+21</u>	
<u>442</u>	<u>= 2.1</u>	<u>16.0</u>	<u>69</u>	<u>0.14</u>	<u>6.74</u>	<u>+21</u>	
<u>444</u>	<u>= 2.65</u>	<u>16.0</u>	<u>69</u>	<u>0.09</u>	<u>6.35</u>	<u>26</u>	
<u>446</u>	<u>= 3.2</u>	<u>15.8</u>	<u>69</u>	<u>0.09</u>	<u>6.31</u>	<u>28</u>	
<u>448</u>	<u>= 3.7</u>	<u>15.7</u>	<u>71</u>	<u>0.11</u>	<u>6.28</u>	<u>30</u>	
<u>450</u>	<u>= 4.35</u>	<u>15.7</u>	<u>72</u>	<u>0.11</u>	<u>6.23</u>	<u>31</u>	
<u>452</u>	<u>= 4.85</u>	<u>15.7</u>	<u>72</u>	<u>0.23</u>	<u>6.23</u>	<u>28</u>	
<u>454</u>	<u>= 5.4</u>	<u>15.5</u>	<u>72</u>	<u>0.30</u>	<u>6.14</u>	<u>32</u>	
<u>1655 4:55</u>	<u>= 5.7</u>	<u>15.4</u>	<u>73</u>	<u>0.28</u>	<u>6.11</u>	<u>33</u>	
<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>
<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>
<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>	<u>~</u>

Sample Collection Information

Sample Collected with: disposable **Bailer**, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible **Pump**

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
<u>3</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>H-Cl</u>	<input checked="" type="checkbox"/> No	<u>VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.</u>
<u>2</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>H-Cl</u>	<input checked="" type="checkbox"/> No	<u>Methane, Ethane, Ethene, Acetylene</u>
<u>2</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>H3PO4</u>	<input checked="" type="checkbox"/> No	<u>TOCs</u>
<u>2</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Plastic	<u>none</u>	<input checked="" type="checkbox"/> No	<u>Sulfate</u>
<u>1</u>	<u>250 mL</u>	<input checked="" type="checkbox"/> Plastic	<u>N N O3</u>	<input checked="" type="checkbox"/> No	<u>Total Metals (post inj. Cu & As)</u>
<u>1</u>	<u>250 mL</u>	<input checked="" type="checkbox"/> Plastic	<u>N N O3</u>	<input checked="" type="checkbox"/> Yes	<u>Dissolved Metals (same as Total)</u>

Comments: Hach field test Fe++ = 1.0 mg/L

Signature: C. Hardy Date: April 26 2015 Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

50th Sample event

SAMPLE ID: BDC-05-19-150427 (yyymmdd)

Collector: Charles Hardy

Date Collected: April/May 27, 2015 COC Time: 830

Well Information

Well I. D.: BDC-05-19 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.85 (ft.) historical or measured

Present Water Level: 12.33 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.85 ft - 12.33 ft = 12.52 ft x 0.658 Liters/ft = 8.29 Liters

Purge Rate: 26 l + 10 min. = 260 Liters/minute

Begin Purge: 820 time

End Purge: 830 time

Volume Purged: _____ Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
822	≈ 400 ml	16.2	251 ²⁵⁸	0.15	6.07	-43	
824	≈ 900	16.4	256 ²⁶³	0.12	6.15	-60	
826	≈ 1.45	16.5	259	0.07	6.17	-69	
828	≈ 2.05	16.4	260	0.06	6.18	-74	
830	≈ 2.6	16.4	260 ^{OK}	0.06 ^{OK}	6.15 ^{OK}	-74	OK
≈							
≈							
≈							
≈							
≈							
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≈							

Sample Collection Information

Sample Collected with: disposable **Bailer**, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible **Pump**

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis- & trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H3PO4	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 1.4 mg/L

Signature: C. Hardy Date: April 27, 2015 Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

SAMPLE ID: BDC-05-20-150426 (yyymmdd)

Date Collected: April 26, 2015 COC Time: 1725

Collector: Charles Hardy

50th Sample event

Well Information

Well I. D.: BDC-05-20 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 24.80 (ft.) historical or measured

Present Water Level: 12.25 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.80 ft - 12.25 ft = 12.55 ft x 0.658 Liters/ft = 8.26 Liters

Purge Rate: 3.2 l. + 14 min. = 0.228 Liters/minute

Begin Purge: 510 time

End Purge: 525 time

Volume Purged: _____ Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
1"	1"		0.170	0.140
2"	2"	0.776	0.658	0.579
2.5"	2.5"		0.942	0.833
4"	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
513	300 mL	16.9	444	0.20	6.25	-71	
515	800 mL	16.9	445	0.20	6.31	-83	
517	1.8	16.9	445	0.16	6.36	-89	
519	1.8	17.0	446	0.11	6.39	-94	
521	2.3	17.0	446	0.12	6.41	-96	
523	2.25	17.0	445	0.11	6.41	-97	
1725-525	3.2	17.0	446	0.06	6.43	-99	
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis- & trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H3PO4	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: * Hach field test Fe++ = 0.8 mg/L

Signature: C. Hardy

Date: APRIL 26 2015

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BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

50th Sample event

SAMPLE I D: BDC-05-21-150427 (vymmd)

Collector: Charles Hardy

Date Collected: April/May 27, 2015 COC Time: 505

Well Information

Well I. D.: BDC-05-21 Well Condition: Secure? Yes No: Describe Condition: Floated

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other

Total Depth of Well: 24.86 (ft.) historical or measured

Present Water Level: 12.1 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.86 ft - 12.1 ft = 12.76 ft x 0.658 Liters/ft = 840 Liters

Purge Rate: 4.0 l. + 2 min. = 0.200 Liters/minute

Begin Purge: 4:45 time

End Purge: 5:05 time

Volume Purged: 4.0 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
447	≈ 200 mL	20.1	484	1.47	6.81	-81	
449	≈ 700	19.7	448	0.76	6.63	-89	
451	≈ 1.1 L	19.5	424	0.64	6.56	-93	
453	≈ 1.5	19.6	409	0.52	6.52	-96	
455	≈ 1.9	19.5	398	0.50	6.49	-98	
457	≈ 2.3 L	19.5	391	0.40	6.47	-100	
459	≈ 2.7	19.4	382	0.37	6.46	-101	
501	≈ 3.15	19.4	379	0.35	6.45	-102	
503	≈ 3.55	19.5	375	0.29	6.44	-103	
505	≈ 4.0	19.4	369	0.28	6.43	-104	

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other

Sample Description: (color, turbidity, odor, sheen, etc):

(11)

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H ₃ PO ₄	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O ₃	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O ₃	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 0.8 mg/L

Signature: C.H. Hardy

Date: April 27, 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

50th Sample event

SAMPLE ID: B DC-05-22-150427 (yyymmdd)

Collector: Charles Hardy

Date Collected: April ~~May~~ 27, 2015 COC Time: 5:35

Well Information

Well I. D.: BDC-05-22 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 25.07 (ft.) historical or measured

Present Water Level: 12.12.09 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 25.07 ft - 12.09 ft = 13.03 ft x 0.658 Liters/ft = 8.57 Liters

Purge Rate: 7.75 l. + 12 min. = _____ Liters/minute

Begin Purge: 5:23 time

End Purge: 5:35 time

Volume Purged: 7.75 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
1"	1"		0.170	0.140
2"	2"	0.776	0.658	0.579
2.5"	2.5"		0.942	0.833
4"	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D.O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
5:25	≈ 400 ml	15.6	260	0.30	6.44	-101	
5:27	≈ 900	15.5	250	0.29	6.45	-108	
5:29	≈ 1.3 L	15.5	250	0.18	6.44	-110	
5:31	≈ 1.75	15.5	249	0.17	6.45	-112	
5:33	≈ 2.25	15.5	246	0.14	6.44	-114	
5:35	≈ 2.75	15.4	244	0.14	6.44	-115	
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"

Sample Collection Information

Sample Collected with: disposable **Bailer**, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible **Pump**

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

99

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H3PO4	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 1.8 mg/L

Signature: C. Hardy

Date: APRIL 27 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

50th Sample event

SAMPLE ID: BDC-05-23-150427 (yymmdd)

Collector: Charles Hardy

Date Collected: April/May 27, 2015 COC Time: 605

Well Information

Well I. D.: BDC-05-23 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 25.10 (ft.) historical or measured

Present Water Level: 12.57 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 25.10 ft - 12.57 ft = 12.53 ft x 0.658 Liters/ft = 8.28 Liters

Purge Rate: 2.0 l. + 10 min. = 0.70 Liters/minute

Begin Purge: 555 time

End Purge: 605 time

Volume Purged: 2.0 Liters

Purge water disposal to: 55-gal drum, storage tank

Casing	Diameter	10s	Sch 40	Sch 80
Volume	1"		0.170	0.140
by Size & Schedule	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
(Liters/ft)	4"	2.995	2.502	2.260

treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D.O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
557	≈ 250 mL	15.1	395	0.33	6.34	-85	
559	≈ 700	15.2	402	0.23	6.36	-102	
601	≈ 1.1 L	15.2	402	0.21	6.34	-105	
603	≈ 1.6	15.2	402	0.24	6.38	-110	SL
605	≈ 2.0	15.2	405	0.19	6.40	-114	
607	"	"	"	"	"	"	"
609	"	"	"	"	"	"	"
61	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"

Sample Collection Information

Sample Collected with: disposable **Bailer**, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible **Pump**

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
<u>3</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>H-Cl</u>	<input checked="" type="checkbox"/> No	<u>VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.</u>
<u>2</u>	<u>40 mL</u>	<input type="checkbox"/> Glass	<u>H-Cl</u>	<input type="checkbox"/> No	<u>Methane, Ethane, Ethene, Acetylene</u>
<u>2</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Glass	<u>H₃PO₄</u>	<input checked="" type="checkbox"/> No	<u>TOCs</u>
<u>2</u>	<u>40 mL</u>	<input checked="" type="checkbox"/> Plastic	<u>none</u>	<input checked="" type="checkbox"/> No	<u>Sulfate</u>
<u>1</u>	<u>250 mL</u>	<input checked="" type="checkbox"/> Plastic	<u>N N O₃</u>	<input checked="" type="checkbox"/> No	<u>Total Metals (post inj. Cu & As)</u>
<u>1</u>	<u>250 mL</u>	<input checked="" type="checkbox"/> Plastic	<u>N N O₃</u>	<input checked="" type="checkbox"/> Yes	<u>Dissolved Metals (same as Total)</u>

Comments: Hach field test Fe++ = 1.6 mg/L

Signature: C. Hardy

Date: April 27, 2015

Continued on Back

BOEING Groundwater Sample ^{DUPL} Collection Form

Project Site: Dev. Ctr. Area: SWMU 17 CWA#7KDVCREM

Event: 2nd Quarter 2015 labor alco#1007645

50th Sample event

SAMPLE I D: BDC-05-24-150427 (yymmdd)

Collector: Charles Hardy

Date Collected: April/May 27, 2015 COC Time: 6:50

Well Information

Well I. D.: BDC-05-24 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 40 24.73 (ft.) historical or measured

Present Water Level: 12.0 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 24.73 ft - 12.0 ft = 12.73 ft x 0.658 Liters/ft = 8.38 Liters

Purge Rate: 4.8 l. + 20 min. = 0.240 Liters/minute

Begin Purge: 6:30 time

End Purge: 6:50 time

Volume Purged: 4.8 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
1"			0.170	0.140
2"		0.776	0.658	0.579
2.5"			0.942	0.833
4"		2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP (mV)	Other (waterlevel, turb)
632	= 300ml	16.0	183	1.25	6.45	-14	
634	= 350	16.1	178	0.70	6.37	-16	
636	= 1.3	16.1	174	0.42	6.33	-20	
639	= 2.1	16.1	171	0.25	6.29	-22	
640	= 2.3	16.1	169	0.26	6.27	-23	
642	= 2.3	16.2	167	0.28	6.27	-25	
644	= 3.3	16.2	161	0.16	6.24	-29	
646	= 3.3	16.2	157	0.10	6.25	-29	
648	= 4.3	16.2	158	0.09	6.23	-27	
650	= 4.8	16.2	158	0.08	6.22	-27	OK
652	=						
654	=						
6	=						
	=						

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

(11)

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
3	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	VOC 8260 PCE, TCE, cis-&trans-1,2-DCE, 1,1-DCE, & V.C.
2	40 mL	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	Methane, Ethane, Ethene, Acetylene
2	40 mL	<input checked="" type="checkbox"/> Glass	H3PO4	<input checked="" type="checkbox"/> No	TOCs
2	40 mL	<input checked="" type="checkbox"/> Plastic	none	<input checked="" type="checkbox"/> No	Sulfate
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> No	Total Metals (post inj. Cu & As)
1	250 mL	<input checked="" type="checkbox"/> Plastic	N N O3	<input checked="" type="checkbox"/> Yes	Dissolved Metals (same as Total)

Comments: Hach field test Fe++ = 0.8 mg/L

Signature: C.H. Hardy

Date: APRIL 27, 2015

Continued on Back

BOTTLE REQUEST FORM

Prepared by: Charles 'Duffy' Hardy **Project Name:** Boeing_DC: SWMU-17 s-ann
Client: Boeing EHS **Sampling Frequency:** Semi-annual **May, & Nov.**
Contact: Jim Bet (Boeing) / Clint Jacob (Landau) **Sampling Date:** ~April - 28th - 30th, 2015
Ship To: Charles 'Duffy' Hardy (206-290-6572) **Need By Date:** April 21st, 2015
 Boeing @ Western Processing Superfund
 20015 72nd Ave South
 Kent, WA 98032

of coolers: As needed **Labels?:** Provide loose labels
Trip Blanks?: 3 sets, three shipments **Boxed?:** No

No. Of Samples	Analysis Requested	Sample Matrix	Bottle Size	No. Bottles Per Sample	Preservative
24	VOC's EPA 8260 SHORT LIST*	Water	40-mL VOA	3	HCl
18	Dissolved Gases (methane, ethane, ethene, acetylene) by RSK-175	Water	40-mL VOA	2	HCl
24	Total Organic Carbon	Water	amber 40-mL	2	H ₃ PO ₄
24	Sulfate IC E300	Water	40-mL	2	None
24	Total & Dissolved Metals (As, Cu) (dissolved to be field filtered)	Water	250-mL HDPE	2	HNO ₃
Comments: *VOC's SHORT analyte LIST = V.C. PCE, TCE, cDCE well list see revised Landau Table 4 SWMU-17 (all wells) BDC-05-02, -03, -04, -05, -07, -08, -09, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22, -23, & BDC-05-24					



Client: 13419
The Boeing Company
Boeing_DC:SWMU-17 s-ann

Ship To:
Boeing
Boeing@ Western Process. Sfund
20015 72nd Ave South
Kent, WA 98032
Attn: Charles 'Duffy' Hardy

Do not overfill or rinse out any vials for TOC - Preservative will be lost.

Group: 1

Number of Sample Locations: 3

Sample Description
Trip Blank Water

QC Type
Trip Blank

<u>Count</u>	<u>Code</u>	<u>Description</u>	<u>Preservative</u>	<u>Analysis Name</u>	<u>Hold Time</u>
2	38	40 ml glass vial (GC/MS)	HCl	8260C Water(25ml) Master	14 days

If you have any questions, please contact your Client Service Representative, Kay Hower, at (717)656-2300 xCA

Date Needed:

04/17/2015

Pack By:

04/16/2015

Shipping Method:

Lab Drop Off

This order is:

Per your Request



Client: 13419
The Boeing Company
Boeing_DC:SWMU-17 s-ann

Ship To:
Boeing
Boeing@ Western Process. Sfund
20015 72nd Ave South
Kent, WA 98032
Attn: Charles 'Duffy' Hardy

Do not overfill or rinse out any vials for TOC - Preservative will be lost.

Group: 2

Number of Sample Locations: 18

One complete set of bottles listed below must be filled for each of the 18 sample location(s).

<u>Sample Description</u>	<u>QC Type</u>
BDC-05-02 Water	
BDC-05-07 Water	
BDC-05-09 Water	
BDC-05-10 Water	
BDC-05-11 Water	
BDC-05-12 Water	
BDC-05-13 Water	
BDC-05-14 Water	
BDC-05-15 Water	
BDC-05-16 Water	
BDC-05-17 Water	
BDC-05-03 Water	
BDC-05-18 Water	
BDC-05-19 Water	
BDC-05-20 Water	
BDC-05-21 Water	
BDC-05-24 Water	
BDC-05- Water	

<u>Count</u>	<u>Code</u>	<u>Description</u>	<u>Preservative</u>	<u>Analysis Name</u>	<u>Hold Time</u>
1	08	250 ml wide mouth plastic	HNO3	Arsenic	6 months
				Copper	6 months
3	38	40 ml glass vial (GC/MS)	HCl	8260C Water(25ml) Master	14 days
2	55	40 ml glass vial	None	Sulfate	28 days
2	57	40 ml glass vial	HCl	AMEE by RSK-175	14 days
2	91	40 ml amber vial	H3PO4	Total Organic Carbon	28 days

If you have any questions, please contact your Client Service Representative, Kay Hower, at (717)656-2300 xCA

Date Needed:

04/17/2015

Pack By:

04/16/2015

Shipping Method:

Lab Drop Off

This order is:

Per your Request



Client: 13419
The Boeing Company
Boeing_DC:SWMU-17 s-ann

Ship To:
Boeing
Boeing@ Western Process. Sfund
20015 72nd Ave South
Kent, WA 98032
Attn: Charles 'Duffy' Hardy

Do not overfill or rinse out any vials for TOC - Preservative will be lost.

Group: 3

Number of Sample Locations: 24

One complete set of bottles listed below must be filled for each of the 24 sample location(s).

<u>Sample Description</u>	<u>QC Type</u>
BDC-05-02 Dissolved Water	
BDC-05-07 Dissolved Water	
BDC-05-09 Dissolved Water	
BDC-05-10 Dissolved Water	
BDC-05-11 Dissolved Water	
BDC-05-12 Dissolved Water	
BDC-05-13 Dissolved Water	
BDC-05-14 Dissolved Water	
BDC-05-15 Dissolved Water	
BDC-05-16 Dissolved Water	
BDC-05-17 Dissolved Water	
BDC-05-03 Dissolved Water	
BDC-05-04 Dissolved Water	
BDC-05-05 Dissolved Water	
BDC-05-08 Dissolved Water	
BDC-05-18 Dissolved Water	
BDC-05-19 Dissolved Water	
BDC-05-20 Dissolved Water	
BDC-05-21 Dissolved Water	
BDC-05-22 Dissolved Water	
BDC-05-23 Dissolved Water	
BDC-05-24 Dissolved Water	
BDC-05- Dissolved Water	
BDC-05- Dissolved Water	

<u>Count</u>	<u>Code</u>	<u>Description</u>	<u>Preservative</u>	<u>Analysis Name</u>	<u>Hold Time</u>
1	08	250 ml wide mouth plastic	HNO3	Arsenic	6 months
				Copper	6 months

If you have any questions, please contact your Client Service Representative, Kay Hower, at (717)656-2300 xCA

Date Needed:

04/17/2015

Pack By:

04/16/2015

Shipping Method:

Lab Drop Off

This order is:

Per your Request



Client: 13419
The Boeing Company
Boeing_DC:SWMU-17 s-ann

Ship To:
Boeing
Boeing@ Western Process. Sfund
20015 72nd Ave South
Kent, WA 98032
Attn: Charles 'Duffy' Hardy

Do not overfill or rinse out any vials for TOC - Preservative will be lost.

Group: 4

Number of Sample Locations: 6
One complete set of bottles listed below must be filled for each of the 6 sample location(s).

<u>Sample Description</u>	<u>QC Type</u>
BDC-05-04 Water	
BDC-05-05 Water	
BDC-05-08 Water	
BDC-05-22 Water	
BDC-05-23 Water	
BDC-05- Water	

<u>Count</u>	<u>Code</u>	<u>Description</u>	<u>Preservative</u>	<u>Analysis Name</u>	<u>Hold Time</u>
1	08	250 ml wide mouth plastic	HNO3	Arsenic	6 months
				Copper	6 months
3	38	40 ml glass vial (GC/MS)	HCl	8260C Water(25ml) Master	14 days
2	55	40 ml glass vial	None	Sulfate	28 days
2	91	40 ml amber vial	H3PO4	Total Organic Carbon	28 days

Group: METALS QC

To ensure sufficient sample volume for all method required quality control, please fill the specially marked QC bottle(s) at five of your sample locations requiring Metals analysis.

<u>Count</u>	<u>Description</u>	<u>Preservative</u>
5	500 ml wide mouth plastic	HNO3

If you have any questions, please contact your Client Service Representative, Kay Hower, at (717)656-2300 xCA

Date Needed:

04/17/2015

Pack By:

04/16/2015

Shipping Method:

Lab Drop Off

This order is:

Per your Request



Client: 13419
The Boeing Company
Boeing_DC:SWMU-17 s-ann

Ship To:
Boeing
Boeing@ Western Process. Sfund
20015 72nd Ave South
Kent, WA 98032
Attn: Charles 'Duffy' Hardy

Do not overfill or rinse out any vials for TOC - Preservative will be lost.

Sample Acceptance Policy

Samples must be submitted in a manner that meets the criteria listed below. If these criteria are not met, the laboratory will contact the client to discuss how to proceed with testing. If the client decides to proceed with testing, a comment describing the variation will appear on the analytical report.

- Documentation must be complete and include: sample identification, the location, date and time of collection, collector's name or initials, preservation type, sample type, required analyses, and any special remarks concerning the sample.
- Proper sample labeling must include unique identification on a durable (water resistant) label using indelible ink.
- Samples must be collected in appropriate containers with sufficient volume to perform tests. The laboratory will provide appropriate bottleware.
- Samples must be shipped promptly to meet specified holding times with adequate packing materials to prevent damage during shipment and adequate wet ice to meet method temperature requirements (0-6°C, not frozen).

If you have any questions, please contact your Client Service Representative, Kay Hower, at (717)656-2300 xCA

Date Needed:

04/17/2015

Pack By:

04/16/2015

Shipping Method:

Lab Drop Off

This order is:

Per your Request

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

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

February 03, 2015

Project: Boeing_DC:SWMU-17 qrt

Submittal Date: 01/23/2015

Group Number: 1533426

State of Sample Origin: WA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
BDC-05-18-150121 Water	7749102
BDC-05-18-150121 Water	7749103
BDC-05-21-150121 Water	7749104
BDC-05-21-150121 Water	7749105
BDC-05-20-150121 Water	7749106
BDC-05-20-150121 Water	7749107
BDC-05-22-150121 Water	7749108
BDC-05-22-150121 Water	7749109
BDC-05-23-150121 Water	7749110
BDC-05-23-150121 Water	7749111
BDC-05-24-150121 Water	7749112
BDC-05-24-150121 Water	7749113
BDC-05-DUP-150121 Water	7749114
BDC-05-DUP-150121 Water	7749115
BDC-05-19-150121 Water	7749116
BDC-05-19-150121 Water	7749117
BDC-05-12-150121 Water	7749118
BDC-05-12-150121 Water	7749119
BDC-05-02-150121 Water	7749120
BDC-05-02-150121 Water	7749121
BDC-05-16-150121 Water	7749122
BDC-05-16-150121 Water	7749123
TRIP BLANK Water	7749124

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

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

ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen
ELECTRONIC COPY TO	Landau Associates	Attn: Terry McGourty
ELECTRONIC COPY TO	Landau	Attn: Clint Jacob
ELECTRONIC COPY TO	The Boeing Company	Attn: Jim Bet
ELECTRONIC COPY TO	The Boeing Company	Attn: Nancy Ballew
ELECTRONIC COPY TO	The Boeing Company	Attn: Paul Yount

Respectfully Submitted,



Kay Hower
Manager

(510) 232-8894

Project Name: Boeing_DC:SWMU-17 qrt
LL Group #: 1533426

General Comments:

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

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

Project specific QC samples are not included in this data set

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

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

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

Analysis Specific Comments:**RSKSOP-175 modified, GC Miscellaneous**

Batch #: 150300013A (Sample number(s): 7749103, 7749105, 7749107, 7749113, 7749115, 7749117, 7749119, 7749121, 7749123 UNSPK: P748736)

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

EPA 300.0, Wet Chemistry

Batch #: 15024667901A (Sample number(s): 7749103, 7749105, 7749107, 7749109, 7749111, 7749113, 7749115, 7749117, 7749119, 7749121 UNSPK: 7749103 BKG: 7749103)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Sulfate

Batch #: 15024667901B (Sample number(s): 7749123 UNSPK: 7749123 BKG: 7749123)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Sulfate

Sample Description: BDC-05-18-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749102
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 09:20 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BD518

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C			ug/l	ug/l	
11996	cis-1,2-Dichloroethene	156-59-2	1.5	0.2	1
11996	Tetrachloroethene	127-18-4	0.9	0.2	1
11996	Trichloroethene	79-01-6	1.1	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.	1.2	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H150293AA	01/29/2015 15:46	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H150293AA	01/29/2015 15:46	Jason M Long	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15029049501A	01/29/2015 04:09	James S Mathiot	1

Sample Description: BDC-05-18-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749103
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 09:20 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BV518

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	1,500 E		3.0	1
Trial ID: DL						
07105	Acetylene	74-86-2	10 U		10	10
07105	Ethane	74-84-0	10 U		10	10
07105	Ethene	74-85-1	10 U		10	10
07105	Methane	74-82-8	1,800		30	10
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	2.0		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	150300013A	01/30/2015 18:24	Nicholas R Rossi	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	150300013A	02/02/2015 17:45	Nicholas R Rossi	10
00228	Sulfate	EPA 300.0	1	15024667901A	01/24/2015 10:42	Clinton M Wilson	1

Sample Description: BDC-05-21-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749104
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 09:55 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BD521

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C			ug/l	ug/l	
11996	cis-1,2-Dichloroethene	156-59-2	1.1	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	3.5	0.2	1
Wet Chemistry SM 5310 C-2000			mg/l	mg/l	
00273	Total Organic Carbon	n.a.	6.3	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H150293AA	01/29/2015 16:07	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H150293AA	01/29/2015 16:07	Jason M Long	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15029049501A	01/29/2015 04:54	James S Mathiot	1

Sample Description: BDC-05-21-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749105
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 09:55 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BV521

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	2.2 J		1.0	1
07105	Methane	74-82-8	1,400 E		3.0	1
Trial ID: DL						
07105	Acetylene	74-86-2	10 U		10	10
07105	Ethane	74-84-0	10 U		10	10
07105	Ethene	74-85-1	10 U		10	10
07105	Methane	74-82-8	1,800		30	10
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	0.97 J		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	150300013A	01/30/2015 18:42	Nicholas R Rossi	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	150300013A	02/02/2015 18:04	Nicholas R Rossi	10
00228	Sulfate	EPA 300.0	1	15024667901A	01/24/2015 11:25	Clinton M Wilson	1

Sample Description: BDC-05-20-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749106
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 10:25 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BD520

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C			ug/l	ug/l	
11996	cis-1,2-Dichloroethene	156-59-2	0.5	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	3.8	0.2	1
Wet Chemistry SM 5310 C-2000			mg/l	mg/l	
00273	Total Organic Carbon	n.a.	13.8	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H150293AA	01/29/2015 16:28	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H150293AA	01/29/2015 16:28	Jason M Long	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15029049501A	01/29/2015 05:09	James S Mathiot	1

Sample Description: BDC-05-20-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749107
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 10:25 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BV520

CAT No.	Analysis Name	CAS Number	As Received Result		As Received 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	2.6	J	1.0	1
07105	Ethene	74-85-1	2.7	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	13,000		300	100
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	0.59	J	0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	150300013A	01/30/2015 19:01	Nicholas R Rossi	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	150300013A	02/02/2015 18:22	Nicholas R Rossi	100
00228	Sulfate	EPA 300.0	1	15024667901A	01/24/2015 11:39	Clinton M Wilson	1

Sample Description: BDC-05-22-150121 Water
Boeing_DC:SWMU-17 grt

LL Sample # WW 7749108
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 grt

Collected: 01/21/2015 11:05 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BD522

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C			ug/l	ug/l	
11996	cis-1,2-Dichloroethene	156-59-2	4.2	0.2	1
11996	Tetrachloroethene	127-18-4	0.2 U	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			mg/l	mg/l	
00273	Total Organic Carbon	n.a.	7.3	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H150293AA	01/29/2015 16:49	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H150293AA	01/29/2015 16:49	Jason M Long	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15029049501A	01/29/2015 05:24	James S Mathiot	1

Sample Description: BDC-05-22-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749109
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 11:05 by CH

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Seattle WA 98124

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BV522

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 1.2	mg/l 0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15024667901A	01/24/2015 11:53	Clinton M Wilson	1

Sample Description: BDC-05-23-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749110
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 11:35 by CH

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Seattle WA 98124

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BD523

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C			ug/l	ug/l	
11996	cis-1,2-Dichloroethene	156-59-2	2.8	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	1.7	0.2	1
Wet Chemistry SM 5310 C-2000			mg/l	mg/l	
00273	Total Organic Carbon	n.a.	9.5	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H150293AA	01/29/2015 17:10	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H150293AA	01/29/2015 17:10	Jason M Long	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15029049501A	01/29/2015 05:39	James S Mathiot	1

Sample Description: BDC-05-23-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749111
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 11:35 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BV523

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 0.66 J	mg/l 0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15024667901A	01/24/2015 12:07	Clinton M Wilson	1

Sample Description: BDC-05-24-150121 Water
Boeing_DC:SWMU-17 grt

LL Sample # WW 7749112
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 grt

Collected: 01/21/2015 12:10 by CH

The Boeing Company
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Seattle WA 98124

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BD524

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	cis-1,2-Dichloroethene	156-59-2	2.1	0.2	1
11996	Tetrachloroethene	127-18-4	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	0.4	0.2	1
11996	Vinyl Chloride	75-01-4	1.6	0.2	1
Wet Chemistry	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	3.8	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H150293AA	01/29/2015 17:31	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H150293AA	01/29/2015 17:31	Jason M Long	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15029049501A	01/29/2015 05:55	James S Mathiot	1

Sample Description: BDC-05-24-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749113
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 12:10 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BV524

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	2.5 J		1.0	1
07105	Methane	74-82-8	4,100 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	5,400		60	20
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	2.3		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	150300013A	01/30/2015 19:19	Nicholas R Rossi	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	150300013A	02/02/2015 19:00	Nicholas R Rossi	20
00228	Sulfate	EPA 300.0	1	15024667901A	01/24/2015 12:50	Clinton M Wilson	1

Sample Description: BDC-05-DUP-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749114
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 by CH

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Seattle WA 98124

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BD5FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260C	ug/l	ug/l	
11996	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	0.4	0.2	1
11996	Vinyl Chloride	75-01-4	1.5	0.2	1
Wet Chemistry	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	3.6	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H150293AA	01/29/2015 17:53	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H150293AA	01/29/2015 17:53	Jason M Long	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15029049501A	01/29/2015 06:26	James S Mathiot	1

Sample Description: BDC-05-DUP-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749115
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 by CH

The Boeing Company
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Seattle WA 98124

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BV5FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	2.6 J		1.0	1
07105	Methane	74-82-8	4,300 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	5,500		60	20
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	2.4		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	150300013A	01/30/2015 19:37	Nicholas R Rossi	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	150300013A	02/02/2015 19:18	Nicholas R Rossi	20
00228	Sulfate	EPA 300.0	1	15024667901A	01/24/2015 13:04	Clinton M Wilson	1

Sample Description: BDC-05-19-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749116
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 13:55 by CH

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PO Box 3707 MC 9U4-26
Seattle WA 98124

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BD519

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C			ug/l	ug/l	
11996	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	3.8	0.2	1
Wet Chemistry SM 5310 C-2000			mg/l	mg/l	
00273	Total Organic Carbon	n.a.	31.4	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H150293AA	01/29/2015 14:21	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H150293AA	01/29/2015 14:21	Jason M Long	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15029049501A	01/29/2015 06:41	James S Mathiot	1

Sample Description: BDC-05-19-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749117
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 13:55 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BV519

CAT No.	Analysis Name	CAS Number	As Received Result		As Received 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	4.0	J	1.0	1
07105	Ethene	74-85-1	1.3	J	1.0	1
07105	Methane	74-82-8	16,000	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	18,000		300	100
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	0.55	J	0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	150300013A	01/30/2015 19:56	Nicholas R Rossi	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	150300013A	02/02/2015 19:37	Nicholas R Rossi	100
00228	Sulfate	EPA 300.0	1	15024667901A	01/24/2015 13:18	Clinton M Wilson	1

Sample Description: BDC-05-12-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749118
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 14:25 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BD512

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C			ug/l	ug/l	
11996	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	2.8	0.2	1
Wet Chemistry SM 5310 C-2000			mg/l	mg/l	
00273	Total Organic Carbon	n.a.	22.6	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H150293AA	01/29/2015 14:42	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H150293AA	01/29/2015 14:42	Jason M Long	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15029049501A	01/29/2015 06:56	James S Mathiot	1

Sample Description: BDC-05-12-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749119
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 14:25 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BV512

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
GC Miscellaneous			RSKSOP-175 modified		ug/l	
07105	Acetylene	74-86-2	1.0	U	1.0	1
07105	Ethane	74-84-0	5.0		1.0	1
07105	Ethene	74-85-1	1.5	J	1.0	1
07105	Methane	74-82-8	16,000	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	17,000		300	100
Wet Chemistry			EPA 300.0		mg/l	
00228	Sulfate	14808-79-8	0.45	J	0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	150300013A	01/30/2015 20:14	Nicholas R Rossi	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	150300013A	02/02/2015 19:55	Nicholas R Rossi	100
00228	Sulfate	EPA 300.0	1	15024667901A	01/24/2015 13:32	Clinton M Wilson	1

Sample Description: BDC-05-02-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749120
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 14:55 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BD502

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C			ug/l	ug/l	
11996	cis-1,2-Dichloroethene	156-59-2	1.7	0.2	1
11996	Tetrachloroethene	127-18-4	1.2	0.2	1
11996	Trichloroethene	79-01-6	0.6	0.2	1
11996	Vinyl Chloride	75-01-4	1.7	0.2	1
Wet Chemistry SM 5310 C-2000			mg/l	mg/l	
00273	Total Organic Carbon	n.a.	40.0	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H150293AA	01/29/2015 15:03	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H150293AA	01/29/2015 15:03	Jason M Long	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15029049501A	01/29/2015 07:11	James S Mathiot	1

Sample Description: BDC-05-02-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749121
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 14:55 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BV502

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	4.7 J		1.0	1
07105	Ethene	74-85-1	1.0 U		1.0	1
07105	Methane	74-82-8	9,300 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
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	8.9		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	150300013A	01/30/2015 20:51	Nicholas R Rossi	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	150300013A	02/02/2015 20:14	Nicholas R Rossi	100
00228	Sulfate	EPA 300.0	1	15024667901A	01/24/2015 13:47	Clinton M Wilson	1

Sample Description: BDC-05-16-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749122
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 15:30 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BD516

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C			ug/l	ug/l	
11996	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	2.9	0.2	1
Wet Chemistry SM 5310 C-2000			mg/l	mg/l	
00273	Total Organic Carbon	n.a.	33.6	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H150293AA	01/29/2015 15:24	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H150293AA	01/29/2015 15:24	Jason M Long	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15029049501B	01/29/2015 07:27	James S Mathiot	1

Sample Description: BDC-05-16-150121 Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749123
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/21/2015 15:30 by CH

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BV516

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
GC Miscellaneous			RSKSOP-175 modified		ug/l	
07105	Acetylene	74-86-2	1.0	U	1.0	1
07105	Ethane	74-84-0	6.1		1.0	1
07105	Ethene	74-85-1	5.7		1.0	1
07105	Methane	74-82-8	18,000	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	21,000		300	100
Wet Chemistry			EPA 300.0		mg/l	
00228	Sulfate	14808-79-8	0.70	J	0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	150300013A	01/30/2015 21:09	Nicholas R Rossi	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	150300013A	02/02/2015 20:32	Nicholas R Rossi	100
00228	Sulfate	EPA 300.0	1	15024667901B	01/24/2015 14:01	Clinton M Wilson	1

Sample Description: TRIP BLANK Water
Boeing_DC:SWMU-17 qrt

LL Sample # WW 7749124
LL Group # 1533426
Account # 13419

Project Name: Boeing_DC:SWMU-17 qrt

Collected: 01/15/2015

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

Submitted: 01/23/2015 09:10

Reported: 02/03/2015 18:11

BD5TB

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H150293AA	01/29/2015 14:01	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H150293AA	01/29/2015 14:01	Jason M Long	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/03/15 at 06:11 PM

Group Number: 1533426

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

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

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H150293AA	Sample number(s): 7749102, 7749104, 7749106, 7749108, 7749110, 7749112, 7749114, 7749116, 7749118, 7749120, 7749122, 7749124							
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	102	101	80-120	1	30
Tetrachloroethene	0.2 U	0.2	ug/l	102	101	80-120	0	30
Trichloroethene	0.2 U	0.2	ug/l	99	98	80-120	1	30
Vinyl Chloride	0.2 U	0.2	ug/l	78	77	59-124	2	30

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 150300013A	Sample number(s): 7749103, 7749105, 7749107, 7749113, 7749115, 7749117, 7749119, 7749121, 7749123							
Acetylene	1.0 U	1.0	ug/l	121		75-125		
Ethane	1.0 U	1.0	ug/l	97		80-120		
Ethene	1.0 U	1.0	ug/l	97		80-120		
Methane	3.0 U	3.0	ug/l	99		80-120		

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 15029049501A	Sample number(s): 7749102, 7749104, 7749106, 7749108, 7749110, 7749112, 7749114, 7749116, 7749118, 7749120							
Total Organic Carbon	1.0 U	1.0	mg/l	102		91-113		
Batch number: 15029049501B	Sample number(s): 7749122							
Total Organic Carbon	1.0 U	1.0	mg/l	102		91-113		

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 15024667901A	Sample number(s): 7749103, 7749105, 7749107, 7749109, 7749111, 7749113, 7749115, 7749117, 7749119, 7749121							
Sulfate	0.30 U	0.30	mg/l	97	93	90-110	4	20
Batch number: 15024667901B	Sample number(s): 7749123							
Sulfate	0.30 U	0.30	mg/l	97	93	90-110	4	20

*- Outside of specification

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/03/15 at 06:11 PM

Group Number: 1533426

Sample Matrix Quality Control

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 150300013A	Sample number(s): 7749103, 7749105, 7749107, 7749113, 7749115, 7749117, 7749119, 7749121, 7749123 UNSPK: P748736								
Acetylene	98	98	75-125	0	20				
Ethane	78	73	34-153	3	20				
Ethene	124	131	35-162	6	20				
Methane	-2822 (2)	-7424 (2)	35-157	20	20				
Batch number: 15029049501A	Sample number(s): 7749102, 7749104, 7749106, 7749108, 7749110, 7749112, 7749114, 7749116, 7749118, 7749120 UNSPK: 7749102 BKG: 7749102								
Total Organic Carbon	106		63-142			1.2	1.1	3 (1)	4
Batch number: 15029049501B	Sample number(s): 7749122 UNSPK: 7749122 BKG: 7749122								
Total Organic Carbon	91		63-142			33.6	33.8	0	4
Batch number: 15024667901A	Sample number(s): 7749103, 7749105, 7749107, 7749109, 7749111, 7749113, 7749115, 7749117, 7749119, 7749121 UNSPK: 7749103 BKG: 7749103								
Sulfate	82*		90-110			2.0	1.8	8 (1)	20
Batch number: 15024667901B	Sample number(s): 7749123 UNSPK: 7749123 BKG: 7749123								
Sulfate	78*		90-110			0.70	J 0.68	J 4 (1)	20

Surrogate Quality Control

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

Analysis Name: 8260C VC, TCE, PCE, cis1,2-DCE
Batch number: H150293AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7749102	104	103	96	93
7749104	106	103	97	94
7749106	104	104	96	95
7749108	104	102	96	92
7749110	105	101	97	93
7749112	106	107	96	93
7749114	106	105	96	92
7749116	104	104	95	94
7749118	103	102	97	95
7749120	103	101	96	94
7749122	105	104	96	94
7749124	103	103	97	94
Blank	102	103	95	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.

Quality Control Summary

Client Name: The Boeing Company
Reported: 02/03/15 at 06:11 PM

Group Number: 1533426

Surrogate Quality Control

LCS	101	99	97	100
LCSD	101	98	98	99
Limits:	77-114	74-113	77-110	78-110

Analysis Name: AMEE by RSK-175

Batch number: 150300013A

Propene

7749103	81
7749103	90
DL	
7749105	78
7749105	88
DL	
7749107	75
7749107	92
DL	
7749113	82
7749113	94
DL	
7749115	81
7749115	91
DL	
7749117	74
7749117	89
DL	
7749119	80
7749119	90
DL	
7749121	72
7749121	88
DL	
7749123	69
7749123	92
DL	
Blank	97
LCS	101
MS	56
MSD	66

Limits: 47-116

*- Outside of specification

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

Client: Boeing
Delivery and Receipt Information

Delivery Method:	<u>Fed Ex</u>	Arrival Timestamp:	<u>01/23/2015 9:10</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:	4
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Brandy Barclay (2299) at 11:37 on 01/23/2015

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	DT146	0.8	DT	Wet	Y	Bagged	N

G#1533426

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1 From
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→ Sign within this area. Please do not remove.	Other	Total Charges
By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.		

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M-10091 Rev. 3/10

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

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Form ID
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1
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Explanation of Symbols and Abbreviations

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

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

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \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...

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

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

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

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

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

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

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ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

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

May 08, 2015

Project: Boeing_DC:SWMU-17 s-ann

Submittal Date: 04/29/2015

Group Number: 1557098

State of Sample Origin: WA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
BDC-05-17-150426 Water	7866177
BDC-05-17-150426 Water	7866178
BDC-05-17-150426 Total Metals Water	7866179
BDC-05-17-150426 Total Metals Water	7866180
BDC-05-17-150426 Dissolved Metals Water	7866181
BDC-05-17-150426 Dissolved Metals Water	7866182
BDC-05-16-150426 Water	7866183
BDC-05-16-150426 Water	7866184
BDC-05-16-150426 Total Metals Water	7866185
BDC-05-16-150426 Total Metals Water	7866186
BDC-05-16-150426 Dissolved Metals Water	7866187
BDC-05-16-150426 Dissolved Metals Water	7866188
BDC-05-18-150426 Water	7866189
BDC-05-18-150426 Water	7866190
BDC-05-18-150426 Total Metals Water	7866191
BDC-05-18-150426 Total Metals Water	7866192
BDC-05-18-150426 Dissolved Metals Water	7866193
BDC-05-18-150426 Dissolved Metals Water	7866194
BDC-05-20-150426 Water	7866195
BDC-05-20-150426 Water	7866196
BDC-05-20-150426 Total Metals Water	7866197
BDC-05-20-150426 Total Metals Water	7866198
BDC-05-20-150426 Dissolved Metals Water	7866199
BDC-05-20-150426 Dissolved Metals Water	7866200
BDC-05-21-150427 Water	7866201
BDC-05-21-150427 Water	7866202
BDC-05-21-150427 Total Metals Water	7866203
BDC-05-21-150427 Total Metals Water	7866204
BDC-05-21-150427 Dissolved Metals Water	7866205
BDC-05-21-150427 Dissolved Metals Water	7866206
BDC-05-22-150427 Water	7866207
BDC-05-22-150427 Water	7866208
BDC-05-22-150427 Total Metals Water	7866209

BDC-05-22-150427 Total Metals Water	7866210
BDC-05-22-150427 Dissolved Metals Water	7866211
BDC-05-22-150427 Dissolved Metals Water	7866212
BDC-05-23-150427 Water	7866213
BDC-05-23-150427 Water	7866214
BDC-05-23-150427 Total Metals Water	7866215
BDC-05-23-150427 Total Metals Water	7866216
BDC-05-23-150427 Dissolved Metals Water	7866217
BDC-05-23-150427 Dissolved Metals Water	7866218
BDC-05-24-150427 Water	7866219
BDC-05-24-150427 Water	7866220
BDC-05-24-150427 Total Metals Water	7866221
BDC-05-24-150427 Total Metals Water	7866222
BDC-05-24-150427 Dissolved Metals Water	7866223
BDC-05-24-150427 Dissolved Metals Water	7866224
BDC-05-14-150427 Water	7866225
BDC-05-14-150427 Water	7866226
BDC-05-14-150427 Total Metals Water	7866227
BDC-05-14-150427 Total Metals Water	7866228
BDC-05-14-150427 Dissolved Metals Water	7866229
BDC-05-14-150427 Dissolved Metals Water	7866230
BDC-05-13-150427 Water	7866231
BDC-05-13-150427 Water	7866232
BDC-05-13-150427 Total Metals Water	7866233
BDC-05-13-150427 Total Metals Water	7866234
BDC-05-13-150427 Dissolved Metals Water	7866235
BDC-05-13-150427 Dissolved Metals Water	7866236
BDC-05-19-150427 Water	7866237
BDC-05-19-150427 Water	7866238
BDC-05-19-150427 Total Metals Water	7866239
BDC-05-19-150427 Total Metals Water	7866240
BDC-05-19-150427 Dissolved Metals Water	7866241
BDC-05-19-150427 Dissolved Metals Water	7866242
BDC-05-15-150427 Water	7866243
BDC-05-15-150427 Water	7866244
BDC-05-15-150427 Total Metals Water	7866245
BDC-05-15-150427 Total Metals Water	7866246
BDC-05-15-150427 Dissolved Metals Water	7866247
BDC-05-15-150427 Dissolved Metals Water	7866248
BDC-05-12-150427 Water	7866249
BDC-05-12-150427 Water	7866250
BDC-05-12-150427 Total Metals Water	7866251
BDC-05-12-150427 Total Metals Water	7866252
BDC-05-12-150427 Dissolved Metals Water	7866253
BDC-05-12-150427 Dissolved Metals Water	7866254
BDC-05-11-150427 Water	7866255
BDC-05-11-150427 Water	7866256
BDC-05-11-150427 Total Metals Water	7866257
BDC-05-11-150427 Total Metals Water	7866258
BDC-05-11-150427 Dissolved Metals Water	7866259
BDC-05-11-150427 Dissolved Metals Water	7866260
BDC-DUPI-150427 Water	7866261

BDC-DUP1-150427 Water	7866262
BDC-DUP1-150427 Total Metals Water	7866263
BDC-DUP1-150427 Total Metals Water	7866264
BDC-DUP1-150427 Dissolved Metals Water	7866265
BDC-DUP1-150427 Dissolved Metals Water	7866266
BDC-05-10-150427 Water	7866267
BDC-05-10-150427 Water	7866268
BDC-05-10-150427 Total Metals Water	7866269
BDC-05-10-150427 Total Metals Water	7866270
BDC-05-10-150427 Dissolved Metals Water	7866271
BDC-05-10-150427 Dissolved Metals Water	7866272
BDC-05-09-150427 Water	7866273
BDC-05-09-150427 Water	7866274
BDC-05-09-150427 Total Metals Water	7866275
BDC-05-09-150427 Total Metals Water	7866276
BDC-05-09-150427 Dissolved Metals Water	7866277
BDC-05-09-150427 Dissolved Metals Water	7866278
BDC-05-08-150427 Water	7866279
BDC-05-08-150427 Water	7866280
BDC-05-08-150427 Total Metals Water	7866281
BDC-05-08-150427 Total Metals Water	7866282
BDC-05-08-150427 Dissolved Metals Water	7866283
BDC-05-08-150427 Dissolved Metals Water	7866284
BDC-05-03-150427 Water	7866285
BDC-05-03-150427 Water	7866286
BDC-05-03-150427 Total Metals Water	7866287
BDC-05-03-150427 Total Metals Water	7866288
BDC-05-03-150427 Dissolved Metals Water	7866289
BDC-05-03-150427 Dissolved Metals Water	7866290
BDC-05-07-150427 Water	7866291
BDC-05-07-150427 Water	7866292
BDC-05-07-150427 Total Metals Water	7866293
BDC-05-07-150427 Total Metals Water	7866294
BDC-05-07-150427 Dissolved Metals Water	7866295
BDC-05-07-150427 Dissolved Metals Water	7866296
BDC-05-02-150427 Water	7866297
BDC-05-02-150427 Water	7866298
BDC-05-02-150427 Total Metals Water	7866299
BDC-05-02-150427 Total Metals Water	7866300
BDC-05-02-150427 Dissolved Metals Water	7866301
BDC-05-02-150427 Dissolved Metals Water	7866302
BDC-05-04-150427 Water	7866303
BDC-05-04-150427 Water	7866304
BDC-05-04-150427 Total Metals Water	7866305
BDC-05-04-150427 Total Metals Water	7866306
BDC-05-04-150427 Dissolved Metals Water	7866307
BDC-05-04-150427 Dissolved Metals Water	7866308
BDC-05-05-150427 Water	7866309
BDC-05-05-150427 Water	7866310
BDC-05-05-150427 Total Metals Water	7866311
BDC-05-05-150427 Total Metals Water	7866312
BDC-05-05-150427 Dissolved Metals Water	7866313

BDC-05-05-150427 Dissolved Metals Water	7866314
BDC-DUP2-150427 Water	7866315
BDC-DUP2-150427 Water	7866316
BDC-DUP2-150427 Total Metals Water	7866317
BDC-DUP2-150427 Total Metals Water	7866318
BDC-DUP2-150427 Dissolved Metals Water	7866319
BDC-DUP2-150427 Dissolved Metals Water	7866320
Trip Blank Water	7866321

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

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

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

Respectfully Submitted,



Kay Hower
Manager

(510) 672-3979

Project Name: Boeing_DC:SWMU-17 s-ann
LL Group #: 1557098

General Comments:

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

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

Project specific QC samples are not included in this data set

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

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

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

Analysis Specific Comments:**RSKSOP-175 modified, GC Miscellaneous**

Batch #: 151210020A (Sample number(s): 7866178, 7866184, 7866190, 7866196, 7866202, 7866220, 7866226, 7866232, 7866238, 7866244, 7866250, 7866256, 7866262, 7866268, 7866274, 7866286, 7866292, 7866298, 7866316 UNSPK: 7866190)

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

Batch #: 151240002A (Sample number(s): 7866321 UNSPK: P869032)

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

EPA 200.8 rev 5.4, Metals

Batch #: 151197050008A (Sample number(s): 7866193-7866194, 7866197-7866200, 7866203-7866206 UNSPK: 7866193 BKG: 7866193)

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

EPA 200.8 rev 5.4, Metals Dissolved

Batch #: 151197050008A (Sample number(s): 7866193-7866194, 7866197-7866200, 7866203-7866206 UNSPK: 7866193 BKG: 7866193)

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

SM 5310 C-2000, Wet Chemistry

Batch #: 15120049503B (Sample number(s): 7866177, 7866183, 7866189, 7866195, 7866201, 7866207 UNSPK: P866013 BKG: P866013)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Total Organic Carbon

Sample Description: BDC-05-17-150426 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866177
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 15:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-17

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	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	1.5	0.2	1
Wet Chemistry SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	29.0	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 12:25	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 12:25	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049503B	04/30/2015 10:09	James S Mathiot	1

Sample Description: BDC-05-17-150426 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866178
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 15:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0517S

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	3.0 J		1.0	1
07105	Ethene	74-85-1	2.7 J		1.0	1
07105	Methane	74-82-8	19,000 E		3.0	1
Trial ID: DL						
07105	Acetylene	74-86-2	200 U		200	200
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	0.30 U		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 14:49	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 11:36	Tracy A Cole	200
00228	Sulfate	EPA 300.0	1	15119987602A	04/30/2015 01:08	Clinton M Wilson	1

Sample Description: BDC-05-17-150426 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866179
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 15:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0040	0.0020	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151197050007A	05/04/2015 04:12	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050007	04/30/2015 10:23	James L Mertz	1

Sample Description: BDC-05-17-150426 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866180
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 15:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0391	0.00082	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151197050007A	05/04/2015 04:20	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050007	04/30/2015 10:23	James L Mertz	1

Sample Description: BDC-05-17-150426 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866181
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 15:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151197050007A	05/04/2015 04:22	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050007	04/30/2015 10:23	James L Mertz	1

Sample Description: BDC-05-17-150426 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866182
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 15:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0323	mg/l 0.00082	1

General 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	151197050007A	05/04/2015 04:24	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050007	04/30/2015 10:23	James L Mertz	1

Sample Description: BDC-05-16-150426 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866183
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 16:10 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-16

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	2.3	0.2	1
Wet Chemistry		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	23.8	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 12:46	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 12:46	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049503B	04/30/2015 10:24	James S Mathiot	1

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Sample Description: BDC-05-16-150426 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866184
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 16:10 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0516S

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	5.7		1.0	1
07105	Ethene	74-85-1	2.4 J		1.0	1
07105	Methane	74-82-8	19,000 E		3.0	1
Trial ID: DL						
07105	Acetylene	74-86-2	200 U		200	200
07105	Ethane	74-84-0	200 U		200	200
07105	Ethene	74-85-1	200 U		200	200
07105	Methane	74-82-8	22,000		600	200
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	0.30 U		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 15:05	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 11:53	Tracy A Cole	200
00228	Sulfate	EPA 300.0	1	15119987602A	04/30/2015 01:24	Clinton M Wilson	1

Sample Description: BDC-05-16-150426 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866185
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 16:10 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0024	0.0020	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151197050007A	05/04/2015 04:29	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050007	04/30/2015 10:23	James L Mertz	1

Sample Description: BDC-05-16-150426 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866186
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 16:10 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0478	0.00082	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151197050007A	05/04/2015 04:30	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050007	04/30/2015 10:23	James L Mertz	1

Sample Description: BDC-05-16-150426 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866187
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 16:10 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151197050007A	05/04/2015 04:32	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050007	04/30/2015 10:23	James L Mertz	1

Sample Description: BDC-05-16-150426 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866188
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 16:10 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0458	mg/l 0.00082	1

General 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	151197050007A	05/04/2015 04:34	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050007	04/30/2015 10:23	James L Mertz	1

Sample Description: BDC-05-18-150426 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866189
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 16:55 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-18

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	1	0.2	1
11996	Tetrachloroethene	127-18-4	0.8	0.2	1
11996	Trichloroethene	79-01-6	2.0	0.2	1
11996	Vinyl Chloride	75-01-4	0.3	0.2	1
Wet Chemistry SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	4.1	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 13:08	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 13:08	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049503B	04/30/2015 10:39	James S Mathiot	1

Sample Description: BDC-05-18-150426 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866190
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 16:55 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0518S

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	940 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	950	15	5
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00228	Sulfate	14808-79-8	3.6	0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 15:22	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 12:10	Tracy A Cole	5
00228	Sulfate	EPA 300.0	1	15119987602A	04/29/2015 23:46	Clinton M Wilson	1

Sample Description: BDC-05-18-150426 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866191
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 16:55 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151197050007A	05/04/2015 04:35	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050007	04/30/2015 10:23	James L Mertz	1

Sample Description: BDC-05-18-150426 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866192
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 16:55 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0272	0.00082	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151197050007A	05/04/2015 04:37	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050007	04/30/2015 10:23	James L Mertz	1

Sample Description: BDC-05-18-150426 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866193
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 16:55 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151197050008A	05/04/2015 15:18	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050008	04/30/2015 10:29	James L Mertz	1

Sample Description: BDC-05-18-150426 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866194
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 16:55 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0038	mg/l 0.00040	1

General 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	151197050008A	05/04/2015 15:26	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050008	04/30/2015 10:29	James L Mertz	1

Sample Description: BDC-05-20-150426 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866195
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 17:25 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-20

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	6.9	0.2	1
Wet Chemistry SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	11.4	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 13:29	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 13:29	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049503B	04/30/2015 11:11	James S Mathiot	1

Sample Description: BDC-05-20-150426 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866196
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 17:25 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0520S

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	4.8 J		1.0	1
07105	Methane	74-82-8	13,000 E		3.0	1
Trial ID: DL						
07105	Acetylene	74-86-2	200 U		200	200
07105	Ethane	74-84-0	200 U		200	200
07105	Ethene	74-85-1	200 U		200	200
07105	Methane	74-82-8	14,000		600	200
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	0.30 U		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 16:13	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 12:26	Tracy A Cole	200
00228	Sulfate	EPA 300.0	1	15119987602A	04/30/2015 01:40	Clinton M Wilson	1

Sample Description: BDC-05-20-150426 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866197
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 17:25 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151197050008A	05/04/2015 15:28	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050008	04/30/2015 10:29	James L Mertz	1

Sample Description: BDC-05-20-150426 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866198
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 17:25 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals					
06025	Arsenic	EPA 200.8 rev 5.4 7440-38-2	mg/l 0.0276	mg/l 0.00040	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151197050008A	05/04/2015 15:30	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050008	04/30/2015 10:29	James L Mertz	1

Sample Description: BDC-05-20-150426 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866199
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 17:25 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151197050008A	05/04/2015 15:35	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050008	04/30/2015 10:29	James L Mertz	1

Sample Description: BDC-05-20-150426 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866200
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/26/2015 17:25 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0230	mg/l 0.00040	1

General 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	151197050008A	05/04/2015 15:37	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050008	04/30/2015 10:29	James L Mertz	1

Sample Description: BDC-05-21-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866201
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 05:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-21

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	1.5	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	4.4	0.2	1
Wet Chemistry SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	5.4	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 13:50	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 13:50	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049503B	04/30/2015 11:26	James S Mathiot	1

Sample Description: BDC-05-21-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866202
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 05:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0521S

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	2.7 J	1.0	1
07105	Methane	74-82-8	4,400 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	4,800	300	100
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00228	Sulfate	14808-79-8	1.9	0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 16:30	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 12:43	Tracy A Cole	100
00228	Sulfate	EPA 300.0	1	15119987602A	04/30/2015 01:57	Clinton M Wilson	1

Sample Description: BDC-05-21-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866203
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 05:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151197050008A	05/04/2015 15:39	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050008	04/30/2015 10:29	James L Mertz	1

Sample Description: BDC-05-21-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866204
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 05:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0129	0.00040	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151197050008A	05/04/2015 15:41	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050008	04/30/2015 10:29	James L Mertz	1

Sample Description: BDC-05-21-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866205
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 05:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151197050008A	05/04/2015 15:42	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050008	04/30/2015 10:29	James L Mertz	1

Sample Description: BDC-05-21-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866206
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 05:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0111	mg/l 0.00040	1

General 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	151197050008A	05/04/2015 15:44	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151197050008	04/30/2015 10:29	James L Mertz	1

Sample Description: BDC-05-22-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866207
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 05:35 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-22

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	4.2	0.2	1
11996	Tetrachloroethene	127-18-4	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	0.5	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.	5.2	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 14:12	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 14:12	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049503B	04/30/2015 11:42	James S Mathiot	1

Sample Description: BDC-05-22-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866208
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 05:35 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0522S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
00228	Sulfate	14808-79-8	0.30 U	0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15119987602A	04/30/2015 02:13	Clinton M Wilson	1

Sample Description: BDC-05-22-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866209
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 05:35 by CH

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PO Box 3707 MC 9U4-26
Seattle WA 98124

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0037	0.0020	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050003A	05/04/2015 15:12	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050003	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-22-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866210
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 05:35 by CH

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PO Box 3707 MC 9U4-26
Seattle WA 98124

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals					
06025	Arsenic	EPA 200.8 rev 5.4 7440-38-2	mg/l 0.0252	mg/l 0.00082	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050003A	05/04/2015 15:20	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050003	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-22-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 786211
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 05:35 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050003A	05/04/2015 15:22	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050003	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-22-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866212
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 05:35 by CH

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PO Box 3707 MC 9U4-26
Seattle WA 98124

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0263	mg/l 0.00082	1

General 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	151207050003A	05/04/2015 15:23	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050003	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-23-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866213
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 06:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-23

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	2.9	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	2.4	0.2	1
Wet Chemistry SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	7.5	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 14:33	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 14:33	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504A	04/30/2015 12:27	James S Mathiot	1

Sample Description: BDC-05-23-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866214
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 06:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0523S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 0.74 J	mg/l 0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15119987602A	04/30/2015 02:29	Clinton M Wilson	1

Sample Description: BDC-05-23-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866215
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 06:05 by CH

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PO Box 3707 MC 9U4-26
Seattle WA 98124

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050003A	05/04/2015 15:28	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050003	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-23-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866216
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 06:05 by CH

The Boeing Company
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Seattle WA 98124

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0216	0.00082	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050003A	05/04/2015 15:30	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050003	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-23-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866217
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 06:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050003A	05/04/2015 15:32	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050003	05/03/2015 22:00	Annamaria Kuhns	1

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Sample Description: BDC-05-23-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866218
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 06:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0209	mg/l 0.00082	1

General 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	151207050003A	05/04/2015 15:33	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050003	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-24-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866219
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 06:50 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-24

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	0.9	0.2	1
11996	Tetrachloroethene	127-18-4	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	0.5	0.2	1
11996	Vinyl Chloride	75-01-4	2.5	0.2	1
Wet Chemistry	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	3.2	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 14:54	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 14:54	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504A	04/30/2015 13:13	James S Mathiot	1

Sample Description: BDC-05-24-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866220
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 06:50 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0524S

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	2.5 J		1.0	1
07105	Methane	74-82-8	2,800 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	3,200		150	50
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	0.97 J		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 16:46	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 13:00	Tracy A Cole	50
00228	Sulfate	EPA 300.0	1	15119987602A	04/30/2015 02:45	Clinton M Wilson	1

Sample Description: BDC-05-24-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866221
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 06:50 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050003A	05/04/2015 15:35	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050003	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-24-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866222
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 06:50 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals					
06025	Arsenic	EPA 200.8 rev 5.4 7440-38-2	mg/l 0.0028	mg/l 0.00082	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050003A	05/04/2015 15:37	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050003	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-24-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866223
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 06:50 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050004A	05/04/2015 14:08	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050004	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-24-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866224
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 06:50 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0028	mg/l 0.00082	1

General 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	151207050004A	05/04/2015 14:16	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050004	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-14-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866225
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 07:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-14

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	1.6	0.2	1
Wet Chemistry SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	18.9	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 15:16	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 15:16	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504A	04/30/2015 13:28	James S Mathiot	1

Sample Description: BDC-05-14-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866226
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 07:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0514S

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	1.1 J		1.0	1
07105	Ethene	74-85-1	1.0 U		1.0	1
07105	Methane	74-82-8	9,800 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	1.8		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 17:20	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 13:17	Tracy A Cole	100
00228	Sulfate	EPA 300.0	1	15119987602A	04/30/2015 03:02	Clinton M Wilson	1

Sample Description: BDC-05-14-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866227
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 07:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050004A	05/04/2015 14:18	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050004	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-14-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866228
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 07:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.00082	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050004A	05/04/2015 14:20	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050004	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-14-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866229
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 07:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050004A	05/04/2015 14:25	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050004	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-14-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866230
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 07:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0153	mg/l 0.00082	1

General 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	151207050004A	05/04/2015 14:27	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050004	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-13-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866231
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 08:00 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-13

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	1.9	0.2	1
Wet Chemistry		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	8.9	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 15:37	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 15:37	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504A	04/30/2015 17:21	James S Mathiot	1

Sample Description: BDC-05-13-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866232
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 08:00 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0513S

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	2.5 J	1.0	1
07105	Methane	74-82-8	11,000 E	3.0	1
Trial ID: DL					
07105	Acetylene	74-86-2	200 U	200	200
07105	Ethane	74-84-0	200 U	200	200
07105	Ethene	74-85-1	200 U	200	200
07105	Methane	74-82-8	12,000	600	200
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00228	Sulfate	14808-79-8	0.30 U	0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 17:37	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 13:34	Tracy A Cole	200
00228	Sulfate	EPA 300.0	1	15119987602A	04/30/2015 03:18	Clinton M Wilson	1

Sample Description: BDC-05-13-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866233
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 08:00 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050004A	05/04/2015 14:29	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050004	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-13-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866234
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 08:00 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals					
06025	Arsenic	EPA 200.8 rev 5.4 7440-38-2	mg/l 0.0193	mg/l 0.00082	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050004A	05/04/2015 14:30	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050004	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-13-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866235
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 08:00 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050004A	05/04/2015 14:32	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050004	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-13-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866236
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 08:00 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0183	mg/l 0.00082	1

General 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	151207050004A	05/04/2015 14:34	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050004	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-19-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866237
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 08:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-19

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	1.6	0.2	1
Wet Chemistry		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	20.1	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 15:59	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 15:59	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504A	04/30/2015 17:36	James S Mathiot	1

Sample Description: BDC-05-19-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866238
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 08:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0519S

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	3.5 J		1.0	1
07105	Ethene	74-85-1	1.0 U		1.0	1
07105	Methane	74-82-8	16,000 E		3.0	1
Trial ID: DL						
07105	Acetylene	74-86-2	200 U		200	200
07105	Ethane	74-84-0	200 U		200	200
07105	Ethene	74-85-1	200 U		200	200
07105	Methane	74-82-8	19,000		600	200
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	0.30 U		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 17:54	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 13:51	Tracy A Cole	200
00228	Sulfate	EPA 300.0	1	15119987602B	04/30/2015 04:56	Clinton M Wilson	1

Sample Description: BDC-05-19-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866239
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 08:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0055	0.0020	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050005A	05/04/2015 12:35	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050005	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-19-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866240
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 08:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0313	0.00040	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050005A	05/04/2015 12:44	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050005	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-19-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866241
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 08:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050005A	05/04/2015 12:45	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050005	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-19-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866242
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 08:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0225	mg/l 0.00040	1

General 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	151207050005A	05/04/2015 12:47	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050005	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-15-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866243
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 09:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-15

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	1.9	0.2	1
Wet Chemistry		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	25.6	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 16:20	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 16:20	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504A	04/30/2015 17:51	James S Mathiot	1

Sample Description: BDC-05-15-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866244
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 09:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0515S

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	5.1		1.0	1
07105	Ethene	74-85-1	3.2 J		1.0	1
07105	Methane	74-82-8	17,000 E		3.0	1
Trial ID: DL						
07105	Acetylene	74-86-2	200 U		200	200
07105	Ethane	74-84-0	200 U		200	200
07105	Ethene	74-85-1	200 U		200	200
07105	Methane	74-82-8	18,000		600	200
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	0.30 U		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 18:10	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 14:07	Tracy A Cole	200
00228	Sulfate	EPA 300.0	1	15119987602B	04/30/2015 05:12	Clinton M Wilson	1

Sample Description: BDC-05-15-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866245
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 09:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050005A	05/04/2015 12:53	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050005	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-15-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866246
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 09:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0555	0.00040	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050005A	05/04/2015 12:54	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050005	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-15-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866247
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 09:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050005A	05/04/2015 12:56	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050005	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-15-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866248
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 09:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0522	mg/l 0.00040	1

General 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	151207050005A	05/04/2015 12:58	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050005	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-12-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866249
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 09:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-12

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	1.4	0.2	1
Wet Chemistry		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	13.2	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 16:42	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 16:42	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504A	04/30/2015 18:07	James S Mathiot	1

Sample Description: BDC-05-12-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866250
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 09:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0512S

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	2.2 J		1.0	1
07105	Ethene	74-85-1	1.2 J		1.0	1
07105	Methane	74-82-8	17,000 E		3.0	1
Trial ID: DL						
07105	Acetylene	74-86-2	200 U		200	200
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	0.30 U		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 18:27	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 14:41	Tracy A Cole	200
00228	Sulfate	EPA 300.0	1	15119987602B	04/30/2015 05:28	Clinton M Wilson	1

Sample Description: BDC-05-12-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866251
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 09:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050005A	05/04/2015 13:00	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050005	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-12-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866252
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 09:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0168	0.00040	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050005A	05/04/2015 13:01	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050005	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-12-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866253
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 09:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050006A	05/04/2015 16:16	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050006	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-12-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866254
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 09:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0170	mg/l 0.00082	1

General 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	151207050006A	05/04/2015 16:24	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050006	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-11-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866255
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 10:20 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-11

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	3.5	0.2	1
Wet Chemistry		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	7.6	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 17:03	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 17:03	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504A	04/30/2015 18:22	James S Mathiot	1

Sample Description: BDC-05-11-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866256
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 10:20 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0511S

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	2.1 J		1.0	1
07105	Methane	74-82-8	5,500 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	6,200		300	100
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	0.81 J		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 18:44	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 14:58	Tracy A Cole	100
00228	Sulfate	EPA 300.0	1	15119987602B	04/30/2015 05:44	Clinton M Wilson	1

Sample Description: BDC-05-11-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866257
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 10:20 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050006A	05/04/2015 16:26	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050006	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-11-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866258
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 10:20 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0186	0.00082	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050006A	05/04/2015 16:28	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050006	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-11-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866259
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 10:20 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050006A	05/04/2015 16:33	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050006	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-11-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866260
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 10:20 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0172	mg/l 0.00082	1

General 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	151207050006A	05/04/2015 16:34	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050006	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-DUP1-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866261
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05DU1

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	0.9	0.2	1
11996	Tetrachloroethene	127-18-4	0.2 U	0.2	1
11996	Trichloroethene	79-01-6	0.5	0.2	1
11996	Vinyl Chloride	75-01-4	2.5	0.2	1
Wet Chemistry	SM 5310 C-2000		mg/l	mg/l	
00273	Total Organic Carbon	n.a.	3.0	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 17:25	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 17:25	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504A	04/30/2015 14:00	James S Mathiot	1

Sample Description: BDC-DUP1-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866262
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05D1S

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	1.1 J		1.0	1
07105	Ethene	74-85-1	2.8 J		1.0	1
07105	Methane	74-82-8	2,800 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	3,200		150	50
Wet Chemistry						
		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	0.93 J		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 19:01	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 15:15	Tracy A Cole	50
00228	Sulfate	EPA 300.0	1	15119987602B	04/30/2015 06:01	Clinton M Wilson	1

Sample Description: BDC-DUP1-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866263
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 by CH

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Seattle WA 98124

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050006A	05/04/2015 16:36	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050006	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-DUP1-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866264
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 by CH

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PO Box 3707 MC 9U4-26
Seattle WA 98124

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0024	0.00082	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050006A	05/04/2015 16:38	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050006	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-DUP1-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866265
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 by CH

The Boeing Company
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Seattle WA 98124

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050006A	05/04/2015 16:39	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050006	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-DUP1-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866266
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0021	mg/l 0.00082	1

General 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	151207050006A	05/04/2015 16:41	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050006	05/03/2015 22:00	Annamaria Kuhns	1

Sample Description: BDC-05-10-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866267
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 10:55 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-10

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	2.9	0.2	1
Wet Chemistry		SM 5310 C-2000	mg/l	mg/l	
00273	Total Organic Carbon	n.a.	10.3	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 17:46	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 17:46	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504A	04/30/2015 14:16	James S Mathiot	1

Sample Description: BDC-05-10-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866268
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 10:55 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0510S

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	8.3	1.0	1
07105	Ethene	74-85-1	7.2	1.0	1
07105	Methane	74-82-8	13,000 E	3.0	1
Trial ID: REDL					
07105	Acetylene	74-86-2	200 U	200	200
07105	Ethane	74-84-0	200 U	200	200
07105	Ethene	74-85-1	200 U	200	200
07105	Methane	74-82-8	14,000	600	200
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00228	Sulfate	14808-79-8	0.30 U	0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 19:18	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-RED L	151210020A	05/05/2015 12:03	Tracy A Cole	200
00228	Sulfate	EPA 300.0	1	15119987602B	04/30/2015 06:17	Clinton M Wilson	1

Sample Description: BDC-05-10-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866269
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 10:55 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050007A	05/05/2015 09:05	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050007	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-10-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866270
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 10:55 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0257	0.00040	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050007A	05/05/2015 09:13	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050007	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-10-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866271
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 10:55 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050007A	05/05/2015 09:15	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050007	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-10-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866272
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 10:55 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0244	mg/l 0.00040	1

General 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	151207050007A	05/05/2015 09:17	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050007	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-09-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866273
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 11:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-09

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	8.3	0.2	1
Wet Chemistry SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	4.0	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 18:07	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 18:07	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504B	04/30/2015 14:31	James S Mathiot	1

Sample Description: BDC-05-09-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866274
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 11:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0509S

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	5.0		1.0	1
07105	Methane	74-82-8	7,400 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	7,500		300	100
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	0.68 J		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 19:34	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 15:48	Tracy A Cole	100
00228	Sulfate	EPA 300.0	1	15119987602B	04/30/2015 06:33	Clinton M Wilson	1

Sample Description: BDC-05-09-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866275
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 11:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050007A	05/05/2015 09:22	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050007	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-09-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866276
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 11:30 by CH

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PO Box 3707 MC 9U4-26
Seattle WA 98124

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0074	0.00040	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050007A	05/05/2015 09:24	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050007	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-09-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866277
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 11:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050007A	05/05/2015 09:26	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050007	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-09-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866278
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 11:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050007A	05/05/2015 09:28	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050007	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-08-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866279
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 12:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-08

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	0.8	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	2.3	0.2	1
Wet Chemistry SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	9.4	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 18:29	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 18:29	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504B	04/30/2015 15:17	James S Mathiot	1

Sample Description: BDC-05-08-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866280
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 12:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0508S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
00228	Sulfate	14808-79-8	0.30 U	0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15119987602B	04/30/2015 07:22	Clinton M Wilson	1

Sample Description: BDC-05-08-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866281
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 12:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0042	0.0020	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050007A	05/05/2015 09:29	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050007	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-08-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866282
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 12:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0192	0.00040	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050007A	05/05/2015 09:31	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050007	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-08-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866283
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 12:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050008A	05/04/2015 17:18	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050008	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-08-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866284
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 12:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0106	mg/l 0.00082	1

General 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	151207050008A	05/04/2015 17:27	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050008	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-03-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866285
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 12:35 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-03

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	1.5	0.2	1
11996	Trichloroethene	79-01-6	0.4	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.	1.7	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 18:50	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 18:50	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504B	04/30/2015 15:32	James S Mathiot	1

Sample Description: BDC-05-03-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866286
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 12:35 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0503S

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	710 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	740	15	5
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00228	Sulfate	14808-79-8	4.1	0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 19:51	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 16:05	Tracy A Cole	5
00228	Sulfate	EPA 300.0	1	15119987602B	04/30/2015 04:07	Clinton M Wilson	1

Sample Description: BDC-05-03-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866287
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 12:35 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0038	0.0020	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050008A	05/04/2015 17:28	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050008	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-03-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866288
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 12:35 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0020 J	0.00082	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050008A	05/04/2015 17:30	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050008	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-03-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866289
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 12:35 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050008A	05/04/2015 17:35	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050008	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-03-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866290
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 12:35 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0026	mg/l 0.00082	1

General 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	151207050008A	05/04/2015 17:37	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050008	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-07-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866291
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 13:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-07

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	0.6	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	5.3	0.2	1
Wet Chemistry SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	5.5	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151202AA	04/30/2015 19:12	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151202AA	04/30/2015 19:12	Kerri E Legerlotz	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504B	04/30/2015 15:47	James S Mathiot	1

Sample Description: BDC-05-07-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866292
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 13:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0507S

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	1.6 J	1.0	1
07105	Methane	74-82-8	3,400 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	3,500	300	100
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00228	Sulfate	14808-79-8	0.30 U	0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 20:41	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 16:22	Tracy A Cole	100
00228	Sulfate	EPA 300.0	1	15119987602B	04/30/2015 07:38	Clinton M Wilson	1

Sample Description: BDC-05-07-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866293
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 13:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050008A	05/04/2015 17:38	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050008	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-07-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866294
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 13:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals					
06025	Arsenic	EPA 200.8 rev 5.4 7440-38-2	mg/l 0.0042	mg/l 0.00082	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050008A	05/04/2015 17:40	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050008	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-07-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866295
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 13:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050008A	05/04/2015 17:42	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050008	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-07-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866296
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 13:05 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0047	mg/l 0.00082	1

General 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	151207050008A	05/04/2015 17:43	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050008	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-02-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866297
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 13:35 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-02

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	1.2	0.2	1
11996	Tetrachloroethene	127-18-4	2.7	0.2	1
11996	Trichloroethene	79-01-6	1.1	0.2	1
11996	Vinyl Chloride	75-01-4	3.4	0.2	1
Wet Chemistry SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	15.9	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151203AA	05/01/2015 02:36	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151203AA	05/01/2015 02:36	Kevin A Sposito	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504B	04/30/2015 16:02	James S Mathiot	1

Sample Description: BDC-05-02-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866298
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 13:35 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0502S

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	6.4		1.0	1
07105	Ethene	74-85-1	3.0 J		1.0	1
07105	Methane	74-82-8	8,800 E		3.0	1
Trial ID: REDL						
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	9,800		300	100
Wet Chemistry		EPA 300.0	mg/l		mg/l	
00228	Sulfate	14808-79-8	14.3		0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 20:58	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-RED L	151210020A	05/05/2015 12:19	Tracy A Cole	100
00228	Sulfate	EPA 300.0	1	15119987601B	04/29/2015 19:09	Clinton M Wilson	1

Sample Description: BDC-05-02-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866299
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 13:35 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0037	0.0020	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050009A	05/05/2015 07:17	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050009	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-02-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866300
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 13:35 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals					
06025	Arsenic	EPA 200.8 rev 5.4 7440-38-2	mg/l 0.0180	mg/l 0.00040	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050009A	05/05/2015 07:25	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050009	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-02-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866301
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 13:35 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050009A	05/05/2015 07:27	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050009	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-02-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866302
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 13:35 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0112	mg/l 0.00040	1

General 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	151207050009A	05/05/2015 07:29	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050009	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-04-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866303
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 14:10 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-04

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	1.0	0.2	1
11996	Tetrachloroethene	127-18-4	1.0	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 SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	2.7	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151203AA	05/01/2015 02:57	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151203AA	05/01/2015 02:57	Kevin A Sposito	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504B	04/30/2015 16:18	James S Mathiot	1

Sample Description: BDC-05-04-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866304
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 14:10 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0504S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 16.3	mg/l 0.60	2

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15119987601B	04/30/2015 09:37	Clinton M Wilson	2

Sample Description: BDC-05-04-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866305
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 14:10 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0046	0.0020	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050009A	05/05/2015 07:34	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050009	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-04-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866306
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 14:10 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0039	0.00040	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050009A	05/05/2015 07:36	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050009	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-04-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866307
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 14:10 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0028	mg/l 0.0020	1

General 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	151207050009A	05/05/2015 07:38	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050009	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-04-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866308
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 14:10 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050009A	05/05/2015 07:40	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050009	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-05-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866309
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 14:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-05

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	0.4	0.2	1
11996	Trichloroethene	79-01-6	1	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.	1.0 U	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151203AA	05/01/2015 03:19	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151203AA	05/01/2015 03:19	Kevin A Sposito	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504B	04/30/2015 16:50	James S Mathiot	1

Sample Description: BDC-05-05-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866310
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 14:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

0505S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 16.1	mg/l 0.60	2

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15119987601B	04/30/2015 09:54	Clinton M Wilson	2

Sample Description: BDC-05-05-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866311
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 14:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0026	0.0020	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050009A	05/05/2015 07:41	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050009	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-05-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866312
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 14:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals					
06025	Arsenic	EPA 200.8 rev 5.4 7440-38-2	mg/l 0.00063 J	mg/l 0.00040	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050009A	05/05/2015 07:43	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050009	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-05-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866313
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 14:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050010A	05/05/2015 10:14	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050010	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-05-05-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866314
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 14:40 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.00092 J	mg/l 0.00040	1

General 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	151207050010A	05/05/2015 10:22	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050010	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-DUP2-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866315
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05DU2

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	1.2	0.2	1
11996	Tetrachloroethene	127-18-4	2.8	0.2	1
11996	Trichloroethene	79-01-6	1.2	0.2	1
11996	Vinyl Chloride	75-01-4	3.6	0.2	1
Wet Chemistry SM 5310 C-2000					
00273	Total Organic Carbon	n.a.	16.4	1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151203AA	05/01/2015 03:40	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151203AA	05/01/2015 03:40	Kevin A Sposito	1
00273	Total Organic Carbon	SM 5310 C-2000	1	15120049504B	04/30/2015 17:05	James S Mathiot	1

Sample Description: BDC-DUP2-150427 Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866316
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05D2S

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	6.2	1.0	1
07105	Ethene	74-85-1	3.0 J	1.0	1
07105	Methane	74-82-8	8,800 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	12.2	0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151210020A	05/01/2015 21:15	Tracy A Cole	1
07105	AMEE by RSK-175	RSKSOP-175 modified	2-DL	151210020A	05/04/2015 16:56	Tracy A Cole	100
00228	Sulfate	EPA 300.0	1	15119987601B	04/29/2015 20:47	Clinton M Wilson	1

Sample Description: BDC-DUP2-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866317
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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	0.0031	0.0020	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06033	Copper	EPA 200.8 rev 5.4	1	151207050010A	05/05/2015 10:24	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050010	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-DUP2-150427 Total Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866318
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals					
06025	Arsenic	EPA 200.8 rev 5.4 7440-38-2	mg/l 0.0180	mg/l 0.00040	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06025	Arsenic	EPA 200.8 rev 5.4	1	151207050010A	05/05/2015 10:26	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050010	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-DUP2-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866319
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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

General 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	151207050010A	05/05/2015 10:31	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050010	05/04/2015 07:19	James L Mertz	1

Sample Description: BDC-DUP2-150427 Dissolved Metals Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866320
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/27/2015 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

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 0.0105	mg/l 0.00040	1

General 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	151207050010A	05/05/2015 10:33	Choon Y Tian	1
07050	ICP/MS EPA-600 Digest	EPA 200.8 rev 5.4	1	151207050010	05/04/2015 07:19	James L Mertz	1

Sample Description: Trip Blank Water
Boeing_DC:SWMU-17 s-ann

LL Sample # WW 7866321
LL Group # 1557098
Account # 13419

Project Name: Boeing_DC:SWMU-17 s-ann

Collected: 04/01/2015

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

Submitted: 04/29/2015 09:10

Reported: 05/08/2015 22:20

05-TB

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260C 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
GC Miscellaneous RSKSOP-175 modified ug/l					
07105	Acetylene	74-86-2	5.0 U	5.0	1
07105	Ethane	74-84-0	5.0 U	5.0	1
07105	Ethene	74-85-1	5.0 U	5.0	1
07105	Methane	74-82-8	5.0 U	5.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C VC, TCE, PCE, cis1,2-DCE	SW-846 8260C	1	H151203AA	05/01/2015 02:14	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	H151203AA	05/01/2015 02:14	Kevin A Sposito	1
07105	AMEE by RSK-175	RSKSOP-175 modified	1	151240002A	05/04/2015 18:03	Tracy A Cole	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/08/2015 22:20

Group Number: 1557098

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

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

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: H151202AA	Sample number(s): 7866177,7866183,7866189,7866195,7866201,7866207,7866213,7866219,7866225,7866231,7866237,7866243,7866249,7866255,7866261,7866267,7866273,7866279,7866285,7866291							
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	111	104	80-120	7	30
Tetrachloroethene	0.2 U	0.2	ug/l	111	105	80-120	5	30
Trichloroethene	0.2 U	0.2	ug/l	113	108	80-120	5	30
Vinyl Chloride	0.2 U	0.2	ug/l	98	92	59-124	6	30
Batch number: H151203AA	Sample number(s): 7866297,7866303,7866309,7866315,7866321							
cis-1,2-Dichloroethene	0.2 U	0.2	ug/l	105	103	80-120	2	30
Tetrachloroethene	0.2 U	0.2	ug/l	107	104	80-120	2	30
Trichloroethene	0.2 U	0.2	ug/l	108	106	80-120	2	30
Vinyl Chloride	0.2 U	0.2	ug/l	94	91	59-124	3	30
Batch number: 151240002A	Sample number(s): 7866321							
Acetylene	5.0 U	5.0	ug/l	96		79-126		
Ethane	5.0 U	5.0	ug/l	98		85-115		
Ethene	5.0 U	5.0	ug/l	98		83-115		
Methane	5.0 U	5.0	ug/l	103		85-115		
<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 151210020A	Sample number(s): 7866178,7866184,7866190,7866196,7866202,7866220,7866226,7866232,7866238,7866244,7866250,7866256,7866262,7866268,7866274,7866286,7866292,7866298,7866316							
Acetylene	1.0 U	1.0	ug/l	96		79-126		
Ethane	1.0 U	1.0	ug/l	100		85-115		
Ethene	1.0 U	1.0	ug/l	99		83-115		
Methane	3.0 U	3.0	ug/l	103		85-115		
Batch number: 151197050007A	Sample number(s): 7866179-7866182,7866185-7866188,7866191-7866192							
Arsenic	0.00082 U	0.00082	mg/l	104		85-115		
Copper	0.00050 U	0.00050	mg/l	100		85-115		
Batch number: 151197050008A	Sample number(s): 7866193-7866194,7866197-7866200,7866203-7866206							
Arsenic	0.00040 U	0.00040	mg/l	101		85-115		
Copper	0.00050 U	0.00050	mg/l	105		85-115		
Batch number: 151207050003A	Sample number(s): 7866209-7866212,7866215-7866218,7866221-7866222							
Arsenic	0.00082 U	0.00082	mg/l	107		85-115		
Copper	0.00050 U	0.00050	mg/l	101		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.

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/08/2015 22:20

Group Number: 1557098

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 151207050004A	Sample number(s): 7866223-7866224,7866227-7866230,7866233-7866236							
Arsenic	0.00082 U	0.00082	mg/l	101		85-115		
Copper	0.00050 U	0.00050	mg/l	104		85-115		
Batch number: 151207050005A	Sample number(s): 7866239-7866242,7866245-7866248,7866251-7866252							
Arsenic	0.00040 U	0.00040	mg/l	110		85-115		
Copper	0.00050 U	0.00050	mg/l	107		85-115		
Batch number: 151207050006A	Sample number(s): 7866253-7866254,7866257-7866260,7866263-7866266							
Arsenic	0.00082 U	0.00082	mg/l	105		85-115		
Copper	0.00050 U	0.00050	mg/l	100		85-115		
Batch number: 151207050007A	Sample number(s): 7866269-7866272,7866275-7866278,7866281-7866282							
Arsenic	0.00040 U	0.00040	mg/l	109		85-115		
Copper	0.00050 U	0.00050	mg/l	111		85-115		
Batch number: 151207050008A	Sample number(s): 7866283-7866284,7866287-7866290,7866293-7866296							
Arsenic	0.00082 U	0.00082	mg/l	106		85-115		
Copper	0.00050 U	0.00050	mg/l	100		85-115		
Batch number: 151207050009A	Sample number(s): 7866299-7866302,7866305-7866308,7866311-7866312							
Arsenic	0.00040 U	0.00040	mg/l	109		85-115		
Copper	0.00050 U	0.00050	mg/l	108		85-115		
Batch number: 151207050010A	Sample number(s): 7866313-7866314,7866317-7866320							
Arsenic	0.00040 U	0.00040	mg/l	104		85-115		
Copper	0.00050 U	0.00050	mg/l	108		85-115		

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 15120049503B	Sample number(s): 7866177,7866183,7866189,7866195,7866201,7866207							
Total Organic Carbon	1.0 U	1.0	mg/l	102		91-113		
Batch number: 15120049504A	Sample number(s): 7866213,7866219,7866225,7866231,7866237,7866243,7866249,7866255,7866261,7866267							
Total Organic Carbon	1.0 U	1.0	mg/l	104		91-113		
Batch number: 15120049504B	Sample number(s): 7866273,7866279,7866285,7866291,7866297,7866303,7866309,7866315							
Total Organic Carbon	1.0 U	1.0	mg/l	104		91-113		

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 15119987601B	Sample number(s): 7866298,7866304,7866310,7866316							
Sulfate	0.30 U	0.30	mg/l	99	99	90-110	0	20
Batch number: 15119987602A	Sample number(s): 7866178,7866184,7866190,7866196,7866202,7866208,7866214,7866220,7866226,7866232							

*- Outside of specification

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/08/2015 22:20

Group Number: 1557098

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDI</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Sulfate	0.30 U	0.30	mg/l	100	100	90-110	0	20
Batch number: 15119987602B Sample number(s): 7866238, 7866244, 7866250, 7866256, 7866262, 7866268, 7866274, 7866280, 7866286, 7866292								
Sulfate	0.30 U	0.30	mg/l	100	100	90-110	0	20

Sample Matrix Quality Control

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 151240002A Sample number(s): 7866321 UNSPK: P869032									
Acetylene	83	79	38-121	5	20				
Ethane	89	81	53-122	6	20				
Ethene	109	102	35-162	7	20				
Methane	-2813 (2)	-5936 (2)	46-129	11	20				
Batch number: 151210020A Sample number(s): 7866178, 7866184, 7866190, 7866196, 7866202, 7866220, 7866226, 7866232, 7866238, 7866244, 7866250, 7866256, 7866262, 7866268, 7866274, 7866286, 7866292, 7866298, 7866316 UNSPK: 7866190									
Acetylene	90	92	38-121	3	20				
Ethane	96	96	53-122	0	20				
Ethene	97	97	35-162	1	20				
Methane	104 (2)	177 (2)	46-129	4	20				
Batch number: 151197050007A Sample number(s): 7866179-7866182, 7866185-7866188, 7866191-7866192 UNSPK: 7866179 BKG: 7866179									
Arsenic	94 (2)		70-130			0.0421	0.0415	1	20
Copper	96		70-130			0.0040	0.0037	9 (1)	20
Batch number: 151197050008A Sample number(s): 7866193-7866194, 7866197-7866200, 7866203-7866206 UNSPK: 7866193 BKG: 7866193									
Arsenic	87		70-130			0.0043	0.0043	2 (1)	20
Copper	93		70-130			0.00052 J	0.00050 U	200* (1)	20
Batch number: 151207050003A Sample number(s): 7866209-7866212, 7866215-7866218, 7866221-7866222 UNSPK: 7866209 BKG: 7866209									
Arsenic	100		70-130			0.0253	0.0247	3	20
Copper	98		70-130			0.0037	0.0038	2 (1)	20
Batch number: 151207050004A Sample number(s): 7866223-7866224, 7866227-7866230, 7866233-7866236 UNSPK: 7866223 BKG: 7866223									
Arsenic	106		70-130			0.0029	0.0024	18 (1)	20
Copper	102		70-130			0.00050 U	0.00050 U	0 (1)	20
Batch number: 151207050005A Sample number(s): 7866239-7866242, 7866245-7866248, 7866251-7866252 UNSPK: 7866239 BKG: 7866239									
Arsenic	73		70-130			0.0310	0.0300	3	20

*- Outside of specification

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/08/2015 22:20

Group Number: 1557098

Sample Matrix Quality Control

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

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup</u> <u>RPD</u> <u>Max</u>
Copper	103		70-130			0.0055	0.0058	5 (1)	20
Batch number: 151207050006A	Sample number(s): 7866253-7866254,7866257-7866260,7866263-7866266 UNSPK: 7866253 BKG: 7866253								
Arsenic	97		70-130			0.0169	0.0168	1	20
Copper	99		70-130			0.00050 U	0.00050 U	0 (1)	20
Batch number: 151207050007A	Sample number(s): 7866269-7866272,7866275-7866278,7866281-7866282 UNSPK: 7866269 BKG: 7866269								
Arsenic	78		70-130			0.0271	0.0280	3	20
Copper	101		70-130			0.0034	0.0041	18 (1)	20
Batch number: 151207050008A	Sample number(s): 7866283-7866284,7866287-7866290,7866293-7866296 UNSPK: 7866283 BKG: 7866283								
Arsenic	97		70-130			0.0111	0.0113	1	20
Copper	98		70-130			0.00050 U	0.00050 U	0 (1)	20
Batch number: 151207050009A	Sample number(s): 7866299-7866302,7866305-7866308,7866311-7866312 UNSPK: 7866299 BKG: 7866299								
Arsenic	102		70-130			0.0188	0.0178	5	20
Copper	104		70-130			0.0037	0.0037	0 (1)	20
Batch number: 151207050010A	Sample number(s): 7866313-7866314,7866317-7866320 UNSPK: 7866313 BKG: 7866313								
Arsenic	113		70-130			0.00089 J	0.0010 J	11 (1)	20
Copper	115		70-130			0.0015 J	0.0015 J	1 (1)	20
Batch number: 15120049503B	Sample number(s): 7866177,7866183,7866189,7866195,7866201,7866207 UNSPK: P866013 BKG: P866013								
Total Organic Carbon	83		63-142			15.0	16.0	6*	4
Batch number: 15120049504A	Sample number(s): 7866213,7866219,7866225,7866231,7866237,7866243,7866249,7866255,7866261,7866267 UNSPK: 7866213 BKG: 7866213								
Total Organic Carbon	101		63-142			7.5	7.5	0	4
Batch number: 15120049504B	Sample number(s): 7866273,7866279,7866285,7866291,7866297,7866303,7866309,7866315 UNSPK: 7866273 BKG: 7866273								
Total Organic Carbon	102		63-142			4.0	4.0	1 (1)	4
Batch number: 15119987601B	Sample number(s): 7866298,7866304,7866310,7866316 UNSPK: 7866298 BKG: 7866298								
Sulfate	102		90-110			14.3	14.2	0	20
Batch number: 15119987602A	Sample number(s): 7866178,7866184,7866190,7866196,7866202,7866208,7866214,7866220,7866226,7866232 UNSPK: 7866190 BKG: 7866190								
Sulfate	98		90-110			3.6	3.6	0 (1)	20
Batch number: 15119987602B	Sample number(s): 7866238,7866244,7866250,7866256,7866262,7866268,7866274,7866280,7866286,7866292 UNSPK: 7866286 BKG: 7866286								
Sulfate	100		90-110			4.1	4.1	1 (1)	20

*- Outside of specification

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/08/2015 22:20

Group Number: 1557098

Sample Matrix Quality Control

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

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
----------------------	--------------------------	---------------------------	--------------------------------	------------	--------------------------	---------------------------	---------------------------	--------------------------	------------------------------

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: H151202AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7866177	102	102	96	91
7866183	102	101	97	91
7866189	101	98	97	90
7866195	102	99	97	90
7866201	101	99	97	90
7866207	101	101	97	90
7866213	103	101	97	91
7866219	102	99	97	89
7866225	102	98	97	90
7866231	102	98	96	90
7866237	103	98	97	90
7866243	103	100	96	91
7866249	102	98	97	91
7866255	102	99	97	90
7866261	101	100	98	90
7866267	103	102	96	90
7866273	103	98	97	89
7866279	103	100	96	90
7866285	103	101	96	89
7866291	102	101	97	89
Blank	102	99	97	92
LCS	99	96	98	94
LCSD	99	99	98	95
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C VC, TCE, PCE, cis1,2-DCE
Batch number: H151203AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7866297	100	99	96	92
7866303	101	100	96	91
7866309	101	100	95	90
7866315	101	99	96	91
7866321	101	101	96	92
Blank	101	99	98	92
LCS	100	97	99	95
LCSD	100	102	99	95
Limits:	77-114	74-113	77-110	78-110

Analysis Name: AMEE by RSK-175

*- Outside of specification

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/08/2015 22:20

Group Number: 1557098

Surrogate Quality Control

Batch number: 151210020A

Propene

7866178	76
7866178	99
DL	
7866184	82
7866184	101
DL	
7866190	93
7866190	90
DL	
7866196	85
7866196	101
DL	
7866202	86
7866202	99
DL	
7866220	87
7866220	96
DL	
7866226	80
7866226	98
DL	
7866232	88
7866232	99
DL	
7866238	83
7866238	97
DL	
7866244	75
7866244	95
DL	
7866250	84
7866250	105
DL	
7866256	84
7866256	96
DL	
7866262	97
7866262	99
DL	
7866268	91
7866268	101
REDL	
7866274	96
7866274	99
DL	
7866286	87
7866286	90
DL	
7866292	89
7866292	97
DL	
7866298	82
7866298	104
REDL	

*- Outside of specification

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/08/2015 22:20

Group Number: 1557098

Surrogate Quality Control

7866316	85
7866316	98
DL	
Blank	107
LCS	99
MS	94
MSD	96

Limits: 47-116

Analysis Name: AMEE by RSK-175
Batch number: 151240002A

Propene

7866321	83
Blank	100
LCS	102
MS	81
MSD	76

Limits: 47-116

*- Outside of specification

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

Boeing Chain of Custody

Acct. # 13419 Group # 13419 Sample # 7866177-321 **PAGE 2 of 2**

Lancaster Laboratories use only
 1557098 Sample # 7866177-321
 Please print. Instructions on reverse side correspond.

eurofins Lancaster Laboratories

1 Client Information		2 Sample Identification		3 Collected		4 Analyses Requested		5 Remarks/Comments											
Site Location:	Site Project:	Site Program#:	Boeing PM:	Consultant Contact:	Report To:	Invoice To:	Sampler:	Date	Time	Matrix	No. of Containers	57	91	54	08	08	08	Date/Time	Remarks/Comments
#13419	BOEING	DEX CTR	JAMES BET	LANDAU	LANDAU	Boeing EHS	CHARLES HARRY	4-27-2015	1055	A9	11	X	X	X	X	X	X	4/28/15 10:00	LLI Batch QC.
								4-27-2015	1130	A9	11	X	X	X	X	X	X	4/28/15 0910	
								4-27-2015	1205	A9	9	X	X	X	X	X	X	4/28/15 0910	
								4-27-2015	1235	A9	11	X	X	X	X	X	X	4/28/15 0910	
								4-27-2015	1305	A9	11	X	X	X	X	X	X	4/28/15 0910	
								4-27-2015	1335	A9	11	X	X	X	X	X	X	4/28/15 0910	
								4-27-2015	1410	A9	9+2	X	X	X	X	X	X	4/28/15 0910	
								4-27-2015	1440	A9	9	X	X	X	X	X	X	4/28/15 0910	
								4-27-2015	-	A9	11	X	X	X	X	X	X	4/28/15 0910	
								4-1-2015	-	A9	6	X	X	X	X	X	X	4/28/15 0910	
6 Turnaround Time Requested (please circle)																			
Standard										5 day	4 day								
Date needed:										72 hour	48 hour	24 hour							
Relinquished by: CHARLES HARRY																			
Relinquished by: HARRY																			
Relinquished by: HARRY																			
Relinquished by commercial carrier (circle):										UPS	FedEx	Other: <input checked="" type="checkbox"/>							
Temperature upon Receipt: 24°C																			
Custody Seals Intact?: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																			

Client: BOEING

DEV CTR

Delivery and Receipt Information

Delivery Method: SeaTac Arrival Timestamp: 04/29/2015 9:10
 Number of Packages: 4 Number of Projects: 1
 State/Province of Origin: WA

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	6
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 Corey Eshleman (3647) at 11:20 on 04/29/2015

Samples Chilled Details: DEV CTR

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	0.7	DT	Wet	Y	Bagged	N
2	DT146	0.4	DT	Wet	Y	Bagged	N
3	DT146	0.7	DT	Wet	Y	Bagged	N
4	DT146	0.7	DT	Wet	Y	Bagged	N

1557098

FedEx® Expanded Billable Stamp

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

1 From

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Package Weight

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Priority
Overnight®

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For nonresidential deliveries.

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Employee Number

Base Charges

↑ Sign within this area. Please do not remove.

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

Other

Total Charges

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

M-10091 Rev. 3/10

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

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Shipments tendered on Friday are delivered on Saturday to most locations.



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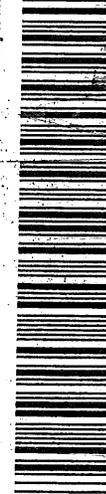
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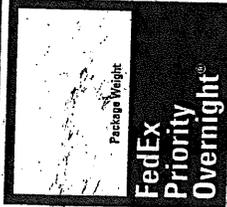
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Total Charges

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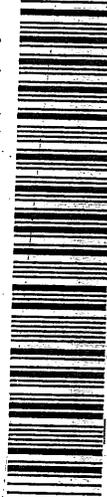
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LANCASTER, PA 17601
(717) 656-2300

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SATURDAY DELIVERY
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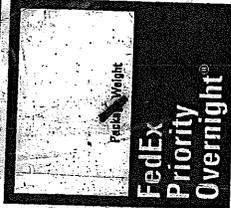
805430107954

FedEx Express Expanded Billable Stamp

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

1 From

ORDER: 00805887



Release Signature
For nonresidential deliveries.

For FedEx Use Only
Employee Number

Base Charges

Total Charges

Other

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

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Explanation of Symbols and Abbreviations

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

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

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \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...

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

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

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

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

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

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

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AOC-5

(Groundwater Sample Collection Forms and Analytical Data)

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-60, AOC 5
 Event: 1st Quarter 2015 (post Nitrate Inj) labor # 7KDVCREM
 SAMPLE ID: BDC-101-150121 (yyymmdd)
 Date Collected: Jan. 21, 2015 COC Time: 6:15

58th Sample event

Collector: Charles Hardy

Well Information

Well I. D.: BDC-101 Well Condition: Secure? Yes No; Describe Condition: _____
 Info.: Size: 2 (inches) 20 (Sch.) Material: PVC, Stainless Steel, Other _____
 Total Depth of Well: 18.42 (ft.) historical or measured
 Present Water Level: 71.22 (ft.) Measured from: Well Casing, or Protective Monument
 Traditional Purge Volume Calc.: 18.42 ft - 11.22 ft = 7.20 ft x 0.658 Liters/ft = 4.74 Liters
 Purge Rate: 3.55 l. + 17 min. = 0.209 Liters/minute

Begin Purge: 5:53 time

End Purge: 6:15 time

Volume Purged: 3.55 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/level, turb.)
600	400 ml	13.0	466	3.81	6.40	69	
602	1.0 L	14.9	485	3.22	6.45	69	
604	1.4 L	14.8	484	3.09	6.40	75	
606	1.8	14.6	484	3.08	6.34	83	
608	2.15	14.6	484	3.09	6.31	88	
610	2.55	14.8	482	3.13	6.30	91	
612	2.95	14.7	479	3.07	6.29	94	
614	3.35	14.7	476	3.06	6.29	96	
615	3.55	14.3	475	3.01	6.29	97	
=	=	=	=	=	=	=	=
=	=	=	=	=	=	=	=
=	=	=	=	=	=	=	=
=	=	=	=	=	=	=	=
=	=	=	=	=	=	=	=
=	=	=	=	=	=	=	=
=	=	=	=	=	=	=	=

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
4	40 ml	<input checked="" type="checkbox"/> Glass	HCl	<input checked="" type="checkbox"/> No	NWTPH-Gx & BETX (EPA 8021B)(LLI code 26)
2	40 ml	<input checked="" type="checkbox"/> Glass c	none	<input checked="" type="checkbox"/> No	Nitrite, Nitrate & Sulfate (LLI code 55)
	500 ml	<input type="checkbox"/> HDPE Plastic	H ₂ SO ₄	<input type="checkbox"/> No	

Comments: Hach Kit Fe++ = 0 mg/L NO REACTION Duplicate Sample No: _____

Signature: C.H. Hardy

Date: JAN. 21 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-60, AOC 5
 Event: 1st Quarter 2015 (post Nitrate Inj) labor # 7KDVCREM
 SAMPLE ID: BDC-102-150121 (yymmdd)
 Date Collected: Jan 21, 2015 COC Time: 650

58th Sample event

Collector: Charles Hardy

Well Information

Well I. D.: BDC-102 Well Condition: Secure? Yes No: Describe Condition: NEW PAYEMENT
 Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other
 Total Depth of Well: 18.83 (ft.) historical or measured
 Present Water Level: 11.01 (ft.) Measured from: Well Casing, or Protective Monument
 Traditional Purge Volume Calc.: 18.83 ft - 11.01 ft = 7.82 ft x φ 6.58 Liters/ft = 5.15 Liters
 Purge Rate: 4.1 l. + 20 min. = φ 2.05 Liters/minute

Begin Purge: 630 time

End Purge: 650 time

Volume Purged: _____ Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/level, turb.)
632	= 400ml	15.0	642	φ 74	6.15	86	
634	= 850	15.3	649	φ 49	6.15	44	
636	= 1.3 L	15.3	638	φ 43	6.13	22	
638	= 1.7	15.2	626	φ 34	6.13	7.1	
640	= 2.1 L	15.2	618	φ 32	6.13	-2.8	
642	= 2.5 L	15.0	602	φ 28	6.12	-9.5	
644	= 2.95	15.0	597	φ 26	6.12	-14	
646	= 3.3	15.0	591	φ 21	6.13	-18	
648	= 3.7	15.0	589	φ 19	6.13	-20	
650	= 4.1	15.0	586	φ 20	6.14	-22	

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
4	40 ml	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	NWTPH-Gx & BETX (EPA 8021B)(LLI code 26)
2	40 ml	<input checked="" type="checkbox"/> Glass c	none	<input checked="" type="checkbox"/> No	Nitrite, Nitrate & Sulfate (LLI code 55)
	500 ml	<input type="checkbox"/> HDPE Plastic	H2SO4	<input type="checkbox"/> No	

Comments: Hach Kit Fe++ = 1.0 mg/L
 Duplicate Sample No: _____

Signature: C.H. Hardy Date: JAN. 21 2015 Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-60, AOC 5
 Event: 1st Quarter 2015 (post Nitrate Inj) labor # 7KDVCREM
SAMPLE I D: BDC-103 - 150121 (yyymmdd)
 Date Collected: Jan/Feb, 21, 2015 COC Time: 7:30

58th Sample event

Collector: Charles Hardy

Well Information

Well I. D.: BDC-103 Well Condition: Secure? Yes No: Describe Condition: NEW PAVEMENT
 Info.: Size: 4 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____
 Total Depth of Well: 18.51 (ft.) historical or measured)
 Present Water Level: 10.93 (ft.) Measured from: Well Casing, or Protective Monument
 Traditional Purge Volume Calc.: 18.51 ft - 10.93 ft = 7.58 ft x 2.502 Liters/ft = 18.97 Liters
 Purge Rate: _____ l. + 18 min. = _____ Liters/minute

Begin Purge: 7:12 time

End Purge: 7:30 time

Volume Purged: _____ Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/level, turb.)
7:14	= 100 ml	11.8	1009	1.99	6.13	53	
7:16	= 400	12.0	1036	1.03	6.10	79	
7:18	= 700	12.2	1064	0.95	6.07	94	
7:20	= 1.0 h	13.1	1093	0.61	6.03 ✓	101	
7:22	= 1.4	13.2	1105	0.58	6.08 ✓	106	
7:24	= 1.8	13.1	1105	0.36	6.07 ✓	111	
7:26	= 2.15 L	13.2	1106	0.28	6.06 ✓	114	
7:28	= 2.5	13.2	1103 ✓	0.20	6.05	117	
7:30	= 2.9	13.2	1108 ✓	0.20	6.05	118	
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Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
<u>4</u>	<u>40 ml</u>	<input checked="" type="checkbox"/> Glass	<u>H-Cl</u>	<input checked="" type="checkbox"/> No	<u>NWTPH-Gx & BETX (EPA 8021B)(LLI code 26)</u>
<u>2</u>	<u>40 ml</u>	<input checked="" type="checkbox"/> Glass c	<u>none</u>	<input checked="" type="checkbox"/> No	<u>Nitrite, Nitrate & Sulfate (LLI code 55)</u>
	<u>500 ml</u>	<input type="checkbox"/> HDPE Plastic	<u>H2SO4</u>	<input type="checkbox"/> No	

Duplicate Sample No: _____

Comments: Hach Kit Fe++ - 0 mg/L NO REACTION

Signature: C.H. Hardy *C.H. Hardy*

Date: JAN 21 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-60, AOC 5
 Event: 1st Quarter 2015 (post Nitrate Inj) labor # 7KDVCREM
SAMPLE ID: BDC-10 N-150121 (yymmdd)
 Date Collected: Jan/21, 2015 COC Time: 8:05

58th Sample event

Collector: Charles Hardy

Well Information

Well I. D.: BDC-104 Well Condition: Secure? Yes No: Describe Condition: NEW PAVEMENT
 Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____
 Total Depth of Well: 18.90 (ft.) historical or measured)
 Present Water Level: 10.74 (ft.) Measured from: Well Casing, or Protective Monument
 Traditional Purge Volume Calc.: 18.90 ft - 10.74 ft = 8.16 ft x 0.658 Liters/ft = 5.37 Liters
 Purge Rate: 3.0 l. + 18 min. = 0.167 Liters/minute

Begin Purge: 7:47 time
 End Purge: 8:05 time
 Volume Purged: 3.0 Liters
 Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/level, turb.)
749	= 100 ml	11.4	248	5.04	6.34	104	
751	= 550	12.6	217	4.50	6.22	109	
753	= 850	12.4	201 ¹⁵⁴	4.34	6.16	113	
755	= 1.2 L	12.6	190 ¹⁵⁵	4.42	6.09	118	
757	= 1.55	12.9	191	4.58	6.02	123	
759	= 1.95	12.6	189	4.54	5.96	126	
801	= 2.25	12.6	188	4.41	5.90	131	
803	= 2.65	12.7	188	4.72	5.84	135	
805	= 3.0	12.6	186	4.02	5.87	135	
807	=						
809	=						
810	=						
"							
"							
"							

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____
Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
4	40 ml	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	NWTPH-Gx & BETX (EPA 8021B)(LLI code 26)
2	40 ml	<input checked="" type="checkbox"/> Glass c	none	<input checked="" type="checkbox"/> No	Nitrite, Nitrate & Sulfate (LLI code 55)
	500 ml	<input type="checkbox"/> HDPE Plastic	H ₂ SO ₄	<input type="checkbox"/> No	

Comments: Hach Kit Fe++ = 0 NO REACTION
 Duplicate Sample No: _____

Signature: C.H. Hardy C.H. Hardy Date: JAN 21 2015 Continued on Back

BOTTLE REQUEST FORM

Prepared by: Charles 'Duffy' Hardy

Project Name: Boeing_DC: AOC-5

Client: Boeing EHS

Sampling Frequency: Quarterly Feb. May, Aug. & Nov.

Contact: Jim Bet (Boeing) /Clint Jacob (Landau)

Sampling Date: ~Jan. 26th - 30th, 2015

Ship To: Charles 'Duffy' Hardy (206-290-6572)

Need By Date: Jan. 22, 2015

Boeing @ Western Processing Superfund

20015 72nd Ave South

Kent, WA 98032

of coolers: As needed

Labels?: Provide loose labels

Trip Blanks?: 1 set, one shipment

Boxed?: No

No. Of Samples	Analysis Requested	Sample Matrix	Bottle Size	No. Bottles Per Sample	Preservative
4	BETX EPA 8021	Water	40-mL VOA	2 ?	HCl
4	TPH as Gasoline NWTPH-Gx	Water	40-mL VOA	2	HCl
4 qrtly	Sulfate ,& Nitrate* IC E300	Water	40-mL	2	None
+0 semi-ann**	Sulfate & Nitrate* IC E300	Water	40-mL	2	None
Comments:	* Nitrate holding time is 48-hours for analysis Quarterly well list BDC-101, -102, -103, -104 February, May , August , & November **Semi-annual well list add DC-Mw-17a, Mw-18a, Mw -21a & BDC-05-04 (May & Nov.)				

Sample Container Record

Order Number: 166334
Order Date: 01/13/2015
Page 1 of 2
Standard Frm#: 148383

Client: 13419
The Boeing Company
Boeing_DC:AOC-5

Ship To:
Boeing
Boeing@ Western Process. Sfund
20015 72nd Ave South
Kent, WA 98032
Attn: Charles 'Duffy' Hardy

Group: 1

Number of Sample Locations: 4

One complete set of bottles listed below must be filled for each of the 4 sample location(s).

<u>Sample Description</u>	<u>QC Type</u>
BDC-101 Water	
BDC-102 Water	
BDC-103 Water	
BDC-104 Water	

<u>Count</u>	<u>Code</u>	<u>Description</u>	<u>Preservative</u>	<u>Analysis Name</u>	<u>Hold Time</u>
4	26	40 ml glass vial	HCl	Method 8021 Water Master	14 days
				NWTPH-Gx water C7-C12	14 days
2	55	40 ml glass vial	None	Nitrate Nitrogen	48 hours
				Nitrite Nitrogen	48 hours
				Sulfate	28 days

Group: 2

Number of Sample Locations: 1

<u>Sample Description</u>	<u>QC Type</u>
Trip Blank Water	Trip Blank

<u>Count</u>	<u>Code</u>	<u>Description</u>	<u>Preservative</u>	<u>Analysis Name</u>	<u>Hold Time</u>
2	26	40 ml glass vial	HCl	Method 8021 Water Master	14 days
				NWTPH-Gx water C7-C12	14 days

If you have any questions, please contact your Client Service Representative, Kay Hower, at (717)656-2300 xCA

Date Needed:

01/19/2015

Pack By:

01/15/2015

Shipping Method:

FEDEX 2 Day Ground

This order is:

Per your Request

Client: 13419
The Boeing Company
Boeing_DC:AOC-5

Ship To:
Boeing
Boeing@ Western Process. Sfund
20015 72nd Ave South
Kent, WA 98032
Attn: Charles 'Duffy' Hardy

Sample Acceptance Policy

Samples must be submitted in a manner that meets the criteria listed below. If these criteria are not met, the laboratory will contact the client to discuss how to proceed with testing. If the client decides to proceed with testing, a comment describing the variation will appear on the analytical report.

- Documentation must be complete and include: sample identification, the location, date and time of collection, collector's name or initials, preservation type, sample type, required analyses, and any special remarks concerning the sample.
- Proper sample labeling must include unique identification on a durable (water resistant) label using indelible ink.
- Samples must be collected in appropriate containers with sufficient volume to perform tests. The laboratory will provide appropriate bottleware.
- Samples must be shipped promptly to meet specified holding times with adequate packing materials to prevent damage during shipment and adequate wet ice to meet method temperature requirements (0-6°C, not frozen).

If you have any questions, please contact your Client Service Representative, Kay Hower, at (717)656-2300 xCA

Date Needed:

01/19/2015

Pack By:

01/15/2015

Shipping Method:

FEDEX 2 Day Ground

This order is:

Per your Request

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-60, AOC 5

Event: 2nd Quarter 2015 (post Nitrate Inj) labor # 7KDVCREM

59th Sample event

SAMPLE ID: BDC-10 1 - 150428 (vymdd)

Collector: Charles Hardy

Date Collected: April/May 28, 2015 COC Time: 5:25

Well Information

Well I. D.: BDC-101 Well Condition: Secure? Yes No; Describe Condition: Flooded

Info.: Size: 2 (inches) NO (Sch.) Material: PVC, Stainless Steel, Other

Total Depth of Well: 18.42 (ft.) historical or measured

Present Water Level: 11.75 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 18.42 ft - 11.75 ft = 6.67 ft x 0.658 Liters/ft = 4.39 Liters

Purge Rate: 4.5 l. + 22 min. = 0.205 Liters/minute

Begin Purge: 5:03 time

End Purge: 5:25 time

Volume Purged: 4.5 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/level, turb.)
505	= 200 ml	15.2	656	5.44	7.17	57	
507	= 700	14.9	542	4.09	6.90	71	
509	= 1.1 L	14.9	498	3.82	6.76	76	
511	= 1.55	14.9	472 ⁴⁵⁷	3.79	6.65	78	
513	= 2.0	14.8	460 ⁴⁴⁶	3.79 ^{ok}	6.57	79	
515	= 2.4	14.3	449 ⁴³⁶	3.82 ✓	6.52	80	
517	= 2.8	14.8	443	3.69 ✓	6.48	81	
519	= 3.2	14.8	441	3.64 ✓	6.44	80	
521	= 3.65	14.8	437 ^{ok}	3.55 ✓	6.42 ✓	81	OK
523	= 4.1	14.8	434	3.52	6.33 ✓	82	
525	= 4.5	14.8	432	3.55	6.37	82	

Sample Collection Information

Sample Collected with: disposable **Bailer**, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible **Pump**

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other

Sample Description: (color, turbidity, odor, sheen, etc):

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
4	40 ml	<input checked="" type="checkbox"/> Glass	H-Cl	<input checked="" type="checkbox"/> No	NWTPH-Gx & BETX (EPA 8021B)(LLI code 26)
2	40 ml	<input checked="" type="checkbox"/> Glass c	none	<input checked="" type="checkbox"/> No	Nitrite, Nitrate & Sulfate (LLI code 55)
	500 ml	<input type="checkbox"/> HDPE Plastic	H2SO4	<input type="checkbox"/> No	

Comments: * Hach Kit Fe++ 0 mg/l Duplicate Sample No: _____

Signature: C.H. Hardy

Date: Apr 28 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-60, AOC 5

Event: 2nd Quarter 2015 (post Nitrate Inj) labor # 7KDVCREM

59th Sample event

SAMPLE ID: BDC-102 - 150423 (vymmdd)

Collector: Charles Hardy

Date Collected: April/May, 23, 2015 COC Time: _____

Well Information

Well I. D.: BDC-102 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 18.83 (ft.) historical or measured

Present Water Level: 11.57 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 18.83 ft - 11.57 ft = 7.26 ft x 0.658 Liters/ft = 4.73 Liters

Purge Rate: 2.65 l. + 19 min. = 0.189 Liters/minute

Begin Purge: 536 time

End Purge: 550 time 5:10

Volume Purged: 2.65 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F of °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/level, turb.)
538	≈ 2350 ml	15.4	664	1.52	6.22	90	
540	≈ 650	15.4	712	0.71	6.15	88	
542	≈ 1.05	15.4	713	0.46	6.14	75	
544	≈ 1.4 L	15.4	707	0.35	6.14	57	
546	≈ 1.75	15.4	697	0.30	6.14	44	
548	≈ 2.2	15.3	690	0.27	6.14	36	
550	≈ 2.65	15.4	681	0.22	6.13	28	
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Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump

Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____

Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
4	40 ml	<input checked="" type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	NWTPH-Gx & BETX (EPA 8021B)(LLI code 26)
2	40 ml	<input checked="" type="checkbox"/> Glass c	none	<input type="checkbox"/> No	Nitrite, Nitrate & Sulfate (LLI code 55)
	500 ml	<input type="checkbox"/> HDPE Plastic	H2SO4	<input type="checkbox"/> No	

Comments: * Hach Kit Fe++ 0.6 mg/L

Signature: C.H. Hardy Date: April 23 2015 Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-60, AOC 5
 Event: 2nd Quarter 2015 (post Nitrate Inj) labor # 7KDVCREM
 SAMPLE ID: BDC-10.3 - 150428 (yvmmdd)
 Date Collected: April/May 28, 2015 COC Time: 620

59th Sample event

Collector: Charles Hardy

Well Information

Well I. D.: BDC-103 Well Condition: Secure? Yes No: Describe Condition: _____
 Info.: Size: 4 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____
 Total Depth of Well: 18.57 (ft.) historical or measured
 Present Water Level: 11.49 (ft.) Measured from: Well Casing, or Protective Monument
 Traditional Purge Volume Calc.: 18.57 ft - 11.49 ft = 7.02 ft x 2.502 Liters/ft = 17.56 Liters
 Purge Rate: 3.5 l. + 14 min. = 0.250 Liters/minute

Begin Purge: 606 time

End Purge: 620 time

Volume Purged: 3.5 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/level, turb.)
<u>608</u>	<u>= 400 ml</u>	<u>14.7</u>	<u>904</u> ³⁷⁷	<u>0.28</u>	<u>6.34</u>	<u>29</u>	
<u>610</u>	<u>= 3.50</u>	<u>14.6</u>	<u>899</u>	<u>0.19</u>	<u>6.28</u>	<u>33</u>	
<u>612</u>	<u>= 1.4 L</u>	<u>14.7</u>	<u>898</u>	<u>0.16</u>	<u>6.26</u>	<u>36</u>	
<u>614</u>	<u>= 1.95</u>	<u>14.6</u>	<u>898</u> ^{OK}	<u>0.15</u>	<u>6.25</u> ✓	<u>38</u>	<u>OK</u>
<u>616</u>	<u>= 2.5</u>	<u>14.6</u>	<u>899</u> ✓	<u>0.14</u>	<u>6.29</u> ✓	<u>41</u>	
<u>618</u>	<u>= 2.9</u>	<u>14.6</u>	<u>898</u> ✓	<u>0.13</u>	<u>6.24</u>	<u>42</u>	
<u>620</u>	<u>3.5</u>	<u>14.6</u>	<u>897</u> ✓	<u>0.16</u>	<u>6.23</u>	<u>44</u>	
~	~	~	~	~	~	~	~
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Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
<u>4</u>	<u>40 ml</u>	<input checked="" type="checkbox"/> Glass	<u>H-Cl</u>	<input checked="" type="checkbox"/> No	<u>NWTPH-Gx & BETX (EPA 8021B)(LLI code 26)</u>
<u>2</u>	<u>40 ml</u>	<input checked="" type="checkbox"/> Glass c	<u>none</u>	<input checked="" type="checkbox"/> No	<u>Nitrite, Nitrate & Sulfate (LLI code 55)</u>
_____	<u>500 ml</u>	<input type="checkbox"/> HDPE Plastic	<u>H2SO4</u>	<input type="checkbox"/> No	_____

Duplicate Sample No: _____

Comments: Hach Kit Fe++ 0 mg/l

Signature: C.H. Hardy

Date: APRIL 28 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-60, AOC 5
 Event: 2nd Quarter 2015 (post Nitrate Inj) labor # 7KDVCREM
 SAMPLE ID: BDC-104-150423 (yyymmdd)
 Date Collected: April/May, 23, 2015 COC Time: 650

Collector: Charles Hardy

59th Sample event

Well Information

Well I. D.: BDC-104 Well Condition: Secure? Yes No; Describe Condition: _____
 Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____
 Total Depth of Well: 18.9 (ft.) historical or measured
 Present Water Level: 11.28 (ft.) Measured from: Well Casing, or Protective Monument
 Traditional Purge Volume Calc.: 18.90 ft - 11.28 ft = 7.62 ft x 0.658 Liters/ft = 5.01 Liters
 Purge Rate: 3.75 l. + 15 min. = 0.250 Liters/minute

Begin Purge: 635 time

End Purge: 650 time

Volume Purged: 3.75 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/level, turb.)
637	= 500ml	15.0	335, 324	2.31	6.53	63	
639	= 950	15.0	326, 316	2.34	6.39	71	
641	= 1.5	15.0	321	2.20	6.28	76	
643	= 2.0	15.0	319	2.22	6.21	79	
645	= 2.5	15.0	315	2.30	6.16	82	
647	= 3.0	15.0	315 OK	2.53	6.12	84	
649	= 3.5	15.0	319	2.45	6.10	85	
650	= 3.75	15.0	315	2.37	6.09	85	

Sample Collection Information

Sample Collected with: disposable **Bailer**, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible **Pump**
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
<u>4</u>	<u>40 ml</u>	<input checked="" type="checkbox"/> Glass	<u>H-Cl</u>	<input checked="" type="checkbox"/> No	<u>NWTPH-Gx & BETX (EPA 8021B)(LLI code 26)</u>
<u>2</u>	<u>40 ml</u>	<input checked="" type="checkbox"/> Glass c	<u>none</u>	<input checked="" type="checkbox"/> No	<u>Nitrite, Nitrate & Sulfate (LLI code 55)</u>
	<u>500 ml</u>	<input type="checkbox"/> HDPE Plastic	<u>H2SO4</u>	<input type="checkbox"/> No	

Duplicate Sample No: _____

Comments: *Hach Kit Fe++ 0 mg/l

Signature: C.H. Hardy

Date: APRIL 23 2015

Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-60, AOC 5
 Event: 2nd Quarter 2015 (post Nitrate Inj) labor # 7KDVCREM
 SAMPLE I.D.: BDC-10 DC-MWA7A-150423 (yyymmdd)
 Date Collected: April/May, 23, 2015 COC Time: 725

59th Sample event

Collector: Charles Hardy

Well Information

Well I. D.: BDC-MW-17A Well Condition: Secure? Yes No: Describe Condition: _____
 Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____
 Total Depth of Well: 19.0 (ft.) historical or measured
 Present Water Level: 12.67 (ft.) Measured from: Well Casing, or Protective Monument
 Traditional Purge Volume Calc.: 19.0 ft - 12.67 ft = 6.33 ft x 0.58 Liters/ft = 4.17 Liters
 Purge Rate: 3.15 l. + 16 min. = 0.197 Liters/minute

Begin Purge: 709 time
 End Purge: 725 time
 Volume Purged: 3.15 Liters

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
	1"		0.170	0.140
	2"	0.776	0.658	0.579
	2.5"		0.942	0.833
	4"	2.995	2.502	2.260

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D.O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/level, turb.)
711	≈ 200 ml	17.8	1,328	0.49	6.14		
713	≈ 700	17.8	1,410	0.40	6.28	60.6	
715	≈ 1.1 L	17.9	1,437	0.30	6.34	58	
717	≈ 1.5	17.8	1,457	0.25	6.38	50	
719	≈ 1.95	17.9	1,459	0.23	6.40	55	
721	≈ 2.35	18.0	1,461	0.23	6.42	55	
722	≈ 2.75	17.9	1,460	0.29	6.44	54	
725	≈ 3.15	17.9	1,457	0.22	6.44	54	
≈							
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Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
<u>4</u>	40 ml	<input type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	NWTPH-Gx & BETX (EPA 8021B)(LLI code 26)
<u>2</u>	40 ml	<input checked="" type="checkbox"/> Glass c	none	<input checked="" type="checkbox"/> No	Nitrite, Nitrate & Sulfate (LLI code 55)
	500 ml	<input type="checkbox"/> HDPE Plastic	H2SO4	<input type="checkbox"/> No	

Comments: Hach Kit Fe++ 0 mg/L

Signature: C.H. Hardy Date: 2015 Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-60, AOC 5
 Event: 2nd Quarter 2015 (post Nitrate Inj) labor # 7KDVCREM
 SAMPLE I.D.: BDC-MW-18A-150428 (yyymmdd)
 Date Collected: April/May, 28, 2015 COC Time: 8:00

59th Sample event

Collector: Charles Hardy

Well Information

Well I. D.: BDC-Mw-18A Well Condition: Secure? Yes No: Describe Condition: New Lock
 Info.: Size: 2 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other
 Total Depth of Well: 20.02 (ft.) historical or measured
 Present Water Level: 72.26 (ft.) Measured from: Well Casing, or Protective Monument
 Traditional Purge Volume Calc.: 20.02 ft - 12.26 ft = 7.76 ft x 0.658 Liters/ft = 5.11 Liters
 Purge Rate: 2.9 l. + 15 min. = 0.193 Liters/minute

Begin Purge: 745 time

End Purge: 8:00 time

Volume Purged: 2.9 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
1"			0.170	0.140
2"		0.776	0.658	0.579
2.5"			0.942	0.833
4"		2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/level, turb.)
747	~ 2.50	16.9	1042	1.29	6.58	59	
749	~ 6.50	17.1	1043	1.00	6.45	64	
751	~ 1.05	17.0	1050	0.91	6.42	63	
753	~ 1.45	17.0	1070	0.77	6.38	63	
755	~ 1.85	17.0	1088	0.70	6.37	63	
757	~ 2.3	17.1	1122	0.59	6.36	63	
759	~ 2.7	17.0	1147	0.53	6.32	63	
8:00	~ 2.9	17.1	1156	0.48	6.32	63	
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Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other

Sample Description: (color, turbidity, odor, sheen, etc):

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
4	40 ml	<input type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	NWTPH-Gx & BETX (EPA 8021B) (LLI code 26)
<u>2</u>	40 ml	<input checked="" type="checkbox"/> Glass c	none	<input checked="" type="checkbox"/> No	Nitrite, Nitrate & Sulfate (LLI code 55)
	500 ml	<input type="checkbox"/> HDPE Plastic	H2SO4	<input type="checkbox"/> No	

Comments: * Each Kit Fe++ 0 mg/L
 Duplicate Sample No: _____

Signature: C.H. Hardy Date: APRIL 28 2015 Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-60, AOC 5
 Event: 2nd Quarter 2015 (post Nitrate Ini) labor # 7KDVCREM
 SAMPLE ID: BDC-MW-21A-150428 (yyymmdd)
 Date Collected: April/May, 28, 2015 COC Time: 830

59th Sample event

Collector: Charles Hardy

Well Information

Well I. D.: BDC-MW-21A Well Condition: Secure? Yes No: Describe Condition NEW LOCK
 Info.: Size: 4 (inches) 40 (Sch.) Material: PVC, Stainless Steel, Other _____
 Total Depth of Well: 19.9⁰ (ft.) historical or measured
 Present Water Level: 12.48 (ft.) Measured from: Well Casing, or Protective Monument
 Traditional Purge Volume Calc.: 19.9 ft - 12.48 ft = 7.42 ft x 2.502 Liters/ft = 4.88 Liters
 Purge Rate: 3.35 l. + 15 min. = 0.223 Liters/minute 0.58

Begin Purge: 815 time
 End Purge: 830 time
 Volume Purged: 3.35 Liters
 Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
1"	1"		0.170	0.140
2"	2"	0.776	0.658	0.579
2.5"	2.5"		0.942	0.833
4"	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	+/- 3% Conductivity	+/- 10% D. O. (mg/l)	+/- 0.10 unit pH	ORP mV	Others (w/level, turb.)
817	≈ 150 ml	15.6	247	3.20	6.56	72	
819	≈ 650	15.7	239	2.33	6.29	82	
821	≈ 1.05 L	15.7	243	2.26	6.18	85	
823	≈ 1.7	15.7	243	2.03	6.12	86	
825	≈ 2.25	15.6	245	1.89	6.07	86	
827	≈ 2.65	15.6	246	1.85	6.04	87	
829	≈ 3.15	15.6	248	1.65	6.02	87	
830	≈ 3.35	15.6	246	1.60	6.01	87	
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Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
<u>4</u>	<u>40 ml</u>	<input type="checkbox"/> Glass	<u>H-Cl</u>	<input type="checkbox"/> No	<u>NWTPH-Gx & BETX (EPA 8021B)(LLI code 26)</u>
<u>2</u>	<u>40 ml</u>	<input checked="" type="checkbox"/> Glass c	<u>none</u>	<input checked="" type="checkbox"/> No	<u>Nitrite, Nitrate & Sulfate (LLI code 55)</u>
_____	<u>500 ml</u>	<input type="checkbox"/> HDPE Plastic	<u>H2SO4</u>	<input type="checkbox"/> No	_____

Comments: * Hach Kit Fe++ 0.01 mg/l
 Duplicate Sample No: _____

Signature: C.H. Hardy Date: APRIL 28, 2015 Continued on Back

BOEING Groundwater Sample Collection Form

Project Site: Dev. Ctr. Area: 9-60, AOC 5

Event: 2nd Quarter 2015 (post Nitrate Inj) labor # 7KDVCREM

59th Sample event

SAMPLE ID: BDC-10 05-15-05-2809-150422 (yyymmdd)

Collector: Charles Hardy

Date Collected: April/May, 28, 2015 COC Time 3:55

Well Information

Well I. D.: BDC-05-09 Well Condition: Secure? Yes No: Describe Condition: _____

Info.: Size: 4 (inches) 4 (Sch.) Material: PVC, Stainless Steel, Other _____

Total Depth of Well: 25.36 (ft.) historical or measured

Present Water Level: 12.26 (ft.) Measured from: Well Casing, or Protective Monument

Traditional Purge Volume Calc.: 25.36 ft - 12.26 ft = 13.1 ft x 2.552 Liters/ft = 32.78 Liters

Purge Rate: 2.95 l. + 13 min. = 0.227 Liters/minute

Begin Purge: 8:42 time

End Purge: 8:55 time

Volume Purged: 2.95 Liters

Purge water disposal to: 55-gal drum, storage tank treatment system ground other _____

Casing Volume by Size & Schedule (Liters/ft)	Diameter	10s	Sch 40	Sch 80
1"	1"		0.170	0.140
2"	2"	0.776	0.658	0.579
2.5"	2.5"		0.942	0.833
4"	4"	2.995	2.502	2.260

Recorded Parameters for Stabilization during Purging

Time	Vol. Purged	Temp. (°F or °C)	Conductivity +/- 3%	D. O. (mg/l) +/- 10%	pH +/- 0.10 unit	ORP mV	Others (w/level, turb.)
844	≈ 250 ml	14.9	280	0.45	6.00	89	
846	≈ 650	15.1	281	0.15	5.92	87	
848	≈ 1.2 L	15.0	281	0.13	5.89	85	
850	≈ 1.75	15.2	283	0.10	5.87	79	
852	≈ 2.25	15.1	282	0.12	5.88	76	
854	≈ 2.7	15.0	282	0.10	5.87	74	
855	≈ 2.95	15.0	282	0.11	5.86	79	
858	"	"	"	"	"	"	"
900	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"

Sample Collection Information

Sample Collected with: disposable Bailer, Peristaltic, Bladder, Inertia Lift, or Elect. Submersible Pump
 Made of: Polyethylene HDPE PVC Teflon Stainless Steel Other _____
 Decontamination: N/A dedicated system Alconox Wash Tap Rinse D.I. Rinse Other _____

Sample Description: (color, turbidity, odor, sheen, etc): _____

Quantity	Size	Type	Preservative	Field Filtered	Laboratory Analysis Method
4	40 ml	<input type="checkbox"/> Glass	H-Cl	<input type="checkbox"/> No	NWTPH-Gx & BETX (EPA 8021B)(LLI code 26)
2	40 ml	<input checked="" type="checkbox"/> Glass c	none	<input checked="" type="checkbox"/> No	Nitrite, Nitrate & Sulfate (LLI code 55)
	500 ml	<input type="checkbox"/> HDPE Plastic	H2SO4	<input type="checkbox"/> No	

Duplicate Sample No: _____

Comments: Hach Kit Fe++ 0.4 mg/L

Signature: C.H. Hardy

Date: APRIL 28, 2015

Continued on Back



Client: 13419
The Boeing Company
Boeing_DC:AOC-5

Ship To:
Boeing
Boeing@ Western Process. Sfund
20015 72nd Ave South
Kent, WA 98032
Attn: Charles 'Duffy' Hardy

Group: 1

Number of Sample Locations: 4
One complete set of bottles listed below must be filled for each of the 4 sample location(s).

<u>Sample Description</u>	<u>QC Type</u>
BDC-101 Water	
BDC-102 Water	
BDC-103 Water	
BDC-104 Water	

<u>Count</u>	<u>Code</u>	<u>Description</u>	<u>Preservative</u>	<u>Analysis Name</u>	<u>Hold Time</u>
4	26	40 ml glass vial	HCl	Method 8021 Water Master	14 days
				NWTPH-Gx water C7-C12	14 days
2	55	40 ml glass vial	None	Nitrate	48 hours
				Nitrite Nitrogen	48 hours
				Sulfate	28 days

Group: 2

Number of Sample Locations: 4
One complete set of bottles listed below must be filled for each of the 4 sample location(s).

<u>Sample Description</u>	<u>QC Type</u>
DC-MW-17a Water	
DC-MW-18a Water	
DC-MW-21a Water	
BDC-05-04 Water	

<u>Count</u>	<u>Code</u>	<u>Description</u>	<u>Preservative</u>	<u>Analysis Name</u>	<u>Hold Time</u>
2	55	40 ml glass vial	None	Nitrate	48 hours
				Nitrite Nitrogen	48 hours
				Sulfate	28 days

If you have any questions, please contact your Client Service Representative, Kay Hower, at (717)656-2300 xCA

Date Needed:

04/17/2015

Pack By:

04/16/2015

Shipping Method:

Lab Drop Off

This order is:

Per your Request



Client: 13419
The Boeing Company
Boeing_DC:AOC-5

Ship To:
Boeing
Boeing@ Western Process. Sfund
20015 72nd Ave South
Kent, WA 98032
Attn: Charles 'Duffy' Hardy

Group: 3

Number of Sample Locations: 1	
<u>Sample Description</u> Trip Blank Water	<u>QC Type</u> Trip Blank

<u>Count</u>	<u>Code</u>	<u>Description</u>	<u>Preservative</u>	<u>Analysis Name</u>	<u>Hold Time</u>
2	26	40 ml glass vial	HCl	Method 8021 Water Master	14 days
				NWTPH-Gx water C7-C12	14 days

Sample Acceptance Policy

Samples must be submitted in a manner that meets the criteria listed below. If these criteria are not met, the laboratory will contact the client to discuss how to proceed with testing. If the client decides to proceed with testing, a comment describing the variation will appear on the analytical report.

- Documentation must be complete and include: sample identification, the location, date and time of collection, collector's name or initials, preservation type, sample type, required analyses, and any special remarks concerning the sample.
- Proper sample labeling must include unique identification on a durable (water resistant) label using indelible ink.
- Samples must be collected in appropriate containers with sufficient volume to perform tests. The laboratory will provide appropriate bottleware.
- Samples must be shipped promptly to meet specified holding times with adequate packing materials to prevent damage during shipment and adequate wet ice to meet method temperature requirements (0-6°C, not frozen).

If you have any questions, please contact your Client Service Representative, Kay Hower, at (717)656-2300 xCA

Date Needed:

04/17/2015

Pack By:

04/16/2015

Shipping Method:

Lab Drop Off

This order is:

Per your Request

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

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

January 30, 2015

Project: Boeing_DC:AOC-5

Submittal Date: 01/22/2015

Group Number: 1532987

State of Sample Origin: WA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
BDC-101 Water	7747051
BDC-101 Water	7747052
BDC-102 Water	7747053
BDC-102 Water	7747054
BDC-103 Water	7747055
BDC-103 Water	7747056
BDC-104 Water	7747057
BDC-104 Water	7747058
Trip Blank Water	7747059

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

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

ELECTRONIC COPY TO	Landau Associates	Attn: Anne Halvorsen
ELECTRONIC COPY TO	Landau Associates	Attn: Terry McGourty
ELECTRONIC COPY TO	Landau	Attn: Clint Jacob
ELECTRONIC COPY TO	The Boeing Company	Attn: Jim Bet
ELECTRONIC COPY TO	The Boeing Company	Attn: Nancy Ballew
ELECTRONIC COPY TO	The Boeing Company	Attn: Paul Yount

Respectfully Submitted,



Kay Hower
Manager

(510) 232-8894

Project Name: Boeing_DC:AOC-5
LL Group #: 1532987

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 #: 15022667901A (Sample number(s): 7747051-7747058 UNSPK: 7747051 BKG: 7747051)

The recovery(ies) for the following analyte(s) in the MS was outside the acceptance window: Nitrate Nitrogen

Sample Description: BDC-101 Water
Boeing_DC: AOC-5

LL Sample # WW 7747051
LL Group # 1532987
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 01/21/2015 06:15 by CH

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

Submitted: 01/22/2015 09:00

Reported: 01/30/2015 11:50

DC101

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	21.3	1.0	10
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602	1	15029A94A	01/29/2015 14:27	Brett W Kenyon	1
		NWTPH-Gx					
02102	Method 8021 Water Master	SW-846 8021B	1	15029A94A	01/29/2015 14:27	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030B	1	15029A94A	01/29/2015 14:27	Brett W Kenyon	1
00368	Nitrate Nitrogen	EPA 300.0	1	15022667901A	01/22/2015 14:38	Drew M Gerhart	10
01506	Nitrite Nitrogen	EPA 300.0	1	15022667901A	01/22/2015 12:44	Drew M Gerhart	1

Sample Description: BDC-101 Water
Boeing_DC: AOC-5

LL Sample # WW 7747052
LL Group # 1532987
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 01/21/2015 06:15 by CH

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

Submitted: 01/22/2015 09:00

Reported: 01/30/2015 11:50

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 44.6	mg/l 1.5	5

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15022667901A	01/22/2015 16:03	Drew M Gerhart	5

Sample Description: BDC-102 Water
Boeing_DC: AOC-5

LL Sample # WW 7747053
LL Group # 1532987
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 01/21/2015 06:50 by CH

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

Submitted: 01/22/2015 09:00

Reported: 01/30/2015 11:50

DC102

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	12.9	1.0	10
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602	1	15029A94A	01/29/2015 14:53	Brett W Kenyon	1
		NWTPH-Gx					
02102	Method 8021 Water Master	SW-846 8021B	1	15029A94A	01/29/2015 14:53	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030B	1	15029A94A	01/29/2015 14:53	Brett W Kenyon	1
00368	Nitrate Nitrogen	EPA 300.0	1	15022667901A	01/22/2015 15:20	Drew M Gerhart	10
01506	Nitrite Nitrogen	EPA 300.0	1	15022667901A	01/22/2015 13:55	Drew M Gerhart	1

Sample Description: BDC-102 Water
Boeing_DC: AOC-5

LL Sample # WW 7747054
LL Group # 1532987
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 01/21/2015 06:50 by CH

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

Submitted: 01/22/2015 09:00

Reported: 01/30/2015 11:50

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 49.7	mg/l 1.5	5

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15022667901A	01/22/2015 17:14	Drew M Gerhart	5

Sample Description: BDC-103 Water
Boeing_DC: AOC-5

LL Sample # WW 7747055
LL Group # 1532987
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 01/21/2015 07:30 by CH

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

Submitted: 01/22/2015 09:00

Reported: 01/30/2015 11:50

DC103

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	137	10.0	100
01506	Nitrite Nitrogen	14797-65-0	0.27	0.10	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15029A94A	01/29/2015 15:18	Brett W Kenyon	1
02102	Method 8021 Water Master	SW-846 8021B	1	15029A94A	01/29/2015 15:18	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030B	1	15029A94A	01/29/2015 15:18	Brett W Kenyon	1
00368	Nitrate Nitrogen	EPA 300.0	1	15022667901A	01/22/2015 16:46	Drew M Gerhart	100
01506	Nitrite Nitrogen	EPA 300.0	1	15022667901A	01/22/2015 14:09	Drew M Gerhart	1

Sample Description: BDC-103 Water
Boeing_DC: AOC-5

LL Sample # WW 7747056
LL Group # 1532987
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 01/21/2015 07:30 by CH

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

Submitted: 01/22/2015 09:00

Reported: 01/30/2015 11:50

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 69.1	mg/l 1.5	5

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15022667901A	01/22/2015 17:28	Drew M Gerhart	5

Sample Description: BDC-104 Water
Boeing_DC: AOC-5

LL Sample # WW 7747057
LL Group # 1532987
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 01/21/2015 08:05 by CH

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

Submitted: 01/22/2015 09:00

Reported: 01/30/2015 11:50

DC104

CAT No.	Analysis Name	CAS Number	As Received Result	As Received 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	11.3	1.0	10
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602	1	15029A94A	01/29/2015 15:43	Brett W Kenyon	1
		NWTPH-Gx					
02102	Method 8021 Water Master	SW-846 8021B	1	15029A94A	01/29/2015 15:43	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030B	1	15029A94A	01/29/2015 15:43	Brett W Kenyon	1
00368	Nitrate Nitrogen	EPA 300.0	1	15022667901A	01/22/2015 15:49	Drew M Gerhart	10
01506	Nitrite Nitrogen	EPA 300.0	1	15022667901A	01/22/2015 14:24	Drew M Gerhart	1

Sample Description: BDC-104 Water
Boeing_DC: AOC-5

LL Sample # WW 7747058
LL Group # 1532987
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 01/21/2015 08:05 by CH

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

Submitted: 01/22/2015 09:00

Reported: 01/30/2015 11:50

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 36.3	mg/l 1.5	5

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15022667901A	01/24/2015 14:58	Clinton M Wilson	5

Sample Description: Trip Blank Water
Boeing_DC: AOC-5

LL Sample # WW 7747059
LL Group # 1532987
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 01/15/2015

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

Submitted: 01/22/2015 09:00

Reported: 01/30/2015 11:50

DC-TB

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15029A94A	01/29/2015 13:37	Brett W Kenyon	1
02102	Method 8021 Water Master	SW-846 8021B	1	15029A94A	01/29/2015 13:37	Brett W Kenyon	1
01146	GC VOA Water Prep	SW-846 5030B	1	15029A94A	01/29/2015 13:37	Brett W Kenyon	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 01/30/15 at 11:50 AM

Group Number: 1532987

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

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

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 15029A94A	Sample number(s): 7747051,7747053,7747055,7747057,7747059							
Benzene	1.0 U	1.0	ug/l	104	100	80-120	4	30
Ethylbenzene	1.0 U	1.0	ug/l	104	100	80-120	4	30
NWTPH-Gx water C7-C12	250 U	250.	ug/l	97	94	75-135	3	30
Toluene	1.0 U	1.0	ug/l	104	100	80-120	4	30
m,p-Xylene	1.0 U	1.0	ug/l	104	100	80-120	4	30
o-Xylene	1.0 U	1.0	ug/l	104	101	80-120	3	30

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 15022667901A	Sample number(s): 7747051-7747058							
Nitrate Nitrogen	0.050 U	0.050	mg/l	101	98	90-110	3	20
Nitrite Nitrogen	0.050 U	0.050	mg/l	97	93	90-110	3	20
Sulfate	0.30 U	0.30	mg/l	103	95	90-110	8	20

Sample Matrix Quality Control

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 15022667901A	Sample number(s): 7747051-7747058 UNSPK: 7747051 BKG: 7747051								
Nitrate Nitrogen	87*		90-110			21.3	21.4	1	20
Nitrite Nitrogen	94		90-110			0.050 U	0.050 U	0 (1)	20
Sulfate	91		90-110			44.2	45.4	3 (1)	20

Surrogate Quality Control

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

Analysis Name: Method 8021 Water Master

Batch number: 15029A94A

	Trifluorotoluene-P	Trifluorotoluene-F
7747051	88	70
7747053	87	71

*- Outside of specification

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 01/30/15 at 11:50 AM

Group Number: 1532987

Surrogate Quality Control

7747055	87	91
7747057	88	67
7747059	86	68
Blank	87	70
LCS	87	98
LCSD	87	96
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.

Boeing Chain of Custody



Lancaster Laboratories

Acct. # 13419 For Eurofins Lancaster Laboratories use only
 Group # 1532987 Sample # 7747051-59
 Please print. Instructions on reverse side correspond.

① #13419 Client Information					④ Analyses Requested								⑤ Remarks/Comments		
Site Location: <u>BOEING</u>					55 26 NKTPH-G 55 26 BETX 55 SULFATE NITRATE NITRITE										NITRATE - SHORT HOLDING TIME
Site Project: <u>DEVELOPMENTAL CENTER DC</u>															
Site Program#: <u>AOC-5 QUARTLY 58th EVENT</u>															
Boeing PM: <u>JAMES BET</u>															
Consultant Contact: <u>LANDAU</u>															
Report To: _____															
Invoice To: <input checked="" type="checkbox"/> Boeing EHS <input type="checkbox"/> Other (specify): _____															
Sampler: <u>CHARLES HARDY</u> # of Coolers: _____															
② Sample Identification		Collected		③ Matrix	No. of Containers										
		Date	Time												
<u>BDC 101-150121</u>		<u>1-21-2015</u>	<u>615</u>	<u>Ag</u>	<u>6</u>										
<u>BDC 102-150121</u>		<u>1-21-2015</u>	<u>650</u>	<u>Ag</u>	<u>6</u>										
<u>BDC 103-150121</u>		<u>1-21-2015</u>	<u>730</u>	<u>Ag</u>	<u>6</u>										
<u>BDC 104-150121</u>		<u>1-21-2015</u>	<u>805</u>	<u>Ag</u>	<u>6</u>										
<u>TRIP BLANKS</u>		<u>1-15-2015</u>		<u>Ag</u>	<u>2</u>										
⑥ Turnaround Time Requested (please circle)					Relinquished by: <u>C.H. Hardy</u>		Date/Time: <u>1-27-2015 1200</u>		Received by: _____		Date/Time: _____		⑦		
<input checked="" type="checkbox"/> Standard 5 day 4 day <input type="checkbox"/> 72 hour 48 hour 24 hour Date needed: _____					Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____				
					Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: <u>1-27-2015 900</u>				
					Relinquished by commercial carrier (circle):		Temperature upon Receipt: <u>0.9</u> °C		Custody Seals Intact?: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
					<input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other: <u>2.22 COURIER</u>										

Client: Boeing

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Timestamp: 01/22/2015 9:00
 Number of Packages: 1 Number of Projects: 1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	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 Brandy Barclay (2299) at 09:38 on 01/22/2015

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	DT146	0.4	DT	Wet	Y	Bagged	N

1532987

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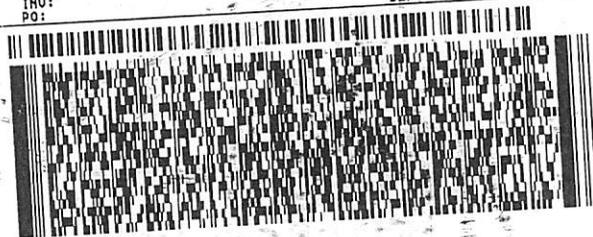
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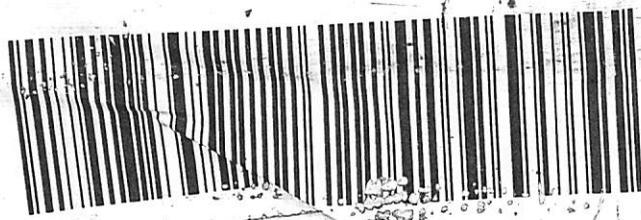


**THU - 22 JAN 10:30A
PRIORITY OVERNIGHT**

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0667

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17601
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Part # 156297-050112 (2/10)
9210PH0510191T

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Laboratories

2425 New Holland Pike, Lancaster, PA 17601

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455396

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Explanation of Symbols and Abbreviations

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

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

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \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...

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

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

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

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

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

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

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

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

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

May 05, 2015

Project: Boeing_DC:AOC-5Submittal Date: 04/29/2015
Group Number: 1557020
State of Sample Origin: WA

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
BDC-101-150428 Water	7865828
BDC-101-150428 Water	7865829
BDC-102-150428 Water	7865830
BDC-102-150428 Water	7865831
BDC-103-150428 Water	7865832
BDC-103-150428 Water	7865833
BDC-104-150428 Water	7865834
BDC-104-150428 Water	7865835
DC-MW-17A-150428 Water	7865836
DC-MW-17A-150428 Water	7865837
DC-MW-18A-150428 Water	7865838
DC-MW-18A-150428 Water	7865839
DC-MW-21A-150428 Water	7865840
DC-MW-21A-150428 Water	7865841
BDC-05-04-150428 Water	7865842
BDC-05-04-150428 Water	7865843
Trip Blank Water	7865844

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

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

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COPY TO		

Respectfully Submitted,



Kay Hower
Manager

(510) 672-3979

Project Name: Boeing_DC:AOC-5
LL Group #: 1557020

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 #: 15119987601A (Sample number(s): 7865828, 7865830, 7865832, 7865834, 7865836, 7865838-7865842 UNSPK: 7865840 BKG: 7865840)

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

Sample Description: BDC-101-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865828
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 05:25 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

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	19.1	1.0	10
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602	1	15121B53A	05/04/2015 15:44	Marie D Beamenderfer	1
02102	Method 8021 Water Master	NWTPH-Gx SW-846 8021B	1	15121B53A	05/04/2015 15:44	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15121B53A	05/04/2015 15:44	Marie D Beamenderfer	1
00368	Nitrate Nitrogen	EPA 300.0	1	15119987601A	04/29/2015 15:05	Clinton M Wilson	10
01506	Nitrite Nitrogen	EPA 300.0	1	15119987601A	04/29/2015 12:22	Clinton M Wilson	1

Sample Description: BDC-101-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865829
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 05:25 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 48.4	mg/l 3.0	10

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15119987601B	04/29/2015 21:36	Clinton M Wilson	10

Sample Description: BDC-102-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865830
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 05:50 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

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	23.1	2.0	20
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602	1	15121B53A	05/04/2015 17:08	Marie D Beamenderfer	1
02102	Method 8021 Water Master	NWTPH-Gx SW-846 8021B	1	15121B53A	05/04/2015 17:08	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15121B53A	05/04/2015 17:08	Marie D Beamenderfer	1
00368	Nitrate Nitrogen	EPA 300.0	1	15119987601A	04/29/2015 15:21	Clinton M Wilson	20
01506	Nitrite Nitrogen	EPA 300.0	1	15119987601A	04/29/2015 12:39	Clinton M Wilson	1

Sample Description: BDC-102-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865831
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 05:50 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 77.5	mg/l 3.0	10

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15119987601B	04/29/2015 21:52	Clinton M Wilson	10

Sample Description: BDC-103-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865832
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 06:20 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

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	1.0 U	1.0	1
Wet Chemistry		EPA 300.0	mg/l	mg/l	
00368	Nitrate Nitrogen	14797-55-8	74.8	5.0	50
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602	1	15121B53A	05/04/2015 17:35	Marie D	1
		NWTPH-Gx				Beamenderfer	
02102	Method 8021 Water Master	SW-846 8021B	1	15121B53A	05/04/2015 17:35	Marie D	1
						Beamenderfer	
01146	GC VOA Water Prep	SW-846 5030B	1	15121B53A	05/04/2015 17:35	Marie D	1
						Beamenderfer	
00368	Nitrate Nitrogen	EPA 300.0	1	15119987601A	04/29/2015 15:38	Clinton M Wilson	50
01506	Nitrite Nitrogen	EPA 300.0	1	15119987601A	04/29/2015 12:55	Clinton M Wilson	1

Sample Description: BDC-103-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865833
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 06:20 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 90.3	mg/l 6.0	20

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15119987601B	04/29/2015 22:09	Clinton M Wilson	20

Sample Description: BDC-104-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865834
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 06:50 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

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	11.3	1.0	10
01506	Nitrite Nitrogen	14797-65-0	0.10 U	0.10	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602	1	15121B53A	05/04/2015 18:03	Marie D	1
		NWTPH-Gx				Beamenderfer	
02102	Method 8021 Water Master	SW-846 8021B	1	15121B53A	05/04/2015 18:03	Marie D	1
						Beamenderfer	
01146	GC VOA Water Prep	SW-846 5030B	1	15121B53A	05/04/2015 18:03	Marie D	1
						Beamenderfer	
00368	Nitrate Nitrogen	EPA 300.0	1	15119987601A	04/29/2015 15:54	Clinton M Wilson	10
01506	Nitrite Nitrogen	EPA 300.0	1	15119987601A	04/29/2015 13:11	Clinton M Wilson	1

Sample Description: BDC-104-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865835
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 06:50 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 74.4	mg/l 6.0	20

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15119987601B	04/29/2015 22:25	Clinton M Wilson	20

Sample Description: DC-MW-17A-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865836
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 07:25 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

MW17A

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 1.6	mg/l 0.10	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00368	Nitrate Nitrogen	EPA 300.0	1	15119987601A	04/29/2015 13:27	Clinton M Wilson	1

Sample Description: DC-MW-17A-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865837
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 07:25 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 26.3	mg/l 1.5	5

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15119987601B	04/29/2015 22:41	Clinton M Wilson	5

Sample Description: DC-MW-18A-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865838
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 08:00 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

MW18A

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 0.11	mg/l 0.10	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00368	Nitrate Nitrogen	EPA 300.0	1	15119987601A	04/29/2015 13:44	Clinton M Wilson	1

Sample Description: DC-MW-18A-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865839
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 08:00 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 19.1	mg/l 0.60	2

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15119987601A	04/29/2015 16:59	Clinton M Wilson	2

Sample Description: DC-MW-21A-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865840
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 08:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

MW21A

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
00368	Nitrate Nitrogen	14797-55-8	0.10 U	0.10	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00368	Nitrate Nitrogen	EPA 300.0	1	15119987601A	04/29/2015 14:00	Clinton M Wilson	1

Sample Description: DC-MW-21A-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865841
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 08:30 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 5.3	mg/l 0.30	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15119987601A	04/29/2015 17:15	Clinton M Wilson	1

Sample Description: BDC-05-04-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865842
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 08:55 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

05-04

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 5.0	mg/l 0.50	5

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00368	Nitrate Nitrogen	EPA 300.0	1	15119987601A	04/29/2015 16:43	Clinton M Wilson	5

Sample Description: BDC-05-04-150428 Water
Boeing_DC: AOC-5

LL Sample # WW 7865843
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 04/28/2015 08:55 by CH

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
00228	Wet Chemistry Sulfate	EPA 300.0 14808-79-8	mg/l 13.5	mg/l 1.0	1

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00228	Sulfate	EPA 300.0	1	15119987601B	04/29/2015 19:58	Clinton M Wilson	1

Sample Description: Trip Blank Water
Boeing_DC: AOC-5

LL Sample # WW 7865844
LL Group # 1557020
Account # 13419

Project Name: Boeing_DC:AOC-5

Collected: 03/17/2015

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

Submitted: 04/29/2015 09:10

Reported: 05/05/2015 22:29

0504T

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

General Sample Comments

State of Washington Lab Certification No. C457

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08274	NWTPH-Gx water C7-C12	ECY 97-602 NWTPH-Gx	1	15121B53A	05/04/2015 14:48	Marie D Beamenderfer	1
02102	Method 8021 Water Master	SW-846 8021B	1	15121B53A	05/04/2015 14:48	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	15121B53A	05/04/2015 14:48	Marie D Beamenderfer	1

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/05/2015 22:29

Group Number: 1557020

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

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

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 15121B53A	Sample number(s): 7865828,7865830,7865832,7865834,7865844							
Benzene	1.0 U	1.0	ug/l	99	97	80-120	2	30
Ethylbenzene	1.0 U	1.0	ug/l	98	96	80-120	2	30
NWTPH-Gx water C7-C12	250 U	250.	ug/l	101	98	80-123	3	30
Toluene	1.0 U	1.0	ug/l	98	96	80-120	2	30
m,p-Xylene	1.0 U	1.0	ug/l	102	100	80-120	2	30
o-Xylene	1.0 U	1.0	ug/l	96	95	80-120	1	30

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 15119987601A	Sample number(s): 7865828,7865830,7865832,7865834,7865836,7865838-7865842							
Nitrate Nitrogen	0.050 U	0.050	mg/l	100	100	90-110	0	20
Nitrite Nitrogen	0.050 U	0.050	mg/l	97	98	90-110	1	20
Sulfate	0.30 U	0.30	mg/l	99	99	90-110	0	20
Batch number: 15119987601B	Sample number(s): 7865829,7865831,7865833,7865835,7865837,7865843							
Sulfate	0.30 U	0.30	mg/l	99	99	90-110	0	20

Sample Matrix Quality Control

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 15119987601A	Sample number(s): 7865828,7865830,7865832,7865834,7865836,7865838-7865842 UNSPK: 7865840 BKG: 7865840								
Nitrate Nitrogen	103		90-110			0.050 U	0.10	200* (1)	20
Nitrite Nitrogen	96		90-110			0.050 U	0.050 U	0 (1)	20
Sulfate	102		90-110			5.3	5.3	0	20
Batch number: 15119987601B	Sample number(s): 7865829,7865831,7865833,7865835,7865837,7865843 UNSPK: P866298 BKG: P866298								
Sulfate	102		90-110			14.3	14.2	0	20

Surrogate Quality Control

*- Outside of specification

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

Quality Control Summary

Client Name: The Boeing Company
Reported: 05/05/2015 22:29

Group Number: 1557020

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: Method 8021 Water Master
Batch number: 15121B53A

	Trifluorotoluene-P	Trifluorotoluene-F
7865828	100	118
7865830	100	126
7865832	101	116
7865834	101	112
7865844	101	98
Blank	101	100
LCS	101	111
LCSD	101	108
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.

Boeing Chain of Custody

For Lancaster Laboratories use only
 Sample # 7865828-44
 Please print. Instructions on reverse side correspond.

Acct. # 13419 Group # 13419

Lancaster Laboratories

Client Information
 Site Location: BOEING CO
 Site Project: DEV. CENTER
 Site Program#: AOC-5 SEMI-ANNUAL EVENT
 Boeing PM: JAMES BET
 Consultant Contact: LANDAU
 Report To: LANDAU
 Invoice To: Boeing EHS Other (specify):
 Sampler: CHARLES HARDY # of Coolers: 1

Sample Identification	Collected		Matrix	No. of Containers
	Date	Time		
BDC-101-150428	4-28-2015	5:25	A9	6
BDC-102-150428	4-28-2015	5:50	A9	6
BDC-103-150428	4-28-2015	6:20	A9	6
BDC-104-150428	4-28-2015	6:50	A9	6
DC-MW1A-150428	4-28-2015	7:25	A9	2
DC-MW1BA-150428	4-28-2015	8:00	A9	2
DC-MW21A-150428	4-28-2015	8:30	A9	2
BDC-05-04-150428	4-28-2015	8:55	A9	2
TRIP BLANKS	3/7-2011	-	A9	2

Sample Identification	Collected		Matrix	No. of Containers	Analyses Requested		Remarks/Comments
	Date	Time			26	53	
BDC-101-150428	4-28-2015	5:25	A9	6	NITRATE, NITRITE	NITRATE - SHORT HOLDING TIME 4Bhd	
BDC-102-150428	4-28-2015	5:50	A9	6	BETX		
BDC-103-150428	4-28-2015	6:20	A9	6	NITRATE, NITRITE		
BDC-104-150428	4-28-2015	6:50	A9	6	NITRATE, NITRITE		
DC-MW1A-150428	4-28-2015	7:25	A9	2			
DC-MW1BA-150428	4-28-2015	8:00	A9	2			
DC-MW21A-150428	4-28-2015	8:30	A9	2			
BDC-05-04-150428	4-28-2015	8:55	A9	2			
TRIP BLANKS	3/7-2011	-	A9	2			

Relinquished by: CHARLES HARDY Date/Time: 4-28-2015 10:00
 Relinquished by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____
 Relinquished by commercial carrier (circle): UPS Other: COURTEL
 Temperature upon Receipt: _____ °C
 Custody Seals Intact? Yes No

6 Turnaround Time Requested (please circle)
 Standard 5 day 4 day
 72 hour 48 hour 24 hour
 Date needed: _____

Client: Boeing

Delivery and Receipt Information

Delivery Method:	<u>Fed Ex</u>	Arrival Timestamp:	<u>04/29/2015 9:10</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 ≥ 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 Brandy Barclay (2299) at 09:50 on 04/29/2015

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	DT146	1.4	DT	Wet	Y	Bagged	N

1557020

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M-10091 Rev. 3/10

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

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

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

SATURDAY DELIVERY

Shipments tendered on Friday are delivered on Saturday to most locations.



8054 3010 7932

Form ID
0667

WED - 29 APR 10:30A

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RUSH

Explanation of Symbols and Abbreviations

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

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

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \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...

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

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

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

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

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

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

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