

**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
ANNUAL AMBIENT AIR QUALITY MONITORING REPORT  
2014  
REPORT HISTORY**

Original report release date: March 12, 2015

Revised report release date: October 19, 2017

**Revision 1 – correction of NO, NO<sub>2</sub>, and NO<sub>x</sub> values at AMS 7 – Athabasca Valley.**

The NO<sub>x</sub> analyzer at AMS 7 – Athabasca Valley did not meet criteria when audited by AEP in September 2016. It was determined that the calibration cylinder concentration did not match the stated concentration. Data and calibration summaries for this analyzer were reviewed by a third-party contractor to determine correction factors for the analyzer data. Data was adjusted from October 14, 2014 to September 21, 2016



*WOOD BUFFALO  
ENVIRONMENTAL  
ASSOCIATION*

# **ANNUAL 2014 REPORT**



CONTINUOUS MONITORING  
INTEGRATED MONITORING  
March 12, 2015

Revised: October 19, 2017

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospheric Inc  
Calgary, Alberta

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March 12, 2015

Director, Environmental Monitoring and Evaluation Branch  
Alberta Environment  
11<sup>th</sup> Floor, Oxbridge Place  
9820 106 Street  
Edmonton, Alberta T5K 2J6

**RE: Monthly Ambient Air Quality Monitoring Report Annual 2014  
Wood Buffalo Environmental Association**

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Enclosed is the Annual 2014 ambient air quality monitoring report for the ambient air quality monitoring stations of the Wood Buffalo Environmental Association (WBEA) regional air quality monitoring network.

The continuous ambient air quality monitoring network stations are:

AMS 1 - Fort McKay – Bertha Ganter  
AMS 2 - Mildred Lake  
AMS 3 - Lower Camp B (meteorology)  
AMS 4 - Buffalo Viewpoint  
AMS 5 - Mannix  
AMS 6 - Patricia McInnes  
AMS 7 - Athabasca Valley  
AMS 8 - Fort Chipewyan  
AMS 9 - Barge Landing  
AMS 11 - Lower Camp (air quality)  
AMS 12 - Millennium Mine  
AMS 13 – Fort McKay South  
AMS 14 - Anzac  
AMS 15 - CNRL Horizon  
AMS 16 - Shell Muskeg River  
AMS 17 - Wapasu  
AMS 19 - Firebag  
AMS 101 - Manhikan  
AMS 102 - Niskitch  
AMS 103 - Northern Lights  
MAMS - Mobile Air Monitoring Station

This report is submitted by WBEA on behalf its members and for some members to satisfy the requirements contained in their EPEA Approvals:

<b>Company</b>	<b>EPEA Approval No.</b>
Athabasca Oil Corporation	289664-00-00
Brion Energy	254465-00-00
Canadian Natural Resources Limited	149968-00-01
Cenovus Energy	48522-01-00
Connacher Oil	240008-00-03
ConocoPhillips Canada Resources Corp	48263-00-00
Devon Canada Corp	224816-00-03
Finning	Not Applicable
Hammerstone Corporation	189942-00-02
Husky Energy	206355-00-00
Imperial Oil	00046586-00-00
MEG Energy	00216466-00-04
Nexen Inc.	137467-00-00
Shell Canada Limited	20809-01-00
Statoil Canada Ltd.	241311-00-00
Suncor Energy Inc.	094-02-00
Sunshine Oilsands Ltd.	305529-00-00
Syncrude Canada Limited	026-02-00
Teck Resources Ltd.	Not Applicable
Total Canada	228044-00-00
Williams Energy	73203-01-00

#### **Abroginal Communities**

Chipewyan Prairie Dene First Nation  
Christina River Dene Nation Council  
Fort McKay First Nation  
Fort McKay Metis Local 63  
Fort McMurray First Nation 468  
Fort McMurray Métis Local 1935

#### **Government and Non-Industrial Organizations**

Alberta Energy Regulator  
Alberta Environment & Sustainable Resource Development  
Alberta Health Services  
Alberta Health & Wellness  
Environment Canada

Fort McMurray Environmental Association  
Health Canada  
Parks Canada  
Pembina Institute for Appropriate Development  
Regional Municipality of Wood Buffalo  
Saskatchewan Environment

Figure 1 shows the location of the air monitoring stations and forest health passive towers in the WBEA network.

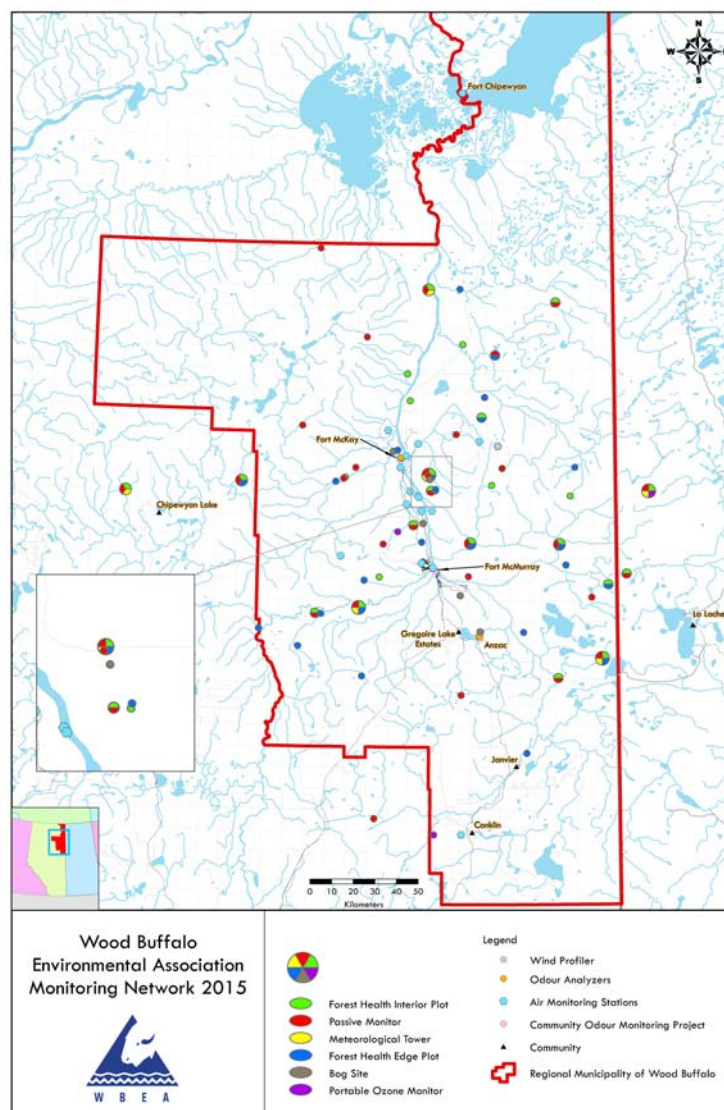


Figure 1 Map of WBEA Air Monitoring Network.

The following operational notes are provided as per the Air Monitoring Directive requirements.

## 1.0 Summary of Changes to WBEA Air Monitoring Network

The WBEA air monitoring network expanded in 2014 to include 1 additional permanent air monitoring station and 3 portable air monitoring stations.

In early January 2014, WBEA commissioned a portable air monitoring station at the Cenovus Energy Christina Lake facility. The survey at this location was conducted from January 1 to June 17, 2014 to fulfill Alberta Environment's Environmental Protection and Enhancement Act facility approval number 48522-01-00. This station was equipped with ambient air quality analyzers for SO<sub>2</sub>, H<sub>2</sub>S, NO, NO<sub>2</sub>, NO<sub>x</sub> and meteorological sensors for ambient temperature, relative humidity, and wind speed and direction.

WBEA commissioned a permanent air monitoring station at the Suncor Firebag facility on July 9, 2014. This continuous air monitoring station is to fulfill Alberta Environment's Environmental Protection and Enhancement Act (EPEA) facility approval number 80105-01-00. This station is equipped with ambient air quality analyzers for SO<sub>2</sub>, H<sub>2</sub>S, THC, NO, NO<sub>2</sub>, NO<sub>x</sub> and meteorological sensors for ambient temperature, relative humidity, and wind speed and direction.

WBEA commenced the ambient air quality monitoring surveys at the Statoil Leismer and ConocoPhillips Surmont facilities on July 1, 2014. The survey at the Statoil Leismer facility was conducted from July 1 to September 30, 2014 to fulfill EPEA approval number 241311-00-02. The survey at the ConocoPhillips Surmont facility started on July 1, 2014 and will continue to June 30, 2015 to fulfill EPEA approval number 48263-00-00. The current EPEA Approval for the ConocoPhillips Surmont Phase 1 project requires ambient air monitoring at the facility for 3 months per calendar year. The ambient air monitoring station was deployed early this year to account for any disruptions in monitoring activities due to instrument malfunctions, power interruptions due to plant maintenance periods or the construction of Phase 2 of the Surmont Project.

These two stations are equipped with ambient air quality analyzers for SO<sub>2</sub>, H<sub>2</sub>S, NO, NO<sub>2</sub>, NO<sub>x</sub> and meteorological sensors for ambient temperature, relative humidity, and wind speed and direction.

The following operational modifications are provided as per the Air Monitoring Directive requirements in Table 1.

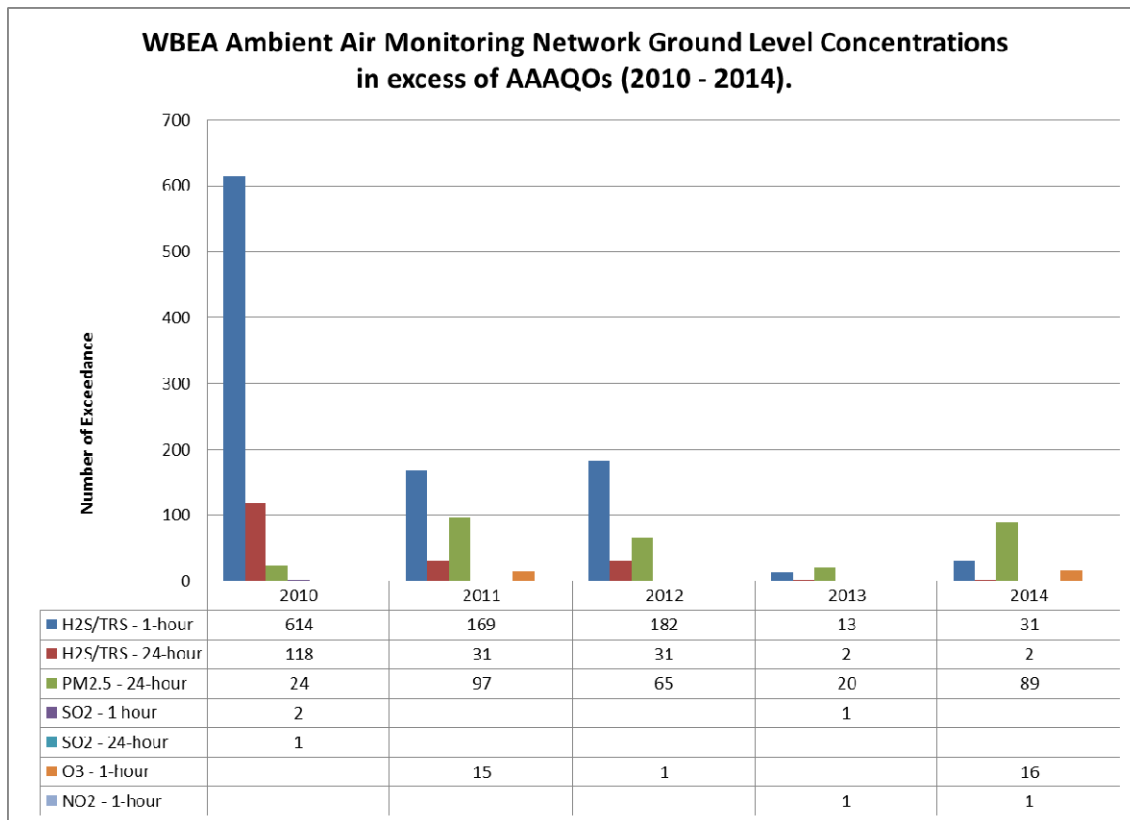
**Table 1 Parameters Added to WBEA Network - 2014**

Station	Station Name	Parameter	Effective Date	Comment
AMS 6	Patricia McInnes	NO2, NO, NOX	19-Mar-14	New analyzer Model 42i - Primary data collection
AMS 6	Patricia McInnes	NH3	19-Mar-14	Model 17i - Primary for NH3 data only
AMS 6	Patricia McInnes	NO2_2, NO_2, NOX_2	19-Mar-14	Model 17i - Secondary data collection for Nitrogen species
AMS 19	Firebag	SO2	09-Jul-14	New station, digital poll
AMS 17	Firebag	H2S	09-Jul-14	New station, digital poll
AMS 17	Firebag	NO2,NO,NOX	09-Jul-14	New station, digital poll
AMS 17	Firebag	THC	09-Jul-14	New station, digital poll
AMS 17	Firebag	Wind Speed and Direction	09-Jul-14	New station, digital poll
AMS 17	Firebag	Temperature	09-Jul-14	New station, digital poll
AMS 17	Firebag	Relative Humidity	09-Jul-14	New station, digital poll

## 2.0 Concentrations in Excess of Alberta Ambient Air Quality Objectives

The ambient concentrations in excess of the air quality objectives as indicated in the Air Monitoring Directive Section III.A.3 (a & b) for CO, H<sub>2</sub>S, NO<sub>2</sub>, NH<sub>3</sub>, O<sub>3</sub>, PM<sub>2.5</sub> and SO<sub>2</sub> are provided in the Annual Network Summary.

The WBEA Airhed reports to Alberta Environmental and Sustainable Resources Development (ESRD) ambient air concentrations for total reduced sulphur (TRS) in excess of the H<sub>2</sub>S Ambient Air Quality Objectives. The statistical summary of the previous 5-year comparisons for ambient concentrations in excess of the air quality objectives are shown in Figure 2. The H<sub>2</sub>S summary includes the TRS concentrations in excess of the H<sub>2</sub>S objectives.



**Figure 2 Ambient Air Concentrations in Excess of the AAAQOs (2010-2014).**



### **3.0 2014 Annual Air Concentrations**

This report contains a summary of operational times for the year, the monthly averages, number of readings in excess of the Alberta Ambient Air Quality Objectives and frequency distributions of 1-hour data. The results of passive and integrated monitoring of VOC, PM<sub>2.5</sub>, PM<sub>10</sub>, PAH and precipitation are also included in this report. The integrated results for daily and annual averages are provided for all species analyzed, as well as the monthly averages for passive monitoring.

If additional information is required, please call either Sanjay Prasad at (403) 703 8931 or the Wood Buffalo Environmental Association at (780) 799 4420.

Yours sincerely,

**Aurora Atmospheric Inc.**

Sanjay Prasad  
Air Quality Scientist

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APPROVAL NUMBERS	REPORT DATE						
	Month	YEAR					
289664-00-00 254465-00-00 149968-00-01 48522-01-00 240008-00-03 48263-00-00 224816-00-03 189942-00-02 206355-00-00 46586-00-00 216466-00-04 137467-00-00 20809-01-00 241311-00-00 094-02-00 305529-00-00 026-02-00 228044-00-00 73203-01-00	Jan - Dec	2014	CONTINUOUS AMBIENT MONITORING				
				ONE-HOUR AVERAGE		24-HOUR AVERAGE	
	PARAMETER	STN. NO.	% TIME OPERATIONAL	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION
	SO2(ppm)	1	99.21	0.053	0	0.011	0
	SO2(ppm)	2	99.76	0.082	0	0.025	0
	SO2(ppm)	4	94.46	0.067	0	0.012	0
	SO2(ppm)	5	99.72	0.162	0	0.037	0
	SO2(ppm)	6	98.44	0.088	0	0.010	0
	SO2(ppm)	7	99.85	0.037	0	0.006	0
	SO2(ppm)	8	93.06	0.007	0	0.003	0
	SO2(ppm)	11	98.90	0.060	0	0.011	0
	SO2(ppm)	12	99.86	0.107	0	0.021	0
	SO2(ppm)	13	99.18	0.077	0	0.014	0
	SO2(ppm)	14	99.80	0.064	0	0.005	0
	SO2(ppm)	15	99.09	0.071	0	0.010	0
	SO2(ppm)	16	99.65	0.090	0	0.013	0
	SO2(ppm)	17	99.73	0.113	0	0.020	0
	SO2(ppm)	19	100.00	0.044	0	0.008	0
	SO2(ppm)	500	99.58	0.018	0	0.005	0
	SO2(ppm)	501	96.17	0.007	0	0.003	0
	SO2(ppm)	502	89.05	0.017	0	0.006	0
	SO2(ppm)	MAMS	97.93	0.006	0	0.002	0
	H2S(ppm)	2	99.73	0.017	7	0.003	0
	H2S(ppm)	4	94.28	0.039	3	0.005	1
	H2S(ppm)	5	99.69	0.028	14	0.006	1
	H2S(ppm)	11	99.40	0.016	4	0.003	0
	H2S(ppm)	17	99.72	0.005	0	0.002	0
	H2S(ppm)	19	99.64	0.003	0	0.001	0
	H2S(ppm)	500	97.56	0.003	0	0.001	0
	H2S(ppm)	501	98.97	0.003	0	0.001	0
	H2S(ppm)	502	91.70	0.006	0	0.002	0
	H2S(ppm)	MAMS	97.66	0.005	0	0.002	0
	TRS(ppm)	1	99.24	0.009	0	0.002	0
	TRS(ppm)	6	98.46	0.003	0	0.001	0
	TRS(ppm)	7	99.83	0.004	0	0.001	0
	TRS(ppm)	9	99.63	0.004	0	0.001	0
	TRS(ppm)	12	99.86	0.013	1	0.002	0
	TRS(ppm)	13	99.61	0.016	2	0.002	0
	TRS(ppm)	14	99.81	0.009	0	0.001	0
	TRS(ppm)	15	99.65	0.010	0	0.001	0
	THC(ppm)	1	98.62	3.8	-	2.5	-
	THC(ppm)	2	99.35	14.7	-	3.5	-
	THC(ppm)	4	94.46	6.2	-	3.6	-
	THC(ppm)	5	96.34	8.1	-	3.6	-
	THC(ppm)	6	96.60	3.3	-	2.5	-
	THC(ppm)	7	99.74	2.8	-	2.4	-
	THC(ppm)	9	98.58	14.7	-	3.6	-
	THC(ppm)	11	99.11	15.9	-	3.5	-
	THC(ppm)	12	99.68	6.6	-	3.4	-
	THC(ppm)	13	99.23	7.9	-	3.1	-
	THC(ppm)	14	99.44	8.6	-	2.9	-
	THC(ppm)	15	99.44	11.9	-	4.3	-
	THC(ppm)	16	99.56	10.6	-	3.8	-
	THC(ppm)	17	99.65	3.0	-	2.5	-
	THC(ppm)	19	99.82	3.2	-	2.5	-
	THC(ppm)	MAMS	95.30	6.3	-	3.4	-

APPROVAL NUMBERS	REPORT DATE						
	Month	YEAR					
289664-00-00 254465-00-00 149968-00-01 48522-01-00 240008-00-03 48263-00-00 224816-00-03 189942-00-02 206355-00-00 46586-00-00 216466-00-04 137467-00-00 20809-01-00 241311-00-02 094-02-00 305529-00-00 026-02-00 228044-00-00 73203-01-00	Jan - Dec	2014	CONTINUOUS AMBIENT MONITORING				
			ONE-HOUR AVERAGE			24-HOUR AVERAGE	
	PARAMETER	STN. NO.	% TIME OPERATIONAL	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION	MAXIMUM CONCENTRATION	NO. READINGS > REGULATION
	O3(ppm)	1	98.42	0.104	3	0.043	-
	O3(ppm)	6	98.29	0.075	0	0.047	-
	O3(ppm)	7	99.78	0.077	0	0.045	-
	O3(ppm)	8	99.16	0.068	0	0.049	-
	O3(ppm)	13	99.63	0.105	2	0.045	-
	O3(ppm)	14	99.73	0.066	0	0.047	-
	O3(ppm)	17	99.66	0.109	11	0.064	-
	NO2(ppm)	1	99.05	0.047	0	0.033	-
	NO2(ppm)	6	97.96	0.043	0	0.027	-
	NO2(ppm)	7	99.50	0.165	1	0.044	-
	NO2(ppm)	8	98.95	0.021	0	0.008	-
	NO2(ppm)	12	99.67	0.068	0	0.037	-
	NO2(ppm)	13	99.62	0.046	0	0.028	-
	NO2(ppm)	14	99.42	0.039	0	0.014	-
	NO2(ppm)	15	99.36	0.059	0	0.026	-
	NO2(ppm)	16	99.67	0.064	0	0.037	-
	NO2(ppm)	17	99.03	0.037	0	0.016	-
	NO2(ppm)	19	100.00	0.038	0	0.016	-
	NO2(ppm)	500	99.82	0.047	0	0.027	-
	NO2(ppm)	501	99.40	0.026	0	0.006	-
	NO2(ppm)	502	90.29	0.042	0	0.019	-
	CO(ppm)	7	93.40	1.4	-	0.6	-
	NH3(ppm)	1	94.02	11	-	1	-
	NH3(ppm)	6	92.76	20	-	12	-
	PM2.5(ug/m3)	1	98.21	530.1	-	135.8	8
	PM2.5(ug/m3)	6	98.39	218.1	-	76.2	9
	PM2.5(ug/m3)	7	99.65	227.3	-	62.2	10
	PM2.5(ug/m3)	8	98.51	354.5	-	206.4	12
	PM2.5(ug/m3)	12	99.17	275.6	-	103.4	12
	PM2.5(ug/m3)	13	99.50	617.3	-	137.3	8
	PM2.5(ug/m3)	14	99.25	186.8	-	66.0	7
	PM2.5(ug/m3)	15	99.55	479.2	-	160.9	11
	PM2.5(ug/m3)	16	99.33	491.2	-	139.3	6
	PM2.5(ug/m3)	17	98.38	347.0	-	107.9	6
	WIND	1	98.54	-	-	-	-
	WIND	2	99.26	-	-	-	-
	WIND	4	98.51	-	-	-	-
	WIND	5	97.32	-	-	-	-
	WIND	6	99.33	-	-	-	-
	WIND	7	99.67	-	-	-	-
	WIND	8	99.24	-	-	-	-
	WIND	9	99.20	-	-	-	-
	WIND	11	99.23	-	-	-	-
	WIND	12	99.59	-	-	-	-
	WIND	13	98.85	-	-	-	-
	WIND	14	97.17	-	-	-	-
	WIND	15	99.84	-	-	-	-
	WIND	16	99.65	-	-	-	-
	WIND	17	98.53	-	-	-	-
	WIND	19	96.33	-	-	-	-
	WIND	500	98.42	-	-	-	-
	WIND	501	97.83	-	-	-	-
	WIND	502	89.83	-	-	-	-
	WIND	MAMS	99.09	-	-	-	-
SIGNATURE OF ASSOCIATION REPRESENTATIVE					FOR ALBERTA ENVIRONMENT USE ONLY		



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

CONTINUOUS AMBIENT AIR QUALITY  
MONITORING PROGRAM  
ANNUAL REPORT

### **SULPHUR DIOXIDE ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Fort McKay - Bertha Ganter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Surflur Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	98	691	1.0	9	0	3	0	100	0	0	0	0	0
Feb	100	636	1.2	25	0	5	0	99.37	0.63	0	0	0	0
Mar	100	708	1.7	49	0	11	0	99.01	0.99	0	0	0	0
Apr	100	682	2.1	44	0	9	0	98.68	1.32	0	0	0	0
May	99	697	1.2	53	0	6	0	99.43	0.57	0	0	0	0
Jun	100	686	1.3	11	0	4	0	100	0	0	0	0	0
Jul	100	706	1.8	34	0	6	0	98.73	1.27	0	0	0	0
Aug	99	704	1.9	34	0	5	0	99.15	0.85	0	0	0	0
Sep	100	681	1.7	47	0	5	0	98.53	1.47	0	0	0	0
Oct	99	694	1.4	29	0	4	0	99.71	0.29	0	0	0	0
Nov	100	683	0.7	5	0	1	0	100	0	0	0	0	0
Dec	98	692	1.0	19	0	2	0	100	0	0	0	0	0
<b>Annual</b>	<b>99.2</b>	<b>8260</b>	<b>1.4</b>	<b>53</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>99.38</b>	<b>0.62</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>





WBEA - Mildred Lake (AMS 2)  
Annual Summary for the Year 2014  
Sulfur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	100	707	1.4	33	0	5	0	99.01	0.99	0	0	0	0
Feb	100	639	1.3	29	0	5	0	99.53	0.47	0	0	0	0
Mar	100	709	2.6	68	0	25	0	97.6	2.26	0.14	0	0	0
Apr	100	686	3.1	79	0	17	0	96.5	3.06	0.44	0	0	0
May	100	706	1.4	65	0	7	0	98.87	0.99	0.14	0	0	0
Jun	100	687	1.2	39	0	4	0	99.71	0.29	0	0	0	0
Jul	100	706	2.9	47	0	12	0	97.03	2.97	0	0	0	0
Aug	100	709	2.8	73	0	17	0	96.9	2.96	0.14	0	0	0
Sep	98	669	2.5	82	0	10	0	97.61	2.09	0.3	0	0	0
Oct	100	708	2.6	58	0	18	0	99.01	0.99	0	0	0	0
Nov	100	686	0.9	24	0	3	0	99.85	0.15	0	0	0	0
Dec	100	709	1.3	69	0	11	0	99.01	0.85	0.14	0	0	0
<b>Annual</b>	<b>99.8</b>	<b>8321</b>	<b>2.0</b>	<b>82</b>	<b>0</b>	<b>25</b>	<b>0</b>	<b>98.37</b>	<b>1.52</b>	<b>0.11</b>	<b>0</b>	<b>0</b>	<b>0</b>



WBFA - Buffalo Viewpoint (AMS 4)  
 Annual Summary for the Year 2014  
 Sulfur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	85	326	0.4	6	0	1	0	100	0	0	0	0	0
Feb	100	378	1.0	55	0	11	0	99.21	0.79	0	0	0	0
Mar	100	708	0.7	20	0	4	0	100	0	0	0	0	0
Apr	100	686	1.3	67	0	12	0	98.25	1.6	0.15	0	0	0
May	100	709	0.4	8	0	2	0	100	0	0	0	0	0
Jun	100	685	0.3	8	0	2	0	100	0	0	0	0	0
Jul	99	705	0.4	20	0	4	0	100	0	0	0	0	0
Aug	99	700	0.4	12	0	1	0	100	0	0	0	0	0
Sep	50	339	0.9	43	0	5	0	99.12	0.88	0	0	0	0
Oct	100	707	0.7	31	0	4	0	99.43	0.57	0	0	0	0
Nov	100	685	0.5	24	0	3	0	99.85	0.15	0	0	0	0
Dec	100	705	0.6	22	0	5	0	99.86	0.14	0	0	0	0
<b>Annual</b>	<b>94.7</b>	<b>7333</b>	<b>0.6</b>	<b>67</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>99.67</b>	<b>0.31</b>	<b>0.01</b>	<b>0</b>	<b>0</b>	<b>0</b>



WBEA - Mannix (AMS 5)  
Annual Summary for the Year 2014  
Sulfur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range						
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340	
Jan	100	707	2.3	162	0	11	0	98.73	0.99	0.14	0.14	0	0	0
Feb	100	640	2.4	33	0	14	0	98.28	1.72	0	0	0	0	0
Mar	100	708	3.9	64	0	20	0	94.49	5.23	0.28	0	0	0	0
Apr	98	676	3.8	77	0	37	0	94.23	4.44	1.33	0	0	0	0
May	100	708	2.0	74	0	10	0	98.31	1.55	0.14	0	0	0	0
Jun	100	685	2.0	65	0	10	0	98.39	1.46	0.15	0	0	0	0
Jul	100	707	1.7	63	0	9	0	98.59	1.27	0.14	0	0	0	0
Aug	100	704	2.6	47	0	13	0	96.73	3.27	0	0	0	0	0
Sep	100	683	2.3	84	0	11	0	97.36	2.49	0.15	0	0	0	0
Oct	100	708	1.3	67	0	8	0	98.87	0.99	0.14	0	0	0	0
Nov	100	686	1.1	23	0	4	0	99.85	0.15	0	0	0	0	0
Dec	99	701	1.8	48	0	12	0	98	2	0	0	0	0	0
<b>Annual</b>	<b>99.7</b>	<b>8313</b>	<b>2.3</b>	<b>162</b>	<b>0</b>	<b>37</b>	<b>0</b>	<b>97.79</b>	<b>1.99</b>	<b>0.21</b>	<b>0.01</b>	<b>0</b>	<b>0</b>	<b>0</b>



WBEA - Patricia McInnes (AMS 6)  
 Annual Summary for the Year 2014  
 Sulfur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	100	710	1.3	15	0	3	0	100	0	0	0	0	0
Feb	100	637	1.2	14	0	3	0	100	0	0	0	0	0
Mar	100	707	2.0	88	0	8	0	99.43	0.42	0.14	0	0	0
Apr	99	677	1.4	49	0	10	0	98.38	1.62	0	0	0	0
May	99	702	0.8	26	0	4	0	99.72	0.28	0	0	0	0
Jun	100	681	1.2	16	0	5	0	100	0	0	0	0	0
Jul	97	687	0.7	12	0	4	0	100	0	0	0	0	0
Aug	100	706	1.1	25	0	6	0	99.72	0.28	0	0	0	0
Sep	100	683	0.9	15	0	4	0	100	0	0	0	0	0
Oct	100	708	0.5	23	0	5	0	99.72	0.28	0	0	0	0
Nov	87	592	0.8	16	0	3	0	100	0	0	0	0	0
Dec	100	707	1.0	12	0	5	0	100	0	0	0	0	0
<b>Annual</b>	<b>98.5</b>	<b>8197</b>	<b>1.1</b>	<b>88</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>99.74</b>	<b>0.25</b>	<b>0.01</b>	<b>0</b>	<b>0</b>	<b>0</b>



WBEA - Athabasca Valley (AMS 7)  
 Annual Summary for the Year 2014  
 Sulflur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	100	707	0.8	10	0	2	0	100	0	0	0	0	0
Feb	100	640	0.9	9	0	2	0	100	0	0	0	0	0
Mar	100	707	1.4	23	0	5	0	99.72	0.28	0	0	0	0
Apr	100	682	0.9	31	0	6	0	99.41	0.59	0	0	0	0
May	100	707	0.9	12	0	3	0	100	0	0	0	0	0
Jun	100	683	0.8	11	0	3	0	100	0	0	0	0	0
Jul	100	707	0.8	13	0	4	0	100	0	0	0	0	0
Aug	100	708	1.3	37	0	6	0	99.72	0.28	0	0	0	0
Sep	100	682	0.8	13	0	2	0	100	0	0	0	0	0
Oct	100	705	0.8	19	0	4	0	100	0	0	0	0	0
Nov	99	677	0.9	19	0	3	0	100	0	0	0	0	0
Dec	100	707	0.7	8	0	2	0	100	0	0	0	0	0
<b>Annual</b>	<b>99.9</b>	<b>8312</b>	<b>0.9</b>	<b>37</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>99.9</b>	<b>0.1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>



WBEA - Fort Chipewyan (AMS 8)  
 Annual Summary for the Year 2014  
 Sulflur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	98	694	0.5	7	0	3	0	100	0	0	0	0	0
Feb	100	638	0.1	5	0	1	0	100	0	0	0	0	0
Mar	92	643	0.1	4	0	1	0	100	0	0	0	0	0
Apr	100	684	0.1	5	0	1	0	100	0	0	0	0	0
May	100	704	0.1	1	0	0	0	100	0	0	0	0	0
Jun	100	683	0.1	2	0	1	0	100	0	0	0	0	0
Jul	99	701	0.2	3	0	1	0	100	0	0	0	0	0
Aug	99	699	0.3	6	0	1	0	100	0	0	0	0	0
Sep	100	686	0.2	6	0	1	0	100	0	0	0	0	0
Oct	100	705	0.2	7	0	2	0	100	0	0	0	0	0
Nov	88	599	0.2	5	0	1	0	100	0	0	0	0	0
Dec	41	286	0.2	4	0	2	0	100	0	0	0	0	0
<b>Annual</b>	<b>93.0</b>	<b>7722</b>	<b>0.2</b>	<b>7</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>



WBEA - Lower Camp (AMS 11)  
Annual Summary for the Year 2014  
Surflur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	100	703	1.6	32	0	4	0	99.57	0.43	0	0	0	0
Feb	100	639	1.7	42	0	8	0	99.06	0.94	0	0	0	0
Mar	100	709	2.0	39	0	7	0	99.15	0.85	0	0	0	0
Apr	100	687	1.6	57	0	10	0	98.84	1.16	0	0	0	0
May	100	707	0.7	39	0	6	0	99.72	0.28	0	0	0	0
Jun	95	648	0.4	10	0	2	0	100	0	0	0	0	0
Jul	100	708	1.0	45	0	11	0	99.15	0.85	0	0	0	0
Aug	93	659	0.8	34	0	7	0	99.7	0.3	0	0	0	0
Sep	100	683	1.8	30	0	6	0	98.98	1.02	0	0	0	0
Oct	100	708	2.1	53	0	9	0	98.59	1.41	0	0	0	0
Nov	100	685	1.2	23	0	5	0	99.85	0.15	0	0	0	0
Dec	99	702	2.0	60	0	9	0	98.86	1.14	0	0	0	0
<b>Annual</b>	<b>98.9</b>	<b>8238</b>	<b>1.4</b>	<b>60</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>99.31</b>	<b>0.69</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>



WBEA - Millennium (AMS 12)  
 Annual Summary for the Year 2014  
 Sulfur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	100	707	0.8	68	0	3	0	99.43	0.42	0.14	0	0	0
Feb	100	638	0.9	31	0	6	0	99.53	0.47	0	0	0	0
Mar	100	710	1.8	67	0	13	0	98.31	1.55	0.14	0	0	0
Apr	100	686	2.0	81	0	21	0	96.94	2.33	0.73	0	0	0
May	100	708	1.3	54	0	17	0	98.45	1.55	0	0	0	0
Jun	100	681	0.5	31	0	3	0	99.85	0.15	0	0	0	0
Jul	100	704	1.0	34	0	7	0	99.72	0.28	0	0	0	0
Aug	100	707	1.7	37	0	6	0	99.01	0.99	0	0	0	0
Sep	100	685	1.2	107	0	12	0	98.98	0.88	0.15	0	0	0
Oct	100	707	1.0	23	0	5	0	99.58	0.42	0	0	0	0
Nov	100	684	0.6	23	0	3	0	99.85	0.15	0	0	0	0
Dec	99	703	0.5	11	0	2	0	100	0	0	0	0	0
Annual	99.9	8320	1.1	107	0	21	0	99.13	0.77	0.1	0	0	0





**WBEA - Fort McKay South (AMS 13)**  
**Annual Summary for the Year 2014**  
**Surflur Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	100	705	0.7	10	0	2	0	100	0	0	0	0	0
Feb	100	638	0.8	13	0	3	0	100	0	0	0	0	0
Mar	100	706	1.4	49	0	11	0	99.15	0.85	0	0	0	0
Apr	100	684	2.1	77	0	14	0	97.81	2.05	0.15	0	0	0
May	99	695	1.1	53	0	6	0	98.85	1.15	0	0	0	0
Jun	100	684	1.4	23	0	4	0	99.85	0.15	0	0	0	0
Jul	99	703	1.8	46	0	7	0	99.15	0.85	0	0	0	0
Aug	99	699	1.7	36	0	5	0	98.57	1.43	0	0	0	0
Sep	100	681	1.4	36	0	7	0	98.24	1.76	0	0	0	0
Oct	99	693	1.4	34	0	5	0	99.57	0.43	0	0	0	0
Nov	98	669	0.7	4	0	1	0	100	0	0	0	0	0
Dec	97	681	0.9	8	0	2	0	100	0	0	0	0	0
<b>Annual</b>	<b>99.2</b>	<b>8238</b>	<b>1.3</b>	<b>77</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>99.25</b>	<b>0.74</b>	<b>0.01</b>	<b>0</b>	<b>0</b>	<b>0</b>



WBEA - Anzac (AMS 14)  
Annual Summary for the Year 2014  
Sulfur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	100	706	0.7	10	0	2	0	100	0	0	0	0	0
Feb	100	639	0.6	10	0	2	0	100	0	0	0	0	0
Mar	100	707	0.7	11	0	2	0	100	0	0	0	0	0
Apr	100	685	0.4	16	0	3	0	100	0	0	0	0	0
May	100	709	0.4	8	0	2	0	100	0	0	0	0	0
Jun	100	686	0.3	14	0	3	0	100	0	0	0	0	0
Jul	99	701	0.7	64	0	5	0	99.57	0.29	0.14	0	0	0
Aug	100	704	0.7	12	0	2	0	100	0	0	0	0	0
Sep	100	682	0.4	9	0	1	0	100	0	0	0	0	0
Oct	100	707	0.5	6	0	1	0	100	0	0	0	0	0
Nov	100	685	0.6	8	0	3	0	100	0	0	0	0	0
Dec	99	704	0.9	12	0	2	0	100	0	0	0	0	0
<b>Annual</b>	<b>99.8</b>	<b>8315</b>	<b>0.6</b>	<b>64</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>99.96</b>	<b>0.02</b>	<b>0.01</b>	<b>0</b>	<b>0</b>	<b>0</b>



WBEA - CNRL Horizon (AMS 15)  
 Annual Summary for the Year 2014  
 Sulfur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range						
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340	
Jan	100	708	1.2	71	0	6	0	99.58	0.28	0.14	0	0	0	0
Feb	100	637	1.1	25	0	6	0	99.69	0.31	0	0	0	0	0
Mar	100	710	1.0	22	0	8	0	99.72	0.28	0	0	0	0	0
Apr	99	677	1.1	30	0	7	0	99.26	0.74	0	0	0	0	0
May	100	706	0.8	36	0	5	0	99.58	0.42	0	0	0	0	0
Jun	98	674	1.3	41	0	5	0	99.55	0.45	0	0	0	0	0
Jul	100	707	1.1	40	0	6	0	99.43	0.57	0	0	0	0	0
Aug	99	699	1.5	71	0	10	0	99.28	0.57	0.14	0	0	0	0
Sep	98	671	1.3	53	0	7	0	99.25	0.75	0	0	0	0	0
Oct	99	699	1.4	23	0	5	0	99.57	0.43	0	0	0	0	0
Nov	96	657	0.5	9	0	1	0	100	0	0	0	0	0	0
Dec	100	707	1.1	37	0	10	0	99.58	0.42	0	0	0	0	0
<b>Annual</b>	<b>99.1</b>	<b>8252</b>	<b>1.1</b>	<b>71</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>99.54</b>	<b>0.44</b>	<b>0.02</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>



WBEA - Shell Muskeg River (AMS 16)  
 Annual Summary for the Year 2014  
 Sulfur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	99	703	1.7	90	0	13	0	99.15	0.57	0.28	0	0	0
Feb	100	638	0.9	28	0	5	0	99.37	0.63	0	0	0	0
Mar	100	706	1.2	55	0	9	0	99.29	0.71	0	0	0	0
Apr	100	684	1.4	74	0	10	0	98.1	1.75	0.15	0	0	0
May	100	703	0.4	14	0	2	0	100	0	0	0	0	0
Jun	99	677	0.6	20	0	4	0	100	0	0	0	0	0
Jul	99	702	1.4	49	0	10	0	99.15	0.85	0	0	0	0
Aug	100	706	1.6	31	0	6	0	98.73	1.27	0	0	0	0
Sep	100	683	1.0	31	0	4	0	99.56	0.44	0	0	0	0
Oct	100	707	0.9	26	0	5	0	99.86	0.14	0	0	0	0
Nov	100	682	0.7	14	0	3	0	100	0	0	0	0	0
Dec	98	695	1.4	18	0	5	0	100	0	0	0	0	0
<b>Annual</b>	<b>99.7</b>	<b>8286</b>	<b>1.1</b>	<b>90</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>99.43</b>	<b>0.53</b>	<b>0.04</b>	<b>0</b>	<b>0</b>	<b>0</b>



WBEA - Wapasu (AMS 17)  
 Annual Summary for the Year 2014  
 Sulfur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	100	707	2.2	113	0	20	0	98.44	1.27	0.14	0.14	0	0
Feb	100	639	1.3	27	0	7	0	99.53	0.47	0	0	0	0
Mar	100	707	1.0	18	0	4	0	100	0	0	0	0	0
Apr	99	678	0.8	24	0	4	0	99.85	0.15	0	0	0	0
May	100	709	0.3	8	0	1	0	100	0	0	0	0	0
Jun	100	683	0.4	19	0	2	0	100	0	0	0	0	0
Jul	100	705	1.0	27	0	4	0	99.86	0.14	0	0	0	0
Aug	99	706	1.0	24	0	4	0	99.86	0.14	0	0	0	0
Sep	100	682	0.8	15	0	4	0	100	0	0	0	0	0
Oct	99	704	0.7	26	0	3	0	99.86	0.14	0	0	0	0
Nov	100	682	0.8	13	0	4	0	100	0	0	0	0	0
Dec	100	709	1.4	37	0	6	0	99.58	0.42	0	0	0	0
<b>Annual</b>	<b>99.7</b>	<b>8311</b>	<b>1.0</b>	<b>113</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>99.74</b>	<b>0.23</b>	<b>0.01</b>	<b>0.01</b>	<b>0</b>	<b>0</b>



WBEA - Firebag (AMS 19)  
 Annual Summary for the Year 2014  
 Sulfur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jul	100	495	0.7	13	0	2	0	100	0	0	0	0	0
Aug	100	708	1.0	44	0	6	0	99.58	0.42	0	0	0	0
Sep	100	682	0.7	21	0	3	0	99.85	0.15	0	0	0	0
Oct	100	708	0.7	20	0	4	0	100	0	0	0	0	0
Nov	100	686	1.1	19	0	5	0	100	0	0	0	0	0
Dec	100	708	1.8	39	0	8	0	99.01	0.99	0	0	0	0
<b>Annual</b>	<b>100</b>	<b>3987</b>	<b>1.0</b>	<b>44</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>99.79</b>	<b>0.21</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>



**WBEA - Cenovus - Christina Lake (AMS500)**  
**Annual Summary for the Year 2014**  
**Surflur Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	99	709	1.1	11	0	5	0	100	0	0	0	0	0
Feb	100	635	0.9	8	0	3	0	100	0	0	0	0	0
Mar	100	706	1.4	18	0	4	0	100	0	0	0	0	0
Apr	99	679	0.5	9	0	2	0	100	0	0	0	0	0
May	100	705	0.6	10	0	2	0	100	0	0	0	0	0
Jun	99	372	0.5	8	0	1	0	100	0	0	0	0	0
<b>Annual</b>	<b>99.6</b>	<b>3806</b>	<b>0.9</b>	<b>18</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>



WB&A - Statoil - Leismer (AM5501)  
 Annual Summary for the Year 2014  
 Sulfur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jul	94.8	674	0.7	7	0	2	0	100	0	0	0	0	0
Aug	94.5	665	0.5	6	0	1	0	100	0	0	0	0	0
Sep	96.7	660	0.5	5	0	1	0	100	0	0	0	0	0
Oct	98.8	304	0.8	6	0	3	0	100	0	0	0	0	0
<b>Annual</b>	<b>96.2</b>	<b>2576</b>	<b>0.6</b>	<b>7</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>





WBEA - ConocoPhillips - Surmont (AM5502)  
 Annual Summary for the Year 2014  
 Sulfur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jul	100	713	1.1	17	0	4	0	100	0	0	0	0	0
Aug	96	676	0.9	12	0	4	0	100	0	0	0	0	0
Sep	50	340	0.5	4	0	1	0	100	0	0	0	0	0
Oct	95	673	0.6	7	0	2	0	100	0	0	0	0	0
Nov	96	656	1.5	13	0	6	0	100	0	0	0	0	0
Dec	97	687	0.9	13	0	3	0	100	0	0	0	0	0
<b>Annual</b>	<b>89.0</b>	<b>3751</b>	<b>1.0</b>	<b>17</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>



WBEA - WBEA Mobile (MAMS)  
 Annual Summary for the Year 2014  
 Sulfur Dioxide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range					
								0 - 20	21 - 60	61 - 110	111 - 170	171 - 340	>340
Jan	99	319	0.5	3	0	1	0	100	0	0	0	0	0
Feb	97	522	0.4	6	0	2	0	100	0	0	0	0	0
<b>Annual</b>	<b>97.9</b>	<b>841</b>	<b>0.5</b>	<b>6</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

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## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

CONTINUOUS AMBIENT AIR QUALITY  
MONITORING PROGRAM  
ANNUAL REPORT

### **HYDROGEN SULPHIDE ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Mildred Lake (AMS 2)**  
**Annual Summary for the Year 2014**  
**Hydrogen Sulphide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	100	709	0.5	4	0	1	0	99.72	0.28	0	0
Feb	100	639	0.5	7	0	1	0	99.69	0.31	0	0
Mar	100	710	0.6	11	1	2	0	99.72	0.14	0.14	0
Apr	100	685	0.4	3	0	1	0	100	0	0	0
May	100	709	0.4	8	0	1	0	99.72	0.28	0	0
Jun	100	686	0.6	17	2	2	0	99.13	0.58	0.29	0
Jul	100	706	1.1	8	0	2	0	94.76	5.24	0	0
Aug	100	708	0.9	12	2	3	0	95.34	4.38	0.28	0
Sep	98	670	0.9	12	2	3	0	95.07	4.63	0.3	0
Oct	100	708	0.5	4	0	1	0	99.44	0.56	0	0
Nov	100	686	0.2	2	0	1	0	100	0	0	0
Dec	100	709	0.4	3	0	1	0	100	0	0	0
<b>Annual</b>	<b>99.7</b>	<b>8325</b>	<b>0.6</b>	<b>17</b>	<b>7</b>	<b>3</b>	<b>0</b>	<b>98.54</b>	<b>1.38</b>	<b>0.08</b>	<b>0</b>



**WBEA - Buffalo Viewpoint (AMS 4 )**  
**Annual Summary for the Year 2014**  
**Hydrogen Sulphide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	84	323	0.4	3	0	1	0	100	0	0	0
Feb	100	352	0.6	5	0	2	0	98.58	1.42	0	0
Mar	100	708	0.6	39	3	5	1	98.31	1.27	0.42	0
Apr	100	686	0.3	2	0	1	0	100	0	0	0
May	100	709	0.3	1	0	0	0	100	0	0	0
Jun	99	676	0.3	4	0	1	0	99.56	0.44	0	0
Jul	99	701	0.4	3	0	1	0	100	0	0	0
Aug	99	698	0.4	4	0	1	0	99.86	0.14	0	0
Sep	50	342	0.3	3	0	1	0	100	0	0	0
Oct	100	708	0.1	2	0	0	0	100	0	0	0
Nov	100	686	0.1	2	0	0	0	100	0	0	0
Dec	100	709	0.3	5	0	2	0	99.58	0.42	0	0
<b>Annual</b>	<b>94.5</b>	<b>7298</b>	<b>0.3</b>	<b>39</b>	<b>3</b>	<b>5</b>	<b>1</b>	<b>99.67</b>	<b>0.29</b>	<b>0.04</b>	<b>0</b>



WBEA - Mannix (AMS 5)  
Annual Summary for the Year 2014  
Hydrogen Sulphide (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	100	708	0.5	3	0	1	0	100	0	0	0
Feb	100	629	0.8	24	2	3	0	98.73	0.95	0.32	0
Mar	100	708	0.7	5	0	2	0	98.45	1.55	0	0
Apr	99	678	0.4	5	0	2	0	99.71	0.29	0	0
May	100	709	0.5	5	0	1	0	99.58	0.42	0	0
Jun	100	683	0.7	6	0	3	0	97.51	2.49	0	0
Jul	100	710	0.9	10	0	2	0	94.08	5.92	0	0
Aug	100	708	1.2	28	9	6	1	91.1	7.63	1.27	0
Sep	100	684	1.1	17	3	3	0	91.37	8.19	0.44	0
Oct	100	708	0.4	5	0	1	0	99.58	0.42	0	0
Nov	100	684	0.5	2	0	1	0	100	0	0	0
Dec	99	702	0.6	3	0	2	0	100	0	0	0
<b>Annual</b>	<b>99.7</b>	<b>8311</b>	<b>0.7</b>	<b>28</b>	<b>14</b>	<b>6</b>	<b>1</b>	<b>97.43</b>	<b>2.4</b>	<b>0.17</b>	<b>0</b>





**WBEA - Lower Camp (AMS 11)**  
**Annual Summary for the Year 2014**  
**Hydrogen Sulphide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	100	709	0.6	5	0	2	0	99.58	0.42	0	0
Feb	100	640	0.6	5	0	2	0	99.06	0.94	0	0
Mar	100	709	0.6	16	1	2	0	99.01	0.85	0.14	0
Apr	100	686	0.4	3	0	1	0	100	0	0	0
May	100	709	0.4	7	0	1	0	99.86	0.14	0	0
Jun	94	645	0.4	4	0	1	0	99.84	0.16	0	0
Jul	100	707	0.6	7	0	2	0	99.01	0.99	0	0
Aug	100	709	0.6	4	0	1	0	99.86	0.14	0	0
Sep	100	684	0.7	7	0	2	0	98.25	1.75	0	0
Oct	100	707	0.5	6	0	1	0	99.01	0.99	0	0
Nov	100	685	0.6	6	0	1	0	99.27	0.73	0	0
Dec	99	699	0.8	16	3	3	0	99	0.57	0.43	0
<b>Annual</b>	<b>99.4</b>	<b>8289</b>	<b>0.6</b>	<b>16</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>99.32</b>	<b>0.63</b>	<b>0.05</b>	<b>0</b>



**WBEA - Wapasu (AMS 17)**  
**Annual Summary for the Year 2014**  
**Hydrogen Sulphide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	100	708	0.3	5	0	2	0	99.44	0.56	0	0
Feb	100	641	0.3	2	0	1	0	100	0	0	0
Mar	100	709	0.3	1	0	0	0	100	0	0	0
Apr	99	677	0.2	1	0	0	0	100	0	0	0
May	100	708	0.2	1	0	0	0	100	0	0	0
Jun	100	686	0.2	1	0	0	0	100	0	0	0
Jul	100	707	0.3	5	0	1	0	99.72	0.28	0	0
Aug	99	705	0.4	1	0	1	0	100	0	0	0
Sep	100	684	0.3	2	0	1	0	100	0	0	0
Oct	100	707	0.3	2	0	1	0	100	0	0	0
Nov	100	684	0.3	1	0	0	0	100	0	0	0
Dec	100	711	0.4	4	0	1	0	99.86	0.14	0	0
<b>Annual</b>	<b>99.7</b>	<b>8327</b>	<b>0.3</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>99.91</b>	<b>0.09</b>	<b>0</b>	<b>0</b>



**WBEA - Firebag (AMS 19)**  
**Annual Summary for the Year 2014**  
**Hydrogen Sulphide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jul	100	514	0.4	1	0	1	0	100	0	0	0
Aug	100	706	0.3	3	0	1	0	100	0	0	0
Sep	99	676	0.3	3	0	1	0	100	0	0	0
Oct	99	699	0.3	3	0	1	0	100	0	0	0
Nov	100	684	0.4	2	0	1	0	100	0	0	0
Dec	100	709	0.4	2	0	1	0	100	0	0	0
<b>Annual</b>	<b>99.6</b>	<b>3988</b>	<b>0.3</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>



**WBEA - Cenovus - Christina Lake (AMS500)**  
**Annual Summary for the Year 2014**  
**Hydrogen Sulphide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	95	669	0.4	3	0	1	0	100	0	0	0
Feb	100	636	0.5	3	0	1	0	100	0	0	0
Mar	99	700	0.5	3	0	1	0	100	0	0	0
Apr	99	680	0.2	1	0	0	0	100	0	0	0
May	93	659	0.3	2	0	0	0	100	0	0	0
Jun	100	377	0.3	2	0	0	0	100	0	0	0
<b>Annual</b>	<b>97.6</b>	<b>3721</b>	<b>0.4</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>



**WBEA - Statoil - Leismer (AMSS01)**  
**Annual Summary for the Year 2014**  
**Hydrogen Sulphide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jul	99	702	0.2	1	0	0	0	100	0	0	0
Aug	99	700	0.2	1	0	0	0	100	0	0	0
Sep	99	681	0.2	1	0	0	0	100	0	0	0
Oct	99	309	0.3	3	0	1	0	100	0	0	0
<b>Annual</b>	<b>99.0</b>	<b>2674</b>	<b>0.2</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>



**WBEA - ConocoPhillips - Surmont (AMSS02)**  
**Annual Summary for the Year 2014**  
**Hydrogen Sulphide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jul	100	713	0.4	6	0	1	0	99.86	0.14	0	0
Aug	100	704	0.5	3	0	2	0	100	0	0	0
Sep	52	352	0.4	2	0	1	0	100	0	0	0
Oct	99	703	0.2	2	0	0	0	100	0	0	0
Nov	99	680	0.4	2	0	1	0	100	0	0	0
Dec	100	712	0.4	2	0	1	0	100	0	0	0
<b>Annual</b>	<b>91.7</b>	<b>3870</b>	<b>0.4</b>	<b>6</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>99.97</b>	<b>0.03</b>	<b>0</b>	<b>0</b>



**WBEA - WBEA Mobile (MAMSL1)**  
**Annual Summary for the Year 2014**  
**Hydrogen Sulphide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	99	308	0.4	5	0	1	0	99.68	0.32	0	0
Feb	97	516	0.5	5	0	2	0	98.84	1.16	0	0
<b>Annual</b>	<b>97.7</b>	<b>824</b>	<b>0.4</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>99.14</b>	<b>0.86</b>	<b>0</b>	<b>0</b>



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

CONTINUOUS AMBIENT AIR QUALITY  
MONITORING PROGRAM  
ANNUAL REPORT

### **TOTAL REDUCED SULPHUR ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015



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**WBFA - Fort McKay - Bertha Garter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Total Reduced Sulfur (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour H2S Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour H2S Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	98	695	0.5	3	0	1	0	100	0	0	0
Feb	99	634	0.4	2	0	1	0	100	0	0	0
Mar	100	710	0.3	3	0	1	0	100	0	0	0
Apr	100	685	0.3	3	0	1	0	100	0	0	0
May	98	696	0.2	2	0	1	0	100	0	0	0
Jun	100	686	0.3	4	0	1	0	99.85	0.15	0	0
Jul	100	706	0.4	3	0	1	0	100	0	0	0
Aug	99	703	0.6	5	0	1	0	99.57	0.43	0	0
Sep	100	680	0.6	9	0	2	0	99.12	0.88	0	0
Oct	99	703	0.4	2	0	1	0	100	0	0	0
Nov	100	683	0.5	2	0	1	0	100	0	0	0
Dec	98	691	0.7	2	0	1	0	100	0	0	0
<b>Annual</b>	<b>99.2</b>	<b>8272</b>	<b>0.4</b>	<b>9</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>99.88</b>	<b>0.12</b>	<b>0</b>	<b>0</b>



WBEA - Patricia McInnes (AMS 6)  
 Annual Summary for the Year 2014  
 Total Reduced Sulfur (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour H2S Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour H2S Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	98	694	0.3	1	0	0	0	100	0	0	0
Feb	100	641	0.3	2	0	1	0	100	0	0	0
Mar	100	709	0.3	2	0	1	0	100	0	0	0
Apr	100	685	0.2	1	0	0	0	100	0	0	0
May	100	707	0.2	1	0	0	0	100	0	0	0
Jun	100	682	0.3	2	0	1	0	100	0	0	0
Jul	98	693	0.3	3	0	1	0	100	0	0	0
Aug	100	709	0.5	3	0	1	0	100	0	0	0
Sep	100	680	0.5	2	0	1	0	100	0	0	0
Oct	100	706	0.4	1	0	1	0	100	0	0	0
Nov	87	597	0.5	1	0	1	0	100	0	0	0
Dec	100	710	0.7	2	0	1	0	100	0	0	0
<b>Annual</b>	<b>98.5</b>	<b>8213</b>	<b>0.4</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>



**WBEA - Athabasca Valley (AMS 7)**  
**Annual Summary for the Year 2014**  
**Total Reduced Sulfur (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour H2S Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour H2S Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	100	709	0.4	1	0	1	0	100	0	0	0
Feb	100	641	0.4	3	0	1	0	100	0	0	0
Mar	100	709	0.3	1	0	1	0	100	0	0	0
Apr	100	683	0.2	1	0	0	0	100	0	0	0
May	100	709	0.3	3	0	1	0	100	0	0	0
Jun	100	682	0.4	3	0	1	0	100	0	0	0
Jul	100	706	0.5	2	0	1	0	100	0	0	0
Aug	100	708	0.4	2	0	1	0	100	0	0	0
Sep	100	685	0.3	2	0	1	0	100	0	0	0
Oct	100	707	0.2	4	0	1	0	99.86	0.14	0	0
Nov	99	680	0.3	1	0	0	0	100	0	0	0
Dec	100	710	0.4	1	0	1	0	100	0	0	0
<b>Annual</b>	<b>99.8</b>	<b>8329</b>	<b>0.3</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>99.99</b>	<b>0.01</b>	<b>0</b>	<b>0</b>



**WBEA - Barge Landing (AMS 9)**  
**Annual Summary for the Year 2014**  
**Total Reduced Sulfur (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour H2S Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour H2S Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	100	705	0.5	3	0	1	0	100.00	0	0	0
Feb	100	637	0.4	1	0	1	0	100.00	0	0	0
Mar	100	704	0.4	4	0	1	0	99.86	0.14	0	0
Apr	100	685	0.2	3	0	1	0	100.00	0	0	0
May	98	696	0.1	2	0	0	0	100.00	0	0	0
Jun	99	675	0.3	2	0	1	0	100.00	0	0	0
Jul	100	704	0.4	3	0	1	0	100.00	0	0	0
Aug	99	704	0.3	4	0	1	0	99.86	0.14	0	0
Sep	100	683	0.3	3	0	1	0	100	0	0	0
Oct	100	707	0.2	1	0	0	0	100	0	0	0
Nov	100	686	0.3	2	0	1	0	100	0	0	0
Dec	99	705	0.3	2	0	1	0	100	0	0	0
<b>Annual</b>	<b>99.6</b>	<b>8291</b>	<b>0.3</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>99.98</b>	<b>0.02</b>	<b>0</b>	<b>0</b>



WBEA - Millennium (AMS 12)  
 Annual Summary for the Year 2014  
 Total Reduced Sulfur (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour H2S Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour H2S Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	100	709	0.3	3	0	1	0	100	0	0	0
Feb	100	640	0.4	3	0	1	0	100	0	0	0
Mar	100	707	0.4	10	0	2	0	99.43	0.57	0	0
Apr	100	685	0.4	2	0	1	0	100	0	0	0
May	100	708	0.5	3	0	1	0	100	0	0	0
Jun	100	687	0.2	3	0	1	0	100	0	0	0
Jul	100	703	0.4	5	0	1	0	99.43	0.57	0	0
Aug	100	710	0.7	13	1	1	0	98.87	0.99	0.14	0
Sep	100	683	0.5	3	0	1	0	100	0	0	0
Oct	100	705	0.4	2	0	1	0	100	0	0	0
Nov	100	686	0.4	1	0	1	0	100	0	0	0
Dec	99	702	0.4	2	0	1	0	100	0	0	0
<b>Annual</b>	<b>99.9</b>	<b>8325</b>	<b>0.4</b>	<b>13</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>99.81</b>	<b>0.18</b>	<b>0.01</b>	<b>0</b>



WBEA - Fort McKay South (AMS 13)  
 Annual Summary for the Year 2014  
 Total Reduced Sulfur (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour H2S Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour H2S Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	100	709	0.4	3	0	1	0	100	0	0	0
Feb	100	641	0.3	2	0	1	0	100	0	0	0
Mar	100	710	0.3	2	0	1	0	100	0	0	0
Apr	100	687	0.2	3	0	1	0	100	0	0	0
May	98	695	0.2	2	0	1	0	100	0	0	0
Jun	100	686	0.3	4	0	1	0	99.85	0.15	0	0
Jul	100	709	0.3	3	0	1	0	100	0	0	0
Aug	99	703	0.4	4	0	1	0	99.72	0.28	0	0
Sep	100	683	0.4	16	2	2	0	99.41	0.29	0.29	0
Oct	100	708	0.2	2	0	0	0	100	0	0	0
Nov	100	686	0.2	1	0	1	0	100	0	0	0
Dec	98	700	0.3	1	0	1	0	100	0	0	0
<b>Annual</b>	<b>99.6</b>	<b>8317</b>	<b>0.3</b>	<b>16</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>99.91</b>	<b>0.06</b>	<b>0.02</b>	<b>0</b>



**WBEA - Anzac (AMS 14)**  
**Annual Summary for the Year 2014**  
**Total Reduced Sulfur (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour H2S Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour H2S Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	100	707	0.4	9	0	1	0	99.58	0.42	0	0
Feb	100	640	0.3	1	0	0	0	100	0	0	0
Mar	100	711	0.3	8	0	1	0	99.16	0.84	0	0
Apr	100	687	0.2	1	0	0	0	100	0	0	0
May	100	710	0.2	1	0	0	0	100	0	0	0
Jun	100	685	0.2	2	0	0	0	100	0	0	0
Jul	99	702	0.3	7	0	1	0	99.29	0.71	0	0
Aug	100	706	0.4	6	0	1	0	99.72	0.28	0	0
Sep	100	683	0.3	2	0	1	0	100	0	0	0
Oct	100	709	0.2	3	0	1	0	100	0	0	0
Nov	100	687	0.3	3	0	1	0	100	0	0	0
Dec	99	705	0.6	5	0	1	0	99.72	0.28	0	0
<b>Annual</b>	<b>99.8</b>	<b>8332</b>	<b>0.3</b>	<b>9</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>99.78</b>	<b>0.22</b>	<b>0</b>	<b>0</b>





WBEA - CNRL Horizon (AMS 15)  
Annual Summary for the Year 2014  
Total Reduced Sulfur (ppb) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour H2S Objective	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour H2S Objective	% of Data in Each Concentration Range			
								0 - 3	4 - 10	11 - 50	> 50
Jan	100	708	0.3	1	0	1	0	100	0	0	0
Feb	100	640	0.3	2	0	1	0	100	0	0	0
Mar	100	710	0.2	1	0	0	0	100	0	0	0
Apr	99	679	0.1	1	0	0	0	100	0	0	0
May	100	709	0.1	10	0	1	0	99.72	0.28	0	0
Jun	100	684	0.2	2	0	0	0	100	0	0	0
Jul	100	709	0.2	2	0	1	0	100	0	0	0
Aug	99	700	0.3	2	0	1	0	100	0	0	0
Sep	100	683	0.3	1	0	1	0	100	0	0	0
Oct	100	708	0.3	1	0	0	0	100	0	0	0
Nov	99	676	0.2	4	0	0	0	99.85	0.15	0	0
Dec	100	710	0.3	4	0	1	0	99.86	0.14	0	0
<b>Annual</b>	<b>99.7</b>	<b>8316</b>	<b>0.2</b>	<b>10</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>99.95</b>	<b>0.05</b>	<b>0</b>	<b>0</b>



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

### **CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM ANNUAL REPORT**

### **NITROGEN DIOXIDE ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Fort McKay - Bertha Garter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Nitrogen Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	% of Data in Each Concentration Range			
							0 - 40	41 - 80	81 - 159	>159
Jan	96	681	13.8	47	0	33	99.41	0.59	0	0
Feb	100	636	12.7	39	0	24	100	0	0	0
Mar	100	708	10.8	40	0	27	100	0	0	0
Apr	99	679	6.1	31	0	14	100	0	0	0
May	99	697	4.1	26	0	9	100	0	0	0
Jun	100	685	3.7	39	0	8	100	0	0	0
Jul	100	705	3.2	20	0	6	100	0	0	0
Aug	100	704	4.0	33	0	8	100	0	0	0
Sep	100	678	4.6	23	0	11	100	0	0	0
Oct	99	697	5.6	24	0	11	100	0	0	0
Nov	100	682	8.8	33	0	20	100	0	0	0
Dec	98	688	13.9	36	0	29	100	0	0	0
<b>Annual</b>	<b>99.0</b>	<b>8240</b>	<b>7.6</b>	<b>47</b>	<b>0</b>	<b>33</b>	<b>99.95</b>	<b>0.05</b>	<b>0</b>	<b>0</b>



**WBEA - Patricia McInnes (AMS 6)**  
**Annual Summary for the Year 2014**  
**Nitrogen Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	% of Data in Each Concentration Range			
							0 - 40	41 - 80	81 - 159	>159
Jan	100	705	10.8	43	0	25	99.57	0.43	0	0
Feb	100	634	10.2	41	0	27	99.84	0.16	0	0
Mar	98	678	8.2	37	0	17	100	0	0	0
Apr	98	674	4.4	33	0	8	100	0	0	0
May	97	687	3.3	17	0	7	100	0	0	0
Jun	100	681	3.0	17	0	7	100	0	0	0
Jul	98	692	2.5	14	0	8	100	0	0	0
Aug	98	693	2.5	15	0	5	100	0	0	0
Sep	100	680	3.3	17	0	7	100	0	0	0
Oct	100	708	4.5	23	0	8	100	0	0	0
Nov	86	590	6.7	31	0	13	100	0	0	0
Dec	100	707	10.7	38	0	21	100	0	0	0
<b>Annual</b>	<b>98.0</b>	<b>8129</b>	<b>5.8</b>	<b>43</b>	<b>0</b>	<b>27</b>	<b>99.95</b>	<b>0.05</b>	<b>0</b>	<b>0</b>



**Wood Buffalo Environmental Association - Athabasca Valley (AMS 7)**  
**Annual Summary for the Year 2014**  
**Nitrogen Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Guideline	Maximum 24-Hour Value	% of Data in Each Concentration Range			
							0 - 40	41 - 80	81 - 159	>159
Jan	100	707	21.7	70	0	44	91.65	8.35	0	0
Feb	100	640	22.5	165	1	39	89.84	9.53	0.47	0.16
Mar	96.64	678	17.1	83	0	32	95.58	4.28	0.15	0
Apr	99.58	682	8.9	70	0	20	98.39	1.61	0	0
May	99.87	707	4.8	52	0	11	99.86	0.14	0	0
Jun	99.72	682	4.8	23	0	9	100	0	0	0
Jul	100	707	4.4	20	0	10	100	0	0	0
Aug	100	708	5.4	22	0	8	100	0	0	0
Sep	100	681	6.8	33	0	12	100	0	0	0
Oct	99.33	701	6.8	41	0	15	99.86	0.14	0	0
Nov	98.89	677	9.8	37	0	17	100	0	0	0
Dec	100	707	14.3	43	0	26	99.43	0.57	0	0
Annual	99.5	8277	10.5	165	1	44	97.93	2.01	0.05	0.01



**WBEA - Fort Chipewyan (AMS 8)  
Annual Summary for the Year 2014  
Nitrogen Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	% of Data in Each Concentration Range			
							0 - 40	41 - 80	81 - 159	>159
Jan	98	693	1.6	18	0	6	100	0	0	0
Feb	100	638	1.0	13	0	5	100	0	0	0
Mar	92	647	0.8	15	0	3	100	0	0	0
Apr	100	684	0.3	6	0	1	100	0	0	0
May	100	704	0.3	4	0	1	100	0	0	0
Jun	100	683	0.3	4	0	1	100	0	0	0
Jul	99	701	0.4	6	0	2	100	0	0	0
Aug	99	702	0.6	8	0	2	100	0	0	0
Sep	100	681	0.5	11	0	3	100	0	0	0
Oct	100	702	0.9	16	0	5	100	0	0	0
Nov	100	683	1.3	21	0	8	100	0	0	0
Dec	98	701	2.4	16	0	8	100	0	0	0
<b>Annual</b>	<b>98.9</b>	<b>8219</b>	<b>0.9</b>	<b>21</b>	<b>0</b>	<b>8</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>



**WBEA - Millennium (AMS 12)**  
**Annual Summary for the Year 2014**  
**Nitrogen Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	% of Data in Each Concentration Range			
							0 - 40	41 - 80	81 - 159	>159
Jan	100	707	19.6	56	0	36	97.17	2.83	0	0
Feb	100	639	19.5	68	0	37	93.27	6.73	0	0
Mar	100	708	17.2	52	0	37	93.93	6.07	0	0
Apr	100	684	9.4	44	0	20	99.56	0.44	0	0
May	100	708	9.3	41	0	19	99.72	0.28	0	0
Jun	100	682	8.1	36	0	12	100	0	0	0
Jul	99	701	7.3	43	0	13	99.86	0.14	0	0
Aug	99	696	8.0	37	0	13	100	0	0	0
Sep	100	680	7.1	35	0	16	100	0	0	0
Oct	100	707	8.9	30	0	18	100	0	0	0
Nov	100	682	12.5	44	0	23	99.71	0.29	0	0
Dec	99	703	18.6	59	0	32	98.15	1.85	0	0
<b>Annual</b>	<b>99.7</b>	<b>8297</b>	<b>12.1</b>	<b>68</b>	<b>0</b>	<b>37</b>	<b>98.46</b>	<b>1.54</b>	<b>0</b>	<b>0</b>





**WBEA - Fort McKay South (AMS 13)**  
**Annual Summary for the Year 2014**  
**Nitrogen Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	% of Data in Each Concentration Range			
							0 - 40	41 - 80	81 - 159	>159
Jan	100	706	12.7	44	0	24	99.72	0.28	0	0
Feb	100	637	12.1	39	0	21	100	0	0	0
Mar	100	708	9.4	46	0	24	99.58	0.42	0	0
Apr	100	685	5.8	41	0	14	99.85	0.15	0	0
May	99	696	3.2	28	0	7	100	0	0	0
Jun	100	683	3.4	40	0	8	100	0	0	0
Jul	100	707	3.0	22	0	6	100	0	0	0
Aug	99	700	3.1	36	0	8	100	0	0	0
Sep	100	680	3.2	26	0	10	100	0	0	0
Oct	100	705	4.4	29	0	9	100	0	0	0
Nov	100	682	7.5	31	0	18	100	0	0	0
Dec	98	693	13.0	37	0	28	100	0	0	0
<b>Annual</b>	<b>99.6</b>	<b>8282</b>	<b>6.7</b>	<b>46</b>	<b>0</b>	<b>28</b>	<b>99.94</b>	<b>0.06</b>	<b>0</b>	<b>0</b>



**WBEA - Anzac (AMS 14)**  
**Annual Summary for the Year 2014**  
**Nitrogen Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	% of Data in Each Concentration Range			
							0 - 40	41 - 80	81 - 159	>159
Jan	100	706	5.1	27	0	12	100	0	0	0
Feb	100	638	5.6	33	0	13	100	0	0	0
Mar	100	707	4.2	29	0	10	100	0	0	0
Apr	100	685	1.9	10	0	4	100	0	0	0
May	97	682	1.3	14	0	3	100	0	0	0
Jun	100	683	0.8	13	0	3	100	0	0	0
Jul	99	701	1.7	14	0	3	100	0	0	0
Aug	100	704	1.7	11	0	3	100	0	0	0
Sep	99	673	1.7	13	0	4	100	0	0	0
Oct	100	708	1.5	11	0	3	100	0	0	0
Nov	100	685	4.1	29	0	10	100	0	0	0
Dec	99	700	5.0	39	0	14	100	0	0	0
<b>Annual</b>	<b>99.4</b>	<b>8272</b>	<b>2.9</b>	<b>39</b>	<b>0</b>	<b>14</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>



**WBEA - CNRL Horizon (AMS 15)**  
**Annual Summary for the Year 2014**  
**Nitrogen Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	% of Data in Each Concentration Range			
							0 - 40	41 - 80	81 - 159	>159
Jan	100	708	10.9	38	0	26	100	0	0	0
Feb	100	636	10.5	59	0	22	98.27	1.73	0	0
Mar	100	708	9.5	47	0	24	97.32	2.68	0	0
Apr	99	677	4.6	36	0	13	100	0	0	0
May	100	708	4.1	32	0	9	100	0	0	0
Jun	99	680	4.1	31	0	9	100	0	0	0
Jul	100	707	3.7	24	0	7	100	0	0	0
Aug	99	700	4.3	38	0	12	100	0	0	0
Sep	100	681	4.0	27	0	11	100	0	0	0
Oct	99	697	6.5	33	0	14	100	0	0	0
Nov	97	653	6.6	35	0	18	100	0	0	0
Dec	100	707	9.4	40	0	22	100	0	0	0
<b>Annual</b>	<b>99.4</b>	<b>8262</b>	<b>6.5</b>	<b>59</b>	<b>0</b>	<b>26</b>	<b>99.64</b>	<b>0.36</b>	<b>0</b>	<b>0</b>



**WBEA - Shell Muskeg River (AMS 16)**  
**Annual Summary for the Year 2014**  
**Nitrogen Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	% of Data in Each Concentration Range			
							0 - 40	41 - 80	81 - 159	>159
Jan	100	706	18.7	49	0	34	97.59	2.41	0	0
Feb	100	638	19.2	64	0	37	94.98	5.02	0	0
Mar	100	707	15.4	55	0	33	96.61	3.39	0	0
Apr	100	685	8.7	40	0	19	100	0	0	0
May	100	703	9.1	47	0	19	99.72	0.28	0	0
Jun	99	677	8.9	43	0	22	99.7	0.3	0	0
Jul	99	702	7.1	36	0	17	100	0	0	0
Aug	100	706	7.4	39	0	16	100	0	0	0
Sep	100	682	8.6	29	0	16	100	0	0	0
Oct	100	707	8.4	45	0	16	99.86	0.14	0	0
Nov	100	681	13.8	38	0	25	100	0	0	0
Dec	98	695	15.1	51	0	29	99.42	0.58	0	0
<b>Annual</b>	<b>99.7</b>	<b>8289</b>	<b>11.7</b>	<b>64</b>	<b>0</b>	<b>37</b>	<b>99.01</b>	<b>0.99</b>	<b>0</b>	<b>0</b>



**WBEA - Wapalu (AMS 17)**  
**Annual Summary for the Year 2014**  
**Nitrogen Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	% of Data in Each Concentration Range			
							0 - 40	41 - 80	81 - 159	>159
Jan	100	706	5.7	32	0	15	100	0	0	0
Feb	100	636	5.5	37	0	16	100	0	0	0
Mar	92	647	4.1	27	0	8	100	0	0	0
Apr	99	665	1.4	20	0	6	100	0	0	0
May	100	705	1.0	12	0	2	100	0	0	0
Jun	100	683	1.1	13	0	4	100	0	0	0
Jul	99	703	1.6	13	0	4	100	0	0	0
Aug	100	704	2.1	22	0	5	100	0	0	0
Sep	100	680	2.2	16	0	6	100	0	0	0
Oct	99	703	3.1	24	0	9	100	0	0	0
Nov	100	683	3.7	26	0	9	100	0	0	0
Dec	100	709	5.8	29	0	15	100	0	0	0
<b>Annual</b>	<b>99.0</b>	<b>8224</b>	<b>3.1</b>	<b>37</b>	<b>0</b>	<b>16</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>



**WBEA - Firebag (AMS 19)**  
**Annual Summary for the Year 2014**  
**Nitrogen Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	% of Data in Each Concentration Range			
							0 - 40	41 - 80	81 - 159	>159
Jul	100	495	3.0	38	0	9	100	0	0	0
Aug	100	708	3.4	32	0	6	100	0	0	0
Sep	100	682	2.7	27	0	8	100	0	0	0
Oct	100	708	4.3	38	0	12	100	0	0	0
Nov	100	686	3.5	31	0	8	100	0	0	0
Dec	100	708	7.3	34	0	16	100	0	0	0
<b>Annual</b>	<b>100.0</b>	<b>3987</b>	<b>4.1</b>	<b>38</b>	<b>0</b>	<b>16</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>



**WBEA - Cenovus - Christina Lake (AMS500)**  
**Annual Summary for the Year 2014**  
**Nitrogen Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	% of Data in Each Concentration Range			
							0 - 40	41 - 80	81 - 159	>159
Jan	100	706	6.4	36	0	16	100	0	0	0
Feb	100	637	8.0	35	0	13	100	0	0	0
Mar	100	708	8.5	47	0	27	99.29	0.71	0	0
Apr	100	681	2.7	32	0	10	100	0	0	0
May	100	705	1.8	16	0	5	100	0	0	0
Jun	100	375	1.7	14	0	3	100	0	0	0
<b>Annual</b>	<b>99.8</b>	<b>3812</b>	<b>5.1</b>	<b>47</b>	<b>0</b>	<b>27</b>	<b>99.87</b>	<b>0.13</b>	<b>0</b>	<b>0</b>



**WBEA - Statoi - Leismer (AMS501)**  
**Annual Summary for the Year 2014**  
**Nitrogen Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	% of Data in Each Concentration Range			
							0 - 40	41 - 80	81 - 159	>159
Jul	99	705	1.6	14	0	4	100	0	0	0
Aug	99	696	1.2	12	0	3	100	0	0	0
Sep	100	684	1.5	14	0	3	100	0	0	0
Oct	100	308	2.1	26	0	6	100	0	0	0
<b>Annual</b>	<b>99.4</b>	<b>2471</b>	<b>1.5</b>	<b>26</b>	<b>0</b>	<b>6</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>





**WBEA - ConocoPhillips - Surmont (AMS502)**  
**Annual Summary for the Year 2014**  
**Nitrogen Dioxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	Maximum 24-Hour Value	% of Data in Each Concentration Range			
							0 - 40	41 - 80	81 - 159	>159
Jul	93	648	3.5	21	0	7	100	0	0	0
Aug	97	682	3.5	26	0	7	100	0	0	0
Sep	53	354	4.5	19	0	7	100	0	0	0
Oct	100	705	5.3	35	0	13	100	0	0	0
Nov	100	684	6.7	27	0	14	100	0	0	0
Dec	100	711	7.5	42	0	19	99.86	0.14	0	0
<b>Annual</b>	<b>90.3</b>	<b>3789</b>	<b>5.3</b>	<b>42</b>	<b>0</b>	<b>19</b>	<b>99.97</b>	<b>0.03</b>	<b>0</b>	<b>0</b>



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

CONTINUOUS AMBIENT AIR QUALITY  
MONITORING PROGRAM  
ANNUAL REPORT

### **OXIDES OF NITROGEN ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Fort McKay - Bertha Ganter (AMS 1)  
Annual Summary for the Year 2014  
Oxides of Nitrogen (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum	Maximum	% of Data in Each Concentration Range			
				1-Hour Value	24-Hour Value	0 - 40	41 - 80	81 - 159	>159
Jan	96	681	19.5	151	72	88.11	10.13	1.76	0
Feb	100	636	17.7	91	38	88.84	11.01	0.16	0
Mar	100	708	14.9	136	46	93.79	4.8	1.41	0
Apr	99	679	7.5	43	18	99.56	0.44	0	0
May	99	697	5.2	63	11	99.43	0.57	0	0
Jun	100	685	4.8	57	10	99.85	0.15	0	0
Jul	100	705	4.2	35	8	100	0	0	0
Aug	100	704	5.4	55	13	99.72	0.28	0	0
Sep	100	678	7.1	86	19	98.23	1.62	0.15	0
Oct	99	697	9.1	87	21	97.13	2.73	0.14	0
Nov	100	682	12.7	71	35	94.28	5.72	0	0
Dec	98	688	22.1	131	55	84.16	15.12	0.73	0
<b>Annual</b>	<b>99.0</b>	<b>8240</b>	<b>10.8</b>	<b>151</b>	<b>72</b>	<b>95.31</b>	<b>4.32</b>	<b>0.37</b>	<b>0</b>



**WBEA - Patricia McInnes (AMS 6)**  
**Annual Summary for the Year 2014**  
**Oxides of Nitrogen (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	705	15.5	115	41	92.62	6.52	0.85	0
Feb	100	634	15.6	121	65	93.06	5.84	1.1	0
Mar	98	678	11.7	101	26	96.9	2.8	0.29	0
Apr	98	674	6.0	47	11	99.41	0.59	0	0
May	97	687	4.4	24	8	100	0	0	0
Jun	100	681	4.1	25	9	100	0	0	0
Jul	98	692	3.2	20	10	100	0	0	0
Aug	98	693	3.4	34	8	100	0	0	0
Sep	100	680	4.6	25	10	100	0	0	0
Oct	100	708	6.2	47	14	99.72	0.28	0	0
Nov	86	590	9.1	49	20	99.32	0.68	0	0
Dec	100	707	17.2	131	54	90.38	8.63	0.99	0
<b>Annual</b>	<b>98.0</b>	<b>8129</b>	<b>8.4</b>	<b>131</b>	<b>65</b>	<b>97.6</b>	<b>2.13</b>	<b>0.27</b>	<b>0</b>



**Wood Buffalo Environmental Association - Athabasca Valley (AMS 7)**  
**Annual Summary for the Year 2014**  
**Oxides of Nitrogen (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum	Maximum	% of Data in Each Concentration Range			
				1-Hour Value	24-Hour Value	0 - 40	41 - 80	81 - 159	>159
Jan	100	707	45.5	263	115	57.14	27.02	13.44	2.4
Feb	100	640	47.9	654	119	56.09	25.78	15.78	2.34
Mar	96.64	678	31.4	268	66	72.57	21.68	4.57	1.18
Apr	99.58	682	17.2	245	51	90.62	6.45	2.35	0.59
May	99.87	707	6.8	274	20	98.87	0.71	0.28	0.14
Jun	99.72	682	6.3	33	12	100	0	0	0
Jul	100	707	6.7	200	35	98.59	0.71	0.57	0.14
Aug	100	708	8.0	110	16	99.58	0.28	0.14	0
Sep	100	681	12.5	90	26	96.33	3.52	0.15	0
Oct	99.33	701	10.9	125	25	97.29	2.28	0.43	0
Nov	98.89	677	14.9	93	43	94.09	5.32	0.59	0
Dec	100	707	25.5	155	65	84.3	10.89	4.81	0
Annual	99.5	8277	19.3	654	119	87.31	8.6	3.54	0.56



**WBEA - Fort Chipewyan (AMS 8)  
Annual Summary for the Year 2014  
Oxides of Nitrogen (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	98	693	1.8	19	7	100	0	0	0
Feb	100	638	1.2	18	6	100	0	0	0
Mar	92	647	1.1	22	5	100	0	0	0
Apr	100	684	0.4	7	1	100	0	0	0
May	100	704	0.3	4	1	100	0	0	0
Jun	100	683	0.4	4	1	100	0	0	0
Jul	99	701	0.5	7	3	100	0	0	0
Aug	99	702	0.8	14	2	100	0	0	0
Sep	100	681	0.5	11	3	100	0	0	0
Oct	100	702	1.0	19	5	100	0	0	0
Nov	100	683	1.5	22	10	100	0	0	0
Dec	98	701	2.6	17	9	100	0	0	0
<b>Annual</b>	<b>98.9</b>	<b>8219</b>	<b>1.0</b>	<b>22</b>	<b>10</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>



**WBEA - Millennium (AMS 12)**  
**Annual Summary for the Year 2014**  
**Oxides of Nitrogen (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	707	37.8	308	121	66.05	22.49	8.91	2.55
Feb	100	639	39.4	332	109	66.51	19.87	10.95	2.66
Mar	100	708	29.2	210	65	73.31	19.21	7.34	0.14
Apr	100	684	13.2	224	36	95.03	3.8	0.73	0.44
May	100	708	14.9	139	45	90.82	6.21	2.97	0
Jun	100	682	13.3	187	26	94.13	5.28	0.29	0.29
Jul	99	701	11.6	92	28	94.72	5.14	0.14	0
Aug	99	696	15.2	145	28	92.67	6.18	1.15	0
Sep	100	680	14.4	152	36	93.09	6.18	0.74	0
Oct	100	707	16.5	157	48	92.22	5.66	2.12	0
Nov	100	682	22.1	280	65	86.95	10.12	2.2	0.73
Dec	99	703	40.5	381	124	64.15	24.61	9.25	1.99
<b>Annual</b>	<b>99.7</b>	<b>8297</b>	<b>22.3</b>	<b>381</b>	<b>124</b>	<b>84.18</b>	<b>11.21</b>	<b>3.88</b>	<b>0.73</b>





**WBEA - Fort McKay South (AMS 13)  
Annual Summary for the Year 2014  
Oxides of Nitrogen (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	706	19.7	149	60	85.27	12.89	1.84	0
Feb	100	637	18.0	182	40	89.48	9.26	0.94	0.31
Mar	100	708	13.4	165	40	92.94	6.07	0.85	0.14
Apr	100	685	7.3	67	20	98.83	1.17	0	0
May	99	696	4.1	70	9	99.43	0.57	0	0
Jun	100	683	4.5	59	11	99.27	0.73	0	0
Jul	100	707	3.9	46	9	99.86	0.14	0	0
Aug	99	700	4.3	47	12	99.57	0.43	0	0
Sep	100	680	5.8	67	18	98.24	1.76	0	0
Oct	100	705	7.2	76	22	98.3	1.7	0	0
Nov	100	682	10.7	89	31	97.07	2.79	0.15	0
Dec	98	693	23.1	134	66	81.82	15.44	2.74	0
<b>Annual</b>	<b>99.6</b>	<b>8282</b>	<b>10.1</b>	<b>182</b>	<b>66</b>	<b>95.35</b>	<b>4.1</b>	<b>0.51</b>	<b>0.04</b>



**WBEA - Anzac (AMS 14)**  
**Annual Summary for the Year 2014**  
**Oxides of Nitrogen (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	706	5.7	39	14	100	0	0	0
Feb	100	638	6.5	73	16	99.69	0.31	0	0
Mar	100	707	4.8	50	12	99.72	0.28	0	0
Apr	100	685	2.1	20	4	100	0	0	0
May	97	682	1.7	36	4	100	0	0	0
Jun	100	683	1.3	27	4	100	0	0	0
Jul	99	701	2.6	23	5	100	0	0	0
Aug	100	704	2.2	32	6	100	0	0	0
Sep	99	673	2.2	21	5	100	0	0	0
Oct	100	708	1.9	22	4	100	0	0	0
Nov	100	685	4.7	46	12	99.85	0.15	0	0
Dec	99	700	6.2	79	18	99.71	0.29	0	0
<b>Annual</b>	<b>99.4</b>	<b>8272</b>	<b>3.5</b>	<b>79</b>	<b>18</b>	<b>99.93</b>	<b>0.07</b>	<b>0</b>	<b>0</b>



**WBEA - CNRL Horizon (AMS 15)  
Annual Summary for the Year 2014  
Oxides of Nitrogen (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	708	15.0	103	53	90.4	8.76	0.85	0
Feb	100	636	17.8	284	70	89.78	6.45	2.04	1.73
Mar	100	708	13.2	177	38	92.66	5.65	1.55	0.14
Apr	99	677	6.1	110	26	98.67	0.89	0.44	0
May	100	708	5.6	73	18	98.45	1.55	0	0
Jun	99	680	5.6	85	15	98.68	1.18	0.15	0
Jul	100	707	4.7	53	10	99.72	0.28	0	0
Aug	99	700	6.6	90	26	97.43	2.43	0.14	0
Sep	100	681	6.6	152	19	98.38	1.17	0.44	0
Oct	99	697	11.9	288	44	94.98	3.73	0.72	0.57
Nov	97	653	9.1	95	34	96.48	3.06	0.46	0
Dec	100	707	13.3	162	42	92.79	6.22	0.85	0.14
<b>Annual</b>	<b>99.4</b>	<b>8262</b>	<b>9.6</b>	<b>288</b>	<b>70</b>	<b>95.74</b>	<b>3.45</b>	<b>0.61</b>	<b>0.21</b>



**WBEA - Shell Muskeg River (AMS 16)**  
**Annual Summary for the Year 2014**  
**Oxides of Nitrogen (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	706	28.2	156	72	79.89	16.29	3.82	0
Feb	100	638	34.6	272	105	74.61	15.83	8.46	1.1
Mar	100	707	25.4	171	57	81.75	14	3.96	0.28
Apr	100	685	13.4	112	30	94.01	5.69	0.29	0
May	100	703	13.8	112	33	94.45	4.69	0.85	0
Jun	99	677	14.8	102	40	92.61	6.5	0.89	0
Jul	99	702	10.8	88	31	96.58	2.99	0.43	0
Aug	100	706	12.5	183	31	95.61	3.82	0.28	0.28
Sep	100	682	16.3	147	32	90.76	8.36	0.88	0
Oct	100	707	17.3	219	53	90.81	5.8	2.69	0.71
Nov	100	681	22.1	144	48	87.22	11.75	1.03	0
Dec	98	695	30.8	189	107	75.11	15.83	8.2	0.86
<b>Annual</b>	<b>99.7</b>	<b>8289</b>	<b>19.9</b>	<b>272</b>	<b>107</b>	<b>87.89</b>	<b>9.25</b>	<b>2.59</b>	<b>0.27</b>



**WBEA - Wapasu (AMS 17)**  
**Annual Summary for the Year 2014**  
**Oxides of Nitrogen (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	706	7.2	48	17	99.58	0.42	0	0
Feb	100	636	7.1	51	20	99.06	0.94	0	0
Mar	92	647	5.5	33	12	100	0	0	0
Apr	99	665	2.0	35	7	100	0	0	0
May	100	705	1.6	14	3	100	0	0	0
Jun	100	683	1.7	22	5	100	0	0	0
Jul	99	703	2.3	19	5	100	0	0	0
Aug	100	704	2.8	24	7	100	0	0	0
Sep	100	680	3.2	32	8	100	0	0	0
Oct	99	703	4.3	54	11	99.86	0.14	0	0
Nov	100	683	4.8	30	12	100	0	0	0
Dec	100	709	7.3	45	21	99.15	0.85	0	0
<b>Annual</b>	<b>99.0</b>	<b>8224</b>	<b>4.1</b>	<b>54</b>	<b>21</b>	<b>99.81</b>	<b>0.19</b>	<b>0</b>	<b>0</b>



**WBEA - Firebag (AMS 19)**  
**Annual Summary for the Year 2014**  
**Oxides of Nitrogen (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jul	100	495	3.9	44	11	99.8	0.2	0	0
Aug	100	708	4.9	120	13	98.45	1.41	0.14	0
Sep	100	682	4.1	132	17	98.97	0.73	0.29	0
Oct	100	708	6.8	112	22	99.29	0.42	0.28	0
Nov	100	686	4.8	68	15	99.27	0.73	0	0
Dec	100	708	10.5	76	28	97.74	2.26	0	0
<b>Annual</b>	<b>100.0</b>	<b>3987</b>	<b>6.0</b>	<b>132</b>	<b>28</b>	<b>99.01</b>	<b>0.86</b>	<b>0.13</b>	<b>0</b>



**WBEA - Cenovus - Christina Lake (AMS500)**  
**Annual Summary for the Year 2014**  
**Oxides of Nitrogen (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	706	9.2	92	30	98.58	1.13	0.28	0
Feb	100	637	11.6	89	23	96.39	3.3	0.31	0
Mar	100	708	13.9	99	46	91.67	6.92	1.41	0
Apr	100	681	4.4	62	17	99.71	0.29	0	0
May	100	705	3.2	26	9	100	0	0	0
Jun	100	375	2.8	25	5	100	0	0	0
<b>Annual</b>	<b>99.8</b>	<b>3812</b>	<b>7.9</b>	<b>99</b>	<b>46</b>	<b>97.52</b>	<b>2.14</b>	<b>0.35</b>	<b>0</b>



**WBEA - Statoil - Leismer (AMS501)**  
**Annual Summary for the Year 2014**  
**Oxides of Nitrogen (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jul	99	705	2.9	25	7	100	0	0	0
Aug	99	696	2.1	39	5	100	0	0	0
Sep	100	684	2.6	45	5	99.85	0.15	0	0
Oct	100	308	4.3	105	19	99.03	0.32	0.65	0
<b>Annual</b>	<b>99.4</b>	<b>2471</b>	<b>2.8</b>	<b>105</b>	<b>19</b>	<b>99.84</b>	<b>0.08</b>	<b>0.08</b>	<b>0</b>





**WBEA - ConocoPhillips - Surmont (AMS502)**  
**Annual Summary for the Year 2014**  
**Oxides of Nitrogen (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jul	93	648	6.7	48	11	99.85	0.15	0	0
Aug	97	682	6.0	40	10	100	0	0	0
Sep	53	354	6.7	26	9	100	0	0	0
Oct	100	705	8.5	59	19	99.57	0.43	0	0
Nov	100	684	10.3	73	25	99.27	0.73	0	0
Dec	100	711	10.1	90	29	98.87	0.7	0.42	0
<b>Annual</b>	<b>90.3</b>	<b>3789</b>	<b>8.2</b>	<b>90</b>	<b>29</b>	<b>99.57</b>	<b>0.38</b>	<b>0.05</b>	<b>0</b>



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

CONTINUOUS AMBIENT AIR QUALITY  
MONITORING PROGRAM  
ANNUAL REPORT

### **NITROGEN OXIDE ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Fort McKay - Bertha Ganter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Nitrogen Oxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	96	681	5.7	103	40	97.94	1.62	0.44	0
Feb	100	636	5.0	64	14	99.37	0.63	0	0
Mar	100	708	4.1	98	19	98.02	1.41	0.56	0
Apr	99	679	1.4	32	5	100	0	0	0
May	99	697	1.0	38	3	100	0	0	0
Jun	100	685	1.0	20	3	100	0	0	0
Jul	100	705	0.9	18	3	100	0	0	0
Aug	100	704	1.4	38	5	100	0	0	0
Sep	100	678	2.5	66	10	99.41	0.59	0	0
Oct	99	697	3.4	69	11	99	1	0	0
Nov	100	682	3.9	56	15	99.56	0.44	0	0
Dec	98	688	8.1	100	33	96.66	3.05	0.29	0
<b>Annual</b>	<b>99.0</b>	<b>8240</b>	<b>3.2</b>	<b>103</b>	<b>40</b>	<b>99.15</b>	<b>0.74</b>	<b>0.11</b>	<b>0</b>



**WBEA - Patricia McInnes (AMS 6)  
Annual Summary for the Year 2014  
Nitrogen Oxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	705	4.8	76	18	98.87	1.13	0	0
Feb	100	634	5.5	81	38	98.58	1.26	0.16	0
Mar	98	678	3.5	68	11	99.41	0.59	0	0
Apr	98	674	1.6	31	4	100	0	0	0
May	97	687	1.0	10	2	100	0	0	0
Jun	100	681	1.1	12	3	100	0	0	0
Jul	98	692	0.7	12	1	100	0	0	0
Aug	98	693	0.9	19	3	100	0	0	0
Sep	100	680	1.4	17	4	100	0	0	0
Oct	100	708	1.7	32	6	100	0	0	0
Nov	86	590	2.4	25	7	100	0	0	0
Dec	100	707	6.5	96	33	97.45	2.4	0.14	0
<b>Annual</b>	<b>98.0</b>	<b>8129</b>	<b>2.6</b>	<b>96</b>	<b>38</b>	<b>99.52</b>	<b>0.46</b>	<b>0.02</b>	<b>0</b>



**Wood Buffalo Environmental Association - Athabasca Valley (AMS 7)**  
**Annual Summary for the Year 2014**  
**Nitrogen Oxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum		% of Data in Each Concentration Range			
				1-Hour Value	24-Hour Value	0 - 40	41 - 80	81 - 159	>159
Jan	100	707	23.9	198	73	80.76	14.29	4.38	0.57
Feb	100	640	25.4	490	80	79.38	14.06	5.78	0.78
Mar	96.64	678	14.3	185	36	92.92	5.16	1.77	0.15
Apr	99.58	682	8.3	176	33	95.45	2.79	1.47	0.29
May	99.87	707	2.0	223	15	99.43	0.28	0.14	0.14
Jun	99.72	682	1.5	17	4	100	0	0	0
Jul	100	707	2.3	193	28	99.01	0.42	0.42	0.14
Aug	100	708	2.6	94	9	99.86	0	0.14	0
Sep	100	681	5.7	69	15	99.27	0.73	0	0
Oct	99.33	701	4.1	90	12	99.29	0.57	0.14	0
Nov	98.89	677	5.1	65	25	98.97	1.03	0	0
Dec	100	707	11.2	114	45	93.49	4.67	1.84	0
Annual	99.5	8277	8.8	490	80	94.89	3.62	1.32	0.17



**WBEA - Fort Chipewyan (AMS 8)  
Annual Summary for the Year 2014  
Nitrogen Oxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	98	693	0.2	3	1	100	0	0	0
Feb	100	638	0.2	6	1	100	0	0	0
Mar	92	647	0.2	10	2	100	0	0	0
Apr	100	684	0.1	1	0	100	0	0	0
May	100	704	0.1	1	0	100	0	0	0
Jun	100	683	0.1	1	0	100	0	0	0
Jul	99	701	0.1	3	1	100	0	0	0
Aug	99	702	0.1	6	1	100	0	0	0
Sep	100	681	0.1	2	0	100	0	0	0
Oct	100	702	0.2	9	2	100	0	0	0
Nov	100	683	0.2	5	1	100	0	0	0
Dec	98	701	0.2	3	1	100	0	0	0
<b>Annual</b>	<b>98.9</b>	<b>8219</b>	<b>0.1</b>	<b>10</b>	<b>2</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>



**WB&EA - Millennium (AMS 12)  
Annual Summary for the Year 2014  
Nitrogen Oxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	707	18.2	257	85	85.01	10.33	3.54	1.13
Feb	100	639	19.8	268	71	83.41	11.74	3.44	1.41
Mar	100	708	12.0	158	37	90.68	7.63	1.69	0
Apr	100	684	3.8	187	23	98.25	1.02	0.44	0.29
May	100	708	5.6	112	28	95.62	3.53	0.85	0
Jun	100	682	5.2	166	17	97.65	1.76	0.44	0.15
Jul	99	701	4.3	77	15	98.72	1.28	0	0
Aug	99	696	7.2	125	18	96.12	3.45	0.43	0
Sep	100	680	7.3	117	21	96.47	3.09	0.44	0
Oct	100	707	7.6	134	34	95.76	2.69	1.56	0
Nov	100	682	9.6	241	44	94.28	4.55	0.59	0.59
Dec	99	703	22.0	321	92	83.78	10.95	3.7	1.56
<b>Annual</b>	<b>99.7</b>	<b>8297</b>	<b>10.2</b>	<b>321</b>	<b>92</b>	<b>93.03</b>	<b>5.12</b>	<b>1.43</b>	<b>0.42</b>





**WBEA - Fort McKay South (AMS 13)  
Annual Summary for the Year 2014  
Nitrogen Oxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	706	7.0	105	36	96.32	2.83	0.85	0
Feb	100	637	5.9	142	22	97.33	2.2	0.47	0
Mar	100	708	4.0	118	17	98.31	1.27	0.42	0
Apr	100	685	1.4	44	6	99.85	0.15	0	0
May	99	696	0.9	42	3	99.86	0.14	0	0
Jun	100	683	1.0	34	5	100	0	0	0
Jul	100	707	0.9	32	5	100	0	0	0
Aug	99	700	1.2	30	6	100	0	0	0
Sep	100	680	2.6	59	9	99.26	0.74	0	0
Oct	100	705	2.9	72	14	99.29	0.71	0	0
Nov	100	682	3.2	65	15	99.27	0.73	0	0
Dec	98	693	10.1	107	46	93.51	5.34	1.15	0
<b>Annual</b>	<b>99.6</b>	<b>8282</b>	<b>3.4</b>	<b>142</b>	<b>46</b>	<b>98.66</b>	<b>1.12</b>	<b>0.22</b>	<b>0</b>



**WBEA - Anzac (AMS 14)**  
**Annual Summary for the Year 2014**  
**Nitrogen Oxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	706	0.5	21	4	100	0	0	0
Feb	100	638	1.0	45	5	99.84	0.16	0	0
Mar	100	707	0.6	21	3	100	0	0	0
Apr	100	685	0.3	12	2	100	0	0	0
May	97	682	0.4	22	2	100	0	0	0
Jun	100	683	0.6	15	2	100	0	0	0
Jul	99	701	0.9	16	2	100	0	0	0
Aug	100	704	0.5	22	3	100	0	0	0
Sep	99	673	0.6	14	2	100	0	0	0
Oct	100	708	0.4	15	1	100	0	0	0
Nov	100	685	0.6	22	2	100	0	0	0
Dec	99	700	1.2	40	5	100	0	0	0
<b>Annual</b>	<b>99.4</b>	<b>8272</b>	<b>0.6</b>	<b>45</b>	<b>5</b>	<b>99.99</b>	<b>0.01</b>	<b>0</b>	<b>0</b>



**WBEA - CNRL Horizon (AMS 15)  
Annual Summary for the Year 2014  
Nitrogen Oxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	708	4.1	67	33	97.88	2.12	0	0
Feb	100	636	7.3	225	48	95.28	2.52	1.26	0.94
Mar	100	708	3.7	133	21	98.31	1.13	0.56	0
Apr	99	677	1.5	80	13	99.26	0.74	0	0
May	100	708	1.5	46	9	99.86	0.14	0	0
Jun	99	680	1.5	56	6	99.71	0.29	0	0
Jul	100	707	1.0	37	4	100	0	0	0
Aug	99	700	2.3	61	16	99.43	0.57	0	0
Sep	100	681	2.6	131	13	99.27	0.44	0.29	0
Oct	99	697	5.3	273	33	97.99	1	0.72	0.29
Nov	97	653	2.6	68	16	98.32	1.68	0	0
Dec	100	707	4.0	122	23	97.74	1.84	0.42	0
<b>Annual</b>	<b>99.4</b>	<b>8262</b>	<b>3.1</b>	<b>273</b>	<b>48</b>	<b>98.63</b>	<b>1.03</b>	<b>0.24</b>	<b>0.1</b>



**WBEA - Shell Muskeg River (AMS 16)  
Annual Summary for the Year 2014  
Nitrogen Oxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	706	9.6	107	38	95.75	3.54	0.71	0
Feb	100	638	15.4	210	68	89.18	6.9	3.61	0.31
Mar	100	707	10.1	116	24	95.19	3.96	0.85	0
Apr	100	685	4.7	72	14	99.56	0.44	0	0
May	100	703	4.6	70	17	99.15	0.85	0	0
Jun	99	677	5.8	72	18	98.52	1.48	0	0
Jul	99	702	3.6	58	14	99.43	0.57	0	0
Aug	100	706	5.1	146	20	98.58	0.99	0.42	0
Sep	100	682	7.7	118	17	97.95	1.61	0.44	0
Oct	100	707	8.9	174	38	94.77	3.25	1.56	0.42
Nov	100	681	8.3	112	24	97.5	2.06	0.44	0
Dec	98	695	15.6	138	78	86.62	9.78	3.6	0
<b>Annual</b>	<b>99.7</b>	<b>8289</b>	<b>8.2</b>	<b>210</b>	<b>78</b>	<b>96.08</b>	<b>2.91</b>	<b>0.94</b>	<b>0.06</b>



**WB&EA - Wapasu (AMS 17)**  
**Annual Summary for the Year 2014**  
**Nitrogen Oxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	706	1.5	22	5	100	0	0	0
Feb	100	636	1.6	24	5	100	0	0	0
Mar	92	647	1.4	14	3	100	0	0	0
Apr	99	665	0.6	15	2	100	0	0	0
May	100	705	0.6	5	1	100	0	0	0
Jun	100	683	0.6	10	1	100	0	0	0
Jul	99	703	0.7	8	2	100	0	0	0
Aug	100	704	0.7	12	2	100	0	0	0
Sep	100	680	1.0	16	4	100	0	0	0
Oct	99	703	1.2	37	4	100	0	0	0
Nov	100	683	1.0	16	5	100	0	0	0
Dec	100	709	1.5	27	8	100	0	0	0
<b>Annual</b>	<b>99.0</b>	<b>8224</b>	<b>1.0</b>	<b>37</b>	<b>8</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>



**WBEA - Firebag (AMS 19)**  
**Annual Summary for the Year 2014**  
**Nitrogen Oxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jul	100	495	0.9	15	2	100	0	0	0
Aug	100	708	1.5	92	7	99.72	0.14	0.14	0
Sep	100	682	1.4	106	9	99.56	0.29	0.15	0
Oct	100	708	2.5	75	10	99.58	0.42	0	0
Nov	100	686	1.4	41	7	99.85	0.15	0	0
Dec	100	708	3.2	46	13	99.72	0.28	0	0
<b>Annual</b>	<b>100.0</b>	<b>3987</b>	<b>1.9</b>	<b>106</b>	<b>13</b>	<b>99.74</b>	<b>0.21</b>	<b>0.05</b>	<b>0</b>



**WBEA - Cenovus - Christina Lake (AMS500)**  
**Annual Summary for the Year 2014**  
**Nitrogen Oxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jan	100	706	2.7	56	14	99.72	0.28	0	0
Feb	100	637	3.7	59	11	99.37	0.63	0	0
Mar	100	708	5.3	62	20	97.88	2.12	0	0
Apr	100	681	1.7	30	7	100	0	0	0
May	100	705	1.4	17	3	100	0	0	0
Jun	100	375	1.1	11	3	100	0	0	0
<b>Annual</b>	<b>99.8</b>	<b>3812</b>	<b>2.8</b>	<b>62</b>	<b>20</b>	<b>99.47</b>	<b>0.53</b>	<b>0</b>	<b>0</b>



**WBEA - Statoil - Leismer (AMS501)**  
**Annual Summary for the Year 2014**  
**Nitrogen Oxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jul	99	705	1.3	13	4	100	0	0	0
Aug	99	696	1.0	26	3	100	0	0	0
Sep	100	684	1.1	34	3	100	0	0	0
Oct	100	308	2.2	79	12	99.35	0.65	0	0
<b>Annual</b>	<b>99.4</b>	<b>2471</b>	<b>1.3</b>	<b>79</b>	<b>12</b>	<b>99.92</b>	<b>0.08</b>	<b>0</b>	<b>0</b>





**WBEA - ConocoPhillips - Surmont (AMS502)**  
**Annual Summary for the Year 2014**  
**Nitrogen Oxide (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	% of Data in Each Concentration Range			
						0 - 40	41 - 80	81 - 159	>159
Jul	93	648	3.3	28	5	100	0	0	0
Aug	97	682	2.5	26	6	100	0	0	0
Sep	53	354	2.1	12	4	100	0	0	0
Oct	100	705	3.2	31	7	100	0	0	0
Nov	100	684	3.7	50	11	99.42	0.58	0	0
Dec	100	711	2.6	58	10	99.44	0.56	0	0
<b>Annual</b>	<b>90.3</b>	<b>3789</b>	<b>3.0</b>	<b>58</b>	<b>11</b>	<b>99.81</b>	<b>0.19</b>	<b>0</b>	<b>0</b>



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

### **CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM ANNUAL REPORT**

### **OZONE ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Fort McKay - Bertha Ganter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Ozone (ppb) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Number of Values Exceeding 1-Hour Objective</b>	<b>Maximum 24-Hour Value</b>
Jan	98	693	16.02	39.4	0	33.0
Feb	100	638	17.28	38.8	0	33.7
Mar	100	710	22.21	46.0	0	42.0
Apr	99	683	28.61	48.8	0	38.1
May	98	698	25.18	51.0	0	33.0
Jun	100	686	21.49	44.1	0	30.0
Jul	91	630	24.08	77.3	0	36.4
Aug	99	703	23.52	103.7	3	42.8
Sep	99	678	17.74	48.5	0	26.4
Oct	99	704	14.84	43.9	0	33.6
Nov	100	682	17.48	38.8	0	30.7
Dec	98	691	11.19	37.5	0	29.8
<b>Annual</b>	<b>98.4</b>	<b>8196</b>	<b>19.96</b>	<b>103.7</b>	<b>3</b>	<b>42.8</b>



**WBEA - Patricia McInnes (AMS 6)**  
**Annual Summary for the Year 2014**  
**Ozone (ppb) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Number of Values Exceeding 1-Hour Objective</b>	<b>Maximum 24-Hour Value</b>
Jan	100	710	20.96	42.3	0	36.6
Feb	100	639	22.08	40.7	0	34.1
Mar	100	708	27.53	51.1	0	46.5
Apr	100	685	35.05	56.5	0	43.2
May	99	702	30.06	55.8	0	40.5
Jun	99	680	26.86	60.1	0	37.0
Jul	98	697	24.37	55.8	0	37.2
Aug	100	710	23.04	74.6	0	34.6
Sep	100	682	17.62	40.8	0	27.5
Oct	100	707	16.75	40.9	0	31.1
Nov	84	576	18.72	38.2	0	31.7
Dec	100	710	14.41	37.3	0	30.4
<b>Annual</b>	<b>98.3</b>	<b>8206</b>	<b>23.16</b>	<b>74.6</b>	<b>0</b>	<b>46.5</b>



**WBEA - Athabasca Valley (AMS 7)  
Annual Summary for the Year 2014  
Ozone (ppb) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Number of Values Exceeding 1-Hour Objective</b>	<b>Maximum 24-Hour Value</b>
Jan	100	708	15.77	42.5	0	31.2
Feb	100	641	16.52	40.8	0	33.5
Mar	99	706	20.58	47.5	0	38.3
Apr	100	685	31.59	54.0	0	45.4
May	100	708	29.15	54.6	0	41.1
Jun	100	686	23.70	61.9	0	32.4
Jul	100	709	22.71	62.1	0	30.9
Aug	100	708	19.27	76.7	0	32.5
Sep	100	683	12.94	40.5	0	22.4
Oct	100	707	12.66	39.4	0	26.2
Nov	99	678	14.43	32.6	0	26.3
Dec	100	709	8.86	33.9	0	22.4
<b>Annual</b>	<b>99.8</b>	<b>8328</b>	<b>19.02</b>	<b>76.7</b>	<b>0</b>	<b>45.4</b>



**WBEA - Fort Chipewyan (AMS 8)**  
**Annual Summary for the Year 2014**  
**Ozone (ppb) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Number of Values Exceeding 1-Hour Objective</b>	<b>Maximum 24-Hour Value</b>
Jan	100	707	31.86	41.1	0	38.2
Feb	100	641	31.00	40.7	0	38.8
Mar	92	646	32.03	44.0	0	38.1
Apr	100	686	38.24	50.2	0	48.7
May	100	708	33.77	52.4	0	45.3
Jun	100	687	29.18	52.5	0	42.4
Jul	99	706	28.90	52.3	0	39.3
Aug	99	704	26.20	68.4	0	49.5
Sep	100	686	21.01	38.3	0	32.4
Oct	100	709	20.15	36.9	0	29.8
Nov	100	687	25.63	37.3	0	35.0
Dec	99	700	23.23	32.4	0	31.6
<b>Annual</b>	<b>99.1</b>	<b>8267</b>	<b>28.39</b>	<b>68.4</b>	<b>0</b>	<b>49.5</b>



**WBEA - Fort McKay South (AMS 13)**  
**Annual Summary for the Year 2014**  
**Ozone (ppb) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Number of Values Exceeding 1-Hour Objective</b>	<b>Maximum 24-Hour Value</b>
Jan	100	709	15.90	42.4	0	33.4
Feb	100	641	16.84	40.8	0	35.0
Mar	100	709	22.93	49.3	0	44.5
Apr	100	686	28.82	53.3	0	40.1
May	99	701	24.59	54.7	0	34.7
Jun	100	687	20.46	50.1	0	29.5
Jul	100	709	19.84	69.5	0	29.5
Aug	99	703	16.10	105.2	2	27.5
Sep	100	683	12.45	44.0	0	22.9
Oct	99	702	9.51	39.7	0	26.3
Nov	100	686	14.44	37.0	0	27.6
Dec	98	695	8.40	33.9	0	23.7
<b>Annual</b>	<b>99.6</b>	<b>8311</b>	<b>17.53</b>	<b>105.2</b>	<b>2</b>	<b>44.5</b>





**WBEA - Anzac (AMS 14)**  
**Annual Summary for the Year 2014**  
**Ozone (ppb) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Number of Values Exceeding 1-Hour Objective</b>	<b>Maximum 24-Hour Value</b>
Jan	100	708	26.30	43.0	0	38.0
Feb	100	640	25.99	39.8	0	36.8
Mar	100	709	31.25	51.4	0	46.7
Apr	100	686	37.37	54.8	0	44.8
May	100	708	31.43	58.2	0	42.7
Jun	99	678	26.65	63.7	0	36.2
Jul	99	700	25.26	65.9	0	36.5
Aug	100	707	23.68	60.5	0	36.3
Sep	100	684	18.35	47.9	0	28.0
Oct	100	710	19.11	41.7	0	34.9
Nov	100	685	22.06	37.8	0	33.3
Dec	99	706	19.31	38.0	0	34.9
<b>Annual</b>	<b>99.7</b>	<b>8321</b>	<b>25.56</b>	<b>65.9</b>	<b>0</b>	<b>46.7</b>



**WBEA - Wapasu (AMS 17)**  
**Annual Summary for the Year 2014**  
**Ozone (ppb) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Number of Values Exceeding 1-Hour Objective</b>	<b>Maximum 24-Hour Value</b>
Jan	100	709	26.68	40.8	0	35.2
Feb	100	640	27.27	44.1	0	37.1
Mar	100	709	30.67	46.5	0	38.5
Apr	99	680	37.85	53.0	0	46.1
May	100	709	32.77	56.6	0	46.9
Jun	100	684	28.56	49.4	0	38.6
Jul	100	708	28.51	76.4	0	42.8
Aug	99	704	26.16	108.9	11	64.2
Sep	100	685	19.06	42.2	0	28.8
Oct	100	707	18.04	41.2	0	29.4
Nov	99	678	22.73	37.7	0	32.8
Dec	99	707	19.98	37.7	0	30.6
<b>Annual</b>	<b>99.7</b>	<b>8320</b>	<b>26.51</b>	<b>108.9</b>	<b>11</b>	<b>64.2</b>

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## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

CONTINUOUS AMBIENT AIR QUALITY  
MONITORING PROGRAM  
ANNUAL REPORT

### **TOTAL HYDROCARBON ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Fort McKay - Bertha Ganter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	96	681	2.0	3.8	2.5
Feb	96	611	2.0	3.3	2.4
Mar	100	708	2.0	3.1	2.2
Apr	100	683	1.9	2.5	2.0
May	98	695	1.9	2.6	1.9
Jun	100	685	1.8	2.4	2.0
Jul	98	696	1.9	2.3	2.0
Aug	99	702	1.9	3.5	2.3
Sep	100	679	1.9	2.7	2.0
Oct	99	703	1.9	2.9	2.1
Nov	99	680	1.9	2.8	2.1
Dec	98	689	2.1	2.9	2.4
<b>Annual</b>	<b>98.6</b>	<b>8212</b>	<b>1.9</b>	<b>3.8</b>	<b>2.5</b>



**WBEA - Mildred Lake (AMS 2)**  
**Annual Summary for the Year 2014**  
**Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	707	2.4	6.2	3.1
Feb	100	639	2.4	5.3	3.1
Mar	100	710	2.5	7.7	3.0
Apr	100	687	2.3	4.4	2.7
May	100	706	2.2	14.7	3.5
Jun	100	687	2.2	4.7	2.5
Jul	100	706	2.4	6.9	3.1
Aug	96	681	2.4	4.6	2.8
Sep	97	660	2.4	6.1	2.8
Oct	100	708	2.4	5.2	3.0
Nov	100	686	2.3	5.4	2.8
Dec	100	709	2.5	5.9	3.0
<b>Annual</b>	<b>99.4</b>	<b>8286</b>	<b>2.4</b>	<b>14.7</b>	<b>3.5</b>



**WBEA - Buffalo Viewpoint (AMS 4 )**  
**Annual Summary for the Year 2014**  
**Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	85	324	2.4	3.9	2.8
Feb	100	378	2.7	6.2	3.6
Mar	100	708	2.5	6.1	3.4
Apr	100	686	2.3	4.8	2.9
May	100	709	2.3	3.3	2.5
Jun	100	685	2.3	3.8	2.8
Jul	99	704	2.4	3.6	2.7
Aug	99	699	2.4	4.3	2.7
Sep	50	339	2.3	3.6	2.6
Oct	100	705	2.2	3.5	2.6
Nov	100	685	2.3	3.9	2.5
Dec	100	705	2.4	5.7	3.0
<b>Annual</b>	<b>94.7</b>	<b>7327</b>	<b>2.4</b>	<b>6.2</b>	<b>3.6</b>





**WBEA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	709	2.4	4.6	2.6
Feb	100	639	2.4	6.8	3.5
Mar	100	708	2.4	7.1	3.0
Apr	98	676	2.3	6.5	2.6
May	68	471	2.2	5.5	2.6
Jun	92	624	2.4	4.0	2.7
Jul	100	707	2.3	3.9	2.6
Aug	100	708	2.4	4.7	2.7
Sep	100	681	2.3	5.1	2.8
Oct	100	708	2.3	4.2	2.6
Nov	100	685	2.3	5.4	2.7
Dec	99	701	2.5	8.1	3.6
<b>Annual</b>	<b>96.3</b>	<b>8017</b>	<b>2.4</b>	<b>8.1</b>	<b>3.6</b>



**WBEA - Patricia McInnes (AMS 6)**  
**Annual Summary for the Year 2014**  
**Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	707	2.0	3.1	2.3
Feb	95	604	2.0	3.3	2.5
Mar	99	699	1.9	2.7	2.2
Apr	98	674	1.9	2.5	2.0
May	99	700	1.9	2.3	2.0
Jun	85	581	2.0	2.5	2.1
Jul	97	685	2.0	2.7	2.1
Aug	100	704	2.0	2.9	2.2
Sep	100	681	2.0	2.4	2.1
Oct	100	708	2.0	2.3	2.1
Nov	86	590	2.0	2.4	2.1
Dec	100	707	2.1	2.7	2.2
<b>Annual</b>	<b>96.7</b>	<b>8040</b>	<b>2.0</b>	<b>3.3</b>	<b>2.5</b>



**WBEA - Athabasca Valley (AMS 7)  
Annual Summary for the Year 2014  
Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	705	2.0	2.6	2.4
Feb	100	639	2.0	2.7	2.4
Mar	100	707	2.0	2.6	2.2
Apr	99	681	1.9	2.2	1.9
May	100	707	1.9	2.2	1.9
Jun	100	683	1.9	2.4	2.0
Jul	100	706	2.0	2.5	2.1
Aug	100	706	2.0	2.3	2.1
Sep	100	683	2.0	2.3	2.1
Oct	100	704	1.9	2.6	2.1
Nov	99	676	1.9	2.3	2.0
Dec	100	708	2.0	2.8	2.4
<b>Annual</b>	<b>99.7</b>	<b>8305</b>	<b>2.0</b>	<b>2.8</b>	<b>2.4</b>



**WBEA - Barge Landing (AMS 9)  
Annual Summary for the Year 2014  
Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	98	685	2.4	4.3	3.1
Feb	99	636	2.3	4.7	2.9
Mar	100	706	2.2	4.9	2.9
Apr	100	687	2.1	2.9	2.5
May	99	698	2.1	6.7	2.5
Jun	99	675	2.1	3.2	2.4
Jul	99	705	2.1	3.1	2.3
Aug	90	636	2.1	3.1	2.4
Sep	100	684	2.1	3.3	2.5
Oct	100	705	2.1	3.3	2.4
Nov	100	686	2.3	14.7	3.6
Dec	99	702	2.5	3.9	3.2
<b>Annual</b>	<b>98.6</b>	<b>8205</b>	<b>2.2</b>	<b>14.7</b>	<b>3.6</b>



**WBEA - Lower Camp (AMS 11)**  
**Annual Summary for the Year 2014**  
**Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	97	684	2.4	4.4	2.9
Feb	100	640	2.4	5.2	3.5
Mar	100	709	2.3	4.6	2.7
Apr	100	684	2.2	4.0	2.8
May	100	709	2.2	15.9	2.9
Jun	95	648	2.2	3.5	2.4
Jul	100	707	2.4	4.3	3.1
Aug	100	709	2.3	3.9	2.7
Sep	100	682	2.3	4.1	2.7
Oct	100	708	2.2	4.3	2.6
Nov	100	685	2.2	5.7	2.5
Dec	98	693	2.4	5.8	3.0
<b>Annual</b>	<b>99.1</b>	<b>8258</b>	<b>2.3</b>	<b>15.9</b>	<b>3.5</b>



**WBEA - Millennium (AMS 12)**  
**Annual Summary for the Year 2014**  
**Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	707	2.6	5.6	3.3
Feb	100	636	2.5	5.5	3.1
Mar	100	710	2.5	5.3	3.0
Apr	100	680	2.2	6.0	2.6
May	100	706	2.2	6.6	2.8
Jun	98	670	2.4	4.5	2.7
Jul	99	703	2.5	5.1	3.1
Aug	100	707	2.5	6.3	2.8
Sep	100	685	2.4	5.0	2.9
Oct	100	708	2.3	4.6	3.0
Nov	100	684	2.3	4.5	2.7
Dec	99	702	2.6	6.5	3.4
<b>Annual</b>	<b>99.7</b>	<b>8298</b>	<b>2.4</b>	<b>6.6</b>	<b>3.4</b>



**WBEA - Fort McKay South (AMS 13)**  
**Annual Summary for the Year 2014**  
**Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	708	2.3	4.7	2.9
Feb	100	638	2.3	4.1	2.9
Mar	100	708	2.2	4.4	2.6
Apr	100	685	2.1	4.1	2.4
May	99	695	2.1	2.9	2.3
Jun	100	684	2.1	3.3	2.4
Jul	100	707	2.2	3.3	2.4
Aug	99	701	2.2	7.9	2.7
Sep	97	654	2.1	4.2	2.5
Oct	99	695	2.1	4.3	2.4
Nov	100	683	2.2	4.0	2.6
Dec	98	693	2.4	4.1	3.1
<b>Annual</b>	<b>99.2</b>	<b>8251</b>	<b>2.2</b>	<b>7.9</b>	<b>3.1</b>



**WBEA - Anzac (AMS 14)**  
**Annual Summary for the Year 2014**  
**Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	98	681	1.9	2.5	2.2
Feb	100	636	2.0	2.4	2.1
Mar	100	707	1.9	2.4	2.0
Apr	100	684	1.8	2.2	1.9
May	100	709	1.8	2.1	1.9
Jun	100	684	1.9	2.3	2.0
Jul	98	693	2.0	3.8	2.3
Aug	99	702	2.1	5.8	2.6
Sep	100	679	1.9	8.6	2.9
Oct	100	708	1.9	4.2	2.2
Nov	100	685	1.9	3.9	2.2
Dec	99	702	2.0	3.1	2.3
<b>Annual</b>	<b>99.4</b>	<b>8270</b>	<b>1.9</b>	<b>8.6</b>	<b>2.9</b>





**WBEA - CNRL Horizon (AMS 15)  
Annual Summary for the Year 2014  
Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	99.7	706	2.4	4.8	3.2
Feb	99.9	637	2.6	11.3	4.3
Mar	100.0	708	2.5	6.4	3.3
Apr	98.6	669	2.3	4.6	2.7
May	100.0	708	2.3	4.1	2.5
Jun	99.0	678	2.4	4.7	2.7
Jul	100.0	707	2.4	4.0	2.6
Aug	97.6	690	2.4	5.0	2.9
Sep	100.0	682	2.3	6.1	2.7
Oct	100.0	707	2.5	11.9	3.7
Nov	98.5	679	2.4	3.7	2.7
Dec	100.0	707	2.4	5.0	2.8
<b>Annual</b>	<b>99.4</b>	<b>8278</b>	<b>2.4</b>	<b>11.9</b>	<b>4.3</b>



**WB&EA - Shell Muskeg River (AMS 16)**  
**Annual Summary for the Year 2014**  
**Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	706	2.4	4.6	2.9
Feb	100	638	2.4	5.2	3.4
Mar	100	707	2.4	6.4	2.9
Apr	100	684	2.3	4.6	2.6
May	100	705	2.3	3.6	2.6
Jun	99	677	2.5	5.1	3.4
Jul	99	702	2.6	4.1	2.9
Aug	99	697	2.4	4.9	3.1
Sep	100	680	2.4	6.0	2.8
Oct	100	706	2.4	5.6	3.0
Nov	100	682	2.4	4.4	2.8
Dec	98	695	2.7	10.6	3.8
<b>Annual</b>	<b>99.6</b>	<b>8279</b>	<b>2.4</b>	<b>10.6</b>	<b>3.8</b>



**WBEA - Wapasu (AMS 17)**  
**Annual Summary for the Year 2014**  
**Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	707	2.2	2.7	2.5
Feb	100	639	2.2	2.7	2.4
Mar	100	707	2.1	2.5	2.3
Apr	99	678	2.1	2.4	2.2
May	100	708	2.1	2.4	2.2
Jun	100	682	2.1	2.4	2.2
Jul	99	704	2.1	2.7	2.3
Aug	99	706	2.2	3.0	2.4
Sep	100	680	2.1	2.8	2.3
Oct	99	703	2.1	2.7	2.2
Nov	100	683	2.1	2.6	2.3
Dec	100	709	2.2	2.7	2.3
<b>Annual</b>	<b>99.7</b>	<b>8306</b>	<b>2.1</b>	<b>3.0</b>	<b>2.5</b>



**WBEA - Firebag (AMS 19)**  
**Annual Summary for the Year 2014**  
**Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jul	100	495	2.2	3.2	2.4
Aug	100	708	2.2	3.1	2.5
Sep	100	680	2.2	3.1	2.4
Oct	99	702	2.1	2.5	2.3
Nov	100	686	2.2	2.6	2.3
Dec	100	708	2.2	3.0	2.4
Annual	99.8	3979	2.2	3.2	2.5



**WBEA - WBEA Mobile (MAMSL1)  
Annual Summary for the Year 2014  
Total Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	99	318	2.24	6.16	2.58
Feb	92	493	2.57	6.33	3.36
Annual	95.3	811	2.44	6.33	3.36



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

CONTINUOUS AMBIENT AIR QUALITY  
MONITORING PROGRAM  
ANNUAL REPORT

### **NON-METHANE HYDROCARBON ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Fort McKay - Bertha Ganter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Non-Methane Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	96	681	0.0443	1.0208	0.1555
Feb	96	611	0.0086	0.3167	0.0995
Mar	100	708	0.0008	0.2098	0.0129
Apr	100	683	0.0004	0.0514	0.0040
May	98	695	0.0020	0.4130	0.0106
Jun	100	685	0.0008	0.1000	0.0046
Jul	98	696	0.0024	0.2620	0.0258
Aug	99	702	0.0123	1.3733	0.1631
Sep	100	679	0.0010	0.1260	0.0151
Oct	99	703	0.0012	0.1606	0.0135
Nov	99	680	0.0044	0.7364	0.0778
Dec	98	689	0.0043	0.5561	0.0541
<b>Annual</b>	<b>98.6</b>	<b>8212</b>	<b>0.0068</b>	<b>1.3733</b>	<b>0.1631</b>





**WBEA - Patricia McInnes (AMS 6)**  
**Annual Summary for the Year 2014**  
**Non-Methane Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	707	0.0248	0.4987	0.1324
Feb	95	604	0.0184	0.5813	0.2325
Mar	99	699	0.0214	0.4974	0.1234
Apr	98	674	0.0044	0.3575	0.0399
May	99	700	0.0043	0.2279	0.0283
Jun	85	581	0.0024	0.2678	0.0460
Jul	97	685	0.0009	0.0992	0.0045
Aug	100	704	0.0009	0.2704	0.0133
Sep	100	681	0.0003	0.0513	0.0032
Oct	100	708	0.0007	0.0708	0.0049
Nov	86	590	0.0007	0.0940	0.0047
Dec	100	707	0.0053	0.6925	0.0412
<b>Annual</b>	<b>96.7</b>	<b>8040</b>	<b>0.0071</b>	<b>0.6925</b>	<b>0.2325</b>



**WBEA - Athabasca Valley (AMS 7)**  
**Annual Summary for the Year 2014**  
**Non-Methane Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	705	0.0147	0.4249	0.1518
Feb	100	639	0.0120	0.3223	0.0955
Mar	100	707	0.0071	0.3069	0.0488
Apr	99	681	0.0019	0.1011	0.0107
May	100	707	0.0012	0.0822	0.0068
Jun	100	683	0.0119	0.1308	0.0395
Jul	100	706	0.0369	0.4409	0.0864
Aug	100	706	0.0339	0.3634	0.0854
Sep	100	683	0.0118	0.3226	0.0471
Oct	100	704	0.0091	0.4388	0.0434
Nov	99	676	0.0049	0.2896	0.0338
Dec	100	708	0.0202	0.3767	0.1024
<b>Annual</b>	<b>99.7</b>	<b>8305</b>	<b>0.0139</b>	<b>0.4409</b>	<b>0.1518</b>



**WBEA - Anzac (AMS 14)**  
**Annual Summary for the Year 2014**  
**Non-Methane Hydrocarbons (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	98	681	0.0065	0.2085	0.0507
Feb	100	636	0.0004	0.0977	0.0061
Mar	100	707	0.0023	0.3501	0.0152
Apr	100	684	0.0027	0.0493	0.0179
May	100	709	0.0084	0.2077	0.0293
Jun	100	684	0.0367	0.4568	0.1025
Jul	98	693	0.0712	0.2398	0.1320
Aug	99	702	0.0732	0.4436	0.1667
Sep	100	679	0.0201	0.1652	0.0789
Oct	100	708	0.0106	0.1193	0.0600
Nov	100	685	0.0060	0.1708	0.0392
Dec	99	702	0.0221	0.2443	0.1318
<b>Annual</b>	<b>99.4</b>	<b>8270</b>	<b>0.0219</b>	<b>0.4568</b>	<b>0.1667</b>



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

### **CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM ANNUAL REPORT**

### **METHANE ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Fort McKay - Bertha Ganter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Methane (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	96	681	2.00	2.83	2.38
Feb	96	611	1.99	3.12	2.38
Mar	100	708	1.97	3.10	2.16
Apr	100	683	1.91	2.47	2.01
May	98	695	1.85	2.17	1.91
Jun	100	685	1.84	2.41	1.98
Jul	98	696	1.88	2.29	1.96
Aug	99	702	1.93	2.48	2.11
Sep	100	679	1.89	2.65	2.03
Oct	99	703	1.89	2.87	2.13
Nov	99	680	1.94	2.70	2.14
Dec	98	689	2.06	2.93	2.38
<b>Annual</b>	<b>98.6</b>	<b>8212</b>	<b>1.93</b>	<b>3.12</b>	<b>2.38</b>



**WBEA - Patricia McInnes (AMS 6)**  
**Annual Summary for the Year 2014**  
**Methane (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	707	1.97	2.62	2.25
Feb	95	604	1.95	2.74	2.30
Mar	99	699	1.93	2.32	2.10
Apr	98	674	1.91	2.12	1.97
May	99	700	1.94	2.11	1.99
Jun	85	581	1.96	2.52	2.14
Jul	97	685	1.99	2.69	2.11
Aug	100	704	2.01	2.71	2.15
Sep	100	681	1.98	2.39	2.11
Oct	100	708	1.96	2.28	2.06
Nov	86	590	1.99	2.41	2.07
Dec	100	707	2.07	2.64	2.23
<b>Annual</b>	<b>96.7</b>	<b>8040</b>	<b>1.97</b>	<b>2.74</b>	<b>2.30</b>



**WBEA - Athabasca Valley (AMS 7)  
Annual Summary for the Year 2014  
Methane (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	705	1.99	2.60	2.33
Feb	100	639	2.00	2.61	2.34
Mar	100	707	1.95	2.37	2.13
Apr	99	681	1.89	2.14	1.93
May	100	707	1.89	2.16	1.93
Jun	100	683	1.91	2.25	2.01
Jul	100	706	1.91	2.23	1.97
Aug	100	706	1.93	2.25	2.02
Sep	100	683	1.95	2.27	2.04
Oct	100	704	1.92	2.46	2.06
Nov	99	676	1.89	2.23	1.99
Dec	100	708	2.00	2.60	2.25
<b>Annual</b>	<b>99.7</b>	<b>8305</b>	<b>1.94</b>	<b>2.61</b>	<b>2.34</b>





**WBEA - Anzac (AMS 14)**  
**Annual Summary for the Year 2014**  
**Methane (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	98	681	1.89	2.36	2.16
Feb	100	636	1.95	2.37	2.12
Mar	100	707	1.90	2.20	2.03
Apr	100	684	1.84	2.15	1.90
May	100	709	1.82	2.04	1.86
Jun	100	684	1.83	2.21	1.90
Jul	98	693	1.89	3.65	2.24
Aug	99	702	2.02	5.78	2.48
Sep	100	679	1.91	8.55	2.87
Oct	100	708	1.87	4.26	2.23
Nov	100	685	1.91	3.88	2.13
Dec	99	702	1.95	2.94	2.17
<b>Annual</b>	<b>99.4</b>	<b>8270</b>	<b>1.90</b>	<b>8.55</b>	<b>2.87</b>



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

### **CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM ANNUAL REPORT**

### **CARBON OXIDE ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Athabasca Valley (AMS 7)  
Annual Summary for the Year 2014  
Carbon Monoxide (ppm) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	709	0.14	0.96	0.41
Feb	99	630	0.15	1.22	0.32
Mar	24	171	0.12	0.33	0.16
Apr	100	685	0.12	0.44	0.20
May	100	702	0.11	0.27	0.19
Jun	100	687	0.08	0.25	0.12
Jul	100	709	0.13	1.14	0.40
Aug	100	709	0.20	1.35	0.56
Sep	100	683	0.10	0.44	0.19
Oct	100	705	0.06	0.64	0.14
Nov	99	676	0.07	0.39	0.16
Dec	100	709	0.13	0.57	0.25
<b>Annual</b>	<b>93.3</b>	<b>7775</b>	<b>0.12</b>	<b>1.35</b>	<b>0.56</b>

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## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

### **CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM ANNUAL REPORT**

### **AMMONIA ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Fort McKay - Bertha Ganter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Ammonia (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	% of Data in Each Concentration Range		
						0 - 1000	1001 - 2000	> 2000
Jan	91	633	0	0	0	100	0	0
Feb	96	603	0	0	0	100	0	0
Mar	96	672	0	0	0	100	0	0
Apr	95	644	0	0	0	100	0	0
May	93	653	0	0	0	100	0	0
Jun	96	646	0	0	0	100	0	0
Jul	94	653	0	0	0	100	0	0
Aug	95	661	0	11	0	100	0	0
Sep	96	635	0	0	0	100	0	0
Oct	90	631	0	0	0	100	0	0
Nov	96	648	0	0	0	100	0	0
Dec	92	649	0	0	0	100	0	0
<b>Annual</b>	<b>94.0</b>	<b>7728</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>0</b>





**WBEA - Patricia McInnes (AMS 6)**  
**Annual Summary for the Year 2014**  
**Ammonia (ppb) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Number of Values Exceeding 1-Hour Objective	% of Data in Each Concentration Range		
						0 - 1000	1001 - 2000	> 2000
Jan	96	673	0	0	0	100	0	0
Feb	96	603	0	0	0	100	0	0
Mar	92	641	0	0	0	100	0	0
Apr	95	647	0	0	0	100	0	0
May	95	669	0	0	0	100	0	0
Jun	95	648	0	0	0	100	0	0
Jul	93	651	0	0	0	100	0	0
Aug	95	669	1	20	0	100	0	0
Sep	84	562	0	0	0	100	0	0
Oct	96	672	0	0	0	100	0	0
Nov	81	544	0	0	0	100	0	0
Dec	95	669	0	0	0	100	0	0
<b>Annual</b>	<b>92.8</b>	<b>7648</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>0</b>



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

CONTINUOUS AMBIENT AIR QUALITY  
MONITORING PROGRAM  
ANNUAL REPORT

### **PARTICULATE MATTER <2.5 $\mu$ M ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Fort McKay - Bertha Garter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Particulate Matter 2.5 (ug/m3) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range				
							0 - 5	6 - 10	11 - 20	21 - 30	>30
Jan	98	727	7.0	58.3	16.9	0	47.87	37.28	11	3.16	0.69
Feb	100	671	6.3	52.2	14.0	0	57.08	29.51	10.73	1.19	1.49
Mar	100	743	6.3	114.6	15.9	0	53.3	33.78	11.71	0.54	0.67
Apr	100	719	5.7	35.4	12.0	0	58.14	32.68	7.93	0.83	0.42
May	93	690	4.3	25.3	12.2	0	76.96	16.23	6.23	0.58	0
Jun	96	694	7.3	39.5	23.4	0	47.12	32.85	15.13	3.46	1.44
Jul	99	738	16.8	213.8	43.2	5	23.31	24.39	21.82	15.45	15.04
Aug	99	739	18.2	530.1	135.8	3	28.42	27.6	28.69	7.31	7.98
Sep	98	708	5.2	31.2	11.5	0	66.1	21.75	11.16	0.85	0.14
Oct	99	739	4.5	31.4	9.7	0	73.07	20.16	6.09	0.54	0.14
Nov	98	708	5.4	58.5	12.5	0	63.84	23.73	11.3	0.99	0.14
Dec	98	726	7.4	43.8	23.0	0	47.8	32.64	14.88	3.17	1.52
<b>Annual</b>	<b>98.2</b>	<b>8602</b>	<b>7.9</b>	<b>530</b>	<b>136</b>	<b>8</b>	<b>53.37</b>	<b>27.62</b>	<b>13.21</b>	<b>3.24</b>	<b>2.55</b>



WB EA - Patricia McInnes (AMS 6)  
 Annual Summary for the Year 2014  
 Particulate Matter 2.5 (ug/m3) Average

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range				
							0 - 5	6 - 10	11 - 20	21 - 30	>30
Jan	100	742	4.6	26.5	12.5	0	73.32	18.19	8.09	0.4	0
Feb	100	672	5.3	47.1	16.3	0	65.63	25	7.44	1.64	0.3
Mar	100	742	5.5	70.3	13.0	0	61.99	29.65	7.28	0.94	0.13
Apr	96	690	4.0	21.9	6.2	0	78.55	18.26	3.04	0.14	0
May	98	727	4.5	23.8	9.6	0	69.6	23.52	6.33	0.55	0
Jun	98	704	7.3	49.8	29.3	0	52.13	29.4	13.64	2.27	2.56
Jul	97	722	17.0	218.1	60.5	5	22.71	23.55	26.87	13.85	13.02
Aug	99	737	13.8	191.6	76.2	3	33.65	28.36	24.29	5.83	7.87
Sep	98	706	4.8	33.8	10.3	0	68.27	23.94	6.94	0.57	0.28
Oct	96	713	3.6	35.5	8.9	0	84.01	10.66	3.93	1.12	0.28
Nov	100	719	5.2	47.4	13.0	0	69.4	20.17	8.9	1.11	0.42
Dec	100	744	7.7	59.0	38.8	1	50.27	25.4	19.76	1.61	2.96
<b>Annual</b>	<b>98.4</b>	<b>8618</b>	<b>7.0</b>	<b>218.1</b>	<b>76.2</b>	<b>9</b>	<b>60.71</b>	<b>22.96</b>	<b>11.45</b>	<b>2.52</b>	<b>2.36</b>



**WBEA - Athabasca Valley (AMS 7)**  
**Annual Summary for the Year 2014**  
**Particulate Matter 2.5 (ug/m3) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range				
							0 - 5	6 - 10	11 - 20	21 - 30	>30
Jan	100	741	8.0	124.6	14.8	0	41.43	33.47	22.94	1.35	0.81
Feb	100	672	9.0	69.7	21.7	0	27.38	43.75	25	2.53	1.34
Mar	100	743	8.4	104.5	16.4	0	33.11	47.38	15.61	2.02	1.88
Apr	100	717	6.8	38.3	12.1	0	47.42	38.63	12.69	0.84	0.42
May	100	741	6.2	22.8	10.9	0	49.39	37.65	12.42	0.54	0
Jun	100	719	8.9	41.8	24.1	0	26.84	45.76	22.53	3.89	0.97
Jul	100	743	17.5	227.3	58.6	6	20.86	26.51	25.98	11.84	14.8
Aug	100	743	15.4	213.1	62.2	3	13.73	29.48	39.57	10.63	6.59
Sep	100	718	7.0	42.8	12.4	0	45.13	37.05	15.6	1.95	0.28
Oct	99	740	5.1	45.8	10.9	0	71.08	21.76	6.22	0.81	0.14
Nov	98	709	6.3	52.0	13.9	0	54.58	32.44	11.42	0.99	0.56
Dec	100	743	9.0	65.7	41.1	1	30.82	45.76	19.11	1.08	3.23
<b>Annual</b>	<b>99.7</b>	<b>8729</b>	<b>9.00</b>	<b>227.3</b>	<b>62.2</b>	<b>10</b>	<b>38.46</b>	<b>36.53</b>	<b>19.14</b>	<b>3.24</b>	<b>2.63</b>



**WBEA - Fort Chipewyan (AMS 8)**  
**Annual Summary for the Year 2014**  
**Particulate Matter 2.5 (ug/m3) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range				
							0 - 5	6 - 10	11 - 20	21 - 30	>30
Jan	100	741	2.3	14.2	6.0	0	92.98	6.21	0.81	0	0
Feb	100	671	2.6	18.0	6.4	0	94.63	4.32	1.04	0	0
Mar	92	686	2.6	13.6	4.6	0	95.19	4.52	0.29	0	0
Apr	98	704	2.4	10.6	5.0	0	96.59	3.27	0.14	0	0
May	96	711	2.2	16.4	5.7	0	92.83	5.91	1.27	0	0
Jun	100	719	5.4	91.7	28.8	0	69.26	25.59	1.81	1.67	1.67
Jul	100	742	14.9	241.0	51.9	3	24.12	32.48	23.45	9.16	10.78
Aug	100	741	26.7	354.5	206.4	9	38.46	17.95	13.9	5.8	23.89
Sep	100	718	3.3	15.8	9.7	0	83.7	14.07	2.23	0	0
Oct	100	742	2.8	17.7	6.0	0	88.81	9.84	1.35	0	0
Nov	100	717	3.8	18.3	8.5	0	80.2	15.62	4.18	0	0
Dec	99	736	5.6	30.4	13.6	0	66.58	22.01	10.6	0.82	0
<b>Annual</b>	<b>98.5</b>	<b>8628</b>	<b>6.3</b>	<b>354.5</b>	<b>206.4</b>	<b>12</b>	<b>76.52</b>	<b>13.64</b>	<b>5.22</b>	<b>1.5</b>	<b>3.13</b>



**WBEA - Millennium (AMS 12)**  
**Annual Summary for the Year 2014**  
**Particulate Matter 2.5 (ug/m3) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range				
							0 - 5	6 - 10	11 - 20	21 - 30	>30
Jan	97	719	6.1	81.6	15.0	0	63	21.97	12.8	1.25	0.97
Feb	100	671	7.4	47.4	15.6	0	51.56	25.34	18.48	3.58	1.04
Mar	100	741	9.2	59.3	19.7	0	43.86	29.15	18.22	5.13	3.64
Apr	100	719	6.3	40.2	19.5	0	61.47	26.43	9.04	1.95	1.11
May	100	743	6.2	54.9	15.2	0	60.16	25.71	10.9	2.29	0.94
Jun	100	718	9.1	85.1	25.8	0	42.76	34.54	15.46	3.62	3.62
Jul	99	740	18.0	269.2	42.3	7	21.08	24.46	23.51	16.62	14.32
Aug	97	718	19.0	275.6	103.4	4	15.74	31.75	31.34	8.91	12.26
Sep	100	719	5.8	31.6	10.4	0	59.11	30.6	9.46	0.7	0.14
Oct	100	741	4.5	28.9	7.9	0	70.99	25.24	3.37	0.4	0
Nov	100	719	7.2	37.2	16.6	0	49.24	31.15	16.69	2.64	0.28
Dec	99	738	9.3	68.6	42.7	1	37.26	37.13	18.7	3.39	3.52
<b>Annual</b>	<b>99.2</b>	<b>8686</b>	<b>9.0</b>	<b>275.6</b>	<b>103.4</b>	<b>12</b>	<b>48.08</b>	<b>28.62</b>	<b>15.6</b>	<b>4.21</b>	<b>3.5</b>





**WBEA - Fort McKay South (AMS 13)**  
**Annual Summary for the Year 2014**  
**Particulate Matter 2.5 (ug/m3) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range				
							0 - 5	6 - 10	11 - 20	21 - 30	>30
Jan	100	743	4.6	34.3	13.4	0	69.18	23.96	6.06	0.67	0.13
Feb	100	671	4.9	22.4	10.5	0	66.77	27.87	5.22	0.15	0
Mar	100	742	5.0	43.0	10.1	0	66.85	25.2	7.55	0.13	0.27
Apr	100	719	5.0	26.7	9.1	0	67.73	27.54	4.31	0.42	0
May	99	733	4.3	29.7	11.1	0	76.81	19.1	3.14	0.95	0
Jun	100	719	6.7	34.1	21.8	0	49.93	35.74	10.43	3.34	0.56
Jul	100	743	16.9	173.3	45.1	5	15.34	28.8	29.07	13.73	13.06
Aug	99	738	17.3	617.3	137.3	3	33.33	28.18	25.2	5.83	7.45
Sep	100	717	4.9	22.6	10.2	0	64.57	29.01	5.72	0.7	0
Oct	100	742	3.9	19.1	7.1	0	79.92	17.65	2.43	0	0
Nov	100	719	4.2	18.5	11.8	0	76.36	18.22	5.42	0	0
Dec	98	730	6.6	46.5	23.5	0	53.29	29.59	15.07	1.37	0.68
<b>Annual</b>	<b>99.5</b>	<b>8716</b>	<b>7.1</b>	<b>617.3</b>	<b>137.3</b>	<b>8</b>	<b>59.88</b>	<b>25.85</b>	<b>10.04</b>	<b>2.33</b>	<b>1.9</b>



**WBEA - Anzac (AMS 14)**  
**Annual Summary for the Year 2014**  
**Particulate Matter 2.5 (ug/m3) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range				
							0 - 5	6 - 10	11 - 20	21 - 30	>30
Jan	99	738	4.3	22.1	10.6	0	73.71	22.76	3.39	0.14	0
Feb	100	671	5.0	21.5	7.9	0	64.83	31.45	3.58	0.15	0
Mar	99	740	4.7	24.0	10.7	0	65.14	30.41	4.32	0.14	0
Apr	100	718	4.4	48.7	11.8	0	78.27	18.52	2.09	0.42	0.7
May	99	740	4.5	16.5	9.1	0	72.97	23.11	3.92	0	0
Jun	98	706	7.4	46.6	27.6	0	51.84	30.31	12.18	3.26	2.41
Jul	98	730	16.0	86.2	54.7	5	29.32	25.62	16.99	10.96	17.12
Aug	98	731	12.4	186.8	66.0	2	35.7	29.41	21.61	5.34	7.93
Sep	100	716	4.8	36.0	9.4	0	67.88	20.53	10.89	0.56	0.14
Oct	100	743	3.1	74.5	5.8	0	86.14	12.11	1.48	0	0.27
Nov	100	717	4.1	33.2	11.5	0	80.33	12.69	6.28	0.28	0.42
Dec	100	741	4.4	22.1	11.6	0	73.55	18.76	7.42	0.27	0
<b>Annual</b>	<b>99.3</b>	<b>8691</b>	<b>6.3</b>	<b>186.8</b>	<b>66.0</b>	<b>7</b>	<b>65.22</b>	<b>22.93</b>	<b>7.64</b>	<b>1.74</b>	<b>2.46</b>



**WBEA - CNRL Horizon (AMS 15)**  
**Annual Summary for the Year 2014**  
**Particulate Matter 2.5 (ug/m3) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range				
							0 - 5	6 - 10	11 - 20	21 - 30	>30
Jan	100	742	9.9	108.9	21.5	0	40.03	25.47	25.2	5.66	3.64
Feb	100	671	9.8	74.6	23.4	0	33.38	38.45	19.08	5.51	3.58
Mar	99	735	8.8	149.1	18.2	0	38.23	38.5	17.69	3.27	2.31
Apr	99	716	6.0	31.0	8.8	0	50.7	43.85	4.47	0.84	0.14
May	100	743	6.3	36.0	12.3	0	48.86	41.45	9.15	0.27	0.27
Jun	99	716	9.9	57.2	27.9	0	28.63	40.92	23.88	3.07	3.49
Jul	100	743	20.0	210.9	55.1	6	15.21	22.21	27.59	14.8	20.19
Aug	99	736	23.0	479.2	160.9	5	23.37	25.68	30.71	7.47	12.77
Sep	100	719	5.2	26.9	10.2	0	66.2	21.84	11.4	0.56	0
Oct	100	741	4.6	23.3	9.7	0	71.26	20.51	7.15	1.08	0
Nov	99	715	4.4	37.3	13.5	0	75.1	16.92	7.13	0.7	0.14
Dec	100	743	6.5	61.7	19.8	0	55.05	27.59	15.48	1.35	0.54
<b>Annual</b>	<b>99.5</b>	<b>8720</b>	<b>9.6</b>	<b>479.2</b>	<b>160.9</b>	<b>11</b>	<b>45.5</b>	<b>30.22</b>	<b>16.59</b>	<b>3.73</b>	<b>3.96</b>



**WBEA - Shell Muskeg River (AMS 16)**  
**Annual Summary for the Year 2014**  
**Particulate Matter 2.5 (ug/m3) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range				
							0 - 5	6 - 10	11 - 20	21 - 30	>30
Jan	100	742	5.5	34.9	15.5	0	62.26	27.76	8.63	1.08	0.27
Feb	100	670	6.7	75.5	15.4	0	57.76	22.84	17.31	1.49	0.6
Mar	100	743	8.1	34.0	15.4	0	37.01	38.09	21	2.83	1.08
Apr	100	719	5.4	38.1	9.6	0	63	28.79	7.51	0.28	0.42
May	100	741	4.8	25.3	7.8	0	66.13	27.4	5.8	0.67	0
Jun	99	712	6.7	47.0	26.1	0	56.46	30.48	8.43	3.09	1.54
Jul	99	738	16.2	212.3	42.4	3	15.58	29.54	32.79	8.81	13.28
Aug	99	738	18.4	491.2	139.3	2	31.3	26.15	23.71	7.72	11.11
Sep	100	718	5.6	40.1	14.3	0	60.86	28.83	8.77	1.39	0.14
Oct	100	741	5.3	55.3	14.9	0	63.02	28.74	6.88	0.67	0.67
Nov	98	709	6.2	34.0	10.3	0	53.74	34.56	11	0.56	0.14
Dec	98	730	8.3	77.7	34.2	1	38.63	36.85	21.1	1.64	1.78
<b>Annual</b>	<b>99.3</b>	<b>8701</b>	<b>8.1</b>	<b>491.2</b>	<b>139.3</b>	<b>6</b>	<b>50.35</b>	<b>30.06</b>	<b>14.43</b>	<b>2.55</b>	<b>2.61</b>



**WBEA - Wapasu (AMS 17)**  
**Annual Summary for the Year 2014**  
**Particulate Matter 2.5 (ug/m3) Average**

Month	Operational Time (%)	Number of Data	Mean Value	Maximum 1-Hour Value	Maximum 24-Hour Value	Number of Values Exceeding 24-Hour Objective	% of Data in Each Concentration Range				
							0 - 5	6 - 10	11 - 20	21 - 30	>30
Jan	96	713	3.3	28.6	9.6	0	82.89	11.92	4.77	0.42	0
Feb	99	668	3.4	15.7	6.8	0	86.68	11.53	1.8	0	0
Mar	100	741	4.0	15.1	8.7	0	83.13	14.71	2.16	0	0
Apr	96	691	3.1	13.8	4.5	0	93.92	5.79	0.29	0	0
May	96	712	2.5	23.4	10.0	0	89.75	8.01	1.97	0.28	0
Jun	100	719	5.3	44.6	21.6	0	69.82	21.7	6.4	0.83	1.25
Jul	100	743	15.0	180.4	33.2	3	22.48	31.22	24.9	9.42	11.98
Aug	99	740	17.6	347.0	107.9	3	36.62	26.89	20.27	4.46	11.76
Sep	98	705	4.1	41.6	9.5	0	74.04	19.57	5.82	0.28	0.28
Oct	99	735	2.6	32.1	7.0	0	88.3	9.39	1.77	0.41	0.14
Nov	98	708	3.9	22.3	14.2	0	79.24	13.42	6.92	0.42	0
Dec	100	743	4.9	25.9	13.0	0	69.72	21.94	7.54	0.81	0
<b>Annual</b>	<b>98.4</b>	<b>8618</b>	<b>5.9</b>	<b>347.0</b>	<b>107.9</b>	<b>6</b>	<b>72.49</b>	<b>16.53</b>	<b>7.25</b>	<b>1.51</b>	<b>2.21</b>



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

CONTINUOUS AMBIENT AIR QUALITY  
MONITORING PROGRAM  
ANNUAL REPORT

### **AMBIENT TEMPERATURE ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Fort McKay - Bertha Ganter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Ambient Temperature 10 m (C) Average**

Month	Operational Time (%)	Number of Data	1-hour Min	1-hour Max	24-hour Min	24-hour Max	Average
Jan	98	729	-35.6	8.4	-30.9	1.4	-15.4
Feb	100	672	-33.3	-0.2	-24.7	-4.8	-16.1
Mar	100	744	-33.2	18.0	-23.5	13.4	-6.2
Apr	100	720	-16.8	26.6	-9.0	18.1	6.4
May	99	739	-0.6	30.1	4.7	22.4	12.5
Jun	100	720	6.3	29.6	10.2	24.6	19.0
Jul	100	744	10.4	35.0	18.5	28.1	22.5
Aug	100	744	3.3	32.7	11.0	25.9	19.0
Sep	100	720	-0.1	33.0	4.8	22.4	12.9
Oct	100	744	0.0	21.7	2.5	15.3	7.5
Nov	100	720	-23.0	10.6	-18.3	4.6	-7.2
Dec	91	677	-33.5	8.1	-30.1	2.8	-10.7
<b>Annual</b>	<b>99.0</b>	<b>8673</b>	<b>-35.6</b>	<b>35.0</b>	<b>-30.9</b>	<b>28.1</b>	<b>3.9</b>

**WBEA - Fort McKay - Bertha Ganter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Ambient Temperature 2 m (C) Average**

Month	Operational Time (%)	Number of Data	1-hour Min	1-hour Max	24-hour Min	24-hour Max	Average
Jan	98	729	-36.5	8.3	-31.3	1.1	-15.7
Feb	100	672	-34.1	-0.1	-25.9	-4.8	-16.7
Mar	100	744	-34.5	18.0	-24.6	12.7	-6.9
Apr	100	720	-18.8	27.6	-9.0	17.6	6.2
May	99	739	-2.2	33.3	5.0	22.9	12.5
Jun	100	720	4.6	32.6	10.4	24.5	19.2
Jul	100	744	9.0	37.6	18.5	28.7	22.6
Aug	100	744	2.0	35.3	10.5	25.5	18.7
Sep	100	720	-1.4	33.3	4.5	21.0	12.6
Oct	100	744	-1.4	22.5	2.6	14.9	7.0
Nov	100	720	-24.6	11.4	-18.9	3.6	-7.6
Dec	93	691	-35.0	9.4	-31.3	1.6	-11.3
<b>Annual</b>	<b>99.2</b>	<b>8687</b>	<b>-36.5</b>	<b>37.6</b>	<b>-31.3</b>	<b>28.7</b>	<b>3.6</b>





**WBEA - Mildred Lake (AMS 2)**  
**Annual Summary for the Year 2014**  
**Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	-36.1	6.3	-31.6	0.8	-16.2
Feb	100	672	-32.1	-2.8	-28.6	-8.5	-18.7
Mar	100	742	-35.5	10.9	-26.4	7.0	-10.1
Apr	100	720	-19.2	21.5	-12.4	13.2	1.6
May	100	744	-5.8	28.2	-1.3	21.0	8.8
Jun	100	720	4.8	27.1	7.6	22.1	16.7
Jul	100	744	7.6	33.7	16.3	25.2	20.6
Aug	100	744	2.7	31.7	9.9	25.5	18.4
Sep	97	700	-0.6	30.1	3.4	19.9	10.3
Oct	100	744	-3.2	20.3	-0.3	13.2	5.2
Nov	100	720	-26.7	9.5	-23.4	3.9	-11.1
Dec	100	744	-31.5	3.2	-28.9	-1.7	-13.0
<b>Annual</b>	<b>99.8</b>	<b>8738</b>	<b>-36.1</b>	<b>33.7</b>	<b>-31.6</b>	<b>25.5</b>	<b>1.1</b>



**WBEA - Lower Camp Met Tower (AMS 3)  
Annual Summary for the Year 2014  
Ambient Temperature 20m (C) Average**

Month	Operational Time (%)	Number of Data	1-hour Min	1-hour Max	24-hour Min	24-hour Max	Average
Jan	100	744	-36.9	7.5	-32.7	1.2	-16.7
Feb	100	672	-35.6	-2.3	-28.3	-8.7	-18.9
Mar	100	744	-36.4	10.1	-28.3	6.3	-10.5
Apr	100	720	-19.1	21.8	-11.8	13.6	1.7
May	100	744	-5.3	27.7	-0.7	20.9	9.0
Jun	100	719	5.1	26.4	7.9	21.8	16.7
Jul	100	744	8.5	32.9	16.3	24.8	20.5
Aug	100	744	3.6	31.1	10.3	25.2	18.3
Sep	96	693	-0.4	29.5	3.6	19.1	10.2
Oct	100	744	-2.8	20.5	0.0	13.1	5.4
Nov	43	312	-15.7	9.4	-13.2	4.1	-4.0
Dec	56	419	-17.0	1.7	-12.2	-2.4	-8.1
<b>Annual</b>	<b>91.3</b>	<b>7999</b>	<b>-36.9</b>	<b>32.9</b>	<b>-32.7</b>	<b>25.2</b>	<b>2.8</b>

**WBEA - Lower Camp Met Tower (AMS 3)  
Annual Summary for the Year 2014  
Ambient Temperature 45m (C) Average**

Month	Operational Time (%)	Number of Data	1-hour Min	1-hour Max	24-hour Min	24-hour Max	Average
Jan	100	744	-35.6	7.3	-32.8	1.4	-16.5
Feb	100	672	-35.5	-2.4	-28.3	-8.8	-18.8
Mar	100	744	-35.4	9.9	-27.5	6.4	-10.4
Apr	100	720	-19.5	21.9	-12.1	13.8	1.6
May	100	744	-5.0	27.5	-1.1	20.9	8.9
Jun	100	719	5.0	26.4	7.7	21.7	16.6
Jul	100	744	8.8	32.6	16.2	24.8	20.5
Aug	100	744	3.6	30.9	10.3	25.2	18.3
Sep	96	694	-0.2	29.4	3.6	19.4	10.2
Oct	100	744	-2.5	21.1	-0.1	13.2	5.5
Nov	100	720	-28.0	9.3	-23.3	4.4	-11.0
Dec	100	744	-33.3	2.7	-30.3	-2.0	-13.2
<b>Annual</b>	<b>99.7</b>	<b>8733</b>	<b>-35.6</b>	<b>32.6</b>	<b>-32.8</b>	<b>25.2</b>	<b>1.1</b>



**WBEA - Lower Camp Met Tower (AMS 3)  
Annual Summary for the Year 2014  
Ambient Temperature 100m (C) Average**

Month	Operational Time (%)	Number of Data	1-hour Min	1-hour Max	24-hour Min	24-hour Max	Average
Jan	99	733	-34.7	7.0	-31.2	1.7	-15.9
Feb	100	672	-32.4	-2.8	-28.3	-8.4	-18.4
Mar	100	744	-33.8	11.5	-25.8	7.3	-10.1
Apr	100	720	-20.0	21.4	-12.8	14.5	1.4
May	99	736	-4.5	26.8	-1.7	20.8	8.5
Jun	90	650	4.6	25.5	7.0	21.4	16.1
Jul	100	744	10.1	32.0	15.7	24.7	20.3
Aug	100	744	4.0	30.3	10.6	25.1	18.3
Sep	96	694	-0.1	29.4	3.2	20.5	10.2
Oct	100	744	-1.5	21.8	-0.5	13.7	5.4
Nov	100	720	-26.6	8.8	-23.1	4.7	-11.0
Dec	100	744	-29.8	4.4	-26.8	-0.3	-12.5
<b>Annual</b>	<b>98.7</b>	<b>8645</b>	<b>-34.7</b>	<b>32.0</b>	<b>-31.2</b>	<b>25.1</b>	<b>1.0</b>

**WBEA - Lower Camp Met Tower (AMS 3)  
Annual Summary for the Year 2014  
Ambient Temperature 167m (C) Average**

Month	Operational Time (%)	Number of Data	1-hour Min	1-hour Max	24-hour Min	24-hour Max	Average
Jan	95	708	-32.5	7.5	-29.9	1.5	-15.8
Feb	100	672	-32.0	-3.1	-28.6	-8.4	-18.3
Mar	100	744	-31.2	11.2	-24.9	7.5	-9.9
Apr	100	720	-18.7	20.9	-13.2	15.1	1.1
May	100	744	-4.7	26.6	-2.1	20.9	8.3
Jun	100	719	4.3	25.2	6.5	21.6	16.1
Jul	96	715	11.3	31.3	15.3	24.8	20.2
Aug	0	-	-	-	-	-	-
Sep	23	162	1.9	20.1	4.8	15.7	9.3
Oct	100	744	-1.8	21.4	-1.0	13.6	5.2
Nov	100	720	-25.7	8.3	-23.3	4.7	-11.1
Dec	100	744	-28.5	5.7	-25.9	0.5	-12.3
<b>Annual</b>	<b>84.4</b>	<b>7392</b>	<b>-32.5</b>	<b>31.3</b>	<b>-29.9</b>	<b>24.8</b>	<b>-1.3</b>



**WBEA - Buffalo Viewpoint (AMS 4 )  
Annual Summary for the Year 2014  
Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	85	344	-37.7	6.5	-32.9	-10.5	-19.9
Feb	100	536	-33.7	-3.3	-28.4	-8.5	-19.0
Mar	100	744	-37.6	11.0	-27.8	7.3	-10.7
Apr	100	720	-19.1	21.6	-12.3	13.5	1.3
May	100	744	-5.3	28.2	-1.0	20.5	8.6
Jun	100	720	3.6	26.9	7.4	21.6	16.1
Jul	100	744	6.9	33.2	15.6	23.9	19.9
Aug	100	743	2.1	31.4	10.3	24.2	17.8
Sep	100	720	-2.1	30.3	3.5	19.4	9.8
Oct	100	744	-2.9	21.0	-0.4	13.0	4.9
Nov	100	720	-28.8	9.4	-24.1	3.3	-11.3
Dec	100	744	-33.0	4.5	-28.4	-1.6	-13.2
<b>Annual</b>	99.3	8223	-37.7	33.2	-32.9	24.2	1.8



**WBEA - Mannix (AMS 5)  
Annual Summary for the Year 2014  
Ambient Temperature 2m (C) Average**

Month	Operational Time (%)	Number of Data	1-hour Min	1-hour Max	24-hour Min	24-hour Max	Average
Jan	92	688	-36.5	6.0	-33.0	0.7	-16.8
Feb	100	672	-32.5	-3.2	-28.3	-8.0	-18.7
Mar	100	744	-34.9	10.5	-27.3	7.1	-10.3
Apr	100	717	-18.2	22.0	-11.7	13.9	1.5
May	100	744	-4.0	27.5	-1.1	20.5	8.8
Jun	100	720	4.7	26.5	7.7	21.6	16.2
Jul	100	744	7.6	32.2	15.8	24.3	19.8
Aug	100	744	3.0	30.6	10.3	24.7	17.8
Sep	100	720	-2.7	29.7	3.4	18.7	9.8
Oct	100	744	-3.4	20.2	-0.3	12.6	5.1
Nov	100	720	-29.1	8.7	-24.1	3.3	-11.3
Dec	94	698	-31.0	2.4	-27.4	-1.5	-13.5
<b>Annual</b>	<b>98.8</b>	<b>8655</b>	<b>-36.5</b>	<b>32.2</b>	<b>-33.0</b>	<b>24.7</b>	<b>1.0</b>

**WBEA - Mannix (AMS 5)  
Annual Summary for the Year 2014  
Ambient Temperature 20m (C) Average**

Month	Operational Time (%)	Number of Data	1-hour Min	1-hour Max	24-hour Min	24-hour Max	Average
Jan	92.5	688	-35.6	6.7	-32.1	1.5	-16.4
Feb	100.0	672	-31.5	-2.9	-28.4	-8.1	-18.4
Mar	100.0	744	-34.5	11.4	-26.0	7.8	-10.0
Apr	99.6	717	-18.5	21.3	-12.3	14.2	1.4
May	100.0	744	-4.1	27.2	-1.6	20.8	8.7
Jun	100.0	720	4.8	26.0	7.2	21.9	16.3
Jul	100.0	744	8.6	32.3	15.6	24.5	20.1
Aug	100.0	744	4.5	30.6	10.8	24.9	18.2
Sep	100.0	720	-1.2	29.9	3.3	20.0	10.2
Oct	98.4	732	-3.1	21.1	-0.5	13.1	5.3
Nov	92.4	665	-28.2	9.0	-23.6	4.2	-12.0
Dec	87.8	653	-30.1	4.4	-26.6	-0.1	-13.3
<b>Annual</b>	<b>97.5</b>	<b>8543</b>	<b>-35.6</b>	<b>32.3</b>	<b>-32.1</b>	<b>24.9</b>	<b>1.3</b>



**WBEA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Ambient Temperature 45m (C) Average**

Month	Operational Time (%)	Number of Data	1-hour Min	1-hour Max	24-hour Min	24-hour Max	Average
Jan	92	687	-34.7	6.8	-30.8	1.6	-16.2
Feb	100	672	-31.8	-3.0	-28.6	-8.3	-18.4
Mar	100	744	-33.9	11.5	-25.3	7.9	-9.9
Apr	100	717	-18.6	21.0	-12.7	14.4	1.2
May	100	744	-4.4	26.8	-1.9	20.9	8.5
Jun	100	720	4.6	25.6	6.9	21.7	16.2
Jul	100	744	9.8	32.0	15.3	24.3	20.1
Aug	100	744	4.9	30.2	10.9	24.8	18.1
Sep	100	720	-1.1	29.5	3.1	20.4	10.2
Oct	98	728	-2.9	21.2	-0.7	13.4	5.3
Nov	92	661	-27.3	8.7	-23.6	4.5	-12.1
Dec	82	611	-29.4	5.0	-26.3	0.9	-13.4
<b>Annual</b>	<b>96.9</b>	<b>8492</b>	<b>-34.7</b>	<b>32.0</b>	<b>-30.8</b>	<b>24.8</b>	<b>1.3</b>

**WBEA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Ambient Temperature 75m (C) Average**

Month	Operational Time (%)	Number of Data	1-hour Min	1-hour Max	24-hour Min	24-hour Max	Average
Jan	88	655	-32.2	6.9	-30.2	1.6	-15.9
Feb	100	672	-32.1	-2.7	-28.9	-8.5	-18.4
Mar	100	744	-30.6	11.4	-24.8	7.9	-9.8
Apr	100	717	-17.3	20.8	-13.0	14.9	1.0
May	100	744	-4.7	26.6	-2.2	20.9	8.3
Jun	100	720	4.3	25.3	6.5	21.6	16.0
Jul	100	744	11.1	31.7	15.1	24.4	20.0
Aug	100	744	5.6	29.9	10.8	24.8	18.2
Sep	100	720	-1.0	29.2	2.8	21.2	10.2
Oct	98	732	-2.8	21.3	-0.9	13.6	5.2
Nov	92	662	-26.6	8.5	-23.6	4.7	-12.1
Dec	74	548	-29.1	5.8	-26.1	3.0	-14.0
<b>Annual</b>	<b>95.9</b>	<b>8402</b>	<b>-32.2</b>	<b>31.7</b>	<b>-30.2</b>	<b>24.8</b>	<b>1.5</b>



**WBEA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Ambient Temperature 90m (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	88	652	-32.1	7.1	-30.0	1.5	-15.7
Feb	100	672	-32.3	-2.8	-29.0	-8.6	-18.3
Mar	100	744	-30.2	11.3	-24.6	7.8	-9.8
Apr	100	717	-17.4	20.7	-13.1	15.2	1.0
May	100	744	-4.8	26.4	-2.4	20.9	8.2
Jun	100	720	4.2	25.2	6.4	21.5	16.0
Jul	100	744	11.7	31.6	15.0	24.4	20.0
Aug	100	744	5.9	29.8	10.7	24.8	18.1
Sep	100	720	-0.7	29.0	2.7	21.4	10.2
Oct	98	732	-2.8	21.2	-1.0	13.5	5.1
Nov	91	658	-26.6	8.3	-23.6	4.7	-12.1
Dec	74	551	-29.0	6.2	-26.0	2.9	-13.9
<b>Annual</b>	<b>95.9</b>	<b>8398</b>	<b>-32.3</b>	<b>31.6</b>	<b>-30.0</b>	<b>24.8</b>	<b>1.5</b>



**WBEA - Patricia McInnes (AMS 6)  
Annual Summary for the Year 2014  
Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	-36.9	7.3	-32.2	2.1	-16.2
Feb	100	672	-36.3	-1.2	-29.5	-8.4	-18.9
Mar	100	743	-37.3	11.8	-28.1	7.0	-10.6
Apr	100	720	-17.8	21.7	-11.3	13.2	1.4
May	100	744	-6.1	27.7	-1.2	20.5	8.5
Jun	100	720	2.9	26.4	7.2	21.3	15.9
Jul	100	742	5.5	32.5	14.8	24.4	19.4
Aug	100	744	0.0	31.1	8.6	24.2	17.4
Sep	100	720	-1.5	29.5	2.6	18.2	9.5
Oct	100	744	-4.5	22.5	-0.6	12.1	4.9
Nov	100	720	-30.6	9.1	-24.0	2.9	-11.5
Dec	100	744	-32.4	4.3	-28.0	-1.2	-13.0
<b>Annual</b>	100.0	8757	-37.3	32.5	-32.2	24.4	0.7





**WBEA - Athabasca Valley (AMS 7)  
Annual Summary for the Year 2014  
Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	-36.7	7.4	-34.0	2.1	-17.0
Feb	100	672	-33.2	-1.7	-28.1	-8.7	-18.8
Mar	100	744	-36.1	12.2	-28.1	6.8	-10.4
Apr	100	720	-17.0	22.8	-10.5	13.0	2.0
May	100	744	-3.3	28.4	-0.3	20.7	9.4
Jun	100	720	4.3	27.6	8.4	21.7	16.8
Jul	100	742	7.9	33.6	16.4	25.2	20.5
Aug	100	744	2.6	32.0	10.6	25.2	18.5
Sep	100	720	-2.2	30.3	4.1	18.0	10.3
Oct	100	744	-2.3	23.3	0.5	12.2	5.7
Nov	99	712	-30.0	10.4	-23.9	3.8	-10.7
Dec	100	744	-33.1	-0.9	-29.4	-4.4	-13.8
<b>Annual</b>	99.9	8750	-36.7	33.6	-34.0	25.2	1.2



**WBEA - Fort Chipewyan (AMS 8)  
Annual Summary for the Year 2014  
Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	-41.5	2.7	-37.5	-6.1	-20.7
Feb	100	672	-35.4	-8.7	-30.7	-12.6	-22.1
Mar	34	256	-34.9	-9.3	-28.1	-14.9	-21.1
Apr	74	534	-17.1	14.1	-12.2	5.0	-2.5
May	100	743	-6.4	20.0	-3.8	14.0	6.1
Jun	100	720	2.9	27.4	5.0	22.2	16.2
Jul	100	744	8.9	30.8	15.0	25.4	19.9
Aug	100	744	6.7	30.5	9.8	23.9	17.2
Sep	100	720	-1.3	23.8	2.5	16.0	9.0
Oct	100	744	-4.5	16.9	-1.5	11.9	3.4
Nov	100	720	-28.8	6.7	-25.8	1.8	-12.5
Dec	99	736	-33.1	-0.8	-30.0	-4.6	-15.2
<b>Annual</b>	<b>92.2</b>	<b>8077</b>	<b>-41.5</b>	<b>30.8</b>	<b>-37.5</b>	<b>25.4</b>	<b>-0.5</b>



**WB EA - Barge Landing (AMS 9)  
Annual Summary for the Year 2014  
Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	-37.3	8.5	-32.8	1.2	-15.8
Feb	100	672	-34.3	-2.8	-27.8	-7.6	-18.0
Mar	100	744	-35.5	13.8	-26.4	8.9	-9.3
Apr	100	720	-19.7	23.5	-11.3	14.8	2.7
May	99	735	-6.1	30.1	0.4	22.2	10.1
Jun	100	720	5.2	30.1	9.1	23.2	18.0
Jul	100	744	7.5	35.5	17.3	26.8	21.7
Aug	100	742	2.8	33.6	11.3	26.2	19.3
Sep	100	720	-0.9	31.9	5.0	20.2	11.3
Oct	100	744	-2.9	21.5	1.1	14.6	6.0
Nov	100	720	-27.3	11.3	-22.7	4.6	-10.1
Dec	100	741	-33.8	3.3	-30.4	-2.4	-13.3
<b>Annual</b>	<b>99.8</b>	<b>8746</b>	<b>-37.3</b>	<b>35.5</b>	<b>-32.8</b>	<b>26.8</b>	<b>2.0</b>



**WB EA - Lower Camp (AMS 11)**  
**Annual Summary for the Year 2014**  
**Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	-38.5	6.9	-32.6	0.8	-16.8
Feb	100	672	-35.8	-0.9	-28.7	-8.4	-19.3
Mar	100	744	-38.1	10.4	-29.3	6.7	-10.7
Apr	100	720	-18.9	22.8	-11.3	13.4	1.7
May	100	744	-4.6	29.1	-0.3	21.1	9.3
Jun	96	690	5.1	27.9	8.5	22.2	17.1
Jul	100	744	8.0	34.3	16.4	25.3	20.8
Aug	100	744	4.2	32.3	10.4	25.4	18.4
Sep	100	720	-0.9	30.7	3.9	18.4	10.5
Oct	100	744	-2.8	20.6	0.4	13.1	5.6
Nov	100	720	-28.2	10.6	-23.6	3.7	-10.8
Dec	97	718	-34.9	1.9	-32.2	-3.1	-13.8
<b>Annual</b>	99.4	8704	-38.5	34.3	-32.6	25.4	1.1



**WBEA - Millennium (AMS 12)  
Annual Summary for the Year 2014  
Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	-37.2	6.0	-33.0	0.8	-16.4
Feb	100	672	-32.7	-2.4	-29.0	-7.9	-18.8
Mar	100	744	-36.5	12.4	-27.4	7.9	-10.3
Apr	100	720	-18.4	21.7	-11.9	14.2	1.5
May	100	744	-3.9	28.2	-1.4	20.9	8.6
Jun	100	720	4.5	27.7	7.2	21.3	16.2
Jul	100	744	8.2	33.7	15.7	25.0	20.1
Aug	100	744	2.4	31.5	10.0	25.1	18.0
Sep	100	720	-0.7	30.1	3.2	19.7	10.0
Oct	100	744	-3.2	20.3	-0.3	12.8	5.1
Nov	100	720	-29.3	9.2	-23.9	3.5	-11.2
Dec	99	739	-31.2	3.5	-27.5	-1.4	-13.0
<b>Annual</b>	99.9	8755	-37.2	33.7	-33.0	25.1	0.9



**WBEA - Fort McKay South (AMS 13)**  
**Annual Summary for the Year 2014**  
**Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	-40.4	7.2	-35.4	-0.3	-18.0
Feb	100	672	-38.3	-4.5	-30.6	-9.5	-20.6
Mar	100	744	-40.8	13.1	-30.7	7.6	-12.1
Apr	100	720	-23.7	22.3	-12.5	12.0	0.7
May	100	744	-9.9	29.0	-1.2	19.5	7.9
Jun	100	720	-0.6	28.6	7.6	20.9	15.6
Jul	100	744	2.5	34.4	14.5	24.1	19.0
Aug	100	744	-2.0	31.9	7.5	23.4	16.2
Sep	100	720	-4.0	31.0	2.6	16.2	8.6
Oct	93	695	-6.4	20.3	-0.3	11.1	3.6
Nov	100	720	-33.7	9.6	-26.0	1.3	-12.6
Dec	98	732	-35.9	1.4	-32.7	-3.1	-14.5
<b>Annual</b>	<b>99.3</b>	<b>8699</b>	<b>-40.8</b>	<b>34.4</b>	<b>-35.4</b>	<b>24.1</b>	<b>-0.4</b>



**WBEA - Anzac (AMS 14)**  
**Annual Summary for the Year 2014**  
**Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	743	-35.0	6.5	-30.0	2.2	-14.9
Feb	100	672	-35.7	-0.7	-30.0	-8.6	-18.7
Mar	100	744	-35.7	11.2	-26.8	6.5	-10.5
Apr	100	720	-18.5	19.9	-9.5	12.1	0.7
May	100	744	-6.3	27.6	-2.7	20.2	7.6
Jun	100	720	0.9	26.2	5.6	20.1	14.8
Jul	99	739	5.2	31.6	13.4	23.6	18.7
Aug	100	744	-0.1	30.4	8.8	24.3	17.1
Sep	100	720	-2.3	29.5	1.8	18.3	9.2
Oct	100	744	-5.3	21.5	-1.3	12.9	4.4
Nov	100	720	-28.9	8.0	-23.3	2.3	-11.8
Dec	96	714	-31.1	7.3	-27.1	2.0	-12.1
<b>Annual</b>	99.6	8724	-35.7	31.6	-30.0	24.3	0.5



**WBEA - CNRL Horizon (AMS 15)  
Annual Summary for the Year 2014  
Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	-40.2	6.7	-34.5	0.0	-17.3
Feb	100	672	-36.8	-4.5	-29.2	-9.4	-19.7
Mar	100	744	-37.4	12.7	-29.0	6.7	-11.1
Apr	100	717	-21.4	22.1	-13.4	13.2	1.0
May	100	744	-9.6	28.7	-1.2	20.9	8.5
Jun	100	718	2.6	28.2	7.5	21.6	16.3
Jul	100	744	4.5	34.4	15.9	24.2	19.8
Aug	100	742	-0.6	32.3	8.5	23.7	17.2
Sep	100	720	-2.9	31.5	3.2	18.3	9.5
Oct	100	744	-6.7	19.6	-0.5	12.6	4.2
Nov	99	715	-30.2	9.6	-24.4	2.7	-12.2
Dec	100	744	-34.5	2.5	-30.5	-3.2	-14.0
<b>Annual</b>	99.9	8748	-40.2	34.4	-34.5	24.2	0.3





**WBEA - Shell Muskeg River (AMS 16)**  
**Annual Summary for the Year 2014**  
**Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	743	-40.9	6.4	-34.6	-0.5	-17.2
Feb	100	672	-37.9	-5.7	-29.0	-8.9	-19.6
Mar	100	744	-38.2	10.1	-29.2	6.0	-11.3
Apr	100	720	-20.5	22.0	-12.8	12.9	1.0
May	100	744	-8.0	28.8	-1.6	20.6	8.4
Jun	100	720	4.1	28.1	7.7	22.3	16.4
Jul	100	744	5.8	33.4	15.8	24.0	19.7
Aug	100	741	1.5	31.1	9.1	23.7	17.1
Sep	100	720	-2.1	29.5	3.6	17.8	9.6
Oct	100	744	-5.6	20.7	-0.2	12.2	4.3
Nov	100	720	-30.4	9.2	-24.4	2.3	-11.6
Dec	99	736	-35.9	3.1	-31.8	-2.6	-13.8
<b>Annual</b>	99.9	8748	-40.9	33.4	-34.6	24.0	0.4



**WBEA - Wapasu (AMS 17)**  
**Annual Summary for the Year 2014**  
**Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	-39.4	5.0	-31.0	-2.0	-17.0
Feb	100	672	-39.4	-4.7	-32.0	-8.1	-20.1
Mar	100	743	-40.6	10.7	-31.1	5.2	-12.5
Apr	100	720	-22.2	20.0	-14.0	13.8	-0.4
May	100	743	-10.4	26.4	-3.8	20.3	6.6
Jun	100	720	-0.6	25.7	4.8	20.4	14.9
Jul	100	744	1.9	31.9	12.9	24.0	18.5
Aug	100	744	-1.7	29.9	6.5	24.0	16.1
Sep	100	720	-3.6	27.9	1.0	19.9	8.5
Oct	100	744	-8.6	19.4	-2.0	11.7	3.7
Nov	100	717	-31.4	7.0	-25.5	1.7	-12.9
Dec	100	744	-32.5	4.7	-26.9	-0.2	-13.2
<b>Annual</b>	99.9	8755	-40.6	31.9	-32.0	24.0	-0.5



**WBEA - Firebag (AMS 19)**  
**Annual Summary for the Year 2014**  
**Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
July	100	538	7.2	30.5	13.1	23.4	18.3
August	100	744	2.3	28.6	7.8	23.7	16.3
September	100	720	-3.1	26.8	0.6	19.8	8.4
October	100	744	-6.8	17.9	-2.4	11.0	3.3
November	100	720	-29.3	5.6	-25.8	1.9	-13.1
December	100	744	-30.3	3.1	-25.6	-0.4	-13.2
<b>Annual</b>	<b>100.0</b>	<b>4210</b>	<b>-30.3</b>	<b>30.5</b>	<b>-25.8</b>	<b>23.7</b>	<b>2.7</b>



**WBEA - Cenovus - Christina Lake (AMS500)**  
**Annual Summary for the Year 2014**  
**Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	94	703	-33.8	6.8	-30.2	3.1	-12.4
Feb	100	672	-34.5	1.3	-28.8	-5.9	-17.6
Mar	100	744	-38.0	11.2	-28.0	6.6	-8.8
Apr	100	720	-13.8	19.6	-7.6	11.7	1.5
May	100	744	-4.9	27.1	-2.9	19.7	7.8
Jun	100	394	1.5	24.5	5.9	17.7	12.3
<b>Annual</b>	<b>99.1</b>	<b>3977</b>	<b>-38.0</b>	<b>27.1</b>	<b>-30.2</b>	<b>19.7</b>	<b>-3.9</b>



**WBEA - Statoil - Leismer (AMSS01)**  
**Annual Summary for the Year 2014**  
**Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jul	100	744	5.9	29.9	13.9	23.2	18.0
Aug	100	744	3.4	28.5	9.7	22.1	16.5
Sep	100	720	-4.0	28.2	0.9	18.7	9.1
Oct	100	325	-5.9	19.5	-1.1	11.0	5.3
<b>Annual</b>	100.0	2830	-5.9	29.9	-1.1	23.2	13.7



**WBEA - ConocoPhillips - Surmont (AMS502)**  
**Annual Summary for the Year 2014**  
**Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jul	100	744	9.0	29.5	14.6	23.9	18.6
Aug	100	743	5.6	28.8	9.7	24.2	17.3
Sep	53	379	0.2	28.9	2.9	20.9	11.2
Oct	100	742	-4.3	19.6	-2.1	11.8	4.6
Nov	100	720	-27.8	7.4	-23.7	3.6	-11.3
Dec	100	744	-26.3	7.8	-23.1	3.7	-10.7
<b>Annual</b>	92.0	4079	-27.8	29.5	-23.7	24.2	4.5



**WBEA - WBEA Mobile (MAMSL1)  
Annual Summary for the Year 2014  
Ambient Temperature (C) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	99	342	-33.6	5.9	-25.7	-0.3	-15.1
Feb	100	565	-33.6	-3.4	-26.3	-8.2	-17.9
<b>Annual</b>	99.7	907	-33.6	5.9	-26.3	-0.3	-16.8



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

### **CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM ANNUAL REPORT**

### **RELATIVE HUMIDITY ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015



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**WBEA - Fort McKay - Bertha Ganter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Relative Humidity (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	98	729	42.9	94.6	64.5	92.8	76.9
Feb	100	672	38.6	94.5	61.3	87.9	74.4
Mar	100	744	22.7	93.3	43.6	83.2	64.6
Apr	100	720	20.6	100.0	46.9	89.2	61.4
May	99	739	21.6	100.0	41.8	94.9	65.1
Jun	100	720	20.2	100.0	40.1	95.7	66.9
Jul	100	744	25.9	100.0	48.3	88.3	67.2
Aug	100	744	21.9	99.6	48.3	86.4	67.6
Sep	98	707	26.3	99.9	55.4	93.0	75.4
Oct	98	728	41.2	99.9	59.7	97.6	80.5
Nov	98	703	50.6	100.0	63.0	95.0	82.6
Dec	93	691	58.2	100.0	66.9	97.6	85.1
<b>Annual</b>	<b>98.6</b>	<b>8641</b>	<b>20.2</b>	<b>100.0</b>	<b>40.1</b>	<b>97.6</b>	<b>72.2</b>



**WBEA - Lower Camp Met Tower (AMS 3)**  
**Annual Summary for the Year 2014**  
**Relative Humidity 20m (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	44.4	89.5	60.7	85.2	72.2
Feb	100	672	39.5	88.4	55.9	82.4	69.6
Mar	100	744	22.9	86.4	44.9	77.5	60.5
Apr	100	720	17.1	94.1	40.1	82.2	56.8
May	100	744	18.7	97.9	43.0	90.3	61.1
Jun	100	719	16.7	98.1	37.9	92.8	64.5
Jul	100	744	25.2	96.6	45.4	81.9	63.9
Aug	100	744	24.7	97.5	49.7	84.3	65.7
Sep	96	693	28.1	98.2	50.5	92.9	73.4
Oct	100	744	35.7	99.0	56.1	93.8	75.6
Nov	43	312	47.3	98.6	58.6	95.3	79.2
Dec	56	419	74.5	96.4	82.4	91.4	87.0
<b>Annual</b>	<b>91.3</b>	<b>7999</b>	<b>16.7</b>	<b>99.0</b>	<b>37.9</b>	<b>95.3</b>	<b>67.9</b>



**WBEA - Lower Camp Met Tower (AMS 3)**  
**Annual Summary for the Year 2014**  
**Relative Humidity 45m (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	44.1	90.4	60.6	85.8	72.2
Feb	100	672	40.9	88.9	55.6	83.5	69.8
Mar	100	744	23.5	86.4	43.1	78.1	60.1
Apr	100	720	17.0	94.0	39.9	82.2	56.7
May	100	744	18.5	97.8	40.3	90.0	60.7
Jun	100	719	16.5	98.5	37.1	92.9	64.0
Jul	100	744	24.7	96.8	43.8	81.9	63.2
Aug	100	744	24.5	97.7	49.4	81.6	64.9
Sep	96	694	28.2	98.6	50.2	92.4	72.8
Oct	100	744	33.2	97.9	55.1	92.3	74.2
Nov	100	720	47.1	98.0	57.6	94.9	77.1
Dec	100	744	62.9	94.8	71.0	90.6	82.1
<b>Annual</b>	<b>99.7</b>	<b>8733</b>	<b>16.5</b>	<b>98.6</b>	<b>37.1</b>	<b>94.9</b>	<b>68.1</b>



**WBEA - Lower Camp Met Tower (AMS 3)**  
**Annual Summary for the Year 2014**  
**Relative Humidity 100m (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	99	733	43.5	92.9	60.7	87.3	71.5
Feb	100	672	38.8	88.6	55.4	84.2	69.6
Mar	100	744	21.4	87.3	37.3	78.8	58.3
Apr	100	720	16.7	95.7	38.0	82.7	56.0
May	99	736	17.1	96.8	40.0	90.0	59.2
Jun	90	649	15.9	98.4	34.4	92.5	61.9
Jul	100	744	24.0	93.9	40.4	81.6	60.2
Aug	100	744	23.6	97.4	45.0	79.6	61.0
Sep	96	694	25.7	98.0	48.6	90.8	69.7
Oct	100	744	30.0	98.6	52.7	93.5	73.6
Nov	100	720	48.3	98.7	59.0	97.6	77.7
Dec	100	744	64.0	95.3	69.6	91.5	83.1
<b>Annual</b>	<b>98.7</b>	<b>8644</b>	<b>15.9</b>	<b>98.7</b>	<b>34.4</b>	<b>97.6</b>	<b>66.8</b>



**WBEA - Lower Camp Met Tower (AMS 3)**  
**Annual Summary for the Year 2014**  
**Relative Humidity 167m (%) Average**

Month	Operational Time (%)	Number of Data	1-hour Min	1-hour Max	24-hour Min	24-hour Max	Average
Jan	95	708	43.6	93.1	58.2	81.5	70.7
Feb	100	672	36.0	87.8	55.3	81.6	69.6
Mar	100	744	20.5	89.8	36.1	79.2	57.3
Apr	100	720	17.0	95.5	34.2	83.4	55.4
May	100	744	16.7	96.1	34.0	88.9	57.3
Jun	100	719	16.2	96.3	33.0	90.9	60.0
Jul	96	715	24.2	92.9	39.0	80.9	57.2
Aug	-	0	-	-	-	-	-
Sep	23	162	49.2	96.2	64.6	91.0	75.3
Oct	100	744	30.1	98.9	51.5	94.7	73.4
Nov	100	720	48.4	98.5	60.2	97.5	78.1
Dec	100	744	62.1	96.0	68.4	92.5	83.4
<b>Annual</b>	<b>84.4</b>	<b>7392</b>	<b>16.2</b>	<b>98.9</b>	<b>33.0</b>	<b>97.5</b>	<b>66.4</b>



**WBEA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Relative Humidity 2m (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	92	688	50.2	93.8	65.2	85.1	75.3
Feb	100	672	42.1	89.7	60.1	83.1	73.4
Mar	100	744	26.8	90.6	43.5	81.7	62.4
Apr	100	717	18.5	96.3	40.4	85.9	58.7
May	100	744	15.9	96.2	37.0	90.1	60.4
Jun	100	720	20.5	97.2	40.0	92.5	65.5
Jul	100	744	25.9	96.8	46.5	84.3	65.5
Aug	100	744	25.9	96.7	50.9	82.0	65.5
Sep	100	720	26.4	97.4	57.2	91.4	73.8
Oct	100	744	39.9	97.1	57.0	93.9	76.0
Nov	100	720	53.1	98.3	63.0	97.7	80.1
Dec	94	698	69.7	96.7	76.2	92.9	84.8
<b>Annual</b>	<b>98.8</b>	<b>8655</b>	<b>15.9</b>	<b>98.3</b>	<b>37.0</b>	<b>97.7</b>	<b>70.0</b>



**WBEA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Relative Humidity 20m (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	92	688	46.3	95.1	62.9	85.1	74.2
Feb	100	672	41.1	90.5	59.5	83.7	72.9
Mar	100	744	23.5	91.9	38.7	81.4	60.4
Apr	100	717	16.8	97.5	37.6	85.8	57.4
May	100	744	14.5	97.0	34.5	89.5	59.0
Jun	100	720	17.3	97.7	35.0	91.1	62.4
Jul	100	744	22.2	96.7	39.8	82.7	60.8
Aug	100	744	22.6	96.8	46.6	80.2	61.0
Sep	100	720	24.3	97.4	51.0	90.0	70.2
Oct	98	732	35.3	97.6	55.4	92.8	74.3
Nov	92	665	50.3	96.7	60.8	84.0	77.8
Dec	88	653	66.8	95.4	73.9	93.3	84.2
<b>Annual</b>	<b>97.5</b>	<b>8543</b>	<b>14.5</b>	<b>97.7</b>	<b>34.5</b>	<b>93.3</b>	<b>67.6</b>





**WBEA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Relative Humidity 45m (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	92	687	44.7	95.9	60.8	85.0	73.5
Feb	100	672	40.3	90.5	59.1	84.5	72.6
Mar	100	744	22.4	92.0	36.4	81.7	59.5
Apr	100	717	16.2	98.3	35.6	86.2	57.1
May	100	744	14.1	97.2	33.7	89.5	58.4
Jun	100	720	16.9	97.6	33.9	90.8	61.3
Jul	100	744	21.9	96.7	38.9	82.7	59.4
Aug	100	744	22.2	96.9	44.4	79.8	59.4
Sep	100	720	24.0	96.8	48.1	90.0	68.7
Oct	98	728	33.0	98.1	52.6	92.8	73.5
Nov	92	661	50.0	93.0	60.8	84.5	77.4
Dec	82	611	65.5	96.5	72.6	92.9	83.2
<b>Annual</b>	<b>96.9</b>	<b>8492</b>	<b>14.1</b>	<b>98.3</b>	<b>33.7</b>	<b>92.9</b>	<b>66.6</b>



**WBEA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Relative Humidity 75m (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	88	655	44.7	94.4	58.4	85.3	73.0
Feb	100	672	41.2	91.3	59.1	85.9	72.9
Mar	100	744	22.3	92.7	35.5	82.6	59.1
Apr	100	717	16.3	98.4	32.8	87.2	57.2
May	100	744	14.3	97.2	33.3	90.3	58.4
Jun	100	720	17.2	97.7	33.1	91.1	61.1
Jul	100	744	22.3	96.6	38.8	83.0	58.8
Aug	100	744	22.7	97.3	42.5	79.3	58.3
Sep	100	720	24.5	97.9	44.6	90.5	67.8
Oct	98	732	33.1	98.4	51.7	93.6	73.7
Nov	92	659	49.3	92.8	61.6	85.3	77.5
Dec	74	548	62.8	94.3	71.8	88.7	81.9
<b>Annual</b>	<b>95.9</b>	<b>8399</b>	<b>14.3</b>	<b>98.4</b>	<b>32.8</b>	<b>93.6</b>	<b>66.1</b>



**WBEA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Relative Humidity 90m (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	88	654	45.0	95.5	57.2	86.1	73.6
Feb	100	672	41.8	92.1	59.9	87.0	73.7
Mar	100	744	22.6	93.5	35.7	83.4	59.4
Apr	100	717	16.5	98.9	31.7	88.0	57.7
May	100	744	14.5	97.8	33.3	91.0	58.7
Jun	100	720	17.4	98.4	32.8	91.5	61.2
Jul	100	744	22.6	96.4	38.8	83.4	58.8
Aug	100	744	23.0	97.8	41.9	79.3	58.1
Sep	100	720	24.8	98.6	43.7	91.2	67.8
Oct	98	732	33.3	98.9	51.9	94.5	74.2
Nov	91	657	48.6	93.6	62.3	86.2	78.1
Dec	74	551	60.5	94.5	71.9	89.7	82.6
<b>Annual</b>	<b>95.9</b>	<b>8399</b>	<b>14.5</b>	<b>98.9</b>	<b>31.7</b>	<b>94.5</b>	<b>66.4</b>



**WBEA - Patricia McInnes (AMS 6)**  
**Annual Summary for the Year 2014**  
**Relative Humidity (%) Average**

Month	Operational Time (%)	Number of Data	1-hour Min	1-hour Max	24-hour Min	24-hour Max	Average
Jan	100	744	45.9	92.5	64.3	87.8	74.7
Feb	100	672	35.4	90.8	59.6	85.6	72.2
Mar	100	743	20.3	91.2	40.3	83.1	61.6
Apr	100	720	16.6	98.1	38.2	86.4	58.9
May	100	744	16.0	97.4	41.0	89.9	60.7
Jun	100	720	18.0	97.6	38.0	93.0	65.0
Jul	100	742	20.2	98.9	45.5	83.4	65.3
Aug	100	744	23.7	97.9	51.9	80.4	65.4
Sep	100	720	24.2	97.8	54.6	92.7	74.0
Oct	100	744	31.8	97.5	55.9	94.6	76.2
Nov	100	720	47.9	98.3	60.4	97.4	79.2
Dec	100	744	62.3	96.6	72.6	92.4	83.7
<b>Annual</b>	<b>100.0</b>	<b>8757</b>	<b>16.0</b>	<b>98.9</b>	<b>38.0</b>	<b>97.4</b>	<b>69.7</b>



**WBEA - Athabasca Valley (AMS 7)**  
**Annual Summary for the Year 2014**  
**Relative Humidity (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	45.9	91.1	62.4	86.7	74.4
Feb	100	672	37.7	90.5	59.6	83.0	71.8
Mar	100	744	26.3	93.7	48.0	81.9	63.9
Apr	100	720	16.6	97.6	37.0	81.8	59.1
May	100	744	17.8	96.6	42.7	87.9	60.3
Jun	100	720	16.9	98.2	39.0	92.4	65.8
Jul	100	742	18.1	99.5	48.0	83.1	65.3
Aug	100	744	26.5	99.2	51.9	82.1	66.0
Sep	100	720	28.0	99.9	58.1	91.1	75.0
Oct	100	744	32.6	98.6	55.9	94.3	75.7
Nov	99	712	48.1	99.9	59.3	96.6	78.3
Dec	100	744	68.4	95.7	73.5	92.2	83.3
<b>Annual</b>	<b>99.9</b>	<b>8750</b>	<b>16.6</b>	<b>99.9</b>	<b>37.0</b>	<b>96.6</b>	<b>69.9</b>



**WB EA - Fort Chipewyan (AMS 8)**  
**Annual Summary for the Year 2014**  
**Relative Humidity (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	59.0	93.6	65.8	85.8	76.2
Feb	100	672	46.9	89.5	59.8	81.5	73.2
Mar	34	256	35.2	85.1	52.5	81.0	70.4
Apr	74	534	31.9	99.5	43.4	90.0	69.6
May	100	743	29.1	98.3	48.0	91.1	66.3
Jun	100	720	19.2	96.8	42.6	89.0	64.3
Jul	100	744	26.5	97.3	51.2	88.3	65.5
Aug	100	744	26.8	98.2	53.8	87.0	66.9
Sep	100	720	23.3	99.3	43.6	88.2	74.0
Oct	100	744	42.0	99.3	60.3	95.4	81.7
Nov	100	720	53.2	97.8	69.9	92.7	82.0
Dec	99	736	65.0	95.4	74.6	90.6	83.0
<b>Annual</b>	<b>92.2</b>	<b>8077</b>	<b>19.2</b>	<b>99.5</b>	<b>42.6</b>	<b>95.4</b>	<b>73.0</b>



**WB EA - Fort McKay South (AMS 13)**  
**Annual Summary for the Year 2014**  
**Relative Humidity (%) Average**

Month	Operational Time (%)	Number of Data	1-hour Min	1-hour Max	24-hour Min	24-hour Max	Average
Jan	100	744	49.0	94.1	65.0	89.7	77.0
Feb	100	672	35.3	90.9	60.2	85.1	72.6
Mar	100	744	19.8	93.2	46.7	81.9	63.6
Apr	100	720	16.8	99.7	44.4	88.6	60.7
May	100	744	18.4	99.9	48.2	95.9	66.3
Jun	100	720	15.9	99.9	42.6	96.4	69.0
Jul	100	744	23.2	99.7	53.1	88.4	69.7
Aug	100	744	21.2	100.0	54.6	91.7	72.7
Sep	100	720	25.1	100.0	59.9	94.0	79.5
Oct	93	695	39.6	99.9	62.1	96.0	83.8
Nov	100	720	48.6	98.7	63.6	95.6	80.3
Dec	98	732	69.1	96.4	70.8	93.5	84.0
<b>Annual</b>	<b>99.3</b>	<b>8699</b>	<b>15.9</b>	<b>100.0</b>	<b>42.6</b>	<b>96.4</b>	<b>73.2</b>



**WBEA - Anzac (AMS 14)**  
**Annual Summary for the Year 2014**  
**Relative Humidity (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	743	43.1	95.1	58.0	89.6	75.8
Feb	100	672	28.9	91.3	57.3	90.2	74.4
Mar	100	744	19.5	97.3	48.1	91.2	64.1
Apr	100	720	17.9	98.7	39.3	93.7	63.0
May	100	744	21.4	98.5	41.4	95.3	63.7
Jun	100	720	18.5	98.9	37.5	97.0	68.2
Jul	99	739	21.7	97.3	44.1	85.9	66.8
Aug	100	744	24.4	98.3	52.3	86.1	65.1
Sep	100	720	25.4	98.7	51.5	95.4	75.2
Oct	100	744	32.9	99.0	54.6	97.6	78.6
Nov	100	720	55.5	98.5	67.5	97.2	82.0
Dec	96	714	60.8	98.2	73.6	94.6	86.1
<b>Annual</b>	<b>99.6</b>	<b>8724</b>	<b>17.9</b>	<b>99.0</b>	<b>37.5</b>	<b>97.6</b>	<b>71.8</b>





**WBEA - CNRL Horizon (AMS 15)**  
**Annual Summary for the Year 2014**  
**Relative Humidity (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	43.6	93.8	63.8	90.2	75.4
Feb	100	672	39.5	91.3	55.8	85.5	71.8
Mar	100	744	23.8	94.4	44.2	82.5	62.8
Apr	100	718	16.4	99.5	45.0	87.7	59.3
May	100	744	19.9	99.1	41.4	92.6	62.4
Jun	100	718	17.7	99.2	37.3	91.9	65.3
Jul	100	744	23.3	99.4	48.6	84.8	65.6
Aug	100	742	18.8	99.4	42.5	87.2	66.7
Sep	100	720	24.1	99.5	54.7	90.7	74.2
Oct	100	744	40.1	99.3	56.9	93.9	79.7
Nov	99	715	50.7	98.6	62.6	95.8	79.0
Dec	100	744	60.7	97.2	72.3	93.4	83.7
<b>Annual</b>	<b>99.9</b>	<b>8749</b>	<b>16.4</b>	<b>99.5</b>	<b>37.3</b>	<b>95.8</b>	<b>70.5</b>



**WB EA - Shell Muskeg River (AMS 16)**  
**Annual Summary for the Year 2014**  
**Relative Humidity (%) Average**

Month	Operational Time (%)	Number of Data	1-hour Min	1-hour Max	24-hour Min	24-hour Max	Average
Jan	100	743	43.5	93.3	65.0	89.3	76.5
Feb	100	672	41.9	90.8	64.1	83.6	73.7
Mar	100	744	23.0	92.6	48.6	82.4	64.6
Apr	100	720	16.6	98.9	42.7	87.0	60.3
May	100	744	19.7	99.4	44.0	90.3	63.4
Jun	100	720	17.0	99.5	42.4	92.1	65.9
Jul	99	734	25.5	98.6	46.4	84.6	66.5
Aug	98	731	21.9	99.3	50.1	86.0	68.9
Sep	100	720	24.6	99.8	59.9	89.2	74.6
Oct	100	744	39.5	99.9	61.3	94.6	79.9
Nov	99	714	50.3	100.0	62.2	95.4	80.8
Dec	99	736	66.4	98.1	73.7	94.5	85.3
<b>Annual</b>	<b>99.6</b>	<b>8722</b>	<b>16.6</b>	<b>100.0</b>	<b>42.4</b>	<b>95.4</b>	<b>71.7</b>



**WBEA - Wapasu (AMS 17)**  
**Annual Summary for the Year 2014**  
**Relative Humidity (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	100	744	45.7	94.3	60.4	90.9	78.6
Feb	100	672	37.5	91.5	61.1	87.4	75.7
Mar	100	743	23.7	98.4	42.3	90.7	64.0
Apr	100	720	18.4	97.7	37.1	88.8	60.4
May	100	743	20.0	99.4	35.9	94.4	65.6
Jun	100	720	18.6	99.4	34.0	97.7	65.2
Jul	100	744	19.4	99.3	40.3	90.3	64.2
Aug	100	744	22.3	99.2	43.9	86.3	66.1
Sep	100	720	23.3	99.5	48.0	94.5	74.0
Oct	100	744	37.7	99.5	56.7	97.1	79.2
Nov	100	717	50.6	99.3	70.1	97.3	84.6
Dec	100	744	66.6	97.0	75.4	95.3	85.9
<b>Annual</b>	<b>99.9</b>	<b>8755</b>	<b>18.4</b>	<b>99.5</b>	<b>34.0</b>	<b>97.7</b>	<b>71.9</b>



**WBEA - Firebag (AMS 19)**  
**Annual Summary for the Year 2014**  
**Relative Humidity (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
July	100	538	19.5	99.3	38.6	89.7	62.5
August	100	744	21.0	99.4	44.8	87.4	63.5
September	100	720	23.5	99.4	46.8	95.3	73.0
October	100	744	40.4	99.4	58.6	97.5	80.2
November	100	720	56.6	99.2	74.5	97.4	85.4
December	100	744	72.5	97.6	77.5	96.2	86.4
<b>Annual</b>	<b>100.0</b>	<b>4210</b>	<b>19.5</b>	<b>99.4</b>	<b>38.6</b>	<b>97.5</b>	<b>75.7</b>



**WBEA - Cenovus - Christina Lake (AMS500)**  
**Annual Summary for the Year 2014**  
**Relative Humidity (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jan	94	703	37.1	93.0	53.5	87.5	72.3
Feb	100	672	22.5	91.7	47.5	87.2	69.7
Mar	100	744	21.6	95.3	45.5	79.2	60.0
Apr	100	720	18.0	98.9	41.6	93.8	64.8
May	100	744	22.6	99.2	43.6	95.4	64.6
Jun	100	394	22.3	97.0	41.9	88.2	67.0
<b>Annual</b>	<b>99.1</b>	<b>3977</b>	<b>18.0</b>	<b>99.2</b>	<b>41.6</b>	<b>95.4</b>	<b>66.2</b>



**WBEA - Statoil - Leismer (AMS501)**  
**Annual Summary for the Year 2014**  
**Relative Humidity (%) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>1-hour Min</b>	<b>1-hour Max</b>	<b>24-hour Min</b>	<b>24-hour Max</b>	<b>Average</b>
Jul	100	744	29.4	99.8	47.1	87.4	67.3
Aug	100	744	24.2	99.1	51.9	84.3	66.4
Sep	100	720	23.3	99.6	51.0	95.7	74.2
Oct	100	325	29.8	99.6	56.3	92.1	72.9
<b>Annual</b>	<b>100.0</b>	<b>2830</b>	<b>23.3</b>	<b>99.8</b>	<b>47.1</b>	<b>95.7</b>	<b>70.4</b>



WBEA - ConocoPhillips - Surmont (AMS502)  
Annual Summary for the Year 2014  
Relative Humidity (%) Average

Month	Operational Time (%)	Number of Data	1-hour Min	1-hour Max	24-hour Min	24-hour Max	Average
Jul	100	744	26.0	98.2	42.9	86.5	64.5
Aug	100	743	25.3	99.6	42.5	87.6	61.9
Sep	53	379	29.4	99.7	45.9	97.5	71.9
Oct	100	742	38.2	99.4	51.5	98.5	76.2
Nov	100	720	43.5	99.5	67.6	98.4	82.0
Dec	100	744	54.4	98.4	70.9	95.6	86.2
<b>Annual</b>	<b>92.0</b>	<b>4079</b>	<b>25.3</b>	<b>99.7</b>	<b>42.5</b>	<b>98.5</b>	<b>73.9</b>



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

CONTINUOUS AMBIENT AIR QUALITY  
MONITORING PROGRAM  
ANNUAL REPORT

### **BAROMETRIC PRESSURE ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015



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**WBEA - Athabasca Valley (AMS 7)**  
**Annual Summary for the Year 2014**  
**Barometric Pressure (inHg) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	744	29.04	29.92	29.84
Feb	100	672	29.18	30.02	29.90
Mar	100	744	29.11	29.82	29.75
Apr	100	720	28.99	29.56	29.47
May	100	744	29.03	29.54	29.44
Jun	100	720	28.89	29.14	29.10
Jul	100	744	28.93	29.33	29.28
Aug	100	744	28.96	29.44	29.41
Sep	100	720	28.98	29.66	29.61
Oct	100	744	28.86	29.36	29.25
Nov	92	661	29.17	29.94	29.90
Dec	75	560	29.01	30.02	29.96
<b>Annual</b>	<b>97.2</b>	<b>8517</b>	<b>29.01</b>	<b>30.02</b>	<b>29.96</b>



**WBEA - Shell Muskeg River (AMS 16)**  
**Annual Summary for the Year 2014**  
**Barometric Pressure (inHg) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	743	28.93	29.79	29.70
Feb	100	672	29.07	29.89	29.78
Mar	100	742	29.00	29.70	29.63
Apr	100	720	28.90	29.45	29.37
May	100	744	28.94	29.43	29.36
Jun	100	720	28.80	29.03	29.00
Jul	99	734	28.83	29.23	29.18
Aug	98	731	28.86	29.34	29.31
Sep	100	720	28.87	29.55	29.49
Oct	100	744	28.76	29.26	29.16
Nov	100	717	29.06	29.83	29.80
Dec	77	573	28.94	29.89	29.83
<b>Annual</b>	<b>97.7</b>	<b>8560</b>	<b>28.91</b>	<b>29.89</b>	<b>29.83</b>



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

CONTINUOUS AMBIENT AIR QUALITY  
MONITORING PROGRAM  
ANNUAL REPORT

### **SOLAR RADIATION ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Fort McKay - Bertha Ganter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Solar Radiation (W/m<sup>2</sup>) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	98	729	9.50	114.32	22.87
Feb	100	672	32.18	235.05	57.23
Mar	100	744	74.91	366.89	115.87
Apr	100	720	102.04	458.72	150.36
May	100	744	123.34	542.66	208.26
Jun	100	720	144.82	550.14	222.98
Jul	100	744	155.57	551.00	218.89
Aug	100	744	123.54	481.92	178.96
Sep	100	720	75.20	416.73	115.27
Oct	100	744	34.27	255.50	65.01
Nov	100	720	14.47	149.76	30.30
Dec	92	688	9.02	229.68	26.30
<b>Annual</b>	<b>99.2</b>	<b>8689</b>	<b>75.70</b>	<b>551.00</b>	<b>222.98</b>



**WBEA - Fort Chipewyan (AMS 8)**  
**Annual Summary for the Year 2014**  
**Solar Radiation (W/m<sup>2</sup>) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	744	16.91	184.97	35.38
Feb	100	672	50.84	341.32	91.11
Mar	34	253	84.92	383.70	108.73
Apr	-	-	-	-	-
May	52	388	250.99	887.71	350.95
Jun	100	720	285.75	920.47	390.66
Jul	100	744	277.45	906.83	368.22
Aug	100	744	208.88	820.17	316.03
Sep	100	720	128.72	685.38	221.41
Oct	100	744	55.63	471.67	112.16
Nov	100	720	34.20	367.01	82.95
Dec	99	739	21.54	290.63	50.17
<b>Annual</b>	<b>82.1</b>	<b>7188</b>	<b>126.29</b>	<b>920.47</b>	<b>390.66</b>



**WBEA - CNRL Horizon (AMS 15)  
Annual Summary for the Year 2014  
Solar Radiation (W/m<sup>2</sup>) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	744	13.18	192.53	37.50
Feb	100	672	44.86	349.98	93.42
Mar	100	744	103.74	499.12	158.54
Apr	100	720	132.92	569.03	193.60
May	100	744	154.83	684.78	257.37
Jun	100	717	172.83	661.57	273.53
Jul	100	744	189.98	668.66	261.63
Aug	100	742	153.59	648.51	221.18
Sep	100	720	96.93	515.78	156.01
Oct	100	744	45.97	362.83	99.28
Nov	97	695	24.25	235.23	46.58
Dec	100	744	13.16	223.59	37.42
<b>Annual</b>	<b>99.7</b>	<b>8730</b>	<b>95.98</b>	<b>684.78</b>	<b>273.53</b>



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## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

### **CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM ANNUAL REPORT**

### **PRECIPITATION ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Fort McKay - Bertha Ganter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Precipitation Collector (mm) Total**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	98	729	1	1	0
Feb	100	672	0	0	0
Mar	100	744	7	2	5
Apr	100	720	10	2	6
May	100	744	96	5	35
Jun	100	720	72	17	18
Jul	100	744	84	10	22
Aug	100	744	43	7	16
Sep	100	719	53	4	25
Oct	100	744	32	2	11
Nov	100	719	4	1	2
Dec	98	726	28	19	20
<b>Annual</b>	<b>99.6</b>	<b>8725</b>	<b>429</b>	<b>19</b>	<b>35</b>



**WBEA - Fort Chipewyan (AMS 8)**  
**Annual Summary for the Year 2014**  
**Precipitation Collector (mm) Total**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	744	2	1	2
Feb	100	672	0	0	0
Mar	94	702	0	0	0
Apr	-	-	-	-	-
May	14	101	45	5	31
Jun	100	720	34	7	18
Jul	100	744	129	20	63
Aug	100	744	18	7	8
Sep	100	719	25	5	10
Oct	100	743	26	4	15
Nov	100	720	1	1	1
Dec	99	738	3	1	2
<b>Annual</b>	<b>83.9</b>	<b>7347</b>	<b>283</b>	<b>20</b>	<b>63</b>



**WBEA - Anzac (AMS 14)**  
**Annual Summary for the Year 2014**  
**Precipitation Collector (mm) Total**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	744	6	3	4
Feb	100	672	1	0	1
Mar	100	744	23	4	7
Apr	100	720	37	3	12
May	100	744	92	6	38
Jun	100	720	51	4	12
Jul	100	741	36	4	7
Aug	100	744	38	4	16
Sep	100	719	76	4	38
Oct	100	744	41	4	11
Nov	100	720	8	1	6
Dec	96	714	1	1	1
<b>Annual</b>	<b>99.6</b>	<b>8726</b>	<b>410</b>	<b>6</b>	<b>38</b>



**WBEA - CNRL Horizon (AMS 15)  
Annual Summary for the Year 2014  
Precipitation Collector (mm) Total**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	744	0	0	0
Feb	100	672	0	0	0
Mar	100	744	5	1	3
Apr	93	667	14	3	7
May	97	718	96	6	31
Jun	100	720	44	6	10
Jul	100	743	53	8	10
Aug	100	742	49	6	14
Sep	100	720	52	5	21
Oct	100	743	21	2	8
Nov	99	713	7	2	3
Dec	100	744	7	1	4
<b>Annual</b>	<b>99.0</b>	<b>8670</b>	<b>348</b>	<b>8</b>	<b>31</b>



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

CONTINUOUS AMBIENT AIR QUALITY  
MONITORING PROGRAM  
ANNUAL REPORT

### **SURFACE WETNESS ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015



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**WBEA - Fort McKay - Bertha Ganter (AMS 1)**  
**Annual Summary for the Year 2014**  
**Surface Wetness (% of range) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	98	729	0.07	7.66	1.30
Feb	100	672	0.00	0.00	0.00
Mar	100	743	0.02	4.80	0.48
Apr	100	720	0.88	80.66	12.63
May	100	744	4.52	45.63	23.14
Jun	100	720	4.03	51.36	20.50
Jul	100	743	4.64	62.32	17.55
Aug	100	744	5.51	66.09	19.71
Sep	100	720	7.04	64.61	32.45
Oct	100	744	4.47	95.99	31.39
Nov	100	720	0.87	82.06	12.46
Dec	98	728	1.61	29.79	7.67
<b>Annual</b>	<b>99.6</b>	<b>8727</b>	<b>2.83</b>	<b>95.99</b>	<b>32.45</b>



**WBEA - Fort Chipewyan (AMS 8)**  
**Annual Summary for the Year 2014**  
**Surface Wetness (% of range) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jun	88	631	0.92	28.45	7.97
Jul	98	731	1.02	26.89	9.24
Aug	100	743	0.97	29.40	7.91
Sep	100	720	1.92	48.92	12.38
Oct	100	744	2.14	40.15	10.58
Nov	100	720	0.87	32.81	8.79
<b>Annual</b>	<b>97.6</b>	<b>4352</b>	<b>1.30</b>	<b>48.92</b>	<b>12.38</b>



**WBEA - Anzac (AMS 14)**  
**Annual Summary for the Year 2014**  
**Surface Wetness (% of range) Average**

<b>Month</b>	<b>Operational Time (%)</b>	<b>Number of Data</b>	<b>Mean Value</b>	<b>Maximum 1-Hour Value</b>	<b>Maximum 24-Hour Value</b>
Jan	100	742	0.13	23.86	2.70
Feb	100	672	0.00	0.00	0.00
Mar	100	744	1.82	48.14	19.71
Apr	100	720	2.86	66.14	29.63
May	100	744	3.94	74.07	18.87
Jun	100	718	4.89	47.45	14.96
Jul	99	739	4.40	75.55	20.94
Aug	100	741	2.91	41.83	12.29
Sep	100	720	6.16	83.86	33.04
Oct	100	744	5.77	80.70	35.61
Nov	100	720	0.50	43.89	4.31
<b>Annual</b>	<b>99.9</b>	<b>8063</b>	<b>3.03</b>	<b>83.86</b>	<b>35.61</b>

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## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

CONTINUOUS AMBIENT AIR QUALITY  
MONITORING PROGRAM  
ANNUAL REPORT

### **VERTICAL WIND SPEED ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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**WBEA - Lower Camp Met Tower (AMS 3)**  
**Annual Summary for the Year 2014**  
**Vertical Wind Speed 20m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.3	2.72	1.83	0.64	0.55	0.51	1.36	28.33	28.55	7.35	2.21	1.32	1.06	0.85	0.98	2.04	6.37	86.66
0.4 - 0.5	0	0.04	0	0	0	0	3.02	4.97	1.15	0	0	0.04	0	0	0	0	9.22
0.6 - 0.7	0	0	0	0	0	0	0.93	1.49	0.3	0	0	0	0	0	0	0	2.72
0.8 - 1.4	0	0	0	0	0	0	0.21	1.1	0.08	0	0	0	0	0	0	0	1.4
1.5 - 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>2.72</b>	<b>1.87</b>	<b>0.64</b>	<b>0.55</b>	<b>0.51</b>	<b>1.36</b>	<b>32.5</b>	<b>36.11</b>	<b>8.88</b>	<b>2.21</b>	<b>1.32</b>	<b>1.1</b>	<b>0.85</b>	<b>0.98</b>	<b>2.04</b>	<b>6.37</b>	<b>100</b>

Total Number of Valid Hours 2354  
 Total Number of Hours 8760

**WBEA - Lower Camp Met Tower (AMS 3)**  
**Annual Summary for the Year 2014**  
**Vertical Wind Speed 45m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.3	2.91	3.3	1.96	1.71	2.04	3.93	8.89	7.16	3.88	2.21	1.64	1.24	0.8	0.82	1.12	2.51	46.11
0.4 - 0.5	0.07	0.07	0	0.1	0.35	1.44	8.99	6.34	1.19	0.2	0.12	0.1	0.05	0.05	0	0.07	19.16
0.6 - 0.7	0.07	0.02	0	0.05	0.15	0.22	7.55	5.69	0.67	0.02	0	0	0	0	0.02	0	14.48
0.8 - 1.4	0	0	0	0	0	0.12	8.65	9.39	0.3	0	0	0	0	0.02	0	0.02	18.51
1.5 - 10	0	0	0	0	0	0	0.6	0.8	0	0	0	0	0	0	0	0	1.39
> 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>3.06</b>	<b>3.4</b>	<b>1.96</b>	<b>1.86</b>	<b>2.53</b>	<b>5.71</b>	<b>34.68</b>	<b>29.37</b>	<b>6.04</b>	<b>2.43</b>	<b>1.76</b>	<b>1.34</b>	<b>0.87</b>	<b>0.87</b>	<b>1.14</b>	<b>2.61</b>	<b>99.65</b>

Total Number of Valid Hours 4025  
 Total Number of Hours 8760

**WBEA - Lower Camp Met Tower (AMS 3)**  
**Annual Summary for the Year 2014**  
**Vertical Wind Speed 100m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.3	9.05	3.18	1.17	1.02	1.07	1.94	7.52	6.21	2.01	1.11	0.94	1.82	1.84	1.34	4.04	8.99	53.25
0.4 - 0.5	2.78	0.96	0.21	0.17	0.34	0.77	3.31	3.09	0.47	0.45	0.53	1.07	0.75	0.32	0.32	1.11	16.65
0.6 - 0.7	1.43	0.68	0.11	0.13	0.15	0.47	2.8	1.81	0.4	0.24	0.45	0.53	0.26	0.19	0.09	0.49	10.23
0.8 - 1.4	0.85	0.28	0.02	0.13	0.11	0.32	4.78	3.97	0.41	0.24	0.43	0.87	0.36	0.11	0.23	0.3	13.41
1.5 - 10	0.06	0.02	0.04	0	0	0.08	1.94	3.18	0.19	0.04	0.06	0.17	0.15	0.06	0	0	5.96
> 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>14.16</b>	<b>5.12</b>	<b>1.54</b>	<b>1.45</b>	<b>1.67</b>	<b>3.57</b>	<b>20.35</b>	<b>18.25</b>	<b>3.48</b>	<b>2.09</b>	<b>2.41</b>	<b>4.46</b>	<b>3.37</b>	<b>2.01</b>	<b>4.68</b>	<b>10.89</b>	<b>99.51</b>

Total Number of Valid Hours 5316  
 Total Number of Hours 8760

**WBEA - Lower Camp Met Tower (AMS 3)**  
**Annual Summary for the Year 2014**  
**Vertical Wind Speed 167m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.3	7.62	2.47	0.81	0.57	0.43	0.92	5.4	4.5	1.16	0.49	0.47	1.22	1.45	1.24	3.36	7.93	40.04
0.4 - 0.5	2.24	1	0.51	0.26	0.37	0.41	2.73	2.49	0.69	0.31	0.14	0.55	0.55	0.41	0.47	1.39	14.53
0.6 - 0.7	1.28	0.81	0.33	0.18	0.2	0.33	2.3	2	0.43	0.31	0.24	0.31	0.49	0.27	0.37	0.81	10.66
0.8 - 1.4	1.45	0.84	0.27	0.35	0.57	1.18	4.83	4.42	1.12	0.88	0.79	1.28	0.9	0.41	0.51	0.73	20.54
1.5 - 10	0.12	0.1	0.06	0.12	0.2	0.45	5.09	4.48	0.75	0.39	0.33	0.45	0.37	0.14	0.12	0.24	13.39
> 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>12.71</b>	<b>5.22</b>	<b>1.98</b>	<b>1.47</b>	<b>1.77</b>	<b>3.3</b>	<b>20.35</b>	<b>17.89</b>	<b>4.14</b>	<b>2.4</b>	<b>1.96</b>	<b>3.81</b>	<b>3.77</b>	<b>2.47</b>	<b>4.83</b>	<b>11.1</b>	<b>99.18</b>

Total Number of Valid Hours 5092  
 Total Number of Hours 8760





**WB EA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Vertical Wind Speed 20m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.3	0.74	4.35	4.12	2.01	3.22	4.94	19.9	21.57	6.31	1.51	0.61	1.4	3.85	0.99	0.99	0.83	77.35
0.4 - 0.5	0.07	0.07	0.34	1.06	1.15	2.28	5.07	7.73	0.23	0	0.02	0.05	0.27	0.02	0.02	0.05	18.41
0.6 - 0.7	0	0.02	0.07	0.41	0.41	0.45	0.74	1.49	0	0.02	0	0	0.02	0	0	0	3.63
0.8 - 1.4	0	0	0.02	0.14	0.11	0.05	0.05	0.25	0	0	0	0	0	0	0	0	0.61
1.5 - 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>0.81</b>	<b>4.44</b>	<b>4.55</b>	<b>3.61</b>	<b>4.89</b>	<b>7.71</b>	<b>25.76</b>	<b>31.03</b>	<b>6.54</b>	<b>1.53</b>	<b>0.63</b>	<b>1.44</b>	<b>4.15</b>	<b>1.01</b>	<b>1.01</b>	<b>0.88</b>	<b>100</b>

Total Number of Valid Hours 4437  
 Total Number of Hours 8760

**WB EA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Vertical Wind Speed 45m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.3	3.78	6.52	2.47	1.02	1.32	1.32	3.33	5.81	3.82	2.34	1.68	1.92	2.89	2.05	2.08	2.03	44.37
0.4 - 0.5	0.33	0.99	1.08	0.75	1.26	1.74	6.18	7.42	1.97	0.27	0.11	0.15	0.31	0.26	0.29	0.11	23.21
0.6 - 0.7	0.15	0.22	0.37	0.8	0.86	1.66	7.15	6.96	0.55	0.11	0	0.11	0.09	0.02	0.09	0.15	19.28
0.8 - 1.4	0.04	0.05	0.13	0.4	0.55	1.72	4.53	5.04	0.37	0.04	0.02	0.02	0.04	0.02	0.04	0.05	13.05
1.5 - 10	0	0	0	0	0.02	0.02	0	0.02	0	0	0	0	0	0	0	0	0.05
> 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>4.29</b>	<b>7.79</b>	<b>4.04</b>	<b>2.98</b>	<b>4</b>	<b>6.45</b>	<b>21.18</b>	<b>25.26</b>	<b>6.71</b>	<b>2.76</b>	<b>1.81</b>	<b>2.19</b>	<b>3.33</b>	<b>2.34</b>	<b>2.5</b>	<b>2.34</b>	<b>99.96</b>

Total Number of Valid Hours 5472  
 Total Number of Hours 8760

**WB EA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Vertical Wind Speed 75m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.3	6.03	7.12	2.04	1.29	2.06	3.33	6.82	11.48	3.86	1.71	1.58	2.47	4.72	4.74	3.29	3.71	66.27
0.4 - 0.5	1.56	2.63	1.14	0.61	0.74	1.01	1.54	5.22	0.84	0.15	0.08	0.17	0.57	0.88	0.53	0.69	18.35
0.6 - 0.7	0.88	0.91	0.61	0.61	0.32	0.65	0.84	2.86	0.4	0.06	0	0.08	0.27	0.27	0.23	0.17	9.14
0.8 - 1.4	1.01	0.34	0.29	0.44	0.21	0.76	0.57	1.5	0.13	0.04	0.02	0.08	0.11	0.11	0.21	0.25	6.07
1.5 - 10	0.02	0.02	0.02	0	0.02	0.02	0	0	0	0.02	0	0	0	0	0.02	0	0.13
> 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>9.5</b>	<b>11.02</b>	<b>4.09</b>	<b>2.95</b>	<b>3.35</b>	<b>5.77</b>	<b>9.77</b>	<b>21.05</b>	<b>5.24</b>	<b>1.98</b>	<b>1.68</b>	<b>2.8</b>	<b>5.67</b>	<b>6.02</b>	<b>4.26</b>	<b>4.82</b>	<b>99.96</b>

Total Number of Valid Hours 5253  
 Total Number of Hours 8760

**WB EA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Vertical Wind Speed 90m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 0.3	4.55	3.27	0.95	0.68	0.32	1.3	5.5	2.01	1.48	1.71	1	0.5	0.32	0.39	0.48	1.22	25.68
0.4 - 0.5	2.22	0.71	0.05	0.08	0.05	0.14	2.36	1.75	1.06	1.11	0.82	0.32	0.31	0.29	0.6	1.38	13.26
0.6 - 0.7	1.37	0.34	0.08	0.05	0.03	0.03	1.3	1.95	0.95	0.82	0.87	0.55	0.37	0.24	0.53	1.4	10.88
0.8 - 1.4	2.88	0.13	0.03	0.02	0.03	0.05	1.06	5.73	2.94	0.74	1.46	2.33	1.45	1.45	2.41	4.62	27.33
1.5 - 10	0.88	0	0	0	0	0	0.02	1.85	0.68	0.08	0.26	3.97	6.11	4.55	2.24	0.74	21.38
> 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>11.9</b>	<b>4.44</b>	<b>1.11</b>	<b>0.82</b>	<b>0.43</b>	<b>1.53</b>	<b>10.25</b>	<b>13.29</b>	<b>7.11</b>	<b>4.46</b>	<b>4.41</b>	<b>7.67</b>	<b>8.56</b>	<b>6.92</b>	<b>6.26</b>	<b>9.36</b>	<b>98.52</b>

Total Number of Valid Hours 6216  
 Total Number of Hours 8760



## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

CONTINUOUS AMBIENT AIR QUALITY  
MONITORING PROGRAM  
ANNUAL REPORT

### **WIND SPEED AND DIRECTION ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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WBEA - Fort McKay - Bertha Ganter (AMS 1)  
 Annual Summary for the Year 2014  
 Wind Speed 10m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	5.82	2.9	1.65	1.37	1.4	1.29	1.56	2.92	4.53	5.64	3.54	3.05	3.32	4	4.52	4.36	51.85
06-Nov	6.39	4.41	1.67	1.42	0.9	0.53	0.93	3.95	6.51	3.77	1.07	0.85	0.89	2.05	2.41	1.78	39.54
19/12/2015	1.25	0.86	0.06	0.22	0.07	0.07	0.16	1.11	1.84	0.58	0.05	0.1	0.27	0.3	0.75	0.65	8.34
20 - 28	0.01	0	0	0	0	0	0	0.01	0.06	0.03	0	0	0	0.03	0.07	0	0.22
29 - 38	0	0	0.01	0	0	0	0	0	0	0	0	0	0	0.02	0.01	0	0.05
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>13.47</b>	<b>8.17</b>	<b>3.38</b>	<b>3.01</b>	<b>2.37</b>	<b>1.89</b>	<b>2.65</b>	<b>7.99</b>	<b>12.94</b>	<b>10.02</b>	<b>4.66</b>	<b>4</b>	<b>4.48</b>	<b>6.41</b>	<b>7.76</b>	<b>6.79</b>	<b>100</b>

Total Number of Valid Hours                    8632  
 Total Number of Hours                            8760



**WBEA - Mildred Lake (AMS 2)**  
**Annual Summary for the Year 2014**  
**Wind Speed 10m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	2.9	2.75	1.75	1.45	1.17	1.4	1.58	1.59	2.79	2.86	1.6	1.16	0.59	0.67	0.69	1.15	26.09
6 - 11	7.13	5.59	2.22	0.74	0.76	0.99	2.41	4.73	6.41	5.05	2.07	1.54	0.83	1.77	1.72	2.66	46.61
12 - 19	2.92	4.11	0.85	0.14	0.31	0.49	1.36	4.32	2.16	0.66	0.45	0.83	0.69	2.01	1.62	1.25	24.17
20 - 28	0.55	0.52	0.02	0	0.07	0.02	0.02	0.55	0.08	0.07	0	0.05	0.11	0.16	0.31	0.41	2.96
29 - 38	0.02	0	0	0	0	0	0	0.01	0	0	0	0	0	0.03	0.03	0.03	0.14
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.02	0	0.03
<b>Totals</b>	<b>13.52</b>	<b>12.96</b>	<b>4.84</b>	<b>2.32</b>	<b>2.31</b>	<b>2.91</b>	<b>5.37</b>	<b>11.2</b>	<b>11.44</b>	<b>8.64</b>	<b>4.12</b>	<b>3.58</b>	<b>2.22</b>	<b>4.66</b>	<b>4.4</b>	<b>5.51</b>	<b>100</b>

Total Number of Valid Hours      8696  
 Total Number of Hours            8760



**WBEA - Lower Camp Met Tower (AMS 3)**  
**Annual Summary for the Year 2014**  
**Wind Speed 20m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	5.36	2.4	1.37	1.15	1.14	1.96	3.43	2.72	1.41	1.07	1.06	1.11	1.15	2.04	5.4	9.1	41.87
6 - 11	6.17	2.11	0.42	0.26	0.33	0.94	7.82	6.76	1.23	0.67	0.78	1.48	1.29	0.75	1.7	4.43	37.15
12 - 19	2.39	0.31	0.05	0.03	0.18	0.21	4.77	4.04	0.75	0.45	0.24	1.02	1.5	1.08	1.1	0.82	18.94
20 - 28	0.07	0	0	0	0	0	0.41	0.6	0.13	0.02	0.02	0.14	0.21	0.11	0.15	0.03	1.89
29 - 38	0.01	0	0	0	0	0	0.01	0	0	0	0	0.03	0.01	0.02	0.03	0	0.13
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0	0	0.02
<b>Totals</b>	<b>14</b>	<b>4.82</b>	<b>1.84</b>	<b>1.45</b>	<b>1.65</b>	<b>3.11</b>	<b>16.44</b>	<b>14.12</b>	<b>3.51</b>	<b>2.2</b>	<b>2.1</b>	<b>3.79</b>	<b>4.17</b>	<b>4.02</b>	<b>8.38</b>	<b>14.38</b>	<b>100</b>

Total Number of Valid Hours 8708  
 Total Number of Hours 8760

**WBEA - Lower Camp Met Tower (AMS 3)**  
**Annual Summary for the Year 2014**  
**Wind Speed 45m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	3.48	1.73	0.98	0.91	0.98	1.34	1.86	1.77	1.16	0.96	0.88	0.87	0.79	1.63	4.46	6.09	29.9
6 - 11	4.89	1.57	0.69	0.44	0.35	1.26	6.69	5.55	1.25	0.65	0.71	1.04	1.02	0.73	2.13	5.88	34.84
12 - 19	4.29	1.33	0.17	0.09	0.3	0.44	6.05	4.99	0.89	0.46	0.44	1.02	1.24	1.08	1.2	1.94	25.93
20 - 28	1.2	0.22	0	0	0.03	0.09	1.71	1.56	0.21	0.14	0.06	0.69	1.02	0.52	0.54	0.38	8.38
29 - 38	0.09	0	0	0	0	0	0.22	0.2	0	0	0.01	0.14	0.12	0.02	0.05	0.01	0.86
> 38	0.01	0	0	0	0	0	0.01	0	0	0	0	0.01	0.02	0.02	0.01	0	0.09
<b>Totals</b>	<b>13.97</b>	<b>4.86</b>	<b>1.85</b>	<b>1.45</b>	<b>1.66</b>	<b>3.13</b>	<b>16.54</b>	<b>14.07</b>	<b>3.5</b>	<b>2.21</b>	<b>2.09</b>	<b>3.77</b>	<b>4.2</b>	<b>4</b>	<b>8.39</b>	<b>14.31</b>	<b>100</b>

Total Number of Valid Hours 8650  
 Total Number of Hours 8760

**WBEA - Lower Camp Met Tower (AMS 3)**  
**Annual Summary for the Year 2014**  
**Wind Speed 100m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	1.5	1.03	0.7	0.65	0.72	0.85	1.24	1.31	1.12	1.02	0.66	0.67	0.57	0.7	0.91	1.41	15.05
6 - 11	4.04	2.36	0.71	0.58	0.57	0.85	3.34	4.78	2.29	1.26	1.31	1.34	0.95	0.73	1.37	3.39	29.88
12 - 19	5.59	3.07	0.84	0.4	0.33	0.66	3.44	6.25	1.7	0.76	0.77	1.55	0.84	0.87	1.22	2.65	30.93
20 - 28	2.69	1.23	0.19	0.09	0.06	0.32	3.18	2.93	0.44	0.2	0.35	1.06	1.09	0.87	0.86	0.91	16.48
29 - 38	0.8	0.34	0.01	0	0.01	0.07	2.09	0.52	0.01	0	0.06	0.48	0.82	0.56	0.51	0.14	6.43
> 38	0.09	0.02	0	0	0	0	0.34	0.14	0	0	0	0.12	0.26	0.09	0.13	0.02	1.23
<b>Totals</b>	<b>14.72</b>	<b>8.06</b>	<b>2.45</b>	<b>1.72</b>	<b>1.69</b>	<b>2.75</b>	<b>13.63</b>	<b>15.94</b>	<b>5.56</b>	<b>3.24</b>	<b>3.15</b>	<b>5.22</b>	<b>4.51</b>	<b>3.83</b>	<b>5</b>	<b>8.52</b>	<b>100</b>

Total Number of Valid Hours 8464  
 Total Number of Hours 8760

**WBEA - Lower Camp Met Tower (AMS 3)**  
**Annual Summary for the Year 2014**  
**Wind Speed 167m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	0.67	0.58	0.49	0.57	0.5	0.35	0.79	0.85	1.1	0.75	0.69	0.5	0.57	0.54	0.58	0.5	10.03
6 - 11	2.17	2.1	1.13	0.67	0.83	0.78	1.82	2.35	2.06	1.76	1.25	0.79	0.83	0.47	0.86	1.65	21.52
12 - 19	4.53	4.24	1.57	0.53	0.68	0.82	3.2	4.36	2.65	1.61	1.5	1.57	1.11	1.26	1.11	1.83	32.58
20 - 28	3.08	2.93	0.47	0.28	0.25	0.47	3.04	2.7	1.76	0.89	0.54	1.22	0.94	0.92	1.07	1.35	21.93
29 - 38	1.08	0.56	0.06	0.01	0.06	0.22	2.43	1.39	0.44	0.08	0.18	0.79	1.15	0.83	0.86	0.56	10.71
> 38	0.25	0.04	0	0	0	0	0.79	0.36	0	0	0.01	0.43	0.61	0.29	0.38	0.06	3.22
<b>Totals</b>	<b>11.78</b>	<b>10.45</b>	<b>3.71</b>	<b>2.06</b>	<b>2.32</b>	<b>2.64</b>	<b>12.07</b>	<b>12.01</b>	<b>8.02</b>	<b>5.1</b>	<b>4.18</b>	<b>5.31</b>	<b>5.22</b>	<b>4.32</b>	<b>4.86</b>	<b>5.95</b>	<b>100</b>

Total Number of Valid Hours 7197  
 Total Number of Hours 8760



WBFA - Buffalo Viewpoint (AMS 4)  
 Annual Summary for the Year 2014  
 Wind Speed 10m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	1.7	1.24	0.76	0.6	0.82	1.18	2.09	2.74	1.75	0.94	0.73	0.86	0.76	0.9	0.93	1.3	19.29
6 - 11	3.88	3.15	1.23	0.6	0.98	3.77	10.12	9.51	2.31	1.26	1.39	1.33	2.08	1.83	1.8	2.18	47.4
12 - 19	5.14	1.79	0.25	0.21	0.42	1.65	3.32	2.12	0.48	0.46	0.45	1.48	1.52	1.6	1.31	2.02	24.22
20 - 28	2.27	0.15	0	0.06	0.02	0.01	0.29	0.07	0.04	0.02	0.2	0.57	0.35	0.82	0.78	1.66	7.31
29 - 38	0.51	0	0	0	0	0	0	0	0	0	0.04	0.1	0.05	0.15	0.14	0.68	1.66
> 38	0	0	0	0	0	0	0	0	0	0	0	0.01	0.01	0.05	0	0.04	0.11
<b>Totals</b>	<b>13.5</b>	<b>6.32</b>	<b>2.23</b>	<b>1.46</b>	<b>2.24</b>	<b>6.61</b>	<b>15.82</b>	<b>14.44</b>	<b>4.57</b>	<b>2.69</b>	<b>2.8</b>	<b>4.34</b>	<b>4.77</b>	<b>5.36</b>	<b>4.96</b>	<b>7.88</b>	<b>100</b>

Total Number of Valid Hours 8067  
 Total Number of Hours 8760



**WB EA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Wind Speed 20m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	1.15	1.19	0.77	0.77	1.01	1.42	2.11	2.42	1.98	1.6	1.14	1.24	1.47	1.21	1.28	1.21	21.97
6 - 11	3.4	2.61	1.41	0.63	1.11	1.96	6.71	10.74	2.63	1.27	1.38	2.03	2.18	1.68	1.69	2.65	44.09
12 - 19	3.11	3.4	0.43	0.52	0.5	0.81	4.46	3.8	0.52	0.41	0.42	1.34	2.24	1.49	1.09	2.53	27.08
20 - 28	0.84	0.75	0.02	0.05	0.07	0	0.48	0.11	0.09	0.01	0.01	0.54	1.35	0.74	0.42	0.49	5.98
29 - 38	0.14	0.04	0	0	0	0	0	0	0	0	0.01	0.09	0.19	0.18	0.06	0.05	0.75
> 38	0	0	0	0	0	0	0	0	0	0	0	0.02	0.05	0.06	0	0	0.13
<b>Totals</b>	<b>8.65</b>	<b>7.98</b>	<b>2.64</b>	<b>1.97</b>	<b>2.7</b>	<b>4.19</b>	<b>13.76</b>	<b>17.06</b>	<b>5.22</b>	<b>3.29</b>	<b>2.97</b>	<b>5.27</b>	<b>7.47</b>	<b>5.35</b>	<b>4.54</b>	<b>6.93</b>	<b>100</b>

Total Number of Valid Hours 8522  
 Total Number of Hours 8760

**WB EA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Wind Speed 45m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	0.82	0.66	0.73	0.6	0.77	0.71	1.22	1.06	0.79	0.54	0.52	0.64	0.64	0.61	0.71	0.77	11.78
6 - 11	2.12	1.91	1.17	0.55	1.13	1.99	3.98	3.75	1.84	1.22	0.84	0.95	1.4	1.39	1.65	1.67	27.56
12 - 19	3.46	3.95	0.91	0.49	0.55	1.72	6.27	7.86	2.48	1.04	1.08	1.64	2.32	1.52	1.24	2.56	39.08
20 - 28	2.23	1.84	0.07	0.19	0.29	0.08	2.52	2.2	0.93	0.42	0.32	0.99	1.78	1.54	0.45	1.59	17.44
29 - 38	0.64	0.46	0	0.01	0.01	0	0.28	0.06	0.09	0.01	0.32	0.57	0.44	0.27	0.32	3.57	3.57
> 38	0.15	0.02	0	0	0	0	0	0	0	0	0.01	0.11	0.07	0.09	0.09	0.02	0.58
<b>Totals</b>	<b>9.42</b>	<b>8.83</b>	<b>2.87</b>	<b>1.85</b>	<b>2.76</b>	<b>4.5</b>	<b>14.27</b>	<b>14.92</b>	<b>6.14</b>	<b>3.32</b>	<b>2.78</b>	<b>4.64</b>	<b>6.77</b>	<b>5.59</b>	<b>4.4</b>	<b>6.92</b>	<b>100</b>

Total Number of Valid Hours 8491  
 Total Number of Hours 8760

**WB EA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Wind Speed 75m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	0.58	0.54	0.66	0.64	0.79	0.84	1.24	0.93	0.79	0.52	0.47	0.38	0.47	0.5	0.6	0.57	10.51
6 - 11	1.64	1.4	1.12	0.66	1.09	2.47	4.28	2.58	1.25	1.13	0.87	0.87	0.84	0.96	1.4	1.55	24.11
12 - 19	3.01	3.49	1.27	0.64	0.64	0.77	5.45	4.49	2.11	0.94	1.16	1.38	1.84	1.51	1.32	2.26	32.28
20 - 28	2.36	2.97	0.25	0.24	0.28	0.02	3.88	4.26	1.99	0.86	0.53	1.38	2.13	1.45	0.65	1.59	24.85
29 - 38	1.13	0.96	0.01	0.01	0.04	0	0.44	0.64	0.42	0.18	0.08	0.67	0.79	0.94	0.28	0.54	7.14
> 38	0.19	0.18	0	0	0	0	0	0.01	0.02	0	0.01	0.14	0.14	0.19	0.17	0.06	1.11
<b>Totals</b>	<b>8.91</b>	<b>9.54</b>	<b>3.31</b>	<b>2.18</b>	<b>2.83</b>	<b>4.09</b>	<b>15.29</b>	<b>12.92</b>	<b>6.59</b>	<b>3.63</b>	<b>3.13</b>	<b>4.82</b>	<b>6.22</b>	<b>5.54</b>	<b>4.42</b>	<b>6.57</b>	<b>100</b>

Total Number of Valid Hours 8478  
 Total Number of Hours 8760

**WB EA - Mannix (AMS 5)**  
**Annual Summary for the Year 2014**  
**Wind Speed 90m (km/h) Average**

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	0.41	0.61	0.49	0.62	0.57	0.67	0.85	0.6	0.7	0.43	0.41	0.51	0.47	0.56	0.6	0.47	8.95
6 - 11	1.55	1.09	0.86	0.64	0.84	2.3	2.76	1.87	1.04	1.01	0.8	0.85	0.98	1.44	1.5	2.03	20.33
12 - 19	3.36	2.67	0.97	0.72	0.89	3.59	4.41	3.08	1.57	0.95	1.2	1.48	2.11	1.26	1.56	2.28	32.12
20 - 28	3.19	2.05	0.24	0.33	0.3	1.2	5.14	3.41	1.62	0.78	0.73	1.91	2.03	1.48	0.73	1.93	27.07
29 - 38	1.72	0.31	0.01	0.07	0.12	0.06	1.5	1.36	0.55	0.25	0.14	0.92	0.93	0.81	0.41	0.97	10.13
> 38	0.42	0.01	0	0	0	0	0.05	0.04	0.02	0	0.04	0.27	0.17	0.18	0.12	0.1	1.41
<b>Totals</b>	<b>10.64</b>	<b>6.74</b>	<b>2.56</b>	<b>2.39</b>	<b>2.72</b>	<b>7.83</b>	<b>14.71</b>	<b>10.35</b>	<b>5.51</b>	<b>3.42</b>	<b>3.32</b>	<b>5.89</b>	<b>6.55</b>	<b>5.27</b>	<b>4.86</b>	<b>7.24</b>	<b>100</b>

Total Number of Valid Hours 8383  
 Total Number of Hours 8760





WBEA - Patricia McInnes (AMS 6)  
 Annual Summary for the Year 2014  
 Wind Speed 10m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	0.84	0.72	0.63	0.91	0.95	1.32	1.8	2.45	2.85	2.59	1.88	1.51	1.57	1.91	1.87	1.33	25.14
6 - 11	3.02	2.05	1.4	1.07	1.94	4.85	4.92	2.55	2.47	2.53	3.38	2.15	1.55	2.08	2.32	4.3	42.58
12 - 19	4.38	1.21	0.31	0.49	0.76	4.03	1.48	0.56	0.68	0.78	1.85	1.76	1.61	1.64	1.33	3.4	26.28
20 - 28	1.22	0.13	0	0.16	0.21	0.2	0.06	0.03	0.09	0.1	0.16	0.55	0.62	0.52	0.63	0.78	5.46
29 - 38	0.08	0	0	0	0	0	0	0	0	0	0.01	0.08	0.09	0.08	0	0.05	0.39
> 38	0	0	0	0	0	0	0	0	0	0	0	0.01	0.05	0.05	0.05	0	0.15
<b>Totals</b>	<b>9.54</b>	<b>4.1</b>	<b>2.34</b>	<b>2.63</b>	<b>3.86</b>	<b>10.4</b>	<b>8.26</b>	<b>5.6</b>	<b>6.09</b>	<b>6</b>	<b>7.29</b>	<b>6.06</b>	<b>5.49</b>	<b>6.27</b>	<b>6.21</b>	<b>9.86</b>	<b>100</b>

Total Number of Valid Hours 8702  
 Total Number of Hours 8760



WBEA - Athabasca Valley (AMS 7)  
 Annual Summary for the Year 2014  
 Wind Speed 10m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	2.24	1.34	1.29	1.52	2.93	3.97	5.67	3.05	2.37	2.33	3.4	2.5	1.97	1.68	1.9	2.51	40.68
6 - 11	3.92	0.95	0.33	0.53	1.18	2.46	11.46	2.74	0.5	0.79	2.85	1.44	0.82	0.66	1.45	5.13	37.24
12 - 19	2.41	0.16	0.1	0.09	0.48	0.7	3.84	0.56	0.19	0.06	1.01	1.11	0.88	0.9	0.84	4.71	18.04
20 - 28	0.33	0	0	0	0.11	0.02	0.09	0.01	0	0	0.07	0.21	0.61	0.47	0.63	0.95	3.5
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0.01	0.16	0.11	0.08	0.01	0.38
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0.03	0.03	0.09	0	0.16
<b>Totals</b>	<b>8.9</b>	<b>2.45</b>	<b>1.73</b>	<b>2.14</b>	<b>4.71</b>	<b>7.16</b>	<b>21.06</b>	<b>6.36</b>	<b>3.07</b>	<b>3.17</b>	<b>7.33</b>	<b>5.27</b>	<b>4.48</b>	<b>3.87</b>	<b>4.99</b>	<b>13.31</b>	<b>100</b>

Total Number of Valid Hours 8731  
 Total Number of Hours 8760



WBFA - Fort Chipewyan (AMS 8)  
 Annual Summary for the Year 2014  
 Wind Speed 10m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	0.95	0.58	0.45	0.55	0.94	1.09	0.69	0.54	0.48	0.56	0.47	0.99	1.05	1.12	0.97	1.06	12.49
6 - 11	2.23	0.75	0.93	1.37	3.13	3.52	1.06	1.06	0.87	0.99	1.61	1.46	2.77	4.16	5.1	5.02	36.03
12 - 19	0.91	0.35	0.77	2.45	6.27	2.95	1.36	1.58	1.58	0.83	0.77	0.94	2.2	2.89	3.79	3.5	33.11
20 - 28	0.06	0	0.46	2.81	5.29	1.06	0.48	0.76	1.18	0.45	0.08	0.12	0.67	0.44	0.86	0.45	15.16
29 - 38	0	0	0.1	1.1	1.05	0.14	0.02	0.03	0.18	0.06	0.02	0	0.01	0.05	0.01	0.01	2.8
> 38	0	0	0	0.31	0.02	0	0	0	0.02	0.01	0	0	0.01	0	0	0.02	0.4
<b>Totals</b>	<b>4.15</b>	<b>1.67</b>	<b>2.72</b>	<b>8.59</b>	<b>16.71</b>	<b>8.76</b>	<b>3.61</b>	<b>3.97</b>	<b>4.33</b>	<b>2.9</b>	<b>2.96</b>	<b>3.51</b>	<b>6.71</b>	<b>8.65</b>	<b>10.72</b>	<b>10.06</b>	<b>100</b>

Total Number of Valid Hours 8692  
 Total Number of Hours 8760



WBEA - Barge Landing (AMS 9)  
Annual Summary for the Year 2014  
Wind Speed 10m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	3.42	2.21	2.21	2.16	2.21	2.57	3.53	4.86	5.06	3.76	2.96	3.01	2.38	2.7	3.88	7.11	54.04
6 - 11	4.42	5.14	3.27	1.25	0.38	0.66	2.62	4.43	6.26	2.55	1.61	1.68	0.92	0.91	1.21	2.13	39.45
12 - 19	0.93	0.82	0.08	0.14	0.02	0.05	0.51	0.69	0.48	0.28	0.28	0.84	0.17	0.2	0.47	0.32	6.27
20 - 28	0	0.01	0	0	0	0	0	0	0	0	0	0.1	0.02	0.03	0.05	0	0.22
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02	0	0	0.02
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>8.77</b>	<b>8.18</b>	<b>5.56</b>	<b>3.56</b>	<b>2.61</b>	<b>3.27</b>	<b>6.66</b>	<b>9.98</b>	<b>11.81</b>	<b>6.59</b>	<b>4.84</b>	<b>5.64</b>	<b>3.5</b>	<b>3.87</b>	<b>5.6</b>	<b>9.56</b>	<b>100</b>

Total Number of Valid Hours      8690  
Total Number of Hours                8760



WBEA - Lower Camp (AMS 11)  
 Annual Summary for the Year 2014  
 Wind Speed 10m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	2.44	1.91	1.6	1.74	1.68	2.67	3.26	1.28	0.6	0.58	0.39	0.67	1.71	4.79	5.83	4.45	35.58
6 - 11	3.68	1.33	0.81	0.41	0.44	1.98	11.78	2.67	0.78	0.44	0.62	1.25	1.29	1.32	2.99	4.92	36.72
12 - 19	3.91	1.3	0.21	0.12	0.32	1.97	6.56	0.51	0.14	0.12	0.24	1.38	1.74	1.4	0.86	1.28	22.04
20 - 28	0.85	0.21	0	0	0.08	0.59	1.37	0	0	0	0.01	0.41	0.58	0.54	0.28	0.15	5.06
29 - 38	0.05	0	0	0	0	0	0.26	0	0	0	0	0.05	0.06	0.07	0.05	0	0.53
> 38	0	0	0	0	0	0	0.01	0	0	0	0	0	0.01	0.03	0	0	0.06
<b>Totals</b>	<b>10.93</b>	<b>4.75</b>	<b>2.61</b>	<b>2.27</b>	<b>2.52</b>	<b>7.2</b>	<b>23.24</b>	<b>4.45</b>	<b>1.52</b>	<b>1.13</b>	<b>1.27</b>	<b>3.76</b>	<b>5.38</b>	<b>8.16</b>	<b>10.01</b>	<b>10.8</b>	<b>100</b>

Total Number of Valid Hours 8692  
 Total Number of Hours 8760



WBEA - Millennium (AMS 12)  
Annual Summary for the Year 2014  
Wind Speed 10m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	2.28	1.28	0.92	0.88	0.94	1.33	2.66	5.52	4.52	3.74	2.69	1.69	1.12	1.74	2.03	2.66	36
6 - 11	5.72	2.2	1.26	0.68	0.91	2.68	6.9	5.27	3.16	2.99	1.55	1.3	1.96	1.77	2.37	2.22	42.94
12 - 19	5.75	2.88	0.37	0.14	0.09	1.12	3.54	0.41	0.48	0.3	0.06	0.33	0.71	1	0.68	0.52	18.37
20 - 28	1.23	0.85	0	0	0	0	0.15	0	0	0	0.01	0.05	0.02	0.08	0.06	0	2.44
29 - 38	0.11	0.09	0	0	0	0	0	0	0	0	0	0	0	0.02	0.01	0	0.24
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>15.1</b>	<b>7.3</b>	<b>2.54</b>	<b>1.7</b>	<b>1.94</b>	<b>5.14</b>	<b>13.25</b>	<b>11.21</b>	<b>8.16</b>	<b>7.03</b>	<b>4.31</b>	<b>3.36</b>	<b>3.82</b>	<b>4.61</b>	<b>5.15</b>	<b>5.4</b>	<b>100</b>

Total Number of Valid Hours      8724  
Total Number of Hours                8760



WBEA - Fort McKay South (AMS 13)  
 Annual Summary for the Year 2014  
 Wind Speed 10m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	5.27	3.05	1.61	1.17	1.54	1.87	3.12	4.3	7.67	7	8.74	5.16	2.9	2.68	2.89	4.15	63.1
6 - 11	8.11	3.52	0.61	0.13	0.28	0.74	2.33	3.79	2.63	1.54	1.28	2.33	1.02	1	0.95	1.81	32.07
12 - 19	2.34	0.37	0.02	0.02	0	0	0.03	0.09	0.21	0.09	0.28	0.42	0.13	0.14	0.21	0.39	4.75
20 - 28	0	0	0	0	0	0	0	0	0	0	0.02	0	0.03	0.01	0	0	0.07
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0.01
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>15.72</b>	<b>6.94</b>	<b>2.24</b>	<b>1.32</b>	<b>1.81</b>	<b>2.61</b>	<b>5.49</b>	<b>8.18</b>	<b>10.51</b>	<b>8.63</b>	<b>10.33</b>	<b>7.91</b>	<b>4.08</b>	<b>3.85</b>	<b>4.04</b>	<b>6.35</b>	<b>100</b>

Total Number of Valid Hours 8658  
 Total Number of Hours 8760



WBEA - Anzac (AMS 14)  
Annual Summary for the Year 2014  
Wind Speed 20m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	1.86	1.07	0.88	1.07	1.1	1.43	2.22	3.23	2.86	2.44	2.1	1.65	1.89	2.46	2.44	2.3	31.01
6 - 11	2.41	1.16	0.87	1.16	1.7	3.51	7.45	5.86	1.72	1.05	1.32	1.2	3.09	7.96	5.84	5.23	51.53
12 - 19	0.56	0.07	0.08	0.27	0.82	0.78	1.95	1.63	0.51	0.52	0.54	0.22	1.26	3.56	1.41	2.53	16.71
20 - 28	0.01	0	0	0	0.07	0.01	0	0.12	0.01	0	0	0.07	0.04	0.09	0.11	0.12	0.65
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0.02	0.05	0.04	0	0.11
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>4.84</b>	<b>2.3</b>	<b>1.83</b>	<b>2.5</b>	<b>3.7</b>	<b>5.73</b>	<b>11.62</b>	<b>10.85</b>	<b>5.09</b>	<b>4.01</b>	<b>3.96</b>	<b>3.14</b>	<b>6.3</b>	<b>14.11</b>	<b>9.84</b>	<b>10.18</b>	<b>100</b>

Total Number of Valid Hours                    8510  
Total Number of Hours                            8760





WBFA - CNRL Horizon (AMS 15)  
 Annual Summary for the Year 2014  
 Wind Speed 10m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	3.08	2.96	1.66	1.55	1.28	1.18	1.61	2.17	3.01	3.73	2.87	1.83	1.43	1.45	1.72	2.17	33.7
6 - 11	4.15	6.36	2.39	1.58	0.81	1.04	1.65	3.46	7.57	6.7	3.91	1.38	1.57	1.92	1.28	1.04	46.81
12 - 19	2.21	4.06	1.01	0.19	0.06	0.06	0.3	1.04	2.16	1.19	0.87	0.57	0.75	1.15	0.83	0.75	17.21
20 - 28	0.48	0.4	0.06	0.03	0.01	0	0	0	0.09	0.08	0.06	0.05	0.05	0.29	0.38	0.23	2.2
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0.02	0.03
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0.03	0.02	0	0	0.06
<b>Totals</b>	<b>9.91</b>	<b>13.78</b>	<b>5.11</b>	<b>3.36</b>	<b>2.16</b>	<b>2.28</b>	<b>3.56</b>	<b>6.68</b>	<b>12.83</b>	<b>11.7</b>	<b>7.71</b>	<b>3.83</b>	<b>3.84</b>	<b>4.84</b>	<b>4.21</b>	<b>4.22</b>	<b>100</b>

Total Number of Valid Hours 8746  
 Total Number of Hours 8760



WBFA - Shell Muskeg River (AMS 16)  
 Annual Summary for the Year 2014  
 Wind Speed 20m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	0.33	0.29	0.47	0.64	1.15	1.67	1.95	3.25	4.22	5.18	2.66	1.34	0.81	0.69	0.63	0.49	25.76
6 - 11	1.09	1.37	1.63	2.66	1.48	1.18	2.04	3.81	6.56	9.67	3.12	1.48	1.34	1.45	1.66	1.23	41.77
12 - 19	2.47	3.29	4.97	2.11	0.44	0.26	0.74	0.79	2.12	1.72	1.08	1.29	1.13	1.18	0.71	0.88	25.19
20 - 28	0.81	1.96	2.05	0.19	0.03	0	0.02	0	0.09	0.08	0.17	0.45	0.32	0.18	0.25	0.1	6.72
29 - 38	0.05	0.21	0.01	0	0	0	0	0	0	0	0.02	0.09	0.03	0.03	0.02	0	0.47
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0.06	0.01	0	0.08
<b>Totals</b>	<b>4.75</b>	<b>7.11</b>	<b>9.13</b>	<b>5.6</b>	<b>3.09</b>	<b>3.12</b>	<b>4.75</b>	<b>7.86</b>	<b>12.99</b>	<b>16.65</b>	<b>7.05</b>	<b>4.65</b>	<b>3.65</b>	<b>3.6</b>	<b>3.29</b>	<b>2.7</b>	<b>100</b>

Total Number of Valid Hours 8729  
 Total Number of Hours 8760



WBEA - Wapasu (AMS 17)  
Annual Summary for the Year 2014  
Wind Speed 10m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	2.48	2.09	1.73	1.6	1.9	2.7	4.18	3.6	2.45	1.44	1.05	1.12	1.07	1.17	1.37	1.73	31.67
6 - 11	5.47	2.48	2	0.8	1.03	2.17	5.03	7.92	5.63	3.13	2.14	1.78	1.72	1.55	2.02	5.1	49.97
12 - 19	1.36	0.24	0.09	0.1	0.45	1.01	3.19	3.94	1.29	0.52	0.44	0.53	0.61	0.36	0.51	2.48	17.13
20 - 28	0	0	0	0	0.06	0.27	0.24	0.41	0	0	0	0.07	0.02	0.03	0.03	0.08	1.22
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0.01
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>9.31</b>	<b>4.81</b>	<b>3.82</b>	<b>2.5</b>	<b>3.44</b>	<b>6.14</b>	<b>12.64</b>	<b>15.87</b>	<b>9.36</b>	<b>5.09</b>	<b>3.64</b>	<b>3.51</b>	<b>3.42</b>	<b>3.13</b>	<b>3.93</b>	<b>9.39</b>	<b>100</b>

Total Number of Valid Hours           8629  
Total Number of Hours                   8760



WBEA - Firebag (AMS 19)  
Annual Summary for the Year 2014  
Wind Speed 10m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	1.7	1.19	0.47	0.4	0.32	0.49	1.19	1.24	1.43	1.04	1.36	1.31	0.72	0.77	1.01	1.06	15.69
6 - 11	4	2.45	1.46	0.84	0.62	1.43	2.27	2	2.82	2.92	3.9	2.57	1.93	1.73	2.03	2.77	35.73
12 - 19	3.53	1.61	0.67	0.54	0.52	1.48	2.4	3.61	4.55	4.05	3.11	1.68	1.16	1.95	1.43	3.06	35.36
20 - 28	0.67	0.12	0.1	0.02	0.02	0.22	0.52	1.53	2.22	2.27	0.72	0.35	0.64	0.35	0.3	1.09	11.14
29 - 38	0.32	0	0	0	0	0	0	0.59	0.59	0.1	0.22	0	0.02	0	0	0.22	2.08
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>10.23</b>	<b>5.36</b>	<b>2.69</b>	<b>1.8</b>	<b>1.48</b>	<b>3.63</b>	<b>6.38</b>	<b>8.97</b>	<b>11.61</b>	<b>10.38</b>	<b>9.32</b>	<b>5.91</b>	<b>4.47</b>	<b>4.79</b>	<b>4.77</b>	<b>8.2</b>	<b>100</b>

Total Number of Valid Hours      4047  
Total Number of Hours                8760



WB EA - Cenovus - Christina Lake (AMS500)  
 Annual Summary for the Year 2014  
 Wind Speed 10m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	1.11	1.22	1.32	1.87	2.13	2	3.01	3.14	2.91	1.19	0.41	0.41	0.43	0.46	0.35	0.73	22.7
6 - 11	2.71	1.8	2.25	1.85	2.28	2.03	2.13	3.29	2.58	3.77	3.93	1.37	1.09	2.84	3.8	2.46	40.17
12 - 19	1.11	0.81	1.14	0.96	1.22	1.09	1.17	1.39	1.17	1.57	2.53	3.12	3.14	3.52	3.52	2	29.46
20 - 28	0.23	0.18	0.28	0.2	0.18	0.15	0.2	0	0.05	0.05	0.23	0.94	1.06	1.34	1.01	0.68	6.79
29 - 38	0	0	0.03	0.05	0	0	0	0	0	0	0.03	0.1	0.25	0.1	0.1	0.03	0.68
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0.08	0.13	0	0	0.2
<b>Totals</b>	<b>5.17</b>	<b>4</b>	<b>5.02</b>	<b>4.94</b>	<b>5.8</b>	<b>5.27</b>	<b>6.51</b>	<b>7.83</b>	<b>6.71</b>	<b>6.59</b>	<b>7.12</b>	<b>5.93</b>	<b>6.05</b>	<b>8.38</b>	<b>8.79</b>	<b>5.9</b>	<b>100</b>

Total Number of Valid Hours 3948  
 Total Number of Hours 8760



WBEE - Statoil - Leismer (AMS501)  
 Annual Summary for the Year 2014  
 Wind Speed 10m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	2.05	2.05	1.62	1.58	1.47	2.52	2.27	3.38	2.19	1.22	1.26	2.41	2.48	1.55	1.4	2.3	31.76
6 - 11	2.41	1.33	1.19	1.4	3.6	4.82	5.14	2.7	1.98	1.91	0.18	1.69	4.24	1.8	2.77	3.96	41.12
12 - 19	0.61	0.11	0	0.18	0.9	0.83	1.15	1.94	0.5	0.43	0.04	0.25	5	2.59	4.5	2.81	21.83
20 - 28	0	0	0	0	0	0	0	0.14	0	0	0	0.04	1.76	1.58	0.9	0.54	4.96
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0.04	0.04	0.22	0.04	0.32
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>5.07</b>	<b>3.49</b>	<b>2.81</b>	<b>3.17</b>	<b>5.97</b>	<b>8.17</b>	<b>8.56</b>	<b>8.17</b>	<b>4.68</b>	<b>3.56</b>	<b>1.47</b>	<b>4.39</b>	<b>13.53</b>	<b>7.55</b>	<b>9.78</b>	<b>9.64</b>	<b>100</b>

Total Number of Valid Hours 2780  
 Total Number of Hours 8760



WBEA - ConocoPhillips - Surmont (AMS502)  
 Annual Summary for the Year 2014  
 Wind Speed 10m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	0.5	0.55	0.65	0.5	0.65	1.13	1.03	0.78	1.03	0.88	0.78	0.95	0.7	0.53	0.4	0.3	11.38
6 - 11	1.83	1.18	1.28	0.85	0.93	2.36	3.89	4.8	4.22	3.27	2.69	3.39	2.81	1.56	1.91	3.39	40.37
12 - 19	2.01	1.58	0.75	0.1	0.3	0.33	1.58	3.52	1.73	1.93	1.58	2.11	5.12	4.02	3.47	4.52	34.66
20 - 28	0.23	0.18	0	0	0.03	0.08	0.68	0.38	0.15	0.08	0.68	1.58	2.84	2.94	2.74	0.25	12.81
29 - 38	0.03	0	0	0	0	0	0	0	0	0	0.18	0.23	0.18	0	0.15	0	0.75
> 38	0	0	0	0	0	0	0	0	0	0	0.03	0	0	0	0	0	0.03
<b>Totals</b>	<b>4.6</b>	<b>3.49</b>	<b>2.69</b>	<b>1.46</b>	<b>1.91</b>	<b>3.89</b>	<b>7.18</b>	<b>9.47</b>	<b>7.13</b>	<b>6.15</b>	<b>5.93</b>	<b>8.26</b>	<b>11.66</b>	<b>9.04</b>	<b>8.67</b>	<b>8.47</b>	<b>100</b>

Total Number of Valid Hours 3981  
 Total Number of Hours 8760



WBEA - WBEA Mobile (MAMSL1)  
Annual Summary for the Year 2014  
Wind Speed 4m (km/h) Average

Wind Speed(km/h)	Wind Direction																Totals
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	
0 - 5	8.57	8.46	3.16	2.03	0.56	0.9	2.37	5.41	10.48	3.72	1.24	0.79	1.8	3.04	2.14	3.72	58.4
'6 - 11	7.44	6.2	0.45	0	0	0	1.24	2.48	8.68	0.79	0.9	1.8	2.37	1.01	1.01	2.48	36.87
12 - 19	1.92	0.45	0.11	0	0	0	0	0.11	0.34	0	0	0.56	1.13	0	0	0	4.62
20 - 28	0.11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.11
29 - 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>18.04</b>	<b>15.11</b>	<b>3.72</b>	<b>2.03</b>	<b>0.56</b>	<b>0.9</b>	<b>3.61</b>	<b>8</b>	<b>19.5</b>	<b>4.51</b>	<b>2.14</b>	<b>3.16</b>	<b>5.3</b>	<b>4.06</b>	<b>3.16</b>	<b>6.2</b>	<b>100</b>

Total Number of Valid Hours                    887  
Total Number of Hours                            912



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## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

### **CONTINUOUS AMBIENT AIR QUALITY MONITORING PROGRAM ANNUAL REPORT**

### **WIND ROSES ANNUAL 2014**

Operations and Data Collection by:  
Wood Buffalo Environmental Association  
Fort McMurray, Alberta

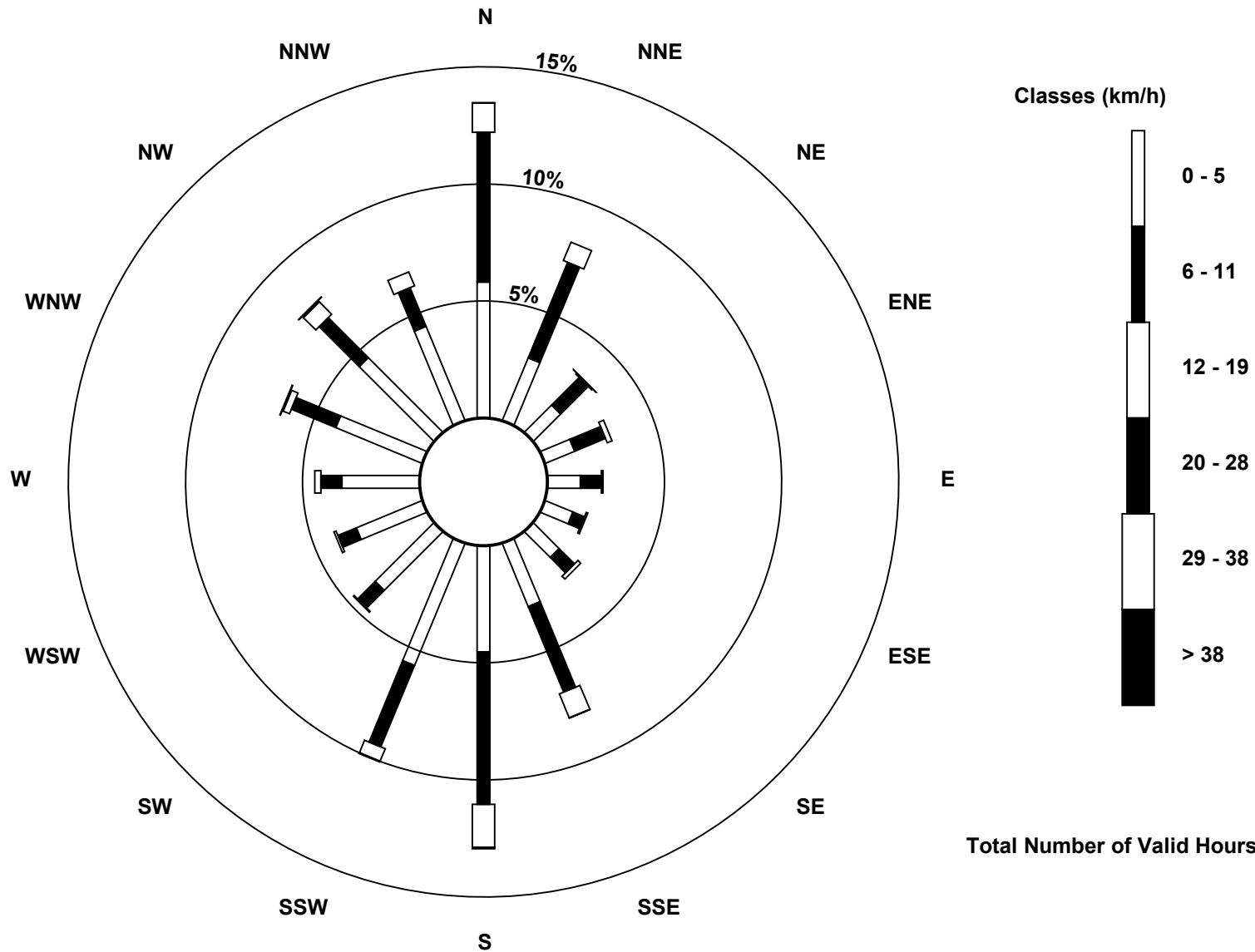
QA/QC, Data Validation and Reporting by:  
Aurora Atmospherics Inc.  
Calgary, Alberta

March 12, 2015

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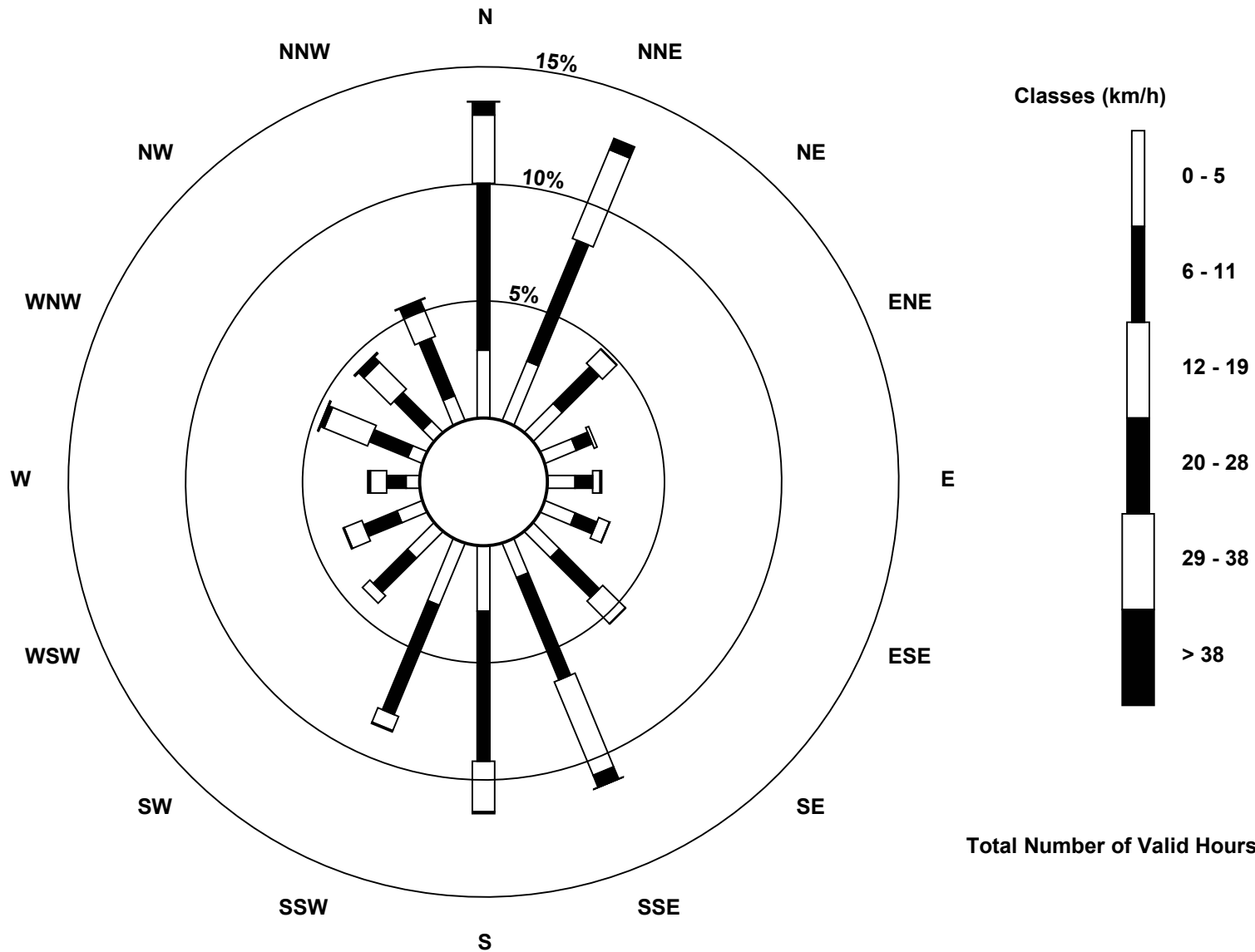
**Wood Buffalo Environmental Association  
Wind Rose 2014**

**Wind Speed (WS) - km/h  
Fort McKay - Bertha Ganter (AMS 1)**



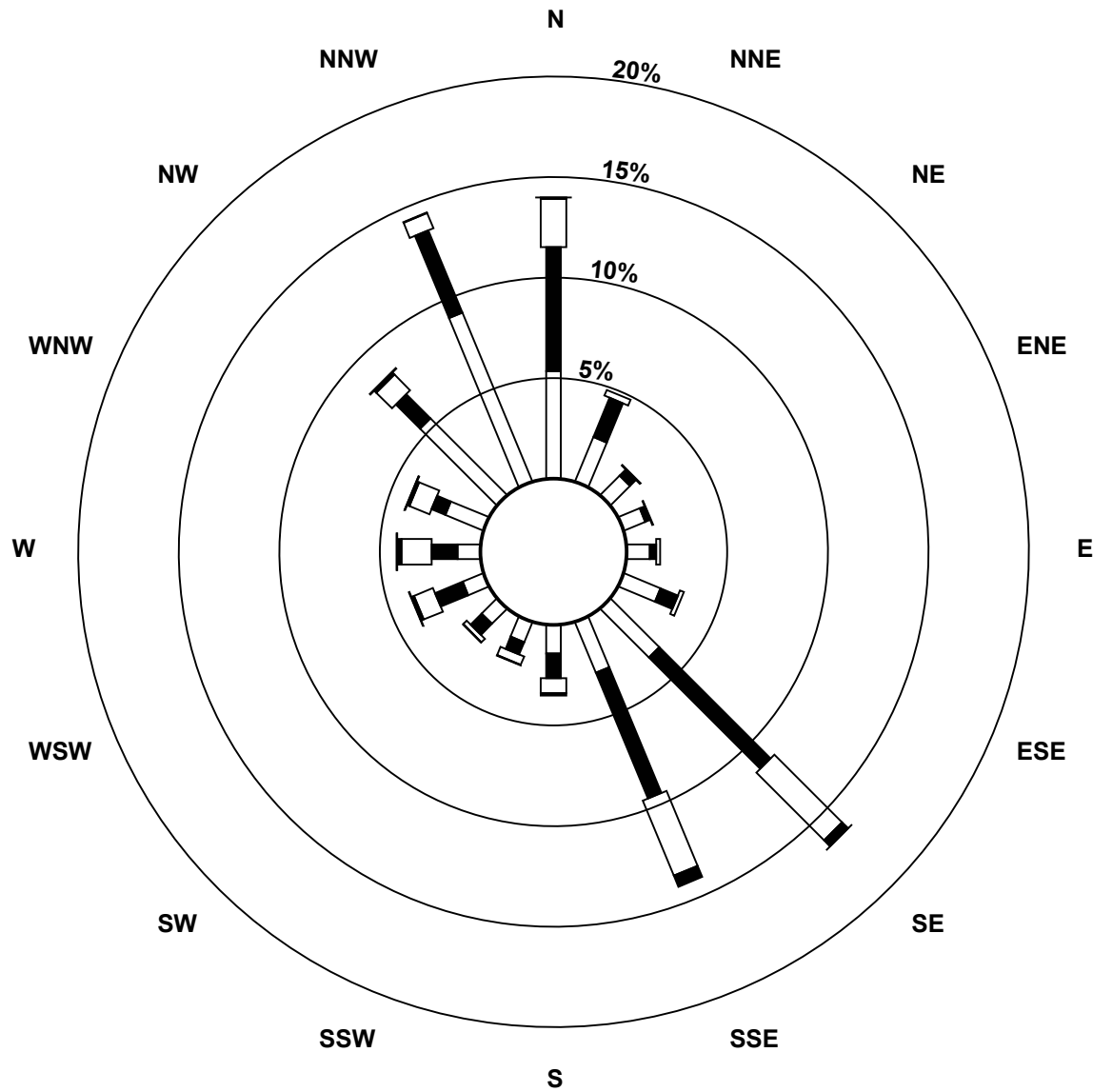
**Wood Buffalo Environmental Association  
Wind Rose 2014**

**Wind Speed (WS) - km/h  
Mildred Lake (AMS 2)**

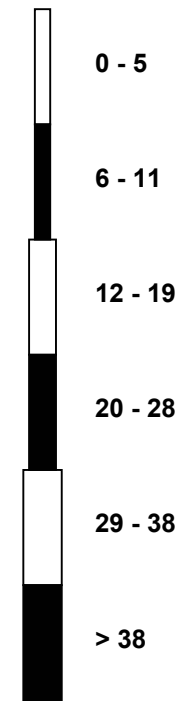


**Wood Buffalo Environmental Association  
Wind Rose 2014**

**Wind Speed 20 m (WS20m) - km/h  
Lower Camp Met Tower (AMS 3)**



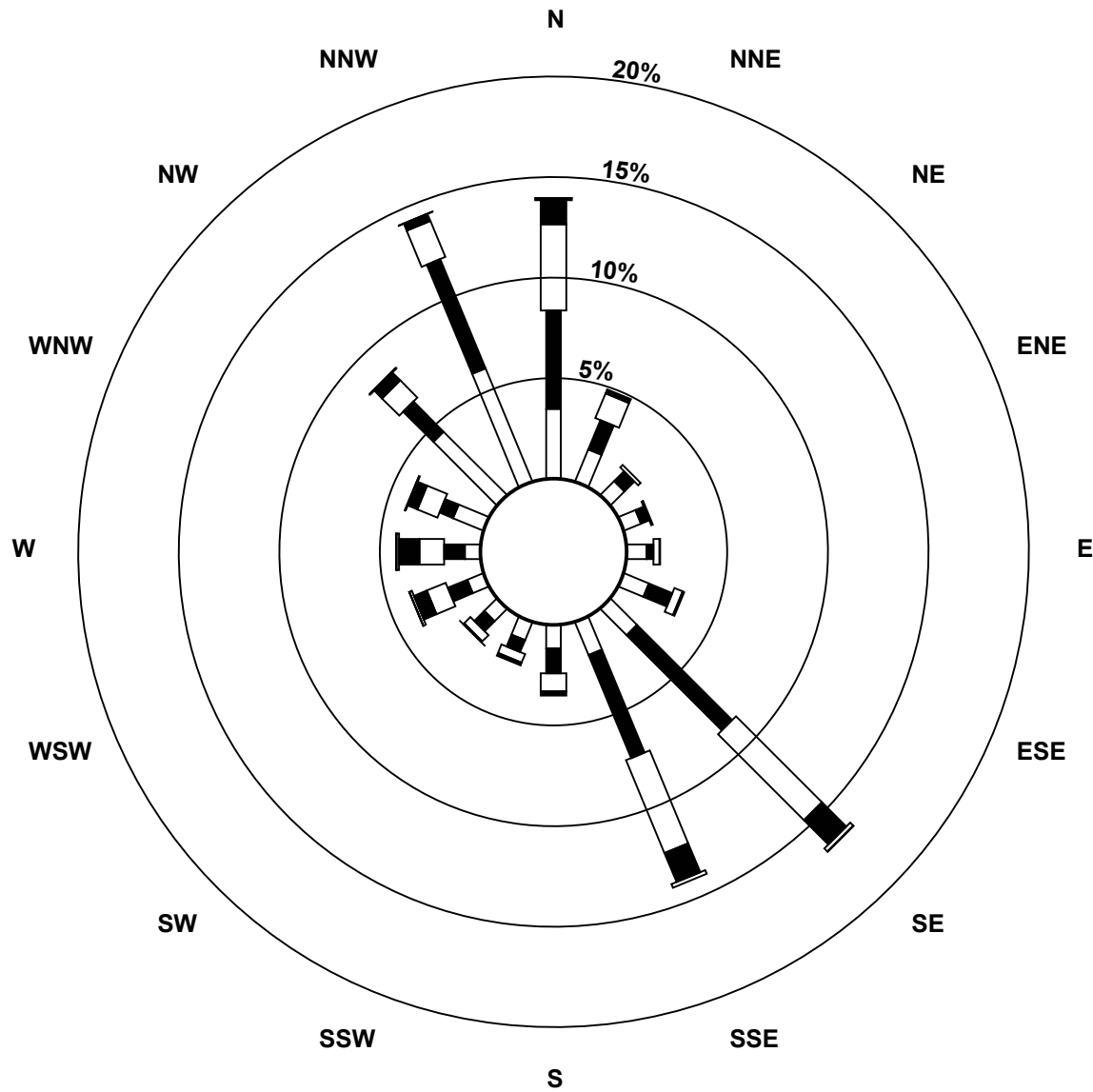
**Classes (km/h)**



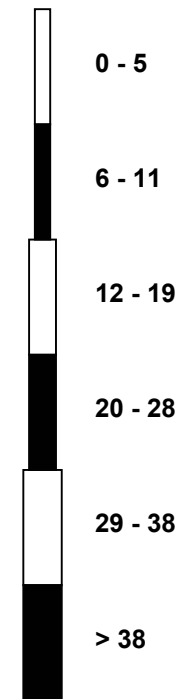
**Total Number of Valid Hours: 8708**

**Wood Buffalo Environmental Association  
Wind Rose 2014**

**Wind Speed 45 m (WS45m) - km/h  
Lower Camp Met Tower (AMS 3)**



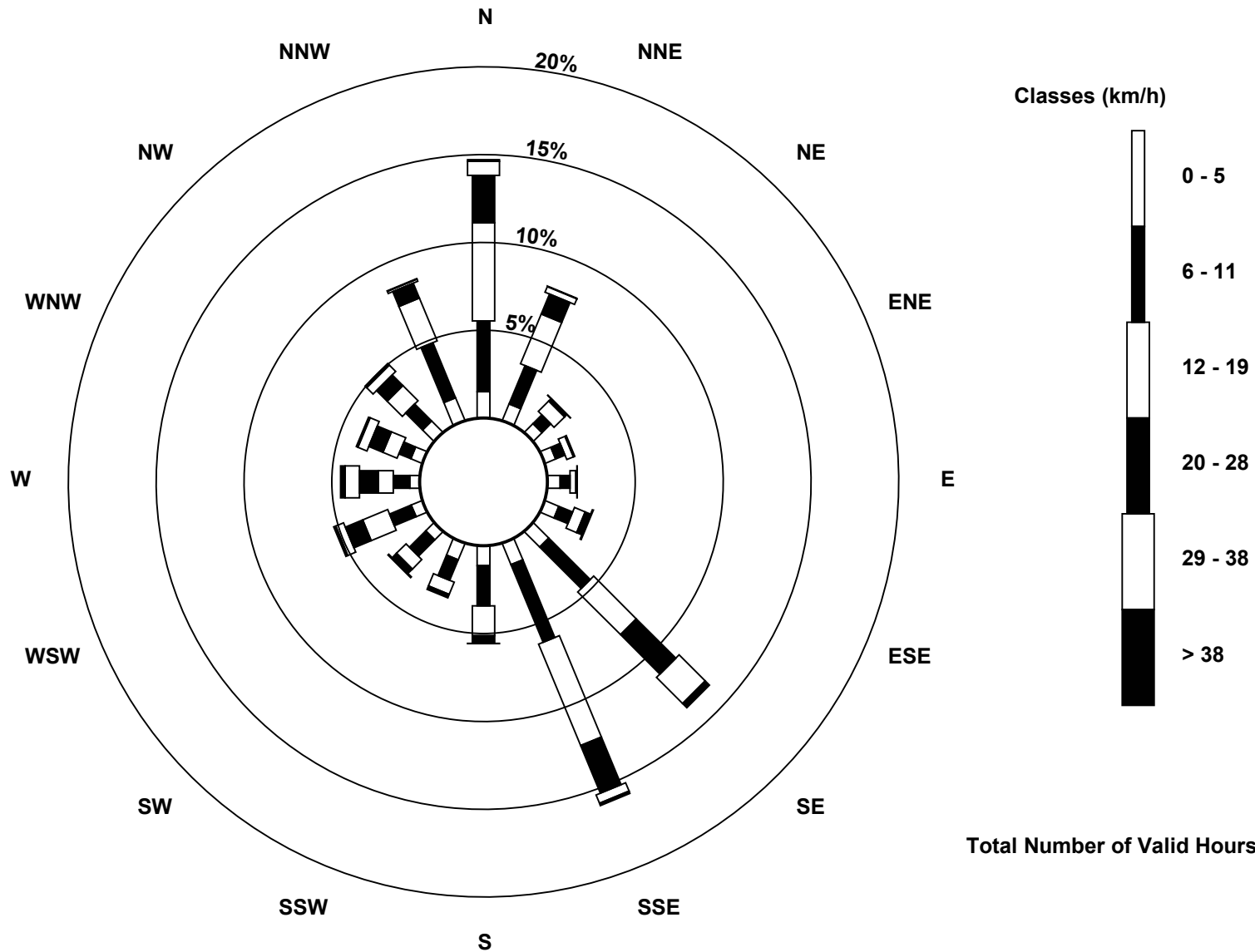
**Classes (km/h)**



**Total Number of Valid Hours: 8650**

Wood Buffalo Environmental Association  
 Wind Rose 2014

Wind Speed 100 m (WS100m) - km/h  
 Lower Camp Met Tower (AMS 3)

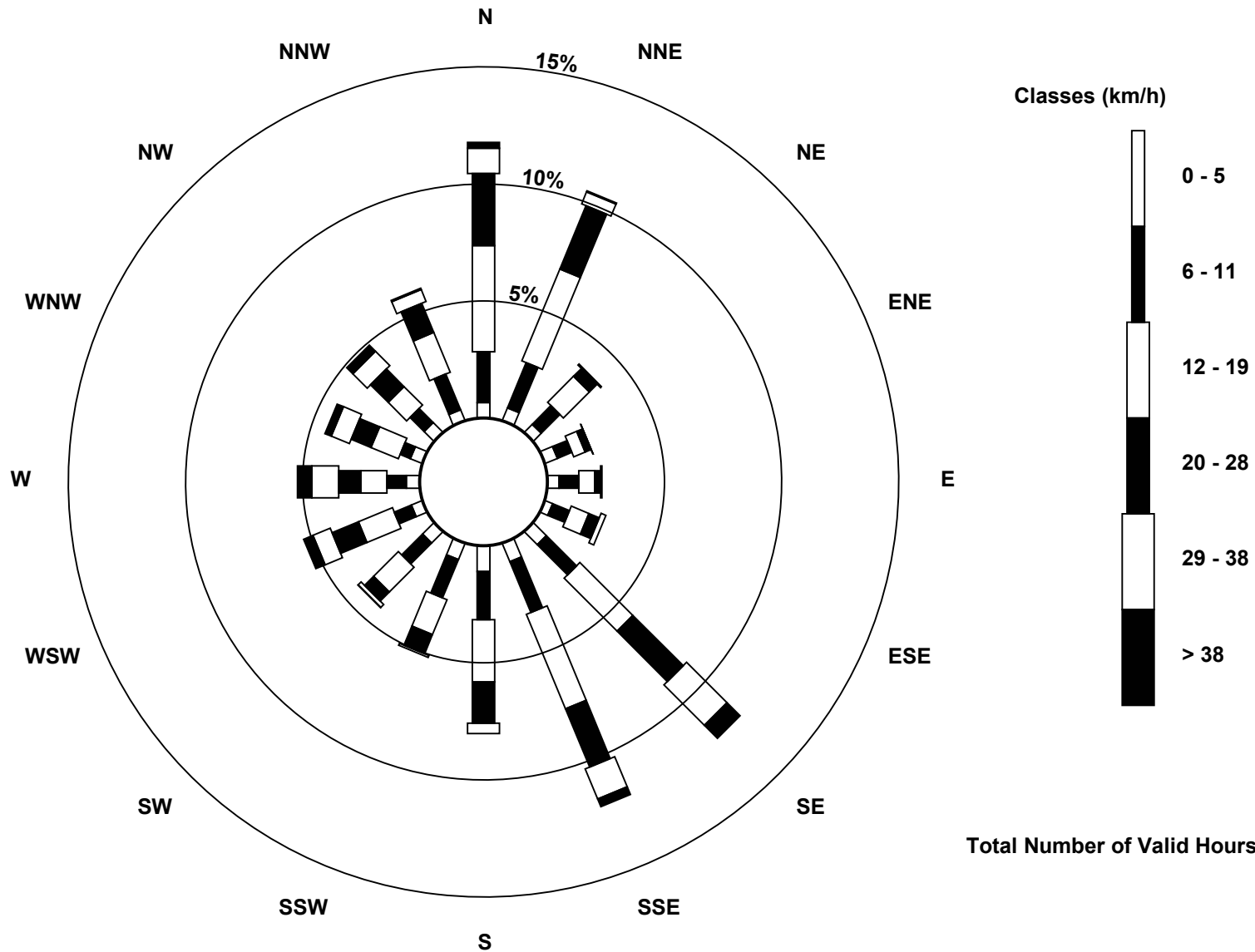


Total Number of Valid Hours: 8464



Wood Buffalo Environmental Association  
 Wind Rose 2014

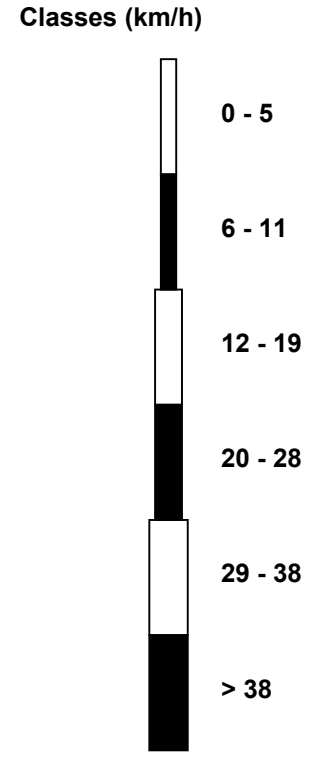
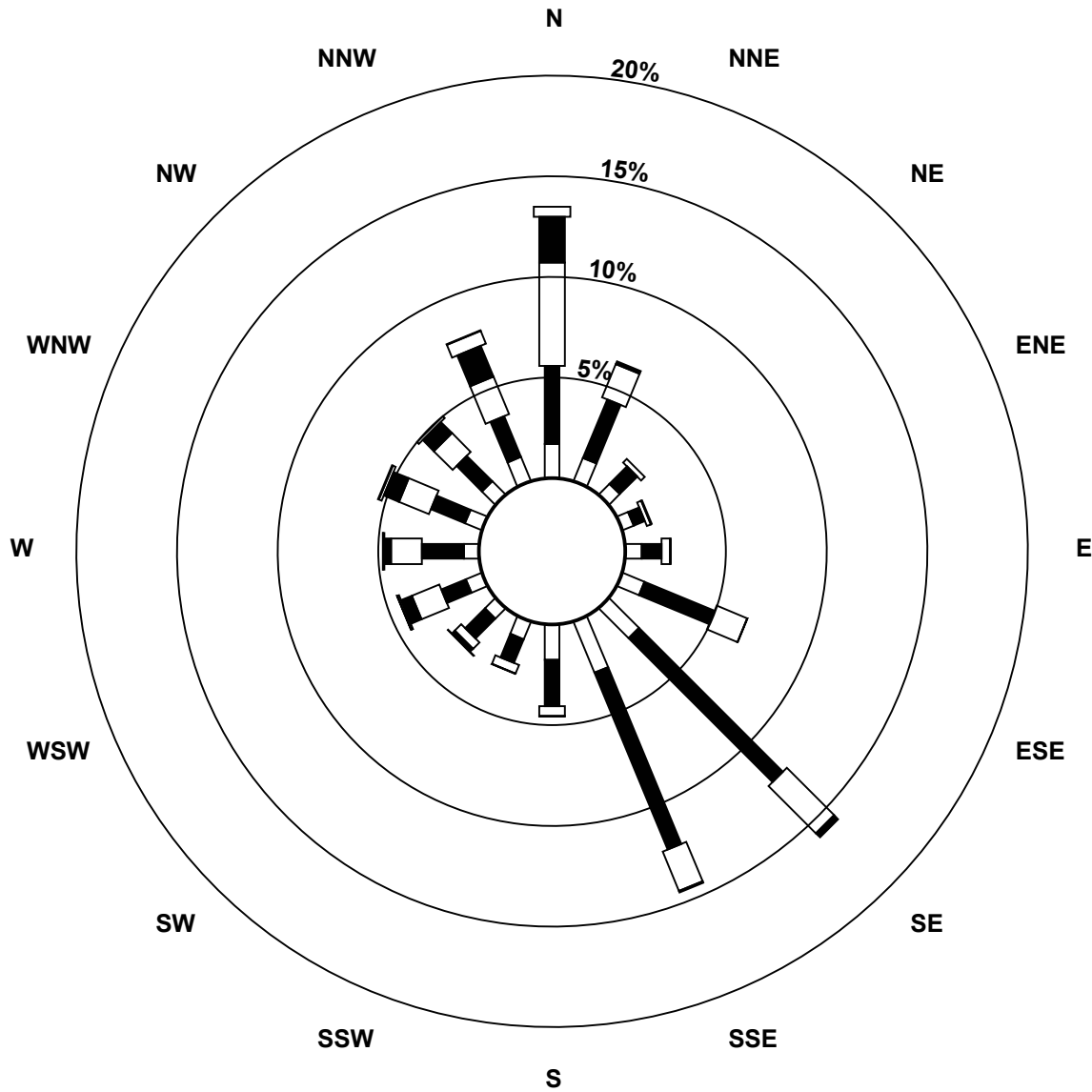
Wind Speed 167 m (WS167m) - km/h  
 Lower Camp Met Tower (AMS 3)



Total Number of Valid Hours: 7197

**Wood Buffalo Environmental Association  
Wind Rose 2014**

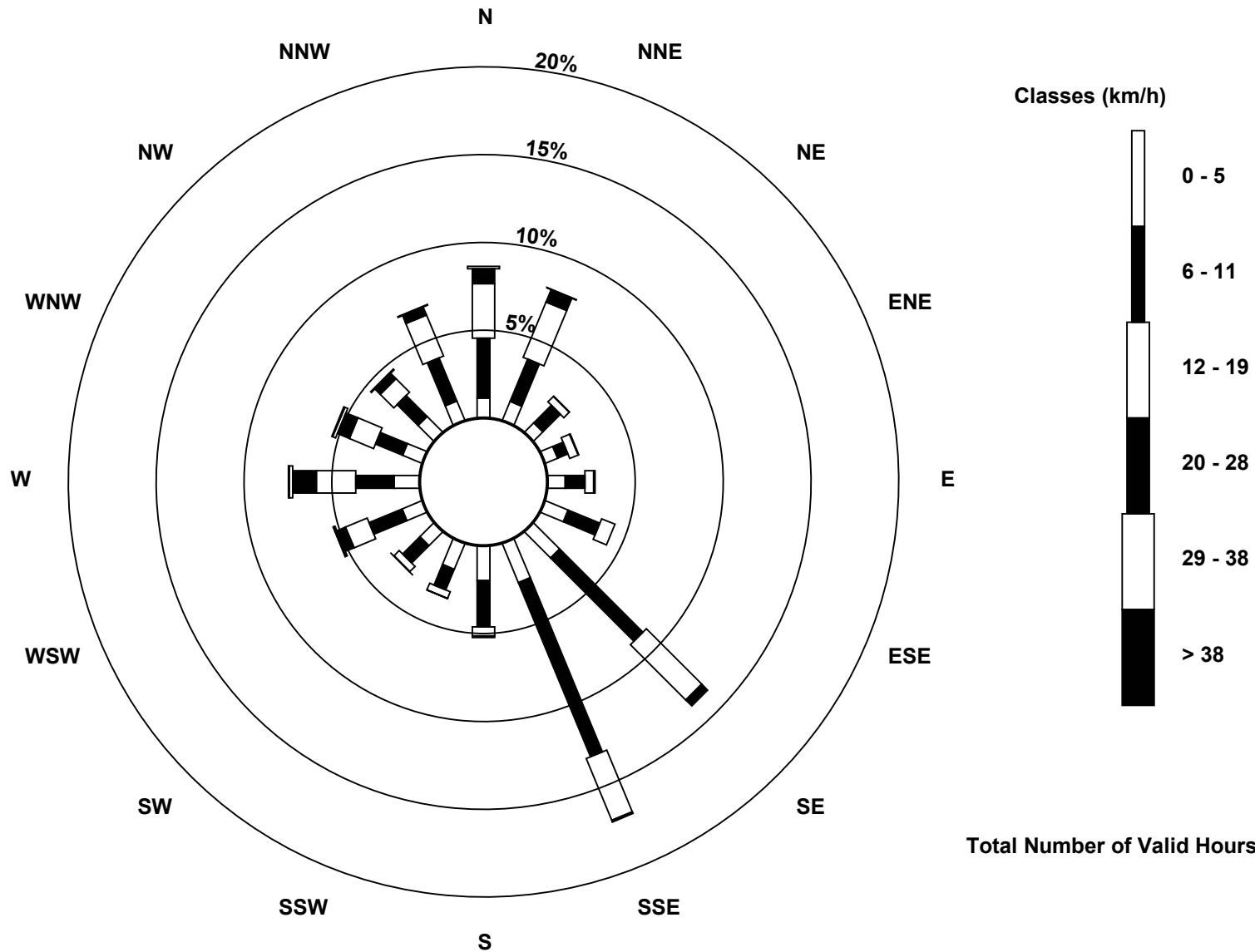
**Wind Speed (WS) - km/h  
Buffalo Viewpoint (AMS 4 )**



**Total Number of Valid Hours: 8067**

**Wood Buffalo Environmental Association  
Wind Rose 2014**

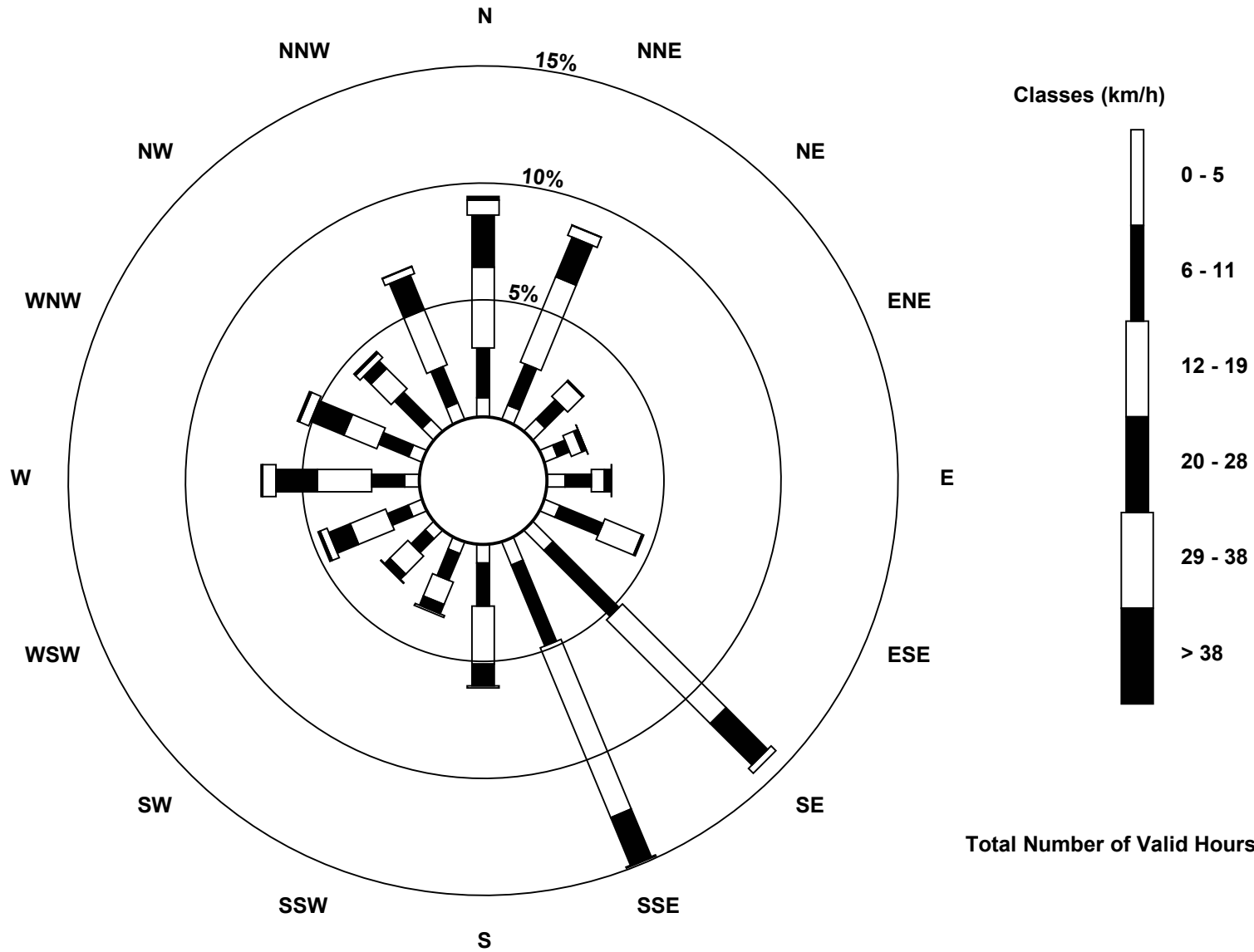
**Wind Speed 20 m (WS20m) - km/h  
Mannix (AMS 5)**



**Total Number of Valid Hours: 8522**

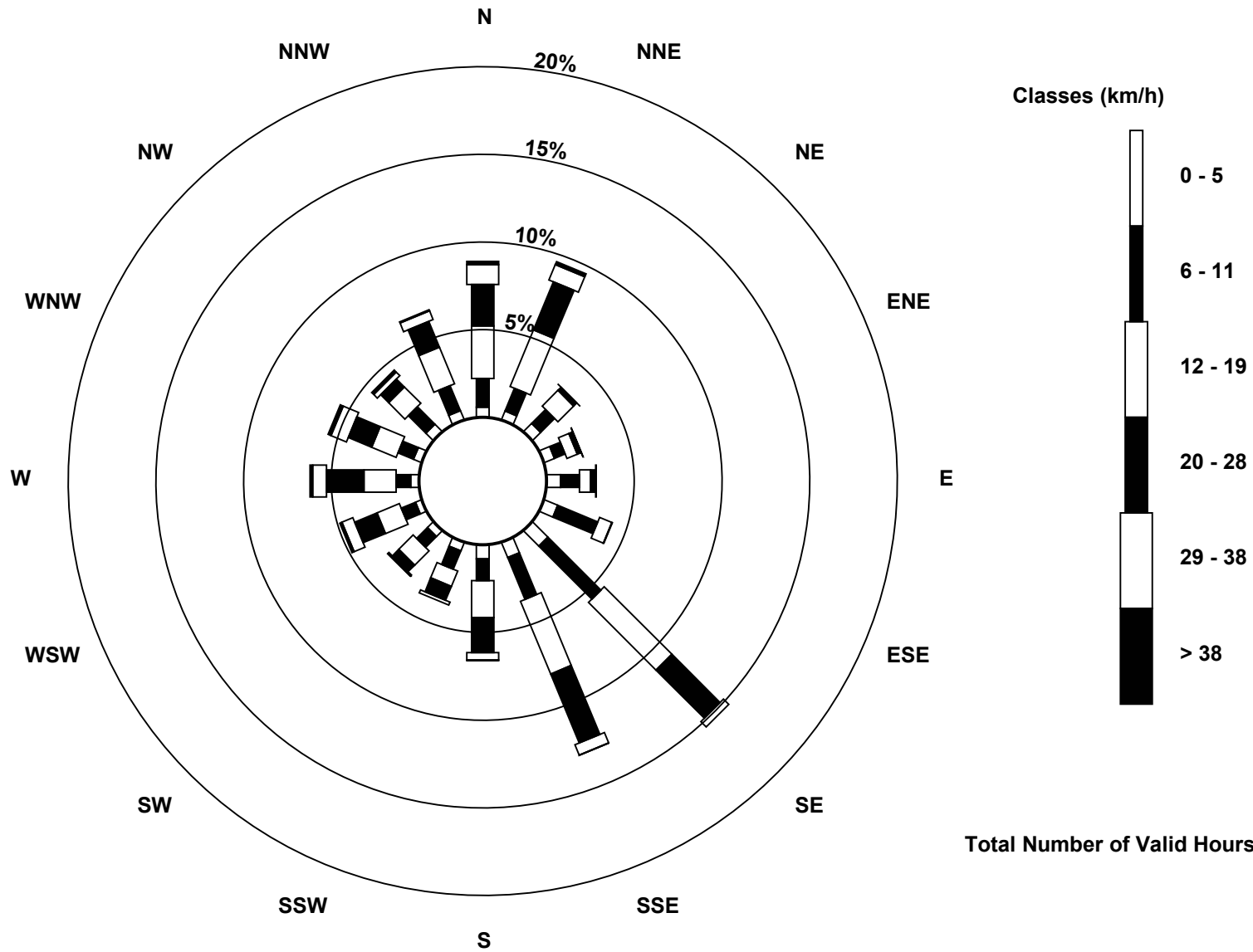
Wood Buffalo Environmental Association  
Wind Rose 2014

Wind Speed 45 m (WS45m) - km/h  
Mannix (AMS 5)



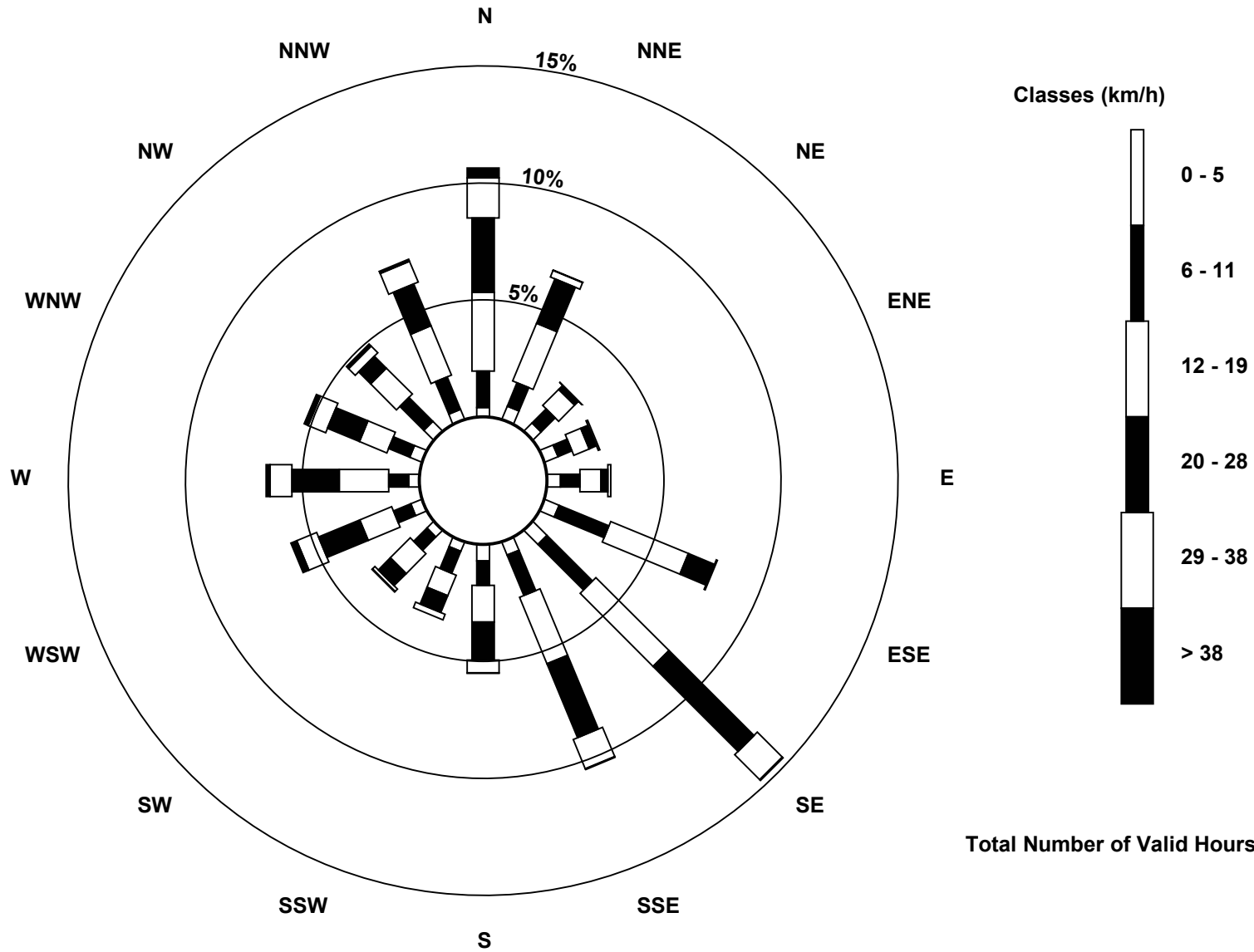
Wood Buffalo Environmental Association  
Wind Rose 2014

Wind Speed 75 m (WS75m) - km/h  
Mannix (AMS 5)



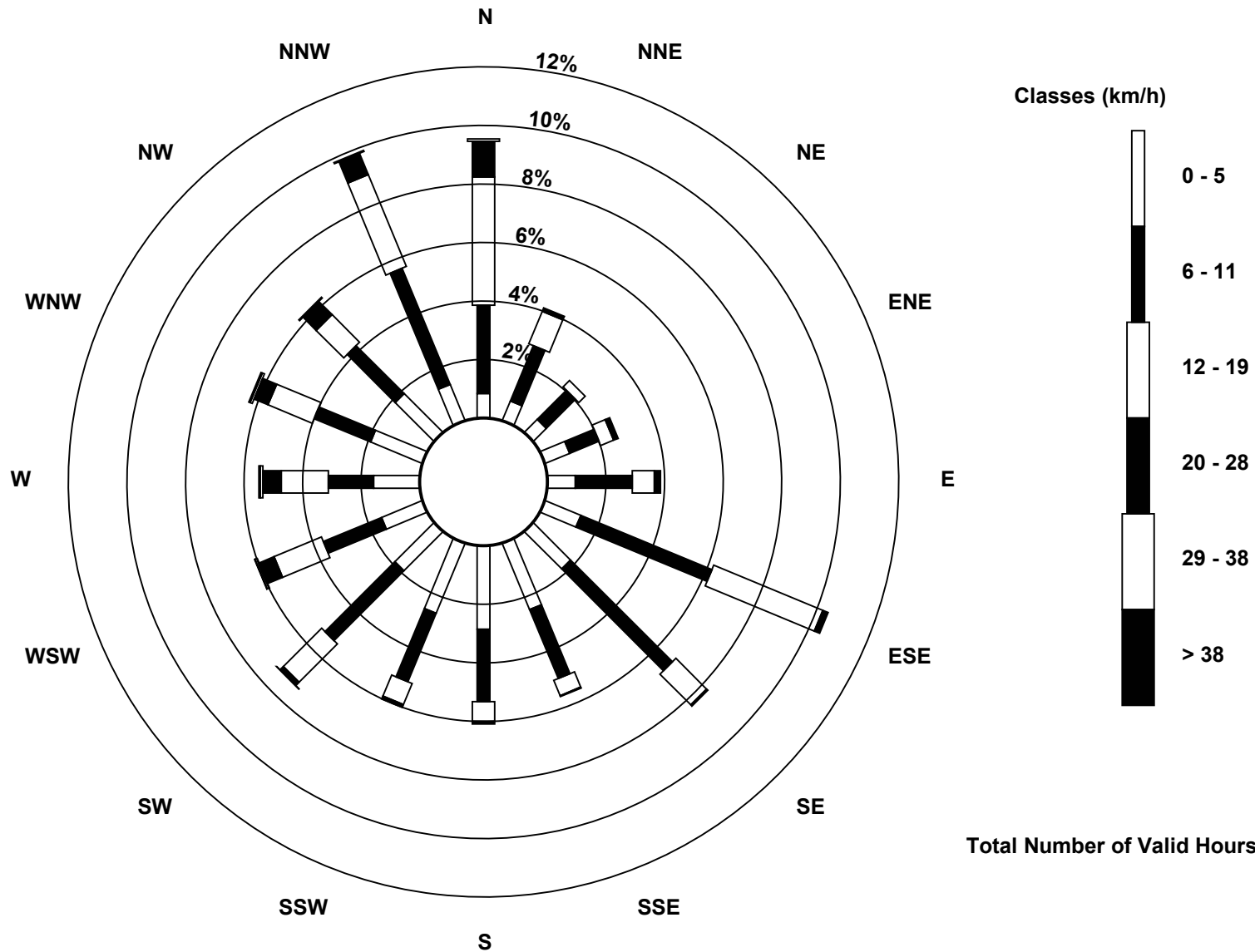
Wood Buffalo Environmental Association  
 Wind Rose 2014

Wind Speed 90 m (WS90m) - km/h  
 Mannix (AMS 5)



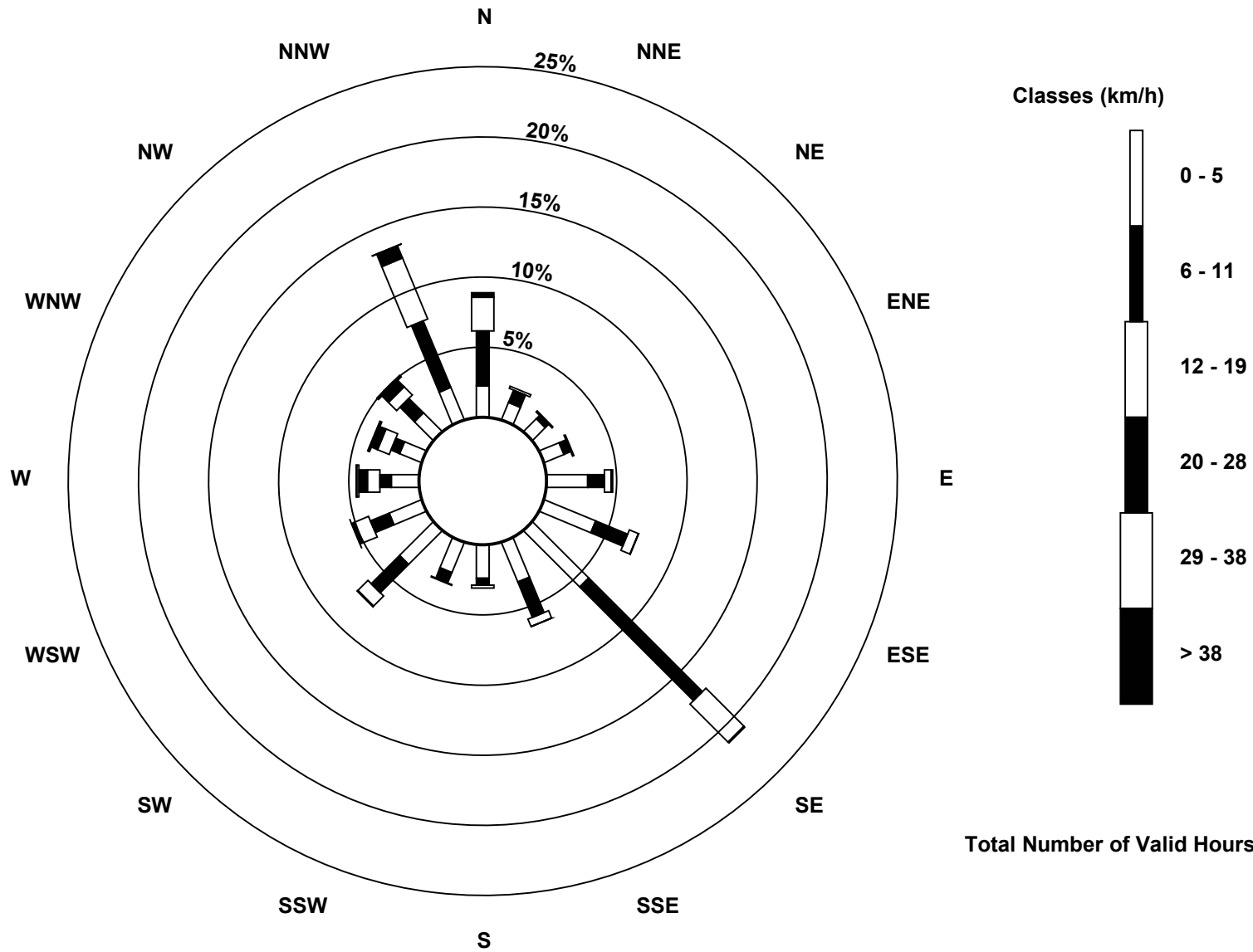
**Wood Buffalo Environmental Association  
Wind Rose 2014**

**Wind Speed (WS) - km/h  
Patricia McInnes (AMS 6)**



Wood Buffalo Environmental Association  
Wind Rose 2014

Wind Speed (WS) - km/h  
Athabasca Valley (AMS 7)

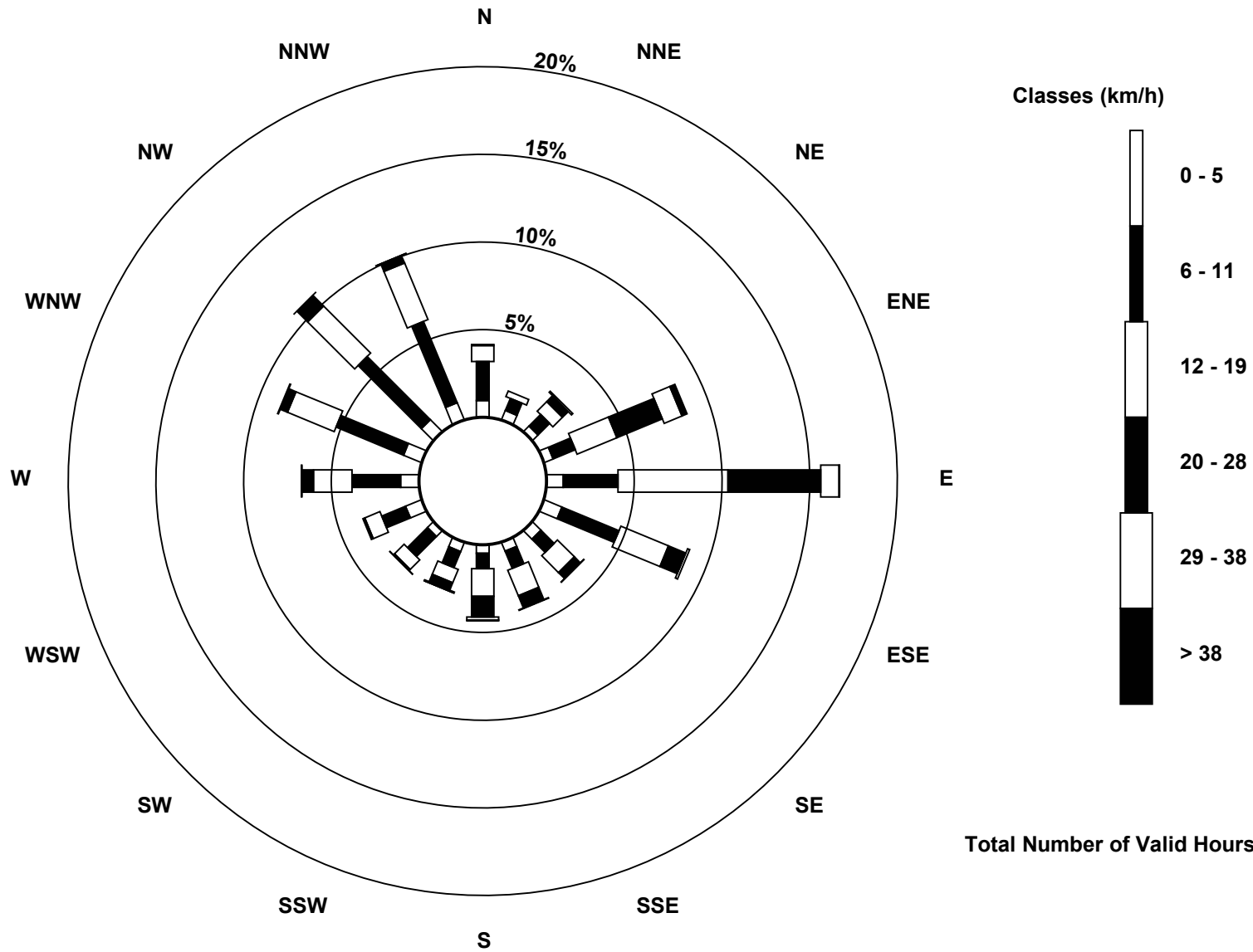


Total Number of Valid Hours: 8731



**Wood Buffalo Environmental Association  
Wind Rose 2014**

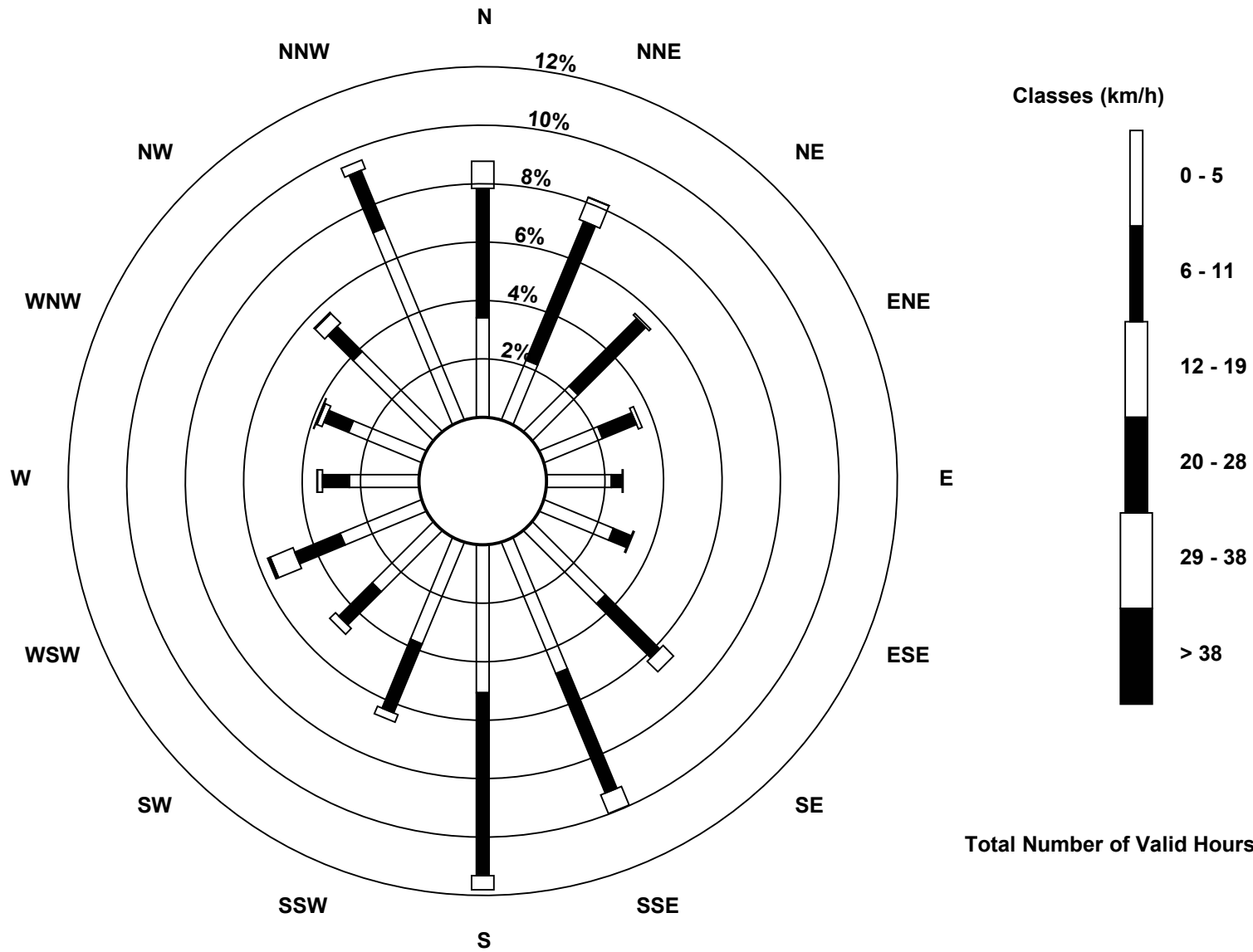
**Wind Speed (WS) - km/h  
Fort Chipewyan (AMS 8)**



**Total Number of Valid Hours: 8692**

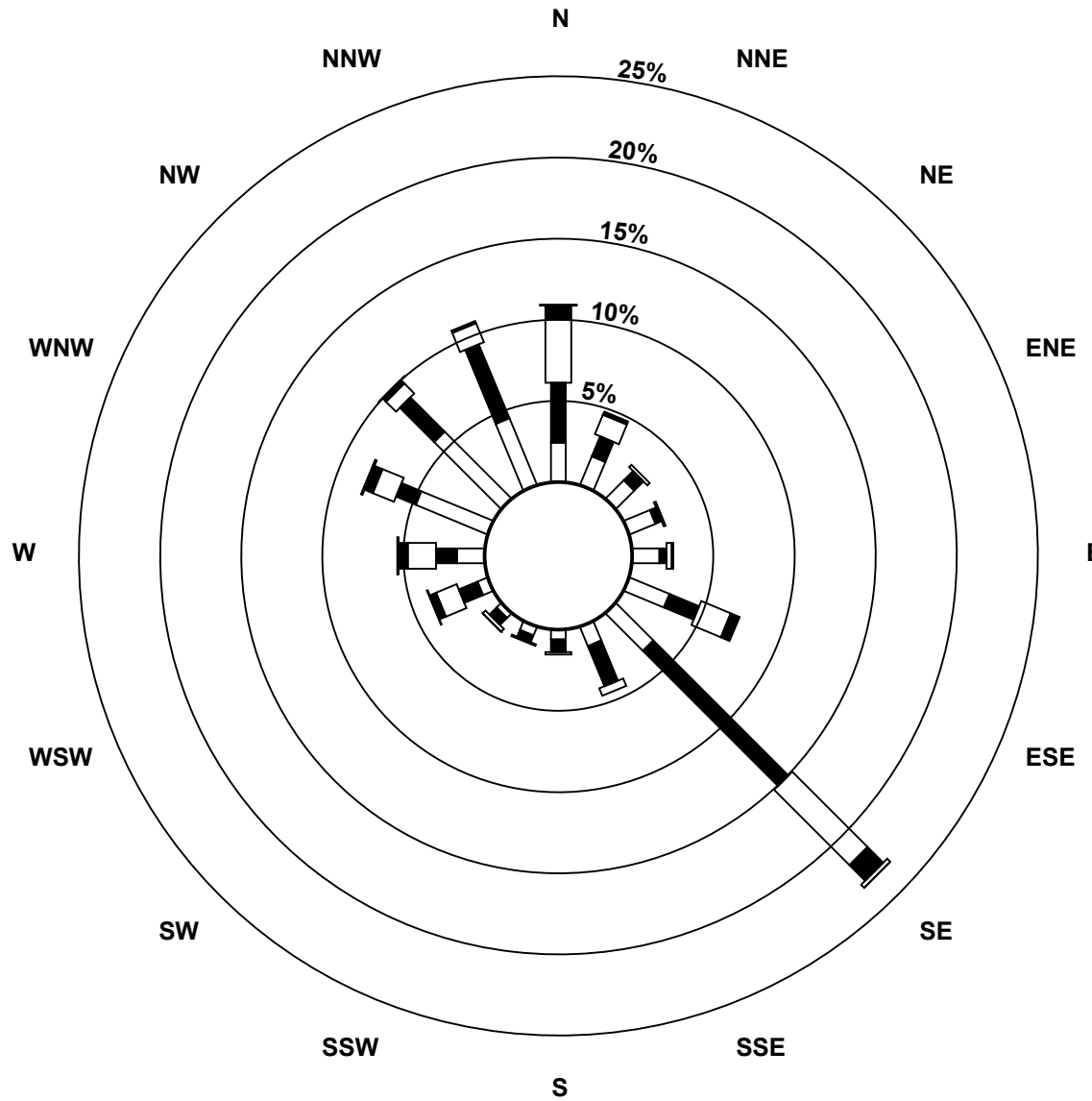
**Wood Buffalo Environmental Association  
Wind Rose 2014**

**Wind Speed (WS) - km/h  
Barge Landing (AMS 9)**

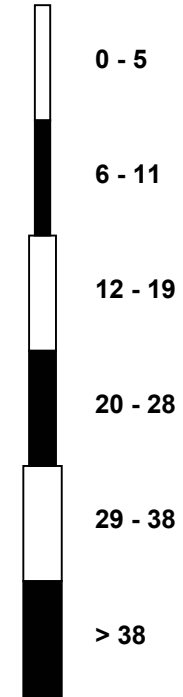


Wood Buffalo Environmental Association  
Wind Rose 2014

Wind Speed (WS) - km/h  
Lower Camp (AMS 11)



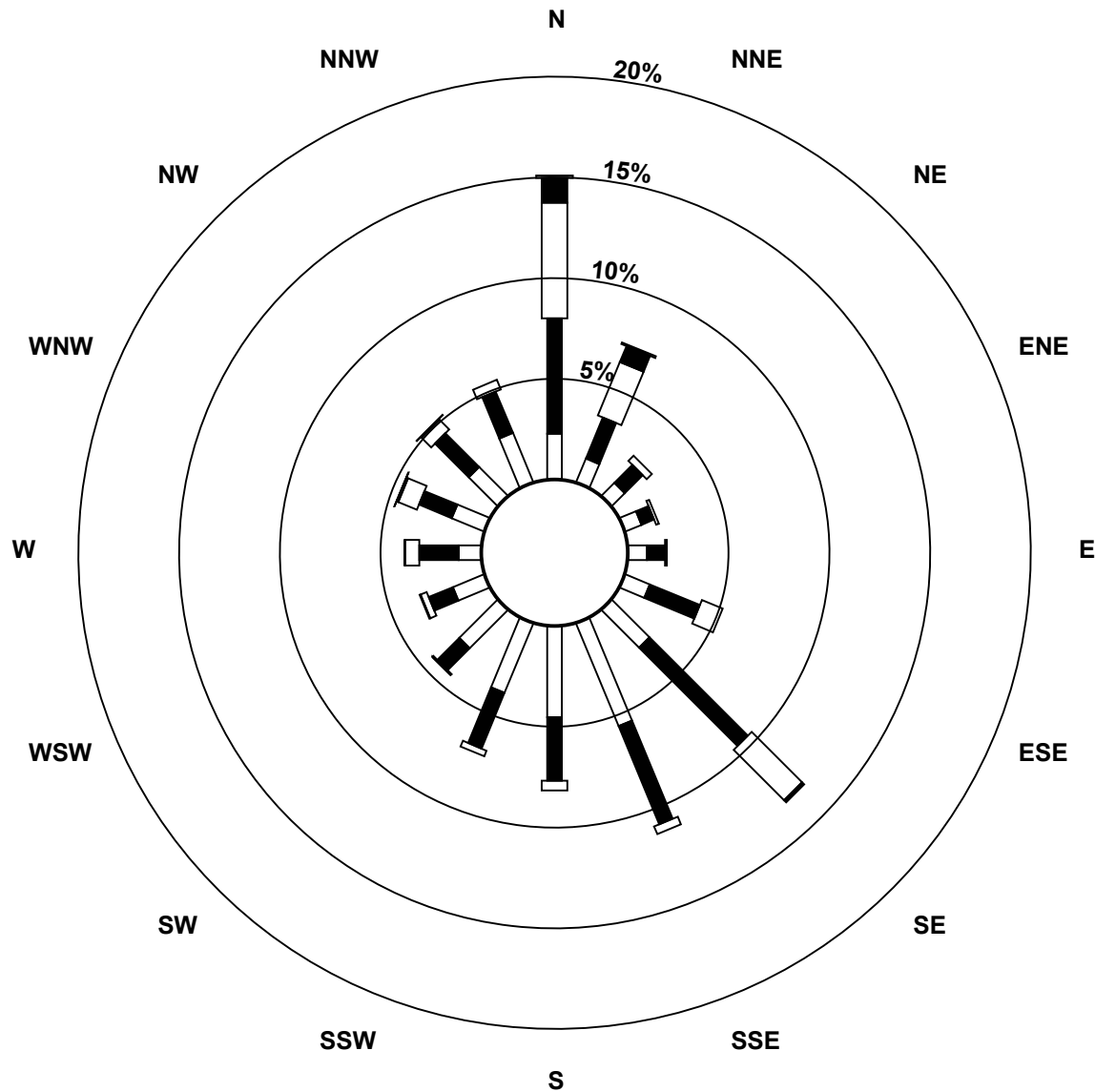
Classes (km/h)



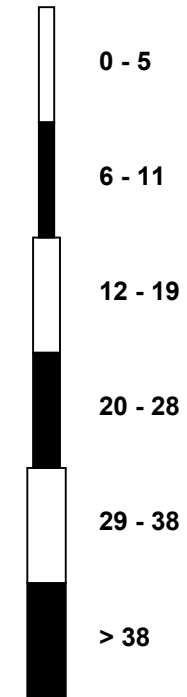
Total Number of Valid Hours: 8692

**Wood Buffalo Environmental Association  
Wind Rose 2014**

**Wind Speed (WS) - km/h  
Millennium (AMS 12)**



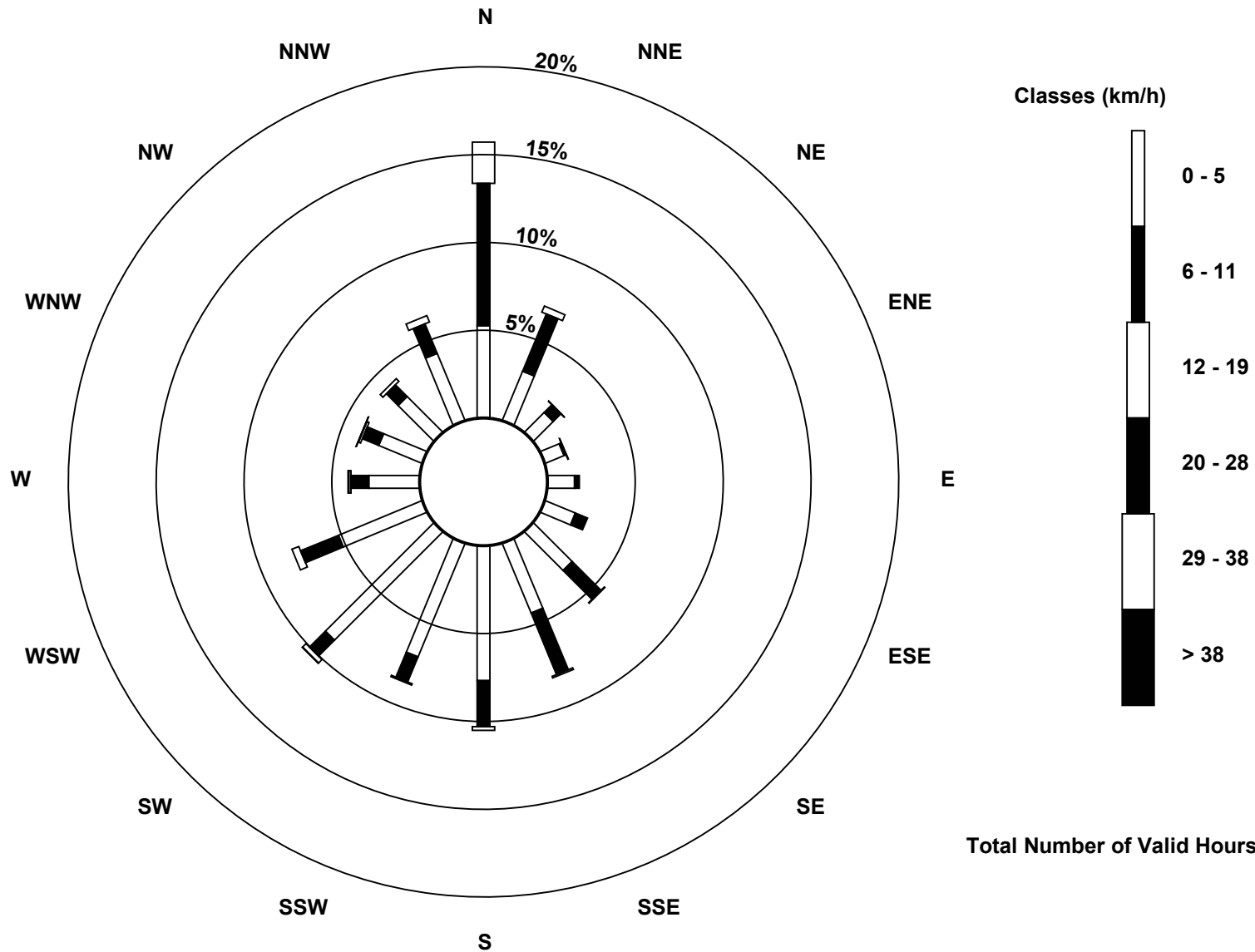
**Classes (km/h)**



**Total Number of Valid Hours: 8724**

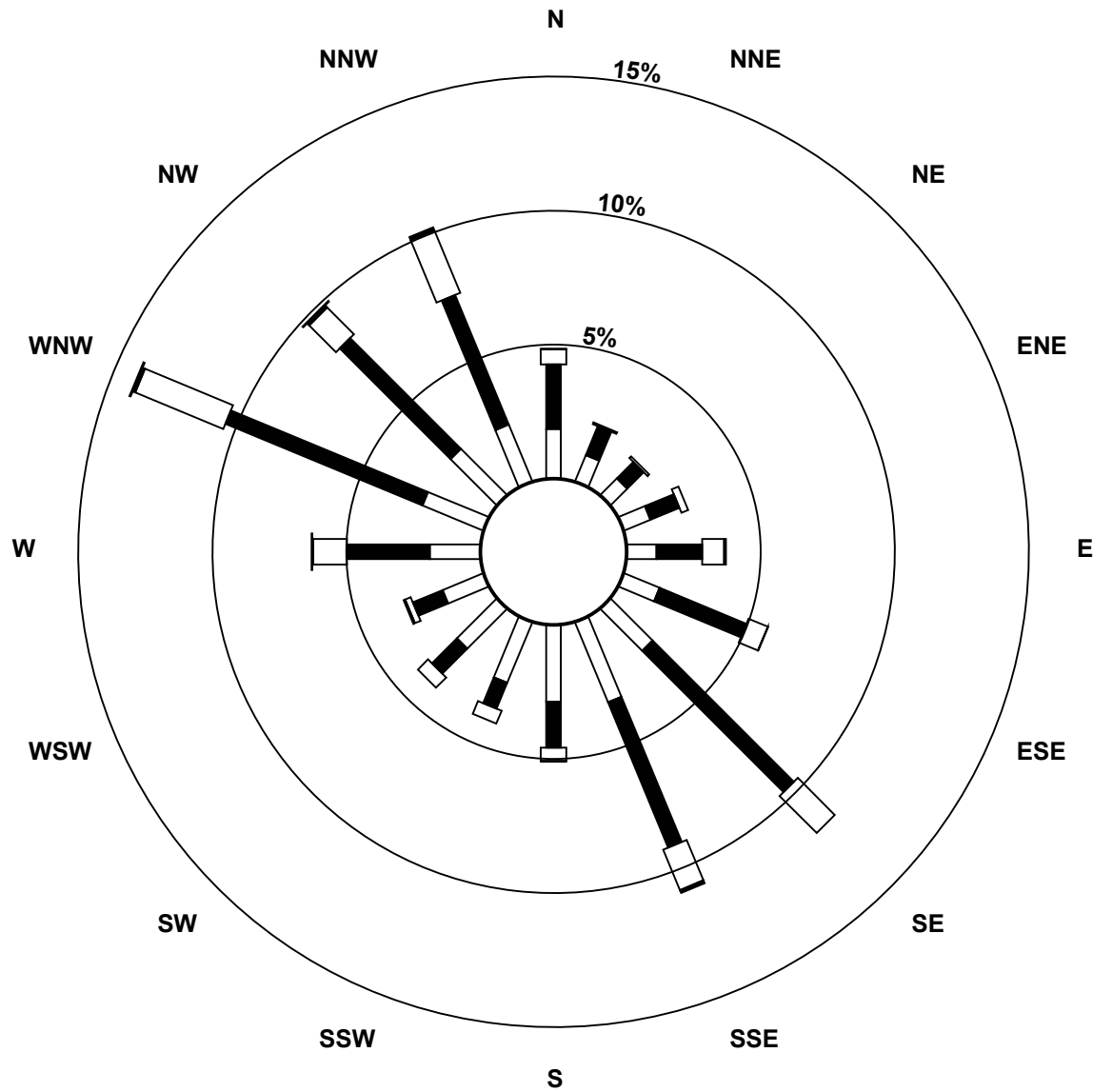
Wood Buffalo Environmental Association  
Wind Rose 2014

Wind Speed (WS) - km/h  
Fort McKay South (AMS 13)

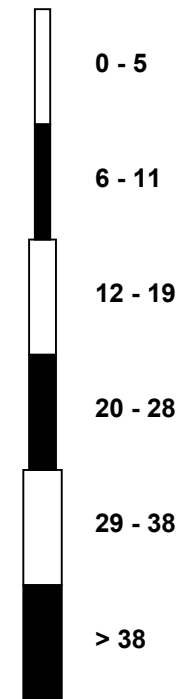


**Wood Buffalo Environmental Association  
Wind Rose 2014**

**Wind Speed (WS) - km/h  
Anzac (AMS 14)**



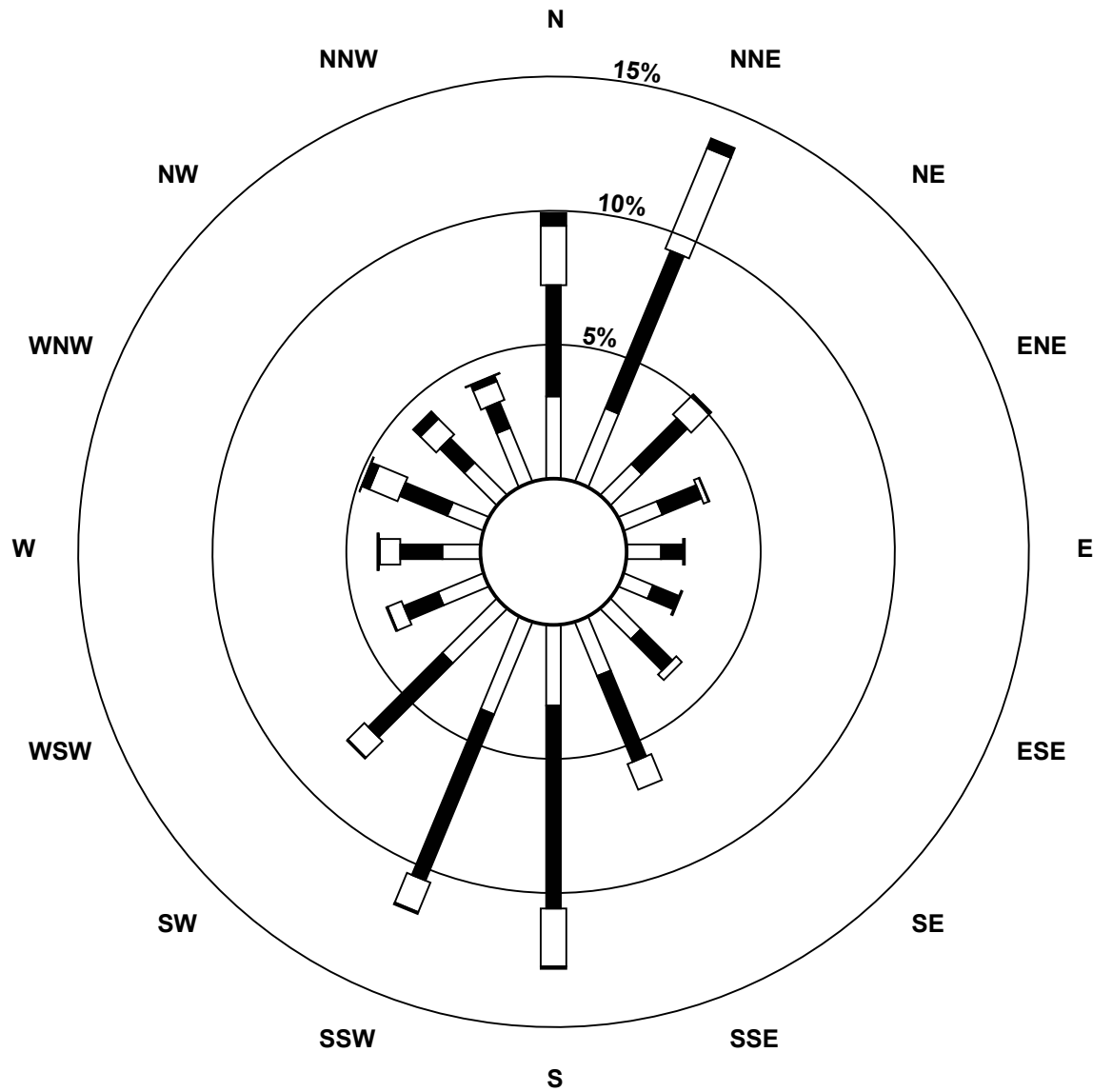
**Classes (km/h)**



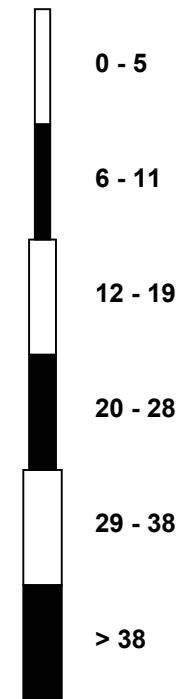
**Total Number of Valid Hours: 8510**

**Wood Buffalo Environmental Association  
Wind Rose 2014**

**Wind Speed (WS) - km/h  
CNRL Horizon (AMS 15)**



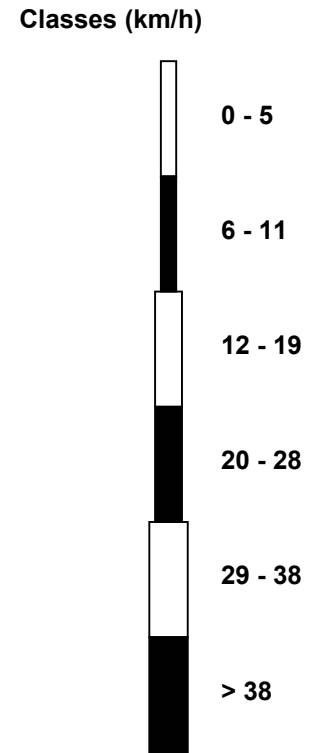
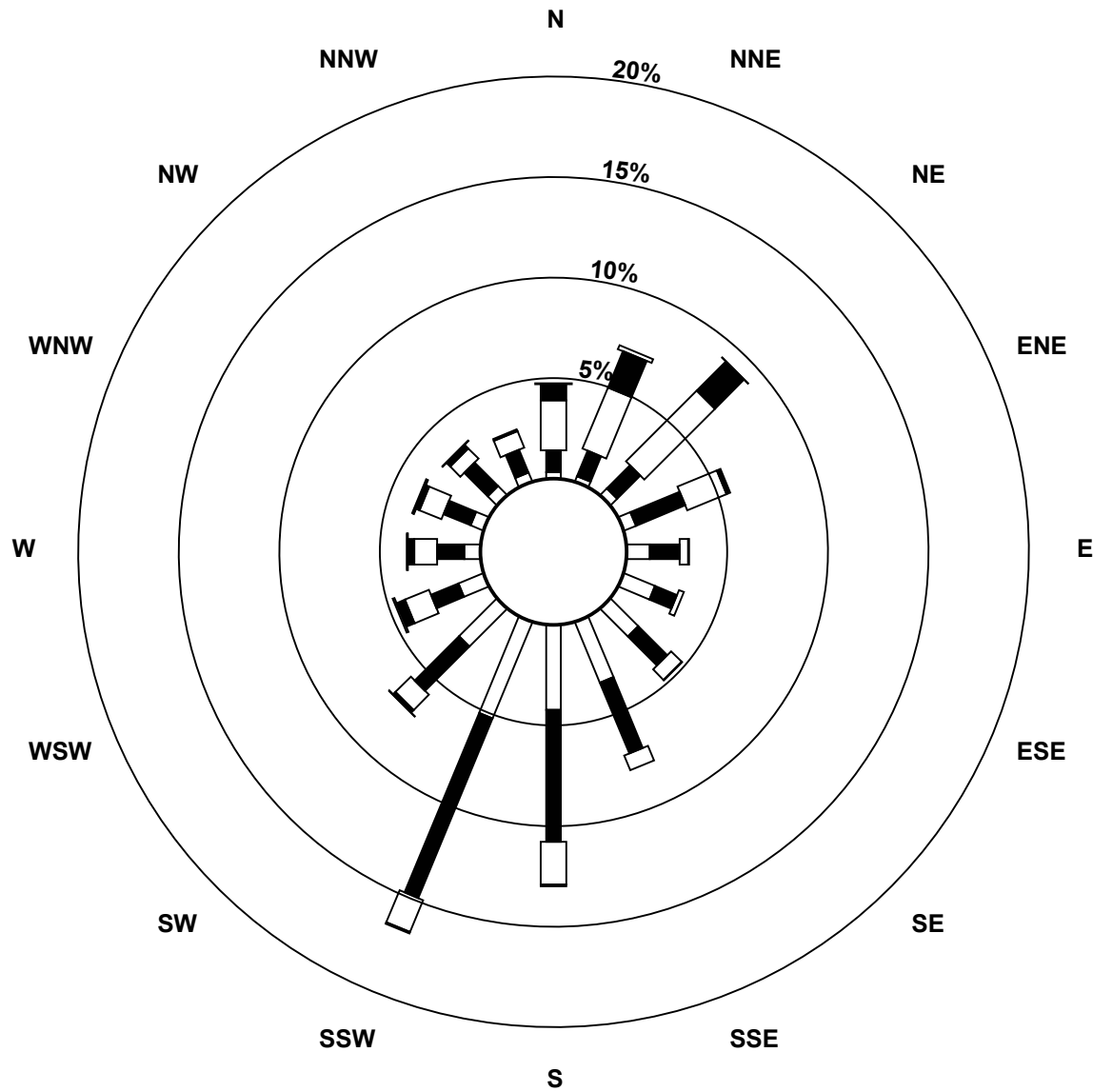
**Classes (km/h)**



**Total Number of Valid Hours: 8746**

**Wood Buffalo Environmental Association  
Wind Rose 2014**

**Wind Speed (WS) - km/h  
Shell Muskeg River (AMS 16)**

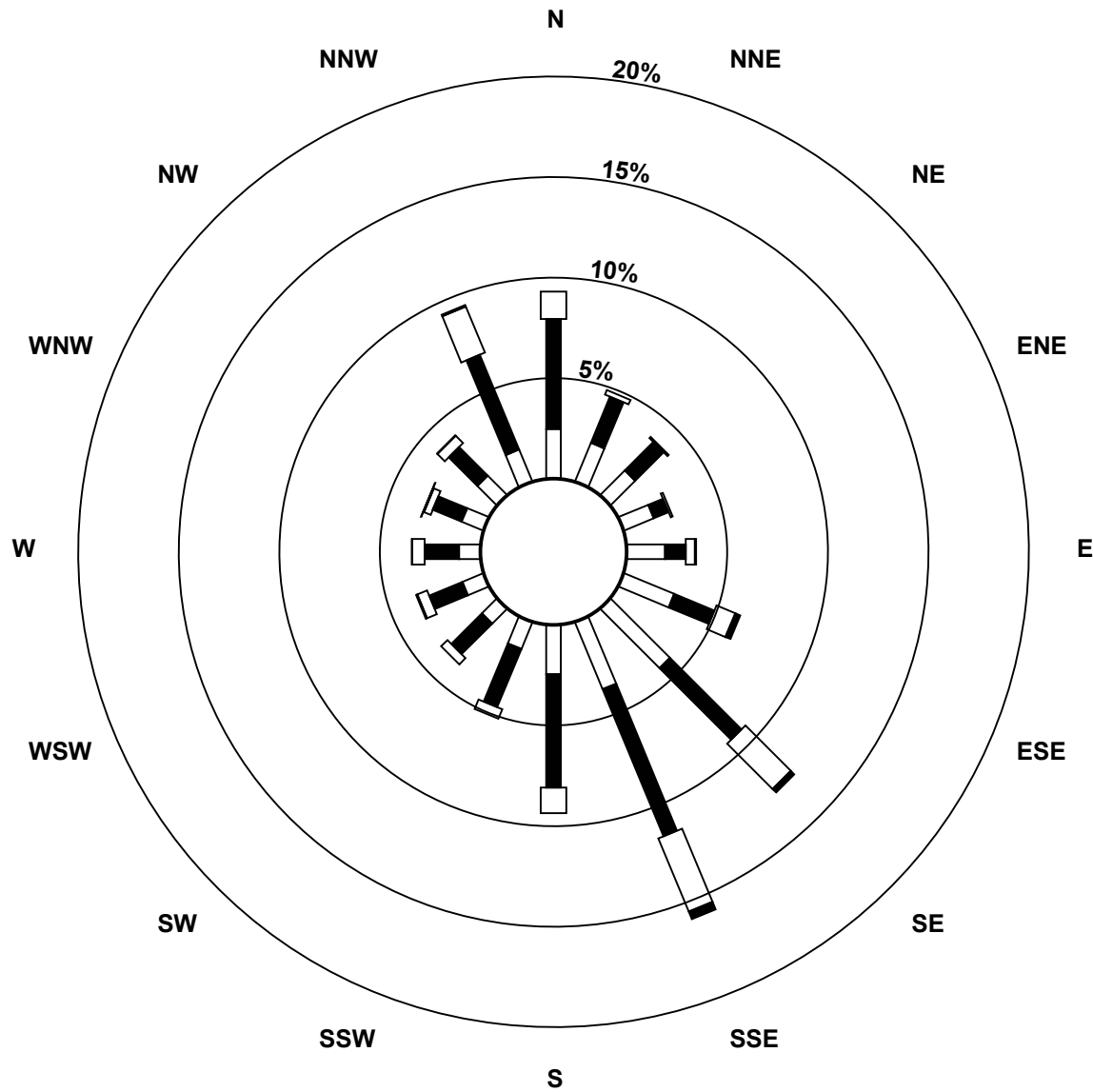


**Total Number of Valid Hours: 8729**

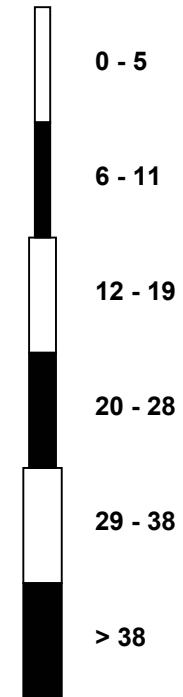


**Wood Buffalo Environmental Association  
Wind Rose 2014**

**Wind Speed (WS) - km/h  
Wapasu (AMS 17)**



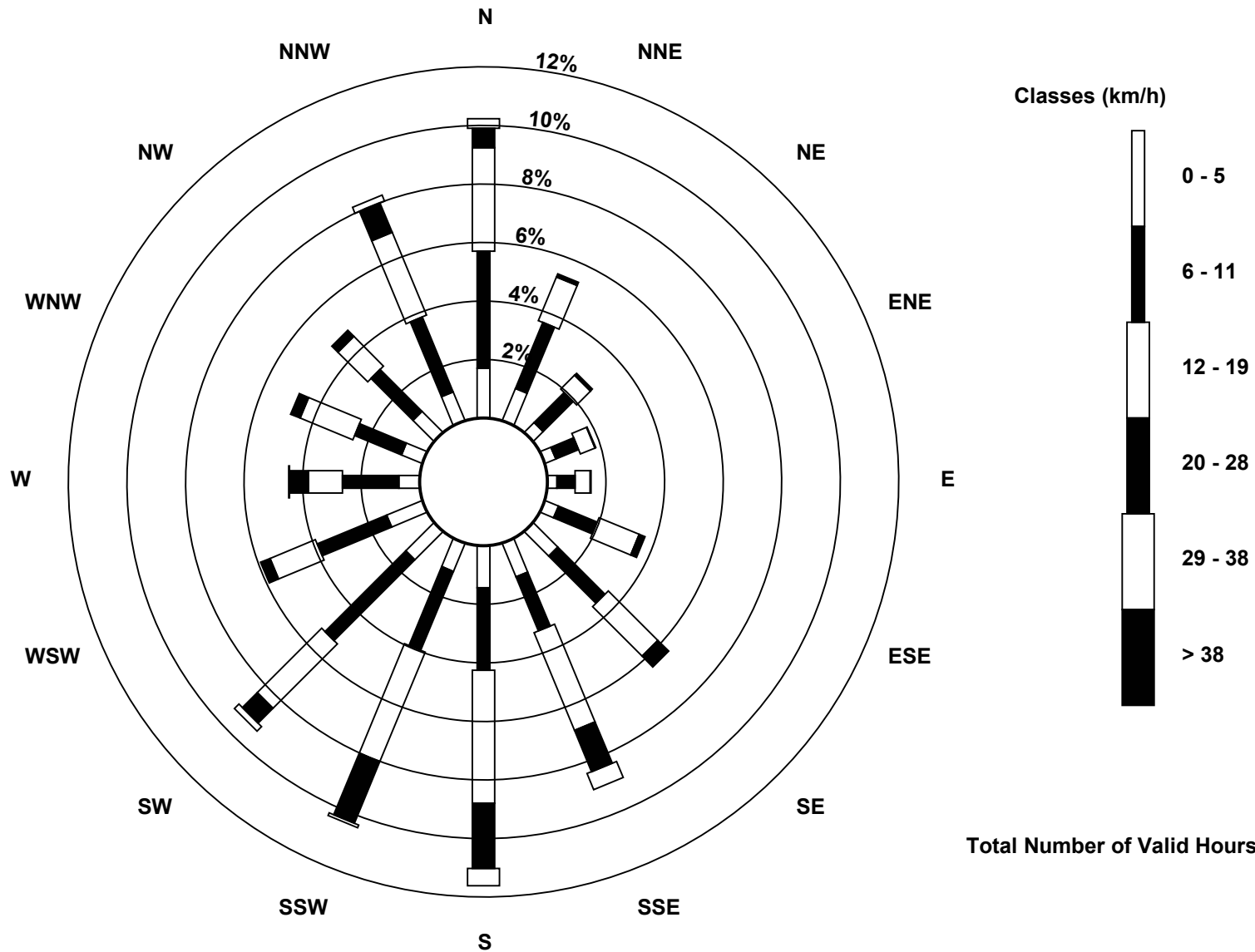
**Classes (km/h)**



**Total Number of Valid Hours: 8629**

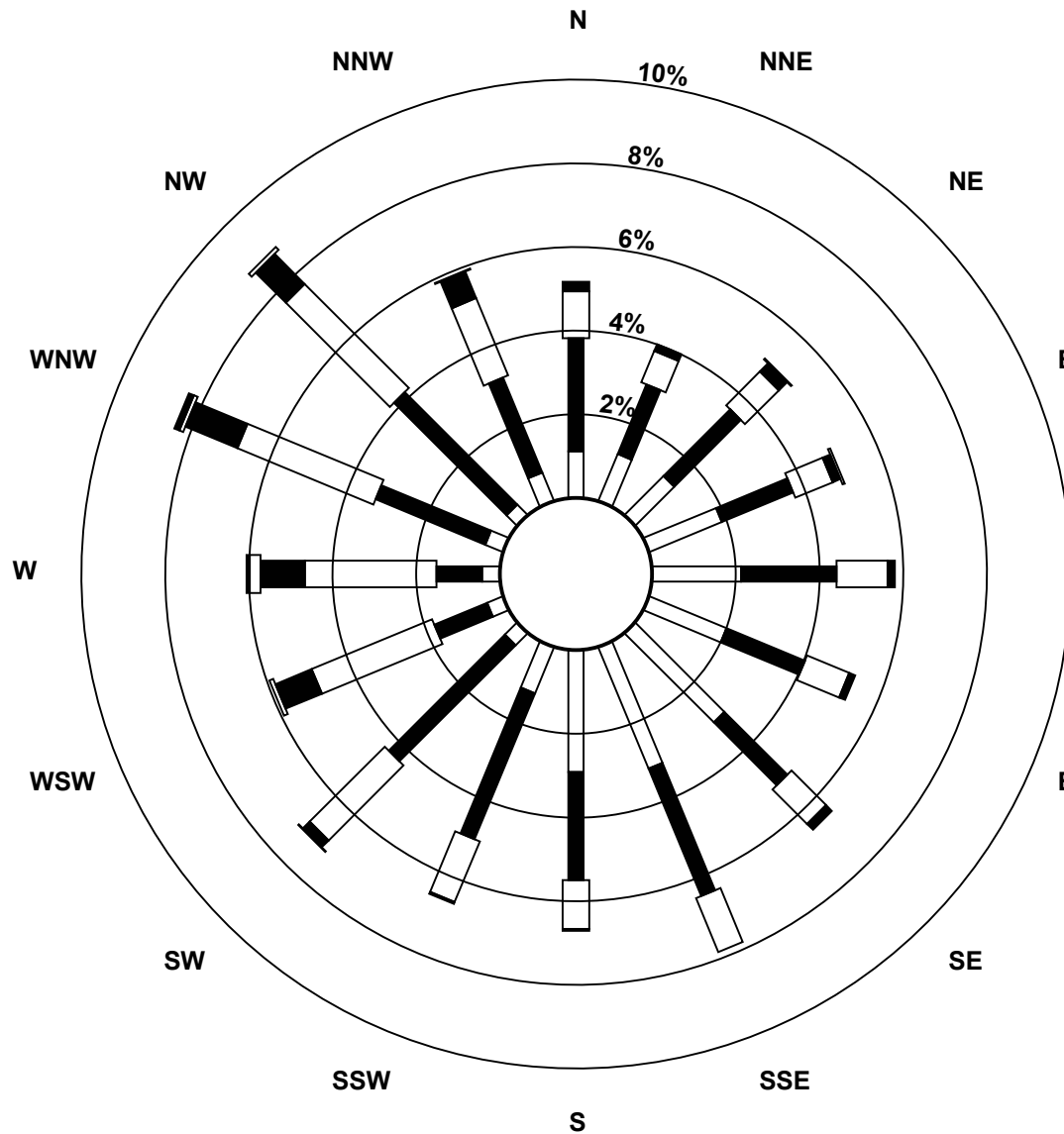
**Wood Buffalo Environmental Association  
Wind Rose 2014**

**Wind Speed (WS) - km/h  
Firebag (AMS 19)**

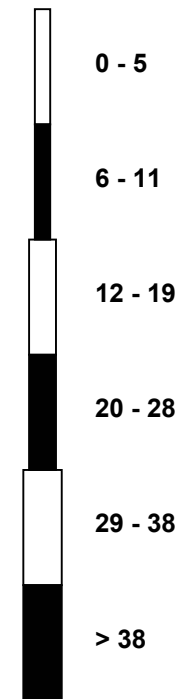


**Wood Buffalo Environmental Association  
Wind Rose 2014**

**Wind Speed (WS) - km/h  
Cenovus - Christina Lake (AMS500)**



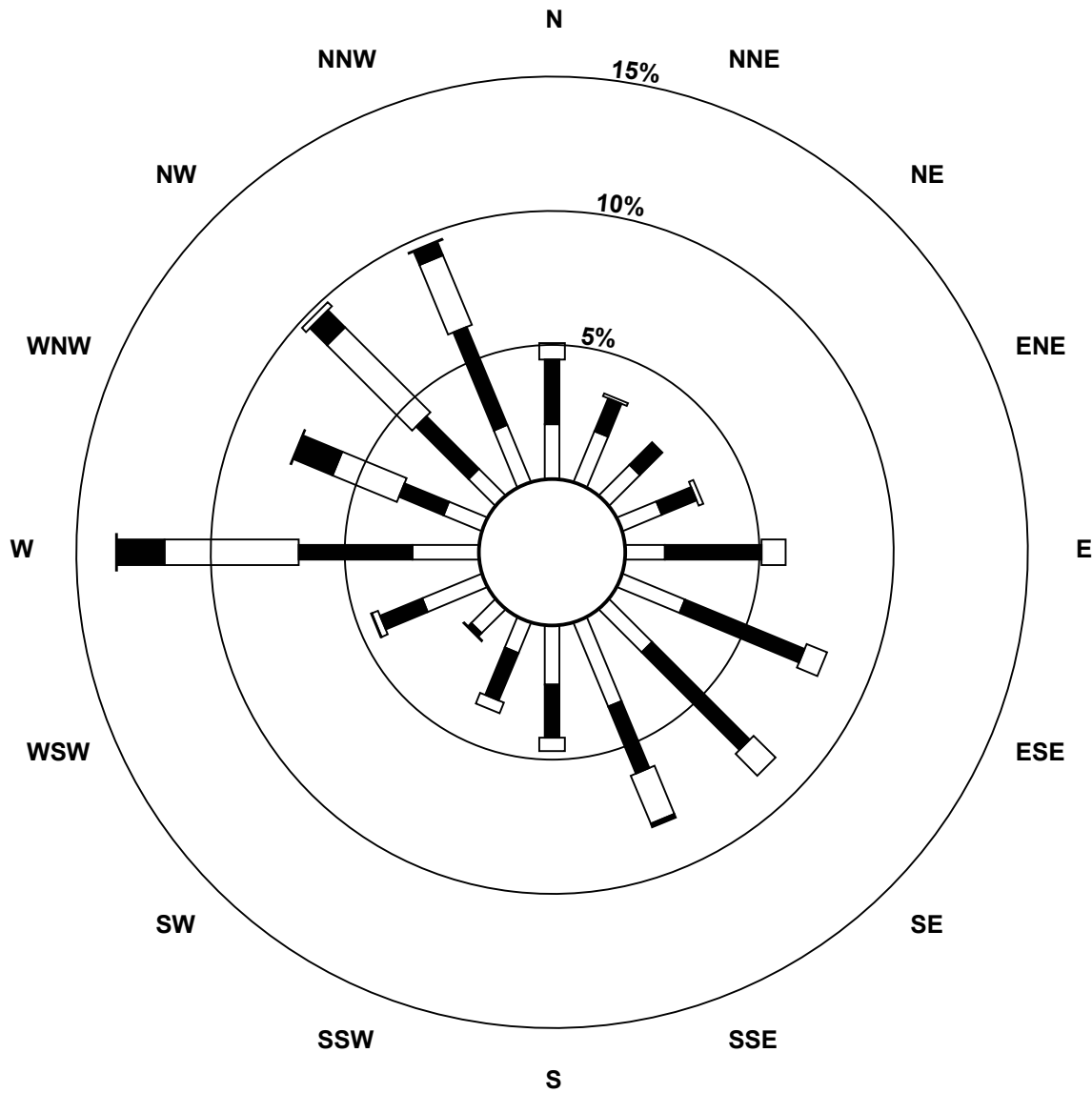
**Classes (km/h)**



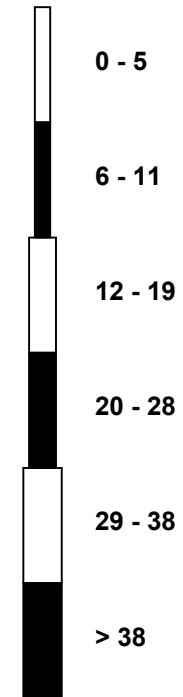
**Total Number of Valid Hours: 3948**

**Wood Buffalo Environmental Association  
Wind Rose 2014**

**Wind Speed (WS) - km/h  
Statoil - Leismer (AMS501)**



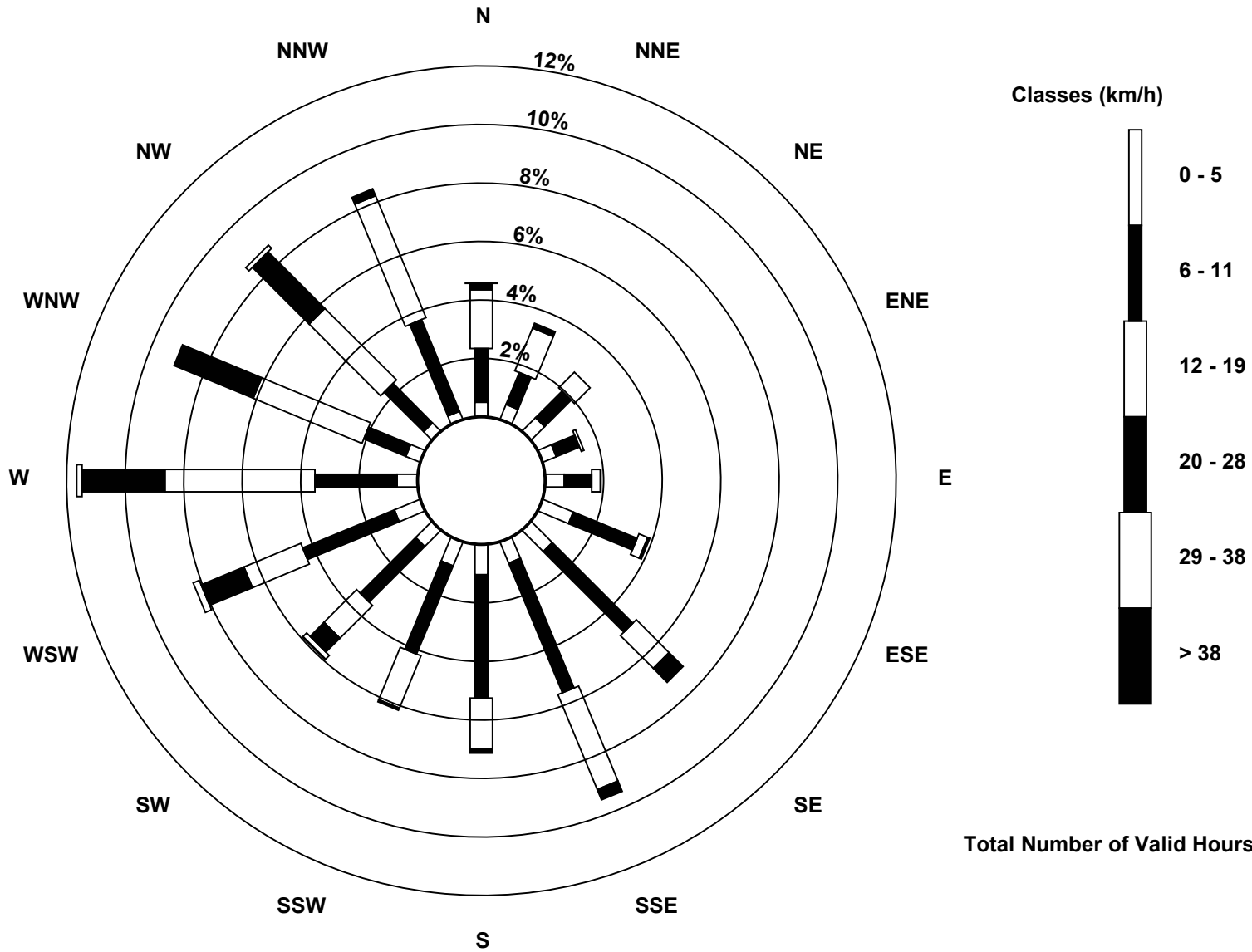
**Classes (km/h)**



**Total Number of Valid Hours: 2780**

**Wood Buffalo Environmental Association  
Wind Rose 2014**

**Wind Speed (WS) - km/h  
ConocoPhillips - Surmont (AMS502)**



**Total Number of Valid Hours: 3981**



## WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

### INTEGRATED MONITORING PROGRAM ANNUAL REPORT

#### DATA SUMMARY 2014

Prepared  
March 12, 2015

#### SAMPLE COLLECTION

Wood Buffalo Environmental Association  
Fort McMurray, Alberta

#### LABORATORY ANALYSIS

passive: Maxxam Analytics Ltd  
Edmonton, Alberta

VOC: Alberta Innovates - Technology Futures  
Vegreville, Alberta

particulate: ALS Canada Ltd  
Burlington, Ontario

PAH: Air Zone One Incorporated  
Mississauga, Ontario

precipitaon: Alberta Innovates - Technology Futures  
Vegreville, Alberta

#### DATA COMPILATION BY:

Aurora Atmospheric Inc.  
Calgary, Alberta

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## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

### **INTEGRATED MONITORING PROGRAM ANNUAL REPORT**

### **SO<sub>2</sub>, NO<sub>2</sub> AND O<sub>3</sub> PASSIVES DATA SUMMARY 2014**

Prepared  
March 12, 2015

#### **SAMPLE COLLECTION BY:**

**Wood Buffalo Environmental Association**  
Fort McMurray, Alberta

#### **LABORATORY ANALYSIS**

passives: Maxxam Analytics Ltd  
Edmonton, Alberta

#### **DATA COMPILATION BY:**

Aurora Atmospherics Inc.  
Calgary, Alberta



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## Passive Sample Results

### Air Monitoring Station Passive Average (ppb)

Date	Site Name	Sulphur Dioxide [SO <sub>2</sub> ]				
	Old	AMS 1	AMS 2	AMS 6	AMS 8	AMS 14
	New	Bertha Ganter	Mildred Lake	Patricia McInnes	Fort Chipewyan	Anzac
	Approximate Exposure days					
Dec 13 - Jan 14	60	0.9	1.5	1.5	0.6	1.1
Feb - Mar 14	60	1.1	2.0	1.7	0.2	0.8
Apr-14	30	1.3	2.8	1.6		0.5
May-14	30	3.3	3.9	2.0	0.4	1.1
Jun-14	30	1.3	1.3	0.9	<0.1	0.3
Jul-14	30	1.3	2.8	0.7	<0.1	0.6
Aug-14	30	1.5	2.5	1.4	0.3	0.8
Sep-14	30	1.5	3.1	1.2	0.4	0.5
Oct - Nov 14	60	0.9	2.5	1.2	0.4	0.6

Blank = missing sample

Date	Site Name	Nitrogen Dioxide [NO <sub>2</sub> ]				
	Old	AMS 1	AMS 2	AMS 6	AMS 8	AMS 14
	New	Bertha Ganter	Mildred Lake	Patricia McInnes	Fort Chipewyan	Anzac
	Approximate Exposure days					
Dec 13 - Jan 14	60	10.0	12.5	6.4	0.7	2.7
Feb - Mar 14	60	3.8	8.7	3.7	0.5	1.4
Apr-14	30	2.7	3.4	1.9		0.4
May-14	30	1.8	3.0	1.4	0.1	0.9
Jun-14	30	1.8	2.9	1.6	0.2	0.4
Jul-14	30	1.1	3	1.2	0.4	0.7
Aug-14	30	1.6	3.3	1.3	0.3	0.5
Sep-14	30	2.5	7	2.4	0.5	0.6
Oct - Nov 14	60	5.3	7.4	3.9	0.6	1.5

Blank = missing sample



Date	Site Name	Ozone [O <sub>3</sub> ]				
	Old	AMS 1	AMS 2	AMS 6	AMS 8	AMS 14
	New	Bertha Ganter	Mildred Lake	Patricia McInnes	Fort Chipewyan	Anzac
	Approximate Exposure days					
Dec 13 - Jan 14	60	13.8	14.0	26.1	31.1	22.3
Feb - Mar 14	60	19.6	20.0	25.3	33.4	27.7
Apr-14	30	25.6	28.0	30.3		30.8
May-14	30	28.6	28.0	32.3	37.4	27.7
Jun-14	30	22.6	23.3	28.4	33.1	24.7
Jul-14	30	23.4	22.7	27.8	27.4	23.4
Aug-14	30	21.2	20.1	24.5	24.4	23.9
Sep-14	30	15.2	15.9	20.9	23.8	16.6
Oct - Nov 14	60	13	13.2	17.5	24.2	19.4

Blank = missing sample



### Forest Health Monitoring Passive Sample Results, Average (ppb)

Date	Site Name	Sulphur Dioxide [SO <sub>2</sub> ]																																				
	Old	PL7	PH4	AH8	PH2	PL1	205'	210'	212	213'	PL8	AH3	AH7	SM7	WF4	BM7	NE7	BM10	BM11	SM8	NE10	NE11	R2	JP316	JP201	JP311												
	New	JP107	JP104	AH8	JP102	JP101	JP205	JP210	JP212	JP213	JP108	AH3	AH7	SM7	WF4	BM7	NE7	BM10	BM11	SM8	NE10	NE11	R2	JP316	JP201	JP311	JE306	JE308	JE312	JE316	JE323							
	Approximate Exposure days																																					
Dec 13 - Jan 14	60	2.1	1.4	0.7	0.9	1.0	1.4	1.1	0.7	0.9	0.4	1.1	2.0	0.8	0.7	0.3	2.2	0.6	0.7	1.4	0.7	1.5	1.1	1.1	0.7	1.8	*	*	*	*	*							
Feb - Mar 14	60	0.7	2.2	1.1	2.9	1.7	0.7	0.7	1.4	0.5	0.4	1.1	3.0	0.7	0.8	0.3	1.0	0.8	0.7	0.8	0.4	0.9	1.5	0.7	0.5	2.3	*	*	*	*	*							
Apr-14	30	0.7	1.3	1.5	2.2	0.9	0.3	0.2	1.2	0.3	0.2	0.4	1.5	0.3	1.3	0.5	0.5	0.7	0.7	0.3	0.3	0.5	0.9	0.4	0.4	1.2	0.3	0.6	0.4	0.5	0.7							
May-14	30	0.3	4.6	1.2	2.4	1.4	2.8	1.7	2.8	0.2	2.5	2.1	2.5	2.6	1.7	0.3	1.9	5.4	3.1	3.6	1.5	0.4	2.4	0.6	1.5	0.6	0.3	2.6	0.1	*	*							
Jun-14	30	0.5	0.6	0.5	1.4	0.2	0.1	0.2	1.3	0.1	<0.1	0.3	1.1	<0.1	2.3	<0.1	0.2	0.7	0.3	0.2	0.2	0.3	0.6	<0.1	0.1	0.4	0.7	*	0.1	*	*							
Jul-14	30	0.5	2.4	0.4	1.1	0.2	0.6	0.3	1.2	0.4	0.2	0.3	0.6	<0.1	3.5	0.0	0.4	0.3	0.1	0.1	<0.1	0.5	1.9	0.5	<0.1	0.8	0.4	*	0.1	*	*							
Aug-14	30	0.8	2.1	0.3	2.1	0.3	0.2	0.2	1.4	0.3	0.3	0.8	1.6	0.2	1.5	0.1	0.8	0.2	0.3	0.4	0.1	0.9	<0.1	0.2	0.2	0.6	0.2	*	0.4	*	*							
Sep-14	30	1.4	2.0	0.9	2.1	0.6	1.0	0.4	0.7	0.3	0.5	0.6	1.9	0.3	0.9	0.2	0.9	0.5	-	0.4	0.3	-	1.3	0.4	0.6	0.9	*	*	0.8	*	*							
Oct - Nov 14	60	1.0	0.9	1.0	0.6	0.3	0.3	0.4	0.4	0.6	0.8	0.8	1.1	0.5	0.9	0.6	0.5	0.6	1.1	0.9	0.5	0.6	0.5	0.5	0.3	0.6	0.7	0.3	0.4	0.8	0.4	0.8	0.4					

Note: Dash (-) – missing samples, \* - landing site under construction

Date	Site Name	Nitrogen Dioxide [NO <sub>2</sub> ]																																					
	Old	PL7	PH4	AH8	PH2	PL1	205'	210'	212	213'	PL8	AH3	AH7	SM7	WF4	BM7	NE7	BM10	BM11	SM8	NE10	NE11	R2	JP316	JP201	JP311													
	New	JP107	JP104	AH8	JP102	JP101	JP205	JP210	JP212	JP213	JP108	AH3	AH7	SM7	WF4	BM7	NE7	BM10	BM11	SM8	NE10	NE11	R2	JP316	JP201	JP311	JE306	JE308	JE312	JE316	JE323								
	Approximate Exposure days																																						
Dec 13 - Jan 14	60	3.4	7.8	2.1	5.4	1.5	1.3	1.7	7.7	0.7	1.1	3.9	3.4	1.0	1.6	0.3	1.9	0.5	0.3	1.3	0.9	2.8	6.8	1.3	1.0	2.4	*	*	*	*	*								
Feb - Mar 14	60	0.6	5.4	1.6	4.6	0.9	0.2	0.6	2.0	0.2	0.3	1.5	1.7	<0.1	0.4	<0.1	0.1	<0.1	<0.1	0.1	<0.1	0.7	2.8	0.5	0.3	1.2	*	*	*	*	*								
Apr-14	30	0.3	1.5	0.8	1.0	0.2	0.1	<0.1	2.2	0.1	<0.1	0.2	0.6	<0.1	0.9	<0.1	0.1	0.4	0.1	<0.1	<0.1	0.6	2.0	0.2	<0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1						
May-14	30	0.3	2.0	0.7	1.4	0.3	0.3	<0.1	1.6	0.1	<0.1	0.5	0.8	0.2	0.9	0.1	0.2	0.2	0.3	0.5	0.1	0.4	1.6	0.3	<0.1	0.4	<0.1	0.2	0.1	*	*								
Jun-14	30	0.2	2.2	0.4	1.1	0.2	<0.1	0.1	2.4	<0.1	<0.1	0.5	0.7	0.1	0.8	<0.1	0.2	0.2	0.1	0.4	<0.1	0.3	1.4	0.1	0.1	0.3	0.1	*	<0.1	*	*								
Jul-14	30	0.4	2.1	0.3	1	0.1	<0.1	0.1	2	<0.1	<0.1	0.4	0.6	0.2	0.4	-	0.4	0.2	0.2	0.3	<0.1	0.5	2	0.1	0.1	0.3	0.2	*	0.2	*	*								
Aug-14	30	0.6	3.0	0.3	1.2	0.3	0.3	0.2	2.1	0.3	0.2	0.5	0.7	0.3	0.4	0.2	0.5	0.2	0.2	0.2	0.2	0.8	2.0	0.2	0.2	0.3	-	*	*	0.2	*	*							
Sep-14	30	1.3	3.7	0.8	2.1	0.4	0.4	0.3	-	0.2	0.2	0.8	1.5	0.6	0.8	0.2	0.6	0.3	0.3	0.3	0.2	-	2.8	0.3	0.3	0.7	*	*	0.2	*	*								
Oct - Nov 14	60	8.7	3.2	2.5	1.0	0.3	0.4	0.4	0.4	0.5	1.9	1.6	3.0	0.3	1.1	0.3	0.9	0.8	0.6	1.0	0.8	4.4	0.3	0.5	0.3	5.7	0.8	0.3	0.5	0.4	0.2								

Note: Dash (-) – missing samples, \* - landing site under construction





## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

### **INTEGRATED MONITORING PROGRAM ANNUAL REPORT**

## **POLYCYCLIC AROMATIC HYDROCARBONS DATA SUMMARY 2014**

Prepared  
March 12, 2015

#### **SAMPLE COLLECTION BY:**

**Wood Buffalo Environmental Association**  
Fort McMurray, Alberta

#### **LABORATORY ANALYSIS BY:**

Total PAHs: Air Zone One Incorporated  
Mississauga, Ontario

#### **DATA COMPILATION BY:**

Aurora Atmospherics Inc.  
Calgary, Alberta

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WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Polycyclic Aromatic Hydrocarbons (PAHs)

2014  
Indicated Sites and Dates

Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 05-Jan 360	Travel Blank Filters 05-Jan 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 05-Jan 329.13	Patricia McInnes 05-Jan 341.4	Athabasca Valley 05-Jan 343.57	Anzac 05-Jan 330.24				
3-Methylcholanthrene	0.033	0.058	0.015	0.002	0.019		0.001	<0.001	
7,12-Dimethylbenz(a)anthracene	0.02	0.34	0.497	0.391	0.181		0.002	0.01	
Acenaphthene	0.01	2.53	3.339	1.366	0.055		0.001	0.011	
Acenaphthylene	0.016	3.474	4.262	1.348	0.029		0.002	0.01	
Acridine	0.028	0.267	0.093	0.088	0.02		0.002	0.003	
Anthracene	0.026	0.431	0.441	0.188	0.024		0.002	0.003	
Benz(a)anthracene	0.021	0.509	0.231	0.105	0.007		0.001	0.002	
Benzo(a)pyrene	0.024	0.875	0.231	0.062	<0.001		0.001	<0.001	
Benzo(b)fluoranthene	0.029	0.517	0.339	0.092	0.145		0.002	0.002	
Benzo(c)phenanthrene	0.022	0.152	0.135	0.063	0.005		0.001	0.001	
Benzo(ghi)perylene	0.029	0.153	0.115	0.193	0.116		0.002	0.004	
Benzo(k)fluoranthene	0.02	0.205	0.072	0.04	0.164		0.003	0.004	
Chrysene	0.02	0.58	0.266	0.119	0.008		0.001	0.001	
Dibenz(a,h)anthracene	0.029	0.098	0.095	0.033	0.004		0.003	0.004	
Dibenzo(a,h)pyrene	0.045	0.002	0.003	0.002	0.003		0.002	0.001	
Dibenzo(a,i)pyrene	0.044	0.064	0.026	0.009	0.012		0.002	0.004	
Dibenzo(a,l)pyrene	0.036	0.109	0.098	0.051	0.083		0.002	0.004	
Fluoranthene	0.01	0.774	0.77	0.351	0.039		0.001	0.002	
Fluorene	0.007	1.761	2.437	1.586	0.062		0.001	0.005	
Indeno(123-cd)pyrene	0.025	0.049	0.058	0.069	0.12		0.001	0.003	
Naphthalene	0.012	14.181	12.569	6.246	1.377		0.016	0.021	
Phenanthrene	0.007	2.986	4.917	2.054	0.213		0.004	0.008	
Pyrene	0.013	1.001	0.599	0.274	0.033		0.001	0.002	





Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						
		AMS 1	AMS 6	AMS 7	AMS 14	AMS 11	Lab Blank Filters	Travel Blank Filters
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Lower Camp	11-Jan	11-Jan
		11-Jan	11-Jan	11-Jan	11-Jan	11-Jan	11-Jan	11-Jan
		<b>342.65</b>	<b>345.6</b>	<b>360.34</b>	<b>310.1</b>	<b>343.73</b>	<b>360</b>	<b>360</b>
3-Methylcholanthrene	0.033	0.009	0.021	0.042	0.043	0.008	0.001	0.004
7,12-Dimethylbenz(a)anthracene	0.02	0.481	0.342	0.59	0.698	0.159	0.002	<0.001
Acenaphthene	0.01	0.819	1.137	1.668	1.439	0.567	0.001	0.011
Acenaphthylene	0.016	1.461	2.	4.309	6.052	0.127	0.002	0.015
Acridine	0.028	0.249	0.245	0.633	0.481	0.103	0.002	0.002
Anthracene	0.026	0.354	0.329	0.289	0.554	0.091	0.002	<0.001
Benz(a)anthracene	0.021	0.254	0.08	0.136	0.316	0.017	0.001	0.005
Benzo(a)pyrene	0.024	0.362	0.098	0.155	0.258	0.007	0.001	0.002
Benzo(b)fluoranthene	0.029	0.302	0.068	0.125	0.221	0.101	0.002	<0.001
Benzo(c)phenanthrene	0.022	1.05	0.04	0.069	0.12	0.013	0.001	0.001
Benzo(ghi)perylene	0.029	0.2	0.333	0.278	0.34	0.045	0.002	0.003
Benzo(k)fluoranthene	0.02	0.083	0.101	0.06	0.059	0.048	0.003	<0.001
Chrysene	0.02	0.297	0.091	0.155	0.36	0.019	0.001	0.004
Dibenz(a,h)anthracene	0.029	0.077	0.024	0.05	0.071	0.001	0.003	0.013
Dibenzo(a,h)pyrene	0.045	0.012	0.004	0.009	0.008	0.006	0.002	0.001
Dibenzo(a,i)pyrene	0.044	0.034	0.02	0.024	0.075	0.002	0.002	0.003
Dibenzo(a,l)pyrene	0.036	0.062	0.05	0.056	0.09	0.096	0.002	0.01
Fluoranthene	0.01	1.039	0.471	0.612	1.304	0.087	0.001	0.003
Fluorene	0.007	2.495	1.839	2.445	3.405	0.916	0.001	0.004
Indeno(123-cd)pyrene	0.025	0.095	0.111	0.091	0.103	0.012	0.001	0.001
Naphthalene	0.012	22.028	16.956	38.135	48.643	2.27	0.016	0.004
Phenanthrene	0.007	5.689	3.498	4.068	5.717	0.972	0.004	0.002
Pyrene	0.013	0.82	0.468	0.711	1.707	0.068	0.001	0.006



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						
		AMS 1	AMS 6	AMS 7	AMS 14	AMS 11	Lab Blank Filters	Travel Blank Filters
		Bertha Ganter 17-Jan 339.47	Patricia McInnes 17-Jan 342.86	Athabasca Valley 17-Jan 361.7	Anzac 17-Jan 357.55	Lower Camp 17-Jan 370.99	17-Jan 360	17-Jan 360
3-Methylcholanthrene	0.033	0.013	0.006	0.045	0.052	0.01	0.001	0.008
7,12-Dimethylbenz(a)anthracene	0.02	0.125	0.517	0.733	0.383	0.236	0.002	<0.001
Acenaphthene	0.01	1.671	0.31	2.062	0.739	0.981	0.001	0.002
Acenaphthylene	0.016	0.945	0.307	0.707	0.892	0.044	0.002	0.002
Acridine	0.028	0.502	0.164	0.805	0.353	0.115	0.002	0.004
Anthracene	0.026	0.408	0.18	0.518	0.58	0.14	0.002	<0.001
Benz(a)anthracene	0.021	0.134	0.03	0.835	0.086	0.009	0.001	0.002
Benzo(a)pyrene	0.024	0.147	0.026	0.884	0.064	0.004	0.001	0.002
Benzo(b)fluoranthene	0.029	0.127	0.05	0.276	0.085	0.155	0.002	<0.001
Benzo(c)phenanthrene	0.022	0.045	0.025	0.124	0.083	0.013	0.001	<0.001
Benzo(ghi)perylene	0.029	0.197	0.095	0.345	0.19	0.06	0.002	<0.001
Benzo(k)fluoranthene	0.02	0.468	0.524	0.252	0.131	0.175	0.003	<0.001
Chrysene	0.02	0.153	0.034	0.951	0.093	0.01	0.001	0.002
Dibenz(a,h)anthracene	0.029	0.043	0.007	0.094	0.017	0.002	0.003	0.002
Dibenzo(a,h)pyrene	0.045	0.004	0.005	0.004	0.004	0.004	0.002	0.001
Dibenzo(a,i)pyrene	0.044	0.006	0.008	0.036	0.01	0.005	0.002	0.003
Dibenzo(a,l)pyrene	0.036	0.042	0.012	0.093	0.033	0.009	0.002	0.003
Fluoranthene	0.01	0.552	0.25	0.469	0.802	0.132	0.001	0.002
Fluorene	0.007	1.566	0.894	1.586	1.868	0.97	0.001	0.003
Indeno(123-cd)pyrene	0.025	0.102	0.042	0.126	0.078	0.024	0.001	0.001
Naphthalene	0.012	11.93	6.723	6.624	21.138	2.507	0.016	0.008
Phenanthrene	0.007	4.186	1.828	4.36	4.518	1.472	0.004	0.003
Pyrene	0.013	0.533	0.197	1.049	0.775	0.078	0.001	0.005



Station#	MDL	Results (ng/m3)						
		AMS 1	AMS 6	AMS 7	AMS 14	AMS 11	Lab Blank Filters	Travel Blank Filters
Station Name		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Lower Camp		
Sample Date		23-Jan	23-Jan	23-Jan	23-Jan	23-Jan	23-Jan	23-Jan
Total Air Volume (M3)		337.7	329.48	360.79	364.45	362.46	360	360
3-Methylcholanthrene	0.033	0.017	0.009	0.015	0.003	0.058	0.001	0.001
7,12-Dimethylbenz(a)anthracene	0.02	0.565	0.414	0.703	0.061	0.419	0.002	0.004
Acenaphthene	0.01	1.66	0.601	4.707	0.165	2.706	0.001	0.002
Acenaphthylene	0.016	1.244	0.389	17.015	0.025	0.797	0.002	0.002
Acridine	0.028	1.126	0.227	1.483	0.148	1.514	0.002	0.002
Anthracene	0.026	0.921	0.24	2.429	0.136	0.859	0.002	<0.001
Benz(a)anthracene	0.021	0.31	0.05	0.637	0.037	1.055	0.001	0.002
Benzo(a)pyrene	0.024	0.206	0.033	0.665	0.02	1.008	0.001	0.004
Benzo(b)fluoranthene	0.029	0.151	0.242	0.325	0.064	0.261	0.002	<0.001
Benzo(c)phenanthrene	0.022	0.117	0.033	0.435	0.033	0.173	0.001	<0.001
Benzo(ghi)perylene	0.029	0.221	0.127	0.188	0.074	0.238	0.002	0.004
Benzo(k)fluoranthene	0.02	0.262	0.273	0.507	0.32	0.107	0.003	<0.001
Chrysene	0.02	0.359	0.058	0.726	0.043	1.202	0.001	0.001
Dibenz(a,h)anthracene	0.029	0.054	0.015	0.172	0.009	0.082	0.003	<0.001
Dibenzo(a,h)pyrene	0.045	0.003	0.005	0.03	0.002	0.011	0.002	<0.001
Dibenzo(a,i)pyrene	0.044	0.015	0.001	0.038	0.016	0.046	0.002	0.004
Dibenzo(a,l)pyrene	0.036	0.077	0.024	0.07	0.01	0.061	0.002	<0.001
Fluoranthene	0.01	1.01	0.338	4.29	0.3	0.717	0.001	0.002
Fluorene	0.007	3.228	1.532	9.075	1.056	3.109	0.001	0.002
Indeno(123-cd)pyrene	0.025	0.139	0.072	0.135	0.052	0.147	0.001	0.002
Naphthalene	0.012	21.723	8.105	76.546	4.978	9.338	0.016	0.003
Phenanthrene	0.007	10.301	2.801	19.074	2.312	7.99	0.004	0.003
Pyrene	0.013	0.907	0.25	4.797	0.186	1.366	0.001	0.003



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						
		AMS 1	AMS 6	AMS 7	AMS 14	AMS 11	Lab Blank Filters	Travel Blank Filters
		Bertha Ganter 29-Jan 335.84	Patricia McInnes 29-Jan 351.67	Athabasca Valley 29-Jan 364.12	Anzac 29-Jan 336.96	Lower Camp 29-Jan 374.89	29-Jan 360	29-Jan 360
3-Methylcholanthrene	0.033	0.045	0.03	0.017	0.007	0.051	0.001	0.003
7,12-Dimethylbenz(a)anthracene	0.02	0.541	0.601	0.522	0.276	0.322	0.002	0.008
Acenaphthene	0.01	0.386	0.662	1.022	0.314	0.592	0.001	0.004
Acenaphthylene	0.016	0.129	0.428	0.562	0.104	0.349	0.002	0.012
Acridine	0.028	0.102	0.116	0.201	0.059	0.14	0.002	<0.001
Anthracene	0.026	0.171	0.173	0.178	0.084	0.084	0.002	0.001
Benz(a)anthracene	0.021	0.081	0.157	0.086	0.035	0.13	0.001	0.002
Benzo(a)pyrene	0.024	0.061	0.122	0.057	0.02	0.113	0.001	0.002
Benzo(b)fluoranthene	0.029	0.193	0.202	0.398	0.212	0.413	0.002	0.012
Benzo(c)phenanthrene	0.022	0.035	0.06	0.029	0.024	0.039	0.001	<0.001
Benzo(ghi)perylene	0.029	0.09	0.127	0.08	0.029	0.147	0.002	<0.001
Benzo(k)fluoranthene	0.02	0.218	0.229	0.452	0.24	0.471	0.003	0.013
Chrysene	0.02	0.096	0.179	0.098	0.04	0.148	0.001	0.003
Dibenz(a,h)anthracene	0.029	0.016	0.027	0.02	0.005	0.034	0.003	<0.001
Dibenzo(a,h)pyrene	0.045	0.005	0.009	0.003	0.007	0.002	0.002	0.002
Dibenzo(a,i)pyrene	0.044	0.006	0.072	0.007	0.005	0.003	0.002	0.006
Dibenzo(a,l)pyrene	0.036	0.107	0.04	0.038	0.069	0.007	0.002	0.002
Fluoranthene	0.01	0.228	0.346	0.23	0.154	0.235	0.001	0.003
Fluorene	0.007	0.98	0.98	1.284	0.556	0.983	0.001	0.002
Indeno(123-cd)pyrene	0.025	0.028	0.076	0.031	0.016	0.05	0.001	0.002
Naphthalene	0.012	12.757	16.758	11.952	10.207	21.599	0.016	0.013
Phenanthrene	0.007	1.565	1.902	1.752	0.792	1.408	0.004	0.003
Pyrene	0.013	0.189	0.321	0.246	0.124	0.244	0.001	0.004



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Polycyclic Aromatic Hydrocarbons (PAHs)

2014  
Indicated Sites and Dates

Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						
		AMS 1	AMS 6	AMS 7	AMS 14	AMS 11	Lab Blank Filters	Travel Blank Filters
		Bertha Ganter 04-Feb 279.99	Patricia McInnes 04-Feb 345.87	Athabasca Valley 04-Feb 364.12	Anzac 04-Feb 318.06	Lower Camp 04-Feb 354.42	04-Feb 360	04-Feb 360
3-Methylcholanthrene	0.033	0.015	0.012	0.043	0.051	0.043	0.001	<0.001
7,12-Dimethylbenz(a)anthracene	0.02	0.355	0.214	0.214	0.303	0.625	0.002	<0.001
Acenaphthene	0.01	0.206	0.602	0.47	0.382	0.675	0.001	0.007
Acenaphthylene	0.016	0.097	0.596	0.348	0.201	0.714	0.002	0.006
Acridine	0.028	0.078	0.087	0.191	0.051	0.424	0.002	0.003
Anthracene	0.026	0.104	0.156	0.1	0.12	0.237	0.002	<0.001
Benz(a)anthracene	0.021	0.024	0.058	0.039	0.021	0.109	0.001	0.002
Benzo(a)pyrene	0.024	0.01	0.036	0.021	0.009	0.044	0.001	<0.001
Benzo(b)fluoranthene	0.029	0.193	0.118	0.066	0.189	0.105	0.002	<0.001
Benzo(c)phenanthrene	0.022	0.018	0.051	0.02	0.031	0.045	0.001	<0.001
Benzo(ghi)perylene	0.029	0.069	0.046	0.027	0.018	0.093	0.002	0.004
Benzo(k)fluoranthene	0.02	0.221	0.133	0.075	0.213	0.119	0.003	<0.001
Chrysene	0.02	0.026	0.065	0.044	0.025	0.124	0.001	0.003
Dibenz(a,h)anthracene	0.029	0.015	0.006	0.005	0.005	0.017	0.003	0.002
Dibenzo(a,h)pyrene	0.045	0.009	0.007	0.005	0.004	0.008	0.002	<0.001
Dibenzo(a,i)pyrene	0.044	0.012	0.024	0.011	0.015	0.009	0.002	0.003
Dibenzo(a,l)pyrene	0.036	0.072	0.006	0.018	0.06	0.073	0.002	0.003
Fluoranthene	0.01	0.127	0.293	0.147	0.354	0.282	0.001	0.002
Fluorene	0.007	0.679	1.105	0.727	1.013	0.781	0.001	0.003
Indeno(123-cd)pyrene	0.025	0.022	0.028	0.011	0.011	0.038	0.001	0.002
Naphthalene	0.012	9.484	9.611	6.678	11.792	9.721	0.016	0.007
Phenanthrene	0.007	0.982	1.401	1.056	1.651	1.541	0.004	0.004
Pyrene	0.013	0.109	0.207	0.139	0.311	0.361	0.001	0.002



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						
		AMS 1	AMS 6	AMS 7	AMS 14	AMS 11	Lab Blank Filters	Travel Blank Filters
		Bertha Ganter 10-Feb 362.5	Patricia McInnes 10-Feb 335.67	Athabasca Valley 10-Feb 370.31	Anzac 10-Feb 271.66	Lower Camp 10-Feb 349.87	10-Feb 360	10-Feb 360
3-Methylcholanthrene	0.033	0.023	0.07	0.041	0.05	0.083	0.002	0.006
7,12-Dimethylbenz(a)anthracene	0.02	0.167	0.252	0.238	0.36	0.682	0.004	<0.001
Acenaphthene	0.01	0.454	1.19	0.733	0.872	1.441	0.001	0.006
Acenaphthylene	0.016	0.658	1.29	1.615	0.452	1.24	0.001	0.002
Acridine	0.028	0.096	0.076	0.127	0.056	0.329	0.001	0.001
Anthracene	0.026	0.152	0.207	0.129	0.13	0.191	0.002	0.004
Benz(a)anthracene	0.021	0.107	0.129	0.036	0.014	0.284	0.001	0.024
Benzo(a)pyrene	0.024	0.219	0.073	0.074	0.027	0.434	0.001	0.002
Benzo(b)fluoranthene	0.029	0.024	0.365	0.331	0.238	0.48	0.002	<0.001
Benzo(c)phenanthrene	0.022	0.044	0.084	0.053	0.053	0.105	0.001	0.01
Benzo(ghi)perylene	0.029	0.145	0.147	0.158	0.113	0.139	0.002	0.012
Benzo(k)fluoranthene	0.02	0.027	0.41	0.348	0.27	0.543	0.002	<0.001
Chrysene	0.02	0.139	0.154	0.038	0.017	0.374	0.001	0.02
Dibenz(a,h)anthracene	0.029	0.067	0.102	0.075	0.139	0.067	0.005	0.004
Dibenzo(a,h)pyrene	0.045	0.036	0.043	0.086	0.079	0.08	0.001	<0.001
Dibenzo(a,i)pyrene	0.044	0.064	0.092	0.088	0.107	0.052	0.005	<0.001
Dibenzo(a,l)pyrene	0.036	0.033	0.09	0.139	0.233	0.131	0.002	<0.001
Fluoranthene	0.01	0.213	0.561	0.306	0.388	0.489	0.001	0.004
Fluorene	0.007	0.564	1.101	0.962	1.364	1.118	0.001	0.01
Indeno(123-cd)pyrene	0.025	0.181	0.071	0.053	0.189	0.393	0.001	<0.001
Naphthalene	0.012	26.481	229.975	20.438	139.791	125.244	0.02	0.083
Phenanthrene	0.007	1.184	1.71	1.454	1.621	1.991	0.003	0.015
Pyrene	0.013	0.222	0.436	0.303	0.323	0.691	0.001	0.004



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)					Lab Blank Filters 16-Feb 360
		AMS 1	AMS 6	AMS 7	AMS 14		
		Bertha Ganter 16-Feb 346.8	Patricia McInnes 16-Feb 330.93	Athabasca Valley 16-Feb 348.7	Anzac 16-Feb 352.47		
3-Methylcholanthrene	0.033	0.037	0.036	0.06	0.064	0.002	
7,12-Dimethylbenz(a)anthracene	0.02	0.729	0.204	0.178	0.339	0.004	
Acenaphthene	0.01	1.207	0.883	0.653	0.726	0.001	
Acenaphthylene	0.016	1.201	1.906	1.723	0.099	0.001	
Acridine	0.028	0.277	0.104	0.224	0.072	0.001	
Anthracene	0.026	0.196	0.178	0.239	0.091	0.002	
Benz(a)anthracene	0.021	0.098	0.032	0.021	0.004	0.001	
Benzo(a)pyrene	0.024	0.086	0.072	0.033	0.016	0.001	
Benzo(b)fluoranthene	0.029	0.303	0.267	0.21	0.209	0.002	
Benzo(c)phenanthrene	0.022	0.048	0.088	0.054	0.022	0.001	
Benzo(ghi)perylene	0.029	0.113	0.104	0.098	0.071	0.002	
Benzo(k)fluoranthene	0.02	0.343	0.294	0.22	0.236	0.002	
Chrysene	0.02	0.075	0.045	0.058	0.007	0.001	
Dibenz(a,h)anthracene	0.029	0.051	0.094	0.086	0.056	0.005	
Dibenzo(a,h)pyrene	0.045	0.054	0.052	0.053	0.069	0.001	
Dibenzo(a,i)pyrene	0.044	0.078	0.101	0.115	0.094	0.005	
Dibenzo(a,l)pyrene	0.036	0.117	0.124	0.105	0.103	0.002	
Fluoranthene	0.01	0.394	0.518	0.444	0.088	0.001	
Fluorene	0.007	1.934	1.146	1.521	0.671	0.001	
Indeno(123-cd)pyrene	0.025	0.208	0.105	0.118	0.075	0.001	
Naphthalene	0.012	8.788	11.215	5.284	7.44	0.02	
Phenanthrene	0.007	2.981	2.397	2.382	0.729	0.003	
Pyrene	0.013	0.341	0.408	0.389	0.058	0.001	



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)					Lab Blank Filters 22-Feb 360
		AMS 1	AMS 6	AMS 7	AMS 14		
		Bertha Ganter 22-Feb 317.63	Patricia McInnes 22-Feb 345.6	Athabasca Valley 22-Feb 363.81	Anzac 22-Feb 377.2		
3-Methylcholanthrene	0.033	0.162	0.056	0.102	0.055	0.002	
7,12-Dimethylbenz(a)anthracene	0.02	0.446	0.523	0.472	0.343	0.004	
Acenaphthene	0.01	0.254	0.493	0.439	0.503	0.001	
Acenaphthylene	0.016	0.68	0.41	0.882	0.16	0.001	
Acridine	0.028	0.087	0.07	0.192	0.034	0.001	
Anthracene	0.026	0.13	0.061	0.088	0.028	0.002	
Benz(a)anthracene	0.021	0.104	0.035	0.023	0.011	0.001	
Benzo(a)pyrene	0.024	0.058	0.046	0.049	0.016	0.001	
Benzo(b)fluoranthene	0.029	0.341	0.275	0.303	0.212	0.002	
Benzo(c)phenanthrene	0.022	0.061	0.018	0.016	0.016	0.001	
Benzo(ghi)perylene	0.029	0.123	0.108	0.1	0.048	0.002	
Benzo(k)fluoranthene	0.02	0.385	0.308	0.325	0.24	0.002	
Chrysene	0.02	0.097	0.04	0.036	0.014	0.001	
Dibenz(a,h)anthracene	0.029	0.136	0.098	0.066	0.052	0.005	
Dibenzo(a,h)pyrene	0.045	0.076	0.057	0.056	0.055	0.001	
Dibenzo(a,i)pyrene	0.044	0.097	0.104	0.096	0.067	0.005	
Dibenzo(a,l)pyrene	0.036	0.161	0.085	0.083	0.12	0.002	
Fluoranthene	0.01	0.339	0.124	0.138	0.09	0.001	
Fluorene	0.007	0.505	0.557	0.919	0.328	0.001	
Indeno(123-cd)pyrene	0.025	0.152	0.078	0.039	0.048	0.001	
Naphthalene	0.012	0.634	32.711	3.596	16.244	0.02	
Phenanthrene	0.007	1.15	0.767	0.949	0.367	0.003	
Pyrene	0.013	0.3	0.112	0.202	0.076	0.001	





Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 28-Feb 360	Travel Blank Filters 28-Feb 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 28-Feb 347.95	Patricia McInnes 28-Feb 347	Athabasca Valley 28-Feb 384.25	Anzac 28-Feb 340.66				
3-Methylcholanthrene	0.033	0.154	0.049	0.059	0.072		0.002	0.001	
7,12-Dimethylbenz(a)anthracene	0.02	0.201	0.474	0.217	0.133		0.004	<0.001	
Acenaphthene	0.01	0.133	0.407	0.093	0.278		0.001	<0.001	
Acenaphthylene	0.016	0.104	0.419	0.515	0.096		0.001	<0.001	
Acridine	0.028	0.039	0.043	0.989	0.034		0.001	0.002	
Anthracene	0.026	0.048	0.163	0.297	0.071		0.002	0.003	
Benz(a)anthracene	0.021	0.013	0.108	0.099	0.015		0.001	0.006	
Benzo(a)pyrene	0.024	0.029	0.113	0.077	0.022		0.001	0.002	
Benzo(b)fluoranthene	0.029	0.101	0.484	0.291	0.098		0.002	0.001	
Benzo(c)phenanthrene	0.022	0.017	0.102	0.102	0.019		0.001	0.002	
Benzo(ghi)perylene	0.029	0.063	0.08	0.058	0.062		0.002	0.004	
Benzo(k)fluoranthene	0.02	0.115	0.547	0.297	0.111		0.002	0.002	
Chrysene	0.02	0.014	0.231	0.192	0.026		0.001	0.005	
Dibenz(a,h)anthracene	0.029	0.054	0.073	0.078	0.042		0.005	0.003	
Dibenzo(a,h)pyrene	0.045	0.084	0.039	0.029	0.056		0.001	0.002	
Dibenzo(a,i)pyrene	0.044	0.089	0.063	0.051	0.089		0.005	<0.001	
Dibenzo(a,l)pyrene	0.036	0.089	0.052	0.037	0.057		0.002	0.003	
Fluoranthene	0.01	0.126	0.784	0.765	0.201		0.001	0.004	
Fluorene	0.007	0.316	0.413	2.929	0.258		0.001	0.002	
Indeno(123-cd)pyrene	0.025	0.074	0.054	0.111	0.076		0.001	0.001	
Naphthalene	0.012	1.017	44.731	6.835	27.106		0.02	0.043	
Phenanthrene	0.007	0.444	1.282	2.758	0.562		0.003	0.008	
Pyrene	0.013	0.083	0.562	1.037	0.129		0.001	0.004	



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)					Lab Blank Filters 06-Mar 360
		AMS 1	AMS 6	AMS 7	AMS 14		
		Bertha Ganter 06-Mar 357.1	Patricia McInnes 06-Mar 341.15	Athabasca Valley 06-Mar 350.19	Anzac 06-Mar 357.85		
3-Methylcholanthrene	0.033	0.023	0.003	0.06	0.004	0.002	
7,12-Dimethylbenz(a)anthracene	0.02	0.008	0.005	0.014	0.011	0.002	
Acenaphthene	0.01	0.936	1.815	1.042	0.785	0.003	
Acenaphthylene	0.016	0.105	0.125	0.221	0.067	0.001	
Acridine	0.028	0.121	0.115	0.173	0.043	0.001	
Anthracene	0.026	0.172	0.236	0.184	0.077	0.001	
Benz(a)anthracene	0.021	0.032	0.054	0.03	0.022	0.001	
Benzo(a)pyrene	0.024	0.02	0.023	0.056	0.025	0.001	
Benzo(b)fluoranthene	0.029	0.02	0.033	0.022	0.01	0.001	
Benzo(c)phenanthrene	0.022	0.01	0.022	0.014	0.007	0.001	
Benzo(ghi)perylene	0.029	0.031	0.034	0.036	0.018	0.001	
Benzo(k)fluoranthene	0.02	0.023	0.038	0.025	0.011	0.001	
Chrysene	0.02	0.036	0.062	0.033	0.025	0.001	
Dibenz(a,h)anthracene	0.029	0.021	0.03	0.017	0.015	0.001	
Dibenzo(a,h)pyrene	0.045	0.034	0.018	0.045	0.011	0.003	
Dibenzo(a,i)pyrene	0.044	0.021	0.043	0.055	0.035	0.003	
Dibenzo(a,l)pyrene	0.036	0.076	0.087	0.08	0.069	0.003	
Fluoranthene	0.01	0.1	0.215	0.168	0.085	0.001	
Fluorene	0.007	0.812	1.409	1.863	0.628	0.001	
Indeno(123-cd)pyrene	0.025	0.024	0.027	0.024	0.014	0.002	
Naphthalene	0.012	16.498	33.329	31.979	13.897	0.002	
Phenanthrene	0.007	1.054	1.476	1.399	0.578	0.001	
Pyrene	0.013	0.104	0.192	0.214	0.084	0.001	



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 12-Mar 360	Travel Blank Filters 12-Mar 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 12-Mar 333.62	Patricia McInnes 12-Mar 330.48	Athabasca Valley 12-Mar 357.54	Anzac 12-Mar 350.97				
3-Methylcholanthrene	0.033	0.006	0.037	0.05	0.028	0.002	<0.001		
7,12-Dimethylbenz(a)anthracene	0.02	0.019	0.023	0.014	0.019	0.002	0.002		
Acenaphthene	0.01	1.077	0.214	0.916	0.948	0.003	0.002		
Acenaphthylene	0.016	0.077	0.023	0.206	0.014	0.001	0.002		
Acridine	0.028	0.307	0.045	0.126	0.062	0.001	0.005		
Anthracene	0.026	0.229	0.079	0.151	0.438	0.001	0.011		
Benz(a)anthracene	0.021	0.005	0.006	0.003	0.001	0.001	<0.001		
Benzo(a)pyrene	0.024	0.009	0.009	0.011	0.023	0.001	<0.001		
Benzo(b)fluoranthene	0.029	0.003	0.002	0.002	0.003	0.001	0.002		
Benzo(c)phenanthrene	0.022	0.001	0.001	0.007	0.005	0.001	<0.001		
Benzo(ghi)perylene	0.029	0.016	0.008	0.011	0.007	0.001	0.003		
Benzo(k)fluoranthene	0.02	0.003	0.002	0.003	0.003	0.001	0.003		
Chrysene	0.02	0.005	0.007	0.004	0.002	0.001	<0.001		
Dibenz(a,h)anthracene	0.029	0.011	0.007	0.009	0.007	0.001	<0.001		
Dibenzo(a,h)pyrene	0.045	0.075	0.027	0.051	0.059	0.003	<0.001		
Dibenzo(a,i)pyrene	0.044	0.048	0.036	0.051	0.068	0.003	<0.001		
Dibenzo(a,l)pyrene	0.036	0.002	0.041	0.078	0.08	0.003	0.08		
Fluoranthene	0.01	0.129	0.056	0.11	0.044	0.001	0.003		
Fluorene	0.007	0.828	0.264	1.105	0.541	0.001	0.02		
Indeno(123-cd)pyrene	0.025	0.007	0.003	0.011	0.009	0.002	<0.001		
Naphthalene	0.012	6.049	4.999	7.732	1.729	0.002	0.116		
Phenanthrene	0.007	1.552	0.458	0.984	0.598	0.001	0.032		
Pyrene	0.013	0.088	0.039	0.112	0.026	0.001	0.005		



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 18-Mar 360	Travel Blank Filters 18-Mar 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 18-Mar 338.1	Patricia McInnes 18-Mar 346.3	Athabasca Valley 18-Mar 356	Anzac 18-Mar 381.41				
3-Methylcholanthrene	0.033	0.008	0.016	0.081	0.071		0.002	0.01	
7,12-Dimethylbenz(a)anthracene	0.02	0.013	0.014	0.012	0.015		0.002	<0.001	
Acenaphthene	0.01	1.331	0.784	1.137	4.448		0.003	0.031	
Acenaphthylene	0.016	0.134	0.51	0.778	0.07		0.001	0.016	
Acridine	0.028	0.277	0.1	0.237	0.078		0.001	0.004	
Anthracene	0.026	0.122	0.12	1.222	0.11		0.001	0.013	
Benz(a)anthracene	0.021	0.007	0.022	0.01	0.003		0.001	<0.001	
Benzo(a)pyrene	0.024	0.031	0.014	0.011	0.014		0.001	<0.001	
Benzo(b)fluoranthene	0.029	0.001	0.022	0.01	0.006		0.001	<0.001	
Benzo(c)phenanthrene	0.022	0.01	0.014	0.007	0.004		0.001	<0.001	
Benzo(ghi)perylene	0.029	0.011	0.022	0.019	0.01		0.001	<0.001	
Benzo(k)fluoranthene	0.02	0.002	0.025	0.011	0.006		0.001	0.001	
Chrysene	0.02	0.008	0.024	0.011	0.003		0.001	<0.001	
Dibenz(a,h)anthracene	0.029	0.005	0.008	0.011	0.007		0.001	<0.001	
Dibenzo(a,h)pyrene	0.045	0.066	0.073	0.059	0.039		0.003	<0.001	
Dibenzo(a,i)pyrene	0.044	0.051	0.061	0.066	0.032		0.003	<0.001	
Dibenzo(a,l)pyrene	0.036	0.087	0.067	0.065	0.084		0.003	0.002	
Fluoranthene	0.01	0.086	0.196	0.188	0.088		0.001	0.005	
Fluorene	0.007	0.944	0.988	1.873	1.821		0.001	0.038	
Indeno(123-cd)pyrene	0.025	0.006	0.013	0.011	0.008		0.002	<0.001	
Naphthalene	0.012	14.319	17.827	17.253	4.957		0.002	0.213	
Phenanthrene	0.007	1.424	1.428	1.567	1.39		0.001	0.021	
Pyrene	0.013	0.084	0.198	0.223	0.054		0.001	0.006	



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 24-Mar 360	Travel Blank Filters 24-Mar 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac				
		24-Mar 325	24-Mar 351.52	24-Mar 335.78	24-Mar 327.35				
3-Methylcholanthrene	0.033	0.012	0.089	0.081	0.01		0.002	0.005	
7,12-Dimethylbenz(a)anthracene	0.02	0.006	0.02	0.028	0.02		0.002	0.002	
Acenaphthene	0.01	0.376	0.169	1.278	1.848		0.003	0.002	
Acenaphthylene	0.016	0.064	0.007	0.172	0.035		0.001	0.001	
Acridine	0.028	0.041	0.017	0.289	0.017		0.001	0.007	
Anthracene	0.026	0.029	0.014	0.079	0.013		0.001	0.005	
Benz(a)anthracene	0.021	0.01	0.008	0.015	0.004		0.001	<0.001	
Benzo(a)pyrene	0.024	0.015	0.011	0.015	0.021		0.001	<0.001	
Benzo(b)fluoranthene	0.029	0.004	0.003	0.011	0.002		0.001	<0.001	
Benzo(c)phenanthrene	0.022	0.003	0.005	0.009	0.003		0.001	<0.001	
Benzo(ghi)perylene	0.029	0.011	0.013	0.027	0.011		0.001	<0.001	
Benzo(k)fluoranthene	0.02	0.005	0.004	0.012	0.002		0.001	<0.001	
Chrysene	0.02	0.011	0.009	0.017	0.004		0.001	<0.001	
Dibenz(a,h)anthracene	0.029	0.014	0.003	0.015	0.003		0.001	<0.001	
Dibenzo(a,h)pyrene	0.045	0.03	0.045	0.058	0.021		0.003	<0.001	
Dibenzo(a,i)pyrene	0.044	0.049	0.056	0.077	0.052		0.003	0.003	
Dibenzo(a,l)pyrene	0.036	0.06	0.09	0.087	0.018		0.003	0.003	
Fluoranthene	0.01	0.04	0.016	0.204	0.031		0.001	0.003	
Fluorene	0.007	0.251	0.112	1.993	0.459		0.001	0.003	
Indeno(123-cd)pyrene	0.025	0.016	0.004	0.017	0.003		0.002	<0.001	
Naphthalene	0.012	3.568	2.499	17.762	11.926		0.002	0.135	
Phenanthrene	0.007	0.341	0.121	1.304	0.252		0.001	0.048	
Pyrene	0.013	0.037	0.013	0.26	0.027		0.001	0.005	



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 30-Mar 360	Travel Blank Filters 30-Mar 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 30-Mar 331.62	Patricia McInnes 30-Mar 346.73	Athabasca Valley 30-Mar 357.81	Anzac 30-Mar 355.01				
3-Methylcholanthrene	0.033	0.023	0.018	0.03	0.097	0.002	<0.001		
7,12-Dimethylbenz(a)anthracene	0.02	0.018	0.021	0.02	0.01	0.002	<0.001		
Acenaphthene	0.01	0.571	0.642	0.934	0.822	0.003	0.036		
Acenaphthylene	0.016	0.042	0.261	0.262	0.044	0.001	0.029		
Acridine	0.028	0.049	0.051	0.267	0.011	0.001	0.008		
Anthracene	0.026	0.033	0.062	0.119	0.048	0.001	0.012		
Benz(a)anthracene	0.021	0.03	0.045	0.046	0.006	0.001	<0.001		
Benzo(a)pyrene	0.024	0.023	0.025	0.035	0.04	0.001	0.002		
Benzo(b)fluoranthene	0.029	0.01	0.011	0.018	0.003	0.001	<0.001		
Benzo(c)phenanthrene	0.022	0.009	0.007	0.013	0.003	0.001	<0.001		
Benzo(ghi)perylene	0.029	0.017	0.029	0.013	0.016	0.001	<0.001		
Benzo(k)fluoranthene	0.02	0.012	0.012	0.02	0.003	0.001	<0.001		
Chrysene	0.02	0.034	0.051	0.052	0.006	0.001	<0.001		
Dibenz(a,h)anthracene	0.029	0.005	0.016	0.012	<0.001	0.001	<0.001		
Dibenzo(a,h)pyrene	0.045	0.028	0.039	0.053	0.048	0.003	<0.001		
Dibenzo(a,i)pyrene	0.044	0.033	0.02	0.054	0.025	0.003	<0.001		
Dibenzo(a,l)pyrene	0.036	0.058	0.04	0.078	0.051	0.003	<0.001		
Fluoranthene	0.01	0.067	0.136	0.179	0.097	0.001	0.003		
Fluorene	0.007	0.284	0.32	1.602	0.326	0.001	0.015		
Indeno(123-cd)pyrene	0.025	0.006	0.019	0.013	0.001	0.002	<0.001		
Naphthalene	0.012	6.158	10.653	18.232	4.227	0.002	0.319		
Phenanthrene	0.007	0.346	0.62	1.338	0.372	0.001	0.043		
Pyrene	0.013	0.067	0.148	0.289	0.063	0.001	0.004		



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 05-Apr 360	Travel Blank Filters 05-Apr 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 05-Apr 340.5	Patricia McInnes 05-Apr 339.97	Athabasca Valley 05-Apr 357.66	Anzac 05-Apr 348.69				
3-Methylcholanthrene	0.033	0.032	0.019	0.02	0.051	0.002	0.012		
7,12-Dimethylbenz(a)anthracene	0.02	0.022	0.02	0.022	0.023	0.002	<0.001		
Acenaphthene	0.01	0.498	0.39	1.818	1.322	0.003	0.141		
Acenaphthylene	0.016	0.07	0.015	0.335	0.03	0.001	0.003		
Acridine	0.028	0.146	0.054	0.282	0.041	0.001	0.006		
Anthracene	0.026	0.046	0.056	0.23	0.177	0.001	0.007		
Benz(a)anthracene	0.021	0.014	0.009	0.024	0.035	0.001	0.002		
Benzo(a)pyrene	0.024	0.028	0.021	0.03	0.02	0.001	0.004		
Benzo(b)fluoranthene	0.029	0.019	0.015	0.026	0.032	0.001	<0.001		
Benzo(c)phenanthrene	0.022	0.005	0.005	0.011	0.015	0.001	0.002		
Benzo(ghi)perylene	0.029	0.029	0.02	0.023	0.032	0.001	0.005		
Benzo(k)fluoranthene	0.02	0.021	0.017	0.028	0.037	0.001	0.003		
Chrysene	0.02	0.016	0.011	0.028	0.041	0.001	0.004		
Dibenz(a,h)anthracene	0.029	0.012	0.011	0.009	0.018	0.001	0.008		
Dibenzo(a,h)pyrene	0.045	0.072	0.013	0.041	0.059	0.003	<0.001		
Dibenzo(a,i)pyrene	0.044	0.088	0.036	0.037	0.062	0.003	<0.001		
Dibenzo(a,l)pyrene	0.036	0.096	0.072	0.054	0.064	0.003	0.011		
Fluoranthene	0.01	0.025	0.073	0.205	0.151	0.001	0.012		
Fluorene	0.007	0.167	0.368	1.89	0.922	0.001	0.033		
Indeno(123-cd)pyrene	0.025	0.014	0.013	0.01	0.021	0.002	0.009		
Naphthalene	0.012	2.561	12.04	33.815	9.393	0.002	0.457		
Phenanthrene	0.007	0.477	0.541	1.778	1.247	0.001	0.077		
Pyrene	0.013	0.03	0.066	0.313	0.13	0.001	0.01		



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 11-Apr 360	Travel Blank Filters 11-Apr 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 11-Apr 338.39	Patricia McInnes 11-Apr 328	Athabasca Valley 11-Apr 46.26	Anzac 11-Apr 325.28				
3-Methylcholanthrene	0.033	0.028	0.014	0.152	0.048		0.001	0.006	
7,12-Dimethylbenz(a)anthracene	0.02	0.058	0.018	0.306	0.023		0.001	0.007	
Acenaphthene	0.01	0.428	0.422	0.526	0.909		0.001	0.005	
Acenaphthylene	0.016	0.16	0.136	0.849	0.037		0.001	0.027	
Acridine	0.028	0.224	0.085	0.205	0.037		0.001	0.012	
Anthracene	0.026	0.116	0.044	0.235	0.063		0.001	0.002	
Benz(a)anthracene	0.021	0.035	0.017	0.025	0.004		0.001	<0.001	
Benzo(a)pyrene	0.024	0.027	0.014	0.058	0.003		0.001	<0.001	
Benzo(b)fluoranthene	0.029	0.038	0.015	0.188	0.015		0.001	<0.001	
Benzo(c)phenanthrene	0.022	0.008	0.005	0.039	0.004		0.001	<0.001	
Benzo(ghi)perylene	0.029	0.081	0.054	0.127	0.018		0.001	0.003	
Benzo(k)fluoranthene	0.02	0.044	0.017	0.213	0.017		0.001	<0.001	
Chrysene	0.02	0.039	0.019	0.024	0.004		0.001	<0.001	
Dibenz(a,h)anthracene	0.029	0.071	0.091	0.167	0.053		0.001	0.005	
Dibenzo(a,h)pyrene	0.045	0.033	0.053	0.386	0.058		0.005	0.005	
Dibenzo(a,i)pyrene	0.044	0.027	0.041	0.051	0.063		0.003	<0.001	
Dibenzo(a,l)pyrene	0.036	0.1	0.051	0.288	0.076		0.005	<0.001	
Fluoranthene	0.01	0.041	0.086	0.244	0.037		0.001	0.009	
Fluorene	0.007	0.262	0.514	1.295	0.79		0.001	0.01	
Indeno(123-cd)pyrene	0.025	0.057	0.087	0.301	0.025		0.001	<0.001	
Naphthalene	0.012	7.363	28.695	52.753	7.976		0.006	0.948	
Phenanthrene	0.007	0.62	0.624	1.891	0.623		0.002	0.01	
Pyrene	0.013	0.066	0.084	0.289	0.03		0.001	0.008	





Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 17-Apr 360	Travel Blank Filters 17-Apr 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac				
		17-Apr	17-Apr	17-Apr	17-Apr				
		334.93	347.05	348.03	332.64				
3-Methylcholanthrene	0.033	0.005	0.017	0.065	0.08	0.001	<0.001		
7,12-Dimethylbenz(a)anthracene	0.02	0.058	0.033	0.029	0.016	0.001	0.01		
Acenaphthene	0.01	0.569	0.351	0.478	3.178	0.001	0.005		
Acenaphthylene	0.016	0.52	0.118	0.43	0.041	0.001	0.004		
Acridine	0.028	0.283	0.065	0.13	0.057	0.001	0.008		
Anthracene	0.026	0.253	0.081	0.096	0.337	0.001	0.004		
Benz(a)anthracene	0.021	0.099	0.041	0.043	0.003	0.001	0.001		
Benzo(a)pyrene	0.024	0.061	0.058	0.016	0.017	0.001	<0.001		
Benzo(b)fluoranthene	0.029	0.095	0.075	0.042	0.035	0.001	0.004		
Benzo(c)phenanthrene	0.022	0.044	0.015	0.01	0.008	0.001	<0.001		
Benzo(ghi)perylene	0.029	0.126	0.077	0.067	0.016	0.001	0.001		
Benzo(k)fluoranthene	0.02	0.107	0.085	0.048	0.04	0.001	<0.001		
Chrysene	0.02	0.113	0.047	0.048	0.003	0.001	<0.001		
Dibenz(a,h)anthracene	0.029	0.086	0.062	0.043	0.032	0.001	0.002		
Dibenzo(a,h)pyrene	0.045	0.051	0.022	0.011	0.074	0.005	0.004		
Dibenzo(a,i)pyrene	0.044	0.027	0.038	0.042	0.064	0.003	0.003		
Dibenzo(a,l)pyrene	0.036	0.045	0.028	0.043	0.07	0.005	<0.001		
Fluoranthene	0.01	0.324	0.252	0.226	0.214	0.001	0.008		
Fluorene	0.007	1.42	0.663	1.147	2.69	0.001	0.002		
Indeno(123-cd)pyrene	0.025	0.084	0.096	0.058	0.038	0.001	<0.001		
Naphthalene	0.012	28.932	37.636	26.019	7.797	0.006	0.246		
Phenanthrene	0.007	2.659	1.144	1.359	3.411	0.002	0.031		
Pyrene	0.013	0.301	0.264	0.228	0.09	0.001	0.009		



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 23-Apr 360	Travel Blank Filters 23-Apr 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac				
		23-Apr 325.14	23-Apr 330.57	23-Apr 358.3	23-Apr 332.49				
3-Methylcholanthrene	0.033	0.11	0.019	0.164	0.026		0.001	0.011	
7,12-Dimethylbenz(a)anthracene	0.02	0.048	0.018	0.032	0.017		0.001	0.013	
Acenaphthene	0.01	1.29	0.183	0.108	1.16		0.001	0.005	
Acenaphthylene	0.016	0.472	0.077	0.034	0.059		0.001	0.006	
Acridine	0.028	0.773	0.083	0.052	0.06		0.001	0.002	
Anthracene	0.026	0.228	0.047	0.056	0.106		0.001	0.006	
Benz(a)anthracene	0.021	0.046	0.027	0.011	0.002		0.001	<0.001	
Benzo(a)pyrene	0.024	0.039	0.028	0.006	0.018		0.001	<0.001	
Benzo(b)fluoranthene	0.029	0.036	0.039	0.02	0.012		0.001	0.015	
Benzo(c)phenanthrene	0.022	0.009	0.04	0.009	0.007		0.001	<0.001	
Benzo(ghi)perylene	0.029	0.073	0.036	0.027	0.005		0.001	0.011	
Benzo(k)fluoranthene	0.02	0.041	0.044	0.022	0.013		0.001	0.008	
Chrysene	0.02	0.052	0.03	0.012	0.002		0.001	<0.001	
Dibenz(a,h)anthracene	0.029	0.042	0.03	0.014	0.012		0.001	0.006	
Dibenzo(a,h)pyrene	0.045	0.028	0.062	0.053	0.017		0.005	0.003	
Dibenzo(a,i)pyrene	0.044	0.016	0.034	0.019	0.028		0.003	<0.001	
Dibenzo(a,l)pyrene	0.036	0.032	0.051	0.028	0.042		0.005	0.004	
Fluoranthene	0.01	0.113	0.141	0.064	0.099		0.001	0.007	
Fluorene	0.007	0.686	0.403	0.297	1.286		0.001	0.013	
Indeno(123-cd)pyrene	0.025	0.048	0.051	0.047	0.053		0.001	<0.001	
Naphthalene	0.012	7.784	20.244	7.488	6.263		0.006	0.262	
Phenanthrene	0.007	2.163	0.59	0.573	1.505		0.002	0.04	
Pyrene	0.013	0.099	0.134	0.065	0.041		0.001	0.005	



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 29-Apr 360	Travel Blank Filters 29-Apr 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 29-Apr 316.1	Patricia McInnes 29-Apr 305.89	Athabasca Valley 29-Apr 351.38	Anzac 29-Apr 350.7				
3-Methylcholanthrene	0.033	0.029	0.004	0.03	0.006		0.001	0.008	
7,12-Dimethylbenz(a)anthracene	0.02	0.035	0.029	0.028	0.017		0.001	0.01	
Acenaphthene	0.01	0.994	0.317	0.795	20.165		0.001	0.005	
Acenaphthylene	0.016	0.498	0.368	0.149	0.316		0.001	0.004	
Acridine	0.028	0.354	0.446	0.308	0.149		0.001	0.005	
Anthracene	0.026	0.162	0.134	0.15	0.794		0.001	0.006	
Benz(a)anthracene	0.021	0.036	0.033	0.023	0.041		0.001	<0.001	
Benzo(a)pyrene	0.024	0.029	0.048	0.016	0.015		0.001	0.005	
Benzo(b)fluoranthene	0.029	0.056	0.074	0.034	0.035		0.001	0.004	
Benzo(c)phenanthrene	0.022	0.008	0.008	0.011	0.013		0.001	<0.001	
Benzo(ghi)perylene	0.029	0.069	0.113	0.046	0.03		0.001	0.01	
Benzo(k)fluoranthene	0.02	0.063	0.084	0.039	0.039		0.001	0.002	
Chrysene	0.02	0.04	0.038	0.027	0.046		0.001	<0.001	
Dibenz(a,h)anthracene	0.029	0.055	0.039	0.003	0.025		0.001	0.003	
Dibenzo(a,h)pyrene	0.045	0.038	0.046	0.026	0.026		0.005	<0.001	
Dibenzo(a,i)pyrene	0.044	0.039	0.023	0.042	0.024		0.003	0.003	
Dibenzo(a,l)pyrene	0.036	0.081	0.049	0.051	0.031		0.005	0.005	
Fluoranthene	0.01	0.124	0.273	0.304	0.61		0.001	0.006	
Fluorene	0.007	1.35	1.173	2.202	16.033		0.001	0.01	
Indeno(123-cd)pyrene	0.025	0.069	0.049	0.047	0.043		0.001	0.002	
Naphthalene	0.012	23.886	25.257	25.056	53.663		0.006	0.725	
Phenanthrene	0.007	2.26	1.316	2.534	15.345		0.002	0.016	
Pyrene	0.013	0.114	0.22	0.333	0.35		0.001	0.006	



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 05-May 360	Travel Blank Filters 05-May 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 05-May 344.7	Patricia McInnes 05-May 307.51	Athabasca Valley 05-May 341.92	Anzac 05-May 348.64				
3-Methylcholanthrene	0.033	0.067	0.023	0.057	0.081		0.001	0.01	
7,12-Dimethylbenz(a)anthracene	0.02	0.05	0.036	0.037	0.052		0.001	0.012	
Acenaphthene	0.01	0.702	0.368	0.281	1.945		0.001	0.035	
Acenaphthylene	0.016	0.222	0.048	0.086	0.024		0.001	0.028	
Acridine	0.028	0.383	0.149	0.138	0.051		0.001	0.014	
Anthracene	0.026	0.096	0.055	0.103	3.14		0.001	0.009	
Benz(a)anthracene	0.021	0.025	0.026	0.033	0.009		0.001	0.006	
Benzo(a)pyrene	0.024	0.03	0.061	0.026	0.021		0.001	0.005	
Benzo(b)fluoranthene	0.029	0.045	0.057	0.057	0.049		0.001	0.01	
Benzo(c)phenanthrene	0.022	0.021	0.004	0.038	0.011		0.001	<0.001	
Benzo(ghi)perylene	0.029	0.08	0.082	0.07	0.059		0.001	0.012	
Benzo(k)fluoranthene	0.02	0.051	0.064	0.064	0.056		0.001	0.012	
Chrysene	0.02	0.028	0.029	0.038	0.011		0.001	0.007	
Dibenz(a,h)anthracene	0.029	0.067	0.08	0.06	0.081		0.001	0.009	
Dibenzo(a,h)pyrene	0.045	0.026	0.071	0.061	0.057		0.005	0.006	
Dibenzo(a,i)pyrene	0.044	0.019	0.08	0.031	0.054		0.003	0.005	
Dibenzo(a,l)pyrene	0.036	0.031	0.088	0.068	0.052		0.005	0.005	
Fluoranthene	0.01	0.107	0.138	0.22	0.205		0.001	0.015	
Fluorene	0.007	0.672	0.648	0.782	2.084		0.001	0.018	
Indeno(123-cd)pyrene	0.025	0.089	0.074	0.055	0.076		0.001	0.015	
Naphthalene	0.012	8.679	33.105	18.554	10.411		0.006	0.453	
Phenanthrene	0.007	1.304	0.856	1.374	3.105		0.002	0.029	
Pyrene	0.013	0.089	0.135	0.239	0.107		0.001	0.014	



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 11-May 360	Travel Blank Filters 11-May 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 11-May 307.82	Patricia McInnes 11-May 326.6	Athabasca Valley 11-May 312.3	Anzac 11-May 358.89				
3-Methylcholanthrene	0.033	0.019	0.062	0.083	0.021		0.001	0.002	
7,12-Dimethylbenz(a)anthracene	0.02	0.209	0.405	0.277	0.086		0.003	0.004	
Acenaphthene	0.01	0.795	0.349	0.387	5.26		0.001	0.006	
Acenaphthylene	0.016	0.351	0.478	0.17	0.097		0.001	0.003	
Acridine	0.028	0.326	0.069	0.127	0.097		0.001	0.002	
Anthracene	0.026	0.153	0.084	0.1	0.324		0.001	0.004	
Benz(a)anthracene	0.021	0.015	0.036	0.029	0.011		0.001	<0.001	
Benzo(a)pyrene	0.024	0.016	0.089	0.054	0.005		0.001	<0.001	
Benzo(b)fluoranthene	0.029	0.24	0.493	0.26	0.162		0.002	0.006	
Benzo(c)phenanthrene	0.022	0.012	0.016	0.01	0.006		0.001	0.003	
Benzo(ghi)perylene	0.029	0.011	0.062	0.053	0.023		0.003	<0.001	
Benzo(k)fluoranthene	0.02	0.301	0.6	0.29	0.184		0.002	0.005	
Chrysene	0.02	0.018	0.044	0.034	0.01		0.001	<0.001	
Dibenz(a,h)anthracene	0.029	0.048	0.113	0.112	0.041		0.002	0.003	
Dibenzo(a,h)pyrene	0.045	0.052	0.012	0.041	0.037		0.002	<0.001	
Dibenzo(a,i)pyrene	0.044	0.073	0.052	0.049	0.064		0.004	0.003	
Dibenzo(a,l)pyrene	0.036	0.05	0.047	0.059	0.077		0.005	0.002	
Fluoranthene	0.01	0.086	0.155	0.147	0.244		0.001	0.004	
Fluorene	0.007	0.351	0.435	0.547	3.401		0.002	0.002	
Indeno(123-cd)pyrene	0.025	0.024	0.051	0.064	0.047		0.002	0.002	
Naphthalene	0.012	5.236	12.736	8.84	18.21		0.006	0.247	
Phenanthrene	0.007	1.186	0.602	0.952	3.866		0.002	0.037	
Pyrene	0.013	0.051	0.125	0.142	0.087		0.001	0.003	



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 17-May 360	Travel Blank Filters 17-May 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 17-May 318.94	Patricia McInnes 17-May 320.69	Athabasca Valley 17-May 359.38	Anzac 17-May 353.36				
3-Methylcholanthrene	0.033	0.026	0.009	0.025	0.037	0.001	<0.001		
7,12-Dimethylbenz(a)anthracene	0.02	0.592	0.705	0.363	0.206	0.003	0.017		
Acenaphthene	0.01	0.671	0.497	0.439	3.649	0.001	0.001		
Acenaphthylene	0.016	0.173	1.182	0.167	0.078	0.001	0.003		
Acridine	0.028	0.248	0.329	0.169	0.057	0.001	0.004		
Anthracene	0.026	0.058	0.561	0.113	0.182	0.001	0.005		
Benz(a)anthracene	0.021	0.036	0.183	0.082	0.005	0.001	0.001		
Benzo(a)pyrene	0.024	0.029	0.1	0.062	0.016	0.001	<0.001		
Benzo(b)fluoranthene	0.029	0.562	0.632	0.428	0.568	0.002	0.019		
Benzo(c)phenanthrene	0.022	0.02	0.032	0.016	0.054	0.001	0.002		
Benzo(ghi)perylene	0.029	0.025	0.052	0.041	0.04	0.003	0.022		
Benzo(k)fluoranthene	0.02	0.623	0.709	0.492	0.637	0.002	0.01		
Chrysene	0.02	0.042	0.21	0.093	0.007	0.001	<0.001		
Dibenz(a,h)anthracene	0.029	0.097	0.038	0.023	0.103	0.002	0.006		
Dibenzo(a,h)pyrene	0.045	0.009	0.004	0.015	0.019	0.002	<0.001		
Dibenzo(a,i)pyrene	0.044	0.006	0.037	0.005	0.032	0.004	<0.001		
Dibenzo(a,l)pyrene	0.036	0.014	0.071	0.042	0.03	0.005	0.003		
Fluoranthene	0.01	0.064	0.842	0.33	0.222	0.001	0.004		
Fluorene	0.007	0.439	1.525	0.854	2.87	0.002	0.008		
Indeno(123-cd)pyrene	0.025	0.068	0.064	0.062	0.052	0.002	0.007		
Naphthalene	0.012	0.304	21.295	8.487	8.523	0.006	0.27		
Phenanthrene	0.007	0.725	4.106	1.822	3.174	0.002	0.032		
Pyrene	0.013	0.067	0.619	0.287	0.103	0.001	0.002		



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 23-May 360	Travel Blank Filters 23-May 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 23-May 343.6	Patricia McInnes 23-May 307.06	Athabasca Valley 23-May 341.05	Anzac 23-May 339.54				
3-Methylcholanthrene	0.033	0.022	0.004	0.014	0.014		0.001	0.002	
7,12-Dimethylbenz(a)anthracene	0.02	0.375	0.383	0.365	0.155		0.003	0.012	
Acenaphthene	0.01	0.562	0.366	0.56	13.457		0.001	0.005	
Acenaphthylene	0.016	0.051	0.232	0.266	0.101		0.001	0.006	
Acridine	0.028	0.417	0.306	0.241	0.285		0.001	0.006	
Anthracene	0.026	0.164	0.546	0.209	0.738		0.001	0.008	
Benz(a)anthracene	0.021	0.037	0.051	0.035	0.013		0.001	<0.001	
Benzo(a)pyrene	0.024	0.011	0.025	0.025	0.011		0.001	0.005	
Benzo(b)fluoranthene	0.029	0.432	0.52	0.428	0.192		0.002	0.022	
Benzo(c)phenanthrene	0.022	0.008	0.025	0.013	0.014		0.001	0.007	
Benzo(ghi)perylene	0.029	0.024	0.042	0.056	0.025		0.003	<0.001	
Benzo(k)fluoranthene	0.02	0.493	0.584	0.471	0.209		0.002	0.028	
Chrysene	0.02	0.043	0.058	0.04	0.016		0.001	<0.001	
Dibenz(a,h)anthracene	0.029	0.016	0.024	0.021	0.01		0.002	0.002	
Dibenzo(a,h)pyrene	0.045	0.02	0.013	0.037	0.023		0.002	<0.001	
Dibenzo(a,i)pyrene	0.044	0.01	0.002	0.018	0.016		0.004	<0.001	
Dibenzo(a,l)pyrene	0.036	0.064	0.08	0.036	0.03		0.005	0.002	
Fluoranthene	0.01	0.105	0.721	0.304	1.834		0.001	0.008	
Fluorene	0.007	0.741	1.055	1.199	10.907		0.002	0.002	
Indeno(123-cd)pyrene	0.025	0.035	0.029	0.048	0.014		0.002	0.002	
Naphthalene	0.012	1.433	11.095	9.216	17.481		0.006	0.075	
Phenanthrene	0.007	1.506	3.264	1.966	21.564		0.002	0.053	
Pyrene	0.013	0.111	0.504	0.29	0.588		0.001	0.008	



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 29-May 360	Travel Blank Filters 29-May 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac				
		29-May	29-May	29-May	29-May				
		360.81	322.022	363.9	297.14				
3-Methylcholanthrene	0.033	0.01	0.045	0.025	0.041	0.001	<0.001		
7,12-Dimethylbenz(a)anthracene	0.02	0.286	0.573	0.142	0.092	0.003	0.008		
Acenaphthene	0.01	0.646	0.841	0.935	2.431	0.001	0.005		
Acenaphthylene	0.016	0.218	0.248	0.235	0.055	0.001	0.004		
Acridine	0.028	0.315	0.219	0.323	0.111	0.001	0.004		
Anthracene	0.026	0.07	0.154	0.156	0.255	0.001	0.005		
Benz(a)anthracene	0.021	0.009	0.02	0.018	0.006	0.001	<0.001		
Benzo(a)pyrene	0.024	0.04	0.022	0.005	0.012	0.001	<0.001		
Benzo(b)fluoranthene	0.029	0.402	1.077	0.246	0.154	0.002	0.023		
Benzo(c)phenanthrene	0.022	0.007	0.007	0.008	0.019	0.001	<0.001		
Benzo(ghi)perylene	0.029	0.025	0.029	0.016	0.012	0.003	0.002		
Benzo(k)fluoranthene	0.02	0.451	1.209	0.273	0.175	0.002	0.028		
Chrysene	0.02	0.011	0.024	0.02	0.008	0.001	<0.001		
Dibenz(a,h)anthracene	0.029	0.181	0.028	0.019	0.046	0.002	0.002		
Dibenzo(a,h)pyrene	0.045	0.017	0.086	0.082	0.057	0.002	<0.001		
Dibenzo(a,i)pyrene	0.044	0.028	0.071	0.056	0.036	0.004	<0.001		
Dibenzo(a,l)pyrene	0.036	0.028	0.051	0.051	0.034	0.005	<0.001		
Fluoranthene	0.01	0.098	0.192	0.186	0.307	0.001	0.004		
Fluorene	0.007	0.498	0.686	0.726	1.802	0.002	0.004		
Indeno(123-cd)pyrene	0.025	0.04	0.04	0.017	0.022	0.002	0.002		
Naphthalene	0.012	1.046	15.793	10.664	6.536	0.006	0.075		
Phenanthrene	0.007	0.094	1.368	1.347	3.334	0.002	0.044		
Pyrene	0.013	0.074	0.155	0.172	0.111	0.001	0.003		





Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 04-Jun 360	Travel Blank Filters 04-Jun 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 04-Jun 334.7968	Patricia McInnes 04-Jun 333.81	Athabasca Valley 04-Jun 342.76	Anzac 04-Jun 318.36				
3-Methylcholanthrene	0.033	0.03	0.049	0.001	0.047		0.001	0.002	
7,12-Dimethylbenz(a)anthracene	0.02	0.865	0.389	0.442	0.321		0.003	0.007	
Acenaphthene	0.01	0.27	1.565	1.217	0.561		0.001	0.002	
Acenaphthylene	0.016	0.047	0.294	0.28	0.083		0.001	0.005	
Acridine	0.028	0.111	0.293	0.369	0.126		0.001	0.004	
Anthracene	0.026	0.084	0.188	0.144	0.091		0.001	0.002	
Benz(a)anthracene	0.021	0.004	0.015	0.01	0.004		0.001	<0.001	
Benzo(a)pyrene	0.024	0.033	0.019	0.023	0.015		0.001	0.005	
Benzo(b)fluoranthene	0.029	1.335	0.656	0.654	0.525		0.002	0.022	
Benzo(c)phenanthrene	0.022	0.01	0.006	0.006	0.022		0.001	<0.001	
Benzo(ghi)perylene	0.029	0.023	0.011	0.017	0.015		0.003	<0.001	
Benzo(k)fluoranthene	0.02	1.509	0.722	0.744	0.609		0.002	0.024	
Chrysene	0.02	0.006	0.018	0.012	0.005		0.001	<0.001	
Dibenz(a,h)anthracene	0.029	0.039	0.031	0.032	0.069		0.002	0.002	
Dibenzo(a,h)pyrene	0.045	0.079	0.075	0.045	0.016		0.002	<0.001	
Dibenzo(a,i)pyrene	0.044	0.054	0.062	0.036	0.019		0.004	<0.001	
Dibenzo(a,l)pyrene	0.036	0.036	0.043	0.042	0.022		0.005	<0.001	
Fluoranthene	0.01	0.046	0.089	0.097	0.133		0.001	0.007	
Fluorene	0.007	0.414	1.063	0.953	0.575		0.002	0.002	
Indeno(123-cd)pyrene	0.025	0.003	0.038	0.014	0.034		0.002	0.004	
Naphthalene	0.012	1.019	5.867	5.139	1.421		0.006	0.07	
Phenanthrene	0.007	0.671	0.898	1.408	1.252		0.002	0.042	
Pyrene	0.013	0.047	0.073	0.092	0.077		0.001	0.006	



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 10-Jun 360	Travel Blank Filters 10-Jun 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 10-Jun 325.24	Patricia McInnes 10-Jun 322.6801	Athabasca Valley 10-Jun 349.75	Anzac 10-Jun 355.39				
3-Methylcholanthrene	0.033	0.002	0.003	0.009	0.009		0.001	<0.001	
7,12-Dimethylbenz(a)anthracene	0.02	<0.001	<0.001	<0.001	0.034		0.001	<0.001	
Acenaphthene	0.01	1.393	0.908	0.478	10.831		0.001	0.001	
Acenaphthylene	0.016	0.093	0.216	0.417	0.058		0.002	0.002	
Acridine	0.028	0.396	0.12	0.121	0.143		0.001	0.003	
Anthracene	0.026	0.109	0.069	0.06	0.33		0.002	0.002	
Benz(a)anthracene	0.021	0.004	0.004	0.003	0.005		0.001	<0.001	
Benzo(a)pyrene	0.024	0.01	0.007	0.008	0.009		0.001	<0.001	
Benzo(b)fluoranthene	0.029	0.002	0.04	<0.001	0.006		0.001	<0.001	
Benzo(c)phenanthrene	0.022	0.003	0.003	0.004	0.067		0.001	<0.001	
Benzo(ghi)perylene	0.029	0.004	0.002	0.003	<0.001		0.001	<0.001	
Benzo(k)fluoranthene	0.02	0.002	0.041	0.004	0.011		0.001	<0.001	
Chrysene	0.02	0.007	0.008	0.013	0.007		0.001	<0.001	
Dibenz(a,h)anthracene	0.029	0.003	0.002	0.003	0.003		0.001	<0.001	
Dibenzo(a,h)pyrene	0.045	0.002	<0.001	<0.001	0.001		0.001	<0.001	
Dibenzo(a,i)pyrene	0.044	<0.001	<0.001	<0.001	<0.001		0.001	0.001	
Dibenzo(a,l)pyrene	0.036	<0.001	<0.001	<0.001	<0.001		0.001	<0.001	
Fluoranthene	0.01	0.083	0.074	0.077	0.188		0.001	<0.001	
Fluorene	0.007	0.346	0.292	0.191	2.357		0.001	0.002	
Indeno(123-cd)pyrene	0.025	0.004	0.004	0.004	0.004		0.001	<0.001	
Naphthalene	0.012	5.578	7.55	7.226	14.818		0.004	0.051	
Phenanthrene	0.007	1.147	0.662	0.616	3.287		0.001	0.002	
Pyrene	0.013	0.099	0.085	0.096	0.107		0.001	<0.001	



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 16-Jun 360	Travel Blank Filters 16-Jun 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 16-Jun 320.91	Patricia McInnes 16-Jun 339.493	Athabasca Valley 16-Jun 353.86	Anzac 16-Jun 353.2				
3-Methylcholanthrene	0.033	0.003	0.008	0.01	0.009	0.001	0.004		
7,12-Dimethylbenz(a)anthracene	0.02	0.022	0.097	0.015	0.034	0.001	0.004		
Acenaphthene	0.01	0.931	1.915	1.213	31.512	0.001	0.008		
Acenaphthylene	0.016	0.092	0.284	1.335	0.147	0.002	0.003		
Acridine	0.028	0.382	0.121	0.216	0.265	0.001	0.003		
Anthracene	0.026	0.096	0.272	0.303	1.121	0.002	0.001		
Benz(a)anthracene	0.021	0.064	0.028	0.07	0.01	0.001	<0.001		
Benzo(a)pyrene	0.024	0.009	0.022	0.035	0.013	0.001	0.002		
Benzo(b)fluoranthene	0.029	0.051	0.221	0.063	0.167	0.001	0.001		
Benzo(c)phenanthrene	0.022	0.01	0.023	0.038	0.022	0.001	0.001		
Benzo(ghi)perylene	0.029	0.01	0.031	0.008	0.005	0.001	<0.001		
Benzo(k)fluoranthene	0.02	0.035	0.077	0.044	0.07	0.001	0.002		
Chrysene	0.02	0.037	0.044	0.083	0.01	0.001	<0.001		
Dibenz(a,h)anthracene	0.029	0.003	0.004	0.004	0.006	0.001	<0.001		
Dibenzo(a,h)pyrene	0.045	0.003	<0.001	0.004	<0.001	0.001	<0.001		
Dibenzo(a,i)pyrene	0.044	<0.001	<0.001	0.002	<0.001	0.001	<0.001		
Dibenzo(a,l)pyrene	0.036	<0.001	0.005	0.006	<0.001	0.001	<0.001		
Fluoranthene	0.01	0.054	0.02	0.462	0.758	0.001	<0.001		
Fluorene	0.007	0.303	0.79	1.117	9.299	0.001	0.003		
Indeno(123-cd)pyrene	0.025	0.004	0.01	0.016	0.004	0.001	<0.001		
Naphthalene	0.012	8.256	23.944	33.258	95.747	0.004	0.043		
Phenanthrene	0.007	1.036	1.699	2.518	16.028	0.001	0.002		
Pyrene	0.013	0.1	0.41	0.519	0.375	0.001	0.001		



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Polycyclic Aromatic Hydrocarbons (PAHs)

2014  
Indicated Sites and Dates

Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 22-Jun 360	Travel Blank Filters 22-Jun 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 22-Jun 347.55	Patricia McInnes 22-Jun 325.7014	Athabasca Valley 22-Jun 360	Anzac 22-Jun 343.47				
3-Methylcholanthrene	0.033	0.008	0.018	0.002	0.008		0.001	0.002	
7,12-Dimethylbenz(a)anthracene	0.02	0.061	0.046	0.003	0.107		0.001	0.006	
Acenaphthene	0.01	0.748	0.698	0.08	13.227		0.001	0.007	
Acenaphthylene	0.016	0.283	0.452	0.007	0.377		0.002	0.002	
Acridine	0.028	0.254	0.256	0.003	0.408		0.001	0.009	
Anthracene	0.026	0.147	0.243	0.01	1.132		0.002	0.002	
Benz(a)anthracene	0.021	0.027	0.014	0.003	0.024		0.001	<0.001	
Benzo(a)pyrene	0.024	0.009	0.011	0.003	0.009		0.001	<0.001	
Benzo(b)fluoranthene	0.029	0.199	0.065	0.003	0.09		0.001	0.001	
Benzo(c)phenanthrene	0.022	0.034	0.024	<0.001	0.041		0.001	<0.001	
Benzo(ghi)perylene	0.029	0.015	0.013	0.002	0.003		0.001	<0.001	
Benzo(k)fluoranthene	0.02	0.577	0.173	0.01	0.257		0.001	<0.001	
Chrysene	0.02	0.015	0.026	0.001	0.011		0.001	<0.001	
Dibenz(a,h)anthracene	0.029	0.011	0.005	0.002	0.003		0.001	<0.001	
Dibenzo(a,h)pyrene	0.045	0.002	<0.001	<0.001	<0.001		0.001	<0.001	
Dibenzo(a,i)pyrene	0.044	0.001	<0.001	<0.001	<0.001		0.001	<0.001	
Dibenzo(a,l)pyrene	0.036	<0.001	<0.001	<0.001	<0.001		0.001	<0.001	
Fluoranthene	0.01	0.098	0.242	0.006	0.684		0.001	0.009	
Fluorene	0.007	0.331	0.512	0.046	3.669		0.001	0.005	
Indeno(123-cd)pyrene	0.025	0.006	0.005	0.003	0.005		0.001	<0.001	
Naphthalene	0.012	2.9	10.153	0.978	45.728		0.004	0.07	
Phenanthrene	0.007	1.238	1.544	0.021	8.652		0.001	0.003	
Pyrene	0.013	0.109	0.241	0.006	0.424		0.001	0.004	



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Polycyclic Aromatic Hydrocarbons (PAHs)

2014  
Indicated Sites and Dates

Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 28-Jun 360	Travel Blank Filters 28-Jun 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 28-Jun 333.74	Patricia McInnes 28-Jun 359.5998	Athabasca Valley 28-Jun 373.27	Anzac 28-Jun 333.39				
3-Methylcholanthrene	0.033	0.013	0.004	0.008	0.009		0.001	0.002	
7,12-Dimethylbenz(a)anthracene	0.02	0.007	0.044	0.047	0.049		0.001	<0.001	
Acenaphthene	0.01	1.458	1.515	1.564	36.72		0.001	0.009	
Acenaphthylene	0.016	1.351	0.447	3.941	0.47		0.002	0.004	
Acridine	0.028	0.625	0.836	0.678	1.265		0.001	0.002	
Anthracene	0.026	0.416	0.707	0.819	5.826		0.002	0.002	
Benz(a)anthracene	0.021	0.036	0.021	0.123	0.015		0.001	<0.001	
Benzo(a)pyrene	0.024	0.012	0.01	0.043	0.01		0.001	<0.001	
Benzo(b)fluoranthene	0.029	0.039	0.14	0.102	0.101		0.001	0.002	
Benzo(c)phenanthrene	0.022	0.003	0.024	0.033	0.01		0.001	<0.001	
Benzo(ghi)perylene	0.029	0.004	0.009	0.081	0.007		0.001	0.001	
Benzo(k)fluoranthene	0.02	0.126	0.397	0.339	0.387		0.001	<0.001	
Chrysene	0.02	0.021	0.028	0.108	0.025		0.001	<0.001	
Dibenz(a,h)anthracene	0.029	0.059	0.121	0.072	0.007		0.001	<0.001	
Dibenzo(a,h)pyrene	0.045	<0.001	<0.001	0.003	0.002		0.001	<0.001	
Dibenzo(a,i)pyrene	0.044	<0.001	<0.001	0.005	0.002		0.001	<0.001	
Dibenzo(a,l)pyrene	0.036	<0.001	0.001	0.005	0.007		0.001	<0.001	
Fluoranthene	0.01	0.134	0.393	0.64	1.963		0.001	0.001	
Fluorene	0.007	0.967	1.084	2.266	16.112		0.001	0.006	
Indeno(123-cd)pyrene	0.025	0.02	0.004	0.044	0.005		0.001	<0.001	
Naphthalene	0.012	18.68	18.239	29.012	104.392		0.004	0.089	
Phenanthrene	0.007	2.484	2.879	5.495	39.435		0.001	0.007	
Pyrene	0.013	0.207	0.347	0.658	0.985		0.001	<0.001	



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 04-Jul 360	Travel Blank Filters 04-Jul 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac				
		04-Jul	04-Jul	04-Jul	04-Jul				
		<b>311.36</b>	<b>333.34</b>	<b>365.66</b>	<b>353.83</b>				
3-Methylcholanthrene	0.033	0.015	0.004	0.008	0.006	0.001	<0.001		
7,12-Dimethylbenz(a)anthracene	0.02	0.101	0.065	<0.001	<0.001	0.001	<0.001		
Acenaphthene	0.01	0.405	0.224	0.249	16.861	0.001	0.008		
Acenaphthylene	0.016	0.248	0.124	0.155	0.125	0.002	0.003		
Acridine	0.028	0.166	0.061	0.189	0.666	0.001	0.005		
Anthracene	0.026	0.167	0.127	0.128	1.168	0.002	0.003		
Benz(a)anthracene	0.021	0.012	0.019	0.024	0.008	0.001	<0.001		
Benzo(a)pyrene	0.024	0.011	0.01	0.009	0.006	0.001	<0.001		
Benzo(b)fluoranthene	0.029	0.029	0.045	0.01	0.03	0.001	<0.001		
Benzo(c)phenanthrene	0.022	0.002	0.012	0.027	0.003	0.001	<0.001		
Benzo(ghi)perylene	0.029	0.014	0.006	0.004	0.007	0.001	<0.001		
Benzo(k)fluoranthene	0.02	0.072	0.149	0.038	0.093	0.001	<0.001		
Chrysene	0.02	0.012	0.017	0.014	0.011	0.001	<0.001		
Dibenz(a,h)anthracene	0.029	0.06	0.094	0.004	0.054	0.001	<0.001		
Dibenzo(a,h)pyrene	0.045	<0.001	0.003	0.002	0.001	0.001	0.002		
Dibenzo(a,i)pyrene	0.044	<0.001	0.002	<0.001	<0.001	0.001	<0.001		
Dibenzo(a,l)pyrene	0.036	<0.001	<0.001	<0.001	0.002	0.001	<0.001		
Fluoranthene	0.01	0.129	0.146	0.089	0.372	0.001	0.005		
Fluorene	0.007	0.37	0.263	0.242	6.821	0.001	0.01		
Indeno(123-cd)pyrene	0.025	0.005	0.005	0.004	0.006	0.001	<0.001		
Naphthalene	0.012	8.975	11.374	4.97	49.301	0.004	0.017		
Phenanthrene	0.007	0.961	1.013	0.781	9.455	0.001	0.007		
Pyrene	0.013	0.171	0.112	0.106	0.284	0.001	<0.001		



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)				Lab Blank Filters 10-Jul 360	Travel Blank Filters 10-Jul 360
		AMS 1	AMS 6	AMS 7	AMS 14		
		Bertha Ganter 10-Jul 319.61	Patricia McInnes 10-Jul 318.7784	Athabasca Valley 10-Jul 363.39	Anzac 10-Jul 318.21		
3-Methylcholanthrene	0.033	0.156	0.174	0.549	0.089	0.001	0.001
7,12-Dimethylbenz(a)anthracene	0.02	0.113	0.115	0.086	0.097	0.003	<0.001
Acenaphthene	0.01	0.705	1.662	0.202	0.874	0.006	0.013
Acenaphthylene	0.016	2.444	0.103	0.166	0.117	0.01	0.05
Acridine	0.028	0.629	0.211	0.401	0.578	0.001	0.003
Anthracene	0.026	0.228	0.202	0.196	0.331	0.003	<0.001
Benz(a)anthracene	0.021	0.033	0.018	0.017	0.021	0.001	0.001
Benzo(a)pyrene	0.024	0.022	0.013	0.011	0.013	0.001	<0.001
Benzo(b)fluoranthene	0.029	0.081	0.028	0.06	0.038	0.001	0.001
Benzo(c)phenanthrene	0.022	0.015	0.008	0.007	0.008	0.001	<0.001
Benzo(ghi)perylene	0.029	0.017	0.02	0.027	0.012	0.001	<0.001
Benzo(k)fluoranthene	0.02	0.091	0.046	0.067	0.047	0.001	0.002
Chrysene	0.02	0.025	0.013	0.016	0.016	0.001	<0.001
Dibenz(a,h)anthracene	0.029	0.023	0.018	0.014	0.012	0.001	<0.001
Dibenzo(a,h)pyrene	0.045	0.007	0.009	0.006	0.004	0.001	<0.001
Dibenzo(a,i)pyrene	0.044	0.008	0.012	0.014	0.007	0.001	<0.001
Dibenzo(a,l)pyrene	0.036	0.016	0.013	0.011	0.013	0.002	0.002
Fluoranthene	0.01	0.233	0.138	0.206	0.439	0.002	<0.001
Fluorene	0.007	3.143	3.172	1.27	2.299	0.013	<0.001
Indeno(123-cd)pyrene	0.025	0.039	0.021	0.016	0.014	0.001	<0.001
Naphthalene	0.012	23.484	19.037	7.629	16.061	0.056	0.207
Phenanthrene	0.007	4.357	2.402	2.284	5.169	0.009	0.005
Pyrene	0.013	0.207	0.084	0.203	0.375	0.002	<0.001



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)				Lab Blank Filters 16-Jul 360	Travel Blank Filters 16-Jul 360
		AMS 1	AMS 6	AMS 7	AMS 14		
		Bertha Ganter 16-Jul 311.25	Patricia McInnes 16-Jul 1561.756	Athabasca Valley 16-Jul 351.42	Anzac 16-Jul 375.43		
3-Methylcholanthrene	0.033	0.575	0.106	0.12	0.165	0.001	0.009
7,12-Dimethylbenz(a)anthracene	0.02	0.238	0.117	0.287	0.143	0.003	<0.001
Acenaphthene	0.01	3.3	0.946	3.801	15.601	0.006	0.017
Acenaphthylene	0.016	4.499	1.133	2.29	1.935	0.01	0.005
Acridine	0.028	2.445	0.572	1.992	0.778	0.001	<0.001
Anthracene	0.026	0.845	0.551	0.766	2.039	0.003	0.002
Benz(a)anthracene	0.021	0.069	0.036	0.074	0.016	0.001	0.001
Benzo(a)pyrene	0.024	0.026	0.018	0.031	0.025	0.001	0.001
Benzo(b)fluoranthene	0.029	0.145	0.076	0.182	0.066	0.001	0.002
Benzo(c)phenanthrene	0.022	0.122	0.03	0.079	0.089	0.001	<0.001
Benzo(ghi)perylene	0.029	0.053	0.039	0.11	0.033	0.001	<0.001
Benzo(k)fluoranthene	0.02	0.163	0.086	0.206	0.074	0.001	0.001
Chrysene	0.02	0.079	0.059	0.082	0.016	0.001	0.001
Dibenz(a,h)anthracene	0.029	0.033	0.01	0.033	0.02	0.001	<0.001
Dibenzo(a,h)pyrene	0.045	0.004	0.001	0.005	0.005	0.001	<0.001
Dibenzo(a,i)pyrene	0.044	0.01	0.004	0.012	0.005	0.001	<0.001
Dibenzo(a,l)pyrene	0.036	0.017	0.006	0.028	0.013	0.002	<0.001
Fluoranthene	0.01	0.659	0.669	1.014	1.434	0.002	0.001
Fluorene	0.007	5.616	2.955	7.415	16.27	0.013	0.027
Indeno(123-cd)pyrene	0.025	0.038	0.02	0.03	0.015	0.001	<0.001
Naphthalene	0.012	32.609	14.748	29.999	30.994	0.056	0.277
Phenanthrene	0.007	13.124	6.963	13.473	30.201	0.009	0.031
Pyrene	0.013	0.661	0.596	0.985	0.864	0.002	<0.001





Station#	MDL	Results (ng/m3)						Lab Blank Filters	Travel Blank Filters
		AMS 1	AMS 6	AMS 7	AMS 14	22-Jul	22-Jul		
Station Name		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac				
Sample Date		22-Jul	22-Jul	22-Jul	22-Jul		22-Jul	22-Jul	
Total Air Volume (M3)		271.13	327.7848	344.13	344.14		360	360	
3-Methylcholanthrene	0.033	0.296	0.206	0.241	0.13		0.001	0.01	
7,12-Dimethylbenz(a)anthracene	0.02	0.199	0.077	0.09	0.143		0.003	0.004	
Acenaphthene	0.01	3.055	1.656	2.31	79.911		0.006	0.014	
Acenaphthylene	0.016	1.572	0.829	2.166	1.617		0.01	0.015	
Acridine	0.028	2.325	0.526	0.661	2.923		0.001	0.023	
Anthracene	0.026	0.638	0.634	0.58	4.361		0.003	0.007	
Benz(a)anthracene	0.021	0.06	0.044	0.056	0.028		0.001	0.001	
Benzo(a)pyrene	0.024	0.052	0.047	0.051	0.02		0.001	<0.001	
Benzo(b)fluoranthene	0.029	0.113	0.13	0.132	0.047		0.001	0.007	
Benzo(c)phenanthrene	0.022	0.047	0.042	0.228	0.028		0.001	<0.001	
Benzo(ghi)perylene	0.029	0.139	0.101	0.115	0.015		0.001	0.004	
Benzo(k)fluoranthene	0.02	0.121	0.146	0.149	0.053		0.001	0.004	
Chrysene	0.02	0.077	0.058	0.079	0.035		0.001	0.002	
Dibenz(a,h)anthracene	0.029	0.045	0.028	0.03	0.029		0.001	<0.001	
Dibenzo(a,h)pyrene	0.045	0.009	0.006	0.007	0.005		0.001	<0.001	
Dibenzo(a,i)pyrene	0.044	0.008	0.006	0.005	0.009		0.001	<0.001	
Dibenzo(a,l)pyrene	0.036	0.022	0.036	0.026	0.011		0.002	0.002	
Fluoranthene	0.01	0.478	0.845	0.887	3.77		0.002	0.006	
Fluorene	0.007	4.531	4.965	4.994	59.998		0.013	0.091	
Indeno(123-cd)pyrene	0.025	0.027	0.044	0.042	0.017		0.001	<0.001	
Naphthalene	0.012	24.436	26.964	37.418	151.919		0.056	0.706	
Phenanthrene	0.007	9.055	7.78	9.687	87.769		0.009	0.047	
Pyrene	0.013	0.608	0.684	0.94	1.854		0.002	0.006	



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Station#	MDL	Results (ng/m3)				Lab Blank Filters	Travel Blank Filters
		AMS 1	AMS 6	AMS 7	AMS 14		
Station Name		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		
Sample Date		28-Jul	28-Jul	28-Jul	28-Jul	28-Jul	28-Jul
Total Air Volume (M3)		312.78	291.6095	365.23	366.96	360	360
3-Methylcholanthrene	0.033	0.447	0.081	0.09	0.103	0.001	0.01
7,12-Dimethylbenz(a)anthracene	0.02	0.183	0.226	0.132	0.056	0.003	<0.001
Acenaphthene	0.01	7.118	1.874	1.922	82.766	0.006	0.003
Acenaphthylene	0.016	1.934	0.384	1.824	1.518	0.01	0.012
Acridine	0.028	1.675	0.594	0.748	1.511	0.001	<0.001
Anthracene	0.026	0.855	0.694	0.759	5.508	0.003	0.001
Benz(a)anthracene	0.021	0.026	0.041	0.046	0.018	0.001	<0.001
Benzo(a)pyrene	0.024	0.025	0.031	0.027	0.015	0.001	<0.001
Benzo(b)fluoranthene	0.029	0.117	0.144	0.12	0.029	0.001	<0.001
Benzo(c)phenanthrene	0.022	0.02	0.035	0.074	0.015	0.001	<0.001
Benzo(ghi)perylene	0.029	0.025	0.038	0.082	0.002	0.001	<0.001
Benzo(k)fluoranthene	0.02	0.132	0.163	0.136	0.033	0.001	<0.001
Chrysene	0.02	0.036	0.053	0.06	0.023	0.001	<0.001
Dibenz(a,h)anthracene	0.029	0.013	0.026	0.03	0.012	0.001	<0.001
Dibenzo(a,h)pyrene	0.045	0.006	0.008	0.005	0.005	0.001	<0.001
Dibenzo(a,i)pyrene	0.044	0.005	0.006	0.005	0.005	0.001	<0.001
Dibenzo(a,l)pyrene	0.036	0.008	0.013	0.015	0.006	0.002	<0.001
Fluoranthene	0.01	0.388	1.181	0.72	3.547	0.002	<0.001
Fluorene	0.007	7.616	3.868	3.467	62.684	0.013	0.03
Indeno(123-cd)pyrene	0.025	0.016	0.016	0.026	0.004	0.001	<0.001
Naphthalene	0.012	19.508	30.448	21.548	105.534	0.056	0.321
Phenanthrene	0.007	11.287	8.969	7.204	99.469	0.009	0.024
Pyrene	0.013	0.559	0.959	0.922	1.822	0.002	<0.001



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Station#	MDL	Results (ng/m3)						Lab Blank Filters	Travel Blank Filters
		AMS 1	AMS 6	AMS 7	AMS 14	AMS 14	AMS 14		
Station Name		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Anzac			
Sample Date		03-Aug	03-Aug	03-Aug	03-Aug	03-Aug	03-Aug	03-Aug	
Total Air Volume (M3)		337.9	334.7	387.55	318.36	318.36	360	360	
3-Methylcholanthrene	0.033	0.33	0.282	0.135	0.099	0.099	0.001	0.006	
7,12-Dimethylbenz(a)anthracene	0.02	0.116	0.132	0.091	0.128	0.128	0.003	<0.001	
Acenaphthene	0.01	2.627	1.249	1.851	126.723	126.723	0.006	0.006	
Acenaphthylene	0.016	1.287	0.788	2.436	3.129	3.129	0.01	0.004	
Acridine	0.028	1.567	0.423	1.018	2.111	2.111	0.001	0.003	
Anthracene	0.026	0.574	0.869	1.437	5.381	5.381	0.003	0.002	
Benz(a)anthracene	0.021	0.039	0.06	0.054	0.064	0.064	0.001	<0.001	
Benzo(a)pyrene	0.024	0.028	0.054	0.036	0.08	0.08	0.001	<0.001	
Benzo(b)fluoranthene	0.029	0.048	0.11	0.131	0.101	0.101	0.001	0.002	
Benzo(c)phenanthrene	0.022	0.004	0.069	0.053	0.036	0.036	0.001	<0.001	
Benzo(ghi)perylene	0.029	0.009	0.065	0.077	0.062	0.062	0.001	0.001	
Benzo(k)fluoranthene	0.02	0.054	0.124	0.148	0.114	0.114	0.001	0.002	
Chrysene	0.02	0.045	0.07	0.064	0.086	0.086	0.001	<0.001	
Dibenz(a,h)anthracene	0.029	0.015	0.03	0.019	0.018	0.018	0.001	<0.001	
Dibenzo(a,h)pyrene	0.045	0.004	0.004	0.004	0.005	0.005	0.001	<0.001	
Dibenzo(a,i)pyrene	0.044	0.004	0.004	0.004	0.005	0.005	0.001	<0.001	
Dibenzo(a,l)pyrene	0.036	0.009	0.02	0.029	0.034	0.034	0.002	<0.001	
Fluoranthene	0.01	0.416	1.065	0.801	2.195	2.195	0.002	<0.001	
Fluorene	0.007	4.591	4.279	4.745	77.644	77.644	0.013	0.002	
Indeno(123-cd)pyrene	0.025	0.009	0.041	0.016	0.028	0.028	0.001	<0.001	
Naphthalene	0.012	14.143	30.726	29.236	250.727	250.727	0.056	0.172	
Phenanthrene	0.007	10.436	10.708	11.315	77.491	77.491	0.009	0.003	
Pyrene	0.013	0.639	0.872	0.859	1.	1.	0.002	<0.001	



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 09-Aug 360	Travel Blank Filters 09-Aug 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac				
		09-Aug 351.23	09-Aug 333.7571	09-Aug 359.12	09-Aug 317.61				
3-Methylcholanthrene	0.033	0.069	0.057	0.093	0.223	0.001	<0.001		
7,12-Dimethylbenz(a)anthracene	0.02	0.034	0.02	0.035	0.009	0.002	<0.001		
Acenaphthene	0.01	0.29	0.609	1.387	4.679	0.002	<0.001		
Acenaphthylene	0.016	1.543	1.454	4.729	1.058	0.001	0.005		
Acridine	0.028	0.191	0.196	0.503	0.035	0.001	<0.001		
Anthracene	0.026	0.231	0.213	1.039	0.407	0.001	<0.001		
Benz(a)anthracene	0.021	0.011	0.004	0.028	0.005	0.001	<0.001		
Benzo(a)pyrene	0.024	0.006	0.013	0.062	0.007	0.001	<0.001		
Benzo(b)fluoranthene	0.029	0.038	0.029	0.087	0.031	0.001	<0.001		
Benzo(c)phenanthrene	0.022	0.002	0.005	0.031	0.003	0.001	0.003		
Benzo(ghi)perylene	0.029	0.009	0.011	0.102	0.006	0.001	<0.001		
Benzo(k)fluoranthene	0.02	0.042	0.033	0.072	0.035	0.001	<0.001		
Chrysene	0.02	0.013	0.009	0.057	0.008	0.001	<0.001		
Dibenz(a,h)anthracene	0.029	0.006	0.006	0.017	0.006	0.001	<0.001		
Dibenzo(a,h)pyrene	0.045	0.002	0.002	0.003	0.003	0.002	<0.001		
Dibenzo(a,i)pyrene	0.044	0.002	0.002	0.015	0.002	0.001	<0.001		
Dibenzo(a,l)pyrene	0.036	0.003	0.004	0.018	0.005	0.001	<0.001		
Fluoranthene	0.01	0.135	0.148	0.624	0.265	0.001	0.003		
Fluorene	0.007	1.177	0.924	3.262	4.434	0.002	0.002		
Indeno(123-cd)pyrene	0.025	0.003	0.004	0.029	0.003	0.001	<0.001		
Naphthalene	0.012	2.594	11.776	39.12	14.648	0.009	0.032		
Phenanthrene	0.007	2.037	1.749	5.31	4.576	0.003	<0.001		
Pyrene	0.013	0.127	0.126	0.633	0.225	0.001	0.002		



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 15-Aug 360	Travel Blank Filters 15-Aug 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac				
		15-Aug 330.5	15-Aug 287.27	15-Aug 359.4	15-Aug 359.07				
3-Methylcholanthrene	0.033	0.062	0.221	0.098	0.145	0.001	0.02		
7,12-Dimethylbenz(a)anthracene	0.02	0.095	0.063	0.026	0.028	0.002	<0.001		
Acenaphthene	0.01	2.617	0.968	1.104	72.125	0.002	<0.001		
Acenaphthylene	0.016	0.849	0.836	0.604	1.027	0.001	0.005		
Acridine	0.028	0.125	0.289	0.079	0.716	0.001	<0.001		
Anthracene	0.026	0.606	0.368	0.299	3.607	0.001	<0.001		
Benz(a)anthracene	0.021	0.017	0.019	0.018	0.031	0.001	<0.001		
Benzo(a)pyrene	0.024	0.015	0.02	0.011	0.009	0.001	<0.001		
Benzo(b)fluoranthene	0.029	0.088	0.031	0.025	0.023	0.001	<0.001		
Benzo(c)phenanthrene	0.022	0.011	0.061	0.011	0.013	0.001	<0.001		
Benzo(ghi)perylene	0.029	0.018	0.038	0.037	0.012	0.001	<0.001		
Benzo(k)fluoranthene	0.02	0.099	0.047	0.027	0.028	0.001	<0.001		
Chrysene	0.02	0.038	0.027	0.025	0.027	0.001	<0.001		
Dibenz(a,h)anthracene	0.029	0.011	0.013	0.009	0.008	0.001	<0.001		
Dibenzo(a,h)pyrene	0.045	0.003	0.002	0.006	0.002	0.002	<0.001		
Dibenzo(a,i)pyrene	0.044	<0.001	0.001	0.002	0.002	0.001	<0.001		
Dibenzo(a,l)pyrene	0.036	0.006	0.008	0.007	0.003	0.001	<0.001		
Fluoranthene	0.01	0.288	0.569	0.296	2.655	0.001	0.002		
Fluorene	0.007	2.566	2.059	1.915	42.733	0.002	0.002		
Indeno(123-cd)pyrene	0.025	0.005	0.015	0.014	0.006	0.001	<0.001		
Naphthalene	0.012	11.126	14.981	7.531	24.746	0.009	0.026		
Phenanthrene	0.007	4.774	4.171	2.961	51.224	0.003	<0.001		
Pyrene	0.013	0.356	0.532	0.389	1.263	0.001	0.002		



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)					Lab Blank Filters 21-Aug 360	Travel Blank Filters 21-Aug 360
		AMS 6	AMS 7	AMS 14				
		Patricia McInnes	Athabasca Valley	Anzac				
		21-Aug 0.38	21-Aug 359.1	21-Aug 37.29				
3-Methylcholanthrene	0.033	<0.001	0.036	0.074		0.001	0.002	
7,12-Dimethylbenz(a)anthracene	0.02	0.058	0.011	0.037		0.002	<0.001	
Acenaphthene	0.01	3.031	0.554	0.598		0.002	<0.001	
Acenaphthylene	0.016	3.887	0.351	0.921		0.001	0.005	
Acridine	0.028	0.846	0.322	0.79		0.001	<0.001	
Anthracene	0.026	1.759	0.265	0.171		0.001	<0.001	
Benz(a)anthracene	0.021	<0.001	0.022	0.03		0.001	<0.001	
Benzo(a)pyrene	0.024	<0.001	0.017	0.029		0.001	<0.001	
Benzo(b)fluoranthene	0.029	0.135	0.1	1.044		0.001	<0.001	
Benzo(c)phenanthrene	0.022	0.135	0.012	0.004		0.001	<0.001	
Benzo(ghi)perylene	0.029	<0.001	0.05	0.034		0.001	<0.001	
Benzo(k)fluoranthene	0.02	0.102	0.112	0.106		0.001	<0.001	
Chrysene	0.02	<0.001	0.028	0.034		0.001	<0.001	
Dibenz(a,h)anthracene	0.029	<0.001	0.009	0.037		0.001	<0.001	
Dibenzo(a,h)pyrene	0.045	<0.001	0.002	0.015		0.002	<0.001	
Dibenzo(a,i)pyrene	0.044	<0.001	0.003	0.021		0.001	<0.001	
Dibenzo(a,l)pyrene	0.036	<0.001	0.008	0.008		0.001	<0.001	
Fluoranthene	0.01	0.282	0.25	0.176		0.001	<0.001	
Fluorene	0.007	0.904	1.234	0.381		0.002	<0.001	
Indeno(123-cd)pyrene	0.025	<0.001	0.005	0.02		0.001	<0.001	
Naphthalene	0.012	3.028	8.584	3.938		0.009	0.029	
Phenanthrene	0.007	5.674	2.253	3.283		0.003	<0.001	
Pyrene	0.013	0.081	0.393	0.132		0.001	<0.001	



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)					Lab Blank Filters 27-Aug 360	Travel Blank Filters 27-Aug 360
		AMS 6	AMS 7	AMS 14				
		Patricia McInnes 27-Aug 315.96	Athabasca Valley 27-Aug 315.96	Anzac 27-Aug 315.96				
3-Methylcholanthrene	0.033	0.064	0.263	0.221		0.001	<0.001	
7,12-Dimethylbenz(a)anthracene	0.02	0.055	0.055	0.036		0.002	<0.001	
Acenaphthene	0.01	0.258	0.48	8.103		0.002	<0.001	
Acenaphthylene	0.016	0.485	1.129	0.435		0.001	0.006	
Acridine	0.028	0.11	0.223	0.18		0.001	<0.001	
Anthracene	0.026	0.07	0.221	0.501		0.001	<0.001	
Benz(a)anthracene	0.021	0.017	0.025	0.007		0.001	<0.001	
Benzo(a)pyrene	0.024	0.014	0.012	0.009		0.001	<0.001	
Benzo(b)fluoranthene	0.029	0.096	0.122	0.112		0.001	<0.001	
Benzo(c)phenanthrene	0.022	0.01	0.01	0.002		0.001	<0.001	
Benzo(ghi)perylene	0.029	0.021	0.034	0.005		0.001	<0.001	
Benzo(k)fluoranthene	0.02	0.108	0.138	0.126		0.001	<0.001	
Chrysene	0.02	0.02	0.028	0.008		0.001	<0.001	
Dibenz(a,h)anthracene	0.029	0.008	0.009	0.008		0.001	<0.001	
Dibenzo(a,h)pyrene	0.045	0.002	0.002	0.002		0.002	<0.001	
Dibenzo(a,i)pyrene	0.044	0.002	0.002	0.002		0.001	0.002	
Dibenzo(a,l)pyrene	0.036	0.01	0.005	0.003		0.001	<0.001	
Fluoranthene	0.01	0.141	0.251	0.352		0.001	0.001	
Fluorene	0.007	0.601	1.06	6.06		0.002	0.003	
Indeno(123-cd)pyrene	0.025	0.007	0.006	0.006		0.001	<0.001	
Naphthalene	0.012	6.056	13.469	17.356		0.009	0.024	
Phenanthrene	0.007	1.076	1.998	6.614		0.003	<0.001	
Pyrene	0.013	0.136	0.343	0.213		0.001	<0.001	



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 02-Sep 360	Travel Blank Filters 02-Sep 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 02-Sep 331.36	Patricia McInnes 02-Sep 315.95	Athabasca Valley 02-Sep 315.96	Anzac 02-Sep 315.96				
3-Methylcholanthrene	0.033	0.154	0.186	0.274	0.265	0.001	<0.001		
7,12-Dimethylbenz(a)anthracene	0.02	0.039	0.041	0.053	0.049	0.002	<0.001		
Acenaphthene	0.01	0.405	0.363	0.476	12.204	0.002	<0.001		
Acenaphthylene	0.016	1.106	0.806	0.493	0.297	0.001	0.005		
Acridine	0.028	0.364	0.114	0.218	0.198	0.001	0.001		
Anthracene	0.026	0.474	0.105	0.235	0.43	0.001	<0.001		
Benz(a)anthracene	0.021	0.011	0.019	0.017	0.012	0.001	<0.001		
Benzo(a)pyrene	0.024	0.007	0.014	0.026	0.014	0.001	<0.001		
Benzo(b)fluoranthene	0.029	0.071	0.14	0.167	0.141	0.001	<0.001		
Benzo(c)phenanthrene	0.022	0.008	0.013	0.015	0.009	0.001	0.002		
Benzo(ghi)perylene	0.029	0.004	0.022	0.034	0.003	0.001	<0.001		
Benzo(k)fluoranthene	0.02	0.08	0.157	0.188	0.159	0.001	<0.001		
Chrysene	0.02	0.012	0.022	0.02	0.013	0.001	<0.001		
Dibenz(a,h)anthracene	0.029	0.004	0.007	0.008	0.006	0.001	<0.001		
Dibenzo(a,h)pyrene	0.045	0.002	0.004	0.003	0.004	0.002	<0.001		
Dibenzo(a,i)pyrene	0.044	0.002	0.003	0.003	0.004	0.001	<0.001		
Dibenzo(a,l)pyrene	0.036	<0.001	0.007	0.007	<0.001	0.001	<0.001		
Fluoranthene	0.01	0.344	0.168	0.235	0.372	0.001	0.002		
Fluorene	0.007	1.223	0.61	0.971	7.933	0.002	<0.001		
Indeno(123-cd)pyrene	0.025	0.005	0.005	0.011	0.007	0.001	<0.001		
Naphthalene	0.012	3.707	11.013	20.924	29.331	0.009	0.022		
Phenanthrene	0.007	2.046	1.184	1.911	7.692	0.003	0.003		
Pyrene	0.013	0.825	0.174	0.328	0.205	0.001	<0.001		





Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 08-Sep 360	Travel Blank Filters 08-Sep 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 08-Sep 331.64	Patricia McInnes 08-Sep 292.48	Athabasca Valley 08-Sep 315.98	Anzac 08-Sep 315.99				
3-Methylcholanthrene	0.033	0.133	0.162	0.073	0.081	0.001	<0.001		
7,12-Dimethylbenz(a)anthracene	0.02	0.012	0.022	0.007	0.008	0.002	<0.001		
Acenaphthene	0.01	0.189	0.533	0.137	2.13	0.002	<0.001		
Acenaphthylene	0.016	0.029	0.283	0.038	0.022	0.001	0.004		
Acridine	0.028	0.023	0.155	0.038	0.015	0.001	<0.001		
Anthracene	0.026	0.03	0.156	0.023	0.139	0.001	<0.001		
Benz(a)anthracene	0.021	0.005	0.032	0.006	0.004	0.001	<0.001		
Benzo(a)pyrene	0.024	0.008	0.016	0.008	0.009	0.001	<0.001		
Benzo(b)fluoranthene	0.029	0.044	0.221	0.039	0.02	0.001	<0.001		
Benzo(c)phenanthrene	0.022	0.008	0.019	0.003	0.003	0.001	<0.001		
Benzo(ghi)perylene	0.029	0.005	0.015	0.005	0.004	0.001	<0.001		
Benzo(k)fluoranthene	0.02	0.049	0.25	0.043	0.023	0.001	<0.001		
Chrysene	0.02	0.006	0.036	0.007	0.004	0.001	<0.001		
Dibenz(a,h)anthracene	0.029	0.004	0.013	0.006	0.006	0.001	<0.001		
Dibenzo(a,h)pyrene	0.045	0.006	0.003	0.003	0.003	0.002	<0.001		
Dibenzo(a,i)pyrene	0.044	0.005	0.002	0.003	0.004	0.001	<0.001		
Dibenzo(a,l)pyrene	0.036	0.004	0.006	0.003	0.003	0.001	<0.001		
Fluoranthene	0.01	0.023	0.185	0.043	0.062	0.001	<0.001		
Fluorene	0.007	0.192	0.645	0.184	1.225	0.002	0.001		
Indeno(123-cd)pyrene	0.025	0.005	0.005	0.004	0.006	0.001	<0.001		
Naphthalene	0.012	0.978	5.921	1.401	2.896	0.009	0.025		
Phenanthrene	0.007	0.255	1.343	0.477	0.965	0.003	<0.001		
Pyrene	0.013	0.032	0.216	0.08	0.033	0.001	<0.001		



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 14-Sep 360	Travel Blank Filters 14-Sep 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 14-Sep 315.98	Patricia McInnes 14-Sep 315.96	Athabasca Valley 14-Sep 315.99	Anzac 14-Sep 319.98				
3-Methylcholanthrene	0.033	0.054	0.008	0.02	0.007		0.001	0.004	
7,12-Dimethylbenz(a)anthracene	0.02	0.248	0.323	0.233	0.25		0.001	0.005	
Acenaphthene	0.01	2.28	0.442	1.264	40.102		0.001	0.013	
Acenaphthylene	0.016	1.232	0.311	4.216	1.231		0.001	0.009	
Acridine	0.028	1.55	0.199	0.777	0.912		0.001	0.028	
Anthracene	0.026	0.474	0.317	0.95	1.943		0.001	0.019	
Benz(a)anthracene	0.021	0.108	0.053	0.499	0.139		0.002	0.005	
Benzo(a)pyrene	0.024	0.059	0.042	0.072	0.065		0.001	0.002	
Benzo(b)fluoranthene	0.029	0.152	0.275	0.568	0.205		0.001	0.006	
Benzo(c)phenanthrene	0.022	0.027	0.026	0.03	0.034		0.001	0.005	
Benzo(ghi)perylene	0.029	0.011	0.051	0.052	0.037		0.001	0.002	
Benzo(k)fluoranthene	0.02	0.158	0.311	0.379	0.165		0.001	0.005	
Chrysene	0.02	0.112	0.075	0.394	0.119		0.002	0.002	
Dibenz(a,h)anthracene	0.029	0.018	0.01	0.049	0.027		0.001	<0.001	
Dibenzo(a,h)pyrene	0.045	0.008	0.009	0.006	0.006		0.001	<0.001	
Dibenzo(a,i)pyrene	0.044	0.005	0.005	0.004	0.005		0.001	<0.001	
Dibenzo(a,l)pyrene	0.036	0.019	0.016	0.033	0.041		0.001	<0.001	
Fluoranthene	0.01	0.563	0.261	2.361	2.442		0.001	0.014	
Fluorene	0.007	2.709	0.876	3.17	26.912		0.002	0.042	
Indeno(123-cd)pyrene	0.025	0.016	0.035	0.055	0.061		0.001	<0.001	
Naphthalene	0.012	18.203	20.567	47.709	121.708		0.004	0.148	
Phenanthrene	0.007	7.307	3.509	12.665	39.406		0.003	0.031	
Pyrene	0.013	0.559	0.417	2.36	1.18		0.002	0.012	



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)					
		AMS 1	AMS 6	AMS 14	Lab Blank Filters	Travel Blank Filters	
		Bertha Ganter	Patricia McInnes	Anzac	20-Sep	20-Sep	
		20-Sep	20-Sep	20-Sep	20-Sep	20-Sep	
		315.99	307.76	315.98	360	360	
3-Methylcholanthrene	0.033	0.034	0.031	0.023	0.001	0.006	
7,12-Dimethylbenz(a)anthracene	0.02	0.128	0.099	0.06	0.001	0.011	
Acenaphthene	0.01	1.649	0.192	10.185	0.001	0.012	
Acenaphthylene	0.016	0.511	0.222	0.268	0.001	0.009	
Acridine	0.028	0.954	0.081	0.481	0.001	0.016	
Anthracene	0.026	0.162	0.119	0.502	0.001	0.022	
Benz(a)anthracene	0.021	0.059	0.049	0.024	0.002	0.003	
Benzo(a)pyrene	0.024	0.043	0.041	0.051	0.001	<0.001	
Benzo(b)fluoranthene	0.029	0.068	0.074	0.067	0.001	0.009	
Benzo(c)phenanthrene	0.022	0.013	0.027	0.012	0.001	0.004	
Benzo(ghi)perylene	0.029	0.025	0.023	0.011	0.001	<0.001	
Benzo(k)fluoranthene	0.02	0.099	0.073	0.086	0.001	0.008	
Chrysene	0.02	0.045	0.035	0.021	0.002	0.002	
Dibenz(a,h)anthracene	0.029	0.011	0.011	0.008	0.001	0.001	
Dibenzo(a,h)pyrene	0.045	0.005	0.005	0.005	0.001	<0.001	
Dibenzo(a,i)pyrene	0.044	0.005	0.006	0.005	0.001	<0.001	
Dibenzo(a,l)pyrene	0.036	0.012	0.007	0.014	0.001	<0.001	
Fluoranthene	0.01	0.247	0.226	0.522	0.001	0.021	
Fluorene	0.007	1.229	0.482	7.85	0.002	0.027	
Indeno(123-cd)pyrene	0.025	0.024	0.049	0.033	0.001	<0.001	
Naphthalene	0.012	8.675	11.726	31.184	0.004	0.105	
Phenanthrene	0.007	3.361	1.275	9.889	0.003	0.027	
Pyrene	0.013	0.228	0.188	0.275	0.002	0.018	



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 26-Sep 360	Travel Blank Filters 26-Sep 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 26-Sep 326.52	Patricia McInnes 26-Sep 315.96	Athabasca Valley 26-Sep 309.53	Anzac 26-Sep 319.75				
3-Methylcholanthrene	0.033	0.009	0.014	0.013	0.016	0.001	0.002		
7,12-Dimethylbenz(a)anthracene	0.02	0.026	0.229	0.015	0.014	0.001	0.01		
Acenaphthene	0.01	2.379	0.607	0.271	3.444	0.001	0.012		
Acenaphthylene	0.016	0.472	0.531	0.064	0.545	0.001	0.015		
Acridine	0.028	0.81	0.332	0.255	0.164	0.001	0.009		
Anthracene	0.026	0.137	0.137	0.059	0.314	0.001	0.009		
Benz(a)anthracene	0.021	0.036	0.036	0.027	0.02	0.002	0.01		
Benzo(a)pyrene	0.024	0.027	0.029	0.02	0.011	0.001	<0.001		
Benzo(b)fluoranthene	0.029	0.069	0.073	0.03	0.014	0.001	0.007		
Benzo(c)phenanthrene	0.022	0.01	0.025	0.01	0.009	0.001	0.005		
Benzo(ghi)perylene	0.029	0.016	0.013	0.005	0.005	0.001	<0.001		
Benzo(k)fluoranthene	0.02	0.1	0.121	0.03	0.028	0.001	0.007		
Chrysene	0.02	0.029	0.031	0.018	0.009	0.002	<0.001		
Dibenz(a,h)anthracene	0.029	0.006	0.007	0.004	0.003	0.001	0.002		
Dibenzo(a,h)pyrene	0.045	0.006	0.005	0.003	0.004	0.001	0.002		
Dibenzo(a,i)pyrene	0.044	0.003	0.005	0.004	0.004	0.001	<0.001		
Dibenzo(a,l)pyrene	0.036	0.006	0.007	0.009	0.006	0.001	<0.001		
Fluoranthene	0.01	0.157	0.337	0.124	0.526	0.001	0.017		
Fluorene	0.007	0.868	0.808	0.32	2.782	0.002	0.027		
Indeno(123-cd)pyrene	0.025	0.007	0.02	0.007	0.007	0.001	0.002		
Naphthalene	0.012	5.066	7.68	2.312	2.812	0.004	0.188		
Phenanthrene	0.007	3.374	2.201	1.377	6.149	0.003	0.019		
Pyrene	0.013	0.149	0.308	0.184	0.224	0.002	0.017		



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 02-Oct 360	Travel Blank Filters 02-Oct 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 02-Oct 315.99	Patricia McInnes 02-Oct 315.97	Athabasca Valley 02-Oct 315.58	Anzac 02-Oct 315.98				
3-Methylcholanthrene	0.033	0.008	0.011	0.026	0.031		0.001	0.004	
7,12-Dimethylbenz(a)anthracene	0.02	0.011	0.013	0.029	0.02		0.001	0.006	
Acenaphthene	0.01	0.364	0.363	0.577	0.627		0.001	0.012	
Acenaphthylene	0.016	0.05	0.03	0.085	0.031		0.001	0.004	
Acridine	0.028	0.075	0.04	0.086	0.057		0.001	0.022	
Anthracene	0.026	0.079	0.049	0.058	0.045		0.001	0.022	
Benz(a)anthracene	0.021	0.015	0.017	0.024	0.034		0.002	0.007	
Benzo(a)pyrene	0.024	0.024	0.01	0.031	0.011		0.001	0.002	
Benzo(b)fluoranthene	0.029	0.023	0.018	0.022	0.016		0.001	0.004	
Benzo(c)phenanthrene	0.022	0.007	0.007	1.743	0.009		0.001	0.001	
Benzo(ghi)perylene	0.029	0.005	0.006	0.009	0.01		0.001	0.002	
Benzo(k)fluoranthene	0.02	0.032	0.02	0.017	0.009		0.001	0.004	
Chrysene	0.02	0.011	0.013	0.015	0.017		0.002	<0.001	
Dibenz(a,h)anthracene	0.029	0.003	0.004	0.007	0.005		0.001	0.002	
Dibenzo(a,h)pyrene	0.045	0.006	0.008	0.007	0.007		0.001	<0.001	
Dibenzo(a,i)pyrene	0.044	0.004	0.006	0.005	0.007		0.001	<0.001	
Dibenzo(a,l)pyrene	0.036	0.005	0.007	0.007	0.008		0.001	<0.001	
Fluoranthene	0.01	0.062	0.065	0.124	0.107		0.001	0.019	
Fluorene	0.007	0.417	0.311	0.464	0.492		0.002	0.04	
Indeno(123-cd)pyrene	0.025	0.006	0.007	0.02	0.008		0.001	<0.001	
Naphthalene	0.012	4.462	6.544	9.006	8.772		0.004	0.171	
Phenanthrene	0.007	1.007	0.614	0.788	1.072		0.003	0.019	
Pyrene	0.013	0.076	0.047	0.113	0.081		0.002	0.018	



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 08-Oct 360	Travel Blank Filters 08-Oct 360
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac				
		08-Oct	08-Oct	08-Oct	08-Oct				
		315.98	315.9	315.99	315.98				
3-Methylcholanthrene	0.033	0.018	0.011	0.026	0.018			0.001	<0.001
7,12-Dimethylbenz(a)anthracene	0.02	0.019	0.127	0.033	0.016			0.001	0.007
Acenaphthene	0.01	1.552	0.835	0.43	4.614			0.001	0.012
Acenaphthylene	0.016	2.067	0.406	0.258	0.062			0.001	0.012
Acridine	0.028	0.794	0.14	0.113	0.164			0.001	0.014
Anthracene	0.026	0.52	0.352	0.136	0.341			0.001	0.007
Benz(a)anthracene	0.021	0.114	0.127	0.059	0.05			0.002	0.002
Benzo(a)pyrene	0.024	0.085	0.026	0.062	0.024			0.001	<0.001
Benzo(b)fluoranthene	0.029	0.028	0.039	0.015	0.014			0.001	0.001
Benzo(c)phenanthrene	0.022	0.056	0.047	0.022	0.028			0.001	0.004
Benzo(ghi)perylene	0.029	0.012	0.023	0.01	0.007			0.001	<0.001
Benzo(k)fluoranthene	0.02	0.044	0.019	0.023	0.015			0.001	0.002
Chrysene	0.02	0.117	0.13	0.065	0.081			0.002	<0.001
Dibenz(a,h)anthracene	0.029	0.009	0.015	0.01	0.006			0.001	0.001
Dibenzo(a,h)pyrene	0.045	0.007	0.006	0.006	0.012			0.001	<0.001
Dibenzo(a,i)pyrene	0.044	0.004	0.009	0.005	0.011			0.001	<0.001
Dibenzo(a,l)pyrene	0.036	0.018	0.029	0.033	0.006			0.001	<0.001
Fluoranthene	0.01	0.84	0.676	0.301	0.852			0.001	0.017
Fluorene	0.007	2.2	1.306	0.822	3.321			0.002	0.029
Indeno(123-cd)pyrene	0.025	0.049	0.056	0.033	0.018			0.001	<0.001
Naphthalene	0.012	26.454	40.017	18.155	20.242			0.004	0.138
Phenanthrene	0.007	5.515	2.909	1.676	4.788			0.003	0.01
Pyrene	0.013	1.019	0.681	0.377	0.542			0.002	0.018



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 14-Oct 320	Travel Blank Filters 14-Oct 320
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac				
		14-Oct	14-Oct	14-Oct	14-Oct				
		315.98	315.96	315.99	315.98				
3-Methylcholanthrene	0.022	0.01	0.006	0.006	0.006	0.001	0.001		
7,12-Dimethylbenz(a)anthracene	0.013	0.009	0.013	0.01	0.01	0.001	0.002		
Acenaphthene	0.006	2.901	1.748	2.124	12.189	0.006	0.011		
Acenaphthylene	0.011	5.408	0.309	1.897	0.36	0.002	0.029		
Acridine	0.019	0.235	0.096	0.23	0.225	0.001	0.006		
Anthracene	0.017	0.686	0.269	0.232	0.251	0.001	0.011		
Benz(a)anthracene	0.014	0.047	0.038	0.016	0.004	0.001	<0.001		
Benzo(a)pyrene	0.016	0.068	0.051	0.031	0.018	0.001	<0.001		
Benzo(b)fluoranthene	0.02	0.095	0.051	0.03	0.011	0.001	0.004		
Benzo(c)phenanthrene	0.015	0.033	0.04	0.016	0.005	0.001	<0.001		
Benzo(ghi)perylene	0.02	0.006	0.06	0.045	0.011	0.001	<0.001		
Benzo(k)fluoranthene	0.013	0.107	0.054	0.034	0.013	0.001	0.005		
Chrysene	0.013	0.064	0.048	0.023	0.005	0.001	<0.001		
Dibenz(a,h)anthracene	0.02	0.006	0.009	0.005	0.005	0.001	<0.001		
Dibenzo(a,h)pyrene	0.02	0.005	0.004	0.005	0.005	0.001	<0.001		
Dibenzo(a,i)pyrene	0.025	0.006	0.01	0.009	0.009	0.001	<0.001		
Dibenzo(a,l)pyrene	0.024	0.013	0.026	0.012	0.006	0.001	<0.001		
Fluoranthene	0.007	0.707	0.666	0.37	0.269	0.001	0.008		
Fluorene	0.007	3.358	2.786	2.57	6.601	0.001	0.043		
Indeno(123-cd)pyrene	0.017	0.024	0.014	0.012	0.008	0.001	<0.001		
Naphthalene	0.008	40.639	46.055	37.876	23.573	0.01	0.476		
Phenanthrene	0.007	6.43	3.974	3.823	4.529	0.002	0.132		
Pyrene	0.008	0.572	0.56	0.448	0.112	0.001	0.005		



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 20-Oct 320	Travel Blank Filters 20-Oct 320
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 20-Oct 315.99	Patricia McInnes 20-Oct 319.57	Athabasca Valley 20-Oct 315.99	Anzac 20-Oct 315.98				
3-Methylcholanthrene	0.022	0.007	0.008	0.01	0.015	0.001	<0.001		
7,12-Dimethylbenz(a)anthracene	0.013	0.034	0.047	0.009	0.011	0.001	0.002		
Acenaphthene	0.006	2.822	2.328	2.082	15.646	0.006	0.029		
Acenaphthylene	0.011	1.589	1.397	2.964	0.299	0.002	0.012		
Acridine	0.019	0.275	0.175	0.205	0.151	0.001	0.027		
Anthracene	0.017	0.358	0.323	0.296	0.239	0.001	0.019		
Benz(a)anthracene	0.014	0.033	0.046	0.026	0.002	0.001	<0.001		
Benzo(a)pyrene	0.016	0.066	0.071	0.045	0.013	0.001	<0.001		
Benzo(b)fluoranthene	0.02	0.03	0.058	0.036	0.021	0.001	0.003		
Benzo(c)phenanthrene	0.015	0.018	0.044	0.03	0.005	0.001	0.003		
Benzo(ghi)perylene	0.02	0.047	0.061	0.071	0.011	0.001	<0.001		
Benzo(k)fluoranthene	0.013	0.035	0.066	0.045	0.024	0.001	0.004		
Chrysene	0.013	0.067	0.059	0.049	0.003	0.001	<0.001		
Dibenz(a,h)anthracene	0.02	0.012	0.011	0.007	0.006	0.001	<0.001		
Dibenzo(a,h)pyrene	0.02	0.004	0.006	0.006	0.005	0.001	<0.001		
Dibenzo(a,i)pyrene	0.025	0.006	0.027	0.016	0.016	0.001	<0.001		
Dibenzo(a,l)pyrene	0.024	0.017	0.054	0.025	0.004	0.001	<0.001		
Fluoranthene	0.007	0.329	0.643	0.555	0.332	0.001	0.012		
Fluorene	0.007	3.147	4.425	3.42	8.925	0.001	0.048		
Indeno(123-cd)pyrene	0.017	0.009	0.024	0.013	0.007	0.001	<0.001		
Naphthalene	0.008	26.381	60.927	51.66	26.249	0.01	0.753		
Phenanthrene	0.007	4.669	4.656	4.806	6.283	0.002	0.141		
Pyrene	0.008	0.322	0.525	0.677	0.124	0.001	0.007		





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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 26-Oct 320	Travel Blank Filters 26-Oct 320
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 26-Oct 305.23	Patricia McInnes 26-Oct 315.97	Athabasca Valley 26-Oct 315.1	Anzac 26-Oct 315.98				
3-Methylcholanthrene	0.022	0.014	0.012	0.006	0.008	0.001	<0.001		
7,12-Dimethylbenz(a)anthracene	0.013	0.031	0.016	0.015	0.019	0.001	0.002		
Acenaphthene	0.006	1.991	2.154	2.492	4.513	0.006	0.013		
Acenaphthylene	0.011	0.757	0.52	1.301	3.622	0.002	0.008		
Acridine	0.019	0.303	0.226	0.242	0.018	0.001	0.003		
Anthracene	0.017	0.127	0.444	0.345	0.158	0.001	0.009		
Benz(a)anthracene	0.014	0.007	0.013	0.007	0.002	0.001	<0.001		
Benzo(a)pyrene	0.016	0.022	0.027	0.013	0.012	0.001	<0.001		
Benzo(b)fluoranthene	0.02	0.011	0.024	0.01	0.005	0.001	0.001		
Benzo(c)phenanthrene	0.015	0.013	0.019	0.007	0.008	0.001	<0.001		
Benzo(ghi)perylene	0.02	0.017	0.021	0.018	0.001	0.001	<0.001		
Benzo(k)fluoranthene	0.013	0.019	0.027	0.01	0.007	0.001	<0.001		
Chrysene	0.013	0.014	0.021	0.009	0.002	0.001	<0.001		
Dibenz(a,h)anthracene	0.02	0.008	0.006	0.005	0.004	0.001	<0.001		
Dibenzo(a,h)pyrene	0.02	0.004	0.005	0.006	0.008	0.001	<0.001		
Dibenzo(a,i)pyrene	0.025	0.012	0.012	0.011	0.012	0.001	<0.001		
Dibenzo(a,l)pyrene	0.024	0.006	0.008	0.005	0.007	0.001	<0.001		
Fluoranthene	0.007	0.183	0.433	0.272	0.096	0.001	0.01		
Fluorene	0.007	1.473	2.162	3.053	2.485	0.001	0.02		
Indeno(123-cd)pyrene	0.017	0.011	0.011	0.01	0.006	0.001	<0.001		
Naphthalene	0.008	13.601	21.061	20.66	7.905	0.01	0.431		
Phenanthrene	0.007	2.028	2.894	2.784	1.593	0.002	0.125		
Pyrene	0.008	0.169	0.397	0.272	0.04	0.001	0.007		



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 01-Nov 320	Travel Blank Filters 01-Nov 320
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 01-Nov 315.99	Patricia McInnes 01-Nov 315.98	Athabasca Valley 01-Nov 315.98	Anzac 01-Nov 315.98				
3-Methylcholanthrene	0.022	0.006	0.023	0.014	0.016	0.001	0.001		
7,12-Dimethylbenz(a)anthracene	0.013	0.018	0.016	0.019	0.011	0.001	0.004		
Acenaphthene	0.006	2.445	1.653	2.025	12.122	0.006	0.057		
Acenaphthylene	0.011	2.992	7.123	9.905	0.162	0.002	0.016		
Acridine	0.019	0.203	0.084	0.281	0.105	0.001	0.015		
Anthracene	0.017	0.492	0.811	0.871	0.266	0.001	0.01		
Benz(a)anthracene	0.014	0.046	0.084	0.103	0.005	0.001	<0.001		
Benzo(a)pyrene	0.016	0.058	0.118	0.288	0.014	0.001	<0.001		
Benzo(b)fluoranthene	0.02	0.047	0.118	0.183	0.011	0.001	0.002		
Benzo(c)phenanthrene	0.015	0.04	0.057	0.048	0.008	0.001	0.004		
Benzo(ghi)perylene	0.02	0.066	0.199	0.338	0.02	0.001	<0.001		
Benzo(k)fluoranthene	0.013	0.061	0.148	0.238	0.012	0.001	0.002		
Chrysene	0.013	0.071	0.11	0.16	0.008	0.001	<0.001		
Dibenz(a,h)anthracene	0.02	0.01	0.011	0.019	0.006	0.001	<0.001		
Dibenzo(a,h)pyrene	0.02	0.004	0.004	0.004	0.005	0.001	<0.001		
Dibenzo(a,i)pyrene	0.025	0.007	0.045	0.05	0.013	0.001	<0.001		
Dibenzo(a,l)pyrene	0.024	0.039	0.044	0.126	0.005	0.001	<0.001		
Fluoranthene	0.007	0.49	0.971	1.162	0.245	0.001	0.015		
Fluorene	0.007	3.236	4.101	5.39	5.947	0.001	0.065		
Indeno(123-cd)pyrene	0.017	0.017	0.046	0.071	0.006	0.001	<0.001		
Naphthalene	0.008	20.634	45.998	48.403	19.962	0.01	0.115		
Phenanthrene	0.007	4.176	5.866	7.65	4.126	0.002	0.141		
Pyrene	0.008	0.418	0.765	1.245	0.115	0.001	0.016		



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 07-Nov 320	Travel Blank Filters 07-Nov 320
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 07-Nov 315.98	Patricia McInnes 07-Nov 315.98	Athabasca Valley 07-Nov 315.98	Anzac 07-Nov 315.99				
3-Methylcholanthrene	0.022	0.018	0.013	0.009	0.01		0.001	<0.001	
7,12-Dimethylbenz(a)anthracene	0.013	0.016	0.012	0.019	0.016		0.001	<0.001	
Acenaphthene	0.006	1.475	1.302	1.162	1.394		0.006	0.014	
Acenaphthylene	0.011	0.276	0.082	0.158	1.08		0.002	0.009	
Acridine	0.019	0.097	0.056	0.138	0.076		0.001	0.007	
Anthracene	0.017	0.07	0.085	0.163	0.082		0.001	0.007	
Benz(a)anthracene	0.014	0.006	0.014	0.011	0.01		0.001	<0.001	
Benzo(a)pyrene	0.016	0.014	0.019	0.013	0.018		0.001	<0.001	
Benzo(b)fluoranthene	0.02	0.014	0.018	0.017	0.015		0.001	0.003	
Benzo(c)phenanthrene	0.015	0.008	0.01	0.016	0.019		0.001	<0.001	
Benzo(ghi)perylene	0.02	0.018	0.02	0.023	0.02		0.001	<0.001	
Benzo(k)fluoranthene	0.013	0.008	0.026	0.019	0.018		0.001	<0.001	
Chrysene	0.013	0.007	0.022	0.019	0.022		0.001	<0.001	
Dibenz(a,h)anthracene	0.02	0.009	0.008	0.007	0.008		0.001	<0.001	
Dibenzo(a,h)pyrene	0.02	0.007	0.005	0.005	0.006		0.001	<0.001	
Dibenzo(a,i)pyrene	0.025	0.015	0.01	0.007	0.018		0.001	0.002	
Dibenzo(a,l)pyrene	0.024	0.007	0.009	0.006	0.013		0.001	<0.001	
Fluoranthene	0.007	0.051	0.149	0.115	0.115		0.001	0.008	
Fluorene	0.007	1.068	0.889	1.068	1.15		0.001	0.042	
Indeno(123-cd)pyrene	0.017	0.01	0.011	0.007	0.008		0.001	<0.001	
Naphthalene	0.008	4.532	7.018	7.796	10.128		0.01	0.785	
Phenanthrene	0.007	0.814	1.095	1.315	1.44		0.002	0.132	
Pyrene	0.008	0.046	0.113	0.104	0.08		0.001	0.009	



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 13-Nov 320	Travel Blank Filters 13-Nov 320
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 13-Nov 315.99	Patricia McInnes 13-Nov 315.99	Athabasca Valley 13-Nov 316.1	Anzac 13-Nov 316				
3-Methylcholanthrene	0.022	0.072	0.032	0.047	0.031		0.001	0.002	
7,12-Dimethylbenz(a)anthracene	0.013	0.183	0.118	0.059	0.027		0.001	0.002	
Acenaphthene	0.006	1.474	0.603	1.465	0.955		0.001	0.012	
Acenaphthylene	0.011	1.805	0.328	5.04	0.218		0.002	0.004	
Acridine	0.019	0.177	0.054	0.108	0.028		0.001	0.002	
Anthracene	0.017	0.393	0.113	0.595	0.094		0.001	0.008	
Benz(a)anthracene	0.014	0.246	0.078	0.128	0.058		0.001	<0.001	
Benzo(a)pyrene	0.016	0.193	0.039	0.108	0.029		0.001	<0.001	
Benzo(b)fluoranthene	0.02	0.094	0.082	0.158	0.064		0.001	0.001	
Benzo(c)phenanthrene	0.015	0.074	0.028	0.065	0.02		0.001	<0.001	
Benzo(ghi)perylene	0.02	0.082	0.045	0.055	0.034		0.001	<0.001	
Benzo(k)fluoranthene	0.013	0.105	0.093	0.178	0.072		0.001	0.001	
Chrysene	0.013	0.271	0.092	0.16	0.06		0.001	<0.001	
Dibenz(a,h)anthracene	0.02	0.032	0.007	0.01	0.005		0.001	<0.001	
Dibenzo(a,h)pyrene	0.02	0.004	0.005	0.004	0.004		0.001	<0.001	
Dibenzo(a,i)pyrene	0.025	0.031	0.005	0.011	0.011		0.001	<0.001	
Dibenzo(a,l)pyrene	0.024	0.063	0.024	0.041	0.015		0.001	<0.001	
Fluoranthene	0.007	0.45	0.218	0.724	0.124		0.002	0.004	
Fluorene	0.007	1.651	0.779	1.861	0.713		0.001	0.011	
Indeno(123-cd)pyrene	0.017	0.118	0.031	0.105	0.039		0.001	<0.001	
Naphthalene	0.008	19.387	9.887	20.298	5.508		0.003	0.1	
Phenanthrene	0.007	2.776	1.255	3.573	0.865		0.002	0.036	
Pyrene	0.008	0.819	0.211	0.957	0.106		0.002	0.005	



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Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 19-Nov 320	Travel Blank Filters 19-Nov 320
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 19-Nov 315.98	Patricia McInnes 19-Nov 315.98	Athabasca Valley 19-Nov 315.99	Anzac 19-Nov 316				
3-Methylcholanthrene	0.022	0.064	0.044	0.036	0.037		0.001	0.003	
7,12-Dimethylbenz(a)anthracene	0.013	0.081	0.029	0.024	0.02		0.001	<0.001	
Acenaphthene	0.006	0.593	0.465	0.537	0.368		0.001	0.005	
Acenaphthylene	0.011	0.243	1.192	0.95	0.012		0.002	<0.001	
Acridine	0.019	0.081	0.027	0.036	0.022		0.001	<0.001	
Anthracene	0.017	0.202	0.209	0.278	0.06		0.001	0.002	
Benz(a)anthracene	0.014	0.155	0.066	0.045	0.022		0.001	0.001	
Benzo(a)pyrene	0.016	0.123	0.067	0.045	0.007		0.001	<0.001	
Benzo(b)fluoranthene	0.02	0.088	0.094	0.061	0.009		0.001	<0.001	
Benzo(c)phenanthrene	0.015	0.028	0.034	0.024	0.003		0.001	<0.001	
Benzo(ghi)perylene	0.02	0.059	0.078	0.078	0.015		0.001	<0.001	
Benzo(k)fluoranthene	0.013	0.1	0.107	0.069	0.01		0.001	<0.001	
Chrysene	0.013	0.133	0.071	0.059	0.019		0.001	<0.001	
Dibenz(a,h)anthracene	0.02	0.025	0.006	0.007	0.005		0.001	<0.001	
Dibenzo(a,h)pyrene	0.02	0.006	0.004	0.004	0.004		0.001	<0.001	
Dibenzo(a,i)pyrene	0.025	0.009	0.009	0.007	0.006		0.001	<0.001	
Dibenzo(a,l)pyrene	0.024	0.053	0.037	0.022	0.006		0.001	<0.001	
Fluoranthene	0.007	0.243	0.387	0.239	0.055		0.002	0.002	
Fluorene	0.007	0.717	0.91	0.841	0.421		0.001	0.011	
Indeno(123-cd)pyrene	0.017	0.053	0.073	0.04	0.014		0.001	<0.001	
Naphthalene	0.008	8.77	7.324	13.388	3.496		0.003	0.079	
Phenanthrene	0.007	1.511	1.864	1.392	0.551		0.002	0.016	
Pyrene	0.008	0.34	0.413	0.324	0.05		0.002	0.004	



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 25-Nov 320	Travel Blank Filters 25-Nov 320
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 25-Nov 315.99	Patricia McInnes 25-Nov 315.99	Athabasca Valley 25-Nov 315.98	Anzac 25-Nov 316				
3-Methylcholanthrene	0.022	0.394	0.04	0.047	0.058	0.001	0.001		
7,12-Dimethylbenz(a)anthracene	0.013	0.014	0.01	0.021	0.015	0.001	<0.001		
Acenaphthene	0.006	0.338	0.021	0.464	0.402	0.001	0.004		
Acenaphthylene	0.011	0.125	0.013	0.706	0.184	0.002	<0.001		
Acridine	0.019	0.098	0.012	0.055	0.013	0.001	<0.001		
Anthracene	0.017	0.058	0.046	0.126	0.062	0.001	0.002		
Benz(a)anthracene	0.014	0.021	0.018	0.034	0.035	0.001	0.001		
Benzo(a)pyrene	0.016	0.043	0.018	0.032	0.041	0.001	<0.001		
Benzo(b)fluoranthene	0.02	0.015	0.016	0.036	0.057	0.001	0.003		
Benzo(c)phenanthrene	0.015	0.007	0.006	0.017	0.018	0.001	0.001		
Benzo(ghi)perylene	0.02	0.02	0.015	0.038	0.041	0.001	<0.001		
Benzo(k)fluoranthene	0.013	0.017	0.018	0.041	0.064	0.001	0.003		
Chrysene	0.013	0.021	0.011	0.044	0.054	0.001	<0.001		
Dibenz(a,h)anthracene	0.02	0.007	0.008	0.008	0.007	0.001	<0.001		
Dibenzo(a,h)pyrene	0.02	0.004	0.008	0.004	0.004	0.001	<0.001		
Dibenzo(a,i)pyrene	0.025	0.005	0.005	0.005	0.006	0.001	<0.001		
Dibenzo(a,l)pyrene	0.024	0.01	0.012	0.007	0.018	0.001	<0.001		
Fluoranthene	0.007	0.083	0.02	0.13	0.093	0.002	0.003		
Fluorene	0.007	0.381	0.163	0.966	0.421	0.001	0.003		
Indeno(123-cd)pyrene	0.017	0.012	0.013	0.018	0.04	0.001	<0.001		
Naphthalene	0.008	2.79	0.563	9.047	2.509	0.003	0.077		
Phenanthrene	0.007	0.696	0.138	1.083	0.395	0.002	0.03		
Pyrene	0.008	0.129	0.024	0.175	0.096	0.002	0.006		



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 01-Dec 320	Travel Blank Filters 01-Dec 320
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 01-Dec 315.99	Patricia McInnes 01-Dec 315.99	Athabasca Valley 01-Dec 315.98	Anzac 01-Dec 316				
3-Methylcholanthrene	0.022	0.042	0.055	0.073	0.037		0.001	0.002	
7,12-Dimethylbenz(a)anthracene	0.013	0.15	0.087	0.095	0.031		0.001	<0.001	
Acenaphthene	0.006	3.761	1.628	2.705	0.46		0.001	0.007	
Acenaphthylene	0.011	0.571	5.524	7.053	0.112		0.002	0.006	
Acridine	0.019	0.195	0.054	0.15	0.014		0.001	0.003	
Anthracene	0.017	0.409	0.488	0.557	0.049		0.001	0.002	
Benz(a)anthracene	0.014	0.273	0.222	0.394	0.038		0.001	0.001	
Benzo(a)pyrene	0.016	0.132	0.115	0.174	0.056		0.001	<0.001	
Benzo(b)fluoranthene	0.02	0.18	0.313	0.439	0.062		0.001	0.002	
Benzo(c)phenanthrene	0.015	0.063	0.099	0.151	0.015		0.001	<0.001	
Benzo(ghi)perylene	0.02	0.078	0.145	0.148	0.044		0.001	<0.001	
Benzo(k)fluoranthene	0.013	0.203	0.353	0.496	0.07		0.001	0.004	
Chrysene	0.013	0.213	0.223	0.36	0.049		0.001	<0.001	
Dibenz(a,h)anthracene	0.02	0.032	0.016	0.023	0.004		0.001	<0.001	
Dibenzo(a,h)pyrene	0.02	0.004	0.009	0.006	0.004		0.001	0.001	
Dibenzo(a,i)pyrene	0.025	0.005	0.01	0.011	0.01		0.001	<0.001	
Dibenzo(a,l)pyrene	0.024	0.027	0.039	0.051	0.022		0.001	<0.001	
Fluoranthene	0.007	0.642	0.977	1.229	0.161		0.002	0.006	
Fluorene	0.007	3.243	2.424	2.975	0.588		0.001	0.008	
Indeno(123-cd)pyrene	0.017	0.065	0.119	0.134	0.043		0.001	<0.001	
Naphthalene	0.008	24.046	20.863	18.499	7.808		0.003	0.109	
Phenanthrene	0.007	3.648	4.384	6.27	0.703		0.002	0.033	
Pyrene	0.008	0.9	1.269	1.579	0.152		0.002	0.009	



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 07-Dec 320	Travel Blank Filters 07-Dec 320
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 07-Dec 316	Patricia McInnes 07-Dec 315.98	Athabasca Valley 07-Dec 316	Anzac 07-Dec 315.99				
3-Methylcholanthrene	0.022	0.049	0.046	0.067	0.023		0.001	0.004	
7,12-Dimethylbenz(a)anthracene	0.013	0.062	0.027	0.014	0.027		0.001	0.002	
Acenaphthene	0.006	0.699	0.672	0.651	0.424		0.001	0.012	
Acenaphthylene	0.011	0.575	0.592	0.29	0.301		0.002	0.003	
Acridine	0.019	0.188	0.095	0.113	0.045		0.001	<0.001	
Anthracene	0.017	0.149	0.233	0.145	0.097		0.001	0.003	
Benz(a)anthracene	0.014	0.031	0.023	0.017	0.024		0.001	0.001	
Benzo(a)pyrene	0.016	0.051	0.031	0.03	0.023		0.001	<0.001	
Benzo(b)fluoranthene	0.02	0.051	0.031	0.026	0.032		0.001	0.003	
Benzo(c)phenanthrene	0.015	0.015	0.01	0.008	0.009		0.001	<0.001	
Benzo(ghi)perylene	0.02	0.042	0.025	0.031	0.019		0.001	<0.001	
Benzo(k)fluoranthene	0.013	0.057	0.036	0.029	0.036		0.001	0.003	
Chrysene	0.013	0.033	0.022	0.021	0.02		0.001	<0.001	
Dibenz(a,h)anthracene	0.02	0.006	0.004	0.004	0.004		0.001	<0.001	
Dibenzo(a,h)pyrene	0.02	0.005	0.005	0.006	0.007		0.001	0.001	
Dibenzo(a,i)pyrene	0.025	0.006	0.005	0.008	0.006		0.001	<0.001	
Dibenzo(a,l)pyrene	0.024	0.011	0.008	0.01	0.011		0.001	0.002	
Fluoranthene	0.007	0.241	0.252	0.203	0.162		0.002	0.004	
Fluorene	0.007	1.358	1.053	1.002	0.81		0.001	0.009	
Indeno(123-cd)pyrene	0.017	0.013	0.027	0.026	0.099		0.001	<0.001	
Naphthalene	0.008	27.691	30.123	28.471	27.903		0.003	0.287	
Phenanthrene	0.007	2.257	1.686	1.68	1.251		0.002	0.032	
Pyrene	0.008	0.326	0.3	0.224	0.156		0.002	<0.001	





Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 13-Dec 320	Travel Blank Filters 13-Dec 320
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 13-Dec 315.99	Patricia McInnes 13-Dec 315.98	Athabasca Valley 13-Dec 315.99	Anzac 13-Dec 315.99				
3-Methylcholanthrene	0.022	0.024	0.185	0.182	0.253	0.003	<0.001		
7,12-Dimethylbenz(a)anthracene	0.013	1.182	1.196	1.042	0.45	0.002	<0.001		
Acenaphthene	0.006	3.165	3.128	3.233	2.425	0.004	0.165		
Acenaphthylene	0.011	2.365	3.553	8.137	9.05	0.004	0.014		
Acridine	0.019	0.719	0.567	0.578	0.441	0.001	0.016		
Anthracene	0.017	0.755	0.781	0.462	0.236	0.003	0.017		
Benz(a)anthracene	0.014	1.381	1.118	2.018	0.436	0.003	<0.001		
Benzo(a)pyrene	0.016	0.282	0.181	0.19	0.193	0.003	0.003		
Benzo(b)fluoranthene	0.02	1.318	1.753	1.981	2.107	0.003	0.032		
Benzo(c)phenanthrene	0.015	0.278	0.182	0.217	0.251	0.003	0.004		
Benzo(ghi)perylene	0.02	0.056	0.054	0.061	0.022	0.002	0.002		
Benzo(k)fluoranthene	0.013	1.12	1.451	2.547	1.802	0.003	0.028		
Chrysene	0.013	1.397	1.15	2.06	0.512	0.002	0.001		
Dibenz(a,h)anthracene	0.02	0.061	0.046	0.033	0.048	0.002	0.002		
Dibenzo(a,h)pyrene	0.02	0.027	0.016	0.04	0.02	0.002	<0.001		
Dibenzo(a,i)pyrene	0.025	0.032	0.028	0.069	0.03	0.002	<0.001		
Dibenzo(a,l)pyrene	0.024	0.059	0.052	0.045	0.037	0.002	0.003		
Fluoranthene	0.007	2.806	2.327	2.413	2.3	0.003	0.01		
Fluorene	0.007	5.135	4.963	7.51	4.549	0.002	0.08		
Indeno(123-cd)pyrene	0.017	0.148	0.115	0.108	0.062	0.002	0.006		
Naphthalene	0.008	29.892	31.279	59.201	33.779	0.008	1.112		
Phenanthrene	0.007	6.527	7.991	5.503	1.715	0.004	0.081		
Pyrene	0.008	2.578	2.142	2.733	2.661	0.002	0.003		



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 19-Dec 320	Travel Blank Filters 19-Dec 320
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 19-Dec 316	Patricia McInnes 19-Dec 315.97	Athabasca Valley 19-Dec 315.99	Anzac 19-Dec 320				
3-Methylcholanthrene	0.022	0.217	0.255	0.15	0.385	0.003	<0.001		
7,12-Dimethylbenz(a)anthracene	0.013	1.375	0.727	1.868	1.744	0.002	<0.001		
Acenaphthene	0.006	2.18	1.932	3.963	1.874	0.004	0.103		
Acenaphthylene	0.011	3.243	3.352	4.832	1.561	0.004	0.041		
Acridine	0.019	0.759	0.216	0.462	0.694	0.001	0.013		
Anthracene	0.017	0.701	0.799	0.946	0.636	0.003	0.009		
Benz(a)anthracene	0.014	0.278	0.185	0.205	0.15	0.003	<0.001		
Benzo(a)pyrene	0.016	0.145	0.213	0.128	0.057	0.003	0.002		
Benzo(b)fluoranthene	0.02	1.429	2.076	1.49	1.652	0.003	0.02		
Benzo(c)phenanthrene	0.015	0.249	0.265	0.325	0.409	0.003	0.002		
Benzo(ghi)perylene	0.02	0.054	0.039	0.037	0.015	0.002	0.003		
Benzo(k)fluoranthene	0.013	2.048	2.397	1.682	1.866	0.003	0.028		
Chrysene	0.013	0.3	0.28	0.207	0.122	0.002	0.004		
Dibenz(a,h)anthracene	0.02	0.05	0.069	0.024	0.015	0.002	0.001		
Dibenzo(a,h)pyrene	0.02	0.013	0.024	0.024	0.015	0.002	<0.001		
Dibenzo(a,i)pyrene	0.025	0.02	0.032	0.02	0.018	0.002	<0.001		
Dibenzo(a,l)pyrene	0.024	0.047	0.041	0.029	0.023	0.002	<0.001		
Fluoranthene	0.007	1.32	2.133	1.113	0.431	0.003	0.025		
Fluorene	0.007	3.421	3.2	2.898	2.546	0.002	0.05		
Indeno(123-cd)pyrene	0.017	0.115	0.098	0.097	0.084	0.002	0.004		
Naphthalene	0.008	21.481	14.24	16.606	25.272	0.008	0.902		
Phenanthrene	0.007	6.748	7.73	8.537	5.945	0.004	0.104		
Pyrene	0.008	1.066	2.46	1.278	0.612	0.002	0.014		



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Polycyclic Aromatic Hydrocarbons (PAHs)

2014  
Indicated Sites and Dates

Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 25-Dec 320	Travel Blank Filters 25-Dec 320
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter 25-Dec 316	Patricia McInnes 25-Dec 315.98	Athabasca Valley 25-Dec 316.01	Anzac 25-Dec 316				
3-Methylcholanthrene	0.022	0.114	0.266	0.115	0.12	0.003	0.001		
7,12-Dimethylbenz(a)anthracene	0.013	0.268	1.079	0.888	1.052	0.002	<0.001		
Acenaphthene	0.006	2.51	3.968	3.139	4.687	0.004	0.18		
Acenaphthylene	0.011	0.506	1.268	1.2	1.725	0.004	0.059		
Acridine	0.019	0.176	0.419	0.38	0.307	0.001	<0.001		
Anthracene	0.017	0.327	0.836	0.53	0.223	0.003	0.013		
Benz(a)anthracene	0.014	0.107	0.236	0.149	0.133	0.003	<0.001		
Benzo(a)pyrene	0.016	0.15	0.117	0.09	0.163	0.003	0.005		
Benzo(b)fluoranthene	0.02	0.402	0.979	0.992	0.18	0.003	0.025		
Benzo(c)phenanthrene	0.015	0.094	0.277	0.226	0.222	0.003	0.007		
Benzo(ghi)perylene	0.02	0.023	0.064	0.04	0.056	0.002	<0.001		
Benzo(k)fluoranthene	0.013	0.394	1.106	1.119	0.202	0.003	0.022		
Chrysene	0.013	0.13	0.366	0.154	0.167	0.002	0.003		
Dibenz(a,h)anthracene	0.02	0.022	0.046	0.031	0.027	0.002	0.004		
Dibenzo(a,h)pyrene	0.02	0.012	0.037	0.015	0.03	0.002	<0.001		
Dibenzo(a,i)pyrene	0.025	0.012	0.043	0.018	0.022	0.002	<0.001		
Dibenzo(a,l)pyrene	0.024	0.034	0.072	0.068	0.071	0.002	<0.001		
Fluoranthene	0.007	0.708	1.678	1.157	0.53	0.003	0.008		
Fluorene	0.007	1.935	2.179	2.816	2.266	0.002	0.016		
Indeno(123-cd)pyrene	0.017	0.078	0.115	0.072	0.053	0.002	0.004		
Naphthalene	0.008	13.752	16.981	23.179	15.687	0.008	1.275		
Phenanthrene	0.007	3.45	8.028	4.798	1.325	0.004	0.074		
Pyrene	0.008	0.79	1.535	1.25	0.469	0.002	0.014		



Station# Station Name Sample Date Total Air Volume (M3)	MDL	Results (ng/m3)						Lab Blank Filters 31-Dec 320	Travel Blank Filters 31-Dec 320
		AMS 1	AMS 6	AMS 7	AMS 14				
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac				
		31-Dec 315.99	31-Dec 315.98	31-Dec 316	31-Dec 315.98				
3-Methylcholanthrene	0.022	0.105	0.258	0.105	0.081		0.003	<0.001	
7,12-Dimethylbenz(a)anthracene	0.013	0.196	0.465	0.18	0.529		0.002	<0.001	
Acenaphthene	0.006	0.324	0.43	0.896	0.477		0.004	0.226	
Acenaphthylene	0.011	0.932	0.468	0.298	0.595		0.004	0.081	
Acridine	0.019	0.29	0.314	0.163	0.214		0.001	0.016	
Anthracene	0.017	0.351	0.151	0.1	0.334		0.003	0.023	
Benz(a)anthracene	0.014	0.104	0.133	0.134	0.104		0.003	<0.001	
Benzo(a)pyrene	0.016	0.063	0.086	0.059	0.061		0.003	0.009	
Benzo(b)fluoranthene	0.02	0.472	0.413	0.263	0.484		0.003	0.03	
Benzo(c)phenanthrene	0.015	0.239	0.188	0.122	0.187		0.003	<0.001	
Benzo(ghi)perylene	0.02	0.022	0.045	0.042	0.039		0.002	0.001	
Benzo(k)fluoranthene	0.013	0.532	0.466	0.296	0.519		0.003	0.031	
Chrysene	0.013	0.085	0.122	0.157	0.111		0.002	0.005	
Dibenz(a,h)anthracene	0.02	0.033	0.02	0.044	0.016		0.002	0.004	
Dibenzo(a,h)pyrene	0.02	0.018	0.024	0.017	0.016		0.002	<0.001	
Dibenzo(a,i)pyrene	0.025	0.031	0.051	0.018	0.028		0.002	<0.001	
Dibenzo(a,l)pyrene	0.024	0.03	0.064	0.065	0.048		0.002	<0.001	
Fluoranthene	0.007	0.602	0.319	0.258	0.639		0.003	0.03	
Fluorene	0.007	1.627	0.869	0.091	1.348		0.002	0.078	
Indeno(123-cd)pyrene	0.017	0.059	0.074	0.087	0.039		0.002	<0.001	
Naphthalene	0.008	34.854	29.474	21.001	8.513		0.008	1.495	
Phenanthrene	0.007	2.068	0.963	0.731	4.011		0.004	0.137	
Pyrene	0.008	0.599	0.339	0.294	0.773		0.002	0.026	



Station# Station Name Sample Date Sampling Volume (m3)	Period Average (ng/m3)						Lab Blank Filters	Travel Blank Filters
	AMS 1 Bertha Ganter	AMS 6 Patricia McInnes	AMS 7 Athabasca Valley	AMS 14 Anzac	AMS 11 Lower Camp			
3-Methylcholanthrene	0.076	0.056	0.072	0.063	0.042	0.001	0.003	
7,12-Dimethylbenz(a)anthracene	0.202	0.201	0.199	0.148	0.407	0.002	0.003	
Acenaphthene	1.394	1.022	1.228	11.661	1.16	0.002	0.019	
Acenaphthylene	0.954	0.923	1.776	0.722	0.545	0.002	0.01	
Acridine	0.449	0.199	0.339	0.318	0.438	0.001	0.006	
Anthracene	0.284	0.301	0.368	0.779	0.267	0.001	0.006	
Benz(a)anthracene	0.094	0.072	0.115	0.037	0.267	0.001	0.002	
Benzo(a)pyrene	0.075	0.049	0.073	0.03	0.269	0.001	0.001	
Benzo(b)fluoranthene	0.185	0.231	0.208	0.168	0.253	0.001	0.005	
Benzo(c)phenanthrene	0.053	0.043	0.081	0.034	0.065	0.001	0.001	
Benzo(ghi)perylene	0.052	0.056	0.068	0.033	0.12	0.001	0.002	
Benzo(k)fluoranthene	0.214	0.261	0.237	0.169	0.244	0.001	0.005	
Chrysene	0.1	0.085	0.126	0.041	0.313	0.001	0.001	
Dibenz(a,h)anthracene	0.034	0.031	0.03	0.022	0.034	0.001	0.002	
Dibenzo(a,h)pyrene	0.019	0.018	0.026	0.019	0.019	0.002	0.001	
Dibenzo(a,i)pyrene	0.022	0.025	0.025	0.024	0.02	0.002	0.001	
Dibenzo(a,l)pyrene	0.039	0.036	0.043	0.035	0.063	0.002	0.003	
Fluoranthene	0.344	0.445	0.51	0.612	0.324	0.001	0.006	
Fluorene	1.632	1.423	2.015	7.607	1.313	0.002	0.017	
Indeno(123-cd)pyrene	0.045	0.04	0.046	0.033	0.111	0.001	0.001	
Naphthalene	13.057	22.121	20.439	30.429	28.447	0.012	0.248	
Phenanthrene	3.11	2.73	3.416	10.39	2.562	0.003	0.034	
Pyrene	0.364	0.409	0.584	0.382	0.468	0.001	0.006	



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Polycyclic Aromatic Hydrocarbons (PAHs)

2014  
Indicated Sites and Dates

Station# Station Name Sample Date Sampling Volume (m3)	Period Sum (ng/m3)						Lab Blank Filters	Travel Blank Filters
	AMS 1 Bertha Ganter	AMS 6 Patricia McInnes	AMS 7 Athabasca Valley	AMS 14 Anzac	AMS 11 Lower Camp			
3-Methylcholanthrene	4.397	3.369	4.219	3.81	0.253	0.062	0.188	
7,12-Dimethylbenz(a)anthracene	11.688	12.078	11.718	8.908	2.443	0.11	0.191	
Acenaphthene	80.857	61.346	72.456	699.653	6.962	0.135	1.088	
Acenaphthylene	55.314	55.39	104.806	43.332	3.271	0.124	0.569	
Acridine	26.058	11.953	19.989	19.087	2.626	0.055	0.34	
Anthracene	16.447	18.041	21.693	46.761	1.601	0.078	0.323	
Benzo(a)anthracene	5.452	4.302	6.802	2.199	1.603	0.057	0.092	
Benzo(a)pyrene	4.324	2.932	4.292	1.813	1.611	0.057	0.056	
Benzo(b)fluoranthene	10.729	13.878	12.297	10.066	1.516	0.07	0.285	
Benzo(c)phenanthrene	3.096	2.564	4.762	2.036	0.387	0.052	0.074	
Benzo(ghi)perylene	2.992	3.337	4.006	1.99	0.721	0.075	0.115	
Benzo(k)fluoranthene	12.426	15.632	14.008	10.143	1.464	0.078	0.278	
Chrysene	5.792	5.091	7.411	2.452	1.877	0.052	0.066	
Dibenz(a,h)anthracene	1.997	1.832	1.768	1.349	0.203	0.086	0.088	
Dibenzo(a,h)pyrene	1.123	1.093	1.548	1.119	0.111	0.105	0.032	
Dibenzo(a,i)pyrene	1.289	1.518	1.498	1.435	0.118	0.115	0.043	
Dibenzo(a,l)pyrene	2.255	2.155	2.535	2.109	0.376	0.125	0.151	
Fluoranthene	19.943	26.723	30.116	36.715	1.941	0.064	0.354	
Fluorene	94.666	85.37	118.886	456.417	7.877	0.135	0.969	
Indeno(123-cd)pyrene	2.595	2.422	2.686	1.971	0.664	0.055	0.07	
Naphthalene	757.286	1327.237	1205.892	1825.76	170.679	0.705	14.154	
Phenanthrene	180.384	163.798	201.528	623.43	15.373	0.174	1.918	
Pyrene	21.141	24.536	34.456	22.926	2.807	0.069	0.322	

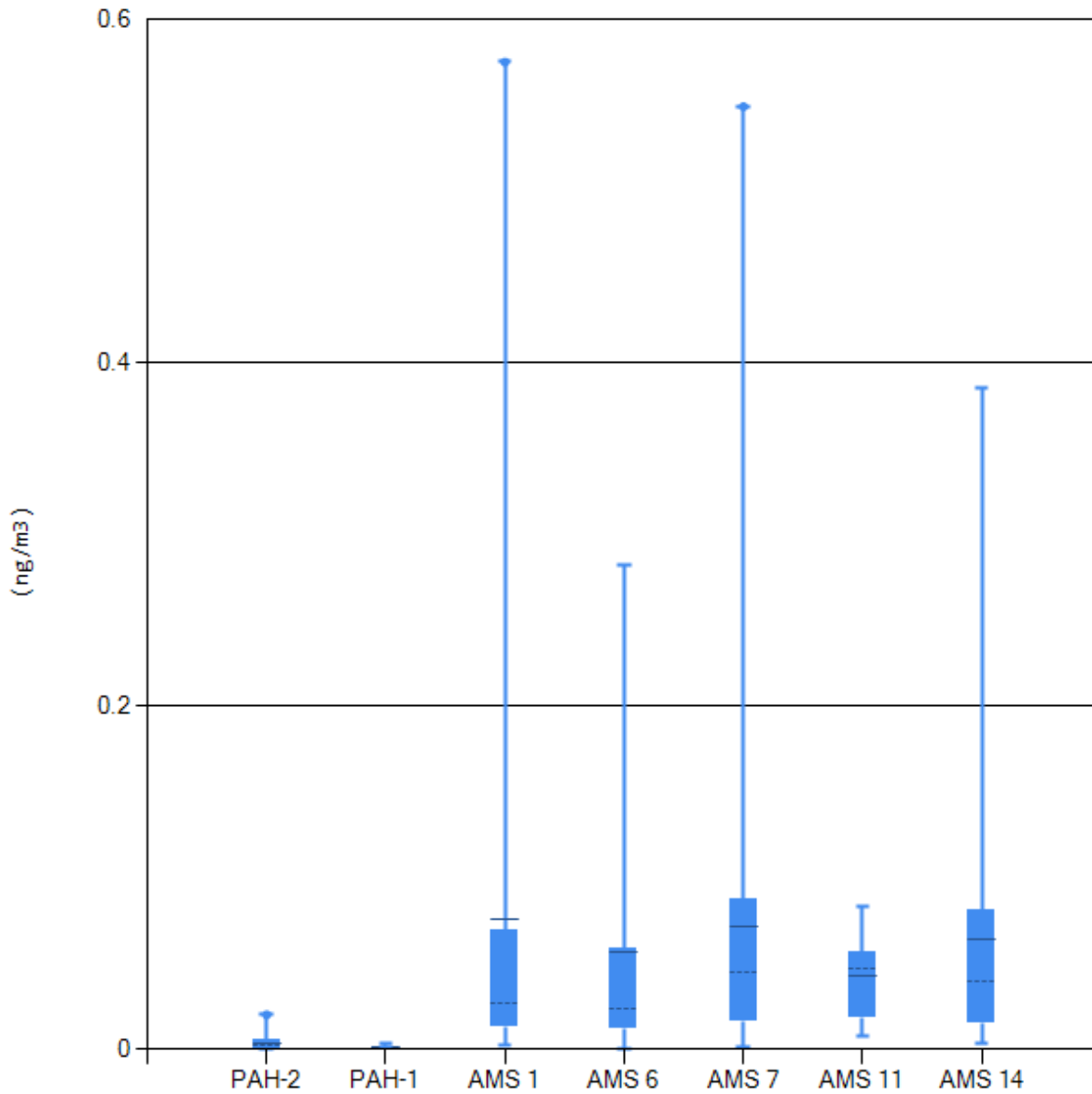


Station#	Total Samples (#)						Lab Blank Filters	Travel Blank Filters
	AMS 1	AMS 6	AMS 7	AMS 14	AMS 11			
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Lower Camp			
Sample Date								
Sampling Volume (m3)								
3-Methylcholanthrene	58	60	59	60	6	60	57	
7,12-Dimethylbenz(a)anthracene	58	60	59	60	6	60	57	
Acenaphthene	58	60	59	60	6	60	57	
Acenaphthylene	58	60	59	60	6	60	57	
Acridine	58	60	59	60	6	60	57	
Anthracene	58	60	59	60	6	60	57	
Benz(a)anthracene	58	60	59	60	6	60	57	
Benz(a)pyrene	58	60	59	60	6	60	57	
Benzo(b)fluoranthene	58	60	59	60	6	60	57	
Benzo(c)phenanthrene	58	60	59	60	6	60	57	
Benzo(ghi)perylene	58	60	59	60	6	60	57	
Benzo(k)fluoranthene	58	60	59	60	6	60	57	
Chrysene	58	60	59	60	6	60	57	
Dibenz(a,h)anthracene	58	60	59	60	6	60	57	
Dibenzo(a,h)pyrene	58	60	59	60	6	60	57	
Dibenzo(a,i)pyrene	58	60	59	60	6	60	57	
Dibenzo(a,l)pyrene	58	60	59	60	6	60	57	
Fluoranthene	58	60	59	60	6	60	57	
Fluorene	58	60	59	60	6	60	57	
Indeno(123-cd)pyrene	58	60	59	60	6	60	57	
Naphthalene	58	60	59	60	6	60	57	
Phenanthrene	58	60	59	60	6	60	57	
Pyrene	58	60	59	60	6	60	57	



PAH - 3-Methylcholanthrene - (ng/m<sup>3</sup>) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0.01	0.02	0
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0	0.01	0.03	0.07	0.58	0.08
AMS 6 Patricia McInnes	0	0.01	0.02	0.06	0.28	0.06
AMS 7 Athabasca Valley	0	0.02	0.05	0.09	0.55	0.07
AMS 11 Lower Camp	0.01	0.01	0.05	0.06	0.08	0.04
AMS 14 Anzac	0	0.01	0.04	0.08	0.39	0.06

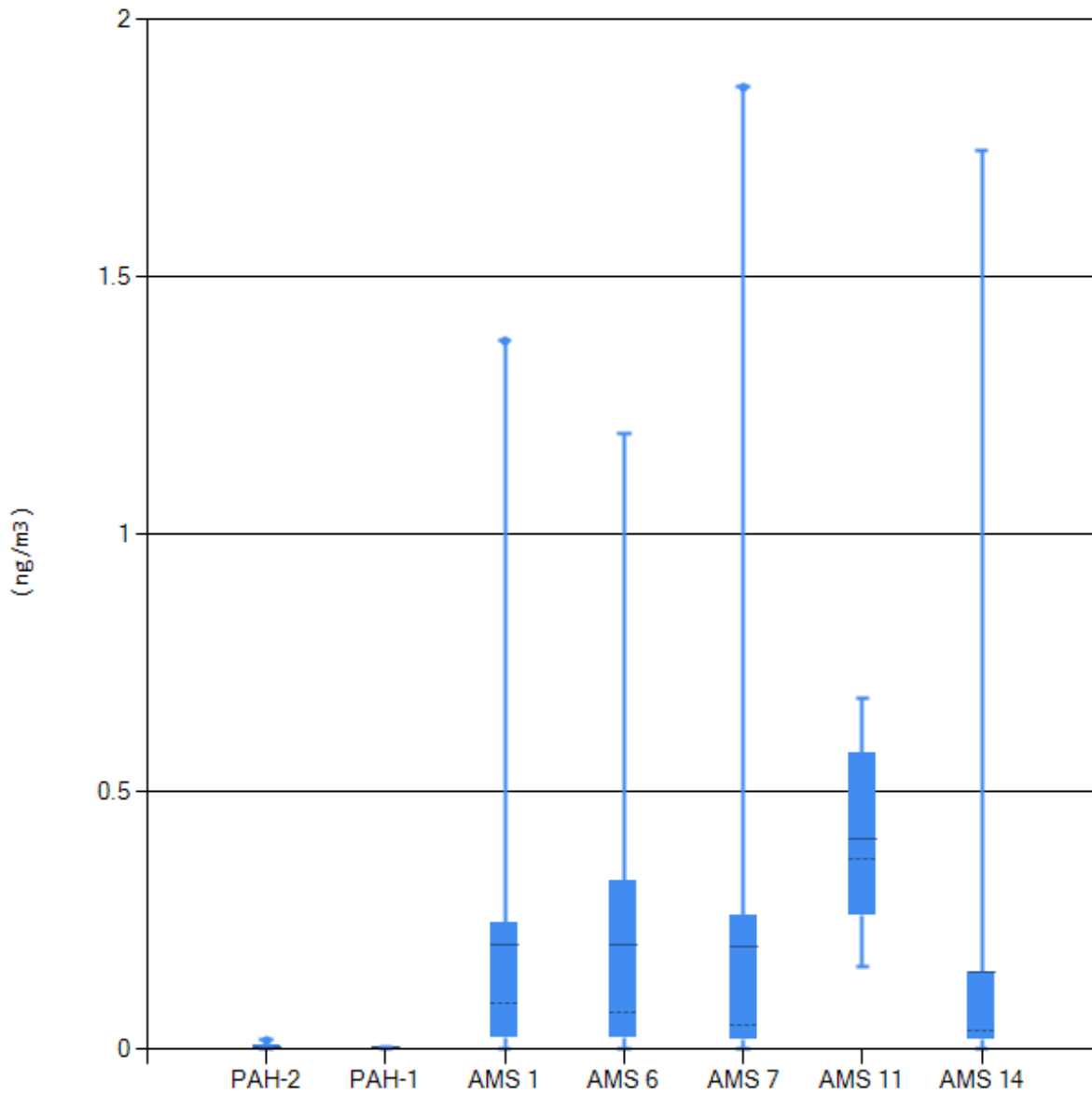






PAH - 7,12-Dimethylbenz(a)anthracene - (ng/m3) - 2014

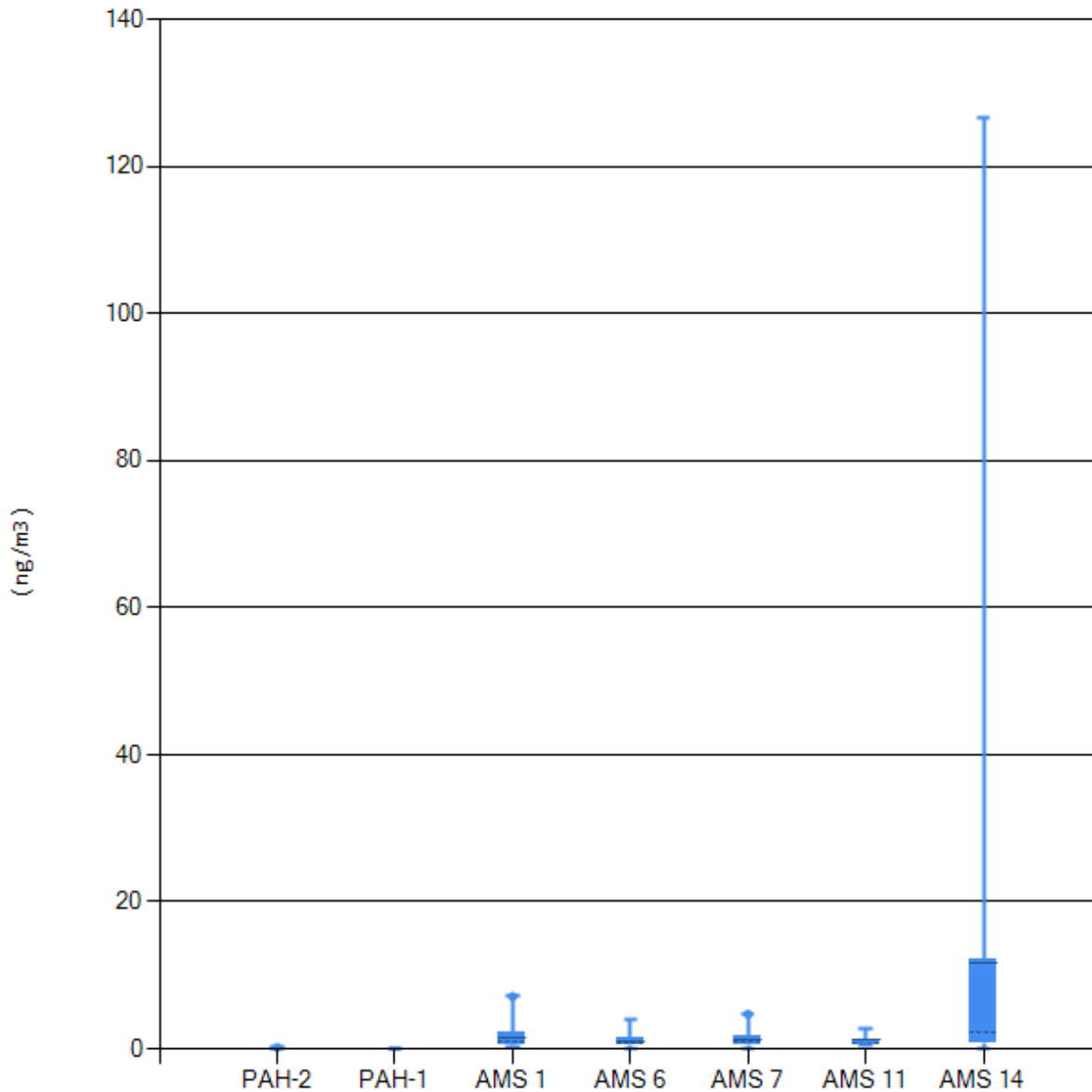
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0.01	0.02	0
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0	0.02	0.09	0.25	1.38	0.2
AMS 6 Patricia McInnes	0	0.02	0.07	0.33	1.2	0.2
AMS 7 Athabasca Valley	0	0.02	0.05	0.27	1.87	0.2
AMS 11 Lower Camp	0.16	0.24	0.37	0.63	0.68	0.41
AMS 14 Anzac	0	0.02	0.04	0.15	1.74	0.15





PAH - Acenaphthene - (ng/m3) - 2014

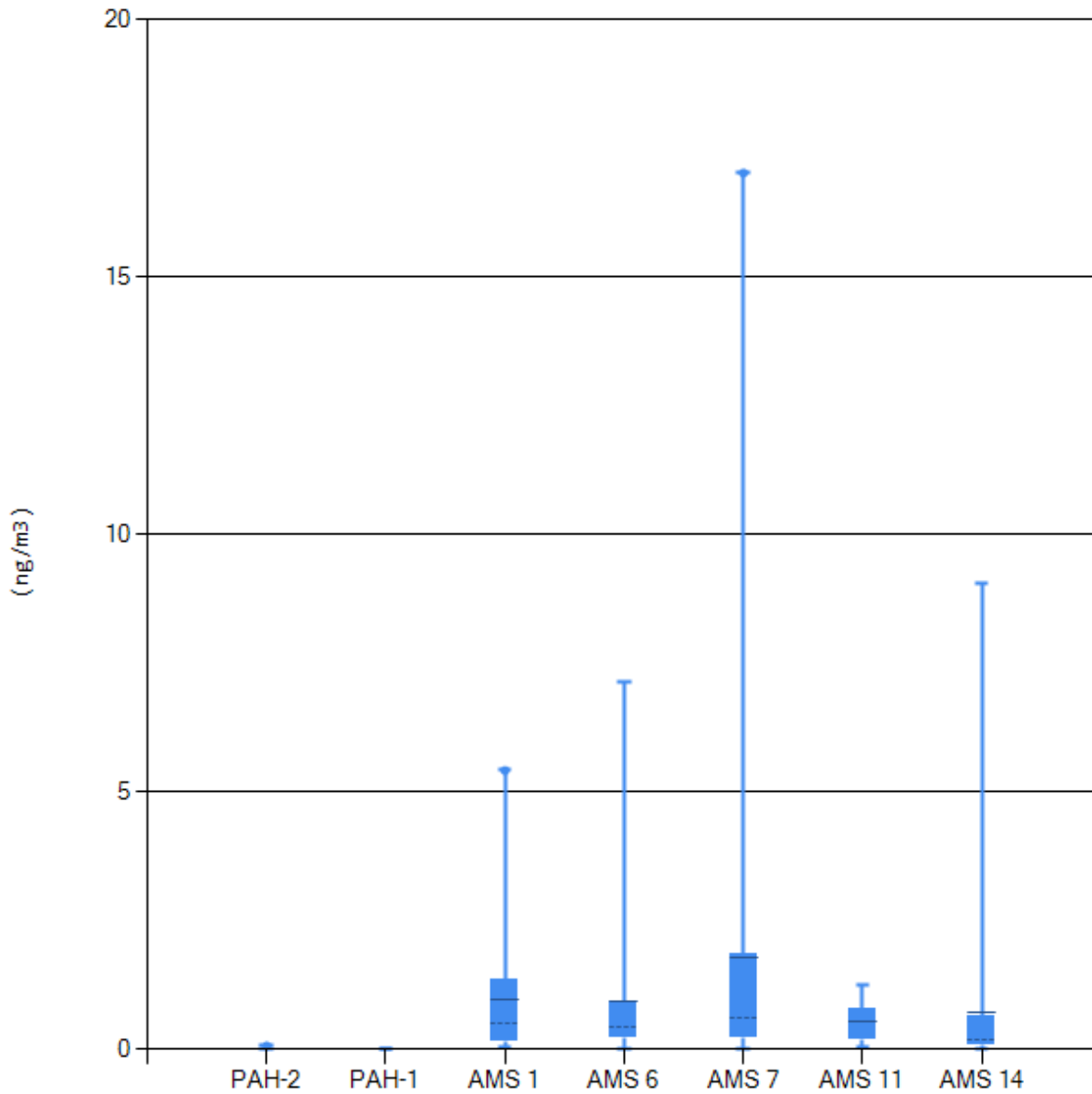
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0.01	0.01	0.18	0.02
PAH-1 Lab Blank Filters	0	0	0	0	0.01	0
AMS 1 Bertha Ganter	0.13	0.5	0.97	2.18	7.12	1.39
AMS 6 Patricia McInnes	0.02	0.38	0.67	1.6	3.97	1.02
AMS 7 Athabasca Valley	0.08	0.48	0.94	1.78	4.71	1.23
AMS 11 Lower Camp	0.57	0.59	0.83	1.44	2.71	1.16
AMS 14 Anzac	0.05	0.76	2.28	12.16	126.72	11.66





PAH - Acenaphthylene - (ng/m3) - 2014

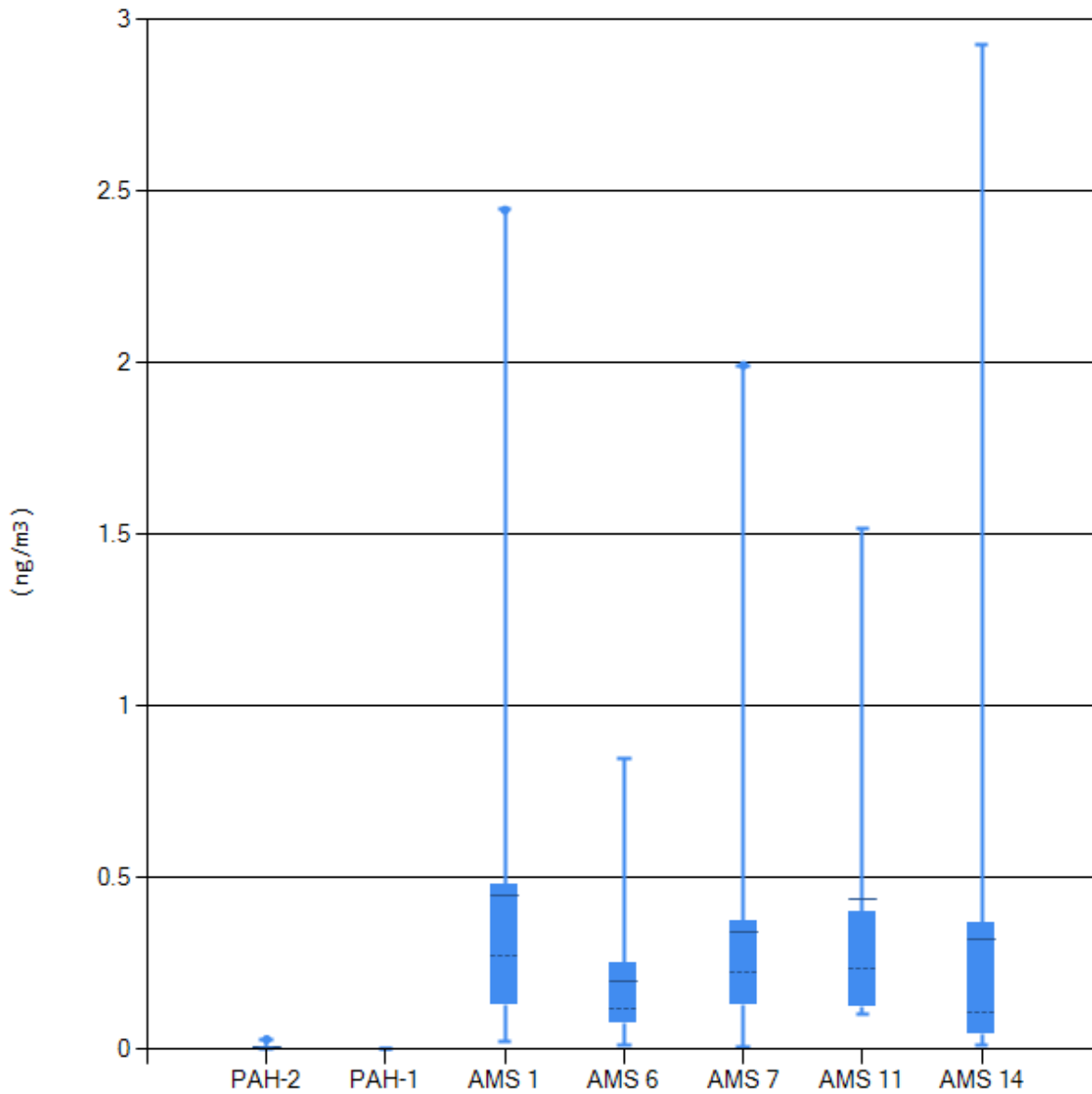
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0.01	0.01	0.06	0.01
PAH-1 Lab Blank Filters	0	0	0	0	0.01	0
AMS 1 Bertha Ganter	0.03	0.13	0.51	1.35	5.41	0.95
AMS 6 Patricia McInnes	0.01	0.23	0.41	0.98	7.12	0.92
AMS 7 Athabasca Valley	0.01	0.22	0.6	1.88	17.01	1.78
AMS 11 Lower Camp	0.04	0.13	0.53	0.8	1.24	0.55
AMS 14 Anzac	0.01	0.06	0.16	0.72	9.05	0.72





PAH - Acridine - (ng/m3) - 2014

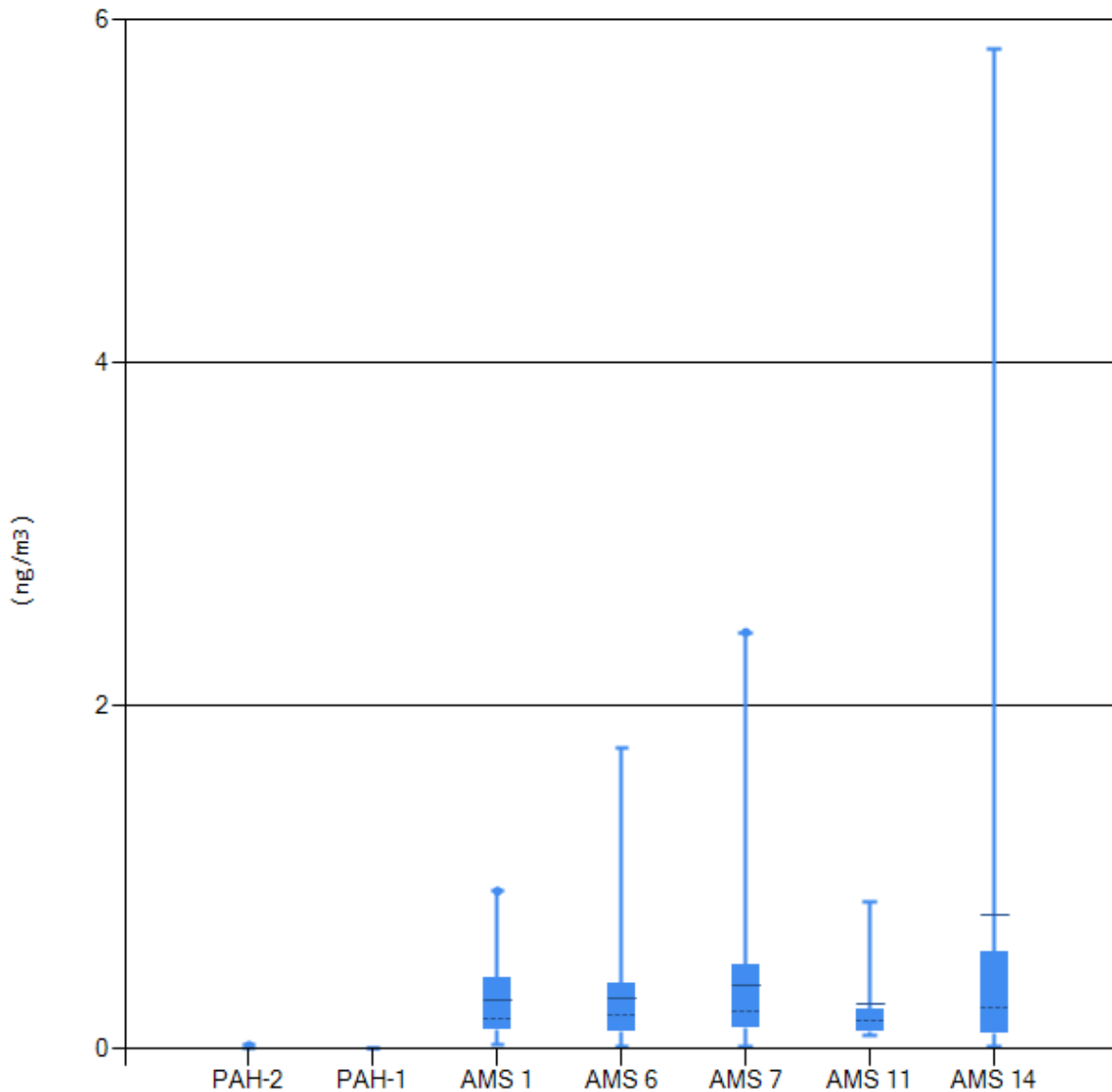
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0.01	0.03	0.01
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0.02	0.13	0.27	0.5	2.44	0.45
AMS 6 Patricia McInnes	0.01	0.07	0.12	0.25	0.85	0.2
AMS 7 Athabasca Valley	0	0.13	0.22	0.38	1.99	0.34
AMS 11 Lower Camp	0.1	0.12	0.23	0.42	1.51	0.44
AMS 14 Anzac	0.01	0.04	0.11	0.38	2.92	0.32





PAH - Anthracene - (ng/m3) - 2014

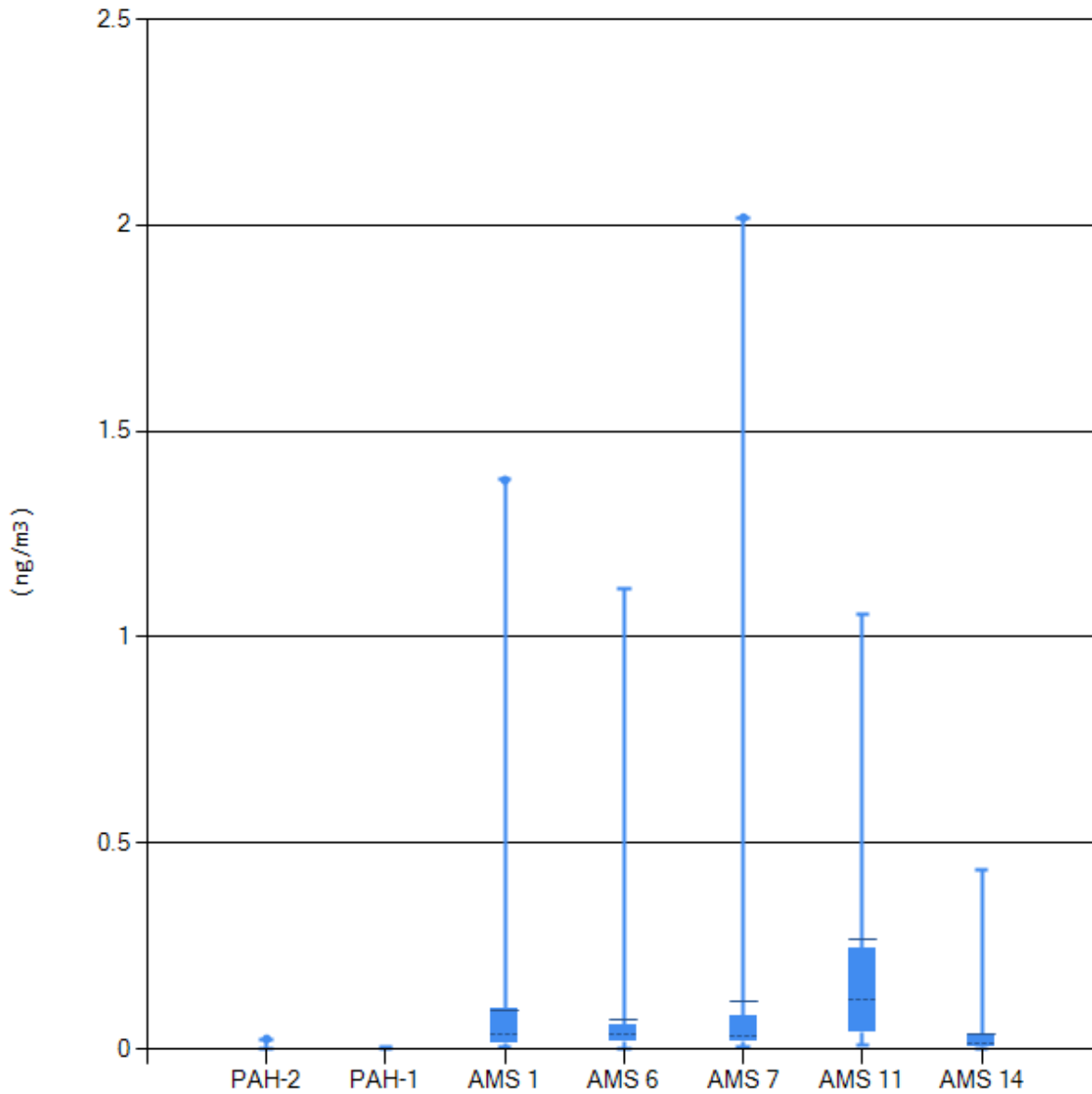
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0.01	0.02	0.01
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0.03	0.11	0.17	0.42	0.92	0.28
AMS 6 Patricia McInnes	0.01	0.09	0.19	0.4	1.76	0.3
AMS 7 Athabasca Valley	0.01	0.13	0.22	0.5	2.43	0.37
AMS 11 Lower Camp	0.08	0.09	0.17	0.24	0.86	0.27
AMS 14 Anzac	0.01	0.09	0.25	0.57	5.83	0.78





PAH - Benz(a)anthracene - (ng/m3) - 2014

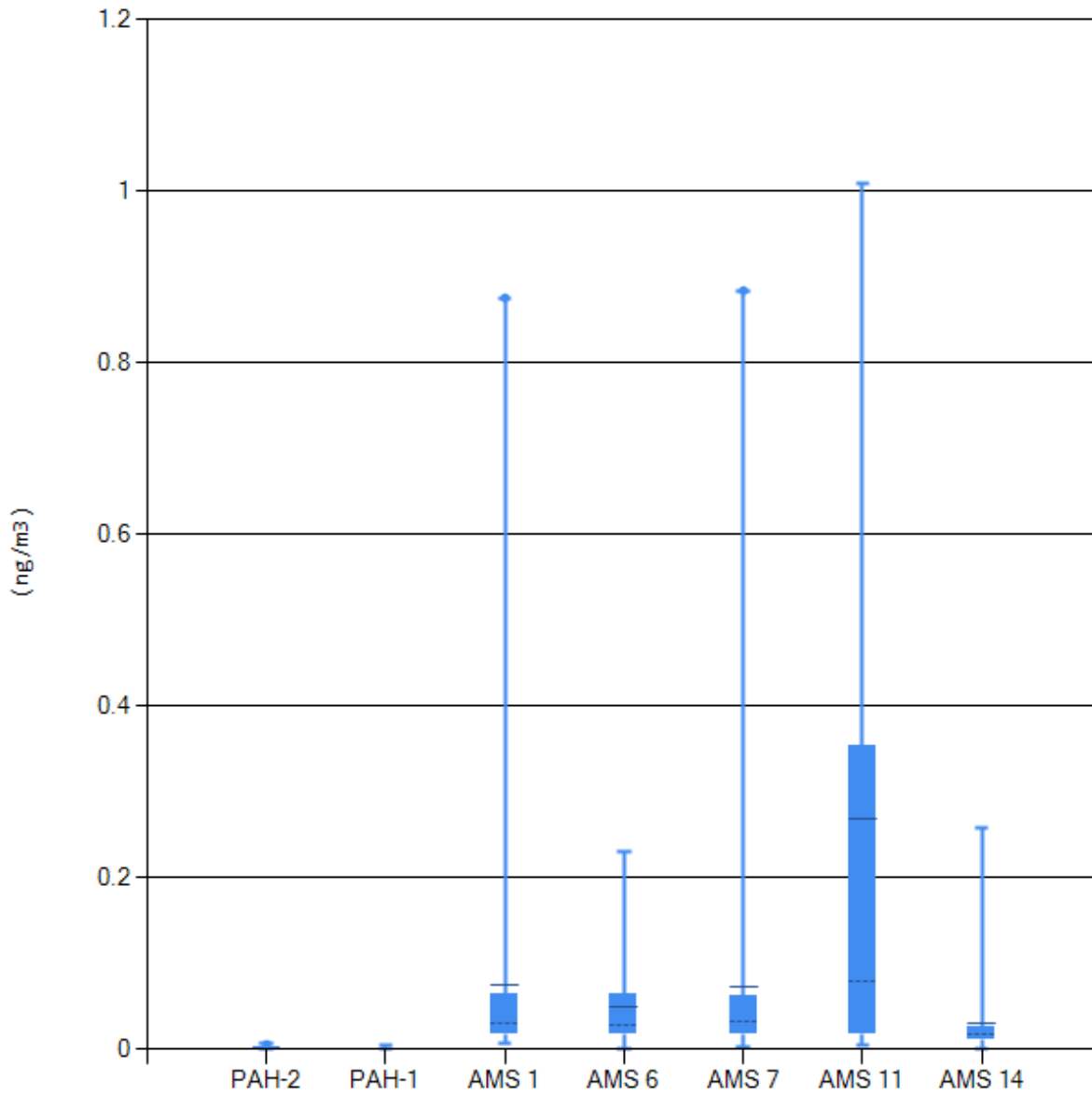
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0	0.02	0
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0	0.01	0.04	0.1	1.38	0.09
AMS 6 Patricia McInnes	0	0.02	0.04	0.06	1.12	0.07
AMS 7 Athabasca Valley	0	0.02	0.03	0.08	2.02	0.12
AMS 11 Lower Camp	0.01	0.02	0.12	0.28	1.06	0.27
AMS 14 Anzac	0	0.01	0.02	0.03	0.44	0.04





PAH - Benzo(a)pyrene - (ng/m3) - 2014

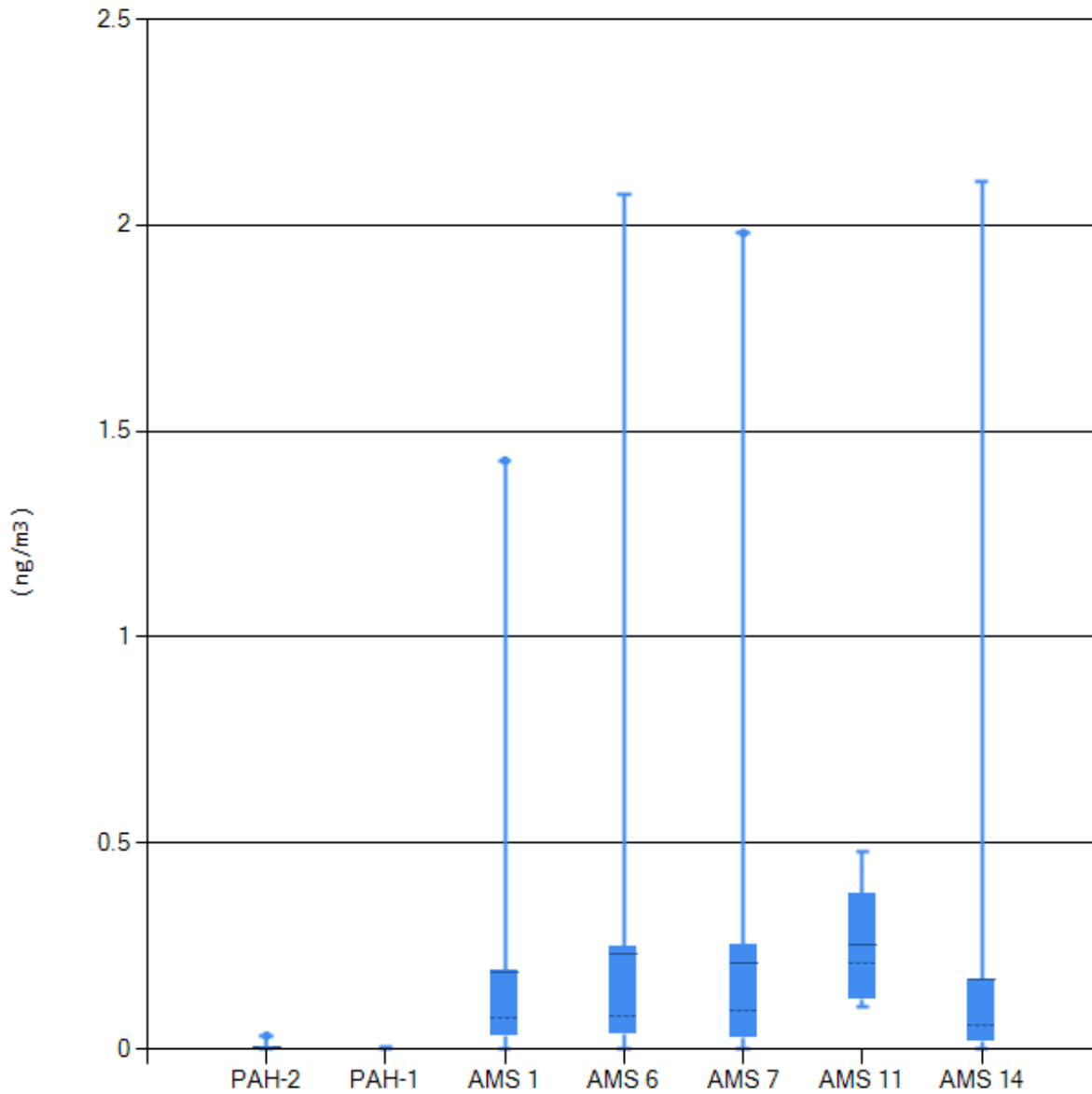
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0	0.01	0
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0.01	0.02	0.03	0.07	0.88	0.07
AMS 6 Patricia McInnes	0	0.02	0.03	0.06	0.23	0.05
AMS 7 Athabasca Valley	0	0.02	0.03	0.06	0.88	0.07
AMS 11 Lower Camp	0	0.01	0.08	0.43	1.01	0.27
AMS 14 Anzac	0	0.01	0.02	0.03	0.26	0.03





PAH - Benzo(b)fluoranthene - (ng/m<sup>3</sup>) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0.01	0.03	0
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0	0.03	0.08	0.19	1.43	0.18
AMS 6 Patricia McInnes	0	0.04	0.08	0.25	2.08	0.23
AMS 7 Athabasca Valley	0	0.03	0.09	0.26	1.98	0.21
AMS 11 Lower Camp	0.1	0.11	0.21	0.41	0.48	0.25
AMS 14 Anzac	0	0.02	0.06	0.16	2.11	0.17

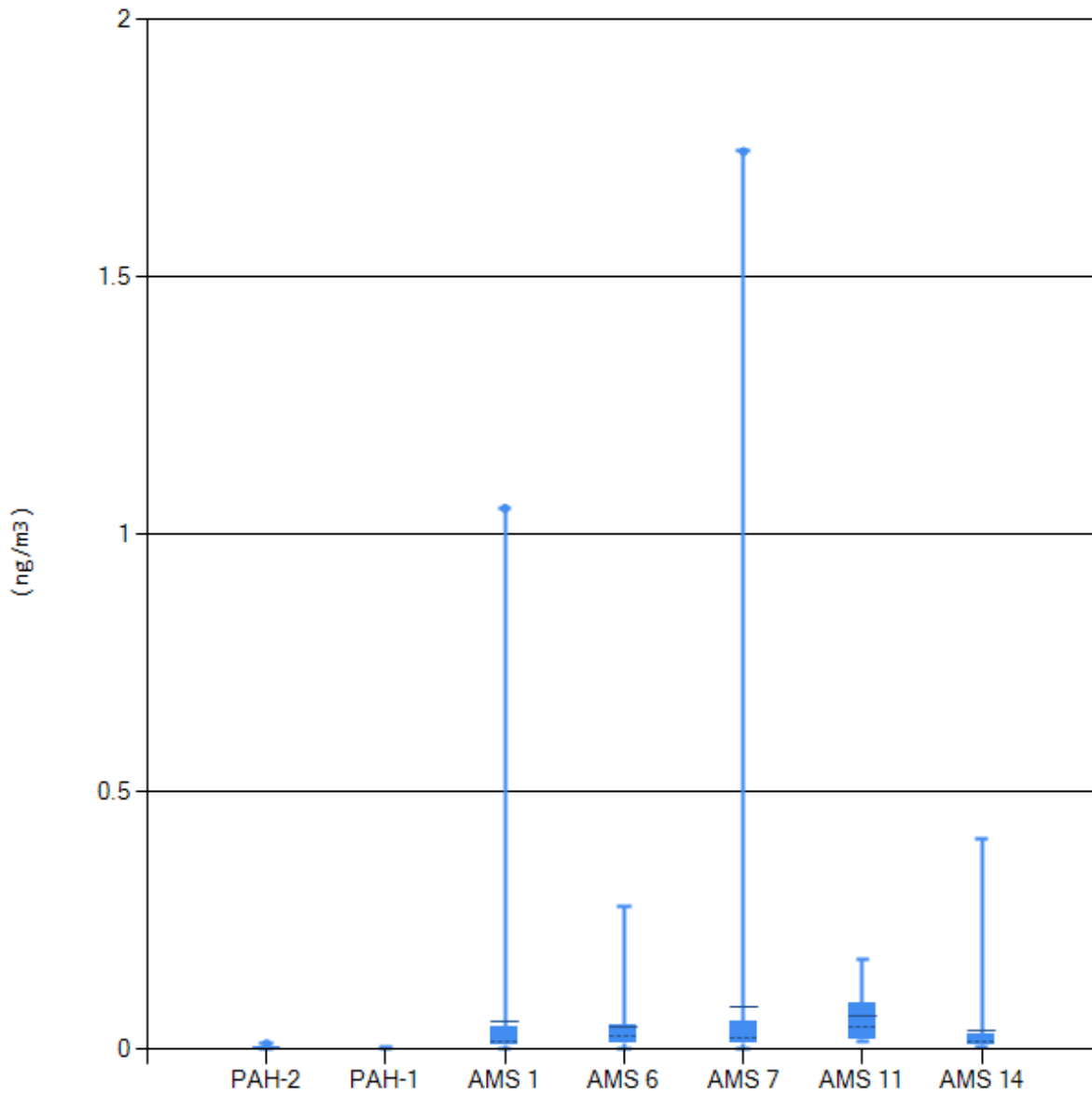






PAH - Benzo(c)phenanthrene - (ng/m3) - 2014

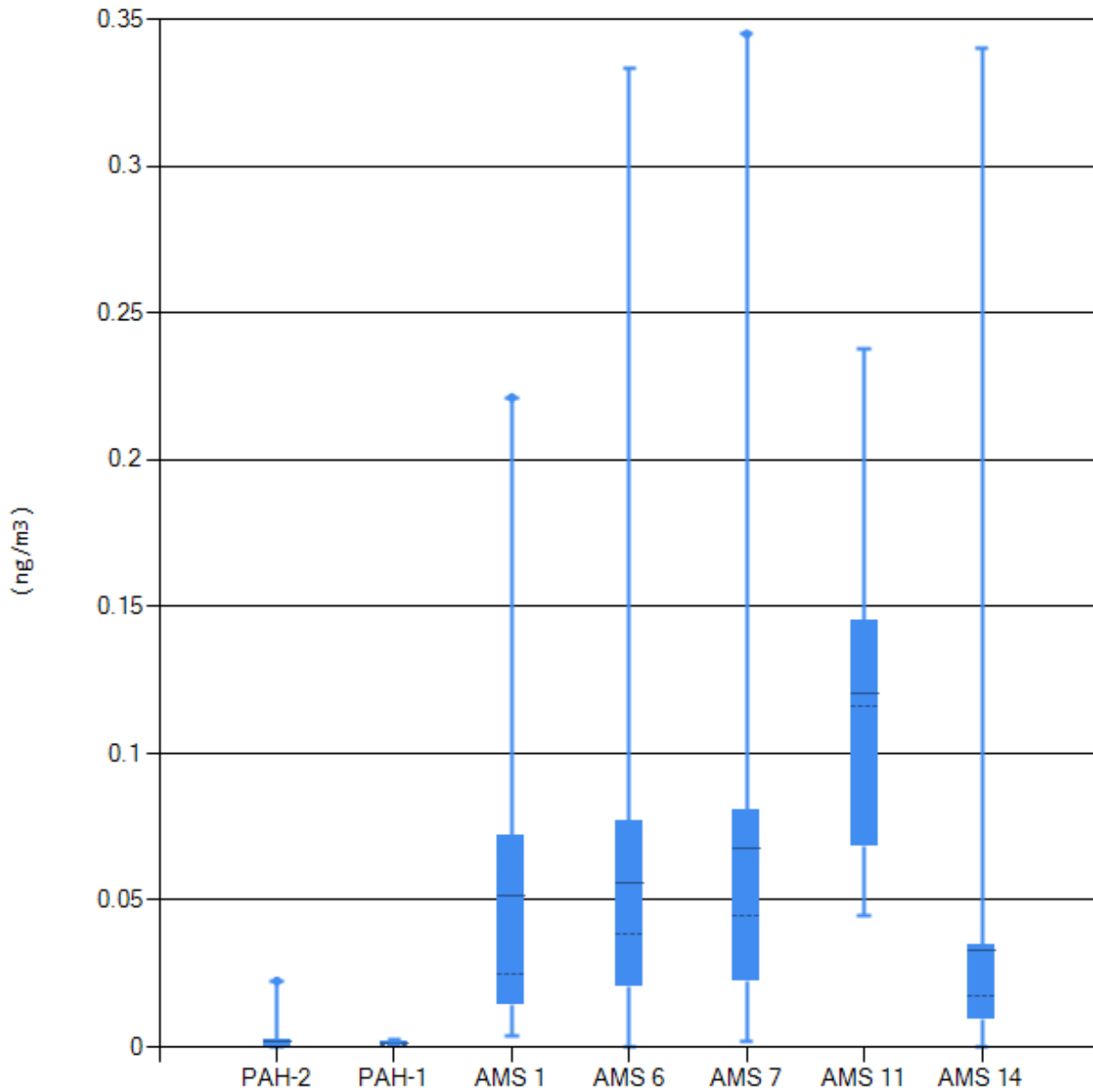
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0	0.01	0
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0	0.01	0.02	0.04	1.05	0.05
AMS 6 Patricia McInnes	0	0.01	0.02	0.05	0.28	0.04
AMS 7 Athabasca Valley	0	0.01	0.02	0.05	1.74	0.08
AMS 11 Lower Camp	0.01	0.01	0.04	0.11	0.17	0.06
AMS 14 Anzac	0	0.01	0.01	0.03	0.41	0.03





PAH - Benzo(ghi)perylene - (ng/m3) - 2014

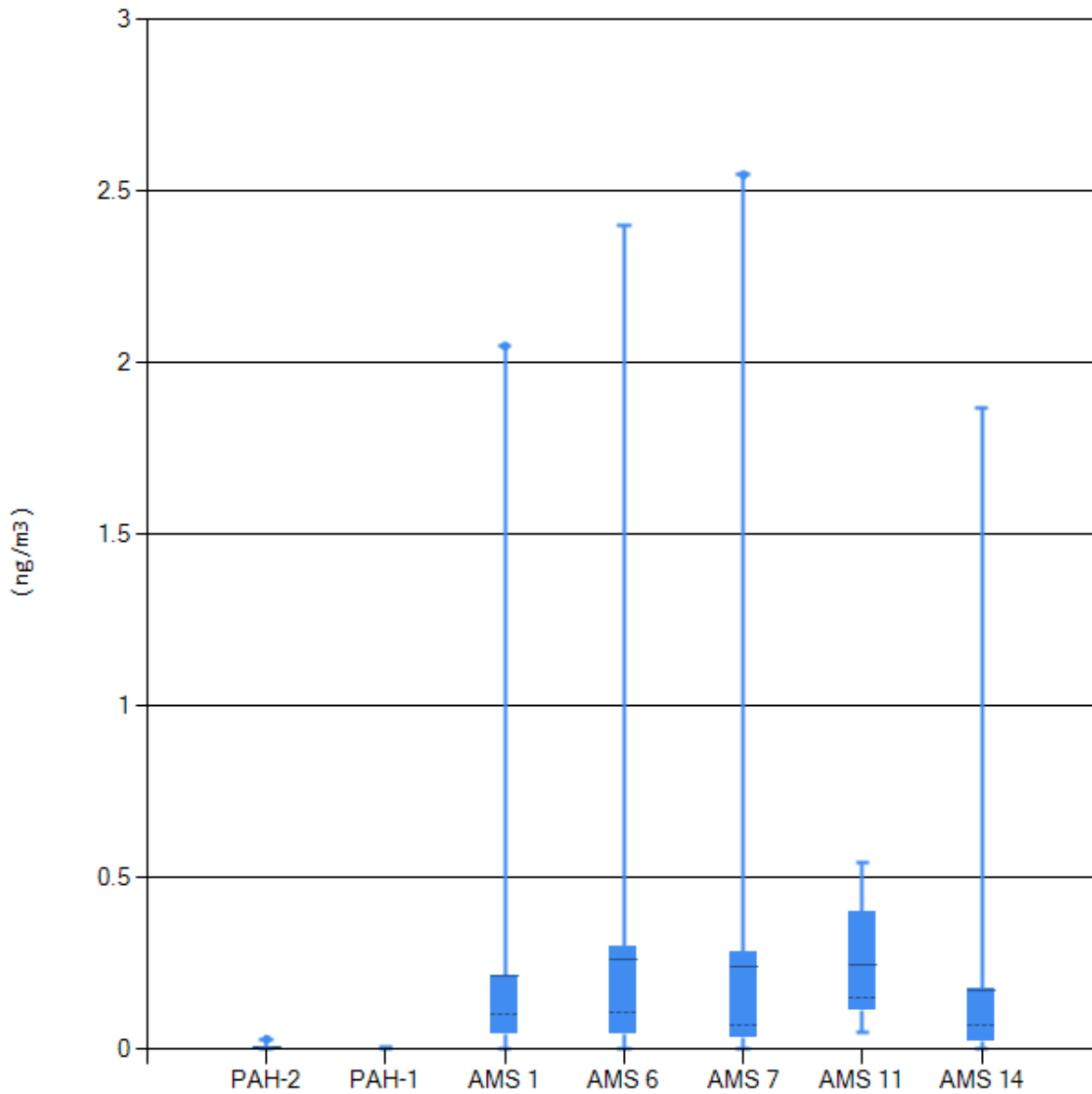
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0	0.02	0
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0	0.01	0.02	0.07	0.22	0.05
AMS 6 Patricia McInnes	0	0.02	0.04	0.08	0.33	0.06
AMS 7 Athabasca Valley	0	0.02	0.04	0.08	0.35	0.07
AMS 11 Lower Camp	0.04	0.06	0.12	0.15	0.24	0.12
AMS 14 Anzac	0	0.01	0.02	0.04	0.34	0.03





PAH - Benzo(k)fluoranthene - (ng/m3) - 2014

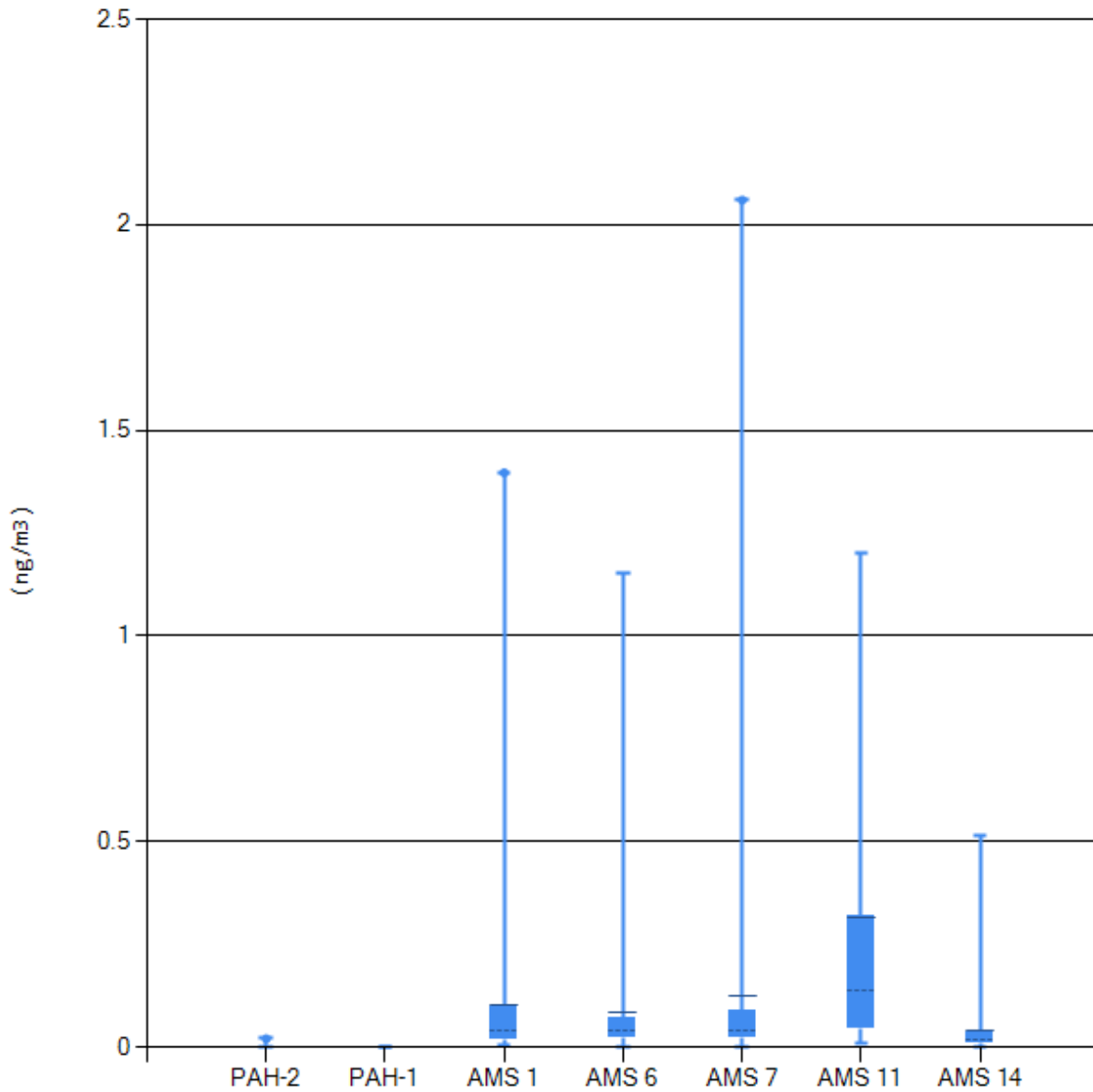
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0	0.03	0
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0	0.04	0.1	0.22	2.05	0.21
AMS 6 Patricia McInnes	0	0.04	0.1	0.3	2.4	0.26
AMS 7 Athabasca Valley	0	0.03	0.07	0.29	2.55	0.24
AMS 11 Lower Camp	0.05	0.11	0.15	0.47	0.54	0.24
AMS 14 Anzac	0	0.02	0.07	0.18	1.87	0.17





PAH - Chrysene - (ng/m3) - 2014

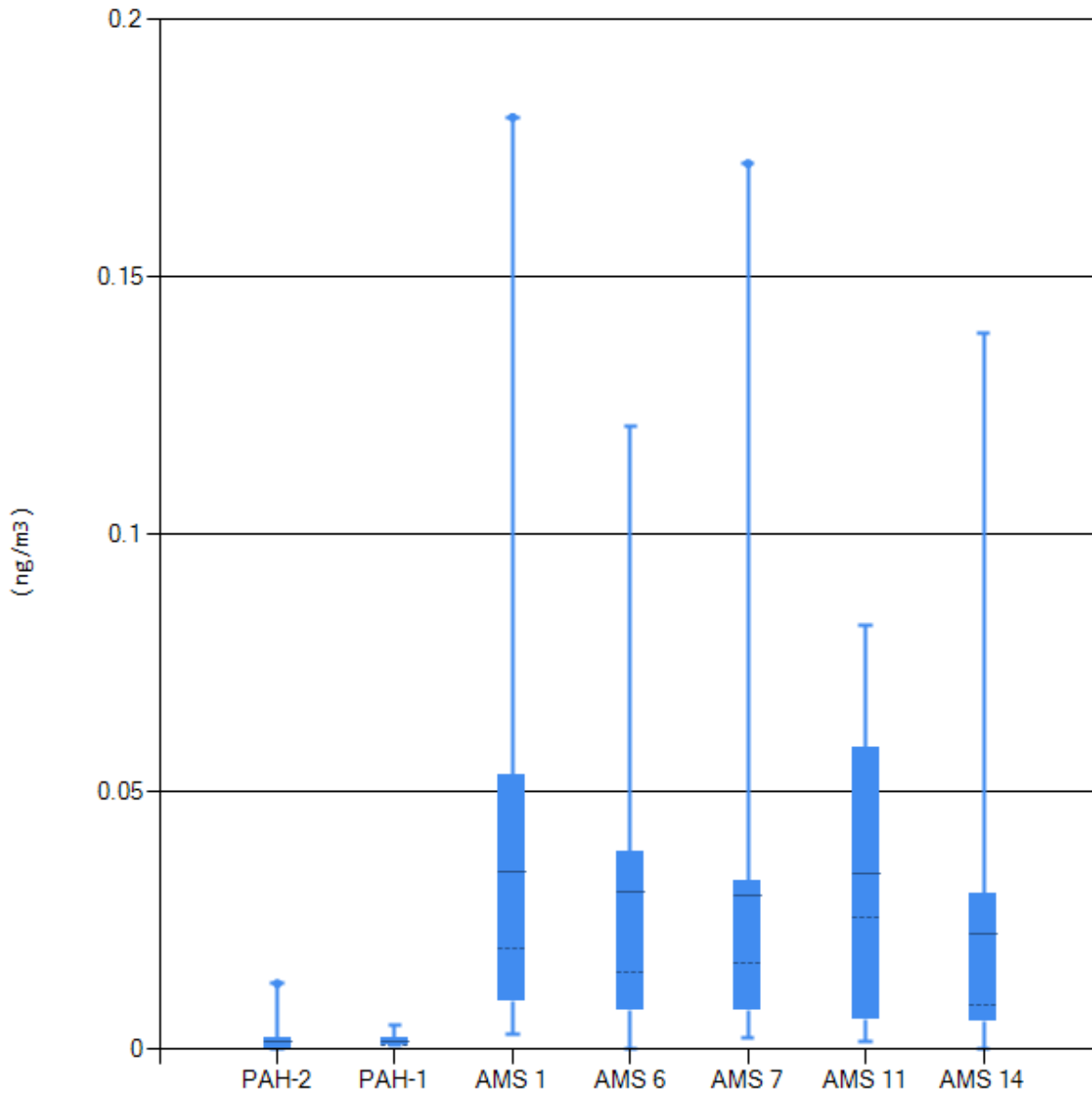
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0	0.02	0
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0.01	0.02	0.04	0.1	1.4	0.1
AMS 6 Patricia McInnes	0	0.02	0.04	0.07	1.15	0.08
AMS 7 Athabasca Valley	0	0.02	0.04	0.09	2.06	0.13
AMS 11 Lower Camp	0.01	0.02	0.14	0.37	1.2	0.31
AMS 14 Anzac	0	0.01	0.02	0.04	0.51	0.04





PAH - Dibenz(a,h)anthracene - (ng/m3) - 2014

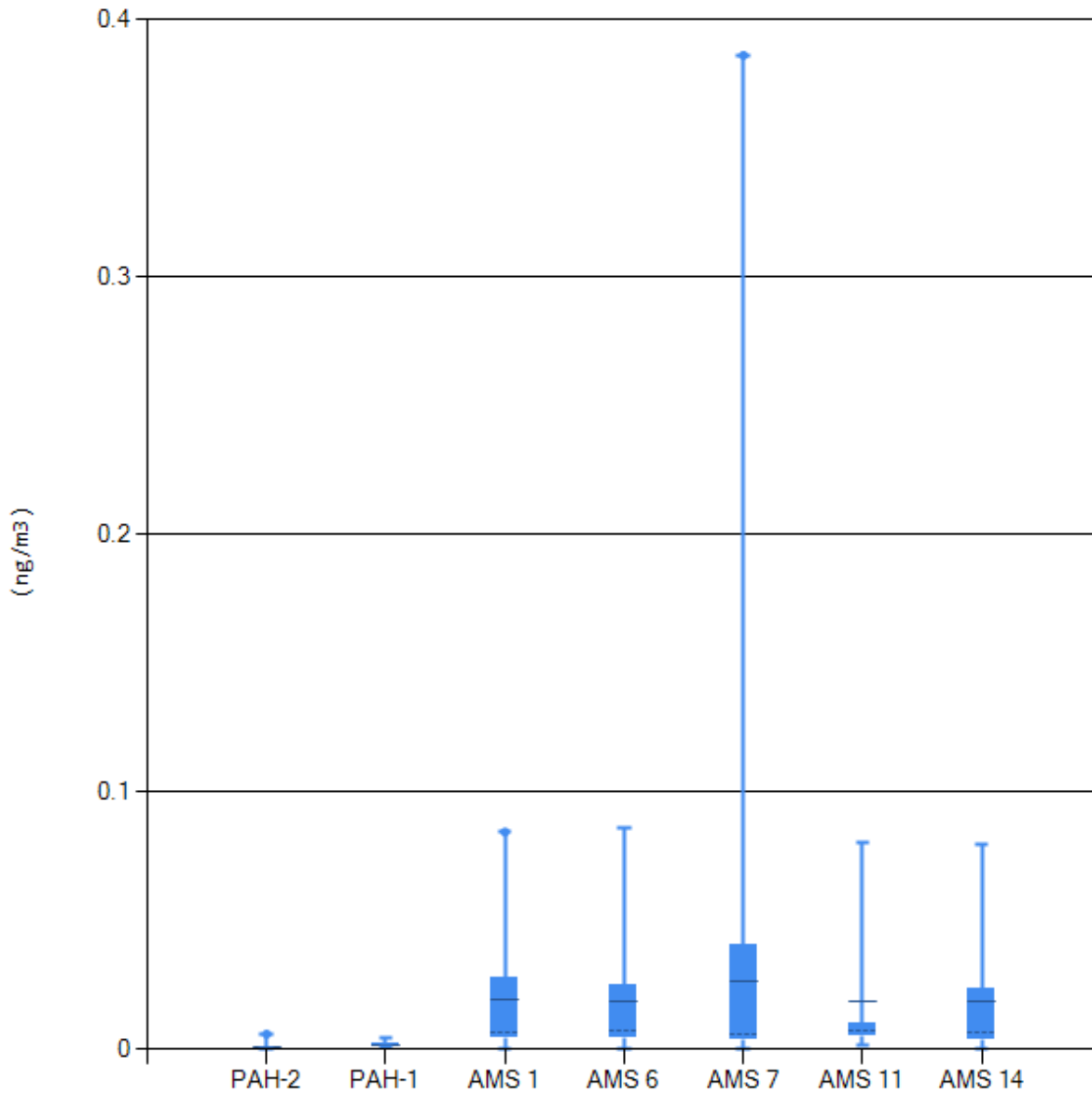
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0	0.01	0
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0	0.01	0.02	0.05	0.18	0.03
AMS 6 Patricia McInnes	0	0.01	0.01	0.04	0.12	0.03
AMS 7 Athabasca Valley	0	0.01	0.02	0.03	0.17	0.03
AMS 11 Lower Camp	0	0	0.03	0.07	0.08	0.03
AMS 14 Anzac	0	0.01	0.01	0.03	0.14	0.02





PAH - Dibenzo(a,h)pyrene - (ng/m3) - 2014

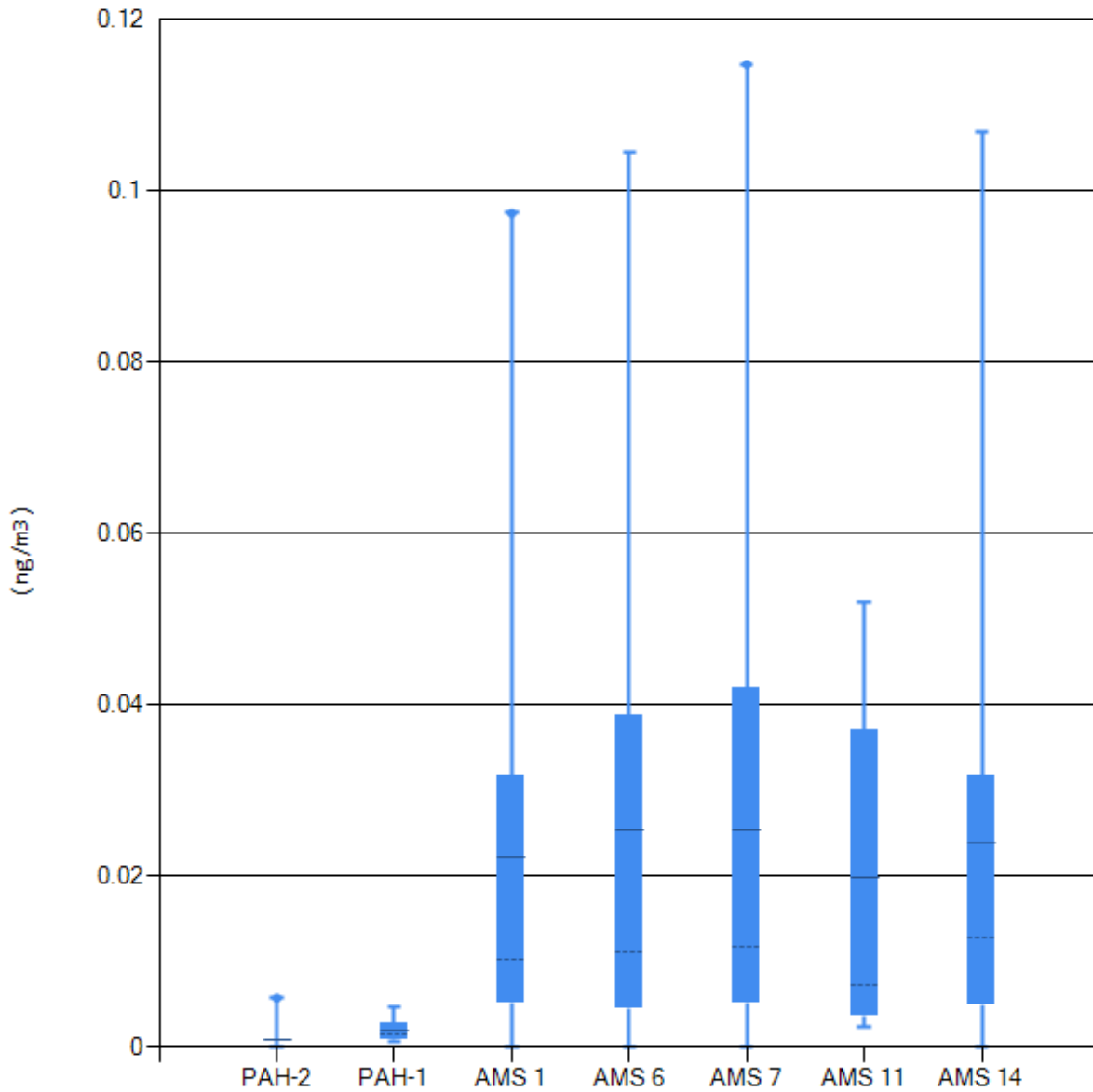
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0	0.01	0
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0	0	0.01	0.03	0.08	0.02
AMS 6 Patricia McInnes	0	0	0.01	0.03	0.09	0.02
AMS 7 Athabasca Valley	0	0	0.01	0.04	0.39	0.03
AMS 11 Lower Camp	0	0	0.01	0.01	0.08	0.02
AMS 14 Anzac	0	0	0.01	0.02	0.08	0.02





PAH - Dibenzo(a,i)pyrene - (ng/m3) - 2014

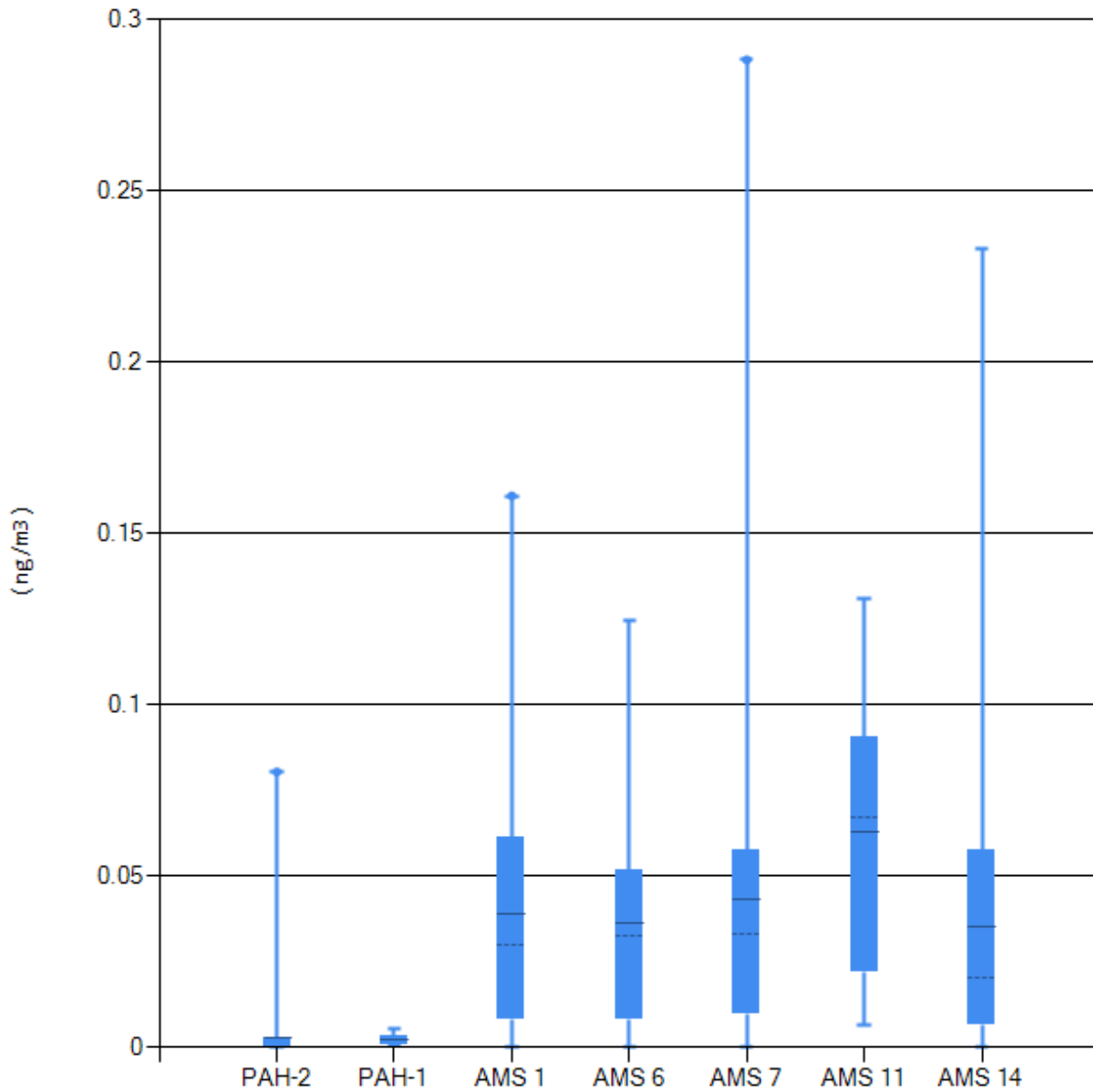
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0	0.01	0
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0	0	0.01	0.03	0.1	0.02
AMS 6 Patricia McInnes	0	0	0.01	0.04	0.1	0.03
AMS 7 Athabasca Valley	0	0.01	0.01	0.04	0.11	0.03
AMS 11 Lower Camp	0	0	0.01	0.05	0.05	0.02
AMS 14 Anzac	0	0	0.01	0.03	0.11	0.02





PAH - Dibenzo(a,l)pyrene - (ng/m3) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0	0.08	0
PAH-1 Lab Blank Filters	0	0	0	0	0.01	0
AMS 1 Bertha Ganter	0	0.01	0.03	0.06	0.16	0.04
AMS 6 Patricia McInnes	0	0.01	0.03	0.05	0.12	0.04
AMS 7 Athabasca Valley	0	0.01	0.03	0.06	0.29	0.04
AMS 11 Lower Camp	0.01	0.01	0.07	0.1	0.13	0.06
AMS 14 Anzac	0	0.01	0.02	0.06	0.23	0.04

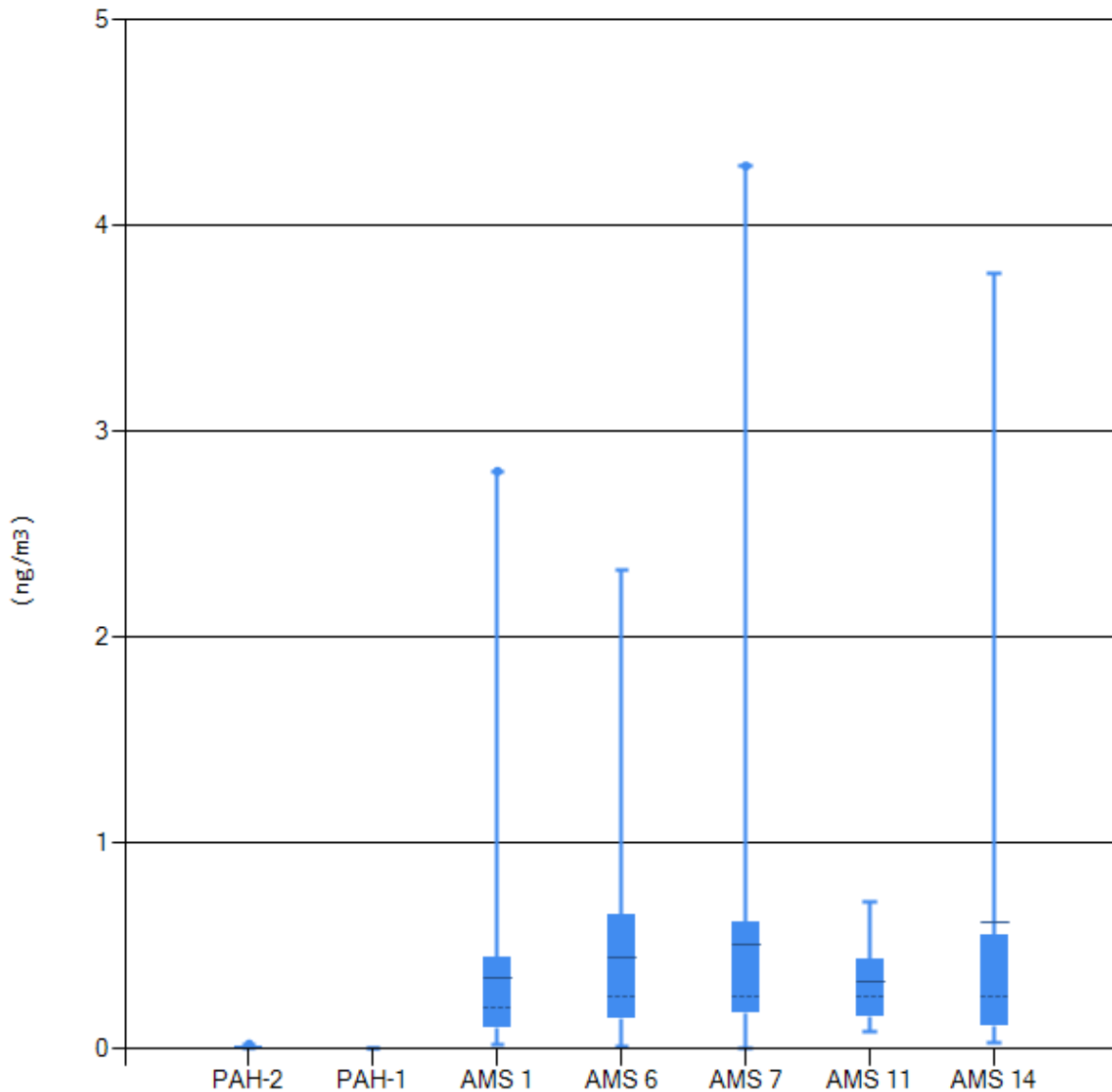






PAH - Fluoranthene - (ng/m3) - 2014

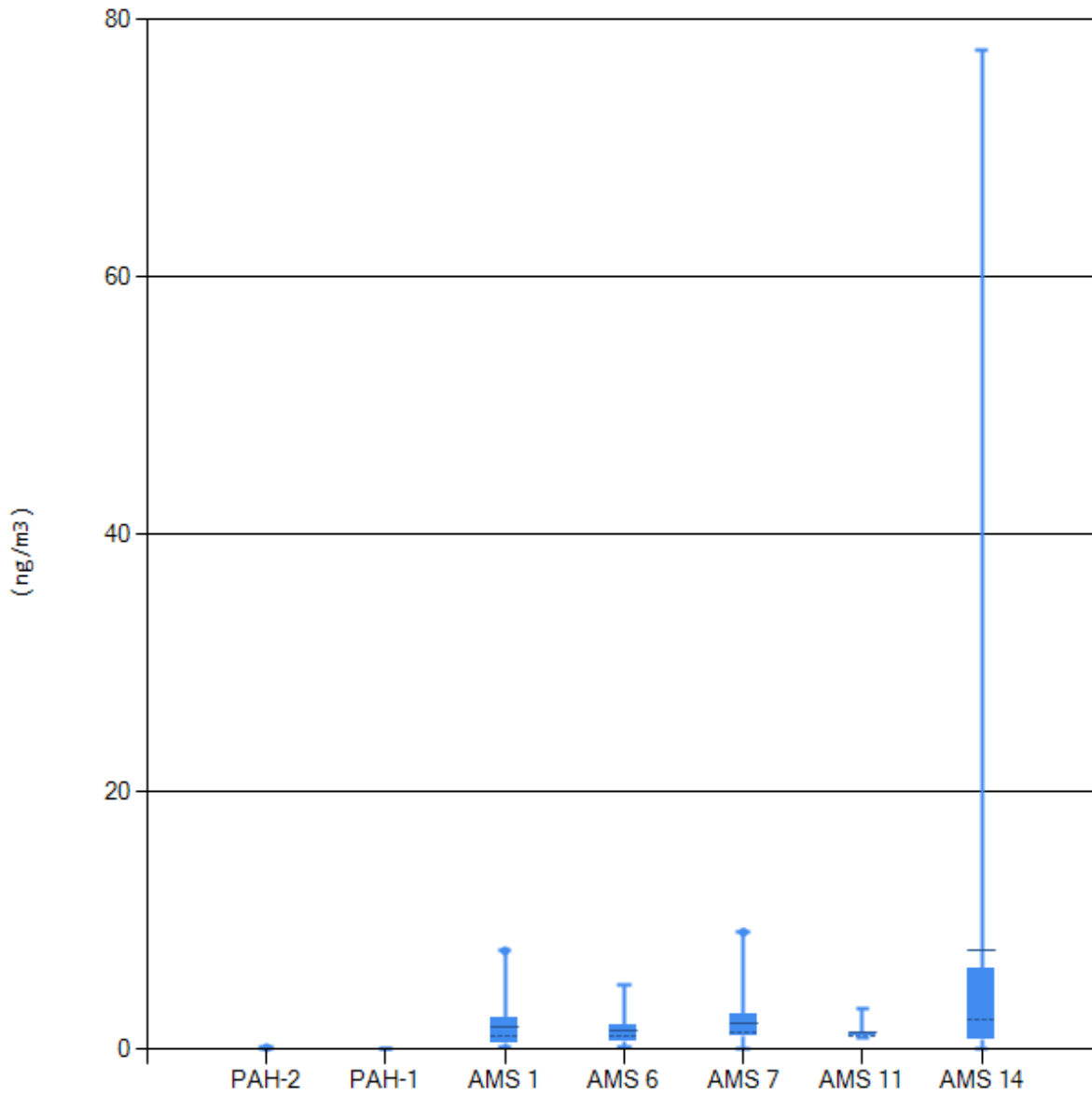
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0.01	0.02	0.01
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0.02	0.1	0.2	0.45	2.81	0.34
AMS 6 Patricia McInnes	0.02	0.14	0.26	0.65	2.33	0.45
AMS 7 Athabasca Valley	0.01	0.17	0.25	0.62	4.29	0.51
AMS 11 Lower Camp	0.09	0.13	0.26	0.49	0.72	0.32
AMS 14 Anzac	0.03	0.11	0.26	0.57	3.77	0.61





PAH - Fluorene - (ng/m3) - 2014

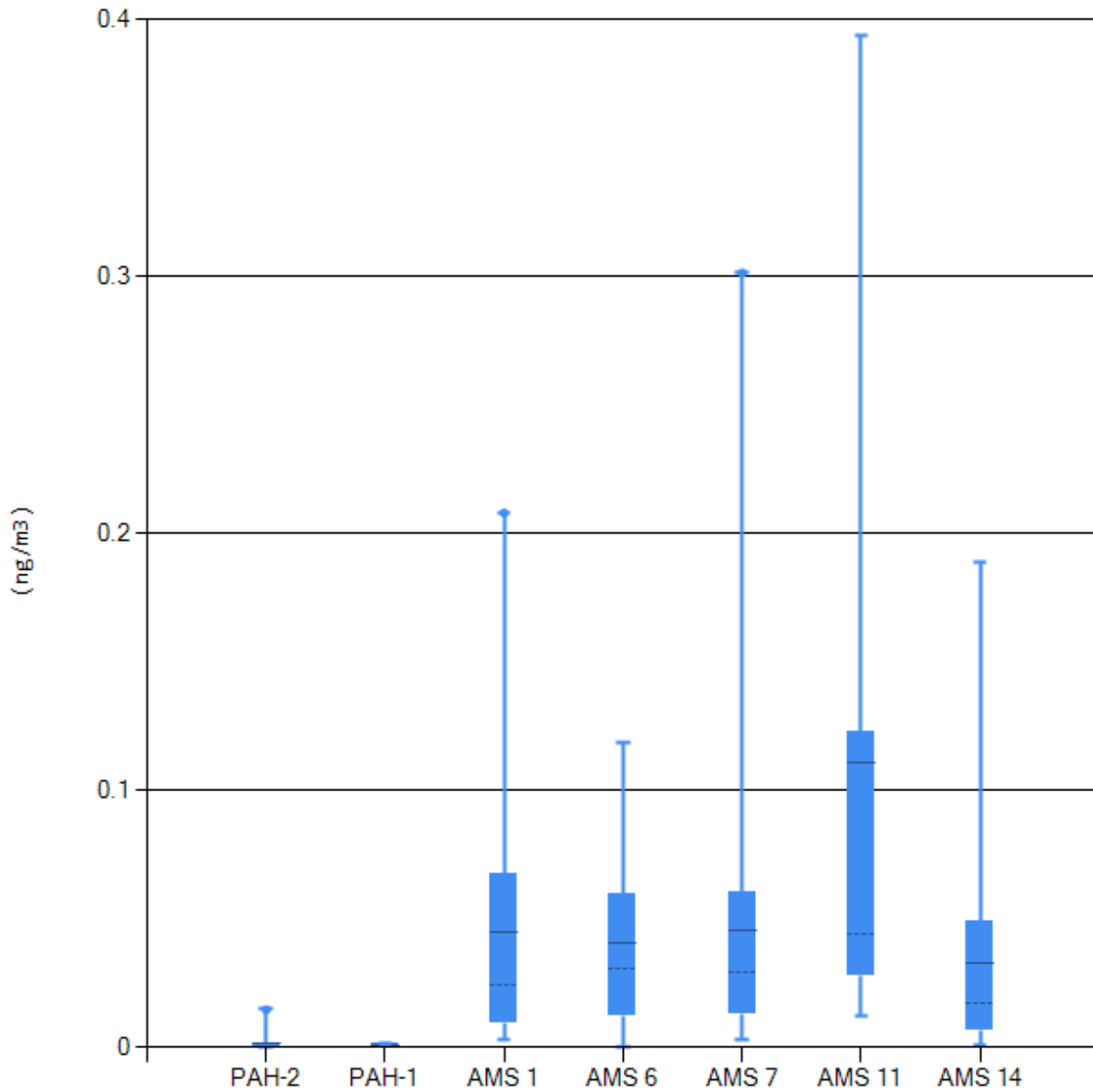
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0.01	0.03	0.09	0.02
PAH-1 Lab Blank Filters	0	0	0	0	0.01	0
AMS 1 Bertha Ganter	0.17	0.44	1.02	2.49	7.62	1.63
AMS 6 Patricia McInnes	0.11	0.58	0.95	1.95	4.96	1.42
AMS 7 Athabasca Valley	0.05	0.93	1.29	2.75	9.08	2.02
AMS 11 Lower Camp	0.78	0.92	0.98	1.12	3.11	1.31
AMS 14 Anzac	0.06	0.69	2.28	6.33	77.64	7.61





PAH - Indeno(123-cd)pyrene - (ng/m3) - 2014

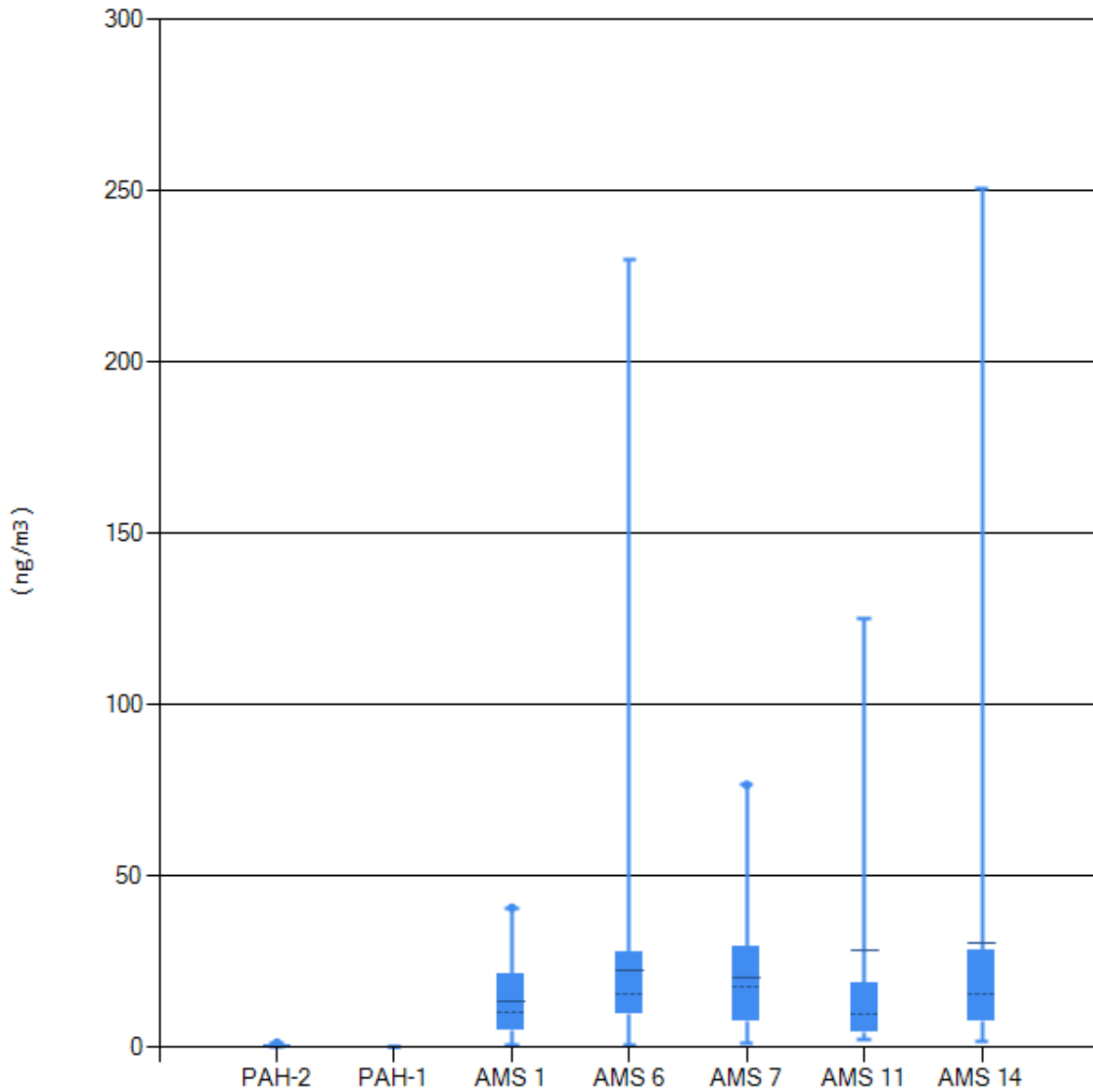
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0	0.01	0
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0	0.01	0.02	0.07	0.21	0.04
AMS 6 Patricia McInnes	0	0.01	0.03	0.06	0.12	0.04
AMS 7 Athabasca Valley	0	0.01	0.03	0.06	0.3	0.05
AMS 11 Lower Camp	0.01	0.02	0.04	0.15	0.39	0.11
AMS 14 Anzac	0	0.01	0.02	0.05	0.19	0.03





PAH - Naphthalene - (ng/m3) - 2014

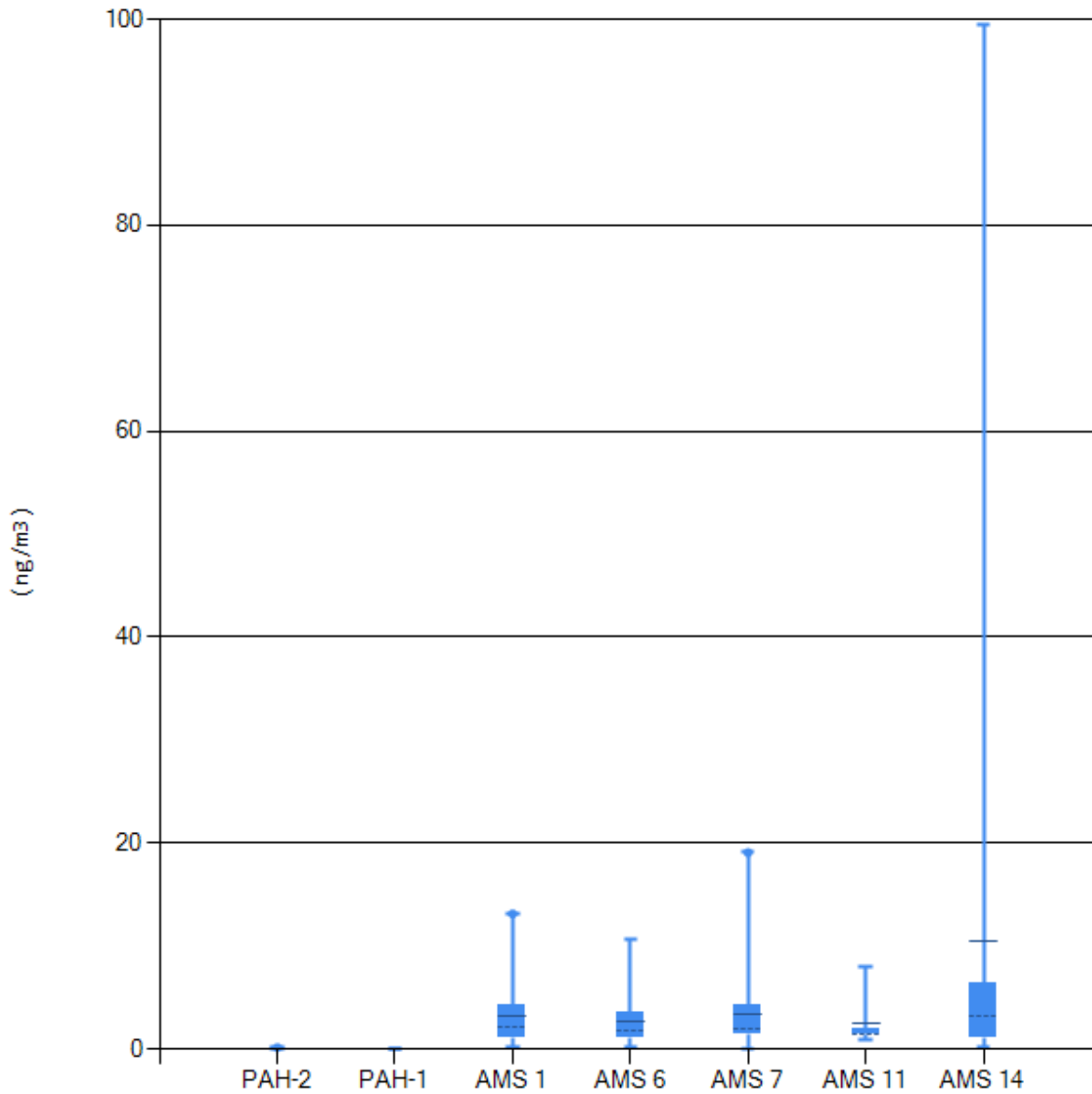
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0.04	0.12	0.3	1.27	0.25
PAH-1 Lab Blank Filters	0	0	0.01	0.01	0.06	0.01
AMS 1 Bertha Ganter	0.3	4.53	10.3	21.48	40.64	13.06
AMS 6 Patricia McInnes	0.56	9.75	15.39	27.83	229.98	22.12
AMS 7 Athabasca Valley	0.98	7.65	17.76	29.18	76.55	20.44
AMS 11 Lower Camp	2.27	2.51	9.53	21.61	25.24	28.45
AMS 14 Anzac	1.38	7.62	15.25	28.62	250.73	30.43





PAH - Phenanthrene - (ng/m3) - 2014

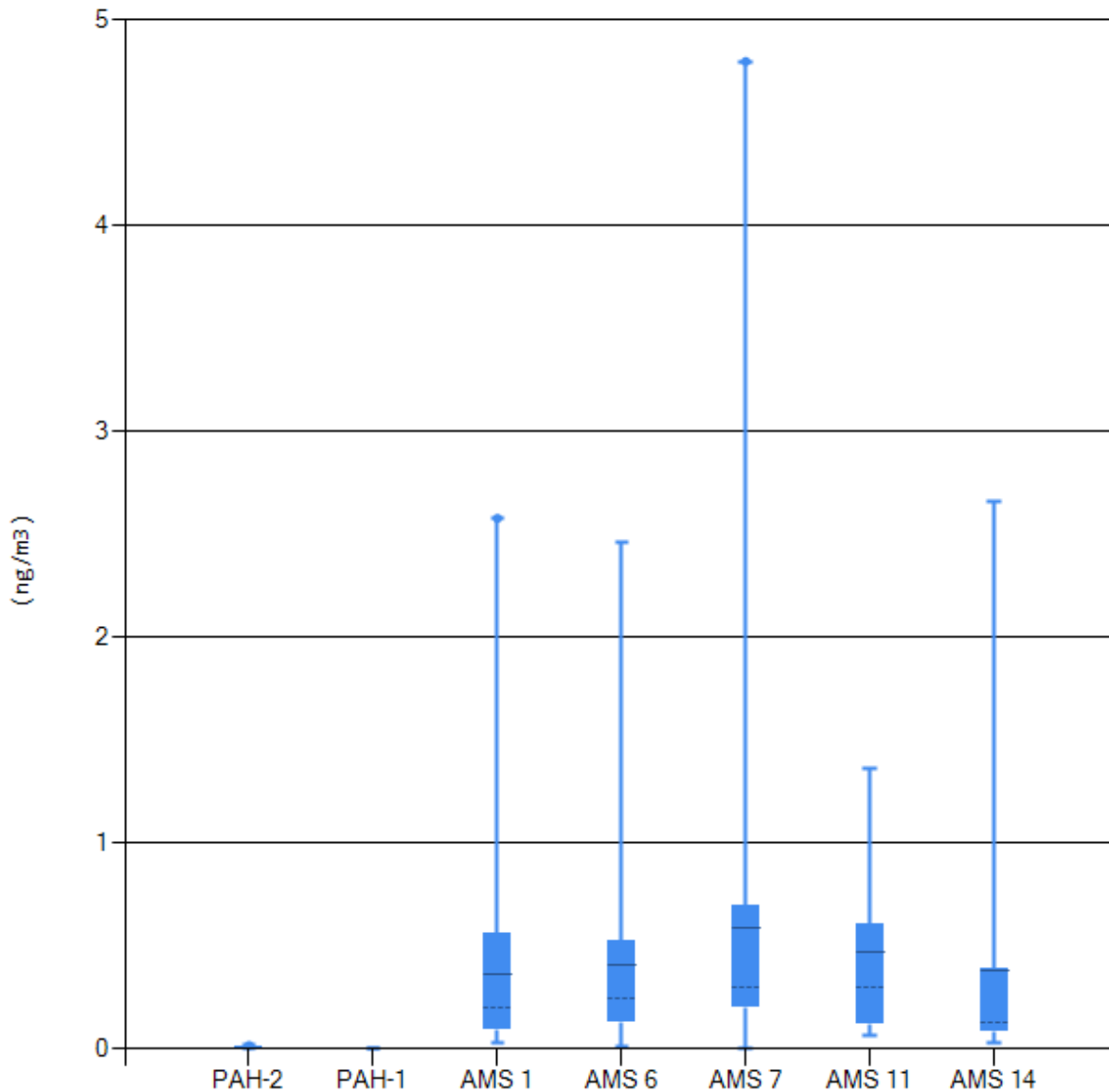
Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0.02	0.04	0.14	0.03
PAH-1 Lab Blank Filters	0	0	0	0	0.01	0
AMS 1 Bertha Ganter	0.09	1.04	2.04	4.19	13.12	3.11
AMS 6 Patricia McInnes	0.12	1.09	1.7	3.74	10.71	2.73
AMS 7 Athabasca Valley	0.02	1.35	1.91	4.29	19.07	3.42
AMS 11 Lower Camp	0.97	1.41	1.51	1.99	7.99	2.56
AMS 14 Anzac	0.21	1.02	3.23	6.45	99.47	10.39





PAH - Pyrene - (ng/m3) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
PAH-2 Travel Blank Filters	0	0	0	0.01	0.02	0.01
PAH-1 Lab Blank Filters	0	0	0	0	0	0
AMS 1 Bertha Ganter	0.03	0.09	0.2	0.56	2.58	0.36
AMS 6 Patricia McInnes	0.01	0.13	0.25	0.53	2.46	0.41
AMS 7 Athabasca Valley	0.01	0.2	0.3	0.7	4.8	0.58
AMS 11 Lower Camp	0.07	0.08	0.3	0.69	1.37	0.47
AMS 14 Anzac	0.03	0.08	0.13	0.4	2.66	0.38



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## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

### **INTEGRATED MONITORING PROGRAM ANNUAL REPORT**

### **VOLATILE ORGANIC COMPOUNDS DATA SUMMARY 2014**

Prepared  
March 12, 2015

**SAMPLE COLLECTION BY:**

**Wood Buffalo Environmental Association**  
Fort McMurray, Alberta

**LABORATORY ANALYSIS BY:**

VOC: Alberta Innovates - Technology Futures  
Vegreville, Alberta

**DATA COMPILATION BY:**

Aurora Atmospherics Inc.  
Calgary, Alberta



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WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 05-Jan	Patricia McInnes 05-Jan	Athabasca Valley 05-Jan	Anzac 05-Jan
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0.06
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	0	0	0	2.14
Acetone	0.2	0.56	0.75	0.58	0
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.11	0.14	0.12	0.07
beta Pinene	0.03	0	0	0	0
Butane	0.03	1.16	1.02	0.7	0.8
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0	0	0
Isobutane	0.03	0.33	0.38	0.25	0.2
Isopentane	0.03	0.39	0.47	0.21	0.32
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0.38	0.3	0	0
Methanol	2	1.39	2.36	1.55	1.24
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0.12	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0.21	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.22	0.13	0.07	0.2
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 05-Jan	Millennium 05-Jan	Fort McKay South 05-Jan	Horizon 05-Jan
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0.12	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0.2	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0.23	0	0	0.29
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0.18
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0.05	0	0.12
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	2.53	2.04	2.82	0
Acetone	0.2	1.62	0.52	1.66	0.47
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.17	0.12	0.1	0.11
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.77	0.89	0.57	0.62
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0.19	0	0	0.19
Formaldehyde	2	0	0	0	0
Heptane	0.03	0.18	0	0	0.31
Hexane	0.03	0	0	0	0.23
Isobutane	0.03	0.35	0.37	0.25	0.69
Isopentane	0.03	0.39	0.5	0.36	0.81
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0.38	0.32	0.3	0.43
Methanol	2	6.24	1.01	2.18	1.02
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0.11	0.14	0	0.29
Methylcyclopentane	0.03	0	0	0	0.09
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0.22
Octane	0.03	0	0	0	0.67
Pentane	0.03	0	0.53	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.35	0.2	0.18	0.37
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 11-Jan	Patricia McInnes 11-Jan	Athabasca Valley 11-Jan	Anzac 11-Jan
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0.07	0.2	0.16	0.24
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0.18	0.06	0.18
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0.03	0.18	0.1	0.14
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	1.51	1.91	1.21	2.34
Acetone	0.2	0.76	0.84	0.61	3.09
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.15	0.19	0.24	0.21
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.44	1.25	1.02	2.17
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0.04	0.04	0.11
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0.2	0.16	0.06
Hexane	0.03	0	0.23	0.18	0.23
Isobutane	0.03	0.22	0.49	0.43	0.9
Isopentane	0.03	0.24	0.74	0.67	1.2
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0.13	0.13	0.26
Methanol	2	0	2.24	0	3.7
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0.08	0.07	0.07
Methylcyclopentane	0.03	0	0.1	0.09	0.13
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0.05	0.05	0.1
Octane	0.03	0	0.08	0	0
Pentane	0.03	0	1.96	1.97	2.16
Styrene	0.03	0	0	0	0
Toluene	0.03	0.15	0.28	0.33	0.31
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 11-Jan	Millennium 11-Jan	Fort McKay South 11-Jan	Horizon 11-Jan
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0.29	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0.04	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0.08	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0.16	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0.08	0.05	0.15	0.13
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	2.63	1.31	2.21	1.17
Acetone	0.2	4.04	0.79	2.79	0.68
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.24	0.15	0.19	0.14
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.62	0.91	1.29	0.64
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0.03	0.11
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0.08	0
Ethanol					
Ethyl benzene	0.03	0.1	0	0.12	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0.05	0	0.21	0
Hexane	0.03	0.04	0.04	0.15	0
Isobutane	0.03	0	0.45	0.65	0.74
Isopentane	0.03	0.3	0.83	0.74	0.74
Isoprene	0.03	0	0	0.35	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0.31	0	0.27	0
Methanol	2	17.1	1.39	24.4	0
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0.03	0	0.18	0.06
Methylcyclopentane	0.03	0	0	0.07	0.08
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0.18	0	0.11	0
Octane	0.03	0	0	0.29	0
Pentane	0.03	0.44	1.75	1	0
Styrene	0.03	0.14	0	0	0
Toluene	0.03	0.34	0.11	2.11	0.16
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 17-Jan	Patricia McInnes 17-Jan	Athabasca Valley 17-Jan	Anzac 17-Jan
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0.03	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0.44	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0.27	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	4.05	3.35	2.75	5.08
Acetone	0.2	1.39	1.19	0.73	2.2
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.22	0.13	0.17	0.1
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.94	0.98	1.56	0.87
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0.04	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0.2	0	0	0
Hexane	0.03	0.27	0	0	0
Isobutane	0.03	0	0.39	1.14	0
Isopentane	0.03	1.03	0.29	0.45	0.17
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0.08	0	0.07	0
Methanol	2	4.28	9.55	26.8	6.13
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0.06	0	0	0
Methylcyclopentane	0.03	0.08	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0.04	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	2.08	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.24	0.12	0.18	0.13
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 17-Jan	Millennium 17-Jan	Fort McKay South 17-Jan	Horizon 17-Jan
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0.81	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0.11	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0.05	0.22	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0.04	0	0.13	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0.25	0	0.09	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0.23	0.03	0.1	0.21
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	5.14	3.39	3.34	2.78
Acetone	0.2	8.4	0.81	1.5	1.16
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.24	0.12	0.14	0.25
beta Pinene	0.03	0	0	0	0
Butane	0.03	1.05	1.11	0.84	0.71
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0.05
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0.09	0	0.1	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0.22	0.08	0.26	0
Hexane	0.03	0.33	0.07	0.1	0.36
Isobutane	0.03	0.74	0	0	0
Isopentane	0.03	0.78	0.59	0.53	0.5
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0.25	0.04	0.27	0
Methanol	2	38.9	2.24	6.14	5.69
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0.09	0.05	0.12	0
Methylcyclopentane	0.03	0.14	0.04	0.05	0.25
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	1.64	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0.1	0	0.09	0
Octane	0.03	0	0	0.68	0
Pentane	0.03	1.46	0.36	0	0
Styrene	0.03	0.16	0	0	0
Toluene	0.03	0.48	0.16	0.33	0.11
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0.14	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	Results (ppbv)			
		AMS 1	AMS 6	AMS 7
		Bertha Ganter 23-Jan	Patricia McInnes 23-Jan	Athabasca Valley 23-Jan
Compound Name	MDL			
1,2,4-Trimethylbenzene	0.03	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0
1,3-Butadiene				
1-Butene	0.03	0	0	0
1-Pentene	0.03	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0.45
2,2-Dimethylbutane	0.03	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0
2,3-Dimethylbutane	0.03	0	0	0
2,3-Dimethylpentane	0.03	0	0	0
2,4-Dimethylpentane	0.03	0	0	0
2-Methyl-1-pentene	0.03	0	0	0
2-Methyl-2-butene	0.03	0	0	0
2-Methylheptane	0.03	0	0	0
2-Methylhexane	0.03	0	0	0
2-Methylpentane	0.03	0	0	0.42
3-Methyl-1-butene	0.03	0	0	0
3-Methylheptane	0.03	0	0	0
3-Methylhexane	0.03	0	0	0
3-Methylpentane	0.03	0	0	0.26
4-Methyl-1-pentene	0.03	0	0	0
Acetaldehyde	0.2	4.52	4.19	3.57
Acetone	0.2	0.56	0.52	1.67
alpha Pinene	0.03	0	0	0
Benzene	0.03	0.28	0.2	0.55
beta Pinene	0.03	0	0	0
Butane	0.03	1.93	0.82	3.96
cis-2-Butene	0.03	0	0	0
cis-2-Hexene	0.03	0	0	0
cis-2-Pentene	0.03	0	0	0
Cyclohexane	0.03	0	0	0
Cyclopentane	0.03	0	0	0
Cyclopentene	0.03	0	0	0
Decane	0.03	0	0	0
Dodecane	0.03	0	0	0
Ethanol				
Ethyl benzene	0.03	0	0	0
Formaldehyde	2	0	0	0
Heptane	0.03	0	0	0
Hexane	0.03	0.44	0	0.37
Isobutane	0.03	1.19	0.43	1.26
Isopentane	0.03	2.41	0.42	1.67
Isoprene	0.03	0	0	0
Isopropyl alcohol				
Isopropylbenzene	0.03	0	0	0
m,p-Xylene	0.03	0.86	0	1.03
Methanol	2	7.87	6.03	185
Methyl ethyl ketone	0.2	0	0	0
Methyl isobutyl ketone	0.2	0	0	0
Methylcyclohexane	0.03	0	0	0
Methylcyclopentane	0.03	0	0	0
n-Propylbenzene	0.03	0	0	0
Naphthalene	0.03	0	0	0
Nonane	0.03	0	0	0
o-Xylene	0.03	0	0	0.51
Octane	0.03	0	0	0
Pentane	0.03	0.5	0	0
Styrene	0.03	0	0	0
Toluene	0.03	0.56	0	0.93
trans-2-Butene	0.03	0	0	0
trans-2-Hexene	0.03	0	0	0
trans-2-Pentene	0.03	0	0	0
Undecane	0.03	0	0	0





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 23-Jan	Millennium 23-Jan	Fort McKay South 23-Jan	Horizon 23-Jan
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	4.85	0	0	0
Acetone	0.2	5.31	0.23	0.57	0
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.27	0.24	0.29	0.16
beta Pinene	0.03	0	0	0	0
Butane	0.03	1.3	0.83	0.84	0.73
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0.32	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0	0	0
Isobutane	0.03	0.61	0.46	0	0
Isopentane	0.03	0	0	0	0.55
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0	0
Methanol	2	22.8	0	0	0
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0.39	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.41	0.29	0.28	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 29-Jan	Patricia McInnes 29-Jan	Athabasca Valley 29-Jan	Anzac 29-Jan
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	0	0	0	0
Acetone	0.2	0	0	2.9	0
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.23	0.18	0.19	0.23
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.8	0.46	0.56	0.62
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0	0	0
Isobutane	0.03	0.3	0	0	0
Isopentane	0.03	0	0.43	0	0
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0	0
Methanol	2	0	0	20.5	0
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0	0	0	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 29-Jan	Millennium 29-Jan	Fort McKay South 29-Jan	Horizon 29-Jan
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0.49
3-Methylpentane	0.03	0	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	0	0	0	0
Acetone	0.2	1.02	0	0	0.25
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.22	0	0.22	0.18
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.63	0	0	0.61
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0	0	0
Isobutane	0.03	0	0	0	0.65
Isopentane	0.03	0	0	0	0.84
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0	0
Methanol	2	4.09	0	0	0
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0	0	0	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 04-Feb	Patricia McInnes 04-Feb	Athabasca Valley 04-Feb	Anzac 04-Feb
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	0	0	2.8	0
Acetone	0.2	0.36	0.49	3.45	0.58
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0	0	0.07	0
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.31	0.81	0.58	0.34
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0.26	0	0
Isobutane	0.03	0.09	0.16	0.17	0.06
Isopentane	0.03	0	0.17	0.08	0
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0	0
Methanol	2	0	0	15.8	0
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0	0.18	0.21	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 04-Feb	Millennium 04-Feb	Fort McKay South 04-Feb	Horizon 04-Feb
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0	0	0.24
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	3.61	0	0	0
Acetone	0.2	2.93	0	0.48	0
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0	0	0	0
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.28	1.34	0.24	0.49
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0.26
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0	0	0
Isobutane	0.03	0.13	0.24	0	1.41
Isopentane	0.03	0	0.68	0	1.96
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0	0
Methanol	2	3.84	0	0	0
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0.3
Methylcyclopentane	0.03	0	0	0	0.13
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0	0	0	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 10-Feb	Patricia McInnes 10-Feb	Athabasca Valley 10-Feb	Anzac 10-Feb
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	1.03	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0.27	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0.49	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	1.21	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0.57	0	0	0
3-Methylpentane	0.03	2.49	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	0	2.27	3.51	0
Acetone	0.2	5.18	0.5	2	0
alpha Pinene	0.03	0.15	0	0	0
Benzene	0.03	0.51	0.29	0	0
beta Pinene	0.03	0	0	0	0
Butane	0.03	7.69	0.83	1.01	0.95
cis-2-Butene	0.03	0.36	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0.61	0	0	0
Cyclopentane	0.03	0.61	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0.35	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0.77	0	0	0
Hexane	0.03	9.37	0	0	0
Isobutane	0.03	2.65	0.47	0.46	0.46
Isopentane	0.03	3.9	0.96	0.89	0.63
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0.95	0	0	0
Methanol	2	20	0	10.6	0
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0.61	0	0	0
Methylcyclopentane	0.03	1.83	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	3.02	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	1.23	0.35	0	0
trans-2-Butene	0.03	0.91	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 10-Feb	Millennium 10-Feb	Fort McKay South 10-Feb	Horizon 10-Feb
Compound Name					
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0.27	0.48	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0.69	0	0.52	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0.5	0	0.37	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	3.39	0	0	0
Acetone	0.2	1.99	0.58	0.58	0
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.38	0	0.36	0.3
beta Pinene	0.03	0	0	0	0
Butane	0.03	1.03	0.94	0.82	0.95
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0.39	0	0.63	0.45
Hexane	0.03	0.48	0	0.54	0
Isobutane	0.03	0.58	0.74	0.53	1.05
Isopentane	0.03	1.61	1.15	1.11	1.53
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0.75	0	0
Methanol	2	4.75	0	0	0
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0.34	0.49	0.44
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	1.54	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.54	0.48	0.44	0.41
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 16-Feb	Patricia McInnes 16-Feb	Athabasca Valley 16-Feb	Anzac 16-Feb
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0.26	0	0.51	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0.13	0
2,2-Dimethylbutane	0.03	0.24	0	0	0
2,3,4-Trimethylpentane	0.03	0.05	0	0	0
2,3-Dimethylbutane	0.03	0.42	0	0	0
2,3-Dimethylpentane	0.03	0.22	0.09	0.08	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0.19	0	0	0
2-Methylhexane	0.03	0.15	0.08	0.06	0
2-Methylpentane	0.03	0.53	0.22	0.17	0.23
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0.1	0	0	0
3-Methylhexane	0.03	0.27	0.09	0.1	0
3-Methylpentane	0.03	0.75	0.2	0.21	0.15
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	0	0	0	0
Acetone	0.2	1.24	1.45	1.87	1.62
alpha Pinene	0.03	0.17	0	0	0
Benzene	0.03	0.29	0.26	0.34	0.24
beta Pinene	0.03	0	0	0	0
Butane	0.03	2.36	2.81	1.64	3.75
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0.77	0.11	0.11	0
Cyclopentane	0.03	0.36	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0.1	0
Ethanol					
Ethyl benzene	0.03	0.1	0.07	0.08	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0.5	0.08	0.14	0
Hexane	0.03	0.49	0.33	0.37	0.34
Isobutane	0.03	2.46	1.11	0.64	1.6
Isopentane	0.03	3.5	1	0.81	1.29
Isoprene	0.03	0	0	0.22	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0.17	0.11	0.15	0.1
Methanol	2	1.5	10.8	9.64	4.25
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0.67	0.13	0.14	0.13
Methylcyclopentane	0.03	0.45	0.13	0.14	0.09
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0.16	0.12	0.14	0
Octane	0.03	0.32	0	0	0
Pentane	0.03	4.51	1.29	0.63	1.68
Styrene	0.03	0	0	0	0
Toluene	0.03	0.35	0.23	0.4	0.14
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0





**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 16-Feb	Millennium 16-Feb	Fort McKay South 16-Feb	Horizon 16-Feb
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0.4	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0.35	0.24	0.65	0.77
2,3,4-Trimethylpentane	0.03	0.06	0	0	0.18
2,3-Dimethylbutane	0.03	0.6	0.33	1.04	1.97
2,3-Dimethylpentane	0.03	0.21	0	0	0.76
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0.34	0	0.25	0.61
2-Methylhexane	0.03	0.22	0	0.18	0.43
2-Methylpentane	0.03	1.01	0.35	3.59	0.61
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0.18	0	0	0.27
3-Methylhexane	0.03	0.37	0	0.32	0.91
3-Methylpentane	0.03	1.06	0.26	2.02	2.58
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	0	0	0	0
Acetone	0.2	3.42	1.35	1.46	1.04
alpha Pinene	0.03	0.2	0	0.1	0.09
Benzene	0.03	0.28	0.2	0.43	0.3
beta Pinene	0.03	0	0	0	0
Butane	0.03	2.79	3.35	3.27	5.77
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0.82	0.16	0.62	3.43
Cyclopentane	0.03	0.47	0	0.99	1.1
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0.14	0	0.11	0.15
Formaldehyde	2	0	0	0	0
Heptane	0.03	0.7	0.09	0.51	1.79
Hexane	0.03	0.65	0.3	1.36	0.62
Isobutane	0.03	2.99	1.7	2.9	14.5
Isopentane	0.03	4.45	1.81	10.9	22.3
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0.28	0.05	0.21	0.31
Methanol	2	10.6	5.12	5.63	4.43
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0.8	0.21	0.63	2.5
Methylcyclopentane	0.03	0.51	0.14	0.47	1.79
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0.15	0	0.07	0.25
o-Xylene	0.03	0.19	0	0.18	0.22
Octane	0.03	0.75	0	0.52	1.18
Pentane	0.03	5.41	1.49	17.1	2.58
Styrene	0.03	0.08	0	0	0
Toluene	0.03	0.48	0.16	0.37	0.64
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 22-Feb	Patricia McInnes 22-Feb	Athabasca Valley 22-Feb	Anzac 22-Feb
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0.92	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0.32	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0.58	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	0	0	0	0
Acetone	0.2	0.56	0.52	0	0.19
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.17	0.19	0.33	0.2
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.78	1.25	1.62	1.27
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	2.86	0	0
Isobutane	0.03	0.38	0.43	0.38	0.55
Isopentane	0.03	0.24	1.06	0.74	1.09
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0	0
Methanol	2	2.25	4.9	16.7	2.79
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0.5	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.09	0.15	0.19	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 22-Feb	Millennium 22-Feb	Fort McKay South 22-Feb	Horizon 22-Feb
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	1.82	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0	4.24	0.14
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	0	0	0	0
Acetone	0.2	1.84	0	1.51	0
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.13	0.16	0.14	0
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.95	0.9	0.83	1.14
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0.35	0.3
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0	22.5	0
Isobutane	0.03	0.47	0.42	0.36	1.91
Isopentane	0.03	0.44	0.82	0.29	1.76
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0	0
Methanol	2	9.62	1.5	2.28	0
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0.21
Methylcyclopentane	0.03	0	0	3.96	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.13	0	0	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	MDL	Results (ppbv)		
		AMS 1	AMS 7	AMS 14
		Bertha Ganter 28-Feb	Athabasca Valley 28-Feb	Anzac 28-Feb
Compound Name				
1,2,4-Trimethylbenzene	0.03	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0
1,3-Butadiene				
1-Butene	0.03	0	0	0
1-Pentene	0.03	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0
2,2-Dimethylbutane	0.03	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0
2,3-Dimethylbutane	0.03	0	0	0
2,3-Dimethylpentane	0.03	0	0	0
2,4-Dimethylpentane	0.03	0	0	0
2-Methyl-1-pentene	0.03	0	0	0
2-Methyl-2-butene	0.03	0	0	0
2-Methylheptane	0.03	0	0	0
2-Methylhexane	0.03	0	0	0
2-Methylpentane	0.03	0	0	0
3-Methyl-1-butene	0.03	0	0	0
3-Methylheptane	0.03	0	0	0
3-Methylhexane	0.03	0	0	0
3-Methylpentane	0.03	0	0	0
4-Methyl-1-pentene	0.03	0	0	0
Acetaldehyde	0.2	0	0	0
Acetone	0.2	0.56	1.99	0
alpha Pinene	0.03	0	0	0
Benzene	0.03	0.16	0.24	0.18
beta Pinene	0.03	0	0	0
Butane	0.03	0.61	1.18	0.76
cis-2-Butene	0.03	0	0	0
cis-2-Hexene	0.03	0	0	0
cis-2-Pentene	0.03	0	0	0
Cyclohexane	0.03	0	0	0
Cyclopentane	0.03	0	0	0
Cyclopentene	0.03	0	0	0
Decane	0.03	0	0	0
Dodecane	0.03	0	0	0
Ethanol				
Ethyl benzene	0.03	0	0	0
Formaldehyde	2	0	0	0
Heptane	0.03	0	0	0
Hexane	0.03	0	0	0
Isobutane	0.03	0.37	0.35	0.26
Isopentane	0.03	0.3	0.3	0.3
Isoprene	0.03	0	0	0
Isopropyl alcohol				
Isopropylbenzene	0.03	0	0	0
m,p-Xylene	0.03	0	0	0
Methanol	2	1.59	6.98	1.28
Methyl ethyl ketone	0.2	0	0	0
Methyl isobutyl ketone	0.2	0	0	0
Methylcyclohexane	0.03	0	0	0
Methylcyclopentane	0.03	0	0	0
n-Propylbenzene	0.03	0	0	0
Naphthalene	0.03	0	0	0
Nonane	0.03	0	0	0
o-Xylene	0.03	0	0	0
Octane	0.03	0	0	0
Pentane	0.03	0	0	0
Styrene	0.03	0	0	0
Toluene	0.03	0.13	0.17	0
trans-2-Butene	0.03	0	0	0
trans-2-Hexene	0.03	0	0	0
trans-2-Pentene	0.03	0	0	0
Undecane	0.03	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 28-Feb	Millennium 28-Feb	Fort McKay South 28-Feb	Horizon 28-Feb
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0	0	0.2
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	0	0	0	0
Acetone	0.2	1.87	0.37	0.25	0.77
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.2	0.17	0.14	0.18
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.89	0.64	0.82	1.32
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0	0	0.37
Isobutane	0.03	0.36	0.3	0.42	0.71
Isopentane	0.03	0	0	0.37	0.75
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0	0
Methanol	2	5.75	1.13	1.85	3.69
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.18	0	0	0.2
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 06-Mar	Patricia McInnes 06-Mar	Athabasca Valley 06-Mar	Anzac 06-Mar
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0.11	0	0	0
1,3,5-Trimethylbenzene	0.03	0.05	0	0	0
1,3-Butadiene					
1-Butene	0.03	2.2	0.52	0.9	0.59
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0.19	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0.19	0	0	0
2-Methylheptane	0.03	0.45	0.26	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0.36	0.24	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0.21	0.13	0	0
3-Methylhexane	0.03	0.98	0	0	0
3-Methylpentane	0.03	0.54	0.12	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	8.43	4.03	4.88	4.6
Acetone	0.2	7.58	1.85	7.55	2.65
alpha Pinene	0.03	0.24	0	0.21	0
Benzene	0.03	0.3	0.32	0.19	0.29
beta Pinene	0.03	0	0	0	0
Butane	0.03	5.95	1.46	1.52	1.35
cis-2-Butene	0.03	0.23	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0.36	0	0	0
Cyclopentane	0.03	0.3	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0.34	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	1.38	0.14	0.1	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	1.27	0.36	0.21	0
Hexane	0.03	1.76	0.35	0.21	0
Isobutane	0.03	2.26	0.58	0.52	0.49
Isopentane	0.03	2.5	0.79	0.94	0.76
Isoprene	0.03	0.11	0	0.08	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	3.97	0.18	0.21	0.04
Methanol	2	32.1	6.28	22	2.77
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	1.22	0.22	0.15	0
Methylcyclopentane	0.03	0.54	0.14	0.07	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0.11	0.08	0.07	0
Nonane	0.03	0.31	0.12	0	0
o-Xylene	0.03	1.27	0.1	0.06	0
Octane	0.03	0.85	0.42	0.33	0
Pentane	0.03	4.27	0	2.36	0
Styrene	0.03	0	0	0	0
Toluene	0.03	2.87	0.36	0.32	0.16
trans-2-Butene	0.03	0.47	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0.18	0	0	0
Undecane	0.03	0.22	0	0	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
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VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 06-Mar	Millennium 06-Mar	Fort McKay South 06-Mar	Horizon 06-Mar
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0.75	0.33	0	0.68
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0.26
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0.38	0.52
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0.11	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0.12	0.15
3-Methylhexane	0.03	0	0	0	0.25
3-Methylpentane	0.03	0	0	0	0.27
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	3.14	4.68	4.51	5.41
Acetone	0.2	5.19	1.73	1.97	1.73
alpha Pinene	0.03	0.18	0	0	0.21
Benzene	0.03	0.28	0.2	0.18	0.33
beta Pinene	0.03	0	0	0	0
Butane	0.03	2.11	0.95	0.88	1.03
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0.21	0.6
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0.06	0	0.04
Ethanol					
Ethyl benzene	0.03	0.06	0.06	0	0.17
Formaldehyde	2	0	0	0	0
Heptane	0.03	0.25	0.21	0.45	0.52
Hexane	0.03	0.2	0.09	0.12	0
Isobutane	0.03	0.67	0.35	0.5	1.73
Isopentane	0.03	0.78	0.92	0.64	3.17
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0.04	0.14	0.1	0.24
Methanol	2	6.13	1.88	2.44	3.07
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0.34	0.58
Methylcyclopentane	0.03	0	0	0	0.27
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0.06	0.05	0	0.04
Nonane	0.03	0	0	0	0.33
o-Xylene	0.03	0.06	0.04	0	0.11
Octane	0.03	0.27	0	0.81	1.23
Pentane	0.03	0	0.77	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.2	0.2	0.3	0.35
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 12-Mar	Patricia McInnes 12-Mar	Athabasca Valley 12-Mar	Anzac 12-Mar
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0.25	0
1,3,5-Trimethylbenzene	0.03	0	0	0.07	0
1,3-Butadiene					
1-Butene	0.03	0.61	0.55	0.76	0.67
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	7.34	6.69	6.7	7.06
Acetone	0.2	2.95	2.88	10.5	2.52
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.22	0.17	0.27	0.37
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.79	0.71	0.67	0.72
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0.2	0
Dodecane	0.03	0	0	0.28	0
Ethanol					
Ethyl benzene	0.03	0	0	0.1	0.07
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0	0	0
Isobutane	0.03	0.16	0.13	0.2	0.3
Isopentane	0.03	0.2	0	0.29	0
Isoprene	0.03	0	0	0.15	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0.05	0
m,p-Xylene	0.03	0	0.07	0.17	0
Methanol	2	4.84	6.82	46.4	4.01
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0.06	1.99	0.38
Nonane	0.03	0	0	0.16	0
o-Xylene	0.03	0	0	0.08	0.07
Octane	0.03	0	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.04	0.09	0.1	0.04
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0.71	0





**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 12-Mar	Millennium 12-Mar	Fort McKay South 12-Mar	Horizon 12-Mar
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0.06	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0.52	0.43	0.35	0.52
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0.19	0.1	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0	0.19	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	7.07	4.34	4.66	5.78
Acetone	0.2	6.22	1.91	1.78	3.03
alpha Pinene	0.03	0	0	0.17	0.17
Benzene	0.03	0.24	0.29	0.29	0.4
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.62	1.15	0.35	0.64
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0.13
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0.03	0
Dodecane	0.03	0.21	0	0.03	0
Ethanol					
Ethyl benzene	0.03	0.07	0	0.11	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0.31	1.31	0
Isobutane	0.03	0	0.23	0.1	0.6
Isopentane	0.03	0	0.62	0	0.61
Isoprene	0.03	0.12	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0.06	0
Methanol	2	9.21	3.81	4.47	2.49
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0	0.25	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0.56	0	0.4	0.32
Nonane	0.03	0.08	0	0.21	0
o-Xylene	0.03	0.06	0	0.11	0
Octane	0.03	0	0	0	0
Pentane	0.03	0	1.85	0	0
Styrene	0.03	0.16	0	0	0
Toluene	0.03	0.06	0	0.04	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0.11	0	0.07	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 18-Mar	Patricia McInnes 18-Mar	Athabasca Valley 18-Mar	Anzac 18-Mar
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0.03	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0.21	0.31	0.39	0.52
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0.57	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0.25	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	5.25	5.97	7.52	6.83
Acetone	0.2	1.33	5.59	6.33	1.96
alpha Pinene	0.03	0.19	0	0.17	0.17
Benzene	0.03	0.25	0.23	0.28	0.29
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.72	1.68	1	0.85
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0.12	0
Ethanol					
Ethyl benzene	0.03	0.08	0.07	0	0.04
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0	0	0
Isobutane	0.03	0.26	0.49	0.32	0.21
Isopentane	0.03	1.2	0.55	0.43	0.22
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0.11	0	0	0
Methanol	2	2.92	10.1	26.7	3.71
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0.37	0	0.39	0
Nonane	0.03	0.14	0	0	0
o-Xylene	0.03	0.11	0.08	0	0
Octane	0.03	0.17	0	0	0
Pentane	0.03	2.25	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.14	0.18	0.11	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0.07	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters		Results (ppbv)		
Compound Name	MDL	AMS 12	AMS 13	AMS 15
		Millennium 18-Mar	Fort McKay South 18-Mar	Horizon 18-Mar
1,2,4-Trimethylbenzene	0.03	0	0.04	0
1,3,5-Trimethylbenzene	0.03	0	0	0
1,3-Butadiene				
1-Butene	0.03	0.33	0.58	0.57
1-Pentene	0.03	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0
2,2-Dimethylbutane	0.03	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0
2,3-Dimethylbutane	0.03	0	0	0
2,3-Dimethylpentane	0.03	0	0	0
2,4-Dimethylpentane	0.03	0	0	0
2-Methyl-1-pentene	0.03	0	0	0
2-Methyl-2-butene	0.03	0	0	0
2-Methylheptane	0.03	0	0.18	0
2-Methylhexane	0.03	0	0	0
2-Methylpentane	0.03	0	0.14	0
3-Methyl-1-butene	0.03	0	0	0
3-Methylheptane	0.03	0	0	0
3-Methylhexane	0.03	0	0	0
3-Methylpentane	0.03	0	0.05	0
4-Methyl-1-pentene	0.03	0	0	0
Acetaldehyde	0.2	4.71	5.67	6.06
Acetone	0.2	2.35	1.71	2.57
alpha Pinene	0.03	0.17	0.19	0.22
Benzene	0.03	0.16	0.4	0.42
beta Pinene	0.03	0	0	0
Butane	0.03	0.73	0.45	0.66
cis-2-Butene	0.03	0	0	0
cis-2-Hexene	0.03	0	0	0
cis-2-Pentene	0.03	0	0	0
Cyclohexane	0.03	0	0	0
Cyclopentane	0.03	0	0	0
Cyclopentene	0.03	0	0	0
Decane	0.03	0	0.09	0
Dodecane	0.03	0.05	0	0
Ethanol				
Ethyl benzene	0.03	0.07	0.18	0
Formaldehyde	2	0	0	0
Heptane	0.03	0	0.25	0
Hexane	0.03	0	0.19	0
Isobutane	0.03	0.23	0.22	0.42
Isopentane	0.03	0.61	0.37	0.88
Isoprene	0.03	0	0	0
Isopropyl alcohol				
Isopropylbenzene	0.03	0	0	0
m,p-Xylene	0.03	0	0.2	0
Methanol	2	3.3	4.42	3.2
Methyl ethyl ketone	0.2	0	0	0
Methyl isobutyl ketone	0.2	0	0	0
Methylcyclohexane	0.03	0	0.21	0
Methylcyclopentane	0.03	0	0	0
n-Propylbenzene	0.03	0	0	0
Naphthalene	0.03	0.35	0.34	0
Nonane	0.03	0	0.3	0
o-Xylene	0.03	0.06	0.16	0
Octane	0.03	0	0.46	0
Pentane	0.03	0	0	1.08
Styrene	0.03	0	0	0
Toluene	0.03	0.07	0.34	0
trans-2-Butene	0.03	0	0	0
trans-2-Hexene	0.03	0	0	0
trans-2-Pentene	0.03	0	0	0
Undecane	0.03	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 24-Mar	Patricia McInnes 24-Mar	Athabasca Valley 24-Mar	Anzac 24-Mar
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0.39	0.35	0.51	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	2.92	3.27	4.29	3.29
Acetone	0.2	1.57	1.46	4.19	1.31
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.1	0.09	0.19	0.12
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.53	0.36	0.62	1.11
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0	0	0
Isobutane	0.03	0.32	0.16	0.26	0.3
Isopentane	0.03	0.26	0	0.26	0.28
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0.24	0	0.24	0
Methanol	2	1.47	1.52	7.55	1.91
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.05	0	0.08	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 24-Mar	Millennium 24-Mar	Fort McKay South 24-Mar	Horizon 24-Mar
Compound Name					
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0.43	0.34	0.48	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0.1	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0.27	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0.23	0	0
3-Methylpentane	0.03	0	0	0	0.19
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	4.17	2.97	4.62	3.9
Acetone	0.2	3.72	1.53	1.66	1.99
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.11	0.15	0.18	0.13
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.63	0.99	0.51	0.67
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0.17	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0.32	0	0
Hexane	0.03	0	0.21	0	0
Isobutane	0.03	0.36	0.31	0.18	1.08
Isopentane	0.03	0.39	0.44	0	1.56
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0.38	0	0
Methanol	2	4.44	0	3.55	1.58
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0.19	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0.25	0	0
o-Xylene	0.03	0	0.16	0	0
Octane	0.03	0	0.82	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0	0.28	0.05	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 30-Mar	Patricia McInnes 30-Mar	Athabasca Valley 30-Mar	Anzac 30-Mar
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0.39	0.3	0.88	0.2
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0.17	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0.26	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0.14	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	3.05	3.71	4.28	3.82
Acetone	0.2	2.1	1.56	1.5	1.17
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.19	0.15	0.16	0.1
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.58	1.26	1.08	0.72
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0.14	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0.17	0	0	0
Hexane	0.03	0.2	0	0	0
Isobutane	0.03	0.26	0.26	0.32	0.19
Isopentane	0.03	0.51	0.41	0.36	0.33
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0.29	0.25	0.21	0
Methanol	2	1.22	2.05	9.38	1.46
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0.12	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0.39	0	0	0
Pentane	0.03	0.56	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.17	0.08	0.08	0.03
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 30-Mar	Millennium 30-Mar	Fort McKay South 30-Mar	Horizon 30-Mar
Compound Name					
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0.54	0.42	0.54	0.4
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0.39	0	0	0.22
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0.17	0	0	0.11
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	4.06	5.48	5.16	4.77
Acetone	0.2	3.15	3.12	1.93	2.05
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.26	0.06	0.16	0.14
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.57	0.77	0.78	0.96
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0.23	0	0	0
Isobutane	0.03	0.27	0.26	0.29	0.49
Isopentane	0.03	0.87	0.43	0.45	1.07
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0.23	0	0	0
Methanol	2	3.47	1.86	2.92	1.48
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0.34	0.27
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.08	0.08	0.16	0.08
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 05-Apr	Patricia McInnes 05-Apr	Athabasca Valley 05-Apr	Anzac 05-Apr
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0.25	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0.52	0.53	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0.63	0	0
3-Methylpentane	0.03	0.26	0.51	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	2.65	5.62	6.72	5.52
Acetone	0.2	1.37	7.7	9.03	6.48
alpha Pinene	0.03	0	0.2	0	0
Benzene	0.03	0.09	0.31	0.25	0.15
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.66	3.97	1.39	1.76
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0.2	0.12	0
Dodecane	0.03	0.13	0.16	0.12	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0.33	0	0
Hexane	0.03	0	1.99	0	0
Isobutane	0.03	0.4	1.37	0.47	0.48
Isopentane	0.03	1.48	2.04	0.62	0
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0.56	0	0
Methanol	2	2	28.5	21.9	5.14
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0.55	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0.18	0	0
o-Xylene	0.03	0	0.21	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	2.52	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.11	0.97	0.31	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0.07	0.06	0





**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 05-Apr	Millennium 05-Apr	Fort McKay South 05-Apr	Horizon 05-Apr
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0.94	0	0.58	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0.51	0	0.23	0.21
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	4.9	5.3	4.28	4.28
Acetone	0.2	5.18	2.28	3.8	1.14
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.31	0.14	0.12	0.18
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.77	1.83	1.31	1.49
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0.16	0.12	0.11	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0.51	0	0
Hexane	0.03	0.34	0	0	0
Isobutane	0.03	0.53	0.48	0.41	1.29
Isopentane	0.03	2.38	1.12	1.7	2.41
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0.37	0.35	0
Methanol	2	7.42	2.69	5.56	2.38
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0.18	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0.2	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.12	0.29	0	0.13
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 11-Apr	Patricia McInnes 11-Apr	Athabasca Valley 11-Apr	Anzac 11-Apr
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0.56	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0.25	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	3.17	4.08	5.67	6.9
Acetone	0.2	1.57	1.34	6.78	3.78
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.19	0.18	0.23	0.2
beta Pinene	0.03	0	0	0	0
Butane	0.03	1.06	1.36	1.59	0
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0.16	0.19	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0.22	0	0	0
Isobutane	0.03	0.26	0.22	0	0
Isopentane	0.03	1.55	0	0	0
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0	0
Methanol	2	1.82	2.99	13.3	3.22
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	1.81	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0	0	0	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 11-Apr	Millennium 11-Apr	Fort McKay South 11-Apr	Horizon 11-Apr
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	4.7	4.37	4.72	6.2
Acetone	0.2	4.74	1.87	2.24	1.84
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.25	0.16	0.22	0
beta Pinene	0.03	0	0	0	0
Butane	0.03	0	0	1.63	0
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0.2	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0	0	0
Isobutane	0.03	0.09	0	0	0
Isopentane	0.03	0.73	0	0	1.75
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0	0
Methanol	2	4.61	1.02	4.99	2.47
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0	0	0	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 17-Apr	Patricia McInnes 17-Apr	Athabasca Valley 17-Apr	Anzac 17-Apr
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	6.48	6.33	7.21	4.23
Acetone	0.2	0.57	2.19	8.39	2.79
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.24	0.19	0.2	0.44
beta Pinene	0.03	0	0	0	0
Butane	0.03	2.24	2.36	2.52	0
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0.37	0	0
Isobutane	0.03	0	0	0.51	0.36
Isopentane	0.03	0	0.87	0	0
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0	0
Methanol	2	3.52	10.6	23.8	2.18
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0.32	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0	0.16	0	0.21
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 17-Apr	Millennium 17-Apr	Fort McKay South 17-Apr	Horizon 17-Apr
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0.35
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	3.07	3.2	2.84	2.93
Acetone	0.2	2.87	2.35	3.21	2.27
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.4	0.3	0.4	0.4
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.84	0.8	1.6	1.04
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0.13	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0	0	0
Isobutane	0.03	0	0.31	0.33	0.39
Isopentane	0.03	0	0	0.08	0.83
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0	0
Methanol	2	4.22	2.06	3.96	2.18
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.19	0	0	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0.16	0	0	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 23-Apr	Patricia McInnes 23-Apr	Athabasca Valley 23-Apr	Anzac 23-Apr
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0.57	0	0.54	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	3.9	4.71	4.35	5.17
Acetone	0.2	3.54	5.55	7	6.72
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.42	0.37	0.28	0.36
beta Pinene	0.03	0	0	0	0
Butane	0.03	0.86	0.95	1.04	0
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0.1	0.22	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	0	0	0	0
Isobutane	0.03	0.42	0.37	0.29	0
Isopentane	0.03	1.91	0	0	0
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0	0
Methanol	2	2.49	4.93	12.5	5.73
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	2.11	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0	0	0	0.2
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0.17	0	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 23-Apr	Millennium 23-Apr	Fort McKay South 23-Apr	Horizon 23-Apr
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0.77	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	1.2	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	4.23	0	1.15	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	1.8	0	0.61	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	5.75	4.51	5.91	3.17
Acetone	0.2	10.5	3.7	7.26	4.49
alpha Pinene	0.03	0	0	0	0
Benzene	0.03	0.97	0.36	0.49	0.48
beta Pinene	0.03	0	0	0	0
Butane	0.03	2.26	0	0	0
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	1.25	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0.14	0	0	0.12
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0	0	0	0
Hexane	0.03	1.11	0	0	0
Isobutane	0.03	0.78	0	0.52	0
Isopentane	0.03	10.9	0	4.13	0.69
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0	0
Methanol	2	11.3	2.72	7.14	3.76
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0	0	0	0
Pentane	0.03	12.5	0	3.56	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0	0	0	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 29-Apr	Patricia McInnes 29-Apr	Athabasca Valley 29-Apr	Anzac 29-Apr
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0.45	0	0	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0.28	0	0	0
3-Methylpentane	0.03	0	0	0	0
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	2.33	3.72	4.38	3.32
Acetone	0.2	3	5.28	7.9	3.04
alpha Pinene	0.03	0.2	0	0	0.04
Benzene	0.03	0.36	0.41	0.46	0.38
beta Pinene	0.03	0	0	0	0
Butane	0.03	1.47	1.8	2.27	1.26
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	0
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0	0	0	0
Ethanol					
Ethyl benzene	0.03	0.29	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0.62	0	0	0
Hexane	0.03	0	0	0	0
Isobutane	0.03	0.46	0.59	0	0.18
Isopentane	0.03	0.3	0.89	0	0.13
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0	0	0	0.05
Methanol	2	2.88	7.32	17	3.78
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0.51	0	0	0
Methylcyclopentane	0.03	0	0	0	0
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	0.72	0	0	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.54	0.24	0	0
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0





**WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**  
**Volatile Organic Compounds (VOCs)**

**2014**  
**Indicated Sites and Dates**

VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 29-Apr	Millennium 29-Apr	Fort McKay South 29-Apr	Horizon 29-Apr
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0	0	0	0
1,3,5-Trimethylbenzene	0.03	0	0	0	0
1,3-Butadiene					
1-Butene	0.03	0	0	0	0
1-Pentene	0.03	0	0	0	0
2,2,4-Trimethylpentane	0.03	0	0	0	0
2,2-Dimethylbutane	0.03	0	0	0	0.1
2,3,4-Trimethylpentane	0.03	0	0	0	0
2,3-Dimethylbutane	0.03	0	0	0	0.57
2,3-Dimethylpentane	0.03	0	0	0	0
2,4-Dimethylpentane	0.03	0	0	0	0
2-Methyl-1-pentene	0.03	0	0	0	0
2-Methyl-2-butene	0.03	0	0	0	0
2-Methylheptane	0.03	0.47	0	0.23	0
2-Methylhexane	0.03	0	0	0	0
2-Methylpentane	0.03	0	0	0	0
3-Methyl-1-butene	0.03	0	0	0	0
3-Methylheptane	0.03	0	0	0	0
3-Methylhexane	0.03	0	0	0	0
3-Methylpentane	0.03	0	0	0	0.61
4-Methyl-1-pentene	0.03	0	0	0	0
Acetaldehyde	0.2	4.96	2.91	3.22	2.81
Acetone	0.2	5.75	4.68	3.62	4.09
alpha Pinene	0.03	0.17	0	0.11	0.16
Benzene	0.03	0.37	0.18	0.29	0.28
beta Pinene	0.03	0	0	0	0
Butane	0.03	1.97	0.57	1.19	2.01
cis-2-Butene	0.03	0	0	0	0
cis-2-Hexene	0.03	0	0	0	0
cis-2-Pentene	0.03	0	0	0	0
Cyclohexane	0.03	0	0	0	1.03
Cyclopentane	0.03	0	0	0	0
Cyclopentene	0.03	0	0	0	0
Decane	0.03	0	0	0	0
Dodecane	0.03	0.14	0	0	0
Ethanol					
Ethyl benzene	0.03	0	0	0	0
Formaldehyde	2	0	0	0	0
Heptane	0.03	0.54	0	0.73	0.18
Hexane	0.03	1.22	0	0	0
Isobutane	0.03	0.64	0	0.14	5.03
Isopentane	0.03	0.84	0.09	0	9.15
Isoprene	0.03	0	0	0	0
Isopropyl alcohol					
Isopropylbenzene	0.03	0	0	0	0
m,p-Xylene	0.03	0.61	0.1	0.24	0.14
Methanol	2	10.4	2.02	4.75	3.21
Methyl ethyl ketone	0.2	0	0	0	0
Methyl isobutyl ketone	0.2	0	0	0	0
Methylcyclohexane	0.03	0.5	0	0.37	0.55
Methylcyclopentane	0.03	0.48	0	0	0.3
n-Propylbenzene	0.03	0	0	0	0
Naphthalene	0.03	0	0	0	0
Nonane	0.03	0	0	0	0
o-Xylene	0.03	0	0	0	0
Octane	0.03	1.01	0	1.09	0
Pentane	0.03	0	0	0	0
Styrene	0.03	0	0	0	0
Toluene	0.03	0.58	0	0.37	0.1
trans-2-Butene	0.03	0	0	0	0
trans-2-Hexene	0.03	0	0	0	0
trans-2-Pentene	0.03	0	0	0	0
Undecane	0.03	0	0	0	0



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 05-May	Patricia McInnes 05-May	Athabasca Valley 05-May	Anzac 05-May
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	2.36	1.56	2.55	2.44
Acetone	0.03	2.93	2.02	3.25	2.48
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.19	0.14	0.19	0.21
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	0.42	1.17	1.02	0.94
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.40	< 0.40	< 0.40	< 0.40
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	0.19	0.08	< 0.06
Isopentane	0.03	1.28	0.3	< 0.06	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	0.06	< 0.06	< 0.06
Methanol	0.03	1.57	2.17	7.12	3.32
Methyl ethyl ketone	0.03	< 0.06	< 0.06	0.71	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	0.35	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	0.1	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	0.94	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.09	0.07	< 0.06	0.07
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 05-May	Millennium 05-May	Fort McKay South 05-May	Horizon 05-May
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	1.02	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	0.43	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	2.16	2.16	2.92
Acetone	0.03	4.2	3.02	3.96	3.33
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.21	0.2	0.28	0.22
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	1.45	0.59	0.63	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.40	< 0.40	< 0.40	< 0.40
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	1.01	< 0.06	< 0.06	< 0.06
Isobutane	0.03	0.59	< 0.06	< 0.06	< 0.06
Isopentane	0.03	3.19	< 0.06	0.45	1.56
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	0.8	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	0.12	< 0.06	< 0.06	< 0.06
Methanol	0.03	11.1	1.71	5.27	3.56
Methyl ethyl ketone	0.03	0.81	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	0.25	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	0.12	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	3.13	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.63	< 0.06	0.12	0.08
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac
Compound Name	MDL	11-May	11-May	11-May	11-May
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	0.54	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	0.29	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	4.94	4.07	3.15	4.63
Acetone	0.03	3.96	4.24	5.24	4.88
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.08	0.29	0.23	0.08
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	0.52	1.56	1.63	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	0.2	< 0.06	< 0.06	0.21
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.40	< 0.40	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	2.03	< 0.06	< 0.06	0.44
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	3.93	3.37	6.16
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	2.59	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	0.07	0.13	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 11-May	Millennium 11-May	Fort McKay South 11-May	Horizon 11-May
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	0.73	< 0.06	< 0.06	0.81
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	0.77	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	0.29
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	3.63	5.49	3.23	2.75
Acetone	0.03	5.54	4.8	4.36	4.23
alpha Pinene	0.03	< 0.06	< 0.06	0.1	< 0.06
Benzene	0.03	0.28	< 0.06	0.14	0.14
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	1.44	0.75	0.72	2.36
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	1.22
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	0.26	0.23	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.40	< 0.06	< 0.06	< 0.40
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	2.53	0.56	< 0.06	10.3
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	0.08
Methanol	0.03	11.3	2.79	6.35	3.89
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	0.68
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	0.55
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	2.1	0.98	0.58	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	< 0.06	0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 17-May	Patricia McInnes 17-May	Athabasca Valley 17-May	Anzac 17-May
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	0.07	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	1.15	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	0.52	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	3.82	4.71	5.77	4.77
Acetone	0.03	4.4	6.75	9.13	12.1
alpha Pinene	0.03	0.08	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.13	0.07	0.09	0.15
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	0.86	1.81	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	0.21	0.18	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.40	< 0.40	< 0.40
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	0.38	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	3.25	1.11	< 0.06	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	2.51	5.24	20.2	8.67
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	4.53	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.08	0.14	0.18	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 17-May	Millennium 17-May	Fort McKay South 17-May	Horizon 17-May
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	0.07	< 0.07
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	0.47
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	0.5
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Acetaldehyde	0.03	4.68	5.02	4.52	3.64
Acetone	0.03	9.43	4.76	5.67	7.26
alpha Pinene	0.03	< 0.06	< 0.06	0.09	< 0.07
Benzene	0.03	< 0.06	0.12	0.07	< 0.07
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Butane	0.03	< 0.06	0.69	0.81	1.77
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Dodecane	0.03	< 0.06	0.22	0.15	0.26
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Ethyl benzene	0.03	< 0.40	< 0.06	< 0.40	< 0.46
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Isopentane	0.03	2.87	< 0.06	1.14	7.58
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Methanol	0.03	12.8	2.63	7.93	5.69
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	0.16
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Pentane	0.03	3.8	< 0.06	0.84	3.91
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Toluene	0.03	0.07	< 0.06	0.11	0.09
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.07



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 23-May	Patricia McInnes 23-May	Athabasca Valley 23-May	Anzac 23-May
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	0.68	0.46
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	6.54	3.77	6.18	7.17
Acetone	0.03	11.2	7.84	13.2	9.5
alpha Pinene	0.03	0.3	0.08	0.11	0.18
Benzene	0.03	0.16	0.19	0.16	0.18
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	2.11	1.78	2.57	2.2
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	3.06	5.43	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	0.29	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	1.74	0.88	1.1	< 0.06
Isoprene	0.03	< 0.06	0.16	< 0.06	0.54
Isopropyl alcohol			< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	0.08	< 0.06	< 0.06	< 0.06
Methanol	0.03	9.02	10.5	48.7	13.6
Methyl ethyl ketone	0.03	< 0.06	0.24	0.24	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	0.83	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.27	0.07	0.08	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06





VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 23-May	Millennium 23-May	Fort McKay South 23-May	Horizon 23-May
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	1.47	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	9.95	6.01	7.45	7.1
Acetone	0.03	14.7	8.54	12.2	12.5
alpha Pinene	0.03	0.33	0.12	0.43	0.29
Benzene	0.03	0.09	0.13	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	5.52	< 0.06
Butane	0.03	3.41	1.84	2.01	2.84
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	0.13	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	1.26	4.46
Isoprene	0.03	0.87	0.38	0.91	< 0.06
Isopropyl alcohol			< 0.06		
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	0.08	< 0.06	0.13	< 0.06
Methanol	0.03	50.7	9.92	21.3	13.5
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	0.42
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	1.27	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.16	< 0.06	0.15	0.12
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 29-May	Patricia McInnes 29-May	Athabasca Valley 29-May	Anzac 29-May
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	3.44	< 0.06	< 0.06	< 0.06
Acetone	0.03	5.4	9.78	9.29	5.88
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	< 0.06	0.23
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.40	< 0.40	< 0.40	< 0.40
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	2.25	< 0.06	< 0.06	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	3.81	< 0.06	40.7	10.7
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	2.03	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 29-May	Millennium 29-May	Fort McKay South 29-May	Horizon 29-May
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Acetaldehyde	0.03	6.24	< 0.03	6.49	4.85
Acetone	0.03	10.8	2.08	5.9	9.86
alpha Pinene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Benzene	0.03	< 0.06	0.35	0.12	< 0.06
beta Pinene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Butane	0.03	1.47	< 0.03	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.40	< 0.03	< 0.40	< 0.40
Formaldehyde	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Isopentane	0.03	3.7	< 0.03	1.91	9.24
Isoprene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Methanol	0.03	27.7	< 0.03	12.9	4.35
Methyl ethyl ketone	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Pentane	0.03	3.68	< 0.03	2.43	< 0.06
Styrene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.03	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.03	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 04-Jun	Patricia McInnes 04-Jun	Athabasca Valley 04-Jun	Anzac 04-Jun
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
1,3-Butadiene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
1-Butene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
1-Pentene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
2,2-Dimethylbutane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
2,3-Dimethylbutane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
2,3-Dimethylpentane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
2,4-Dimethylpentane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
2-Methyl-1-pentene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
2-Methyl-2-butene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
2-Methylheptane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
2-Methylhexane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
2-Methylpentane	0.03	8.69	< 0.03	< 0.03	< 0.03
3-Methyl-1-butene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
3-Methylheptane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
3-Methylhexane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
3-Methylpentane	0.03	16.6	< 0.03	< 0.03	< 0.03
4-Methyl-1-pentene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Acetaldehyde	0.03	< 0.06	2.18	1.99	< 0.03
Acetone	0.03	63.8	2.98	3.08	2.03
alpha Pinene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Benzene	0.03	< 0.06	< 0.03	0.29	0.27
beta Pinene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Butane	0.03	21.3	< 0.03	< 0.03	< 0.03
cis-2-Butene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
cis-2-Hexene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
cis-2-Pentene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Cyclohexane	0.03	2.13	< 0.03	< 0.03	< 0.03
Cyclopentane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Cyclopentene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Decane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Dodecane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Ethanol	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Ethyl benzene	0.03	< 0.40	< 0.03	< 0.03	< 0.03
Formaldehyde	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Heptane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Hexane	0.03	56.3	< 0.03	< 0.03	< 0.03
Isobutane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Isopentane	0.03	6.92	< 0.03	< 0.03	< 0.03
Isoprene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Isopropyl alcohol	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Isopropylbenzene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
m,p-Xylene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Methanol	0.03	31	3.19	16.8	4.56
Methyl ethyl ketone	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Methyl isobutyl ketone	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Methylcyclohexane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Methylcyclopentane	0.03	18.7	< 0.03	< 0.03	< 0.03
n-Propylbenzene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Naphthalene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Nonane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
o-Xylene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Octane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Pentane	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Styrene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Toluene	0.03	1.36	< 0.03	< 0.03	< 0.03
trans-2-Butene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
trans-2-Hexene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
trans-2-Pentene	0.03	< 0.06	< 0.03	< 0.03	< 0.03
Undecane	0.03	< 0.06	< 0.03	< 0.03	< 0.03



VOC Canisters	MDL	Results (ppbv)		
		AMS 9 Barge Landing 04-Jun	AMS 13 Fort McKay South 04-Jun	AMS 15 Horizon 04-Jun
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	4.15	4.74	5.08
Acetone	0.03	6.04	4.46	4.3
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.40	< 0.40	< 0.40
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06
Methanol	0.03	7.38	11.6	5.36
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 10-Jun	Patricia McInnes 10-Jun	Athabasca Valley 10-Jun	Anzac 10-Jun
1,2,4-Trimethylbenzene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
1,3,5-Trimethylbenzene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
1,3-Butadiene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
1-Butene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
1-Pentene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2,2,4-Trimethylpentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2,2-Dimethylbutane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2,3,4-Trimethylpentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2,3-Dimethylbutane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2,3-Dimethylpentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2,4-Dimethylpentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2-Methyl-1-pentene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2-Methyl-2-butene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylheptane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylhexane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylpentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
3-Methyl-1-butene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
3-Methylheptane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
3-Methylhexane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
3-Methylpentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
4-Methyl-1-pentene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acetaldehyde	0.03	< 0.03	< 0.03	2.78	< 0.03
Acetone	0.03	2.81	3.84	3.59	3.65
alpha Pinene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
beta Pinene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Butane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
cis-2-Butene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
cis-2-Hexene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
cis-2-Pentene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Cyclohexane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Cyclopentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Cyclopentene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Decane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dodecane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Ethanol	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Ethyl benzene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Formaldehyde	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Heptane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hexane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Isobutane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Isopentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Isoprene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Isopropyl alcohol	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Isopropylbenzene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
m,p-Xylene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Methanol	0.03	< 0.03	3.79	16.3	6.11
Methyl ethyl ketone	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Methyl isobutyl ketone	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Methylcyclohexane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Methylcyclopentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
n-Propylbenzene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Naphthalene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Nonane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
o-Xylene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Octane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Pentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Styrene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Toluene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
trans-2-Butene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
trans-2-Hexene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
trans-2-Pentene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Undecane	0.03	< 0.03	< 0.03	< 0.03	< 0.03



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 10-Jun	Millennium 10-Jun	Fort McKay South 10-Jun	Horizon 10-Jun
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
1,3,5-Trimethylbenzene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
1,3-Butadiene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
1-Butene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
1-Pentene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2,2,4-Trimethylpentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2,2-Dimethylbutane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2,3,4-Trimethylpentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2,3-Dimethylbutane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2,3-Dimethylpentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2,4-Dimethylpentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2-Methyl-1-pentene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2-Methyl-2-butene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylheptane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylhexane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylpentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
3-Methyl-1-butene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
3-Methylheptane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
3-Methylhexane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
3-Methylpentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
4-Methyl-1-pentene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acetaldehyde	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acetone	0.03	4.08	2.37	3.64	4.2
alpha Pinene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzene	0.03	0.26	< 0.03	< 0.03	< 0.03
beta Pinene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Butane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
cis-2-Butene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
cis-2-Hexene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
cis-2-Pentene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Cyclohexane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Cyclopentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Cyclopentene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Decane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dodecane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Ethanol	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Ethyl benzene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Formaldehyde	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Heptane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Hexane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Isobutane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Isopentane	0.03	1.26	< 0.03	< 0.03	3.09
Isoprene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Isopropyl alcohol	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Isopropylbenzene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
m,p-Xylene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Methanol	0.03	9.73	< 0.03	5.8	< 0.03
Methyl ethyl ketone	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Methyl isobutyl ketone	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Methylcyclohexane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Methylcyclopentane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
n-Propylbenzene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Naphthalene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Nonane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
o-Xylene	0.03	< 0.03	< 0.03	0.16	< 0.03
Octane	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Pentane	0.03	1.87	< 0.03	< 0.03	< 0.03
Styrene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Toluene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
trans-2-Butene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
trans-2-Hexene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
trans-2-Pentene	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Undecane	0.03	< 0.03	< 0.03	< 0.03	< 0.03



VOC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 16-Jun	Patricia McInnes 16-Jun	Athabasca Valley 16-Jun	Anzac 16-Jun
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	3.27	< 0.06	< 0.06	3.73
Acetone	0.03	3.07	3.08	5.31	5.7
alpha Pinene	0.03	0.24	< 0.06	0.08	0.14
Benzene	0.03	0.2	0.66	0.29	0.41
beta Pinene	0.03	3.57	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	0.22	< 0.06	< 0.06	< 0.06
Isoprene	0.03	1.06	0.95	0.7	0.51
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	4.3	8.96	30.7	13.8
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.14	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06





VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing	Millennium	Fort McKay South	Horizon
Compound Name	MDL	16-Jun	16-Jun	16-Jun	16-Jun
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	0.46
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	4.06	2.41	4.49	3.02
Acetone	0.03	4.43	5.04	3.44	3.68
alpha Pinene	0.03	< 0.06	0.08	0.29	0.24
Benzene	0.03	< 0.06	< 0.06	0.56	0.31
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	1.05
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	0.46
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06	2.52
Isoprene	0.03	< 0.06	0.67	0.83	0.35
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	0.16	< 0.06
Methanol	0.03	50.5	< 0.06	11.4	4.86
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	0.21	0.2
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac
Compound Name	MDL	22-Jun	22-Jun	22-Jun	22-Jun
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
1-Butene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
1-Pentene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Acetaldehyde	0.03	3.31	< 0.06	< 0.09	< 0.09
Acetone	0.03	2.85	6.35	6.93	8.39
alpha Pinene	0.03	0.23	< 0.06	< 0.09	0.32
Benzene	0.03	0.18	< 0.06	0.14	< 0.09
beta Pinene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Butane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Cyclohexane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Cyclopentane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Cyclopentene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Decane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Dodecane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Ethanol	0.03	< 0.06	< 0.06	4.85	< 0.09
Ethyl benzene	0.03	< 0.06	0.3	< 0.09	0.27
Formaldehyde	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Heptane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Hexane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Isobutane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Isopentane	0.03	0.93	< 0.06	0.45	< 0.09
Isoprene	0.03	< 0.06	< 0.06	0.34	< 0.09
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
m,p-Xylene	0.03	< 0.06	0.99	< 0.09	0.69
Methanol	0.03	9.88	9.02	197	8.62
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Naphthalene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Nonane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
o-Xylene	0.03	< 0.06	0.44	< 0.09	0.26
Octane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Pentane	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Styrene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Toluene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.09	< 0.09
Undecane	0.03	< 0.06	< 0.06	< 0.09	< 0.09



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 22-Jun	Millennium 22-Jun	Fort McKay South 22-Jun	Horizon 22-Jun
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	9.1
Acetone	0.03	5.29	0.58	2.71	5.58
alpha Pinene	0.03	< 0.06	< 0.06	0.24	0.29
Benzene	0.03	< 0.06	0.09	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	2.35
Isopentane	0.03	2.26	0.15	0.59	3.26
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	109	1.56	26.3	10.6
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 28-Jun	Patricia McInnes 28-Jun	Athabasca Valley 28-Jun	Anzac 28-Jun
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	2.14
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	1.34
Acetone	0.03	2.96	5.88	7.37	3.75
alpha Pinene	0.03	0.62	< 0.06	0.28	0.93
Benzene	0.03	< 0.06	0.54	0.18	0.14
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	7.55
Butane	0.03	< 0.06	< 0.06	1.17	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	4.97	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	0.12
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	0.33	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	2.29	1.1	0.88	< 0.06
Isoprene	0.03	1.75	0.55	0.77	1.37
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	10.1	136	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	0.16
Toluene	0.03	0.07	0.17	0.17	0.24
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 28-Jun	Millennium 28-Jun	Fort McKay South 28-Jun	Horizon 28-Jun
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	1.8
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	3.12	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	6.19	22.1
Acetone	0.03	4.31	4.45	3.91	< 0.06
alpha Pinene	0.03	0.41	0.67	1.12	0.31
Benzene	0.03	0.13	0.21	0.14	0.08
beta Pinene	0.03	< 0.06	< 0.06	6.22	< 0.06
Butane	0.03	< 0.06	1.33	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	0.94
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	0.07	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	0.18
Hexane	0.03	< 0.06	< 0.06	6.02	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	1.84	1.43	1.6	5.6
Isoprene	0.03	0.9	0.62	1.67	1.14
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	91.9	7.21	19.7	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	0.28	0.9
Methylcyclopentane	0.03	< 0.06	< 0.06	3.14	0.81
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.1	0.22	0.65	0.17
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac
Compound Name	MDL	04-Jul	04-Jul	04-Jul	04-Jul
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	0.98	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	2.58	4.91	< 0.06	2.87
alpha Pinene	0.03	0.35	0.22	0.38	0.16
Benzene	0.03	0.1	< 0.06	< 0.06	< 0.06
beta Pinene	0.03	3.43	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	6.16	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isoprene	0.03	2.06	2.2	2.02	1.6
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	9.67	13.7	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.09	< 0.06	< 0.06	0.21
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 04-Jul	Millennium 04-Jul	Fort McKay South 04-Jul	Horizon 04-Jul
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	3.51	3.01	7.14	2.51
alpha Pinene	0.03	0.43	0.5	0.55	0.57
Benzene	0.03	< 0.06	0.11	0.08	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	5.27	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isoprene	0.03	2.4	1.44	2.57	0.98
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	29.5	< 0.06	< 0.06	6.37
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	0.09	0.07	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 10-Jul	Patricia McInnes 10-Jul	Athabasca Valley 10-Jul	Anzac 10-Jul
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	2.77	< 0.06	< 0.06	1.79
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.75	0.29	0.23	0.58
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	0.11	< 0.06	0.14
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isoprene	0.03	0.97	2.43	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	0.13	0.11	< 0.06	0.13
Methanol	0.03	< 0.06	< 0.06	39.2	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	0.08	< 0.06	0.09	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	6.21	17.8	13.2	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	0.11	< 0.06	0.12
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06





VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing	Millennium	Fort McKay South	Horizon
Compound Name	MDL	10-Jul	10-Jul	10-Jul	10-Jul
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	0.27	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	2.22	2.93	2.08	2.2
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.27	0.34	0.53	0.7
beta Pinene	0.03	< 0.06	< 0.06	0.45	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	2.3
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06	2.05
Isoprene	0.03	< 0.06	< 0.06	1.72	0.82
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	0.11	0.51	0.12	< 0.06
Methanol	0.03	31.5	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	0.22	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	0.52
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	0.12	0.07
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	12.8	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	0.28	0.09	0.11
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac
Compound Name	MDL	16-Jul	16-Jul	16-Jul	16-Jul
1,2,4-Trimethylbenzene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.09	0.73	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Acetone	0.03	3.89	2.18	2.08	< 0.06
alpha Pinene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.35	0.23	0.24	0.12
beta Pinene	0.03	0.67	< 0.06	< 0.06	< 0.06
Butane	0.03	1.22	1.02	2.01	0.94
cis-2-Butene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.09	3.74	< 0.06	< 0.06
Isobutane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Isopentane	0.03	0.57	0.38	0.52	< 0.06
Isoprene	0.03	3.16	0.54	1.57	0.74
Isopropyl alcohol	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	0.09	0.08	0.09	< 0.06
Methanol	0.03	39.6	35.2	88.9	25
Methyl ethyl ketone	0.03	1.85	0.62	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.09	0.35	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.25	0.11	0.17	0.17
trans-2-Butene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.09	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.09	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 16-Jul	Millennium 16-Jul	Fort McKay South 16-Jul	Horizon 16-Jul
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Acetone	0.03	1.93	2.3	5.71	< 0.06
alpha Pinene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Benzene	0.03	0.36	0.26	0.37	0.14
beta Pinene	0.03	< 0.06	< 0.06	1.07	< 0.06
Butane	0.03	< 0.06	1.58	1.99	0.56
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.09	0.65
Isobutane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Isopentane	0.03	< 0.06	0.56	< 0.09	< 0.06
Isoprene	0.03	3.33	1.82	2.63	0.88
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
m,p-Xylene	0.03	< 0.06	0.08	< 0.09	< 0.06
Methanol	0.03	58.8	31	58.4	21.5
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Methylcyclohexane	0.03	0.1	< 0.06	< 0.09	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.09	0.14
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Toluene	0.03	0.2	0.17	0.15	0.09
trans-2-Butene	0.03	< 0.06	1.29	< 0.09	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.09	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.09	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac
Compound Name	MDL	22-Jul	22-Jul	22-Jul	22-Jul
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	1.78
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	2.31	2.21	2.47	3.43
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.29	0.42	0.35	0.21
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	1.73	1.6	1.55	1.07
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	0.08	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	0.33	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	11.8
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	0.44	0.42	0.44	< 0.06
Isoprene	0.03	2.07	0.67	1.98	1.63
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	0.19	0.14	0.1	< 0.06
Methanol	0.03	37.4	24.7	105	25
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	0.24	< 0.06	0.08	< 0.06
Methylcyclopentane	0.03	0.12	< 0.06	< 0.06	1.51
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.48	0.31	0.19	0.26
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing	Millennium	Fort McKay South	Horizon
Compound Name	MDL	22-Jul	22-Jul	22-Jul	22-Jul
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	0.4	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	2.19	2.24	1.98	2.43
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.3	0.34	0.26	0.29
beta Pinene	0.03	< 0.06	< 0.06	0.77	< 0.06
Butane	0.03	1.08	< 0.06	1.96	0.87
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	0.08	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	0.45	< 0.06	< 0.06	< 0.06
Hexane	0.03	0.4	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	0.32	0.19	0.25	0.37
Isoprene	0.03	1.37	1.35	2.05	1.07
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	0.18	0.1	0.15	0.06
Methanol	0.03	103	32.9	47.4	27.5
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	0.12	< 0.06	0.14	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.38	0.25	0.34	0.16
trans-2-Butene	0.03	< 0.06	2.37	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 28-Jul	Patricia McInnes 28-Jul	Athabasca Valley 28-Jul	Anzac 28-Jul
1,2,4-Trimethylbenzene	0.03	0.07	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	0.52	< 0.06	0.1	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	0.28	0.12	0.13	< 0.06
3-Methylhexane	0.03	0.45	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	7.15	5.36	11.3	7.39
Acetone	0.03	11.9	13.5	18.6	9.11
alpha Pinene	0.03	0.4	0.27	0.22	0.55
Benzene	0.03	0.34	0.54	0.43	0.21
beta Pinene	0.03	0.41	0.45	0.31	0.54
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	0.25	0.15	0.15	0.17
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	10.5	72.6	< 0.06
Ethyl benzene	0.03	0.1	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	0.62	< 0.06	< 0.06	< 0.06
Hexane	0.03	0.37	< 0.06	0.3	< 0.06
Isobutane	0.03	0.41	0.46	0.5	0.3
Isopentane	0.03	0.88	1.03	1.35	0.47
Isoprene	0.03	4.39	5.3	6.02	4.51
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	0.16	< 0.06	< 0.06	< 0.06
Methanol	0.03	25.9	27.2	145	17.8
Methyl ethyl ketone	0.03	0.54	< 0.06	< 0.06	0.53
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	0.44	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	0.14	< 0.06	0.08	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	0.35	0.07	< 0.06	< 0.06
o-Xylene	0.03	0.07	< 0.06	< 0.06	< 0.06
Octane	0.03	1.86	0.5	0.59	0.48
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.47	0.13	0.21	0.26
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	0.2	0.16	0.18	0.29



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 28-Jul	Millennium 28-Jul	Fort McKay South 28-Jul	Horizon 28-Jul
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0.1	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	0.78	0.71	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	2.88	3.28	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	0.39	0.07	0.46	0.11
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	10.5	11.3	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	0.27	0.13	0.32	0.13
3-Methylhexane	0.03	0.57	< 0.06	0.34	< 0.06
3-Methylpentane	0.03	22.1	22.9	0.32	0.1
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	6.02	9.39	6.5	3.53
Acetone	0.03	28.4	31.7	11	27.6
alpha Pinene	0.03	0.38	0.25	0.79	0.58
Benzene	0.03	0.55	0.38	0.54	0.33
beta Pinene	0.03	0.46	0.37	1.31	0.51
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	1.56	2.04	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	0.4	0.24	0.25	0.24
Dodecane	0.03	0.09	0.08	< 0.06	< 0.06
Ethanol	0.03	12.9	< 0.06	7.18	< 0.06
Ethyl benzene	0.03	0.11	< 0.06	0.1	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	0.61	< 0.06	0.51	0.17
Hexane	0.03	116	137	1.49	< 0.06
Isobutane	0.03	0.63	0.54	0.38	0.33
Isopentane	0.03	1.39	1.32	0.82	0.77
Isoprene	0.03	5.21	3.73	7.34	5.22
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	0.32	0.1	0.19	< 0.06
Methanol	0.03	148	26.9	41.4	22.1
Methyl ethyl ketone	0.03	< 0.06	< 0.06	0.52	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	0.43	< 0.06	0.41	< 0.06
Methylcyclopentane	0.03	21.1	24.3	0.28	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	0.06	< 0.06
Naphthalene	0.03	0.83	< 0.06	< 0.06	< 0.06
Nonane	0.03	0.46	0.18	0.33	0.22
o-Xylene	0.03	0.11	< 0.06	0.06	< 0.06
Octane	0.03	1.85	1.12	2.01	1.1
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.71	0.53	0.41	0.36
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	0.28	0.34	0.19	0.3



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 03-Aug	Patricia McInnes 03-Aug	Athabasca Valley 03-Aug	Anzac 03-Aug
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	0.2	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Acetaldehyde	0.03	5.17	4.37	< 0.06	5.17
Acetone	0.03	5.54	7.41	5.79	5.54
alpha Pinene	0.03	0.53	0.51	0.58	0.53
Benzene	0.03	0.24	0.23	0.19	0.24
beta Pinene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.07	4.39	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	0.32	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Heptane	0.03	< 0.06	0.19	0.18	< 0.06
Hexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isobutane	0.03	< 0.06	0.94	< 0.06	< 0.06
Isopentane	0.03	0.38	2.2	1.61	0.38
Isoprene	0.03	2.43	3.45	3.37	2.43
Isopropyl alcohol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methanol	0.03	8.43	7.52	23.4	8.43
Methyl ethyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	0.26	0.1	< 0.06
Methylcyclopentane	0.03	< 0.06	0.14	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.07	1.14	< 0.06
Styrene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Toluene	0.03	0.27	0.23	0.26	0.27
trans-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06





VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 03-Aug	Millennium 03-Aug	Fort McKay South 03-Aug	Horizon 03-Aug
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2,3-Dimethylbutane	0.03	0.23	0.23	< 0.06	0.2
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Acetaldehyde	0.03	3.35	3.35	< 0.06	4.37
Acetone	0.03	6.03	6.03	5.79	7.41
alpha Pinene	0.03	0.31	0.31	0.58	0.51
Benzene	0.03	0.17	0.17	0.19	0.23
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Butane	0.03	< 0.06	< 0.06	4.39	< 0.07
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	0.32
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Ethanol	0.03	1.04	1.04	< 0.06	< 0.07
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Heptane	0.03	0.15	0.15	0.18	0.19
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Isobutane	0.03	< 0.06	< 0.06	< 0.06	0.94
Isopentane	0.03	0.65	0.65	1.61	2.2
Isoprene	0.03	3.63	3.63	3.37	3.45
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Methanol	0.03	48.8	48.8	23.4	7.52
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Methylcyclohexane	0.03	0.17	0.17	0.1	0.26
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	0.14
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Pentane	0.03	< 0.06	< 0.06	1.14	< 0.07
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Toluene	0.03	0.21	0.21	0.26	0.23
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.07
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.07



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 09-Aug	Patricia McInnes 09-Aug	Athabasca Valley 09-Aug	Anzac 09-Aug
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	3.27	4.5	4.35	3.98
alpha Pinene	0.03	0.17	< 0.06	< 0.06	0.1
Benzene	0.03	0.26	0.27	0.39	0.21
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	0.26	< 0.06	0.24	< 0.06
Isopentane	0.03	0.17	< 0.06	0.44	< 0.06
Isoprene	0.03	0.91	0.75	0.52	0.59
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	0.11	< 0.06	< 0.06
Methanol	0.03	6.5	5.23	44.3	8.58
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.13	0.14	0.16	0.2
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 09-Aug	Millennium 09-Aug	Fort McKay South 09-Aug	Horizon 09-Aug
Compound Name					
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	9.59	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	1.78	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	0.96	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	1.04	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	1.61	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	4.33	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	3.28	3.51	2.2	3.41
alpha Pinene	0.03	< 0.06	< 0.06	0.19	0.15
Benzene	0.03	0.27	0.34	0.48	0.24
beta Pinene	0.03	< 0.06	< 0.06	0.26	< 0.06
Butane	0.03	< 0.06	< 0.06	17.2	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	5.02	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	6.03	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	0.17	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	2.21	< 0.06
Isobutane	0.03	0.28	0.24	21.1	0.95
Isopentane	0.03	0.27	0.44	21.8	1.38
Isoprene	0.03	0.49	0.29	1.53	0.76
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	0.08	0.35	< 0.06
Methanol	0.03	26.5	8.61	15.2	12.8
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	5.88	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	4.28	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	0.1	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	11.4	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.07	0.14	0.93	0.12
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	1.81	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 15-Aug	Patricia McInnes 15-Aug	Athabasca Valley 15-Aug	Anzac 15-Aug
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	4.94	7.45	7.79	3.49
alpha Pinene	0.03	0.42	0.18	0.15	< 0.06
Benzene	0.03	0.21	0.23	0.23	0.14
beta Pinene	0.03	0.45	0.18	0.11	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	3.84	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	0.37	0.64	0.82	< 0.06
Isoprene	0.03	4.03	5.44	4.42	0.55
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	8.23	14.2	42.4	5.4
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	0.4	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.32	< 0.06	0.26	0.43
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 15-Aug	Millennium 15-Aug	Fort McKay South 15-Aug	Horizon 15-Aug
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	0.59	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	0.56	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	8.75	6.93	< 0.06
Acetone	0.03	8.01	7.3	4.63	3.63
alpha Pinene	0.03	0.31	0.16	0.66	0.28
Benzene	0.03	0.3	0.23	0.16	0.25
beta Pinene	0.03	0.28	< 0.06	0.95	0.18
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	0.28	< 0.06	< 0.06	< 0.06
Isopentane	0.03	0.95	0.57	0.29	0.4
Isoprene	0.03	3.79	2.96	6.87	4.43
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	31	18.8	16.2	6.01
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.17	0.27	0.29	0.18
trans-2-Butene	0.03	< 0.06	2.4	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)			
		AMS 1	AMS 6	AMS 7
		Bertha Ganter 21-Aug	Patricia McInnes 21-Aug	Athabasca Valley 21-Aug
Compound Name	MDL			
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06
Acetone	0.03	2.29	3.64	4.37
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.12	0.1	0.17
beta Pinene	0.03	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	0.23	0.91
Isoprene	0.03	0.49	0.33	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	2.37	15.1
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	0.22
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 21-Aug	Millennium 21-Aug	Fort McKay South 21-Aug	Horizon 21-Aug
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	0.24	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	3.64	2.76	2.84	3.11
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.21	0.16	0.14	0.23
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	0.29	0.47	< 0.06	0.47
Isoprene	0.03	< 0.06	0.33	0.44	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	7.96	9.09	11.5	5.16
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	0.61	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 27-Aug	Patricia McInnes 27-Aug	Athabasca Valley 27-Aug	Anzac 27-Aug
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	5.37	4.55	5.4	5.18
Acetone	0.03	3.68	3.88	4.79	4.81
alpha Pinene	0.03	< 0.06	< 0.06	0.47	0.21
Benzene	0.03	0.19	0.23	0.47	0.28
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isoprene	0.03	0.86	0.92	0.67	1.08
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	3.71
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	0.06	< 0.06	< 0.06
Methanol	0.03	8.26	5.05	27.2	11.1
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.25	< 0.06	0.12	0.48
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06





VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 27-Aug	Millennium 27-Aug	Fort McKay South 27-Aug	Horizon 27-Aug
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	0.1	< 0.07	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Acetaldehyde	0.03	5.91	3.92	4.6	5.54
Acetone	0.03	5.02	3.57	2.87	10.2
alpha Pinene	0.03	< 0.06	< 0.07	0.23	0.19
Benzene	0.03	0.33	0.32	0.19	0.28
beta Pinene	0.03	< 0.06	< 0.07	0.24	< 0.06
Butane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isoprene	0.03	0.43	1.06	1.37	0.88
Isopropyl alcohol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	0.21	0.09	< 0.06
Methanol	0.03	22.3	9.66	13.2	5.02
Methyl ethyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Octane	0.03	< 0.06	0.33	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Toluene	0.03	0.12	0.27	0.1	0.11
trans-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 02-Sep	Patricia McInnes 02-Sep	Athabasca Valley 02-Sep	Anzac 02-Sep
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	1.75	2.04	3.65	2.45
alpha Pinene	0.03	0.14	< 0.06	0.13	0.14
Benzene	0.03	0.15	0.21	0.19	0.29
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isoprene	0.03	0.43	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	0.35	0.07
Methanol	0.03	< 0.06	< 0.06	7.63	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.16	< 0.06	0.91	0.2
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	MDL	Results (ppbv)		
		AMS 9 Barge Landing 02-Sep	AMS 13 Fort McKay South 02-Sep	AMS 15 Horizon 02-Sep
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06
Acetone	0.03	2.68	2.23	1.87
alpha Pinene	0.03	< 0.06	< 0.06	0.11
Benzene	0.03	0.25	0.22	0.65
beta Pinene	0.03	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06
Isoprene	0.03	< 0.06	0.54	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06
Methanol	0.03	3.91	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.2	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 08-Sep	Patricia McInnes 08-Sep	Athabasca Valley 08-Sep	Anzac 08-Sep
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	0.52	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	1.8	1.51	1.92	1.76
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.12	0.48	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	0.57	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	4.46	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06	0.47
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	0.48	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	0.68	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	0.45	0.85
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.25	< 0.06	0.2	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 08-Sep	Millennium 08-Sep	Fort McKay South 08-Sep	Horizon 08-Sep
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	1.53	1.89	1.81	1.86
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	0.18	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	2.29	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	0.64	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 14-Sep	Patricia McInnes 14-Sep	Athabasca Valley 14-Sep	Anzac 14-Sep
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	2.59	2.61	4.75	2.67
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	0.28	0.34
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	2.38	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	0.39	< 0.06	1.34	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.33	< 0.06	0.19	0.24
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 14-Sep	Millennium 14-Sep	Fort McKay South 14-Sep	Horizon 14-Sep
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	2.78	2.61	2.94	2.39
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.29	0.21	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06	1.37
Isoprene	0.03	< 0.06	< 0.06	0.81	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.38	0.11	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 20-Sep	Patricia McInnes 20-Sep	Athabasca Valley 20-Sep	Anzac 20-Sep
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	0.15	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Acetone	0.03	1.92	2.64	3.36	2.36
alpha Pinene	0.03	< 0.06	0.14	< 0.07	< 0.06
Benzene	0.03	0.38	< 0.06	< 0.07	0.68
beta Pinene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Toluene	0.03	0.41	< 0.06	< 0.07	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.07	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.07	< 0.06





VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 20-Sep	Millennium 20-Sep	Fort McKay South 20-Sep	Horizon 20-Sep
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	2.73	1.85	2.75	2.43
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	< 0.06	0.21
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	2.14	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	0.62	< 0.06	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.08	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)	
	AMS 1	
	Bertha Ganter	
Compound Name	MDL	22-Sep
1,2,4-Trimethylbenzene	0.03	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06
1,3-Butadiene	0.03	< 0.06
1-Butene	0.03	< 0.06
1-Pentene	0.03	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06
2,2-Dimethylbutane	0.03	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06
2,3-Dimethylbutane	0.03	< 0.06
2,3-Dimethylpentane	0.03	< 0.06
2,4-Dimethylpentane	0.03	< 0.06
2-Methyl-1-pentene	0.03	< 0.06
2-Methyl-2-butene	0.03	< 0.06
2-Methylheptane	0.03	0.6
2-Methylhexane	0.03	< 0.06
2-Methylpentane	0.03	< 0.06
3-Methyl-1-butene	0.03	< 0.06
3-Methylheptane	0.03	< 0.06
3-Methylhexane	0.03	< 0.06
3-Methylpentane	0.03	< 0.06
4-Methyl-1-pentene	0.03	< 0.06
Acetaldehyde	0.03	8.93
Acetone	0.03	6.58
alpha Pinene	0.03	< 0.06
Benzene	0.03	0.32
beta Pinene	0.03	< 0.06
Butane	0.03	5.84
cis-2-Butene	0.03	< 0.06
cis-2-Hexene	0.03	< 0.06
cis-2-Pentene	0.03	< 0.06
Cyclohexane	0.03	< 0.06
Cyclopentane	0.03	< 0.06
Cyclopentene	0.03	< 0.06
Decane	0.03	< 0.06
Dodecane	0.03	< 0.06
Ethanol	0.03	< 0.06
Ethyl benzene	0.03	0.22
Formaldehyde	0.03	< 0.06
Heptane	0.03	< 0.06
Hexane	0.03	< 0.06
Isobutane	0.03	< 0.06
Isopentane	0.03	1.38
Isoprene	0.03	< 0.06
Isopropyl alcohol	0.03	< 0.06
Isopropylbenzene	0.03	< 0.06
m,p-Xylene	0.03	0.55
Methanol	0.03	< 0.06
Methyl ethyl ketone	0.03	< 0.06
Methyl isobutyl ketone	0.03	< 0.06
Methylcyclohexane	0.03	< 0.06
Methylcyclopentane	0.03	< 0.06
n-Propylbenzene	0.03	< 0.06
Naphthalene	0.03	< 0.06
Nonane	0.03	0.57
o-Xylene	0.03	< 0.06
Octane	0.03	1.34
Pentane	0.03	< 0.06
Styrene	0.03	< 0.06
Toluene	0.03	0.82
trans-2-Butene	0.03	< 0.06
trans-2-Hexene	0.03	< 0.06
trans-2-Pentene	0.03	< 0.06
Undecane	0.03	< 0.06



VOC Canisters	Results (ppbv)
Compound Name	MDL
1,2,4-Trimethylbenzene	0.03
1,3,5-Trimethylbenzene	0.03
1,3-Butadiene	0.03
1-Butene	0.03
1-Pentene	0.03
2,2,4-Trimethylpentane	0.03
2,2-Dimethylbutane	0.03
2,3,4-Trimethylpentane	0.03
2,3-Dimethylbutane	0.03
2,3-Dimethylpentane	0.03
2,4-Dimethylpentane	0.03
2-Methyl-1-pentene	0.03
2-Methyl-2-butene	0.03
2-Methylheptane	0.03
2-Methylhexane	0.03
2-Methylpentane	0.03
3-Methyl-1-butene	0.03
3-Methylheptane	0.03
3-Methylhexane	0.03
3-Methylpentane	0.03
4-Methyl-1-pentene	0.03
Acetaldehyde	0.03
Acetone	0.03
alpha Pinene	0.03
Benzene	0.03
beta Pinene	0.03
Butane	0.03
cis-2-Butene	0.03
cis-2-Hexene	0.03
cis-2-Pentene	0.03
Cyclohexane	0.03
Cyclopentane	0.03
Cyclopentene	0.03
Decane	0.03
Dodecane	0.03
Ethanol	0.03
Ethyl benzene	0.03
Formaldehyde	0.03
Heptane	0.03
Hexane	0.03
Isobutane	0.03
Isopentane	0.03
Isoprene	0.03
Isopropyl alcohol	0.03
Isopropylbenzene	0.03
m,p-Xylene	0.03
Methanol	0.03
Methyl ethyl ketone	0.03
Methyl isobutyl ketone	0.03
Methylcyclohexane	0.03
Methylcyclopentane	0.03
n-Propylbenzene	0.03
Naphthalene	0.03
Nonane	0.03
o-Xylene	0.03
Octane	0.03
Pentane	0.03
Styrene	0.03
Toluene	0.03
trans-2-Butene	0.03
trans-2-Hexene	0.03
trans-2-Pentene	0.03
Undecane	0.03



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 26-Sep	Patricia McInnes 26-Sep	Athabasca Valley 26-Sep	Anzac 26-Sep
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	1.07	0.68	1.98	1.57
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 26-Sep	Millennium 26-Sep	Fort McKay South 26-Sep	Horizon 26-Sep
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	0.24	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	1.87	0.86	1.05	1.52
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	2.04	< 0.06	< 0.06	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	2.53	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac
Compound Name	MDL	02-Oct	02-Oct	02-Oct	02-Oct
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	1.12	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	1.07	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	5.58	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	3.05	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	1.43	< 0.06	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	105	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	1.37	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	1.09	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	0.76	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	1.67	< 0.06	< 0.06	< 0.06
Hexane	0.03	6.7	< 0.06	< 0.06	< 0.06
Isobutane	0.03	59.6	< 0.06	< 0.06	< 0.06
Isopentane	0.03	22.2	< 0.06	< 0.06	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	1.16	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	19.5	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.85	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 02-Oct	Millennium 02-Oct	Fort McKay South 02-Oct	Horizon 02-Oct
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	< 0.06	0.98	< 0.06	< 0.06
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06	4.46
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 08-Oct	Patricia McInnes 08-Oct	Athabasca Valley 08-Oct	Anzac 08-Oct
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	0.22	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	2.34	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06





VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 08-Oct	Millennium 08-Oct	Fort McKay South 08-Oct	Horizon 08-Oct
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	22.8
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	2.08
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	10.6
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	< 0.06	3.43
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	1260
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	3.98
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	5.47
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	21.7
Isobutane	0.03	< 0.06	< 0.06	< 0.06	572
Isopentane	0.03	1.29	< 0.06	1.13	175
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	3.83
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	1.05	< 0.06	1.17	140
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac
Compound Name	MDL	14-Oct	14-Oct	14-Oct	14-Oct
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	1.05	1.53	2.18	1.44
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	0.6	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 14-Oct	Millennium 14-Oct	Fort McKay South 14-Oct	Horizon 14-Oct
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	1.71	1.35	1.54	1.67
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	0.09	< 0.06	< 0.06	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac
Compound Name	MDL	20-Oct	20-Oct	20-Oct	20-Oct
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	0.23	0.29	0.2	0.2
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	0.09	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	0.21	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	0.1	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	0.17	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	0.16	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	0.24	0.14	0.12	0.15
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	0.15	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	0.51	0.27	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	1.82	2.12	2.84	2.28
alpha Pinene	0.03	0.15	< 0.06	< 0.06	0.06
Benzene	0.03	0.38	0.42	0.39	0.43
beta Pinene	0.03	0.75	0.37	< 0.06	0.55
Butane	0.03	1.14	1.29	1.34	1.24
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	0.29	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	0.07	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	0.33	0.07	< 0.06	< 0.06
Hexane	0.03	0.44	0.3	0.3	0.32
Isobutane	0.03	0.92	0.51	0.59	0.44
Isopentane	0.03	1.06	0.45	0.49	0.41
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	0.17	0.13	0.09	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	0.2	0.2	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	0.34	< 0.06	< 0.06	0.08
Methylcyclopentane	0.03	0.21	0.07	< 0.06	0.08
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	0.09	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	0.07	< 0.06	< 0.06	< 0.06
Octane	0.03	0.18	< 0.06	< 0.06	< 0.06
Pentane	0.03	0.61	0.45	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.33	0.25	0.2	0.13
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 20-Oct	Millennium 20-Oct	Fort McKay South 20-Oct	Horizon 20-Oct
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	0.24	0.13	0.22	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	0.1	0.09	< 0.06	0.84
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	0.25
2,3-Dimethylbutane	0.03	0.14	< 0.06	0.11	1.85
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	0.93
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	0.45
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	0.16	< 0.06	0.48	0.3
2-Methylhexane	0.03	< 0.06	< 0.06	0.18	1.03
2-Methylpentane	0.03	0.33	< 0.06	0.28	0.33
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	0.16	< 0.06	0.34	0.28
3-Methylpentane	0.03	0.43	< 0.06	0.37	3.3
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	2.42	2.27	1.58	1.84
alpha Pinene	0.03	< 0.06	< 0.06	0.19	0.17
Benzene	0.03	0.41	0.33	0.4	0.43
beta Pinene	0.03	0.27	0.38	1.52	0.57
Butane	0.03	1.19	1.03	1.23	1.84
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	0.17	< 0.06	0.26	3.45
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	1.03
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	0.07	< 0.06	0.11	0.07
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	0.3	< 0.06	0.77	0.59
Hexane	0.03	0.48	0.27	0.58	0.44
Isobutane	0.03	0.59	0.38	0.53	7.85
Isopentane	0.03	0.81	0.31	0.5	10.3
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	0.15	< 0.06	0.27	0.18
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	0.27	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	0.26	0.08	0.55	2.61
Methylcyclopentane	0.03	0.15	< 0.06	0.17	1.77
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	0.1	< 0.06	0.16	0.19
o-Xylene	0.03	0.06	< 0.06	0.11	0.09
Octane	0.03	0.19	< 0.06	0.57	0.61
Pentane	0.03	0.74	< 0.06	0.62	0.68
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.37	0.13	0.59	0.4
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	1.15
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac
Compound Name	MDL	26-Oct	26-Oct	26-Oct	26-Oct
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	118
1-Butene	0.03	< 0.06	< 0.06	< 0.06	12.1
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	11.9
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	0.84
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	0.82
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	3.51
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	0.51
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	1.1	1.6	2.24	1.51
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	1.34	41.5
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	0.17	0.64	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	3.75
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	1
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	0.44
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	3.48
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	0.39	0.61	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06	3.69
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	0.88	1.11	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	< 0.06	0.65
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	3.56
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	0.18
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	0.99
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 26-Oct	Millennium 26-Oct	Fort McKay South 26-Oct	Horizon 26-Oct
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	3.49	< 0.06	< 0.06
1-Butene	0.03	< 0.06	1.34	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	0.57	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Acetone	0.03	1.98	0.98	1.2	< 0.06
alpha Pinene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Benzene	0.03	< 0.06	11.9	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Butane	0.03	< 0.06	1.47	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	0.54	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	0.26	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopentane	0.03	0.36	0.99	< 0.06	< 0.06
Isoprene	0.03	< 0.06	0.39	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Pentane	0.03	0.44	1.74	0.24	< 0.06
Styrene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Toluene	0.03	< 0.06	0.24	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 01-Nov	Patricia McInnes 01-Nov	Athabasca Valley 01-Nov	Anzac 01-Nov
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	1.18	1.53	2.39	< 0.06
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	1.05	1.61	2.44	1.34
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	0.43	0.32	0.55	0.58
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06





VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 01-Nov	Millennium 01-Nov	Fort McKay South 01-Nov	Horizon 01-Nov
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Acetone	0.03	1.96	1.93	< 0.06	< 0.06
alpha Pinene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Butane	0.03	1.13	1.33	1.02	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopentane	0.03	0.13	0.26	< 0.06	< 0.06
Isoprene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 07-Nov	Patricia McInnes 07-Nov	Athabasca Valley 07-Nov	Anzac 07-Nov
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	115	< 0.06
Acetone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	178	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 07-Nov	Millennium 07-Nov	Fort McKay South 07-Nov	Horizon 07-Nov
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Acetone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
alpha Pinene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.07	0.23	0.18
beta Pinene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Butane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isobutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isoprene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Toluene	0.03	11.1	7.18	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 13-Nov	Patricia McInnes 13-Nov	Athabasca Valley 13-Nov	Anzac 13-Nov
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	0.2	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	0.15	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	< 0.06	< 0.06	1.43	0.89
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.26	< 0.06	0.31	0.22
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	1.01	0.96	2.11	0.7
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	0.73	0.4	0.86	0.21
Isopentane	0.03	1.66	0.44	0.68	0.24
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	0.14	< 0.06
Methanol	0.03	< 0.06	12	160	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	0.3	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	0.94	0.34	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.32	0.1	2.71	0.39
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 13-Nov	Millennium 13-Nov	Fort McKay South 13-Nov	Horizon 13-Nov
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0.06	< 0.07	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Butene	0.03	< 0.06	0.23	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylheptane	0.03	0.26	< 0.07	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.07	0.29	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Acetone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
alpha Pinene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Benzene	0.03	0.28	< 0.07	0.25	< 0.06
beta Pinene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Butane	0.03	1.09	0.72	1.19	0.69
cis-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Heptane	0.03	0.94	< 0.07	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isobutane	0.03	0.52	0.4	0.45	0.34
Isopentane	0.03	2.01	0.42	1.19	0.85
Isoprene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
m,p-Xylene	0.03	0.08	< 0.07	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methylcyclohexane	0.03	0.32	< 0.07	0.21	< 0.06
Methylcyclopentane	0.03	0.09	< 0.07	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Octane	0.03	0.4	< 0.07	< 0.06	< 0.06
Pentane	0.03	1.86	< 0.07	1.02	0.41
Styrene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Toluene	0.03	0.42	< 0.07	0.23	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 19-Nov	Patricia McInnes 19-Nov	Athabasca Valley 19-Nov	Anzac 19-Nov
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	0.08	< 0.06	0.11	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	1.22	< 0.06	1.83	0.87
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	< 0.06	0.68	1.24	0.47
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	0.22	0.14	0.38	< 0.06
Isopentane	0.03	< 0.06	< 0.06	0.37	< 0.06
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	0.12	< 0.06
Methanol	0.03	< 0.06	< 0.06	36.5	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	12.7	4.52	5.02	5.67
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9 Barge Landing 19-Nov	AMS 12 Millennium 19-Nov	AMS 13 Fort McKay South 19-Nov	AMS 15 Horizon 19-Nov
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	0.13	< 0.06	0.1
4-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Acetone	0.03	1.14	< 0.07	< 0.06	< 0.06
alpha Pinene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Butane	0.03	< 0.06	0.68	< 0.06	0.71
cis-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isobutane	0.03	0.27	< 0.07	0.19	1.01
Isopentane	0.03	0.26	< 0.07	< 0.06	1.45
Isoprene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	0.11	< 0.06	< 0.06
Methanol	0.03	< 0.06	10.4	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Toluene	0.03	11.7	10.2	3.98	1.24
trans-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 25-Nov	Patricia McInnes 25-Nov	Athabasca Valley 25-Nov	Anzac 25-Nov
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	0.14	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	0.08	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	0.43	< 0.06	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	0.1	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	1.08	0.2	< 0.06	0.17
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	0.87	0.32	< 0.06	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	1.72	1.5	2.56	1.4
Acetone	0.03	< 0.06	2.84	3.77	2.13
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.28	0.21	0.29	0.17
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	1.09	0.94	1.76	0.98
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	0.52	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	1.47	< 0.06	< 0.06	1.21
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	1.34	0.78	0.42	< 0.06
Isobutane	0.03	1	1.04	1.64	0.87
Isopentane	0.03	2.24	0.98	1.38	0.46
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	10.1	13.8	12.7	12.9
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	1.13	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	0.28	< 0.06	0.14	0.09
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	4.32	2.33	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	16.5	9.8	4.94	5.94
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06





VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 25-Nov	Millennium 25-Nov	Fort McKay South 25-Nov	Horizon 25-Nov
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	0.31	< 0.06	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	0.35	< 0.06	0.77	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	1.92	< 0.06	5.31	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	0.73	< 0.06	2.35	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	0.48	0.22	0.63	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	0.94	< 0.06	0.71	0.58
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.06	2.75	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Hexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isobutane	0.03	0.33	0.26	< 0.06	0.14
Isopentane	0.03	6.05	1.78	11	0.56
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Pentane	0.03	6.9	2.12	14.4	0.59
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	< 0.06	0.07	< 0.06	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 01-Dec	Patricia McInnes 01-Dec	Athabasca Valley 01-Dec	Anzac 01-Dec
1,2,4-Trimethylbenzene	0.03	0.38	0.16	0.28	<0.06
1,3,5-Trimethylbenzene	0.03	0.29	0.12	0.31	<0.06
1,3-Butadiene	0.03	<0.06	<0.07	<0.06	<0.06
1-Butene	0.03	<0.06	0.67	0.75	<0.06
1-Pentene	0.03	<0.06	<0.07	0.41	<0.06
2,2,4-Trimethylpentane	0.03	0.22	<0.07	0.63	<0.06
2,2-Dimethylbutane	0.03	<0.06	<0.07	0.43	<0.06
2,3,4-Trimethylpentane	0.03	<0.06	<0.07	0.55	<0.06
2,3-Dimethylbutane	0.03	0.42	<0.07	0.59	<0.06
2,3-Dimethylpentane	0.03	<0.06	<0.07	0.54	<0.06
2,4-Dimethylpentane	0.03	<0.06	<0.07	0.53	<0.06
2-Methyl-1-pentene	0.03	<0.06	<0.07	0.42	<0.06
2-Methyl-2-butene	0.03	<0.06	<0.07	0.5	<0.06
2-Methylheptane	0.03	0.41	<0.07	0.53	<0.06
2-Methylhexane	0.03	<0.06	<0.07	0.52	<0.06
2-Methylpentane	0.03	0.44	0.41	0.71	<0.06
3-Methyl-1-butene	0.03	<0.06	<0.07	0.44	<0.06
3-Methylheptane	0.03	<0.06	<0.07	0.36	<0.06
3-Methylhexane	0.03	0.41	0.15	0.79	<0.06
3-Methylpentane	0.03	0.64	0.26	0.66	0.42
4-Methyl-1-pentene	0.03	<0.06	<0.07	<0.06	<0.06
Acetaldehyde	0.03	2	2.08	2.34	1.82
Acetone	0.03	2.89	3.26	3.82	2.31
alpha Pinene	0.03	<0.06	<0.07	0.4	<0.06
Benzene	0.03	0.6	0.4	0.82	<0.06
beta Pinene	0.03	<0.06	1.3	<0.06	<0.06
Butane	0.03	1.83	2.29	3.69	1
cis-2-Butene	0.03	<0.06	<0.07	0.38	<0.06
cis-2-Hexene	0.03	<0.06	0.1	0.46	<0.06
cis-2-Pentene	0.03	<0.06	<0.07	0.48	<0.06
Cyclohexane	0.03	0.39	<0.07	0.49	<0.06
Cyclopentane	0.03	<0.06	<0.07	<0.06	<0.06
Cyclopentene	0.03	<0.06	<0.07	<0.06	<0.06
Decane	0.03	0.08	<0.07	<0.06	<0.06
Dodecane	0.03	<0.06	<0.07	<0.06	<0.06
Ethanol	0.03	<0.06	6.47	3.83	<0.06
Ethyl benzene	0.03	0.32	<0.07	0.37	<0.06
Formaldehyde	0.03	<0.06	<0.07	<0.06	<0.06
Heptane	0.03	<0.06	<0.07	<0.06	<0.06
Hexane	0.03	0.98	0.46	0.71	0.78
Isobutane	0.03	1.23	1.56	2.33	0.85
Isopentane	0.03	1.18	1.03	1.34	1.03
Isoprene	0.03	<0.06	<0.07	0.54	<0.06
Isopropyl alcohol	0.03	<0.06	18	23.8	<0.06
Isopropylbenzene	0.03	0.14	<0.07	0.33	<0.06
m,p-Xylene	0.03	0.52	0.37	0.67	<0.06
Methanol	0.03	11.7	18.4	<0.06	10.8
Methyl ethyl ketone	0.03	<0.06	<0.07	<0.06	<0.06
Methyl isobutyl ketone	0.03	<0.06	<0.07	<0.06	<0.06
Methylcyclohexane	0.03	0.51	<0.07	0.63	<0.06
Methylcyclopentane	0.03	0.43	0.21	0.52	<0.06
n-Propylbenzene	0.03	<0.06	<0.07	0.25	<0.06
Naphthalene	0.03	<0.06	<0.07	<0.06	<0.06
Nonane	0.03	0.23	<0.07	<0.06	<0.06
o-Xylene	0.03	<0.06	<0.07	0.38	<0.06
Octane	0.03	<0.06	<0.07	0.43	<0.06
Pentane	0.03	<0.06	<0.07	<0.06	<0.06
Styrene	0.03	<0.06	<0.07	0.27	<0.06
Toluene	0.03	10.5	4.1	1.06	8.02
trans-2-Butene	0.03	<0.06	<0.07	0.55	<0.06
trans-2-Hexene	0.03	<0.06	<0.07	0.46	<0.06
trans-2-Pentene	0.03	<0.06	<0.07	<0.06	<0.06
Undecane	0.03	<0.06	<0.07	<0.06	<0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 01-Dec	Millennium 01-Dec	Fort McKay South 01-Dec	Horizon 01-Dec
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	0.33	<0.06	0.35	0.32
1,3,5-Trimethylbenzene	0.03	0.33	<0.06	0.25	0.33
1,3-Butadiene	0.03	<0.06	<0.06	<0.06	<0.06
1-Butene	0.03	0.98	<0.06	0.77	0.51
1-Pentene	0.03	0.55	<0.06	0.71	0.51
2,2,4-Trimethylpentane	0.03	0.47	<0.06	<0.06	0.52
2,2-Dimethylbutane	0.03	0.5	<0.06	0.91	0.63
2,3,4-Trimethylpentane	0.03	0.44	<0.06	0.51	0.43
2,3-Dimethylbutane	0.03	0.61	0.34	0.74	0.58
2,3-Dimethylpentane	0.03	<0.06	<0.06	0.61	0.36
2,4-Dimethylpentane	0.03	<0.06	<0.06	0.57	0.49
2-Methyl-1-pentene	0.03	0.35	<0.06	0.37	0.46
2-Methyl-2-butene	0.03	0.42	<0.06	0.3	0.45
2-Methylheptane	0.03	0.69	<0.06	1.33	0.49
2-Methylhexane	0.03	0.65	<0.06	0.48	0.65
2-Methylpentane	0.03	0.66	<0.06	0.73	0.68
3-Methyl-1-butene	0.03	0.43	<0.06	0.5	0.51
3-Methylheptane	0.03	0.45	<0.06	0.65	0.35
3-Methylhexane	0.03	0.65	<0.06	0.9	0.58
3-Methylpentane	0.03	0.55	0.36	0.75	0.76
4-Methyl-1-pentene	0.03	<0.06	<0.06	<0.06	<0.06
Acetaldehyde	0.03	2.19	<0.06	2.19	<0.06
Acetone	0.03	3.02	3.17	3.39	2.94
alpha Pinene	0.03	0.46	<0.06	0.45	0.4
Benzene	0.03	0.73	0.3	0.65	0.63
beta Pinene	0.03	<0.06	<0.06	<0.06	<0.06
Butane	0.03	2.74	1.96	2.38	2.1
cis-2-Butene	0.03	0.45	<0.06	0.44	0.47
cis-2-Hexene	0.03	0.35	<0.06	0.42	<0.06
cis-2-Pentene	0.03	0.53	<0.06	<0.06	0.51
Cyclohexane	0.03	0.61	0.11	0.67	0.56
Cyclopentane	0.03	<0.06	<0.06	<0.06	<0.06
Cyclopentene	0.03	0.41	<0.06	<0.06	0.41
Decane	0.03	<0.06	<0.06	<0.06	<0.06
Dodecane	0.03	<0.06	<0.06	<0.06	<0.06
Ethanol	0.03	<0.06	<0.06	<0.06	1.71
Ethyl benzene	0.03	0.49	<0.06	0.49	0.33
Formaldehyde	0.03	<0.06	<0.06	<0.06	<0.06
Heptane	0.03	1.09	<0.06	1.24	<0.06
Hexane	0.03	0.76	0.71	1.13	0.81
Isobutane	0.03	1.9	1.43	2.04	2.01
Isopentane	0.03	1.34	1.04	1.34	1.23
Isoprene	0.03	0.44	<0.06	0.53	0.52
Isopropyl alcohol	0.03	4.12	<0.06	3.47	55.6
Isopropylbenzene	0.03	0.35	<0.06	<0.06	0.36
m,p-Xylene	0.03	0.99	<0.06	0.92	0.7
Methanol	0.03	<0.06	11.5	<0.06	<0.06
Methyl ethyl ketone	0.03	<0.06	<0.06	<0.06	<0.06
Methyl isobutyl ketone	0.03	<0.06	<0.06	<0.06	<0.06
Methylcyclohexane	0.03	0.88	<0.06	1.41	0.73
Methylcyclopentane	0.03	0.58	0.2	0.69	0.62
n-Propylbenzene	0.03	0.28	<0.06	0.23	0.31
Naphthalene	0.03	<0.06	<0.06	<0.06	<0.06
Nonane	0.03	0.53	<0.06	0.47	0.31
o-Xylene	0.03	0.45	<0.06	0.51	0.37
Octane	0.03	0.82	<0.06	1.38	0.41
Pentane	0.03	<0.06	<0.06	<0.06	<0.06
Styrene	0.03	0.4	<0.06	0.28	0.36
Toluene	0.03	0.95	10.4	1.29	1.23
trans-2-Butene	0.03	0.83	<0.06	0.7	0.69
trans-2-Hexene	0.03	0.42	<0.06	0.37	0.5
trans-2-Pentene	0.03	0.39	<0.06	0.53	0.63
Undecane	0.03	<0.06	<0.06	<0.06	<0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 07-Dec	Patricia McInnes 07-Dec	Athabasca Valley 07-Dec	Anzac 07-Dec
1,2,4-Trimethylbenzene	0.03	<0.06	0.09	<0.06	<0.06
1,3,5-Trimethylbenzene	0.03	<0.06	<0.06	<0.06	<0.06
1,3-Butadiene	0.03	<0.06	<0.06	<0.06	<0.06
1-Butene	0.03	<0.06	<0.06	<0.06	<0.06
1-Pentene	0.03	<0.06	<0.06	<0.06	<0.06
2,2,4-Trimethylpentane	0.03	<0.06	<0.06	<0.06	<0.06
2,2-Dimethylbutane	0.03	<0.06	<0.06	<0.06	<0.06
2,3,4-Trimethylpentane	0.03	<0.06	<0.06	<0.06	<0.06
2,3-Dimethylbutane	0.03	<0.06	<0.06	<0.06	0.09
2,3-Dimethylpentane	0.03	<0.06	<0.06	<0.06	<0.06
2,4-Dimethylpentane	0.03	<0.06	<0.06	<0.06	<0.06
2-Methyl-1-pentene	0.03	<0.06	<0.06	<0.06	<0.06
2-Methyl-2-butene	0.03	<0.06	<0.06	<0.06	<0.06
2-Methylheptane	0.03	<0.06	<0.06	<0.06	<0.06
2-Methylhexane	0.03	<0.06	<0.06	0.07	<0.06
2-Methylpentane	0.03	<0.06	<0.06	0.14	<0.06
3-Methyl-1-butene	0.03	<0.06	<0.06	<0.06	<0.06
3-Methylheptane	0.03	<0.06	<0.06	<0.06	<0.06
3-Methylhexane	0.03	<0.06	<0.06	<0.06	<0.06
3-Methylpentane	0.03	<0.06	0.19	<0.06	<0.06
4-Methyl-1-pentene	0.03	<0.06	<0.06	<0.06	<0.06
Acetaldehyde	0.03	1.55	1.84	1.67	2.06
Acetone	0.03	<0.06	2.37	3.57	<0.06
alpha Pinene	0.03	<0.06	<0.06	0.14	<0.06
Benzene	0.03	<0.06	<0.06	<0.06	<0.06
beta Pinene	0.03	<0.06	<0.06	<0.06	<0.06
Butane	0.03	0.82	0.57	0.56	0.86
cis-2-Butene	0.03	<0.06	<0.06	<0.06	<0.06
cis-2-Hexene	0.03	<0.06	<0.06	<0.06	<0.06
cis-2-Pentene	0.03	<0.06	<0.06	<0.06	<0.06
Cyclohexane	0.03	0.12	<0.06	<0.06	<0.06
Cyclopentane	0.03	<0.06	<0.06	<0.06	<0.06
Cyclopentene	0.03	<0.06	<0.06	<0.06	<0.06
Decane	0.03	<0.06	<0.06	<0.06	<0.06
Dodecane	0.03	<0.06	<0.06	<0.06	<0.06
Ethanol	0.03	<0.06	<0.06	6.78	3.86
Ethyl benzene	0.03	<0.06	<0.06	<0.06	<0.06
Formaldehyde	0.03	<0.06	<0.06	<0.06	<0.06
Heptane	0.03	<0.06	<0.06	<0.06	<0.06
Hexane	0.03	<0.06	<0.06	0.17	<0.06
Isobutane	0.03	0.52	0.77	0.44	0.73
Isopentane	0.03	1.46	0.82	0.64	1.32
Isoprene	0.03	<0.06	<0.06	<0.06	<0.06
Isopropyl alcohol	0.03	<0.06	9.94	6.97	6.11
Isopropylbenzene	0.03	<0.06	<0.06	<0.06	<0.06
m,p-Xylene	0.03	<0.06	0.25	0.33	<0.06
Methanol	0.03	10.1	11.6	16.6	12.5
Methyl ethyl ketone	0.03	<0.06	<0.06	<0.06	<0.06
Methyl isobutyl ketone	0.03	<0.06	<0.06	<0.06	<0.06
Methylcyclohexane	0.03	<0.06	<0.06	<0.06	<0.06
Methylcyclopentane	0.03	<0.06	<0.06	<0.06	<0.06
n-Propylbenzene	0.03	<0.06	<0.06	<0.06	<0.06
Naphthalene	0.03	<0.06	<0.06	<0.06	<0.06
Nonane	0.03	<0.06	<0.06	<0.06	<0.06
o-Xylene	0.03	<0.06	<0.06	0.1	<0.06
Octane	0.03	<0.06	<0.06	<0.06	<0.06
Pentane	0.03	2.13	<0.06	<0.06	<0.06
Styrene	0.03	<0.06	<0.06	<0.06	<0.06
Toluene	0.03	<0.06	1.99	1.1	1.12
trans-2-Butene	0.03	<0.06	<0.06	<0.06	<0.06
trans-2-Hexene	0.03	<0.06	<0.06	<0.06	<0.06
trans-2-Pentene	0.03	<0.06	<0.06	<0.06	<0.06
Undecane	0.03	<0.06	<0.06	<0.06	<0.06



VOC Canisters		Results (ppbv)		
Compound Name	MDL	AMS 12	AMS 13	AMS 15
		Millennium 07-Dec	Fort McKay South 07-Dec	Horizon 07-Dec
1,2,4-Trimethylbenzene	0.03	<0.06	0.1	<0.06
1,3,5-Trimethylbenzene	0.03	<0.06	< 0.06	<0.06
1,3-Butadiene	0.03	<0.06	< 0.06	<0.06
1-Butene	0.03	<0.06	< 0.06	<0.06
1-Pentene	0.03	<0.06	< 0.06	<0.06
2,2,4-Trimethylpentane	0.03	<0.06	< 0.06	<0.06
2,2-Dimethylbutane	0.03	<0.06	< 0.06	<0.06
2,3,4-Trimethylpentane	0.03	<0.06	< 0.06	<0.06
2,3-Dimethylbutane	0.03	<0.06	< 0.06	<0.06
2,3-Dimethylpentane	0.03	<0.06	< 0.06	<0.06
2,4-Dimethylpentane	0.03	<0.06	< 0.06	<0.06
2-Methyl-1-pentene	0.03	<0.06	< 0.06	<0.06
2-Methyl-2-butene	0.03	<0.06	< 0.06	<0.06
2-Methylheptane	0.03	<0.06	< 0.06	<0.06
2-Methylhexane	0.03	<0.06	< 0.06	<0.06
2-Methylpentane	0.03	<0.06	0.6	<0.06
3-Methyl-1-butene	0.03	<0.06	< 0.06	<0.06
3-Methylheptane	0.03	<0.06	< 0.06	<0.06
3-Methylhexane	0.03	<0.06	< 0.06	<0.06
3-Methylpentane	0.03	<0.06	< 0.06	<0.06
4-Methyl-1-pentene	0.03	<0.06	< 0.06	<0.06
Acetaldehyde	0.03	<0.06	1.7	1.39
Acetone	0.03	<0.06	< 0.06	1.67
alpha Pinene	0.03	<0.06	< 0.06	<0.06
Benzene	0.03	<0.06	< 0.06	<0.06
beta Pinene	0.03	<0.06	< 0.06	<0.06
Butane	0.03	0.63	0.3	0.52
cis-2-Butene	0.03	<0.06	< 0.06	<0.06
cis-2-Hexene	0.03	<0.06	< 0.06	<0.06
cis-2-Pentene	0.03	<0.06	< 0.06	<0.06
Cyclohexane	0.03	<0.06	0.09	<0.06
Cyclopentane	0.03	<0.06	< 0.06	0.16
Cyclopentene	0.03	<0.06	< 0.06	<0.06
Decane	0.03	<0.06	< 0.06	<0.06
Dodecane	0.03	<0.06	< 0.06	<0.06
Ethanol	0.03	<0.06	< 0.06	<0.06
Ethyl benzene	0.03	<0.06	< 0.06	<0.06
Formaldehyde	0.03	<0.06	< 0.06	<0.06
Heptane	0.03	<0.06	< 0.06	<0.06
Hexane	0.03	<0.06	< 0.06	<0.06
Isobutane	0.03	0.46	0.32	0.45
Isopentane	0.03	1.13	1.79	0.62
Isoprene	0.03	<0.06	< 0.06	<0.06
Isopropyl alcohol	0.03	<0.06	< 0.06	<0.06
Isopropylbenzene	0.03	<0.06	< 0.06	<0.06
m,p-Xylene	0.03	<0.06	< 0.06	<0.06
Methanol	0.03	16.9	10.1	8.2
Methyl ethyl ketone	0.03	<0.06	< 0.06	<0.06
Methyl isobutyl ketone	0.03	<0.06	< 0.06	<0.06
Methylcyclohexane	0.03	<0.06	< 0.06	<0.06
Methylcyclopentane	0.03	<0.06	< 0.06	<0.06
n-Propylbenzene	0.03	<0.06	< 0.06	<0.06
Naphthalene	0.03	<0.06	< 0.06	<0.06
Nonane	0.03	<0.06	< 0.06	<0.06
o-Xylene	0.03	<0.06	< 0.06	<0.06
Octane	0.03	<0.06	< 0.06	<0.06
Pentane	0.03	2.47	3.15	<0.06
Styrene	0.03	<0.06	< 0.06	<0.06
Toluene	0.03	<0.06	< 0.06	<0.06
trans-2-Butene	0.03	<0.06	< 0.06	<0.06
trans-2-Hexene	0.03	<0.06	< 0.06	<0.06
trans-2-Pentene	0.03	<0.06	< 0.06	<0.06
Undecane	0.03	<0.06	< 0.06	<0.06



VOC Canisters	Results (ppbv)				
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 13-Dec	Patricia McInnes 13-Dec	Athabasca Valley 13-Dec	Anzac 13-Dec
Compound Name	MDL				
1,2,4-Trimethylbenzene	0.03	<0.06	0.14	<0.06	<0.06
1,3,5-Trimethylbenzene	0.03	<0.06	<0.06	<0.06	<0.06
1,3-Butadiene	0.03	<0.06	<0.06	<0.06	<0.06
1-Butene	0.03	<0.06	<0.06	<0.06	<0.06
1-Pentene	0.03	<0.06	<0.06	<0.06	<0.06
2,2,4-Trimethylpentane	0.03	<0.06	<0.06	<0.06	<0.06
2,2-Dimethylbutane	0.03	<0.06	<0.06	0.17	<0.06
2,3,4-Trimethylpentane	0.03	<0.06	<0.06	<0.06	<0.06
2,3-Dimethylbutane	0.03	0.28	0.29	0.24	<0.06
2,3-Dimethylpentane	0.03	<0.06	<0.06	<0.06	<0.06
2,4-Dimethylpentane	0.03	<0.06	<0.06	<0.06	<0.06
2-Methyl-1-pentene	0.03	<0.06	<0.06	<0.06	<0.06
2-Methyl-2-butene	0.03	<0.06	<0.06	<0.06	<0.06
2-Methylheptane	0.03	<0.06	0.2	<0.06	0.07
2-Methylhexane	0.03	<0.06	0.21	<0.06	<0.06
2-Methylpentane	0.03	<0.06	<0.06	0.65	0.31
3-Methyl-1-butene	0.03	<0.06	<0.06	<0.06	<0.06
3-Methylheptane	0.03	<0.06	<0.06	<0.06	<0.06
3-Methylhexane	0.03	<0.06	0.36	<0.06	<0.06
3-Methylpentane	0.03	0.36	0.43	0.42	<0.06
4-Methyl-1-pentene	0.03	<0.06	<0.06	<0.06	<0.06
Acetaldehyde	0.03	2.03	3.18	2.48	<0.06
Acetone	0.03	<0.06	<0.06	<0.06	4.57
alpha Pinene	0.03	<0.06	<0.06	<0.06	<0.06
Benzene	0.03	0.41	0.73	0.63	<0.06
beta Pinene	0.03	<0.06	<0.06	<0.06	<0.06
Butane	0.03	2.26	3.29	2.51	2.01
cis-2-Butene	0.03	<0.06	<0.06	<0.06	<0.06
cis-2-Hexene	0.03	<0.06	<0.06	<0.06	<0.06
cis-2-Pentene	0.03	<0.06	<0.06	<0.06	<0.06
Cyclohexane	0.03	0.32	0.31	0.18	<0.06
Cyclopentane	0.03	<0.06	<0.06	<0.06	<0.06
Cyclopentene	0.03	<0.06	<0.06	<0.06	<0.06
Decane	0.03	<0.06	<0.06	<0.06	<0.06
Dodecane	0.03	<0.06	<0.06	<0.06	<0.06
Ethanol	0.03	<0.06	<0.06	6.6	<0.06
Ethyl benzene	0.03	<0.06	<0.06	<0.06	<0.06
Formaldehyde	0.03	<0.06	<0.06	<0.06	<0.06
Heptane	0.03	<0.06	0.61	<0.06	<0.06
Hexane	0.03	0.33	<0.06	0.59	0.48
Isobutane	0.03	2.41	1.85	1.53	1.78
Isopentane	0.03	2.01	2.18	2.31	1.13
Isoprene	0.03	<0.06	<0.06	<0.06	<0.06
Isopropyl alcohol	0.03	<0.06	<0.06	<0.06	<0.06
Isopropylbenzene	0.03	<0.06	<0.06	<0.06	<0.06
m,p-Xylene	0.03	<0.06	0.48	<0.06	<0.06
Methanol	0.03	10.8	38.2	44.3	18.7
Methyl ethyl ketone	0.03	<0.06	<0.06	<0.06	<0.06
Methyl isobutyl ketone	0.03	<0.06	<0.06	<0.06	<0.06
Methylcyclohexane	0.03	0.41	0.41	0.3	<0.06
Methylcyclopentane	0.03	<0.06	<0.06	<0.06	<0.06
n-Propylbenzene	0.03	<0.06	<0.06	<0.06	<0.06
Naphthalene	0.03	<0.06	<0.06	<0.06	<0.06
Nonane	0.03	<0.06	<0.06	<0.06	<0.06
o-Xylene	0.03	<0.06	0.22	<0.06	<0.06
Octane	0.03	<0.06	<0.06	<0.06	<0.06
Pentane	0.03	<0.06	<0.06	<0.06	<0.06
Styrene	0.03	<0.06	<0.06	<0.06	<0.06
Toluene	0.03	0.23	0.6	0.55	0.23
trans-2-Butene	0.03	<0.06	<0.06	<0.06	<0.06
trans-2-Hexene	0.03	<0.06	<0.06	<0.06	<0.06
trans-2-Pentene	0.03	<0.06	<0.06	<0.06	<0.06
Undecane	0.03	<0.06	<0.06	<0.06	<0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9 Barge Landing 13-Dec	AMS 12 Millennium 13-Dec	AMS 13 Fort McKay South 13-Dec	AMS 15 Horizon 13-Dec
1,2,4-Trimethylbenzene	0.03	<0.07	0.1	<0.06	<0.06
1,3,5-Trimethylbenzene	0.03	<0.07	<0.06	<0.06	<0.06
1,3-Butadiene	0.03	<0.07	<0.06	<0.06	<0.06
1-Butene	0.03	<0.07	<0.06	<0.06	<0.06
1-Pentene	0.03	<0.07	<0.06	<0.06	<0.06
2,2,4-Trimethylpentane	0.03	<0.07	<0.06	<0.06	<0.06
2,2-Dimethylbutane	0.03	<0.07	<0.06	<0.06	<0.06
2,3,4-Trimethylpentane	0.03	<0.07	<0.06	<0.06	<0.06
2,3-Dimethylbutane	0.03	<0.07	<0.06	<0.06	0.32
2,3-Dimethylpentane	0.03	<0.07	<0.06	<0.06	0.25
2,4-Dimethylpentane	0.03	<0.07	0.17	<0.06	<0.06
2-Methyl-1-pentene	0.03	<0.07	<0.06	<0.06	<0.06
2-Methyl-2-butene	0.03	<0.07	<0.06	<0.06	<0.06
2-Methylheptane	0.03	0.24	0.6	<0.06	<0.06
2-Methylhexane	0.03	<0.07	<0.06	<0.06	<0.06
2-Methylpentane	0.03	<0.07	0.72	<0.06	<0.06
3-Methyl-1-butene	0.03	<0.07	<0.06	<0.06	<0.06
3-Methylheptane	0.03	<0.07	<0.06	<0.06	<0.06
3-Methylhexane	0.03	<0.07	0.53	<0.06	<0.06
3-Methylpentane	0.03	0.55	0.58	0.28	0.42
4-Methyl-1-pentene	0.03	<0.07	<0.06	<0.06	<0.06
Acetaldehyde	0.03	2.69	3.12	2.16	<0.06
Acetone	0.03	4.54	<0.06	<0.06	2.42
alpha Pinene	0.03	<0.07	<0.06	<0.06	<0.06
Benzene	0.03	0.6	0.74	0.35	0.21
beta Pinene	0.03	<0.07	<0.06	<0.06	<0.06
Butane	0.03	2.69	2.5	1.16	1.59
cis-2-Butene	0.03	<0.07	<0.06	<0.06	<0.06
cis-2-Hexene	0.03	<0.07	<0.06	<0.06	<0.06
cis-2-Pentene	0.03	<0.07	<0.06	<0.06	<0.06
Cyclohexane	0.03	<0.07	<0.06	<0.06	0.57
Cyclopentane	0.03	<0.07	<0.06	<0.06	<0.06
Cyclopentene	0.03	<0.07	<0.06	<0.06	<0.06
Decane	0.03	<0.07	<0.06	<0.06	<0.06
Dodecane	0.03	<0.07	<0.06	<0.06	<0.06
Ethanol	0.03	<0.07	<0.06	<0.06	<0.06
Ethyl benzene	0.03	<0.07	<0.06	<0.06	<0.06
Formaldehyde	0.03	<0.07	<0.06	<0.06	<0.06
Heptane	0.03	0.44	1.39	<0.06	0.18
Hexane	0.03	<0.07	0.85	0.38	<0.06
Isobutane	0.03	2.67	1.96	1.07	2.79
Isopentane	0.03	1.62	2.66	0.87	2.03
Isoprene	0.03	<0.07	<0.06	<0.06	<0.06
Isopropyl alcohol	0.03	<0.07	<0.06	<0.06	<0.06
Isopropylbenzene	0.03	<0.07	<0.06	<0.06	<0.06
m,p-Xylene	0.03	0.19	0.48	0.14	0.06
Methanol	0.03	15.8	15.1	12.3	9.7
Methyl ethyl ketone	0.03	<0.07	<0.06	<0.06	<0.06
Methyl isobutyl ketone	0.03	<0.07	<0.06	<0.06	<0.06
Methylcyclohexane	0.03	<0.07	0.74	<0.06	0.38
Methylcyclopentane	0.03	<0.07	0.38	<0.06	0.22
n-Propylbenzene	0.03	<0.07	<0.06	<0.06	<0.06
Naphthalene	0.03	<0.07	<0.06	<0.06	<0.06
Nonane	0.03	<0.07	<0.06	<0.06	<0.06
o-Xylene	0.03	<0.07	<0.06	<0.06	<0.06
Octane	0.03	<0.07	0.91	<0.06	<0.06
Pentane	0.03	<0.07	<0.06	<0.06	<0.06
Styrene	0.03	<0.07	<0.06	<0.06	<0.06
Toluene	0.03	0.29	0.89	0.35	0.14
trans-2-Butene	0.03	<0.07	<0.06	<0.06	<0.06
trans-2-Hexene	0.03	<0.07	<0.06	<0.06	<0.06
trans-2-Pentene	0.03	<0.07	<0.06	<0.06	<0.06
Undecane	0.03	<0.07	<0.06	<0.06	<0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 19-Dec	Patricia McInnes 19-Dec	Athabasca Valley 19-Dec	Anzac 19-Dec
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	0.12
2,2-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	0.2	< 0.07	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylheptane	0.03	0.37	< 0.07	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.07	0.06	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.07	< 0.06	0.41
3-Methyl-1-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylhexane	0.03	0.34	< 0.07	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	< 0.07	< 0.06	0.47
4-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Acetaldehyde	0.03	2.07	2.3	1.67	2.77
Acetone	0.03	2.3	3.28	2.93	4.25
alpha Pinene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Benzene	0.03	0.3	0.45	0.34	< 0.06
beta Pinene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Butane	0.03	1.42	3.71	0.86	1.58
cis-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclohexane	0.03	0.32	< 0.07	< 0.06	0.21
Cyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethanol	0.03	< 0.06	5.92	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Hexane	0.03	0.52	< 0.07	0.37	< 0.06
Isobutane	0.03	1.16	1.82	1.16	1.39
Isopentane	0.03	0.69	1.36	0.84	1.39
Isoprene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopropyl alcohol	0.03	6.17	7.71	6.66	9.81
Isopropylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
m,p-Xylene	0.03	0.23	0.31	< 0.06	< 0.06
Methanol	0.03	12.8	22.3	20.5	30.3
Methyl ethyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methylcyclohexane	0.03	0.52	< 0.07	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.07	< 0.06	0.43
n-Propylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Octane	0.03	0.5	< 0.07	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Toluene	0.03	1.36	1.23	0.99	1.9
trans-2-Butene	0.03	< 0.06	< 0.07	< 0.06	0.11
trans-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06





VOC Canisters	MDL	Results (ppbv)			
		AMS 9 Barge Landing 19-Dec	AMS 12 Millennium 19-Dec	AMS 13 Fort McKay South 19-Dec	AMS 15 Horizon 19-Dec
1,2,4-Trimethylbenzene	0.03	< 0.06	0.14	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	0.15	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	0.31	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylheptane	0.03	0.21	< 0.07	0.28	< 0.06
2-Methylhexane	0.03	0.34	< 0.07	0.17	< 0.06
2-Methylpentane	0.03	< 0.06	< 0.07	0.4	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylpentane	0.03	0.28	< 0.07	0.29	0.14
4-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Acetaldehyde	0.03	3.5	< 0.07	1.49	< 0.06
Acetone	0.03	< 0.06	< 0.07	< 0.06	1.21
alpha Pinene	0.03	< 0.06	< 0.07	0.23	< 0.06
Benzene	0.03	< 0.06	0.48	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	0.51	< 0.06	< 0.06
Butane	0.03	4.4	3.18	2.94	1.57
cis-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclohexane	0.03	0.18	< 0.07	0.64	< 0.06
Cyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Hexane	0.03	< 0.06	0.51	< 0.06	0.2
Isobutane	0.03	4.39	2.05	2	0.97
Isopentane	0.03	1.16	1.08	1.57	0.8
Isoprene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopropyl alcohol	0.03	6.71	11.9	4.84	4.3
Isopropylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
m,p-Xylene	0.03	0.2	0.27	0.23	< 0.06
Methanol	0.03	17.7	14.8	12.6	11.8
Methyl ethyl ketone	0.03	< 0.06	< 0.07	0.26	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methylcyclohexane	0.03	< 0.06	< 0.07	0.56	0.39
Methylcyclopentane	0.03	< 0.06	< 0.07	0.33	< 0.06
n-Propylbenzene	0.03	< 0.06	0.09	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.07	0.12	< 0.06
Octane	0.03	< 0.06	< 0.07	0.39	< 0.06
Pentane	0.03	< 0.06	1.01	1.27	0.96
Styrene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Toluene	0.03	1.38	1.63	0.99	1.06
trans-2-Butene	0.03	0.52	< 0.07	0.36	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 25-Dec	Patricia McInnes 25-Dec	Athabasca Valley 25-Dec	Anzac 25-Dec
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	0.4	< 0.07	< 0.06	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,3-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
2-Methylpentane	0.03	0.71	0.33	0.27	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
3-Methylpentane	0.03	< 0.06	0.26	0.2	0.27
4-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Acetaldehyde	0.03	1.88	1.91	1.63	1.59
Acetone	0.03	< 0.06	2.67	2.21	< 0.06
alpha Pinene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Benzene	0.03	0.3	< 0.07	< 0.06	0.26
beta Pinene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Butane	0.03	1.58	1.24	0.92	1.75
cis-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclohexane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Ethanol	0.03	< 0.06	4.76	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Hexane	0.03	< 0.06	0.38	< 0.06	0.33
Isobutane	0.03	1.41	0.84	0.91	0.86
Isopentane	0.03	1.84	1.08	0.93	0.85
Isoprene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methanol	0.03	13.8	5.56	6.79	13.2
Methyl ethyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Methylcyclohexane	0.03	0.48	< 0.07	< 0.06	< 0.06
Methylcyclopentane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.07	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Octane	0.03	0.37	< 0.07	< 0.06	< 0.06
Pentane	0.03	2.03	< 0.07	< 0.06	1.68
Styrene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Toluene	0.03	0.31	0.23	0.14	0.16
trans-2-Butene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.07	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.07	< 0.06	< 0.06



VOC Canisters	Results (ppbv)				
		AMS 9	AMS 12	AMS 13	AMS 15
Compound Name	MDL	Barge Landing 25-Dec	Millennium 25-Dec	Fort McKay South 25-Dec	Horizon 25-Dec
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	0.12
1,3,5-Trimethylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
1-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	0.34	0.28	0.32
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	< 0.06	< 0.06	0.36
2,3-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	0.11
2-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
2-Methylpentane	0.03	0.72	< 0.06	0.48	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
3-Methylpentane	0.03	0.44	0.2	0.38	0.42
4-Methyl-1-pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.06	< 0.06	0.87
Acetone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
alpha Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
beta Pinene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Butane	0.03	1.12	0.57	0.69	1.58
cis-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclohexane	0.03	0.39	0.19	< 0.06	0.5
Cyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Cyclopentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Decane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Dodecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethanol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Formaldehyde	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Heptane	0.03	< 0.06	< 0.06	< 0.06	0.4
Hexane	0.03	0.43	< 0.06	< 0.06	0.25
Isobutane	0.03	1.26	0.47	0.98	1.44
Isopentane	0.03	1.84	0.66	1.31	1.94
Isoprene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropyl alcohol	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Isopropylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methanol	0.03	12.9	3.3	4.1	11.7
Methyl ethyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Methylcyclohexane	0.03	0.35	< 0.06	0.24	0.35
Methylcyclopentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Naphthalene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Nonane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
o-Xylene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Octane	0.03	0.15	< 0.06	< 0.06	< 0.06
Pentane	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Styrene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Toluene	0.03	0.15	0.21	< 0.06	0.09
trans-2-Butene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.06	< 0.06	< 0.06
Undecane	0.03	< 0.06	< 0.06	< 0.06	< 0.06



VOC Canisters	Results (ppbv)	
	AMS 1 Bertha Ganter 31-Dec	AMS 14 Anzac 31-Dec
Compound Name	MDL	
1,2,4-Trimethylbenzene	0.03	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06
1,3-Butadiene	0.03	< 0.06
1-Butene	0.03	< 0.06
1-Pentene	0.03	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06
2,2-Dimethylbutane	0.03	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06
2,3-Dimethylbutane	0.03	< 0.06
2,3-Dimethylpentane	0.03	< 0.06
2,4-Dimethylpentane	0.03	< 0.06
2-Methyl-1-pentene	0.03	< 0.06
2-Methyl-2-butene	0.03	< 0.06
2-Methylheptane	0.03	< 0.06
2-Methylhexane	0.03	< 0.06
2-Methylpentane	0.03	0.5
3-Methyl-1-butene	0.03	< 0.06
3-Methylheptane	0.03	< 0.06
3-Methylhexane	0.03	< 0.06
3-Methylpentane	0.03	0.21
4-Methyl-1-pentene	0.03	< 0.06
Acetaldehyde	0.03	1.59
Acetone	0.03	< 0.06
alpha Pinene	0.03	< 0.06
Benzene	0.03	< 0.06
beta Pinene	0.03	< 0.06
Butane	0.03	0.38
cis-2-Butene	0.03	< 0.06
cis-2-Hexene	0.03	< 0.06
cis-2-Pentene	0.03	< 0.06
Cyclohexane	0.03	< 0.06
Cyclopentane	0.03	< 0.06
Cyclopentene	0.03	< 0.06
Decane	0.03	< 0.06
Dodecane	0.03	< 0.06
Ethanol	0.03	< 0.06
Ethyl benzene	0.03	< 0.06
Formaldehyde	0.03	< 0.06
Heptane	0.03	< 0.06
Hexane	0.03	< 0.06
Isobutane	0.03	0.38
Isopentane	0.03	1.07
Isoprene	0.03	< 0.06
Isopropyl alcohol	0.03	< 0.06
Isopropylbenzene	0.03	< 0.06
m,p-Xylene	0.03	< 0.06
Methanol	0.03	3.15
Methyl ethyl ketone	0.03	< 0.06
Methyl isobutyl ketone	0.03	< 0.06
Methylcyclohexane	0.03	< 0.06
Methylcyclopentane	0.03	< 0.06
n-Propylbenzene	0.03	< 0.06
Naphthalene	0.03	< 0.06
Nonane	0.03	< 0.06
o-Xylene	0.03	< 0.06
Octane	0.03	< 0.06
Pentane	0.03	< 0.06
Styrene	0.03	< 0.06
Toluene	0.03	< 0.06
trans-2-Butene	0.03	< 0.06
trans-2-Hexene	0.03	< 0.06
trans-2-Pentene	0.03	< 0.06
Undecane	0.03	< 0.06



VOC Canisters	MDL	Results (ppbv)			
		AMS 9 Barge Landing 31-Dec	AMS 12 Millennium 31-Dec	AMS 13 Fort McKay South 31-Dec	AMS 15 Horizon 31-Dec
1,2,4-Trimethylbenzene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
1,3,5-Trimethylbenzene	0.03	< 0.06	0.09	< 0.07	< 0.06
1,3-Butadiene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
1-Butene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
1-Pentene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
2,2,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.07	< 0.06
2,2-Dimethylbutane	0.03	< 0.06	< 0.07	0.38	< 0.06
2,3,4-Trimethylpentane	0.03	< 0.06	< 0.07	< 0.07	< 0.06
2,3-Dimethylbutane	0.03	< 0.06	0.25	0.42	0.24
2,3-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.07	< 0.06
2,4-Dimethylpentane	0.03	< 0.06	< 0.07	< 0.07	< 0.06
2-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
2-Methyl-2-butene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
2-Methylheptane	0.03	< 0.06	< 0.07	< 0.07	< 0.06
2-Methylhexane	0.03	< 0.06	0.17	< 0.07	< 0.06
2-Methylpentane	0.03	0.59	< 0.07	1.17	< 0.06
3-Methyl-1-butene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
3-Methylheptane	0.03	< 0.06	< 0.07	< 0.07	< 0.06
3-Methylhexane	0.03	< 0.06	< 0.07	< 0.07	< 0.06
3-Methylpentane	0.03	0.31	< 0.07	0.6	< 0.06
4-Methyl-1-pentene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Acetaldehyde	0.03	< 0.06	< 0.07	< 0.07	0.96
Acetone	0.03	< 0.06	2.41	< 0.07	1.78
alpha Pinene	0.03	0.11	< 0.07	< 0.07	< 0.06
Benzene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
beta Pinene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Butane	0.03	0.49	1.4	1.4	0.6
cis-2-Butene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
cis-2-Hexene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
cis-2-Pentene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Cyclohexane	0.03	< 0.06	< 0.07	< 0.07	0.42
Cyclopentane	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Cyclopentene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Decane	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Dodecane	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Ethanol	0.03	< 0.06	< 0.07	4.06	< 0.06
Ethyl benzene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Formaldehyde	0.03	< 0.06	< 0.07	9.89	< 0.06
Heptane	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Hexane	0.03	< 0.06	< 0.07	0.44	< 0.06
Isobutane	0.03	0.42	0.92	1.45	1.33
Isopentane	0.03	1.21	0.93	2.14	1.72
Isoprene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Isopropyl alcohol	0.03	2.48	3.21	< 0.07	4.54
Isopropylbenzene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
m,p-Xylene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Methanol	0.03	4.9	4.36	< 0.07	3.55
Methyl ethyl ketone	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Methyl isobutyl ketone	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Methylcyclohexane	0.03	< 0.06	0.28	< 0.07	0.28
Methylcyclopentane	0.03	< 0.06	< 0.07	< 0.07	< 0.06
n-Propylbenzene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Naphthalene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Nonane	0.03	< 0.06	< 0.07	< 0.07	< 0.06
o-Xylene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Octane	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Pentane	0.03	< 0.06	< 0.07	4.1	< 0.06
Styrene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Toluene	0.03	< 0.06	0.3	< 0.07	< 0.06
trans-2-Butene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
trans-2-Hexene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
trans-2-Pentene	0.03	< 0.06	< 0.07	< 0.07	< 0.06
Undecane	0.03	< 0.06	< 0.07	< 0.07	< 0.06



VOC Canisters	Period Average (ppbv)			
	AMS 1 Bertha Ganter	AMS 6 Patricia McInnes	AMS 7 Athabasca Valley	AMS 14 Anzac
Compound Name				
1,2,4-Trimethylbenzene	0.009032258	0.01135593	0.008833333	0
1,3,5-Trimethylbenzene	0.006612903	0.002033898	0.006333333	0
1,3-Butadiene	0.02666667	0	0	2.95
1-Butene	0.09612903	0.0540678	0.1223333	0.2538983
1-Pentene	0	0	0.006833333	0.2016949
2,2,4-Trimethylpentane	0.003548387	0	0.02016667	0.03932203
2,2-Dimethylbutane	0.0166129	0	0.01	0.01423729
2,3,4-Trimethylpentane	0.002096774	0	0.009166667	0
2,3-Dimethylbutane	0.03467742	0.008305085	0.01383333	0.01542373
2,3-Dimethylpentane	0.00516129	0.001525424	0.01033333	0.005423729
2,4-Dimethylpentane	0	0	0.008833333	0
2-Methyl-1-pentene	0	0	0.007	0
2-Methyl-2-butene	0.003064516	0	0.008333334	0
2-Methylheptane	0.06483871	0.00779661	0.0105	0.001186441
2-Methylhexane	0.04241935	0.004915254	0.01183333	0
2-Methylpentane	0.3585483	0.04355932	0.04483333	0.0840678
3-Methyl-1-butene	0	0	0.007333333	0
3-Methylheptane	0.009516129	0.004237288	0.008166667	0
3-Methylhexane	0.06403226	0.02084746	0.01733333	0
3-Methylpentane	0.4533871	0.06864407	0.049	0.06338983
4-Methyl-1-pentene	0	0	0	0
Acetaldehyde	1.979677	1.749661	3.9385	1.938305
Acetone	3.396291	2.962372	4.107832	2.831864
alpha Pinene	0.07387096	0.02711864	0.05533334	0.05983051
Benzene	0.2129032	0.1920339	0.227	0.8725424
beta Pinene	0.1496774	0.03898305	0.007	0.1474576
Butane	2.959032	0.8784745	1.038667	0.6327119
cis-2-Butene	0.009516129	0	0.006333333	0.06355932
cis-2-Hexene	0	0.01135593	0.007666667	0.01694915
cis-2-Pentene	0	0	0.007999999	0.007457627
Cyclohexane	0.1077419	0.01254237	0.013	0.003559322
Cyclopentane	0.04645161	0	0	0
Cyclopentene	0	0	0	0.05898305
Decane	0.01080645	0.005932204	0.007833334	0.002881356
Dodecane	0.008709677	0.01016949	0.01716667	0.003559322
Ethanol	0.035	0.86375	2.6265	0.2195
Ethyl benzene	0.0633871	0.01237288	0.0115	0.01271186
Formaldehyde	0	0	0	0
Heptane	0.1091935	0.03118644	0.017	0.001016949
Hexane	1.364032	0.2042373	0.1691667	0.2450847
Isobutane	1.339355	0.3144068	0.3105	0.2449152
Isopentane	1.367903	0.4818645	0.4823333	0.2755932
Isoprene	0.3987097	0.4015254	0.3895001	0.3261017
Isopropyl alcohol	0.3968293	1.23625	1.25325	0.8132501
Isopropylbenzene	0.002258064	0	0.006333334	0
m,p-Xylene	0.1479032	0.07949152	0.07633332	0.02271187
Methanol	5.691935	7.001525	33.7585	5.440509
Methyl ethyl ketone	0.04177419	0.0179661	0.01583333	0.00898305
Methyl isobutyl ketone	0	0	0.01883333	0
Methylcyclohexane	0.1037097	0.01864407	0.0245	0.004745762
Methylcyclopentane	0.3970968	0.04254237	0.01733333	0.03949153
n-Propylbenzene	0	0	0.004166667	0
Naphthalene	0.0133871	0.002372881	0.04083333	0.006440678
Nonane	0.02919355	0.006271187	0.002666667	0
o-Xylene	0.03403226	0.02067797	0.0235	0.007288136
Octane	0.1279032	0.01694915	0.0225	0.008135593
Pentane	1.167742	0.4245763	0.3476667	0.1079661
Styrene	0	0	0.0045	0.002711864
Toluene	0.9069355	0.4727119	0.394	0.490339
trans-2-Butene	0.02225806	0	0.009166667	0.06220339
trans-2-Hexene	0	0	0.007666667	0.003050848
trans-2-Pentene	0.002903226	0	0	0.01677966
Undecane	0.006774194	0.006779661	0.017	0.004915254



VOC Canisters	Period Average (ppbv)			
	AMS 9 Barge Landing	AMS 12 Millennium	AMS 13 Fort McKay South	AMS 15 Horizon
Compound Name				
1,2,4-Trimethylbenzene	0.009322034	0.004067797	0.009180328	0.007213115
1,3,5-Trimethylbenzene	0.005593221	0.004067797	0.00409836	0.005409836
1,3-Butadiene	0	0.08948718	0	0
1-Butene	0.108983	0.0601695	0.2054099	0.07344262
1-Pentene	0.009322034	0.009661017	0.01163934	0.008360656
2,2,4-Trimethylpentane	0.007966102	0	0	0.00852459
2,2-Dimethylbutane	0.03898305	0.0518644	0.03639344	0.04360656
2,3,4-Trimethylpentane	0.008474576	0	0.008360656	0.01409836
2,3-Dimethylbutane	0.07949153	0.04813559	0.07967213	0.1173771
2,3-Dimethylpentane	0.003559322	0	0.01	0.03770492
2,4-Dimethylpentane	0.04881356	0.05847458	0.02508197	0.01540984
2-Methyl-1-pentene	0.007627118	0	0.006065574	0.007540984
2-Methyl-2-butene	0.007118644	0	0.004918033	0.007377049
2-Methylheptane	0.05135593	0.0159322	0.06229508	0.03983606
2-Methylhexane	0.02050848	0.002881356	0.03360656	0.03459017
2-Methylpentane	0.4071186	0.2147458	0.2854098	0.417377
3-Methyl-1-butene	0.007288136	0	0.008196721	0.008360656
3-Methylheptane	0.01525424	0.00220339	0.01786885	0.01770492
3-Methylhexane	0.02966102	0.01288136	0.05754098	0.0752459
3-Methylpentane	0.5154237	0.4208474	0.340164	0.3622951
4-Methyl-1-pentene	0	0	0	0
Acetaldehyde	2.039661	1.675085	1.947541	2.073442
Acetone	4.087626	2.567119	2.540328	2.796885
alpha Pinene	0.05576271	0.03830509	0.11	0.08098362
Benzene	0.2049153	0.3574576	0.1950819	0.2222951
beta Pinene	0.01711864	0.02135593	0.3865574	0.03786885
Butane	0.7579661	0.730339	0.9991802	21.33868
cis-2-Butene	0.007627118	0	0.007213115	0.007704918
cis-2-Hexene	0.005932203	0.009152543	0.006885246	0
cis-2-Pentene	0.00898305	0	0	0.008360656
Cyclohexane	0.06322034	0.04237288	0.1293443	0.3381967
Cyclopentane	0.02915254	0	0.1601639	0.1272131
Cyclopentene	0.006949152	0.00440678	0	0.006721311
Decane	0.006779661	0.004067797	0.006065574	0.003934426
Dodecane	0.02355932	0.01338983	0.01196721	0.006885246
Ethanol	0.3485	0.02666667	0.2741463	0.04170732
Ethyl benzene	0.02372881	0.005084746	0.02557377	0.01491803
Formaldehyde	0	0	0.1621312	0
Heptane	0.1069492	0.04661017	0.09409836	0.08131148
Hexane	2.096271	2.378983	0.6314755	0.420164
Isobutane	0.4016949	0.2705085	0.6280328	10.28836
Isopentane	1.128644	0.488644	1.249672	5.105574
Isoprene	0.3894916	0.3164406	0.582459	0.3360656
Isopropyl alcohol	0.3617949	0.4461538	0.20775	1.611
Isopropylbenzene	0.005932203	0	0	0.005901639
m,p-Xylene	0.07762711	0.06932203	0.07786885	0.03606557
Methanol	19.14526	5.452373	7.885738	4.121148
Methyl ethyl ketone	0.01830509	0	0.01278688	0
Methyl isobutyl ketone	0	0	0	0
Methylcyclohexane	0.07508475	0.0440678	0.1963934	0.1981967
Methylcyclopentane	0.3969491	0.4247458	0.2267213	0.1886885
n-Propylbenzene	0.004745763	0.001525424	0.004754098	0.005081967
Naphthalene	0.05237288	0.006779661	0.01213115	0.005901639
Nonane	0.02237288	0.01067797	0.0252459	0.02131148
o-Xylene	0.02254237	0.00440678	0.03	0.01770492
Octane	0.0922034	0.0538983	0.1608197	0.08967213
Pentane	1.055085	0.2554238	1.049508	2.462459
Styrene	0.0159322	0	0.004590164	0.005901639
Toluene	0.5759323	0.6120339	0.2773771	0.1440983
trans-2-Butene	0.02288136	0.1130508	0.01737705	0.03016393
trans-2-Hexene	0.007118644	0	0.0357377	0.008196721
trans-2-Pentene	0.006610169	0	0.008688524	0.01032787
Undecane	0.01169492	0.005762712	0.004262295	0.004918033



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	Period Sum (ppbv)			
	AMS 1 Bertha Ganter	AMS 6 Patricia McInnes	AMS 7 Athabasca Valley	AMS 14 Anzac
Compound Name				
1,2,4-Trimethylbenzene	0.56	0.67	0.53	0
1,3,5-Trimethylbenzene	0.41	0.12	0.38	0
1,3-Butadiene	1.12	0	0	118
1-Butene	5.96	3.19	7.339999	14.98
1-Pentene	0	0	0.41	11.9
2,2,4-Trimethylpentane	0.22	0	1.21	2.32
2,2-Dimethylbutane	1.03	0	0.6	0.84
2,3,4-Trimethylpentane	0.13	0	0.55	0
2,3-Dimethylbutane	2.15	0.49	0.83	0.91
2,3-Dimethylpentane	0.32	0.09	0.62	0.32
2,4-Dimethylpentane	0	0	0.53	0
2-Methyl-1-pentene	0	0	0.42	0
2-Methyl-2-butene	0.19	0	0.5	0
2-Methylheptane	4.02	0.46	0.63	0.07
2-Methylhexane	2.63	0.29	0.71	0
2-Methylpentane	22.23	2.57	2.69	4.96
3-Methyl-1-butene	0	0	0.44	0
3-Methylheptane	0.59	0.25	0.49	0
3-Methylhexane	3.97	1.23	1.04	0
3-Methylpentane	28.11	4.05	2.94	3.74
4-Methyl-1-pentene	0	0	0	0
Acetaldehyde	122.74	103.23	236.31	114.36
Acetone	210.57	174.78	246.47	167.08
alpha Pinene	4.58	1.6	3.32	3.53
Benzene	13.2	11.33	13.62	51.48
beta Pinene	9.28	2.3	0.42	8.700001
Butane	183.46	51.83	62.32	37.33001
cis-2-Butene	0.59	0	0.38	3.75
cis-2-Hexene	0	0.67	0.46	1
cis-2-Pentene	0	0	0.48	0.44
Cyclohexane	6.68	0.74	0.78	0.21
Cyclopentane	2.88	0	0	0
Cyclopentene	0	0	0	3.48
Decane	0.67	0.35	0.47	0.17
Dodecane	0.54	0.6	1.03	0.21
Ethanol	1.47	34.55	105.06	8.78
Ethyl benzene	3.93	0.73	0.69	0.75
Formaldehyde	0	0	0	0
Heptane	6.77	1.84	1.02	0.06
Hexane	84.57	12.05	10.15	14.46
Isobutane	83.04001	18.55	18.63	14.45
Isopentane	84.81	28.43	28.94	16.26
Isoprene	24.72	23.69	23.37	19.24
Isopropyl alcohol	16.27	49.45	50.13	32.53
Isopropylbenzene	0.14	0	0.38	0
m,p-Xylene	9.17	4.69	4.579999	1.34
Methanol	352.9	413.09	2025.51	320.99
Methyl ethyl ketone	2.59	1.06	0.95	0.53
Methyl isobutyl ketone	0	0	1.13	0
Methylcyclohexane	6.43	1.1	1.47	0.28
Methylcyclopentane	24.62	2.51	1.04	2.33
n-Propylbenzene	0	0	0.25	0
Naphthalene	0.83	0.14	2.45	0.38
Nonane	1.81	0.37	0.16	0
o-Xylene	2.11	1.22	1.41	0.43
Octane	7.93	1	1.35	0.48
Pentane	72.39999	25.05	20.86	6.37
Styrene	0	0	0.27	0.16
Toluene	56.23	27.89	23.64	28.93
trans-2-Butene	1.38	0	0.55	3.67
trans-2-Hexene	0	0	0.46	0.18
trans-2-Pentene	0.18	0	0	0.99
Undecane	0.42	0.4	1.02	0.29





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

2014  
Indicated Sites and Dates

VOC Canisters	Period Sum (ppbv)			
	AMS 9 Barge Landing	AMS 12 Millennium	AMS 13 Fort McKay South	AMS 15 Horizon
Compound Name				
1,2,4-Trimethylbenzene	0.55	0.24	0.56	0.44
1,3,5-Trimethylbenzene	0.33	0.24	0.25	0.33
1,3-Butadiene	0	3.49	0	0
1-Butene	6.43	3.55	12.53	4.48
1-Pentene	0.55	0.57	0.71	0.51
2,2,4-Trimethylpentane	0.47	0	0	0.52
2,2-Dimethylbutane	2.3	3.06	2.22	2.66
2,3,4-Trimethylpentane	0.5	0	0.51	0.86
2,3-Dimethylbutane	4.690001	2.84	4.86	7.16
2,3-Dimethylpentane	0.21	0	0.61	2.3
2,4-Dimethylpentane	2.88	3.45	1.53	0.94
2-Methyl-1-pentene	0.45	0	0.37	0.46
2-Methyl-2-butene	0.42	0	0.3	0.45
2-Methylheptane	3.03	0.9400001	3.8	2.43
2-Methylhexane	1.21	0.17	2.05	2.11
2-Methylpentane	24.02	12.67	17.41	25.46
3-Methyl-1-butene	0.43	0	0.5	0.51
3-Methylheptane	0.9	0.13	1.09	1.08
3-Methylhexane	1.75	0.76	3.51	4.59
3-Methylpentane	30.41	24.83	20.75	22.1
4-Methyl-1-pentene	0	0	0	0
Acetaldehyde	120.34	98.83	118.8	126.48
Acetone	241.1699	151.46	154.96	170.61
alpha Pinene	3.29	2.26	6.71	4.940001
Benzene	12.09	21.09	11.9	13.56
beta Pinene	1.01	1.26	23.58	2.31
Butane	44.72	43.09	60.94999	1301.66
cis-2-Butene	0.45	0	0.44	0.47
cis-2-Hexene	0.35	0.54	0.42	0
cis-2-Pentene	0.53	0	0	0.51
Cyclohexane	3.73	2.5	7.89	20.63
Cyclopentane	1.72	0	9.77	7.759999
Cyclopentene	0.41	0.26	0	0.41
Decane	0.4	0.24	0.37	0.24
Dodecane	1.39	0.79	0.73	0.42
Ethanol	13.94	1.04	11.24	1.71
Ethyl benzene	1.4	0.3	1.56	0.91
Formaldehyde	0	0	9.89	0
Heptane	6.31	2.75	5.74	4.96
Hexane	123.68	140.36	38.52	25.63
Isobutane	23.7	15.96	38.31	627.59
Isopentane	66.59	28.83	76.23	311.44
Isoprene	22.98	18.67	35.53	20.5
Isopropyl alcohol	14.11	17.4	8.31	64.43999
Isopropylbenzene	0.35	0	0	0.36
m,p-Xylene	4.579999	4.09	4.75	2.2
Methanol	1129.57	321.69	481.03	251.39
Methyl ethyl ketone	1.08	0	0.78	0
Methyl isobutyl ketone	0	0	0	0
Methylcyclohexane	4.43	2.6	11.98	12.09
Methylcyclopentane	23.42	25.06	13.83	11.51
n-Propylbenzene	0.28	0.09	0.29	0.31
Naphthalene	3.09	0.4	0.74	0.36
Nonane	1.32	0.63	1.54	1.3
o-Xylene	1.33	0.26	1.83	1.08
Octane	5.440001	3.18	9.81	5.47
Pentane	62.25	15.07	64.02	150.21
Styrene	0.9399999	0	0.28	0.36
Toluene	33.98	36.11	16.92	8.789999
trans-2-Butene	1.35	6.67	1.06	1.84
trans-2-Hexene	0.42	0	2.18	0.5
trans-2-Pentene	0.39	0	0.53	0.63
Undecane	0.69	0.34	0.26	0.3



VOC Canisters	Total Samples (#)			
	AMS 1	AMS 6	AMS 7	AMS 14
	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac
Compound Name				
1,2,4-Trimethylbenzene	62	59	60	59
1,3,5-Trimethylbenzene	62	59	60	59
1,3-Butadiene	42	40	40	40
1-Butene	62	59	60	59
1-Pentene	62	59	60	59
2,2,4-Trimethylpentane	62	59	60	59
2,2-Dimethylbutane	62	59	60	59
2,3,4-Trimethylpentane	62	59	60	59
2,3-Dimethylbutane	62	59	60	59
2,3-Dimethylpentane	62	59	60	59
2,4-Dimethylpentane	62	59	60	59
2-Methyl-1-pentene	62	59	60	59
2-Methyl-2-butene	62	59	60	59
2-Methylheptane	62	59	60	59
2-Methylhexane	62	59	60	59
2-Methylpentane	62	59	60	59
3-Methyl-1-butene	62	59	60	59
3-Methylheptane	62	59	60	59
3-Methylhexane	62	59	60	59
3-Methylpentane	62	59	60	59
4-Methyl-1-pentene	62	59	60	59
Acetaldehyde	62	59	60	59
Acetone	62	59	60	59
alpha Pinene	62	59	60	59
Benzene	62	59	60	59
beta Pinene	62	59	60	59
Butane	62	59	60	59
cis-2-Butene	62	59	60	59
cis-2-Hexene	62	59	60	59
cis-2-Pentene	62	59	60	59
Cyclohexane	62	59	60	59
Cyclopentane	62	59	60	59
Cyclopentene	62	59	60	59
Decane	62	59	60	59
Dodecane	62	59	60	59
Ethanol	42	40	40	40
Ethyl benzene	62	59	60	59
Formaldehyde	62	59	60	59
Heptane	62	59	60	59
Hexane	62	59	60	59
Isobutane	62	59	60	59
Isopentane	62	59	60	59
Isoprene	62	59	60	59
Isopropyl alcohol	41	40	40	40
Isopropylbenzene	62	59	60	59
m,p-Xylene	62	59	60	59
Methanol	62	59	60	59
Methyl ethyl ketone	62	59	60	59
Methyl isobutyl ketone	62	59	60	59
Methylcyclohexane	62	59	60	59
Methylcyclopentane	62	59	60	59
n-Propylbenzene	62	59	60	59
Naphthalene	62	59	60	59
Nonane	62	59	60	59
o-Xylene	62	59	60	59
Octane	62	59	60	59
Pentane	62	59	60	59
Styrene	62	59	60	59
Toluene	62	59	60	59
trans-2-Butene	62	59	60	59
trans-2-Hexene	62	59	60	59
trans-2-Pentene	62	59	60	59
Undecane	62	59	60	59



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Volatile Organic Compounds (VOCs)

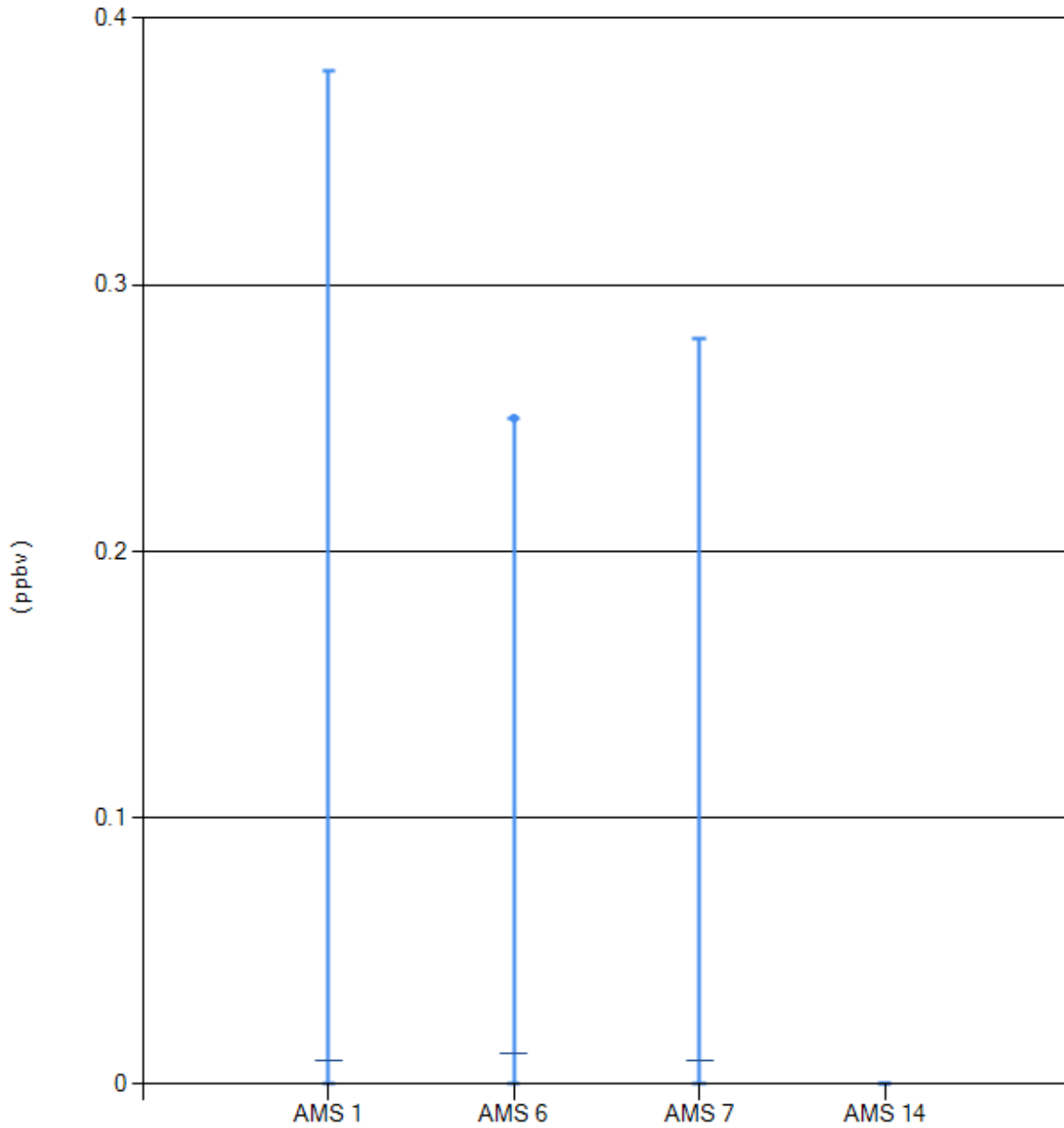
2014  
Indicated Sites and Dates

VOC Canisters	Total Samples (#)			
	AMS 9 Barge Landing	AMS 12 Millennium	AMS 13 Fort McKay South	AMS 15 Horizon
Compound Name				
1,2,4-Trimethylbenzene	59	59	61	61
1,3,5-Trimethylbenzene	59	59	61	61
1,3-Butadiene	40	39	41	41
1-Butene	59	59	61	61
1-Pentene	59	59	61	61
2,2,4-Trimethylpentane	59	59	61	61
2,2-Dimethylbutane	59	59	61	61
2,3,4-Trimethylpentane	59	59	61	61
2,3-Dimethylbutane	59	59	61	61
2,3-Dimethylpentane	59	59	61	61
2,4-Dimethylpentane	59	59	61	61
2-Methyl-1-pentene	59	59	61	61
2-Methyl-2-butene	59	59	61	61
2-Methylheptane	59	59	61	61
2-Methylhexane	59	59	61	61
2-Methylpentane	59	59	61	61
3-Methyl-1-butene	59	59	61	61
3-Methylheptane	59	59	61	61
3-Methylhexane	59	59	61	61
3-Methylpentane	59	59	61	61
4-Methyl-1-pentene	59	59	61	61
Acetaldehyde	59	59	61	61
Acetone	59	59	61	61
alpha Pinene	59	59	61	61
Benzene	59	59	61	61
beta Pinene	59	59	61	61
Butane	59	59	61	61
cis-2-Butene	59	59	61	61
cis-2-Hexene	59	59	61	61
cis-2-Pentene	59	59	61	61
Cyclohexane	59	59	61	61
Cyclopentane	59	59	61	61
Cyclopentene	59	59	61	61
Decane	59	59	61	61
Dodecane	59	59	61	61
Ethanol	40	39	41	41
Ethyl benzene	59	59	61	61
Formaldehyde	59	59	61	61
Heptane	59	59	61	61
Hexane	59	59	61	61
Isobutane	59	59	61	61
Isopentane	59	59	61	61
Isoprene	59	59	61	61
Isopropyl alcohol	39	39	40	40
Isopropylbenzene	59	59	61	61
m,p-Xylene	59	59	61	61
Methanol	59	59	61	61
Methyl ethyl ketone	59	59	61	61
Methyl isobutyl ketone	59	59	61	61
Methylcyclohexane	59	59	61	61
Methylcyclopentane	59	59	61	61
n-Propylbenzene	59	59	61	61
Naphthalene	59	59	61	61
Nonane	59	59	61	61
o-Xylene	59	59	61	61
Octane	59	59	61	61
Pentane	59	59	61	61
Styrene	59	59	61	61
Toluene	59	59	61	61
trans-2-Butene	59	59	61	61
trans-2-Hexene	59	59	61	61
trans-2-Pentene	59	59	61	61
Undecane	59	59	61	61



VOC - 1,2,4-Trimethylbenzene - (ppbv) - 2014

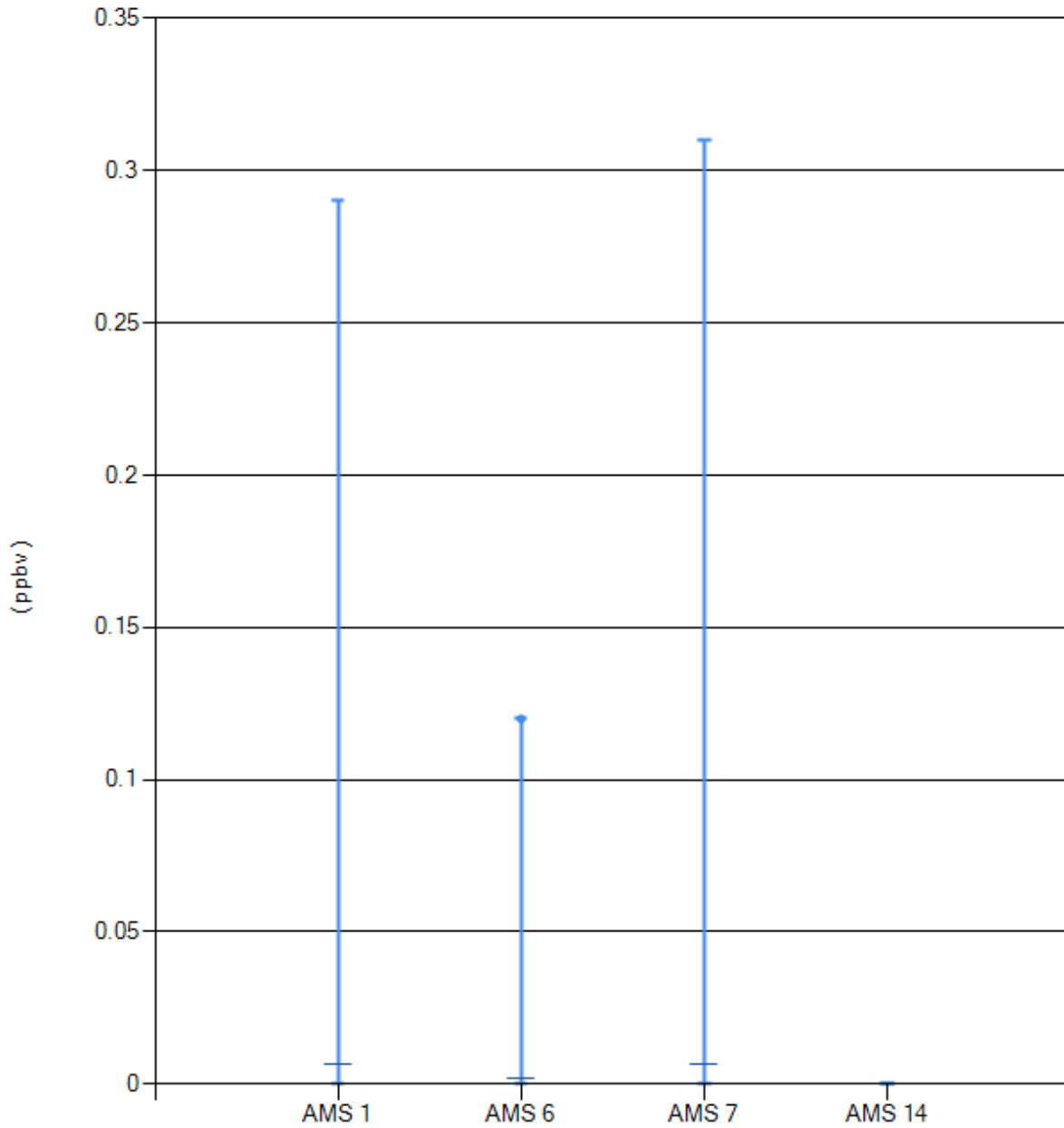
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.38	0.01
AMS 6 Patricia McInnes	0	0	0	0	0.25	0.01
AMS 7 Athabasca Valley	0	0	0	0	0.28	0.01
AMS 14 Anzac	0	0	0	0	0	0





VOC - 1,3,5-Trimethylbenzene - (ppbv) - 2014

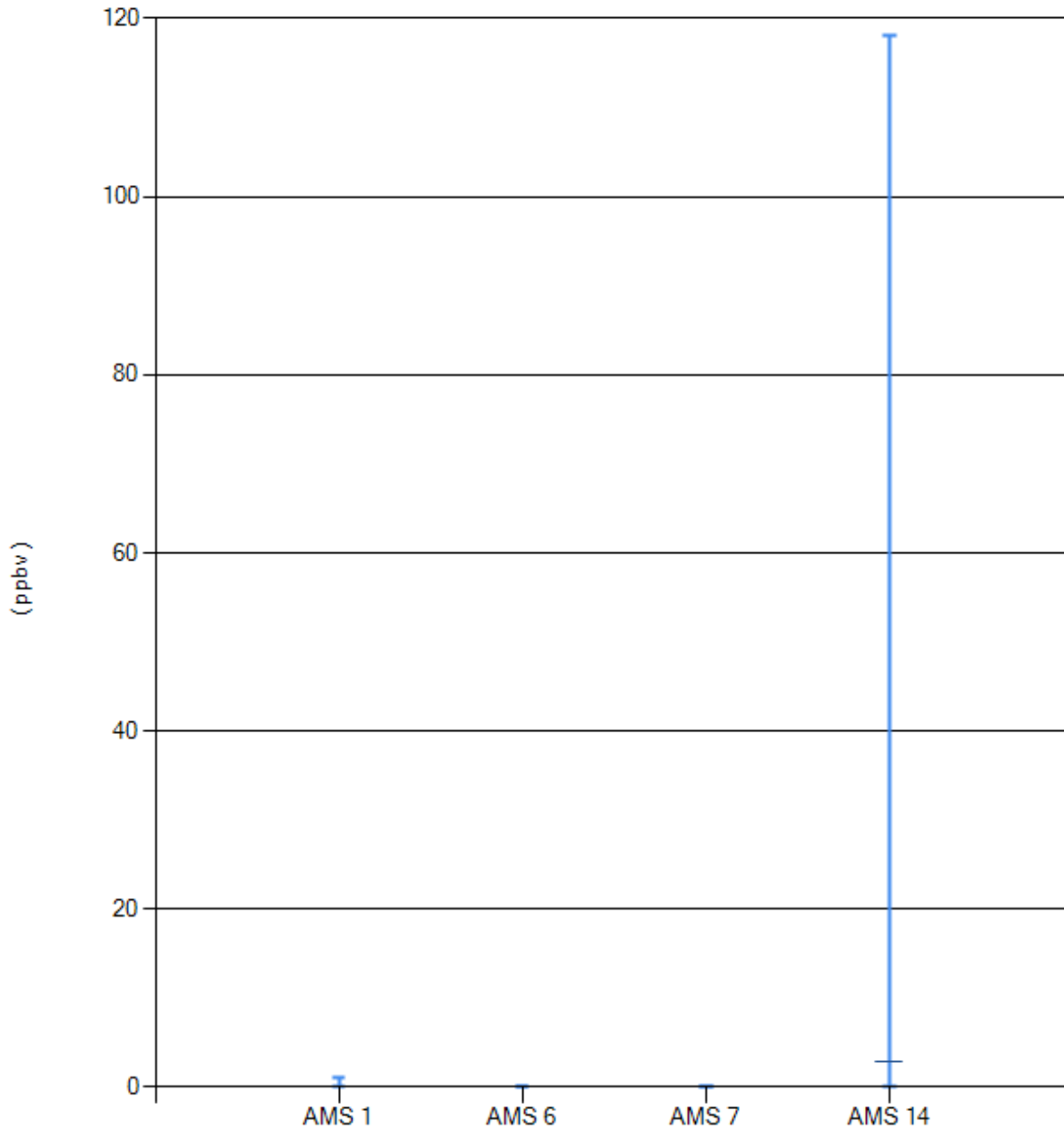
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.29	0.01
AMS 6 Patricia McInnes	0	0	0	0	0.12	0
AMS 7 Athabasca Valley	0	0	0	0	0.31	0.01
AMS 14 Anzac	0	0	0	0	0	0





VOC - 1,3-Butadiene - (ppbv) - 2014

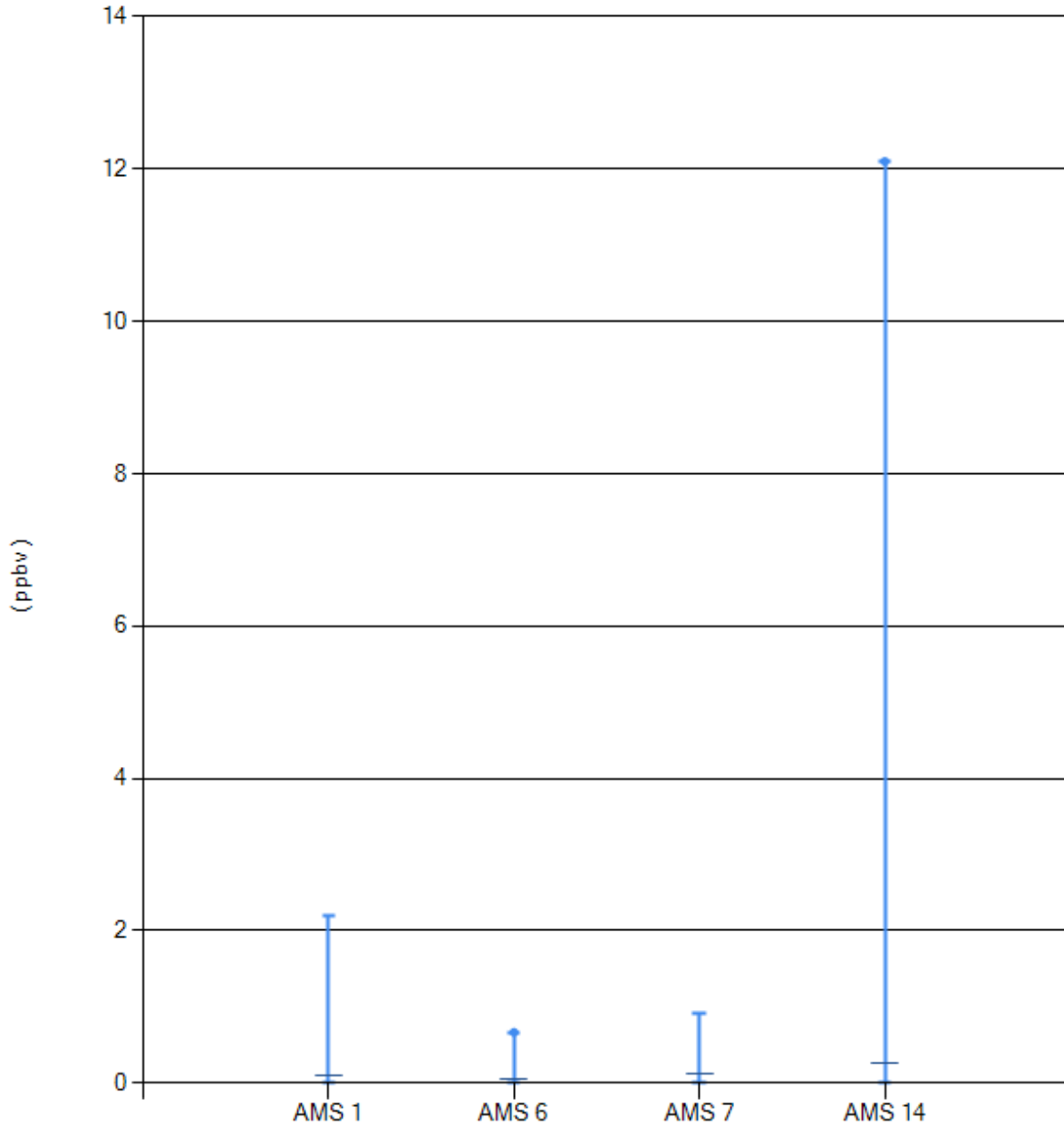
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	1.12	0.03
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	118	2.95





VOC - 1-Butene - (ppbv) - 2014

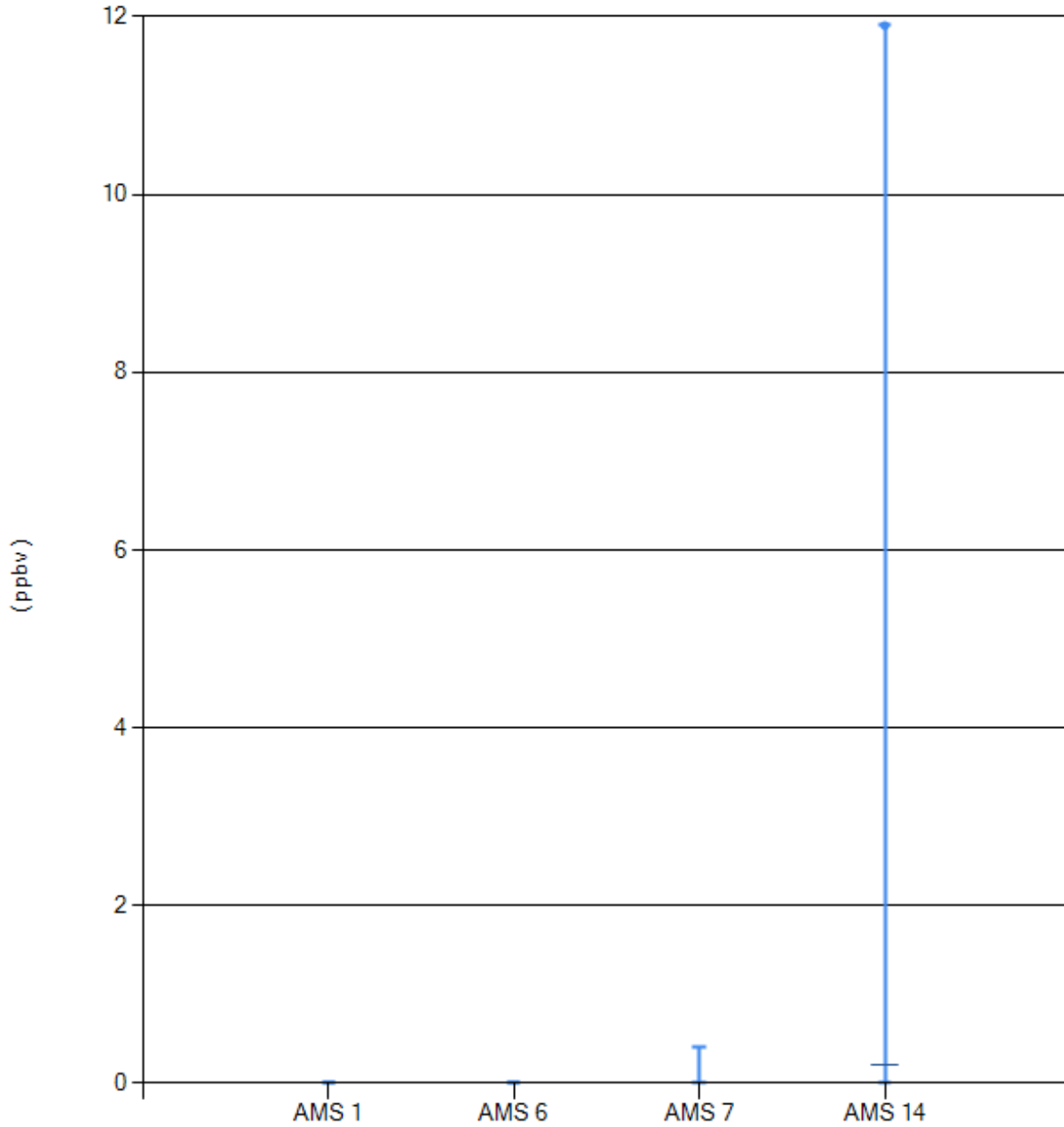
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	2.2	0.1
AMS 6 Patricia McInnes	0	0	0	0	0.67	0.05
AMS 7 Athabasca Valley	0	0	0	0	0.92	0.12
AMS 14 Anzac	0	0	0	0	12.1	0.25





VOC - 1-Pentene - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.41	0.01
AMS 14 Anzac	0	0	0	0	11.9	0.2

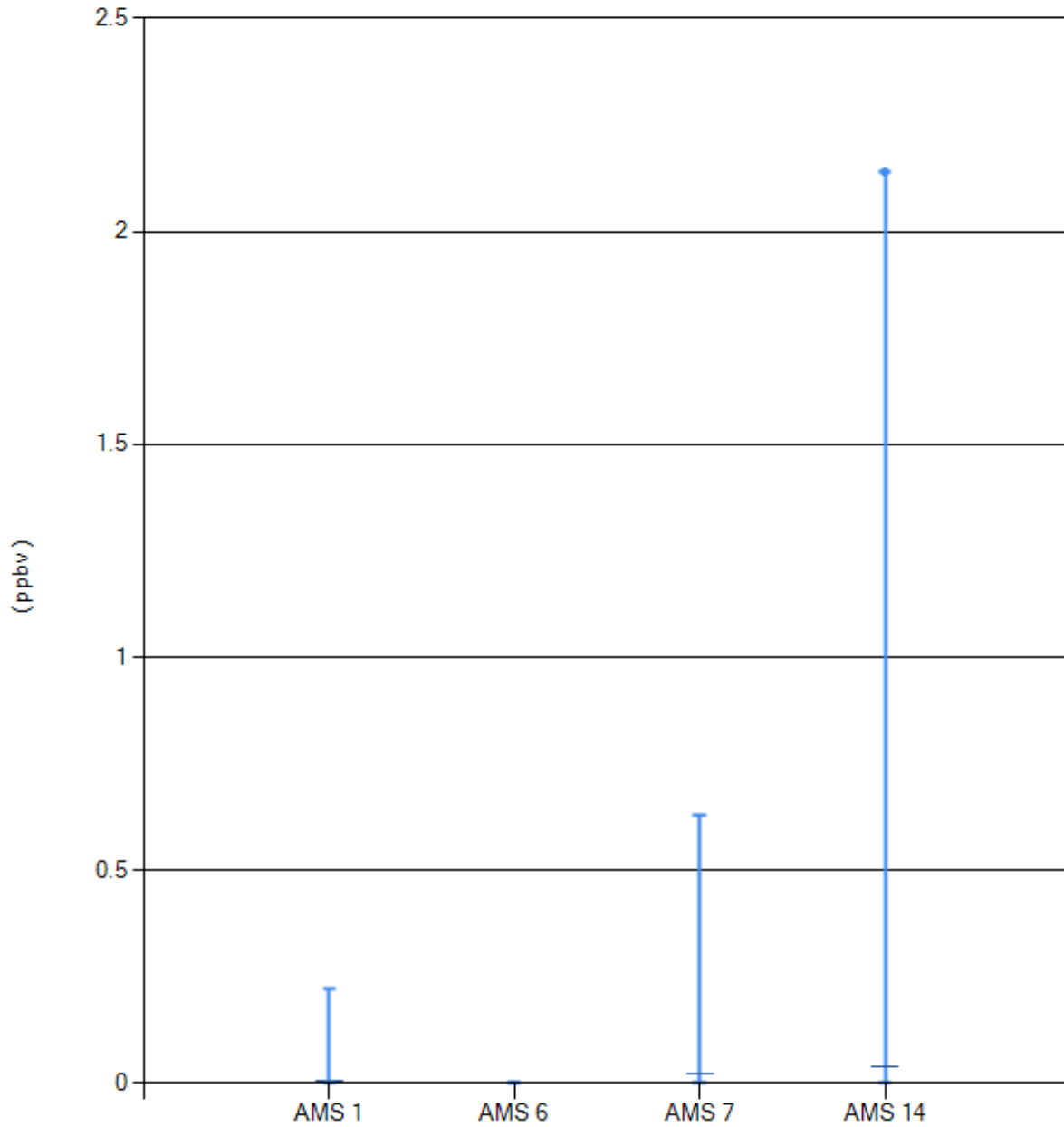






VOC - 2,2,4-Trimethylpentane - (ppbv) - 2014

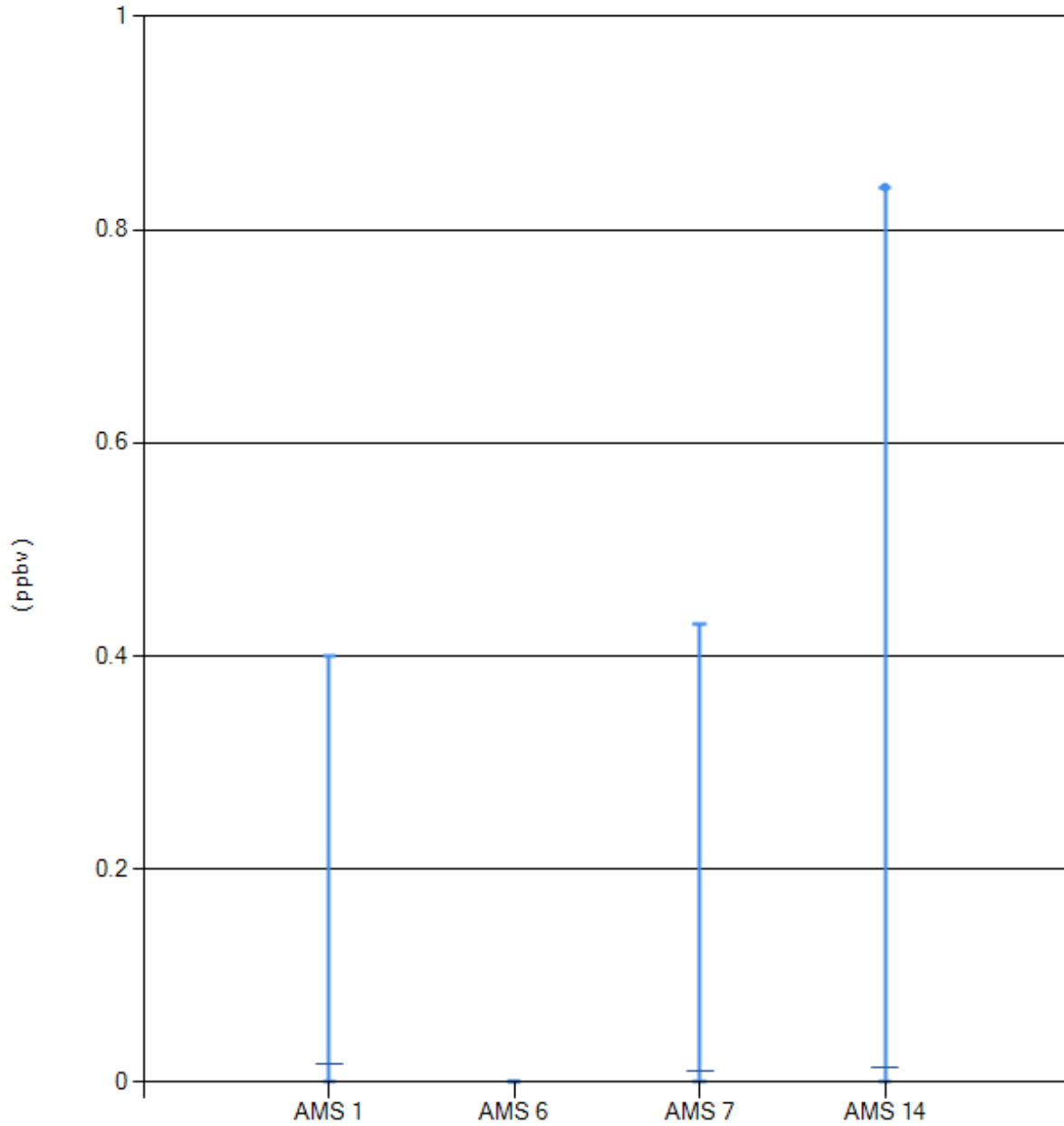
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.22	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.63	0.02
AMS 14 Anzac	0	0	0	0	2.14	0.04





VOC - 2,2-Dimethylbutane - (ppbv) - 2014

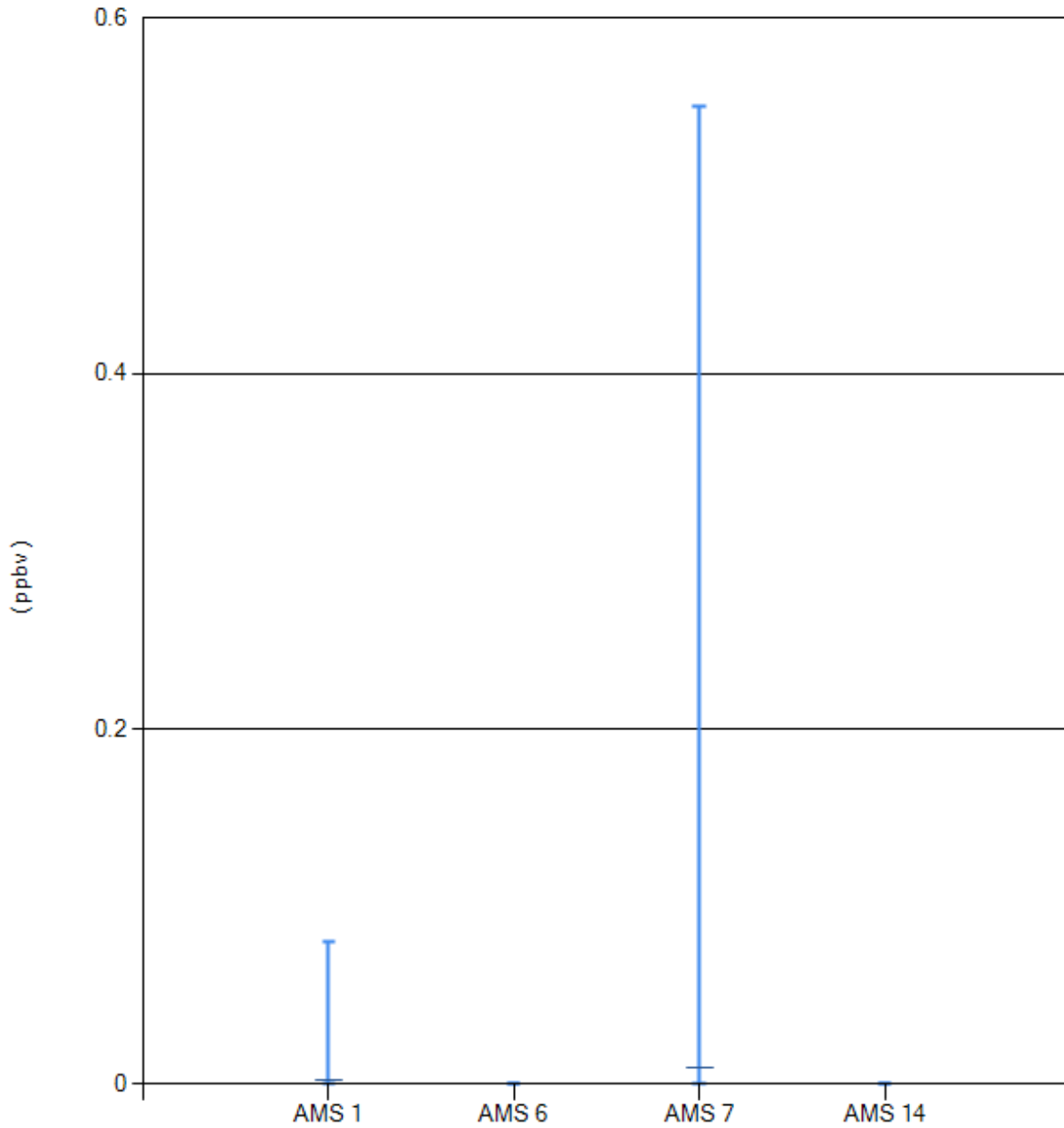
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.4	0.02
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.43	0.01
AMS 14 Anzac	0	0	0	0	0.84	0.01





VOC - 2,3,4-Trimethylpentane - (ppbv) - 2014

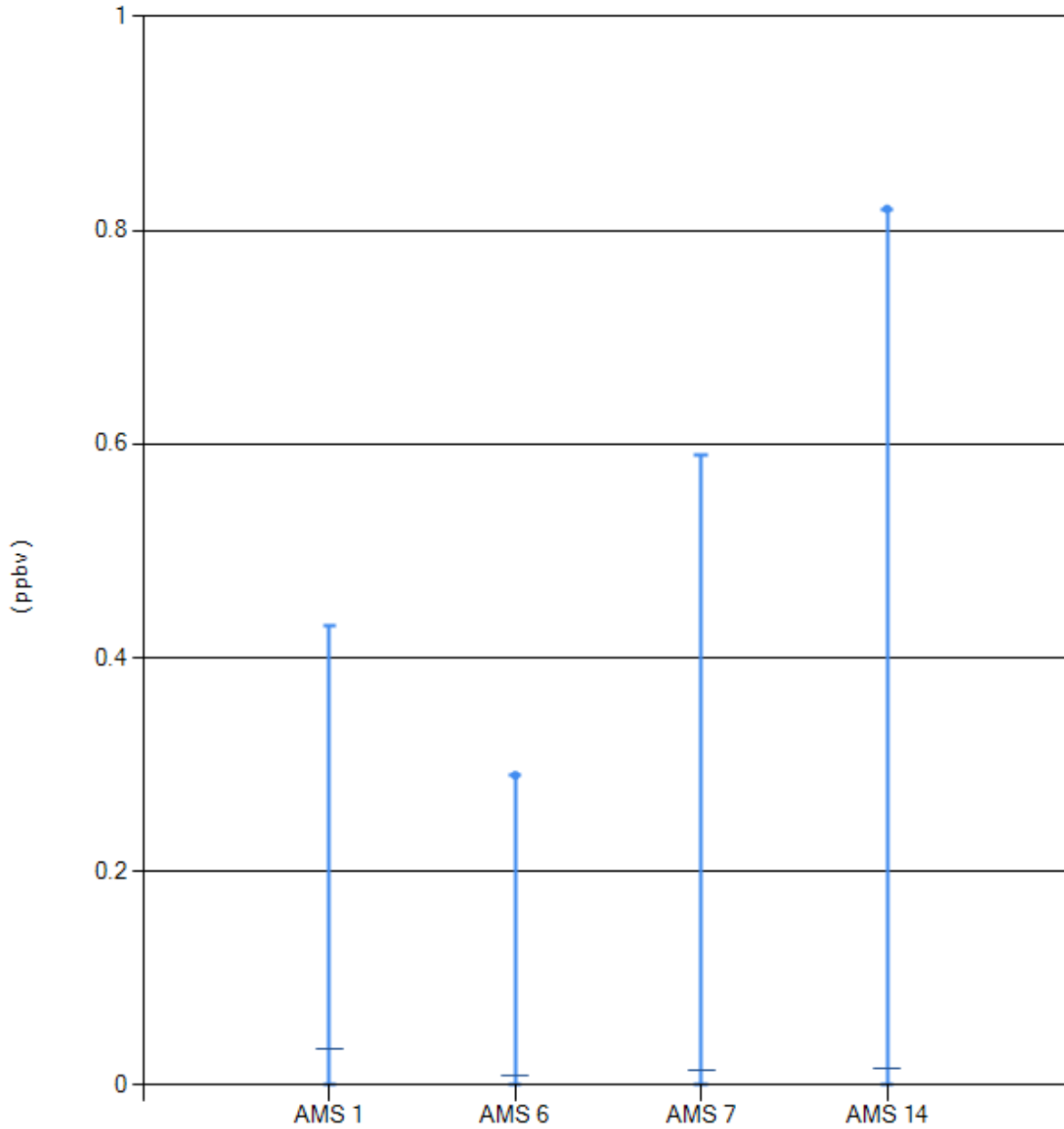
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.08	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.55	0.01
AMS 14 Anzac	0	0	0	0	0	0





VOC - 2,3-Dimethylbutane - (ppbv) - 2014

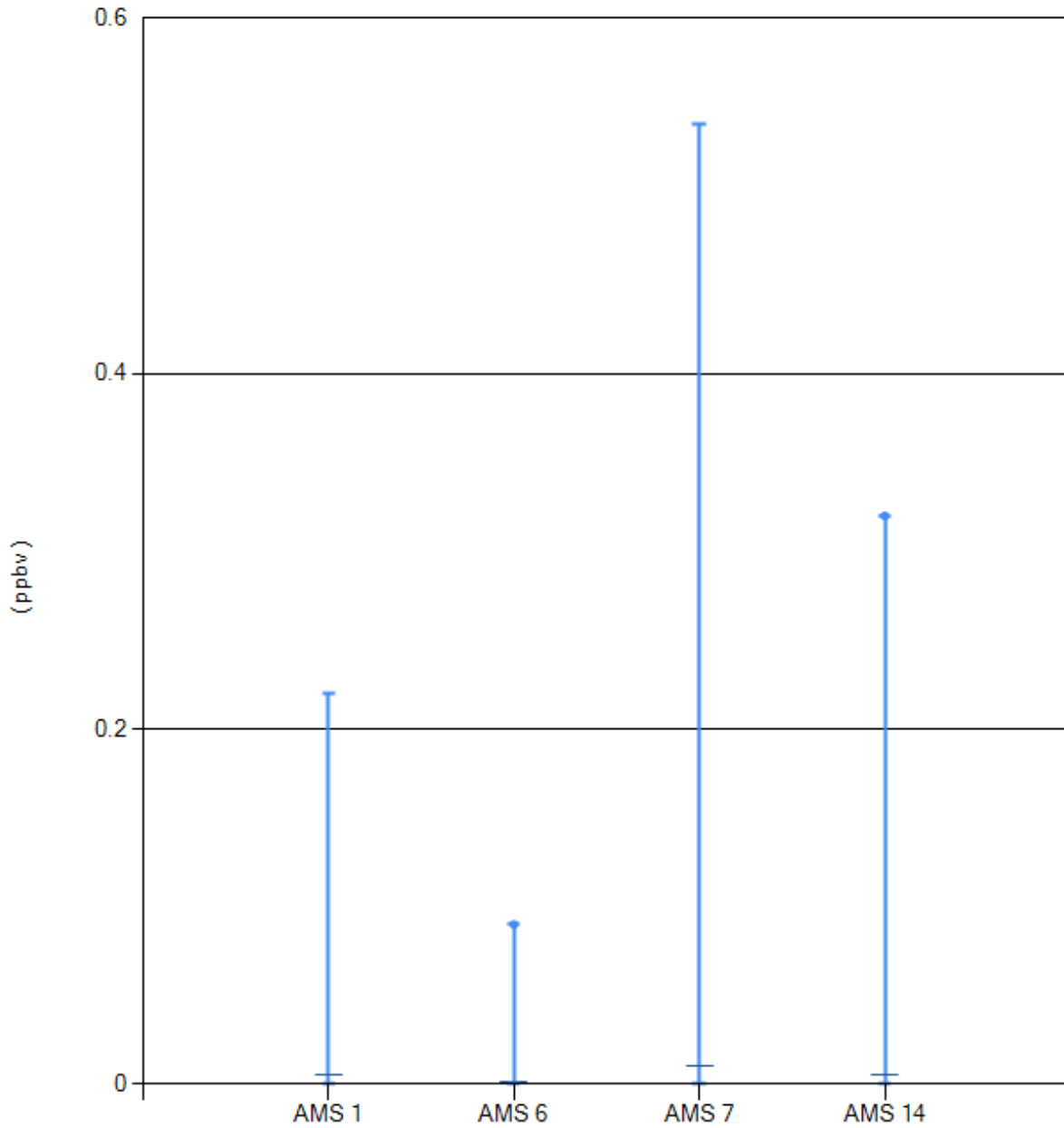
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.43	0.03
AMS 6 Patricia McInnes	0	0	0	0	0.29	0.01
AMS 7 Athabasca Valley	0	0	0	0	0.59	0.01
AMS 14 Anzac	0	0	0	0	0.82	0.02





VOC - 2,3-Dimethylpentane - (ppbv) - 2014

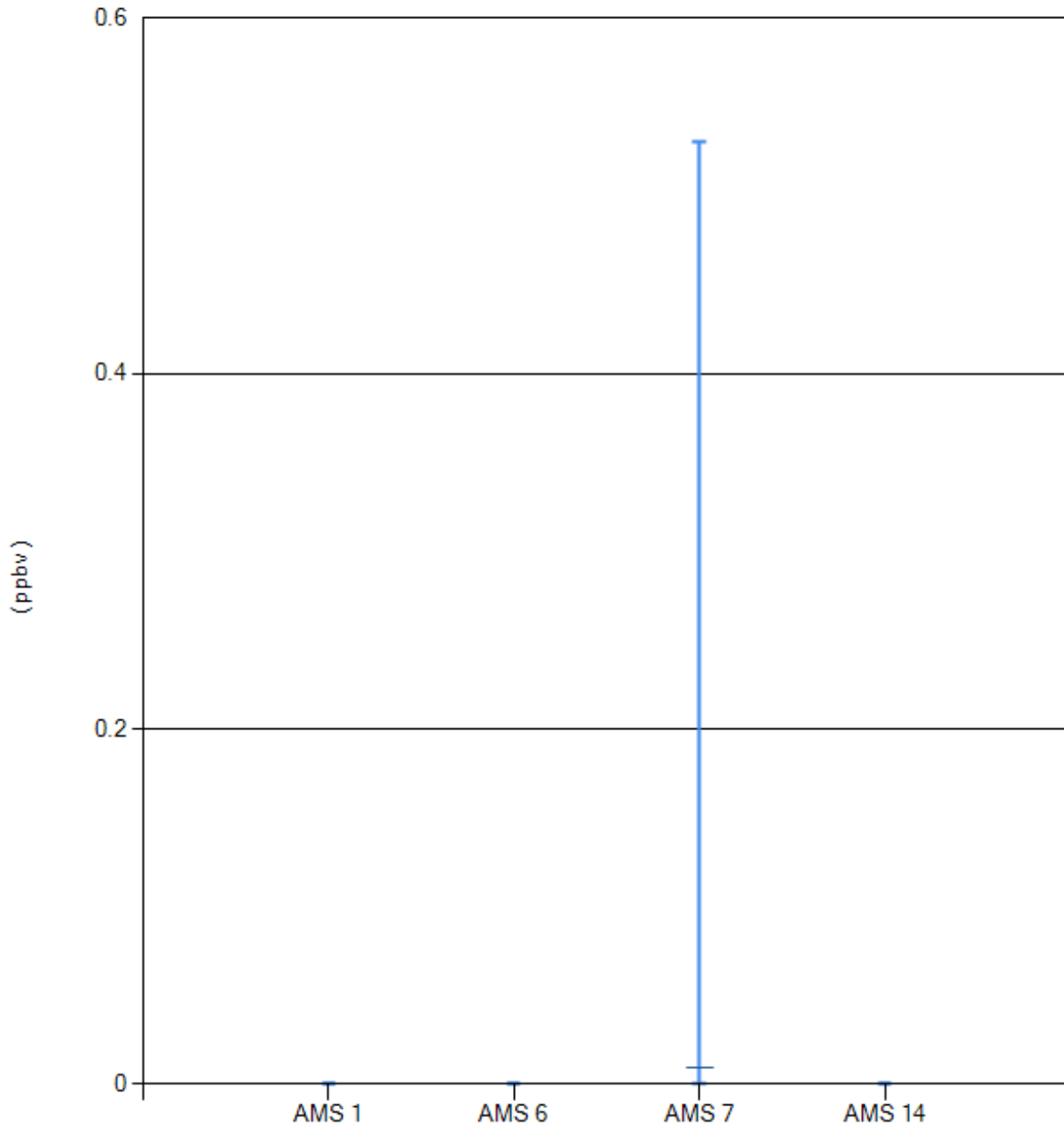
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.22	0.01
AMS 6 Patricia McInnes	0	0	0	0	0.09	0
AMS 7 Athabasca Valley	0	0	0	0	0.54	0.01
AMS 14 Anzac	0	0	0	0	0.32	0.01





VOC - 2,4-Dimethylpentane - (ppbv) - 2014

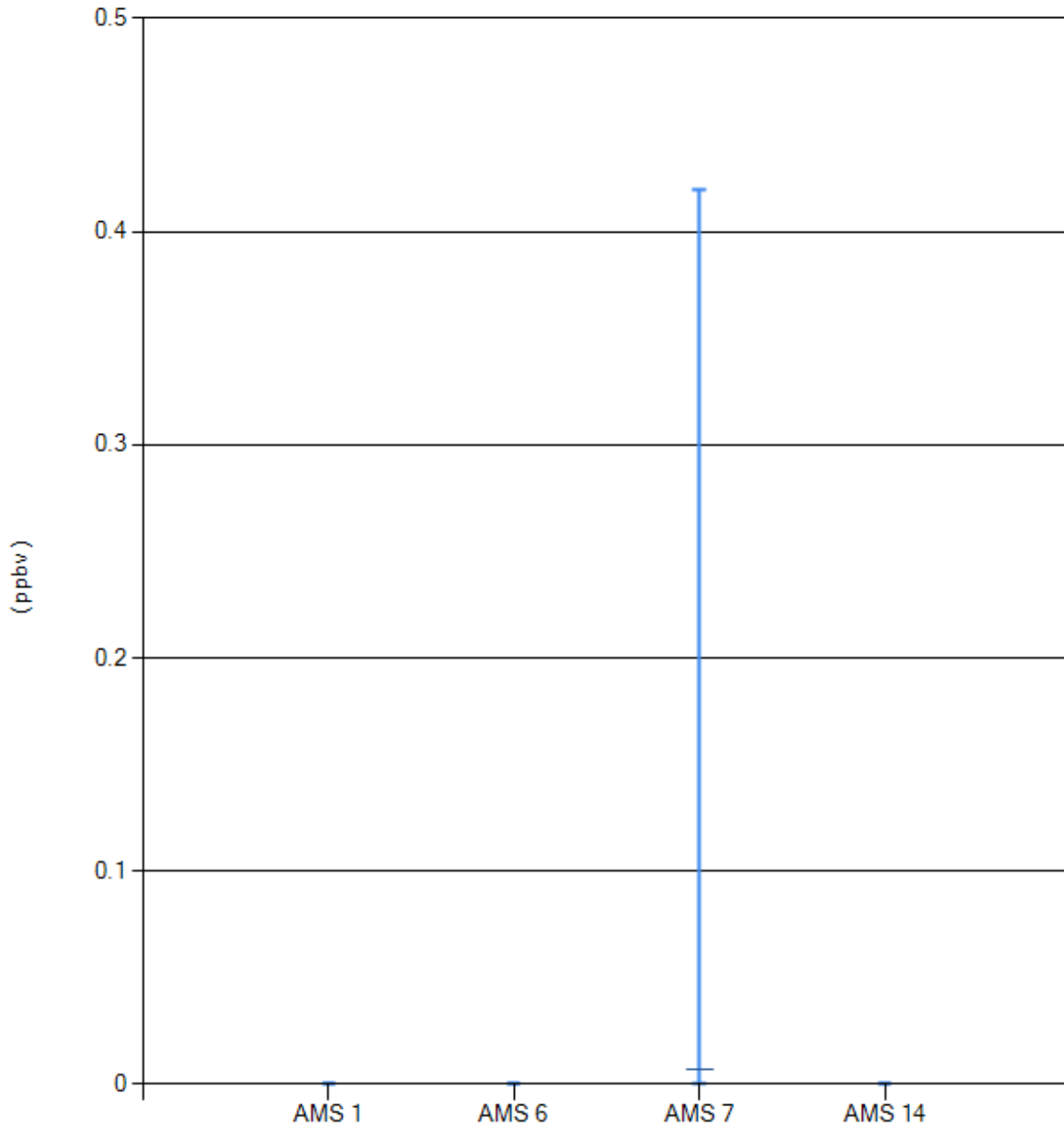
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.53	0.01
AMS 14 Anzac	0	0	0	0	0	0





VOC - 2-Methyl-1-pentene - (ppbv) - 2014

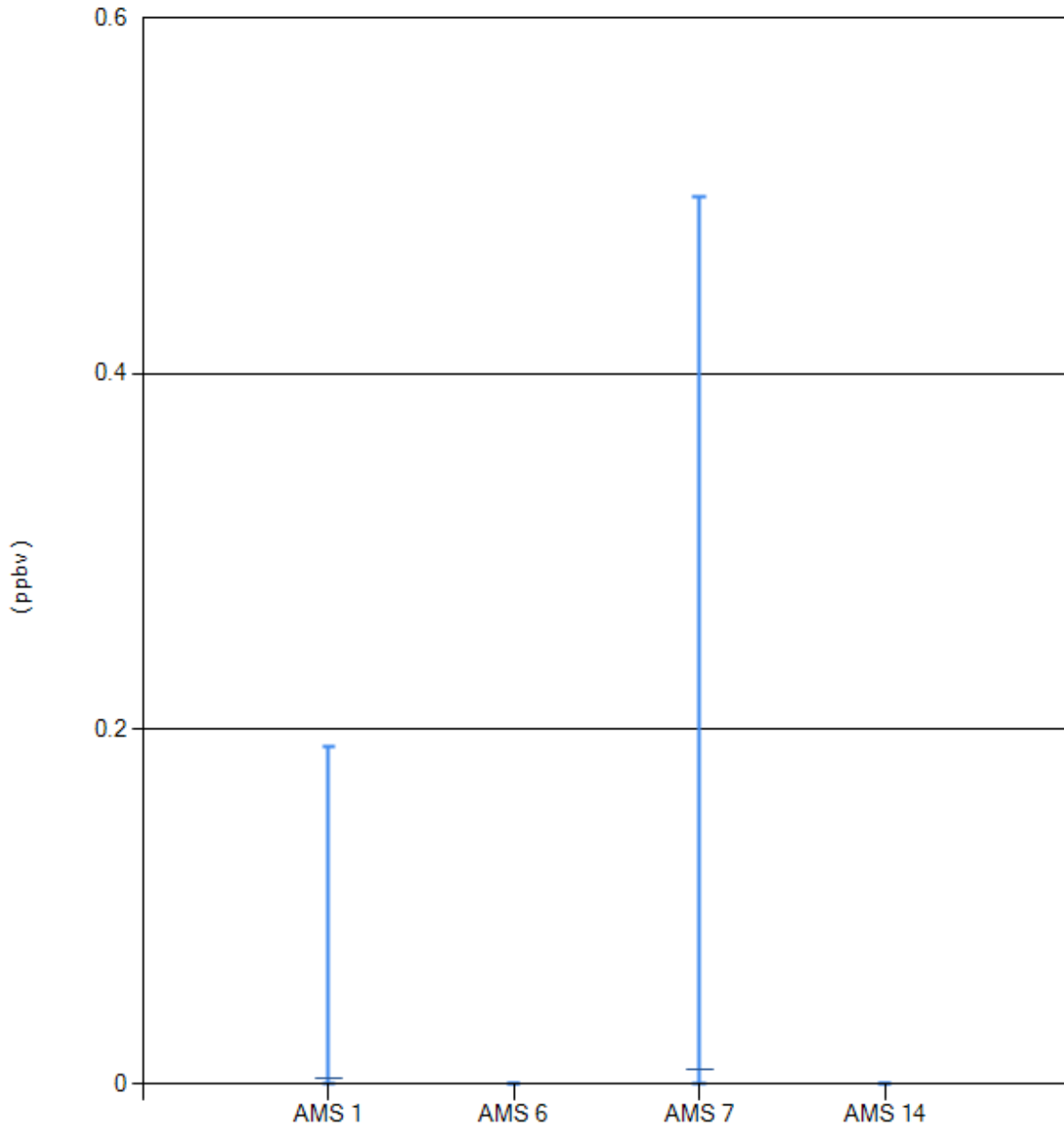
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.42	0.01
AMS 14 Anzac	0	0	0	0	0	0





VOC - 2-Methyl-2-butene - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.19	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.5	0.01
AMS 14 Anzac	0	0	0	0	0	0

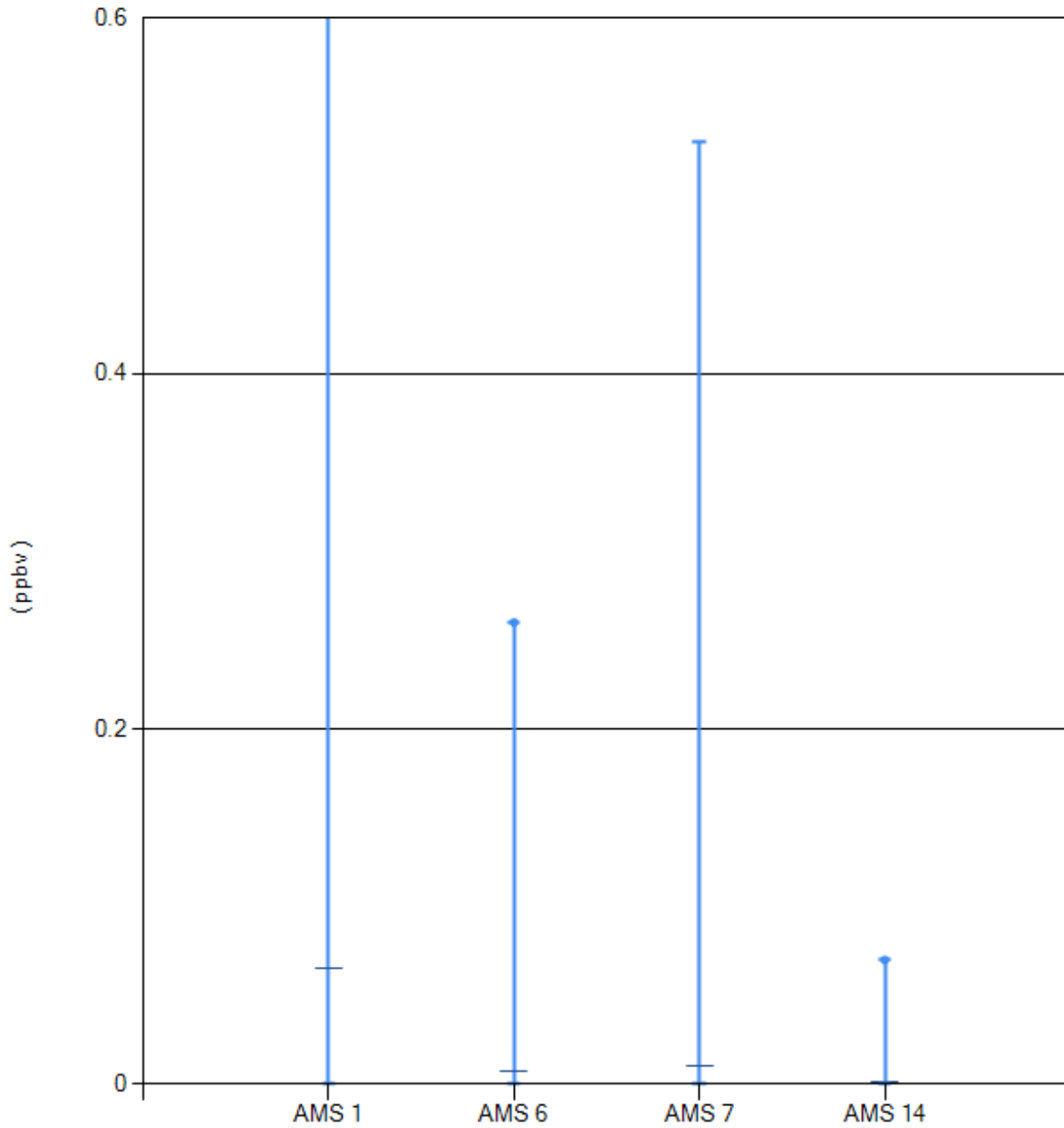






VOC - 2-Methylheptane - (ppbv) - 2014

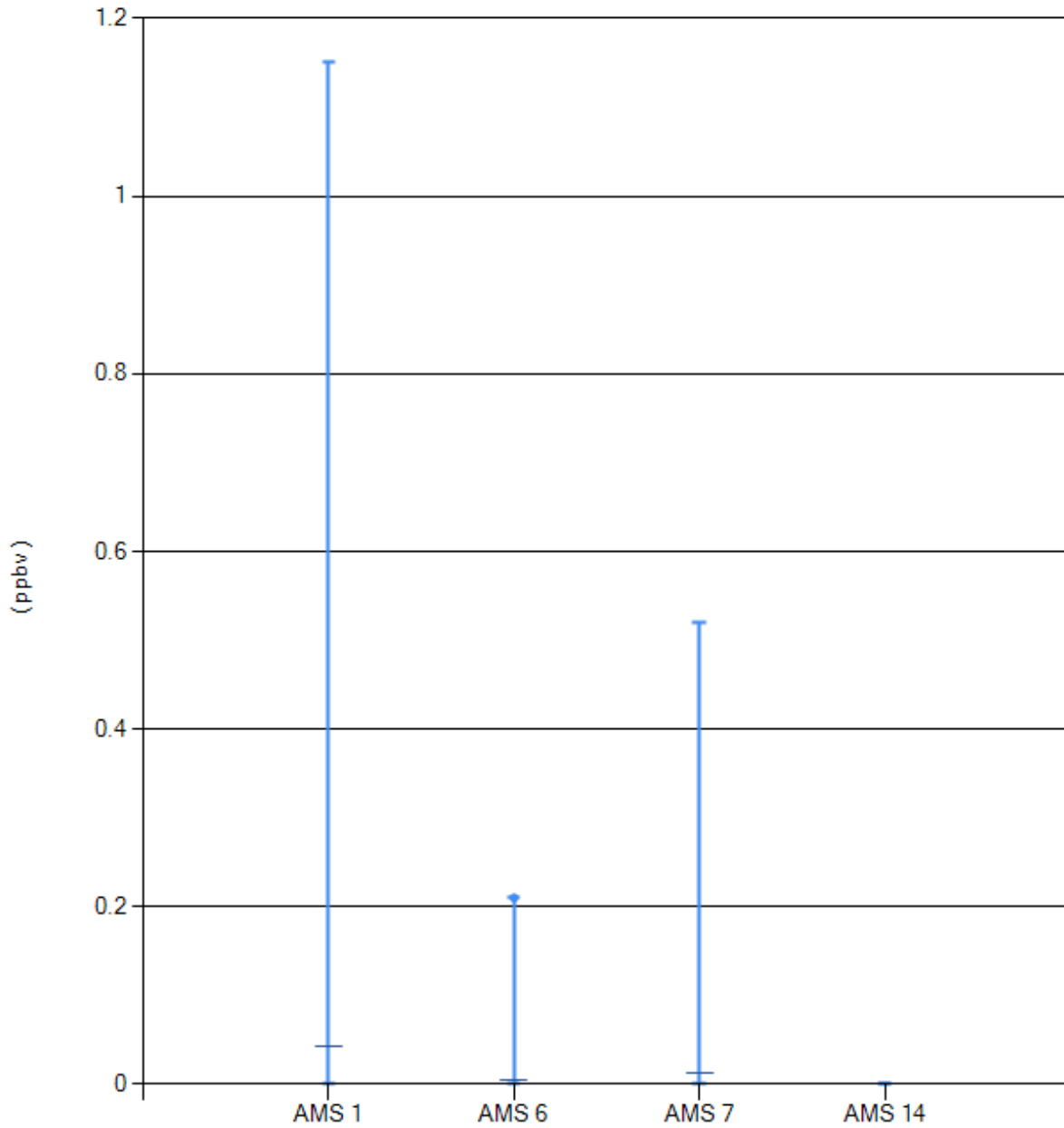
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.6	0.06
AMS 6 Patricia McInnes	0	0	0	0	0.26	0.01
AMS 7 Athabasca Valley	0	0	0	0	0.53	0.01
AMS 14 Anzac	0	0	0	0	0.07	0





VOC - 2-Methylhexane - (ppbv) - 2014

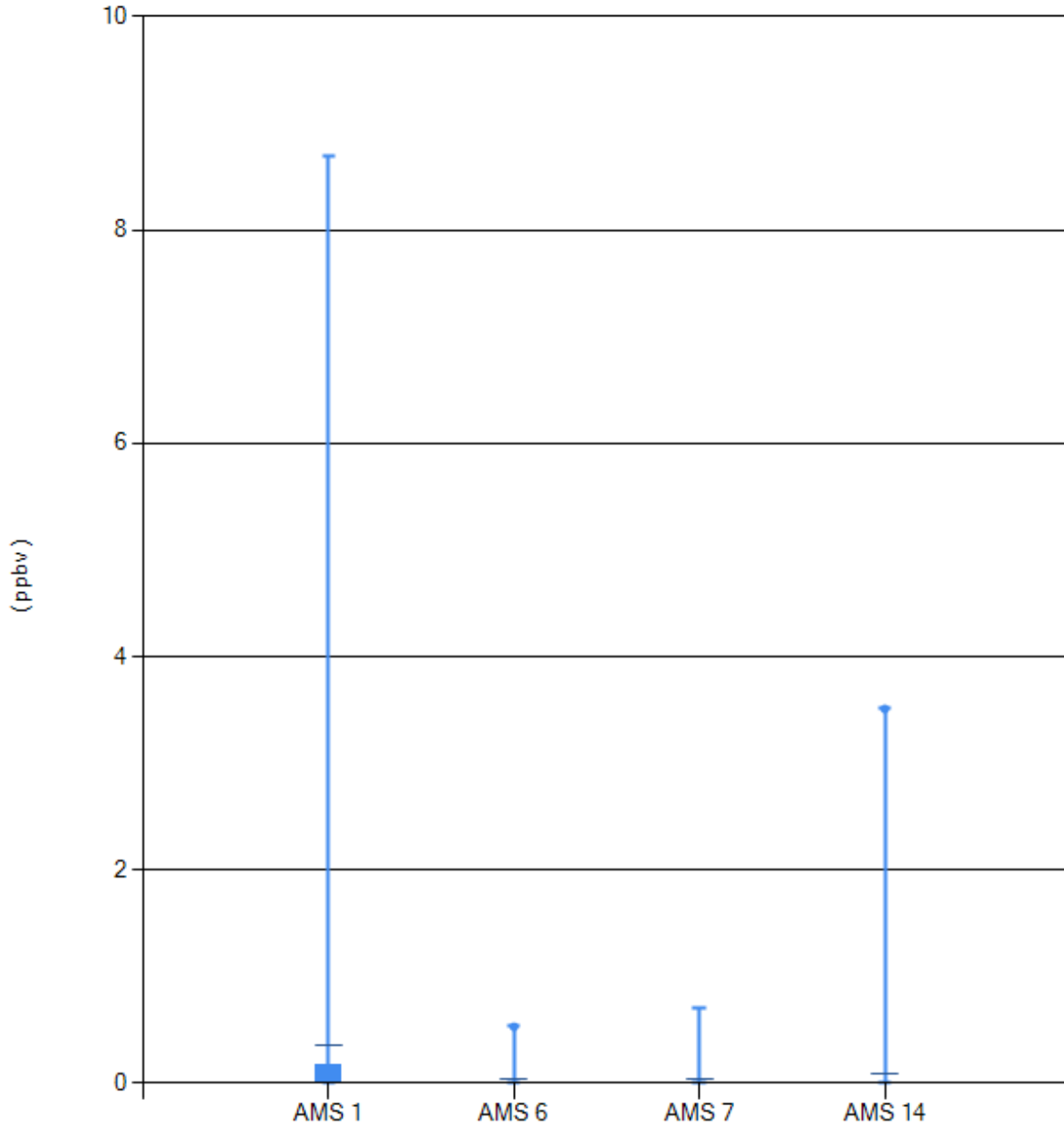
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	1.15	0.04
AMS 6 Patricia McInnes	0	0	0	0	0.21	0
AMS 7 Athabasca Valley	0	0	0	0	0.52	0.01
AMS 14 Anzac	0	0	0	0	0	0





VOC - 2-Methylpentane - (ppbv) - 2014

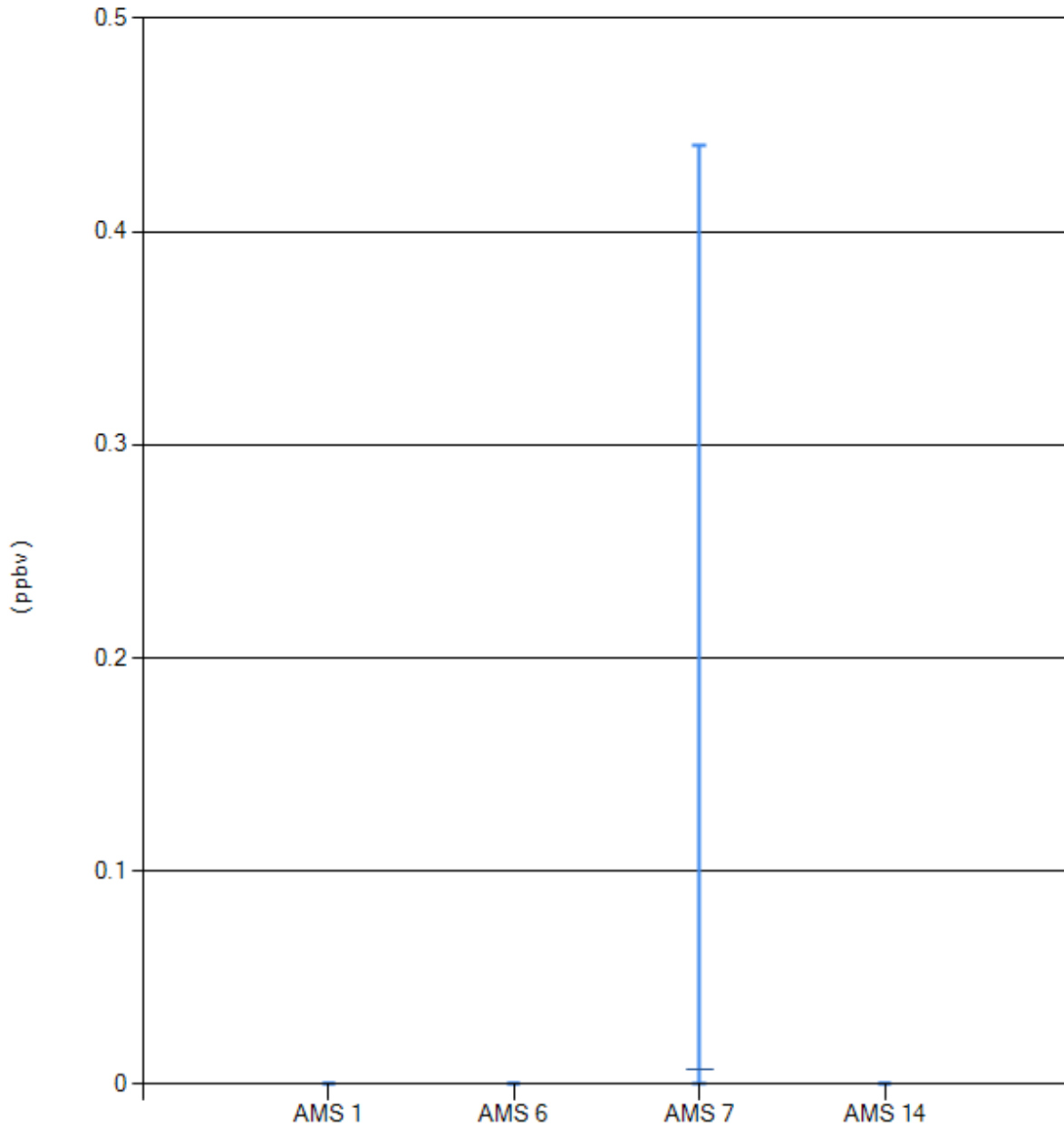
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0.24	8.69	0.36
AMS 6 Patricia McInnes	0	0	0	0	0.53	0.04
AMS 7 Athabasca Valley	0	0	0	0	0.71	0.04
AMS 14 Anzac	0	0	0	0	3.51	0.08





VOC - 3-Methyl-1-butene - (ppbv) - 2014

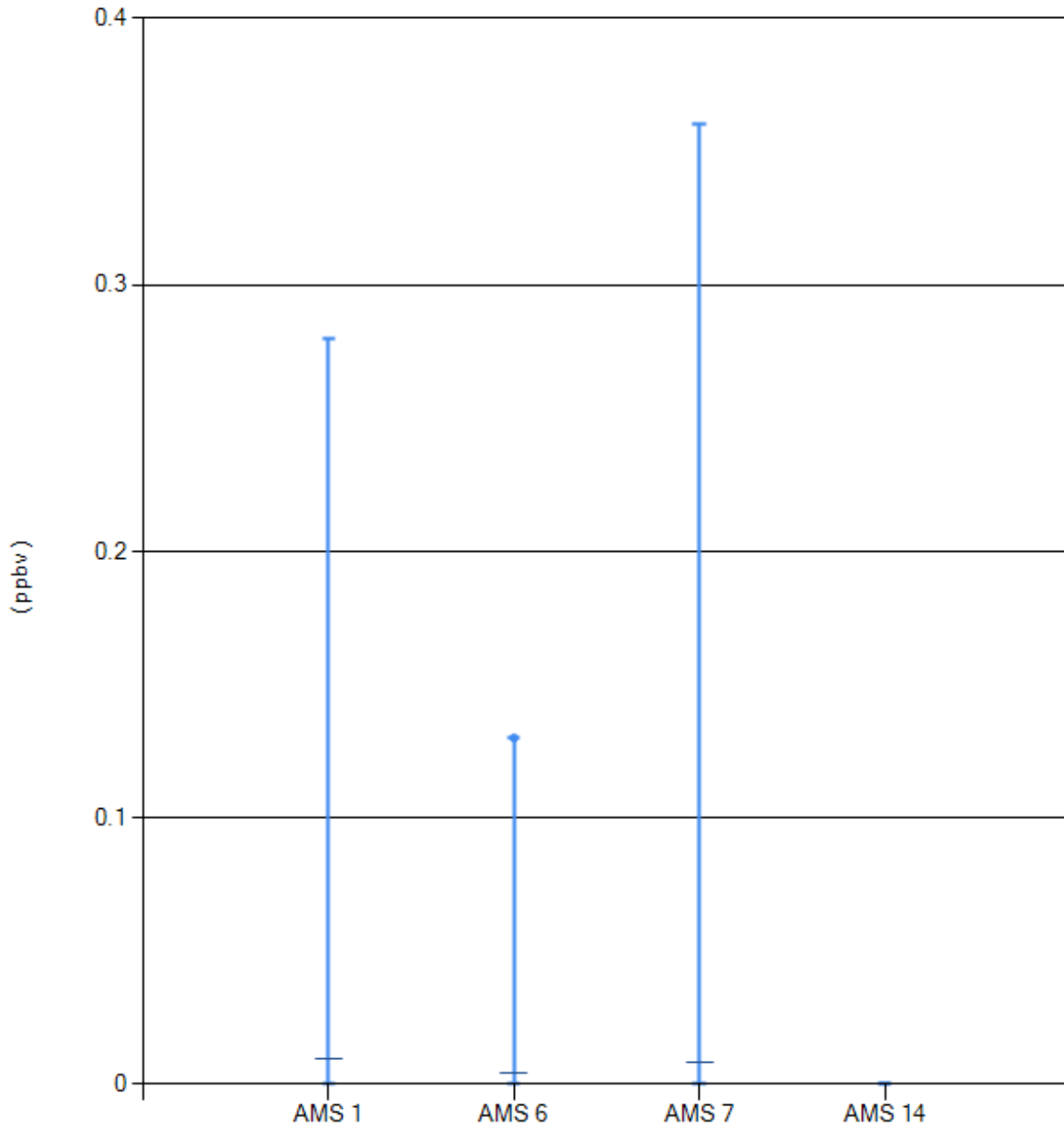
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.44	0.01
AMS 14 Anzac	0	0	0	0	0	0





VOC - 3-Methylheptane - (ppbv) - 2014

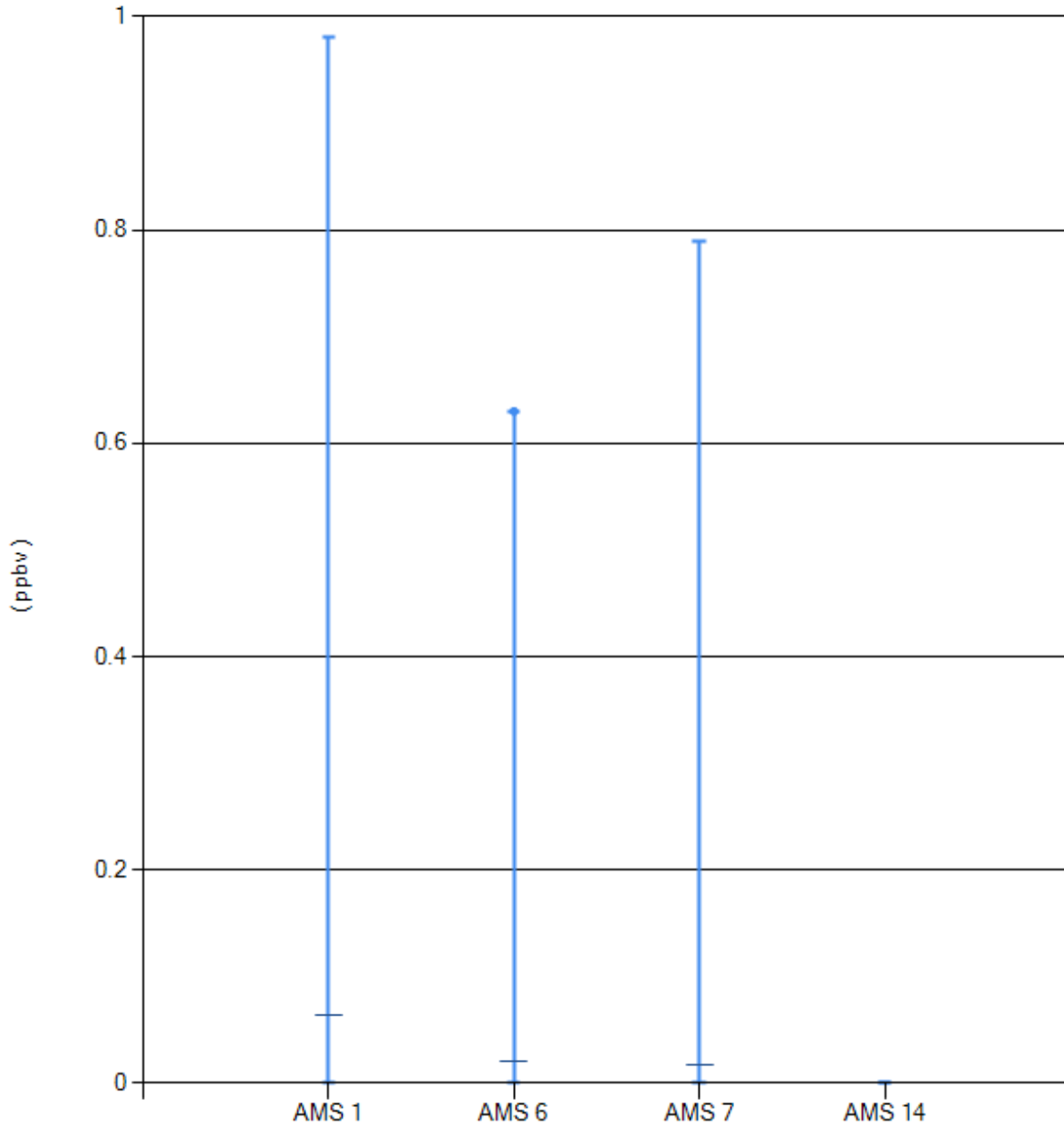
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.28	0.01
AMS 6 Patricia McInnes	0	0	0	0	0.13	0
AMS 7 Athabasca Valley	0	0	0	0	0.36	0.01
AMS 14 Anzac	0	0	0	0	0	0





VOC - 3-Methylhexane - (ppbv) - 2014

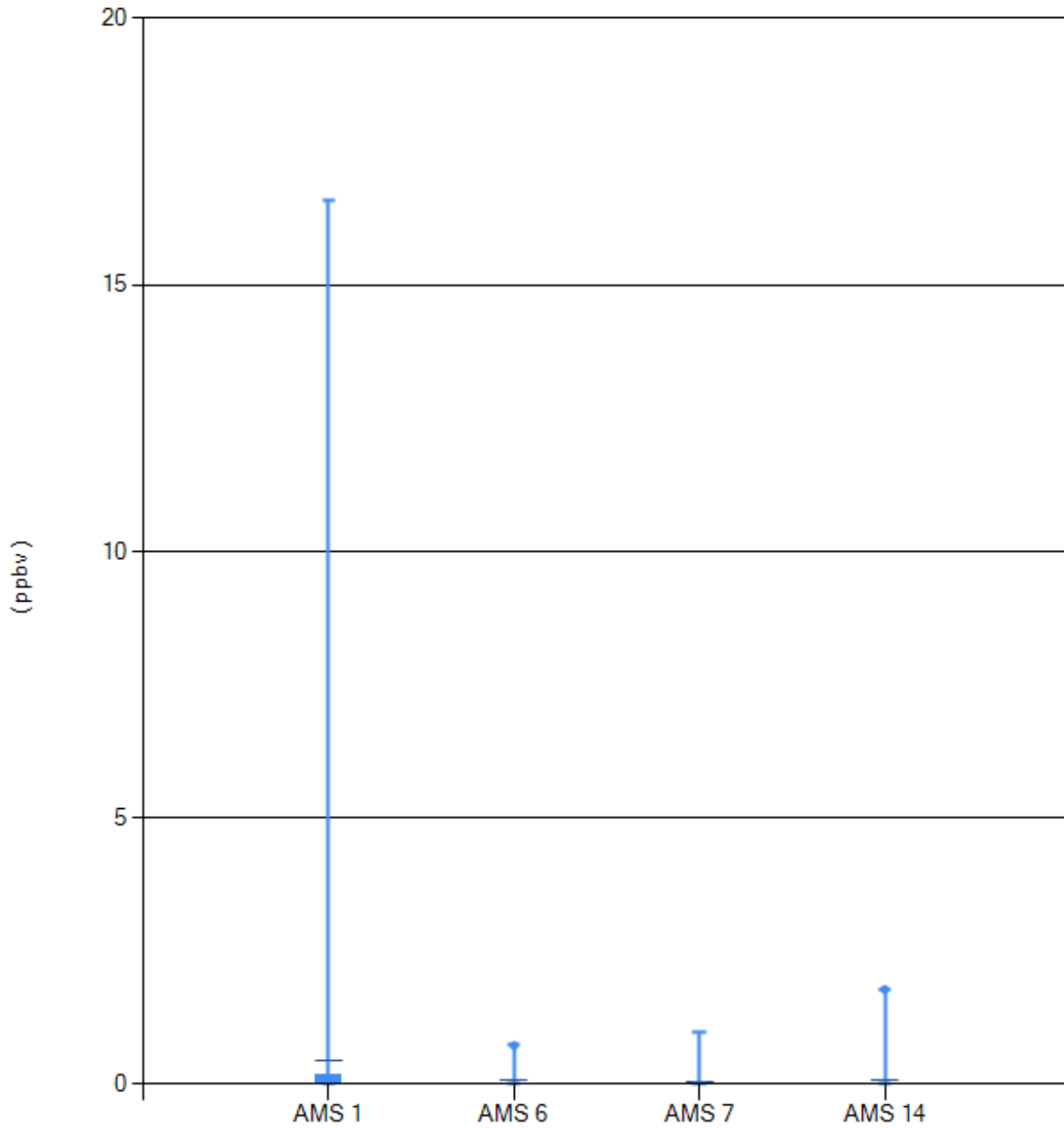
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.98	0.06
AMS 6 Patricia McInnes	0	0	0	0	0.63	0.02
AMS 7 Athabasca Valley	0	0	0	0	0.79	0.02
AMS 14 Anzac	0	0	0	0	0	0





VOC - 3-Methylpentane - (ppbv) - 2014

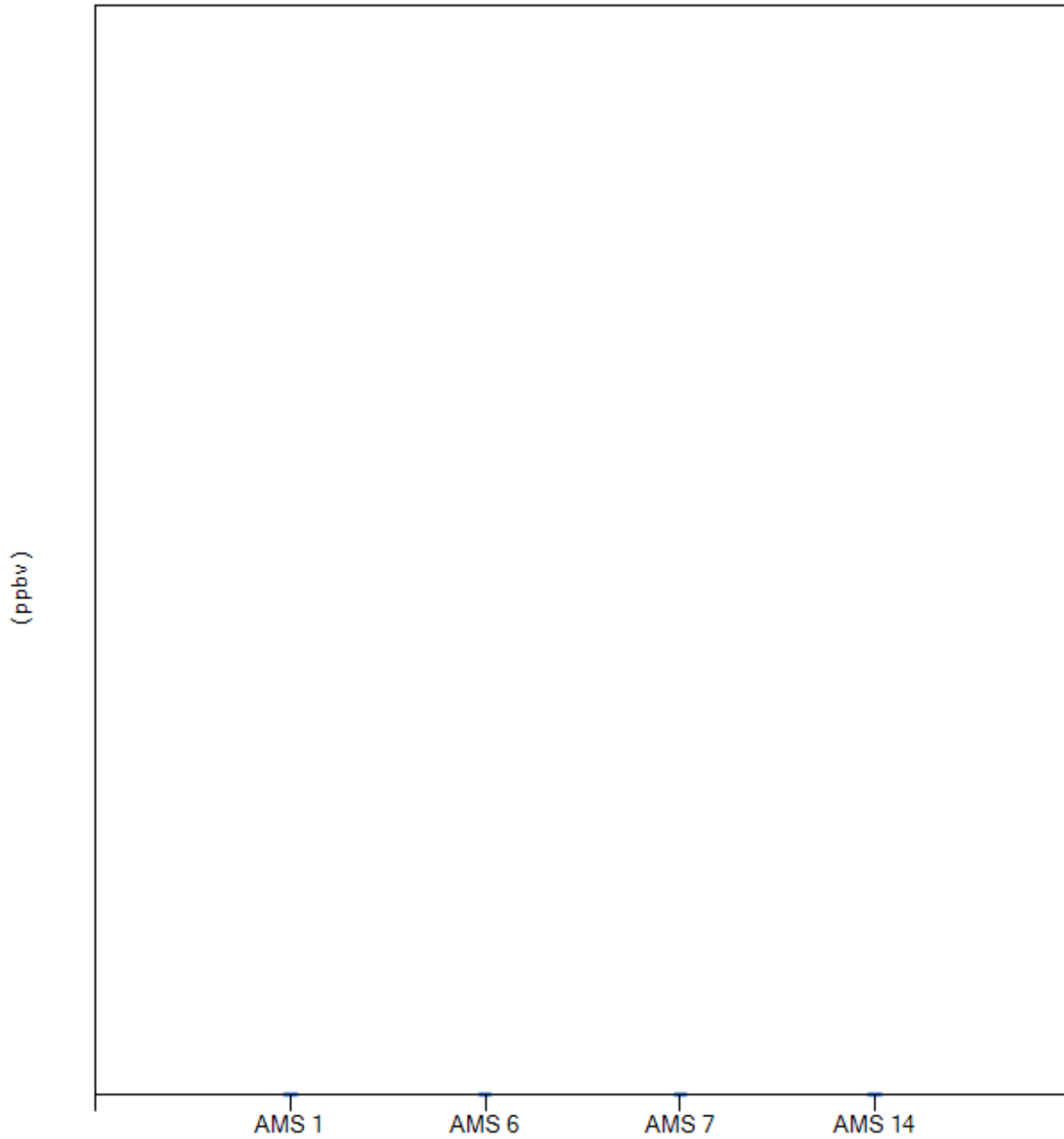
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0.21	16.6	0.45
AMS 6 Patricia McInnes	0	0	0	0	0.73	0.07
AMS 7 Athabasca Valley	0	0	0	0	0.98	0.05
AMS 14 Anzac	0	0	0	0	1.78	0.06





VOC - 4-Methyl-1-pentene - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0

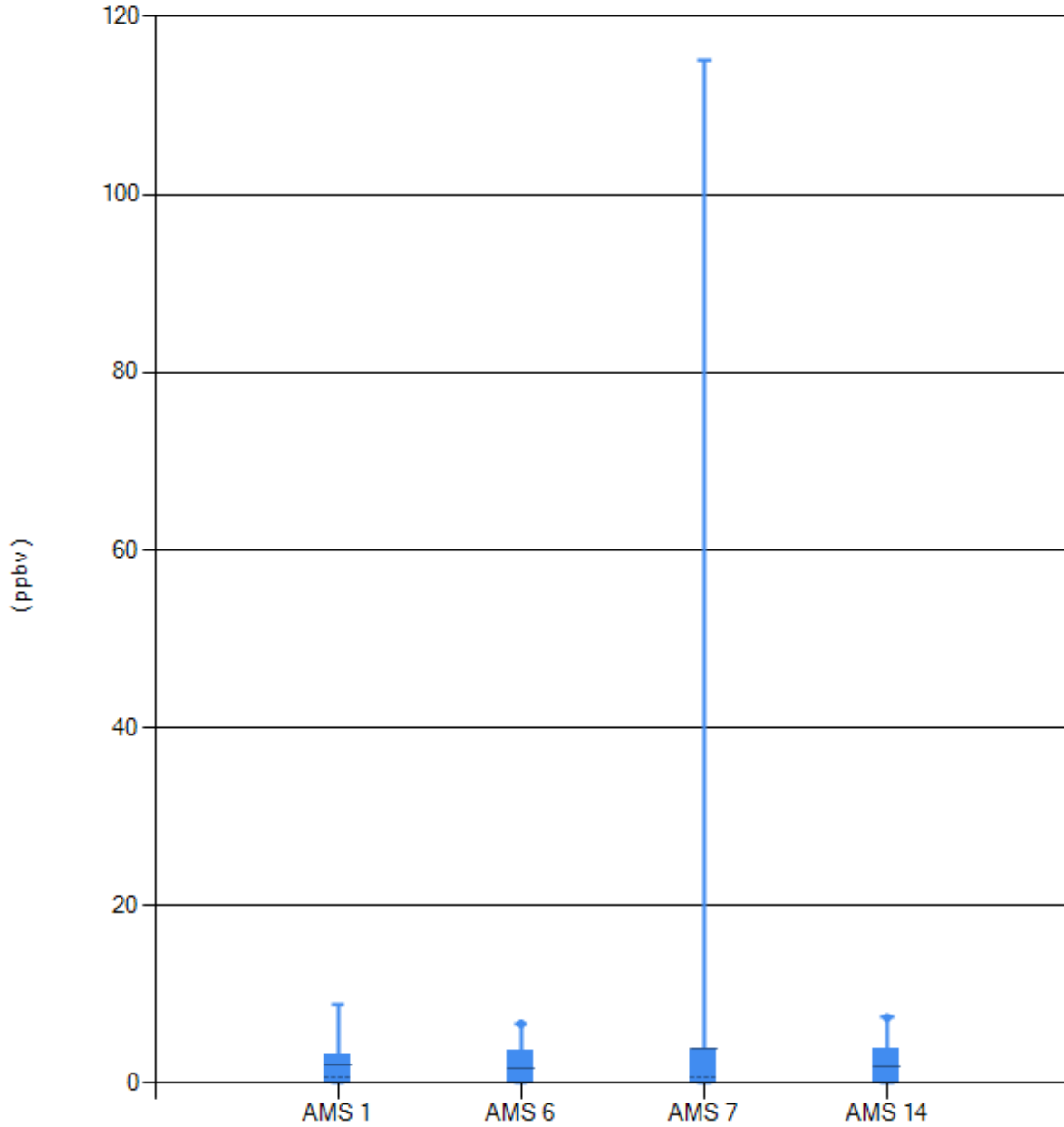






VOC - Acetaldehyde - (ppbv) - 2014

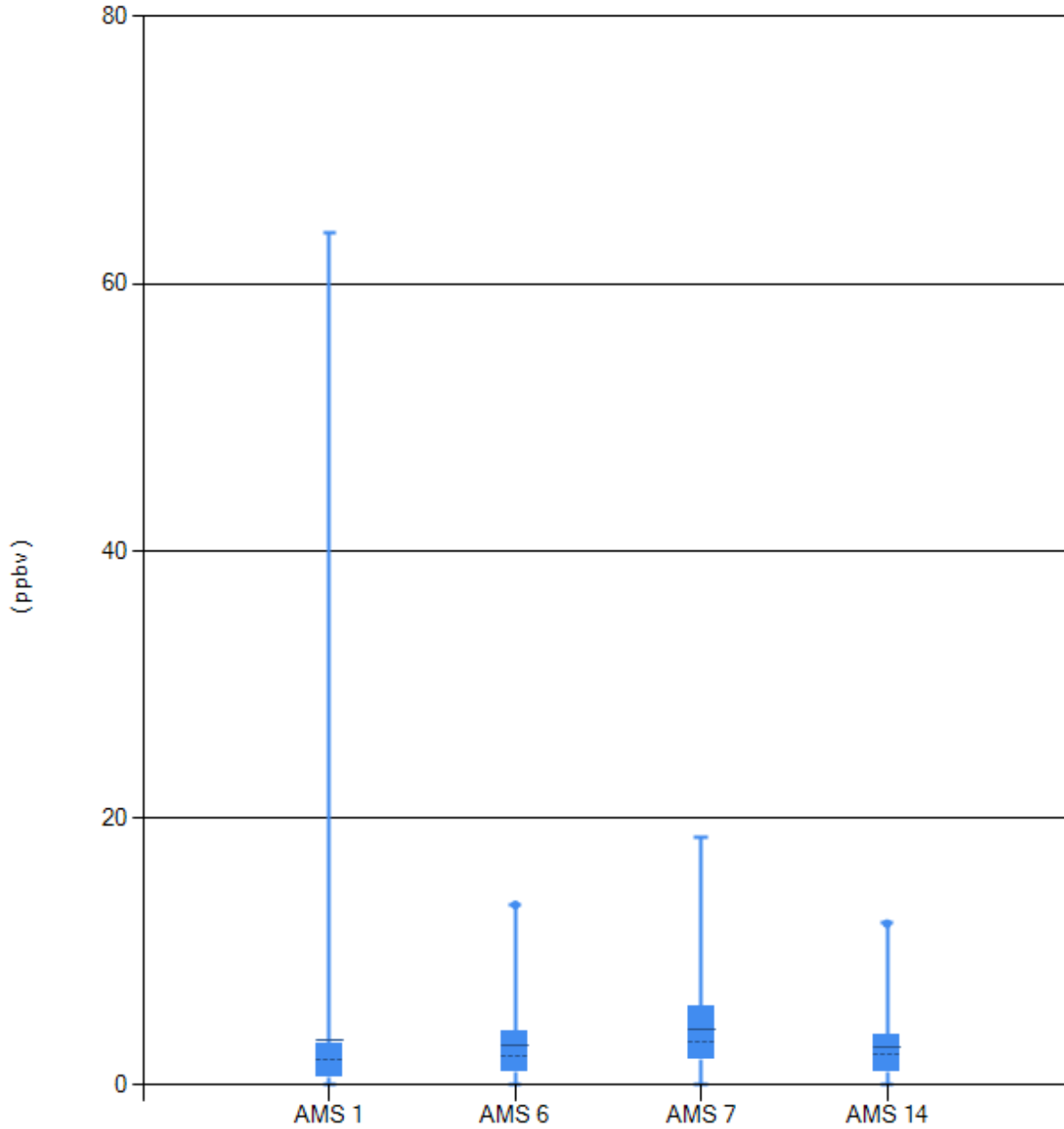
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0.76	3.31	8.93	1.98
AMS 6 Patricia McInnes	0	0	0	3.72	6.69	1.75
AMS 7 Athabasca Valley	0	0	0.61	3.93	115	3.94
AMS 14 Anzac	0	0	0	3.8	7.39	1.94





VOC - Acetone - (ppbv) - 2014

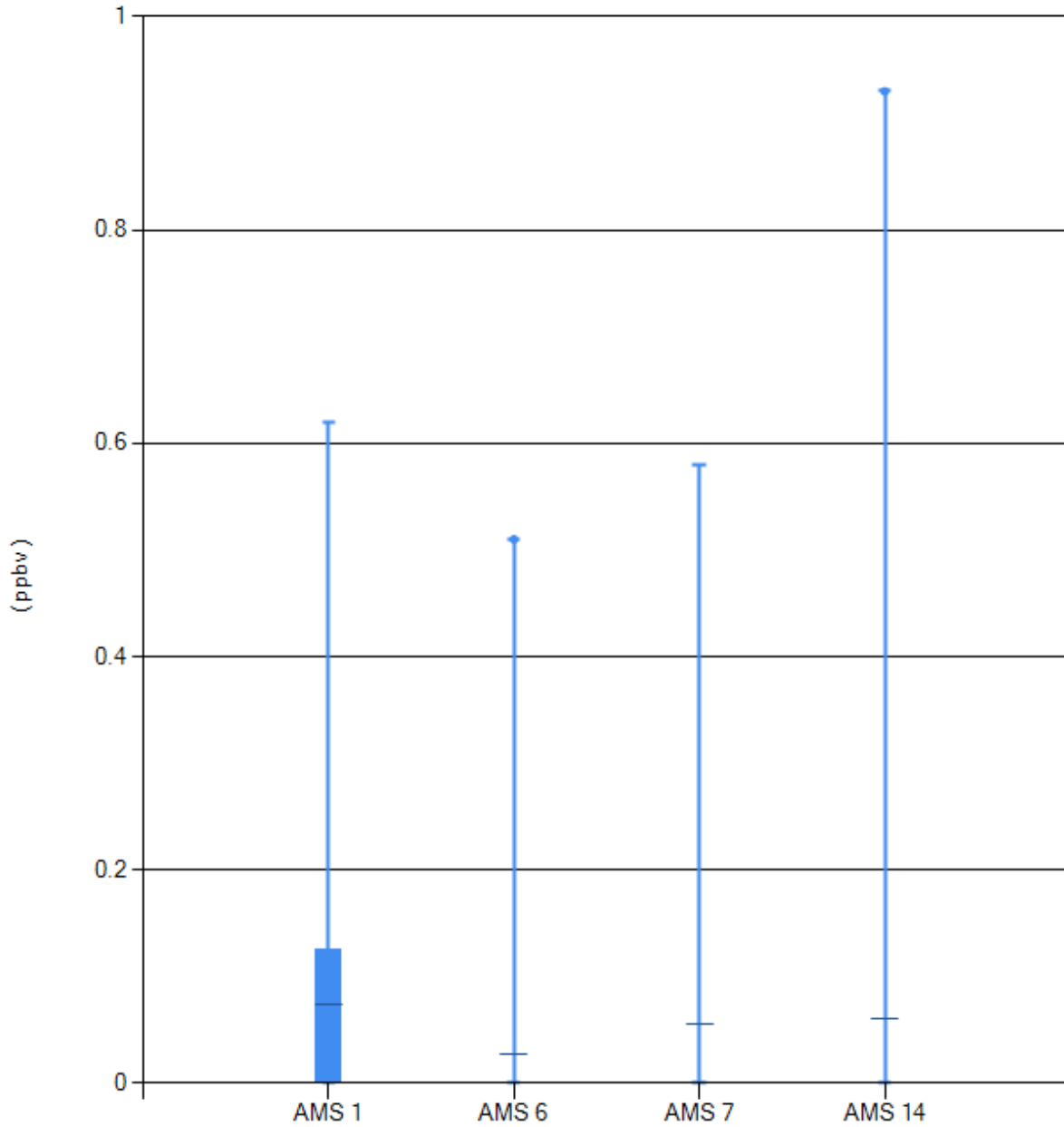
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0.57	1.87	3.07	63.8	3.4
AMS 6 Patricia McInnes	0	0.93	2.19	4.15	13.5	2.96
AMS 7 Athabasca Valley	0	1.9	3.31	6.06	18.6	4.11
AMS 14 Anzac	0	0.96	2.36	3.77	12.1	2.83





VOC - alpha Pinene - (ppbv) - 2014

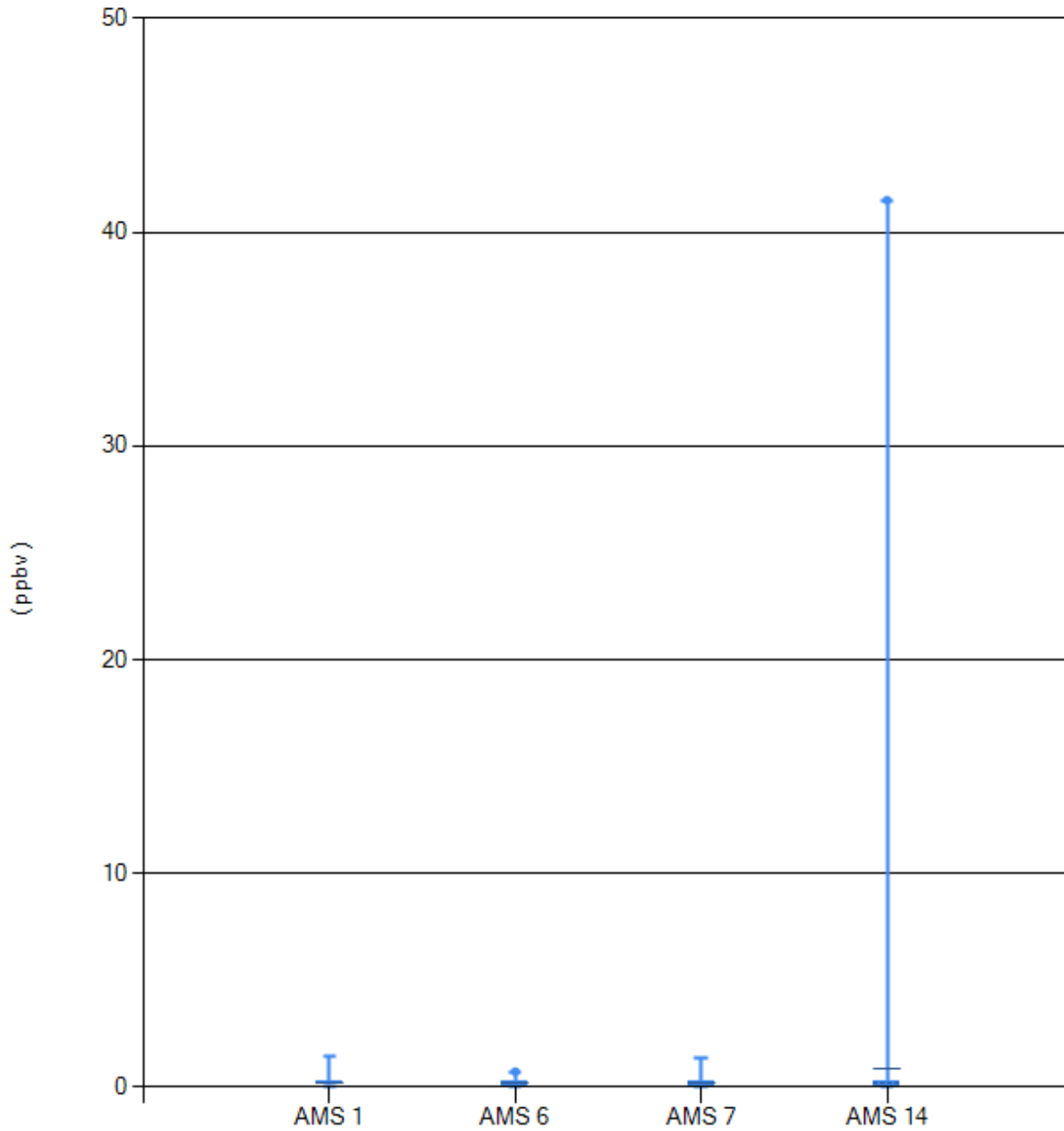
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0.14	0.62	0.07
AMS 6 Patricia McInnes	0	0	0	0	0.51	0.03
AMS 7 Athabasca Valley	0	0	0	0	0.58	0.06
AMS 14 Anzac	0	0	0	0	0.93	0.06





VOC - Benzene - (ppbv) - 2014

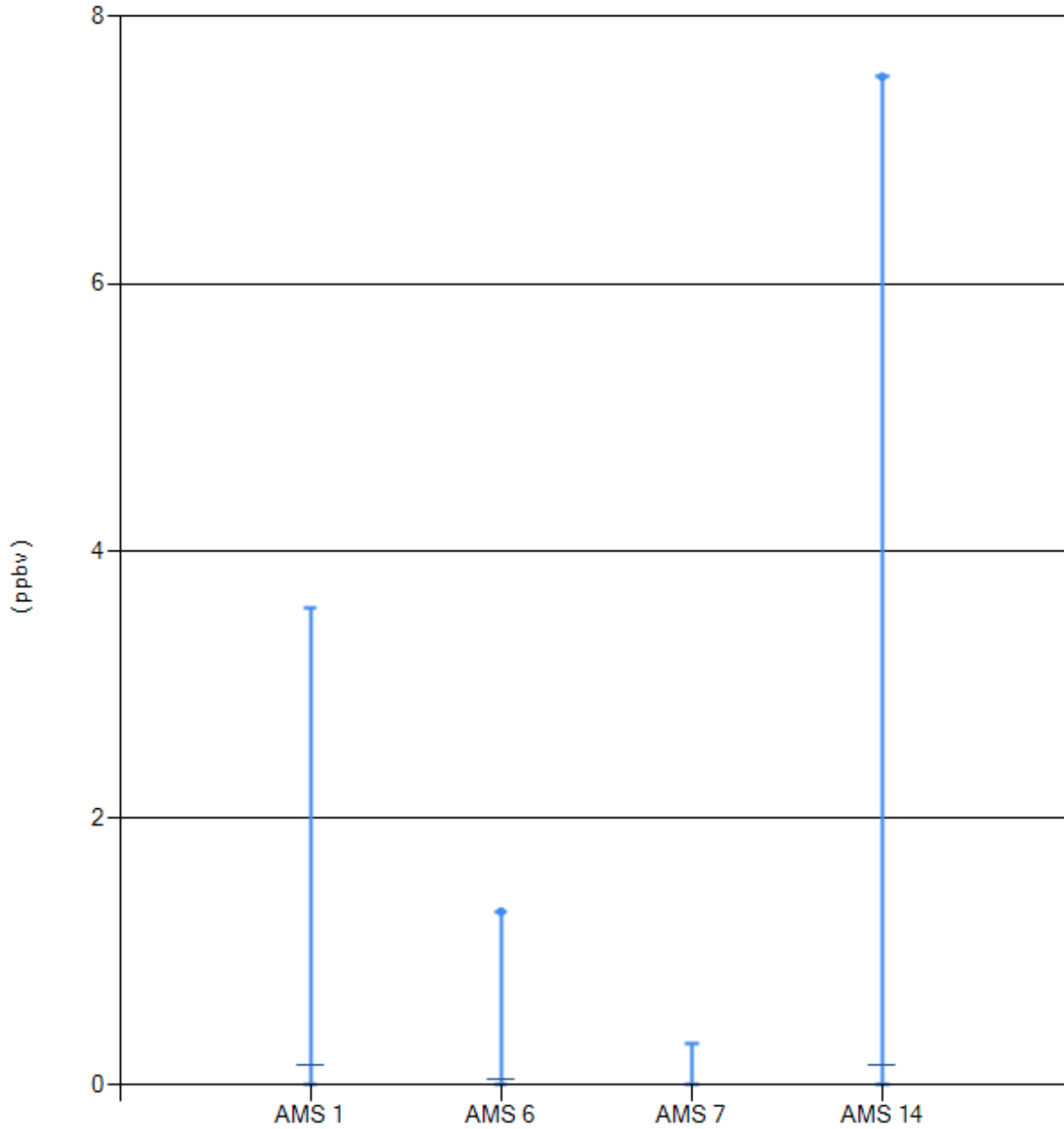
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0.08	0.19	0.29	1.43	0.21
AMS 6 Patricia McInnes	0	0	0.19	0.29	0.73	0.19
AMS 7 Athabasca Valley	0	0.04	0.2	0.29	1.34	0.23
AMS 14 Anzac	0	0	0.18	0.27	41.5	0.87





VOC - beta Pinene - (ppbv) - 2014

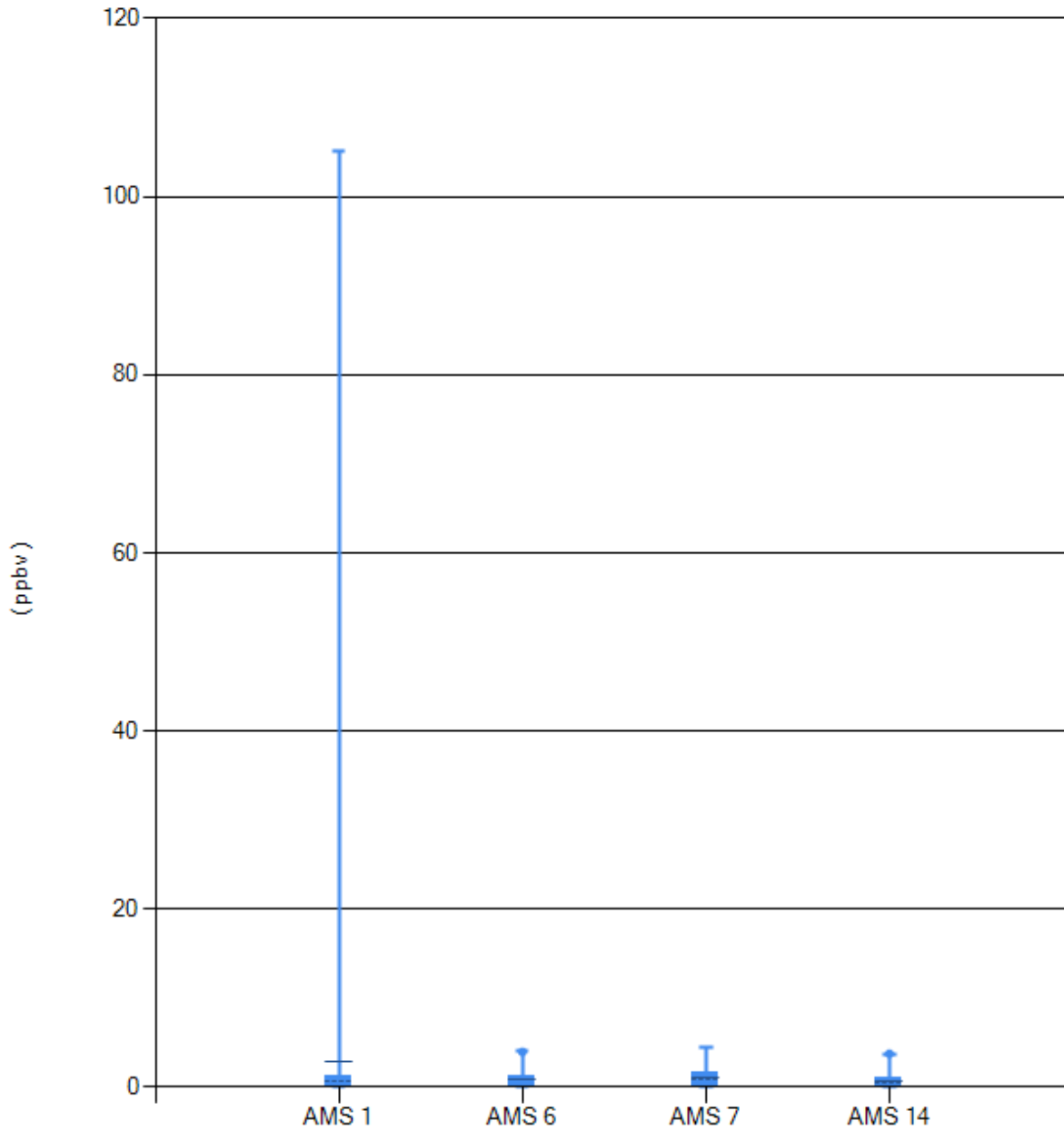
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	3.57	0.15
AMS 6 Patricia McInnes	0	0	0	0	1.3	0.04
AMS 7 Athabasca Valley	0	0	0	0	0.31	0.01
AMS 14 Anzac	0	0	0	0	7.55	0.15





VOC - Butane - (ppbv) - 2014

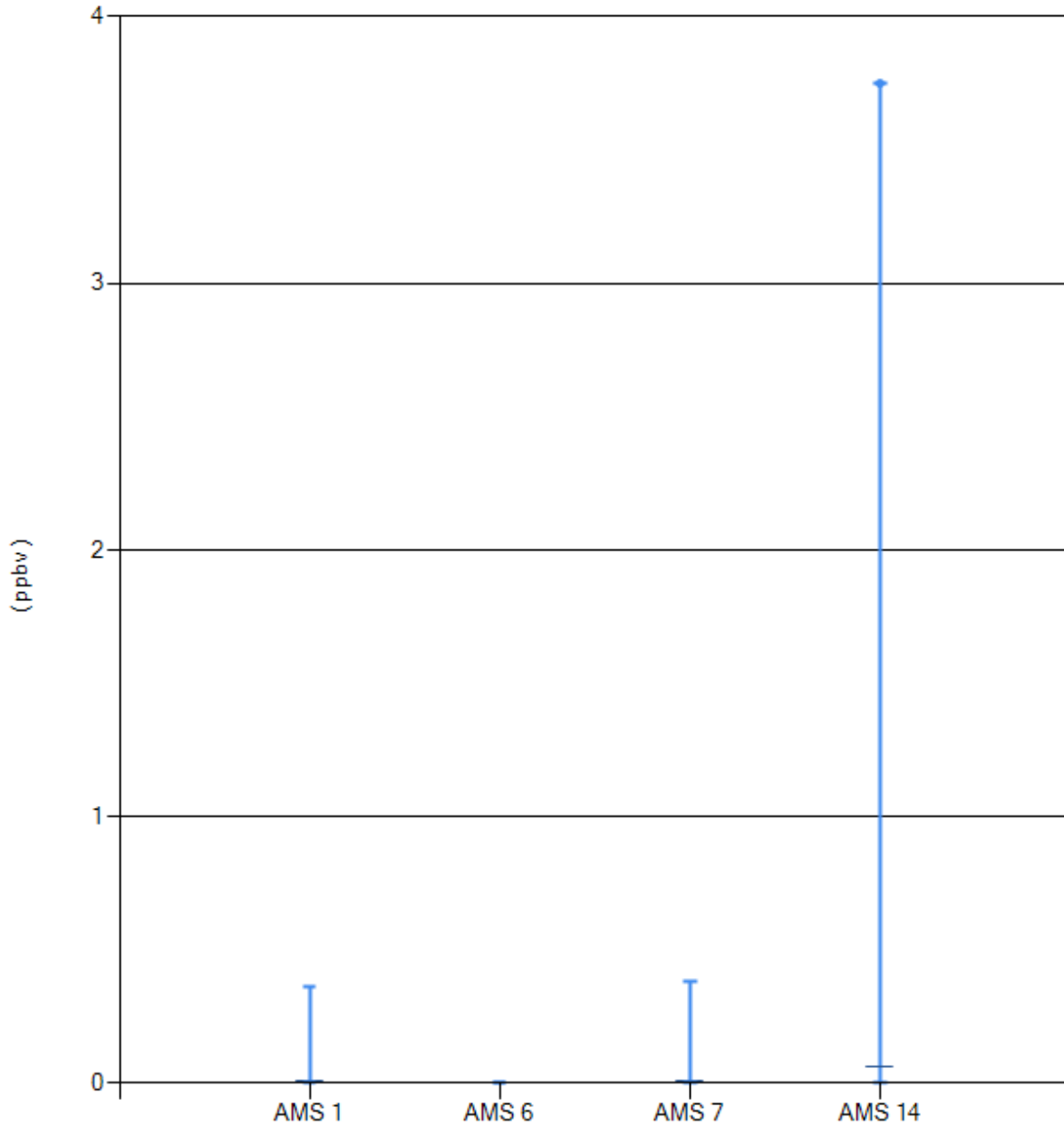
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0.64	1.22	105	2.96
AMS 6 Patricia McInnes	0	0	0.81	1.34	3.97	0.88
AMS 7 Athabasca Valley	0	0	0.96	1.61	4.39	1.04
AMS 14 Anzac	0	0	0.47	1	3.75	0.63





VOC - cis-2-Butene - (ppbv) - 2014

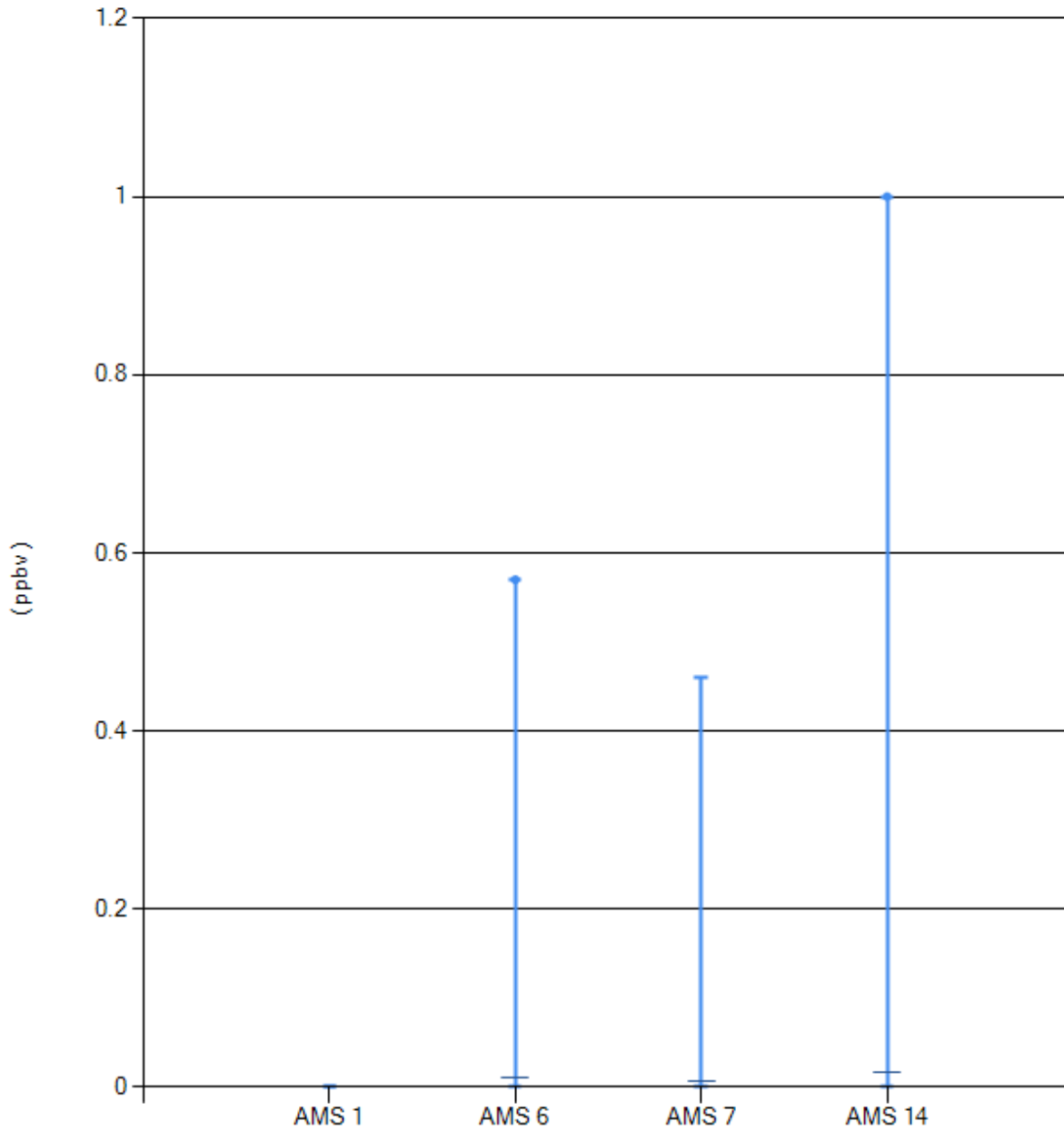
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.36	0.01
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.38	0.01
AMS 14 Anzac	0	0	0	0	3.75	0.06





VOC - cis-2-Hexene - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0.57	0.01
AMS 7 Athabasca Valley	0	0	0	0	0.46	0.01
AMS 14 Anzac	0	0	0	0	1	0.02

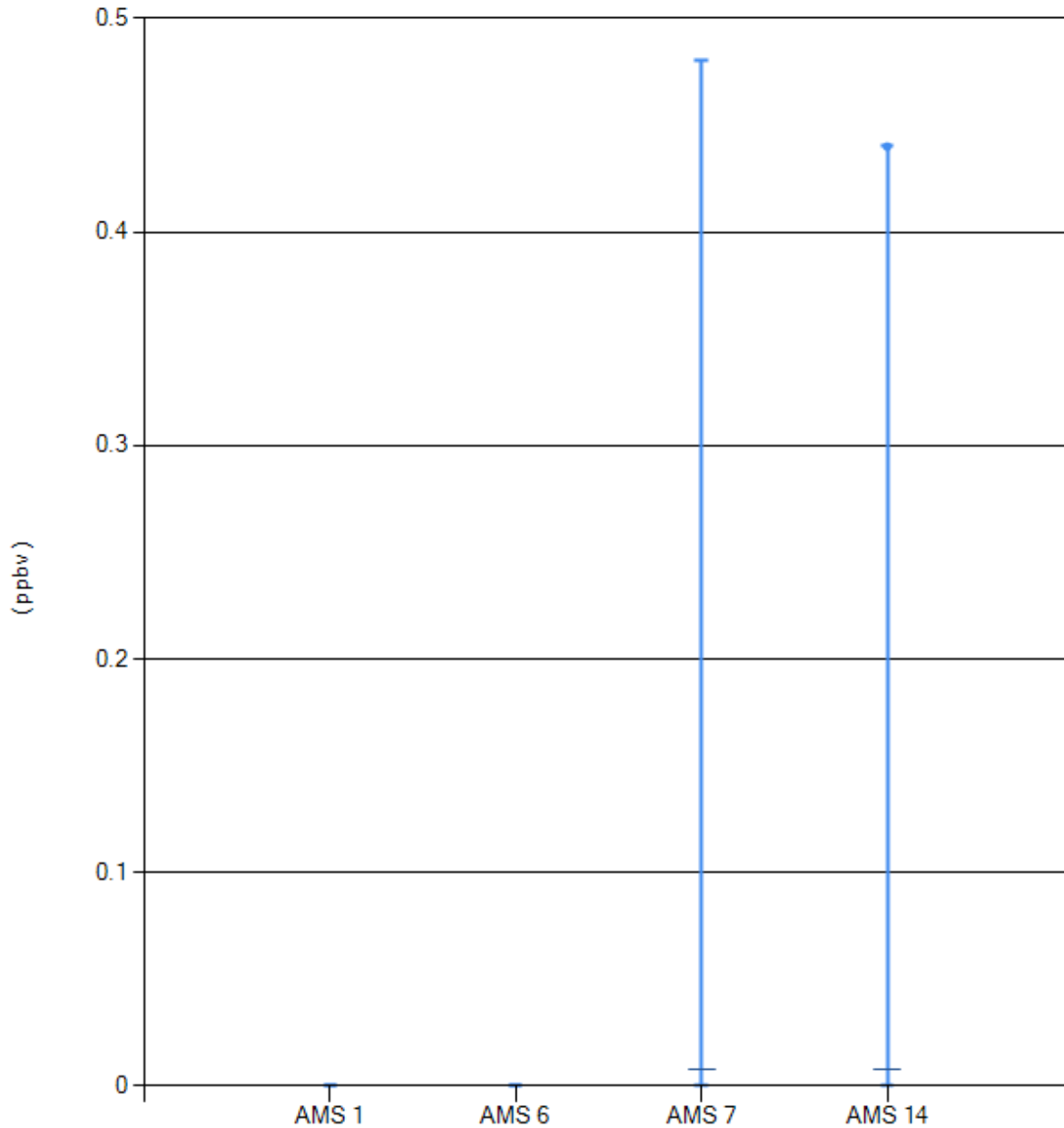






VOC - cis-2-Pentene - (ppbv) - 2014

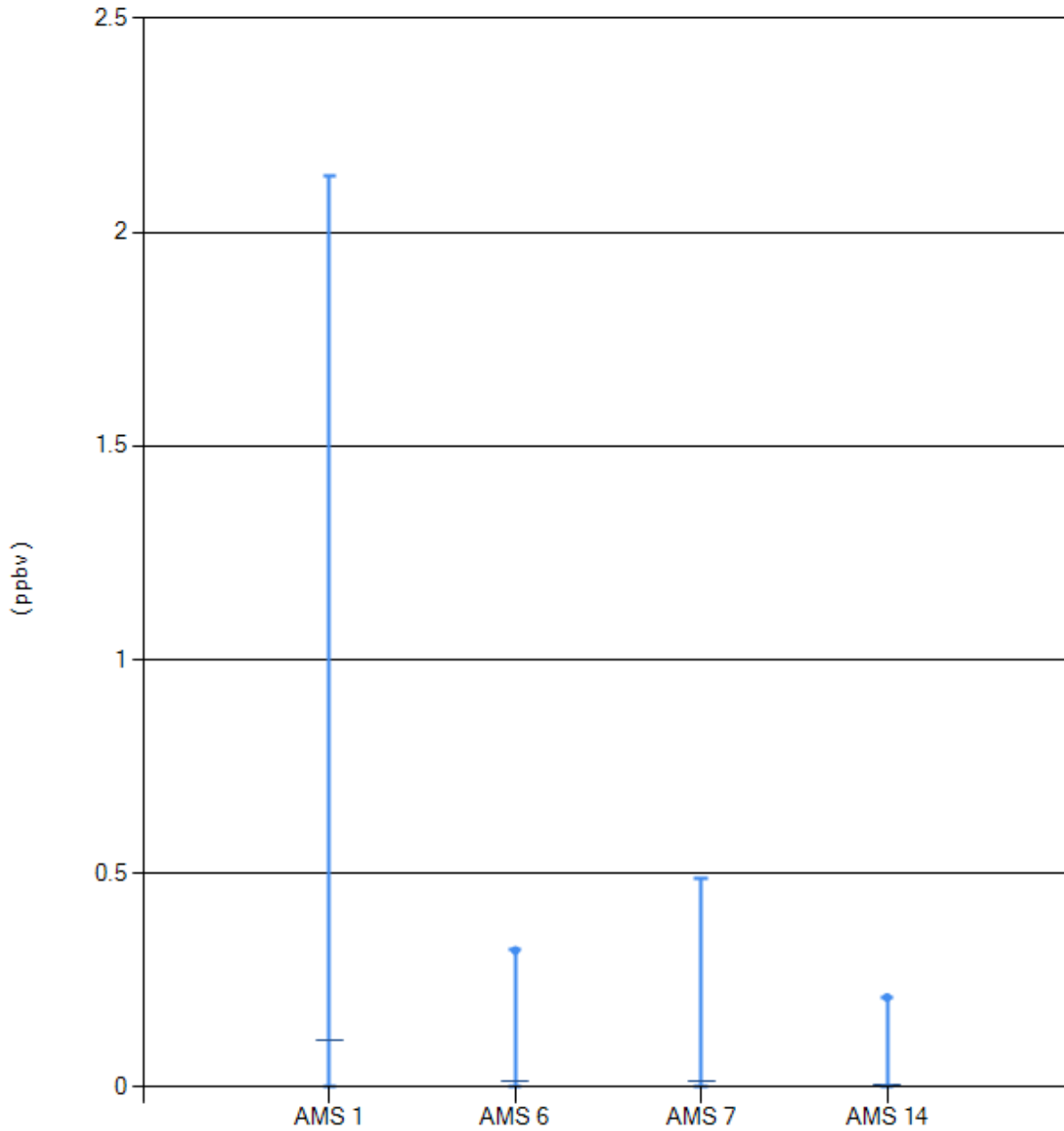
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.48	0.01
AMS 14 Anzac	0	0	0	0	0.44	0.01





VOC - Cyclohexane - (ppbv) - 2014

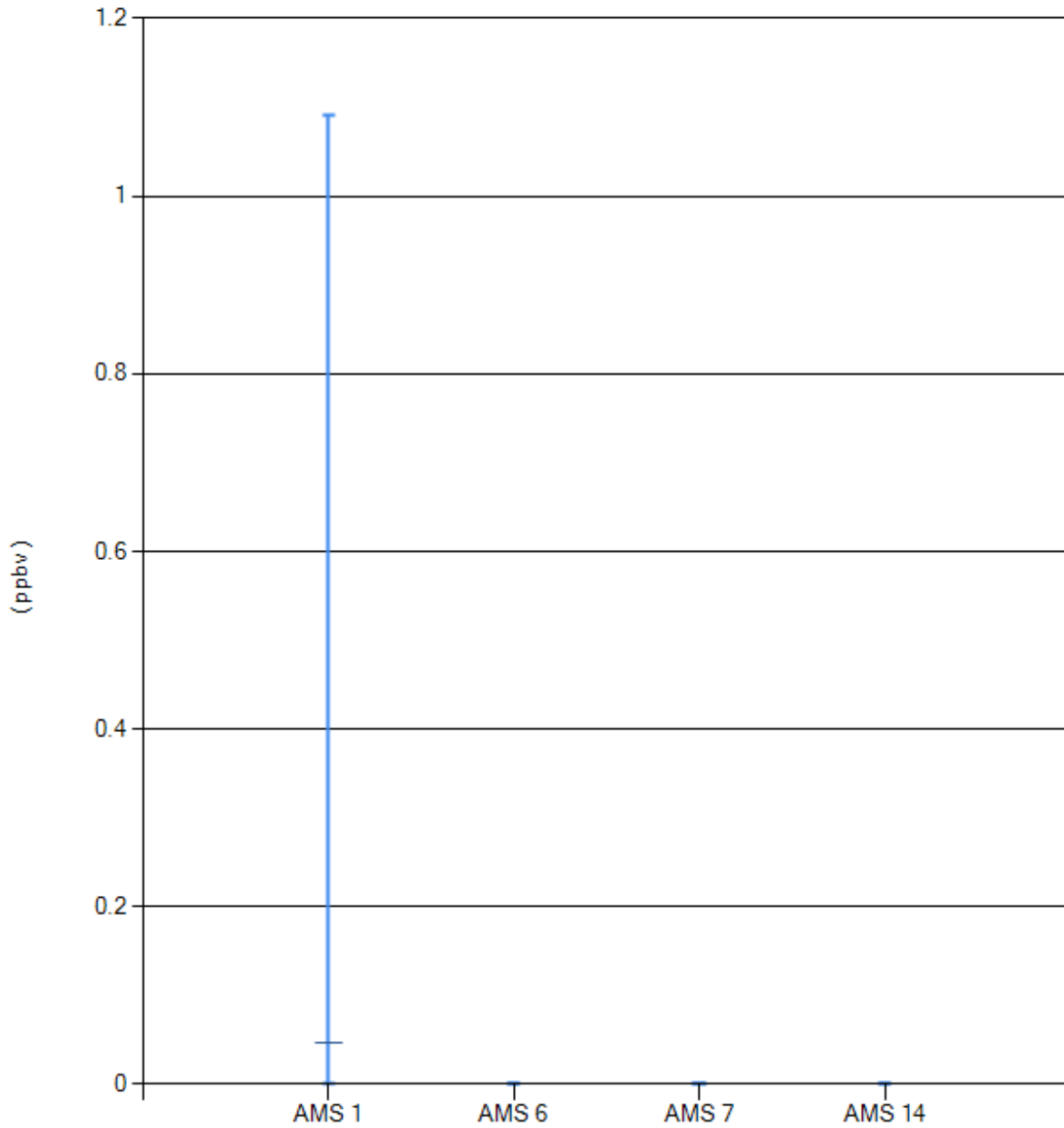
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	2.13	0.11
AMS 6 Patricia McInnes	0	0	0	0	0.32	0.01
AMS 7 Athabasca Valley	0	0	0	0	0.49	0.01
AMS 14 Anzac	0	0	0	0	0.21	0





VOC - Cyclopentane - (ppbv) - 2014

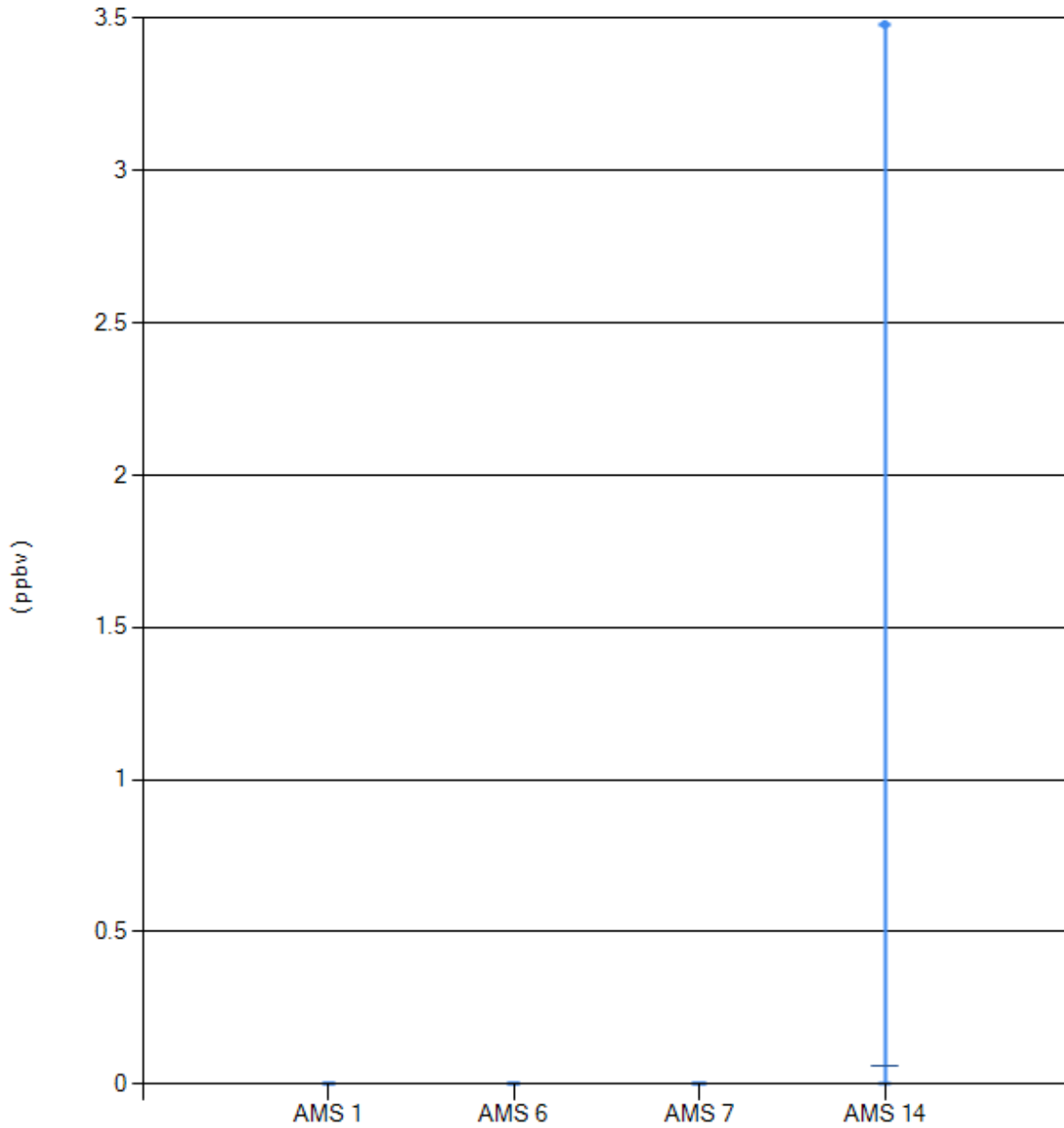
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	1.09	0.05
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





VOC - Cyclopentene - (ppbv) - 2014

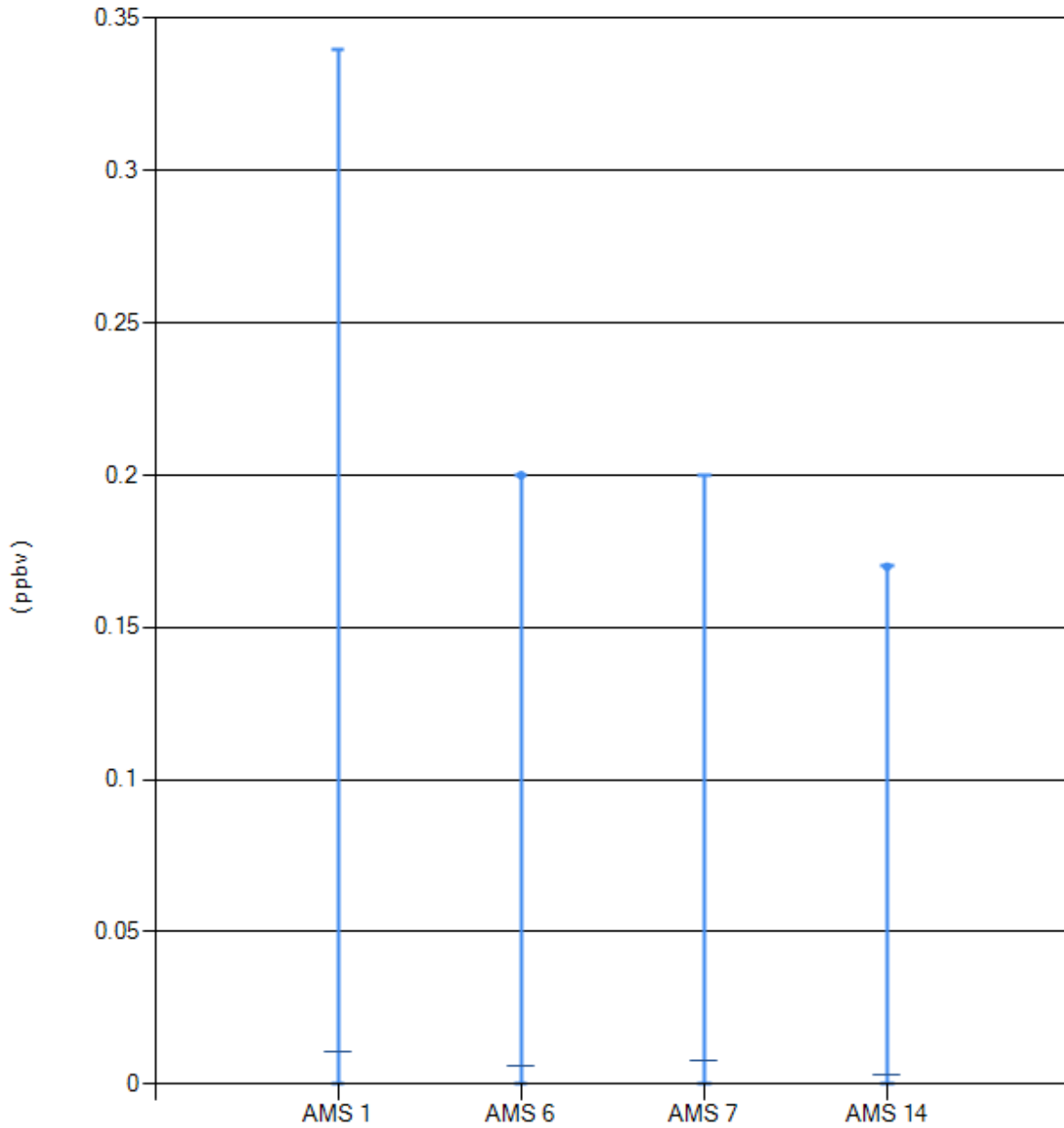
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	3.48	0.06





VOC - Decane - (ppbv) - 2014

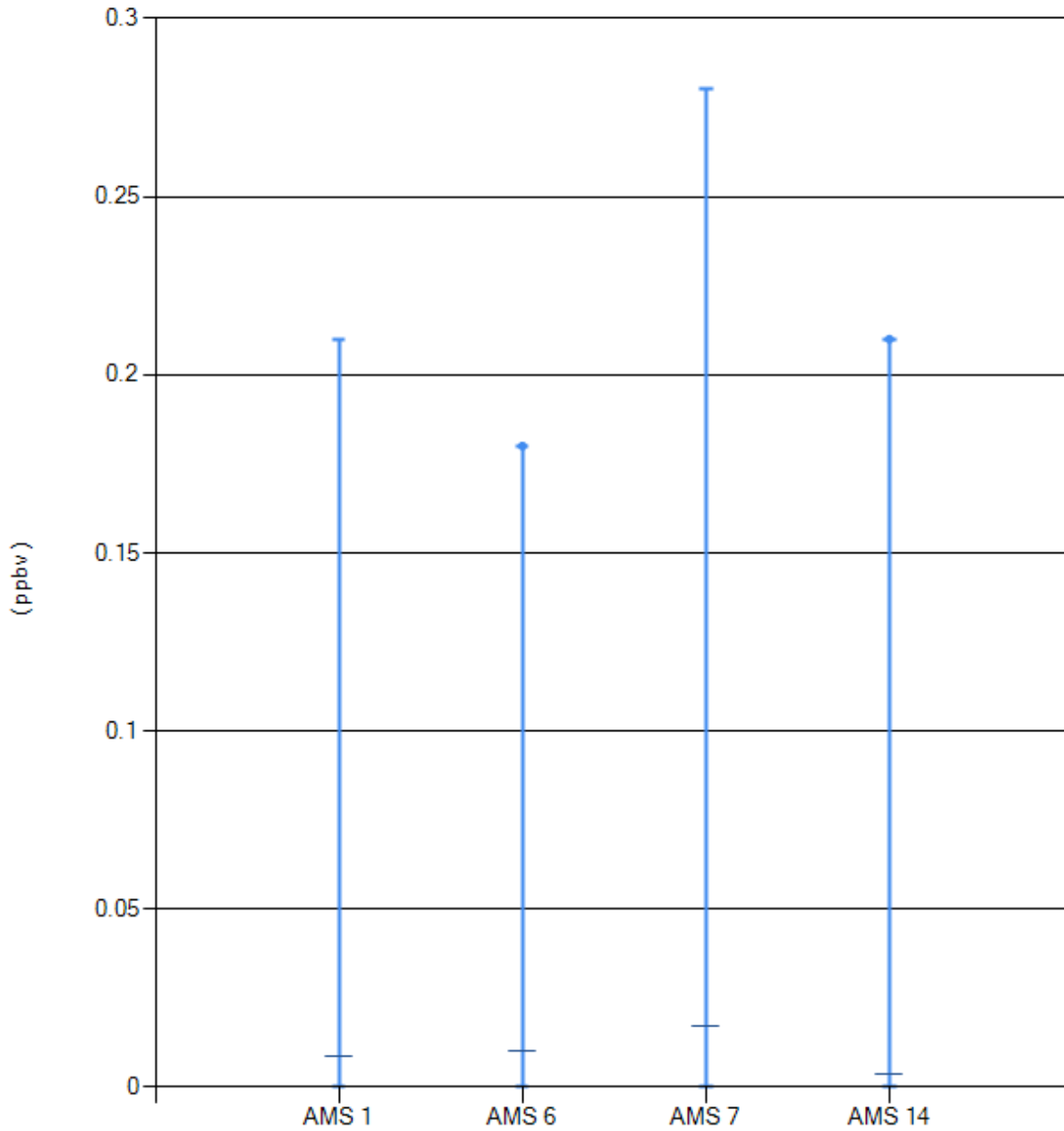
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.34	0.01
AMS 6 Patricia McInnes	0	0	0	0	0.2	0.01
AMS 7 Athabasca Valley	0	0	0	0	0.2	0.01
AMS 14 Anzac	0	0	0	0	0.17	0





VOC - Dodecane - (ppbv) - 2014

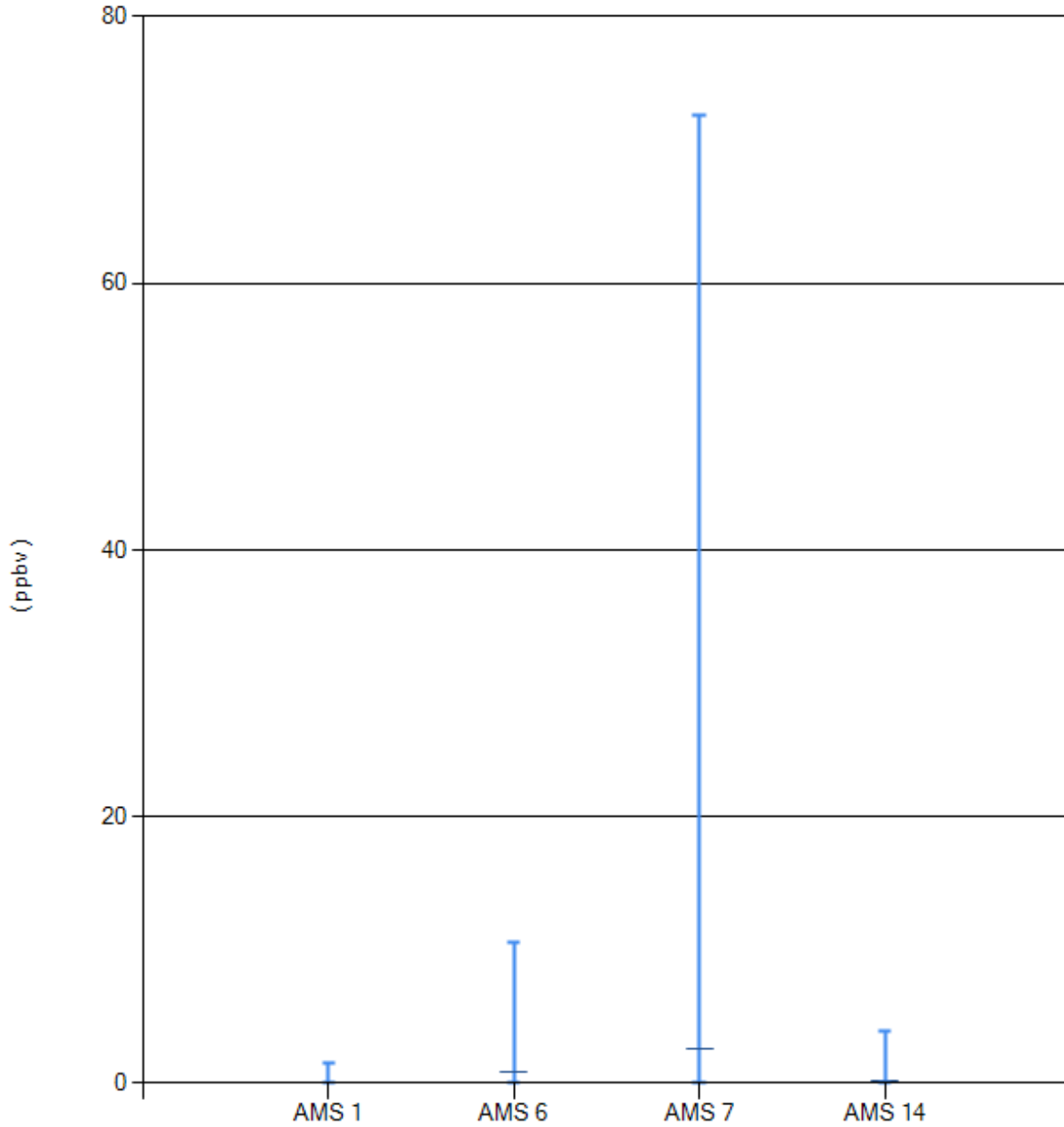
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.21	0.01
AMS 6 Patricia McInnes	0	0	0	0	0.18	0.01
AMS 7 Athabasca Valley	0	0	0	0	0.28	0.02
AMS 14 Anzac	0	0	0	0	0.21	0





VOC - Ethanol - (ppbv) - 2014

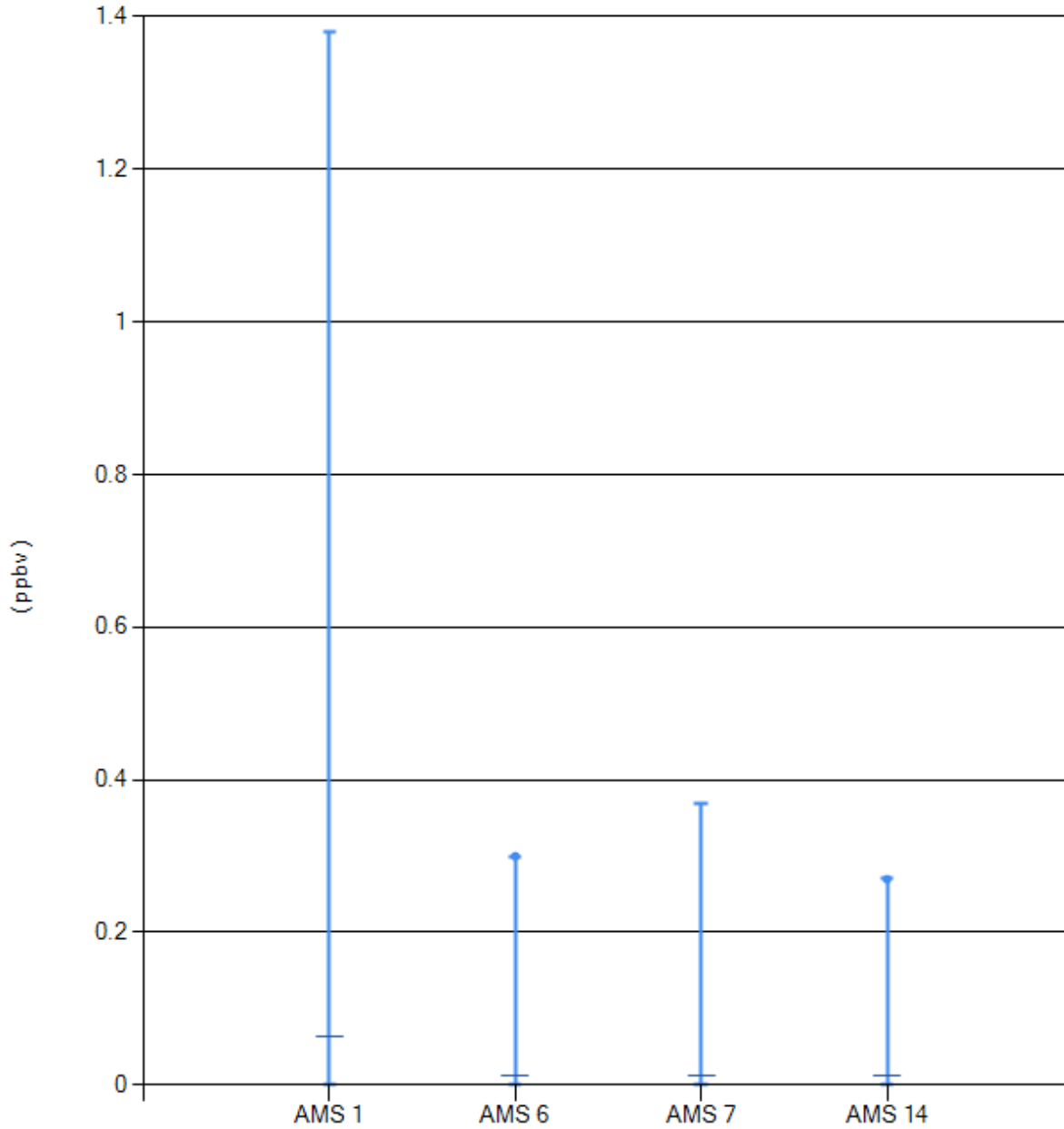
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	1.47	0.04
AMS 6 Patricia McInnes	0	0	0	0	10.5	0.86
AMS 7 Athabasca Valley	0	0	0	0	72.6	2.63
AMS 14 Anzac	0	0	0	0	3.86	0.22





VOC - Ethyl benzene - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	1.38	0.06
AMS 6 Patricia McInnes	0	0	0	0	0.3	0.01
AMS 7 Athabasca Valley	0	0	0	0	0.37	0.01
AMS 14 Anzac	0	0	0	0	0.27	0.01

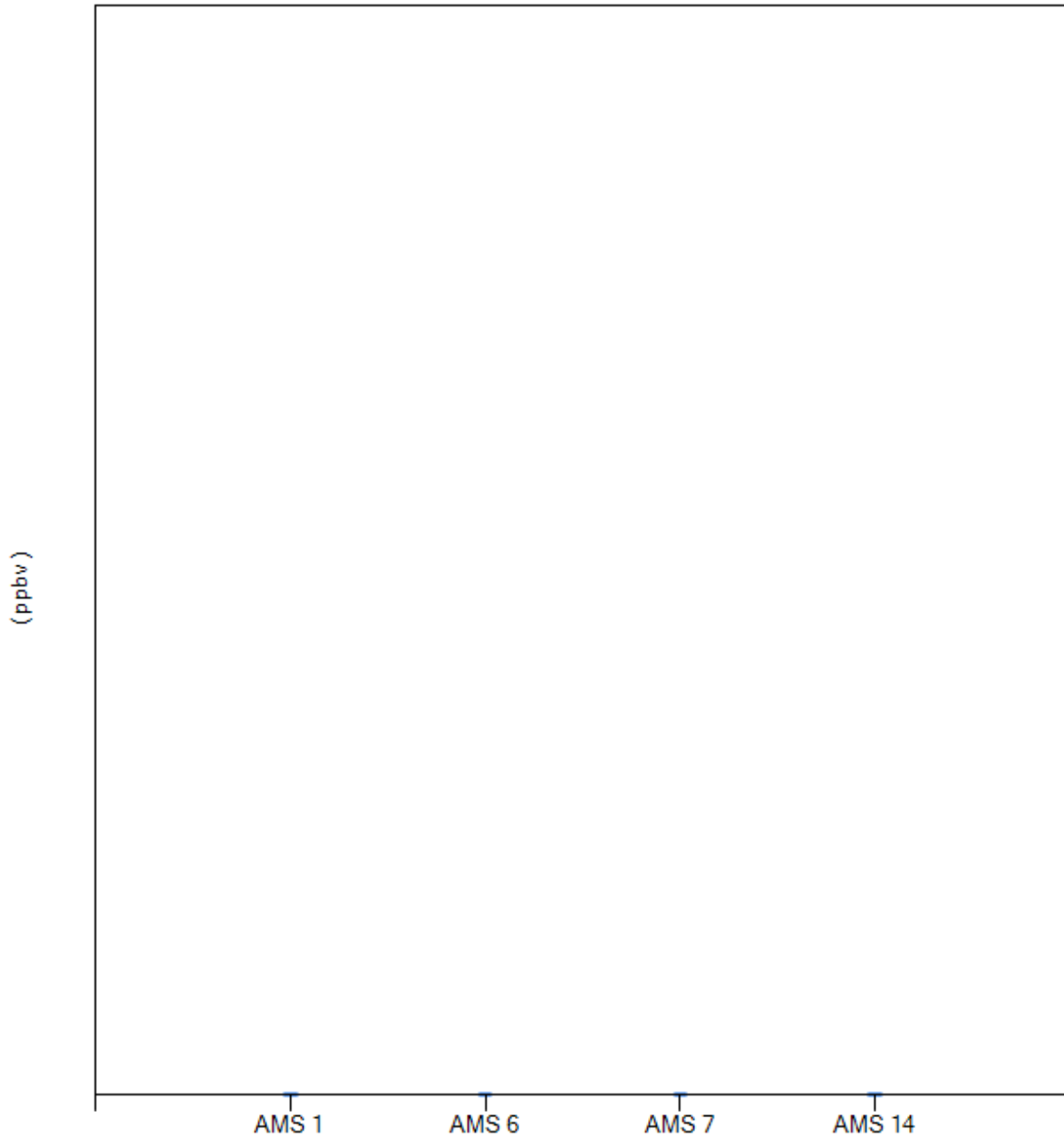






VOC - Formaldehyde - (ppbv) - 2014

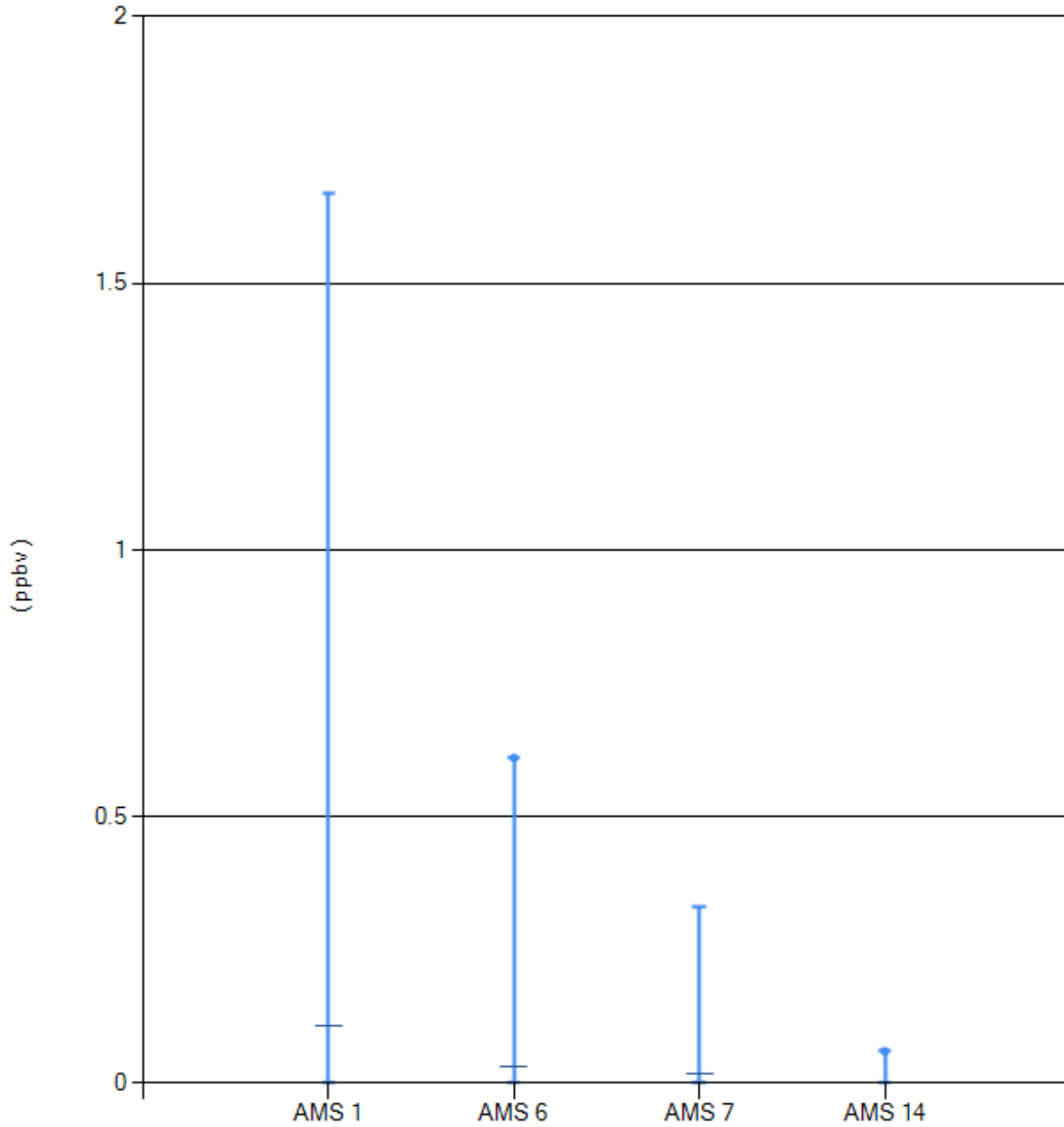
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





VOC - Heptane - (ppbv) - 2014

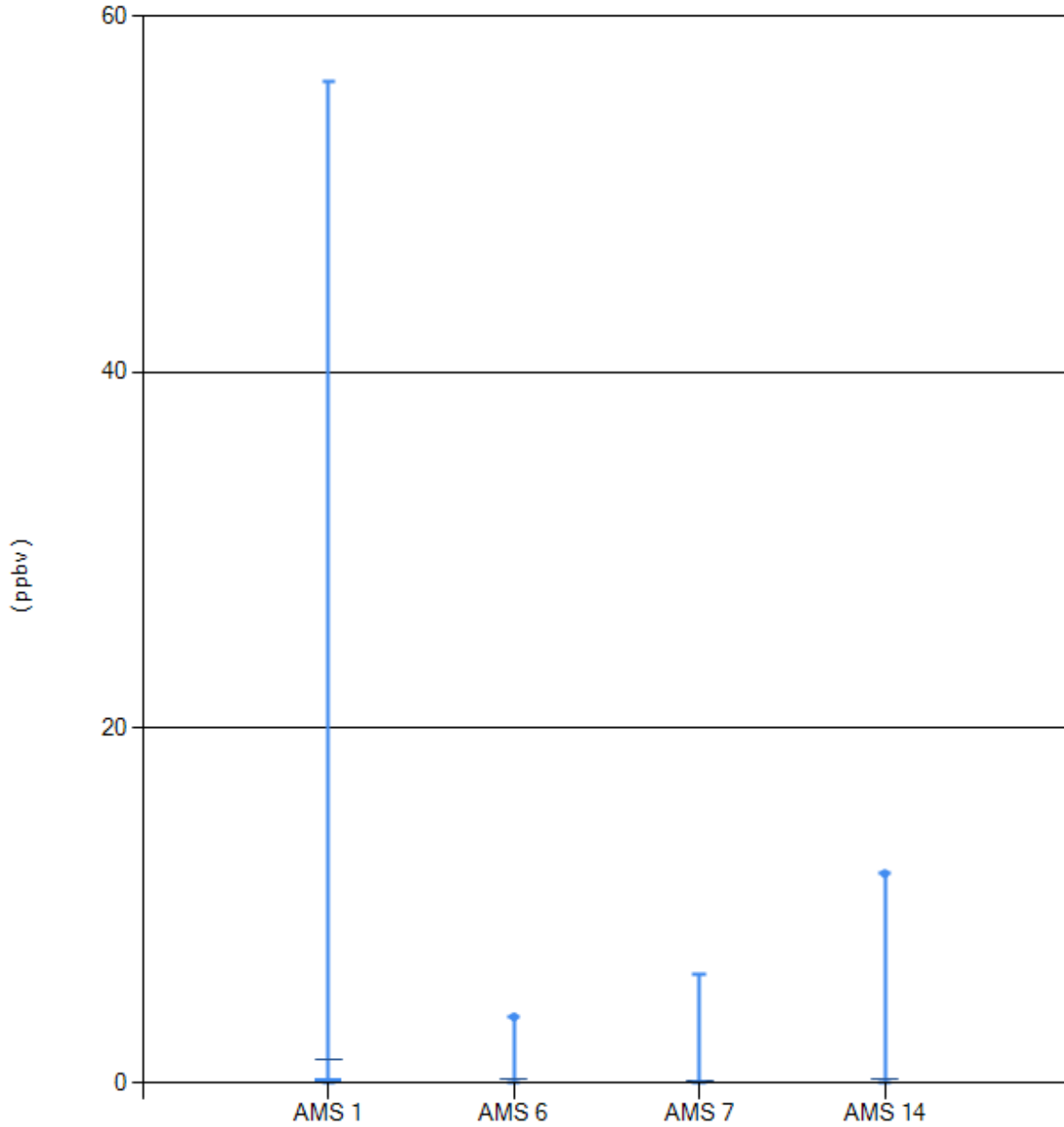
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	1.67	0.11
AMS 6 Patricia McInnes	0	0	0	0	0.61	0.03
AMS 7 Athabasca Valley	0	0	0	0	0.33	0.02
AMS 14 Anzac	0	0	0	0	0.06	0





VOC - Hexane - (ppbv) - 2014

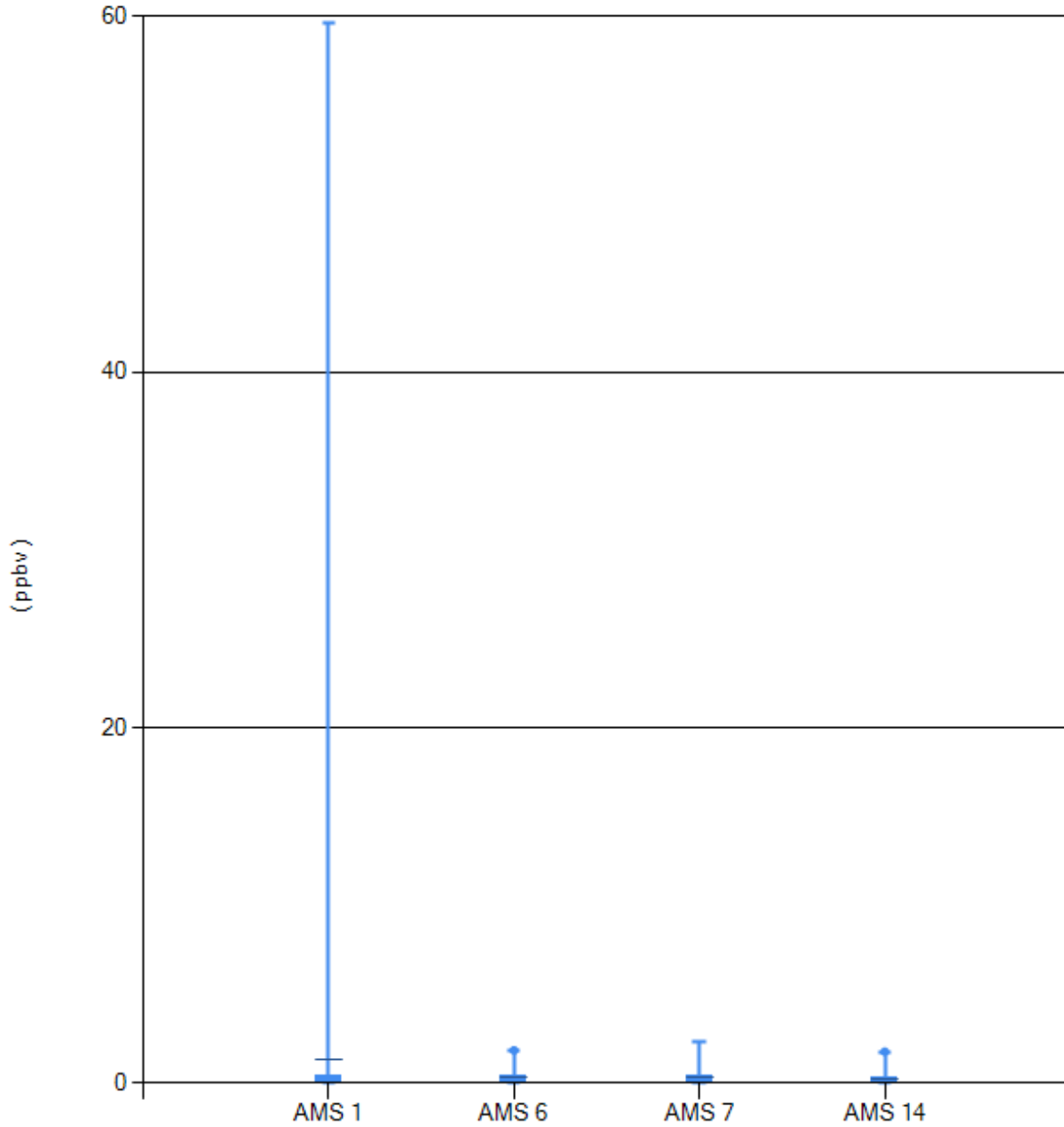
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0.22	56.3	1.36
AMS 6 Patricia McInnes	0	0	0	0	3.74	0.2
AMS 7 Athabasca Valley	0	0	0	0	6.16	0.17
AMS 14 Anzac	0	0	0	0	11.8	0.25





VOC - Isobutane - (ppbv) - 2014

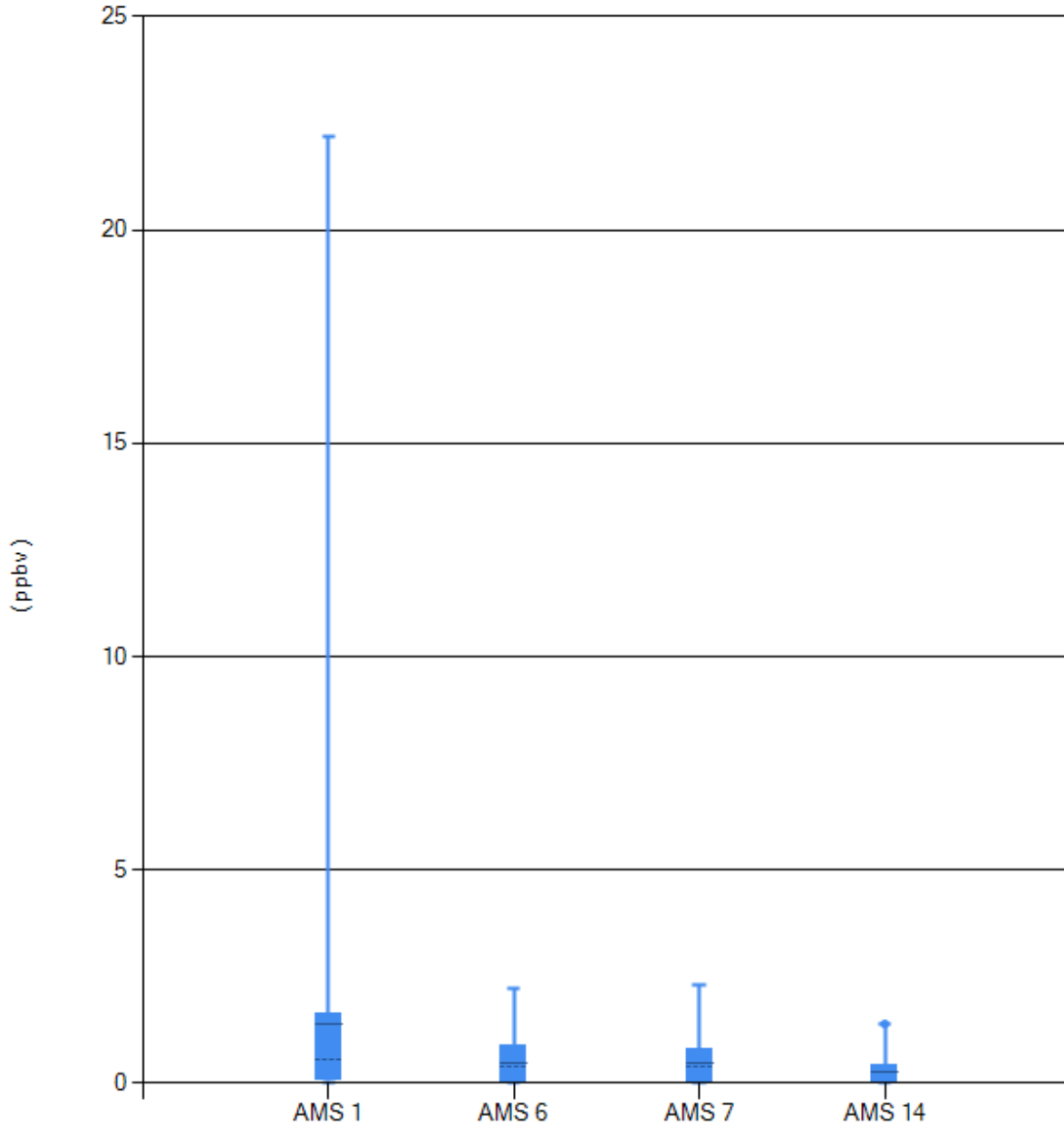
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0.05	0.41	59.6	1.34
AMS 6 Patricia McInnes	0	0	0	0.47	1.85	0.31
AMS 7 Athabasca Valley	0	0	0	0.45	2.33	0.31
AMS 14 Anzac	0	0	0	0.35	1.78	0.24





VOC - Isopentane - (ppbv) - 2014

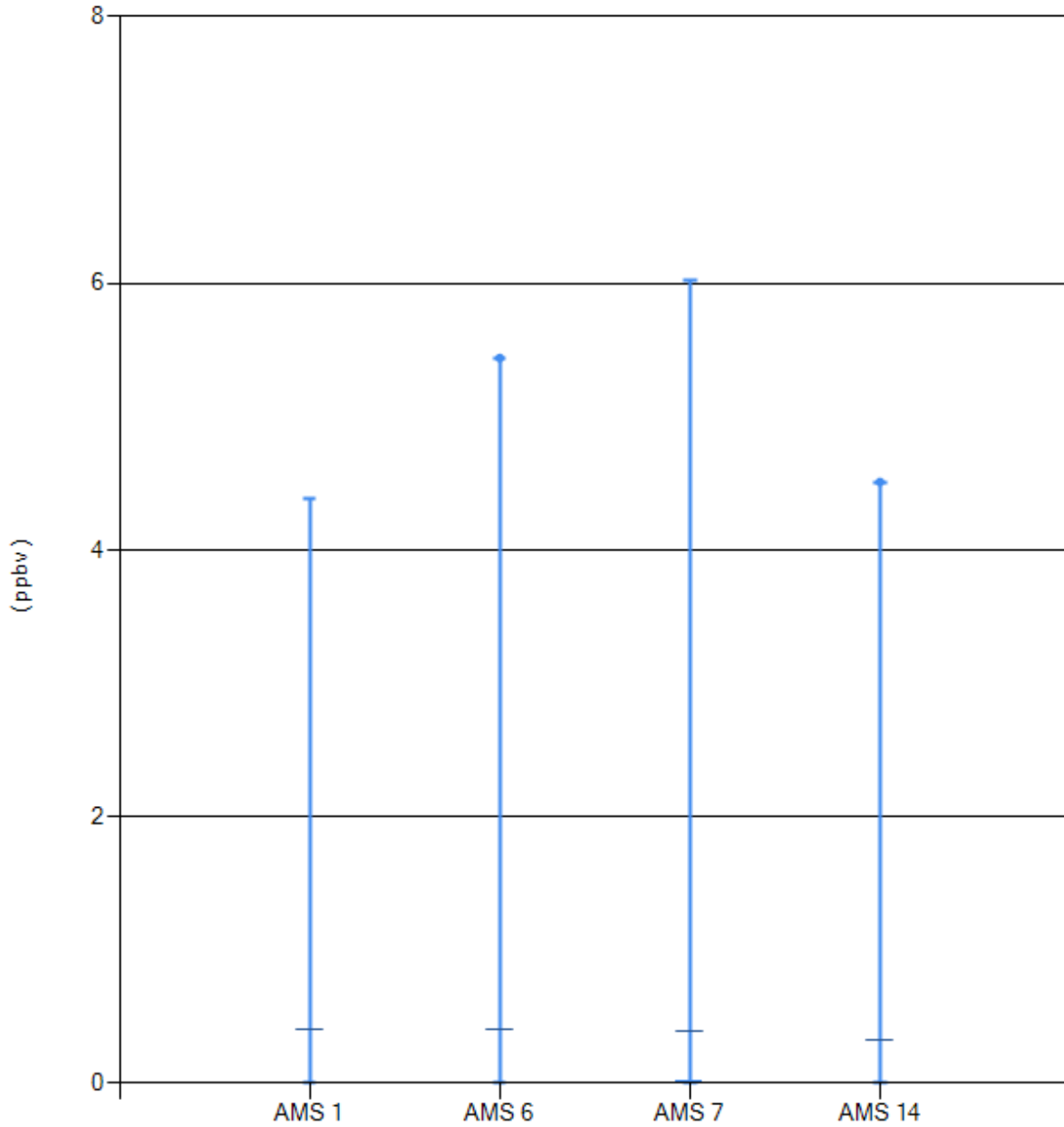
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0.54	1.66	22.2	1.37
AMS 6 Patricia McInnes	0	0	0.38	0.88	2.2	0.48
AMS 7 Athabasca Valley	0	0	0.4	0.82	2.31	0.48
AMS 14 Anzac	0	0	0	0.43	1.39	0.28





VOC - Isoprene - (ppbv) - 2014

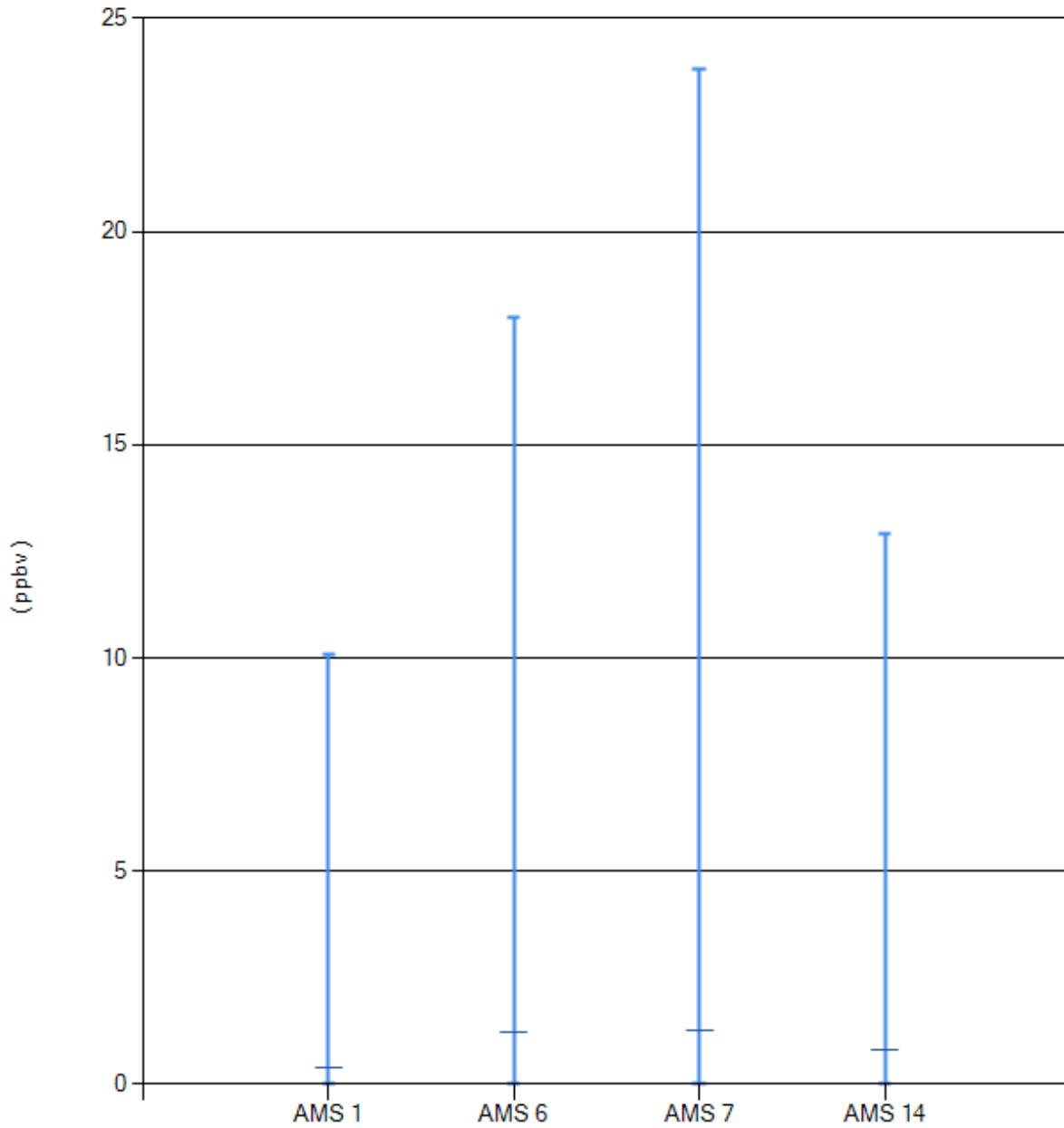
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	4.39	0.4
AMS 6 Patricia McInnes	0	0	0	0	5.44	0.4
AMS 7 Athabasca Valley	0	0	0	0.04	6.02	0.39
AMS 14 Anzac	0	0	0	0	4.51	0.33





VOC - Isopropyl alcohol - (ppbv) - 2014

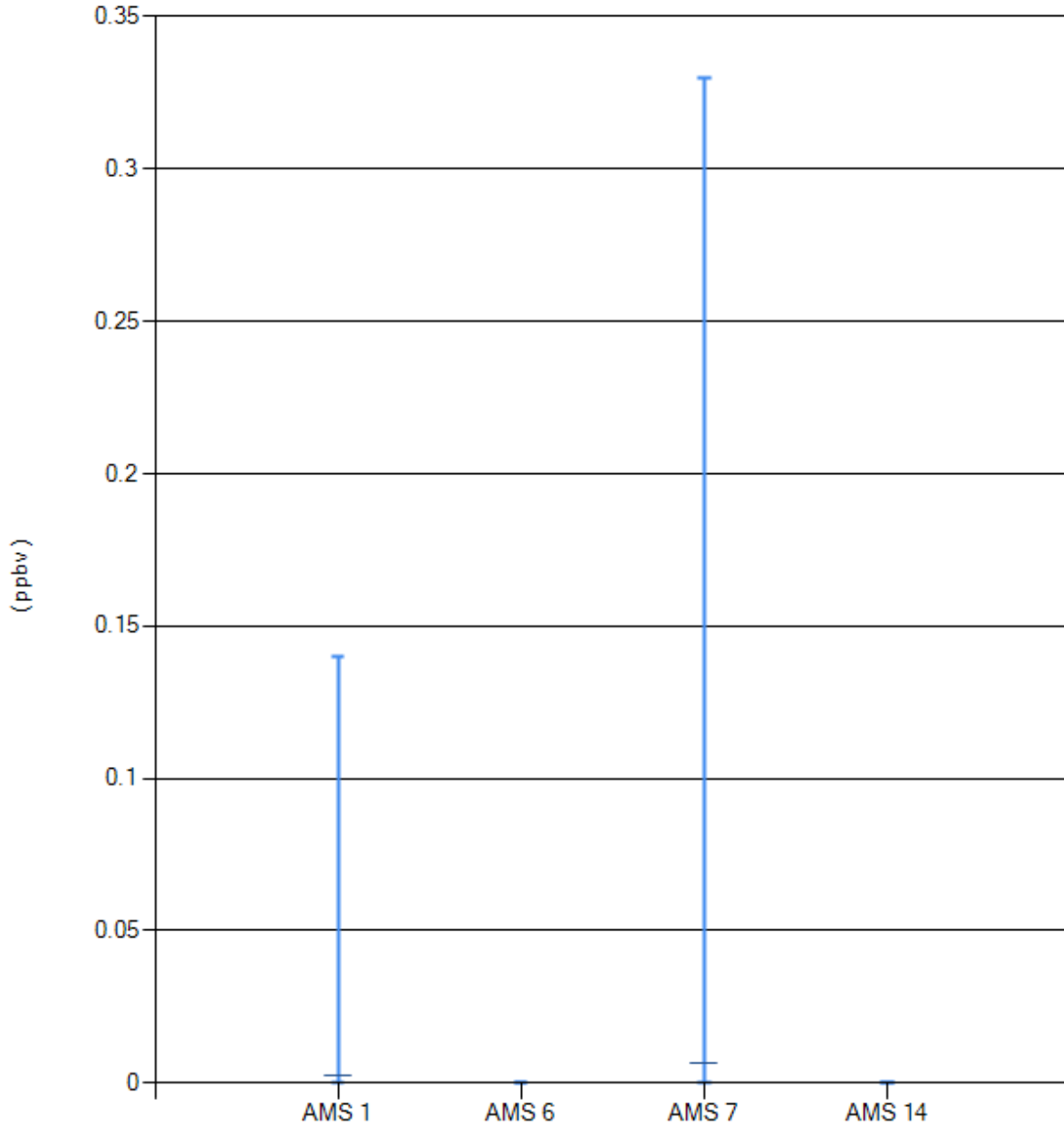
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	10.1	0.4
AMS 6 Patricia McInnes	0	0	0	0	18	1.24
AMS 7 Athabasca Valley	0	0	0	0	23.8	1.25
AMS 14 Anzac	0	0	0	0	12.9	0.81





VOC - Isopropylbenzene - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.14	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.33	0.01
AMS 14 Anzac	0	0	0	0	0	0

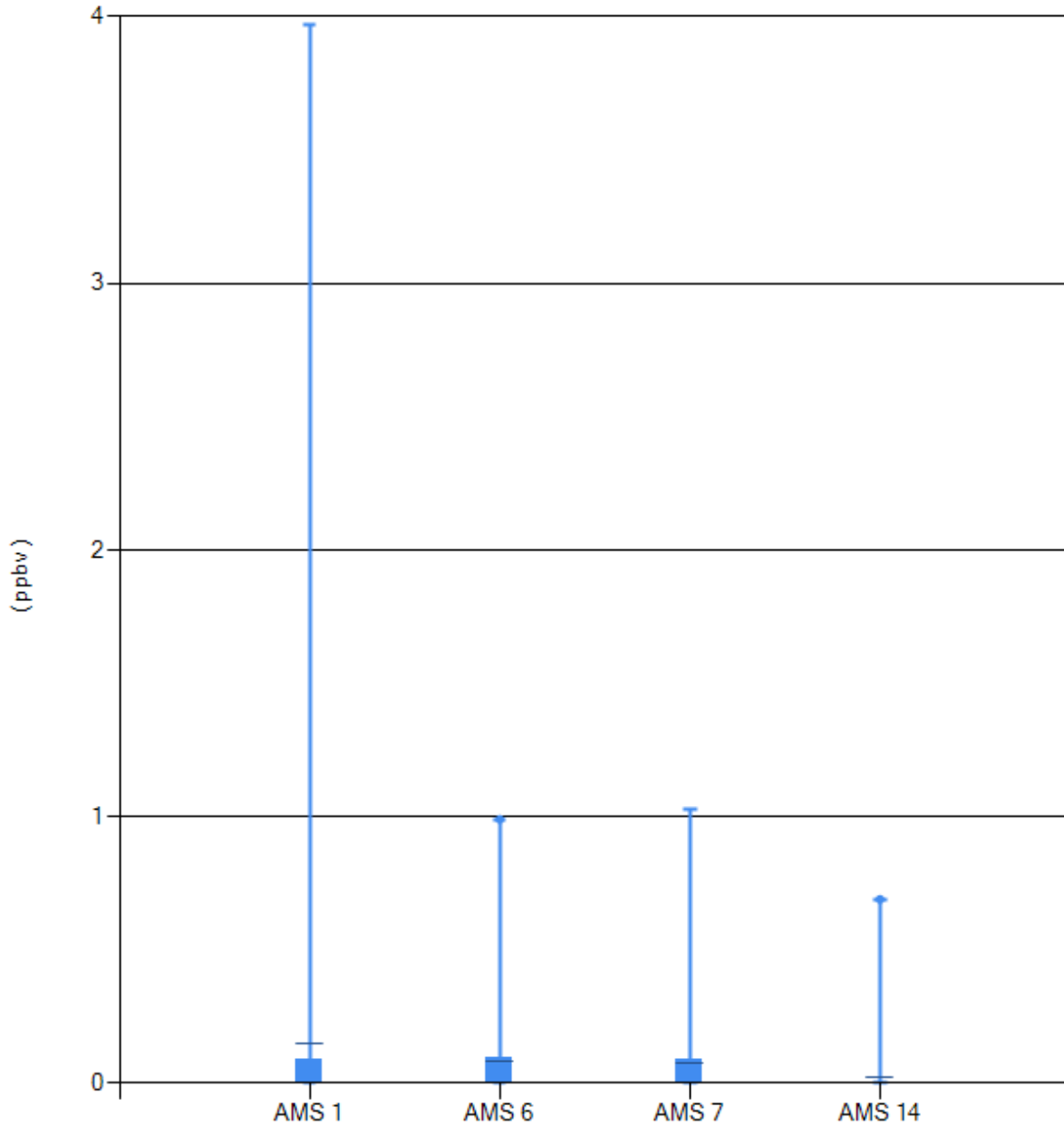






VOC - m,p-Xylene - (ppbv) - 2014

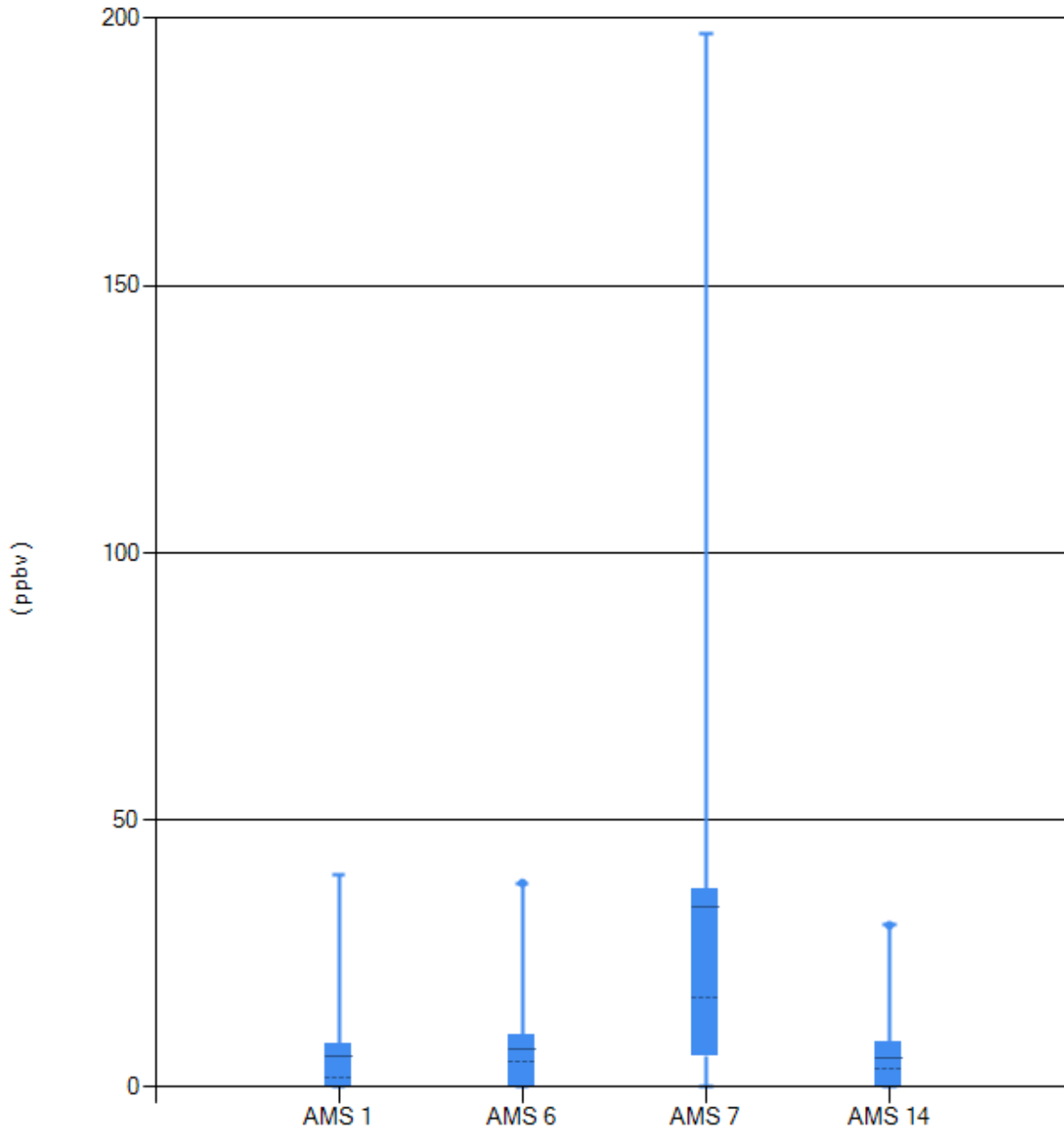
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0.09	3.97	0.15
AMS 6 Patricia McInnes	0	0	0	0.1	0.99	0.08
AMS 7 Athabasca Valley	0	0	0	0.09	1.03	0.08
AMS 14 Anzac	0	0	0	0	0.69	0.02





VOC - Methanol - (ppbv) - 2014

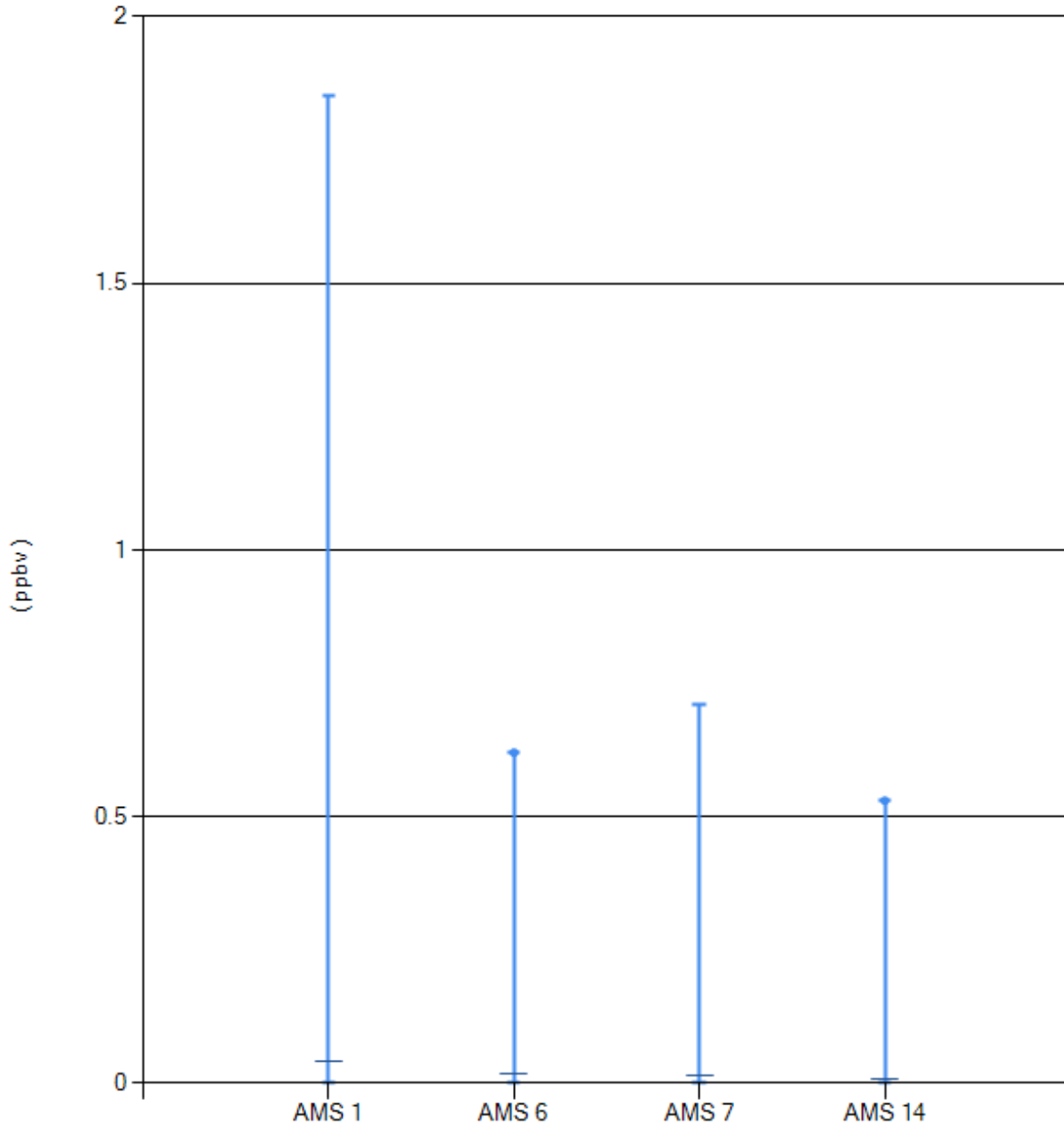
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	1.71	8.23	39.6	5.69
AMS 6 Patricia McInnes	0	0	4.9	9.99	38.2	7
AMS 7 Athabasca Valley	0	5.08	16.65	37.85	197	33.76
AMS 14 Anzac	0	0	3.32	8.54	30.3	5.44





VOC - Methyl ethyl ketone - (ppbv) - 2014

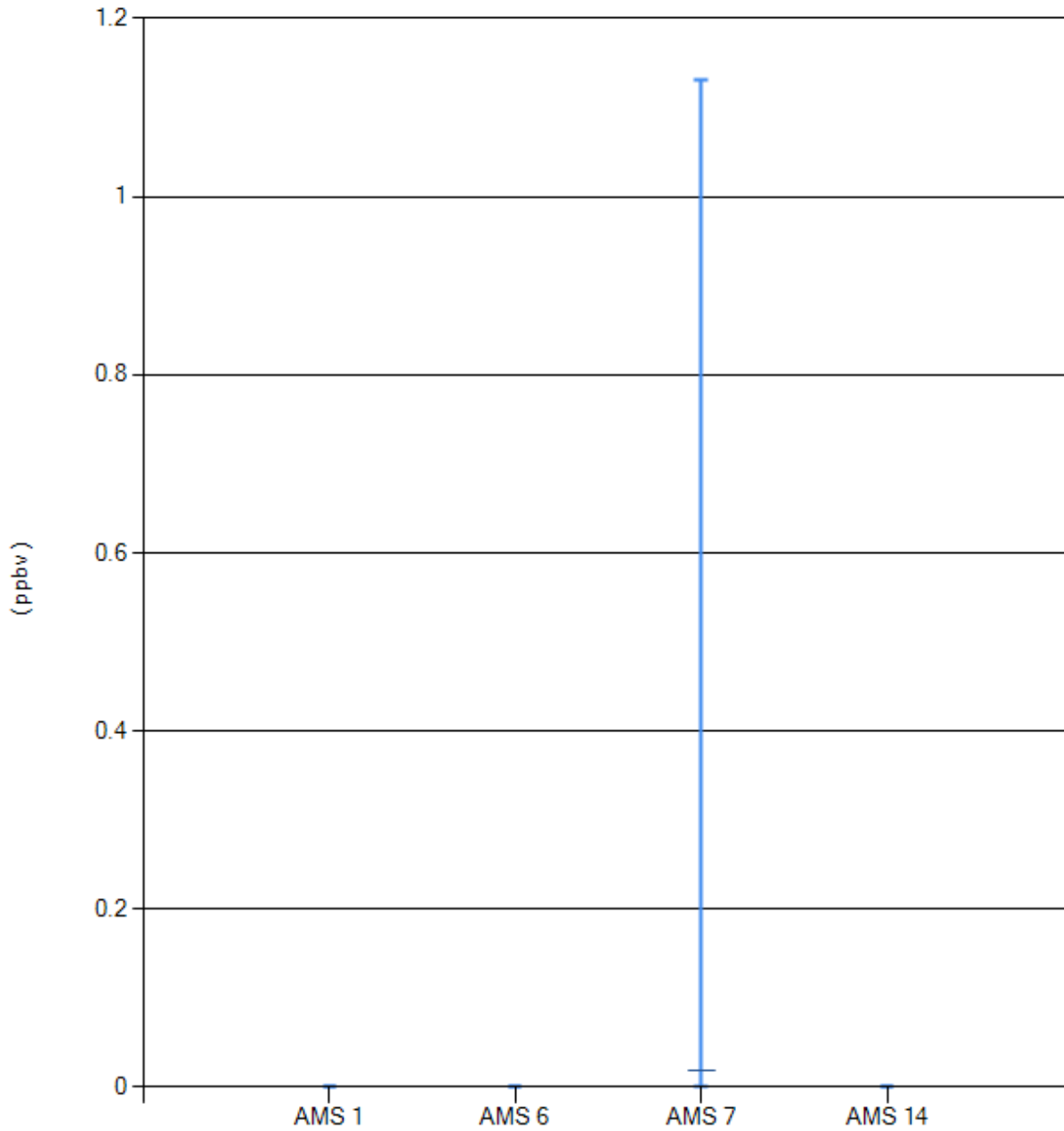
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	1.85	0.04
AMS 6 Patricia McInnes	0	0	0	0	0.62	0.02
AMS 7 Athabasca Valley	0	0	0	0	0.71	0.02
AMS 14 Anzac	0	0	0	0	0.53	0.01





VOC - Methyl isobutyl ketone - (ppbv) - 2014

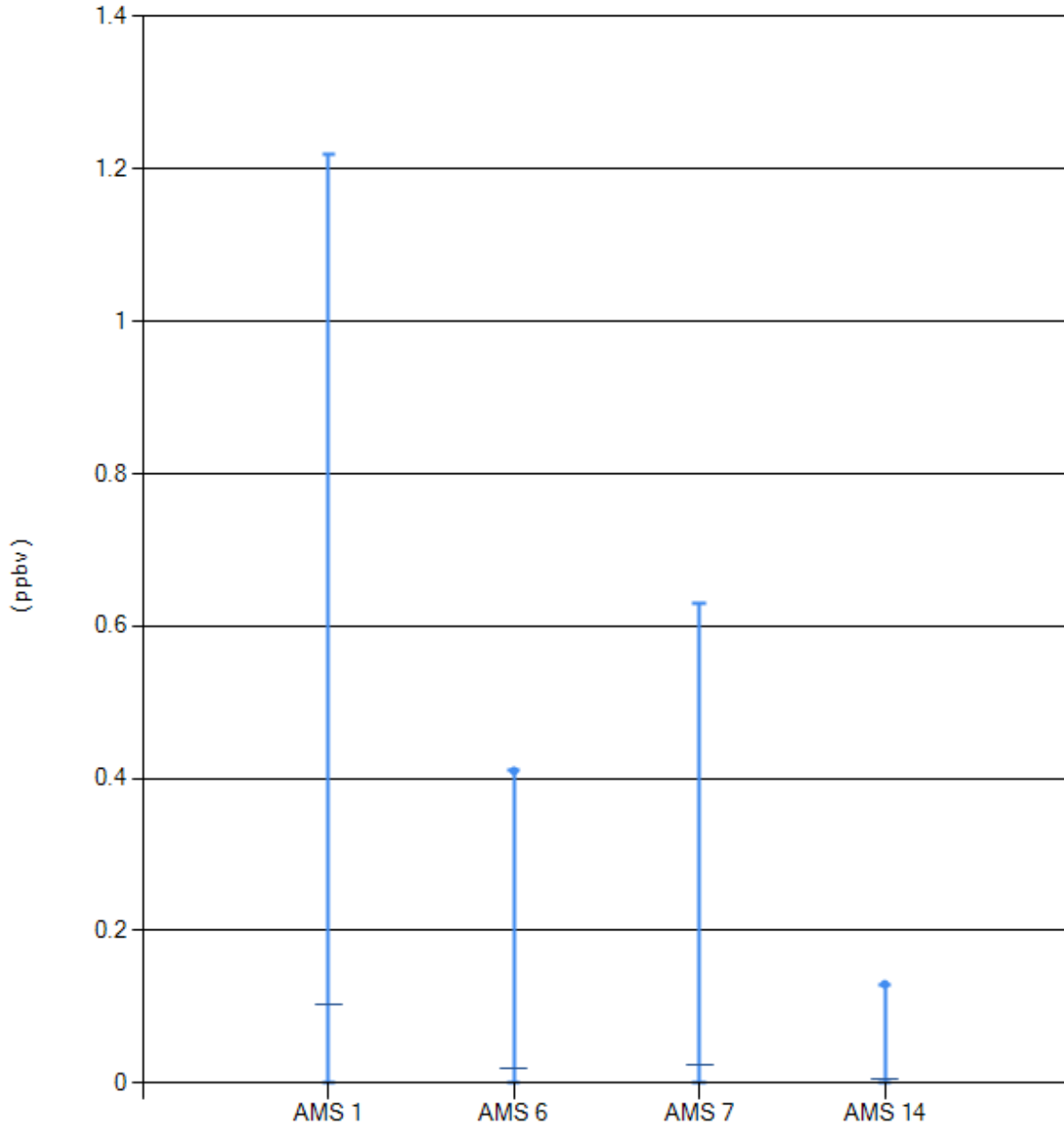
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	1.13	0.02
AMS 14 Anzac	0	0	0	0	0	0





VOC - Methylcyclohexane - (ppbv) - 2014

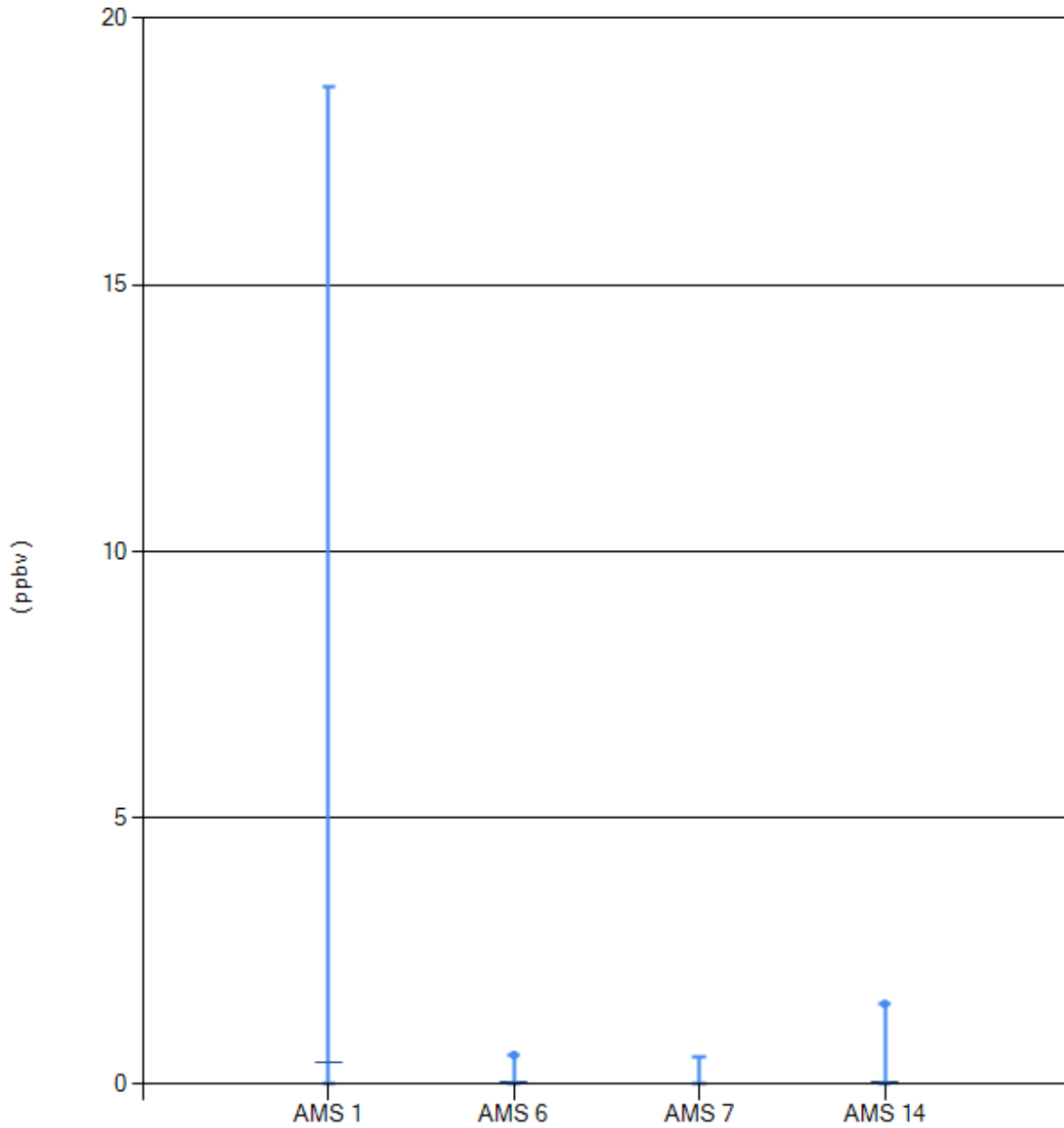
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	1.22	0.1
AMS 6 Patricia McInnes	0	0	0	0	0.41	0.02
AMS 7 Athabasca Valley	0	0	0	0	0.63	0.02
AMS 14 Anzac	0	0	0	0	0.13	0





VOC - Methylcyclopentane - (ppbv) - 2014

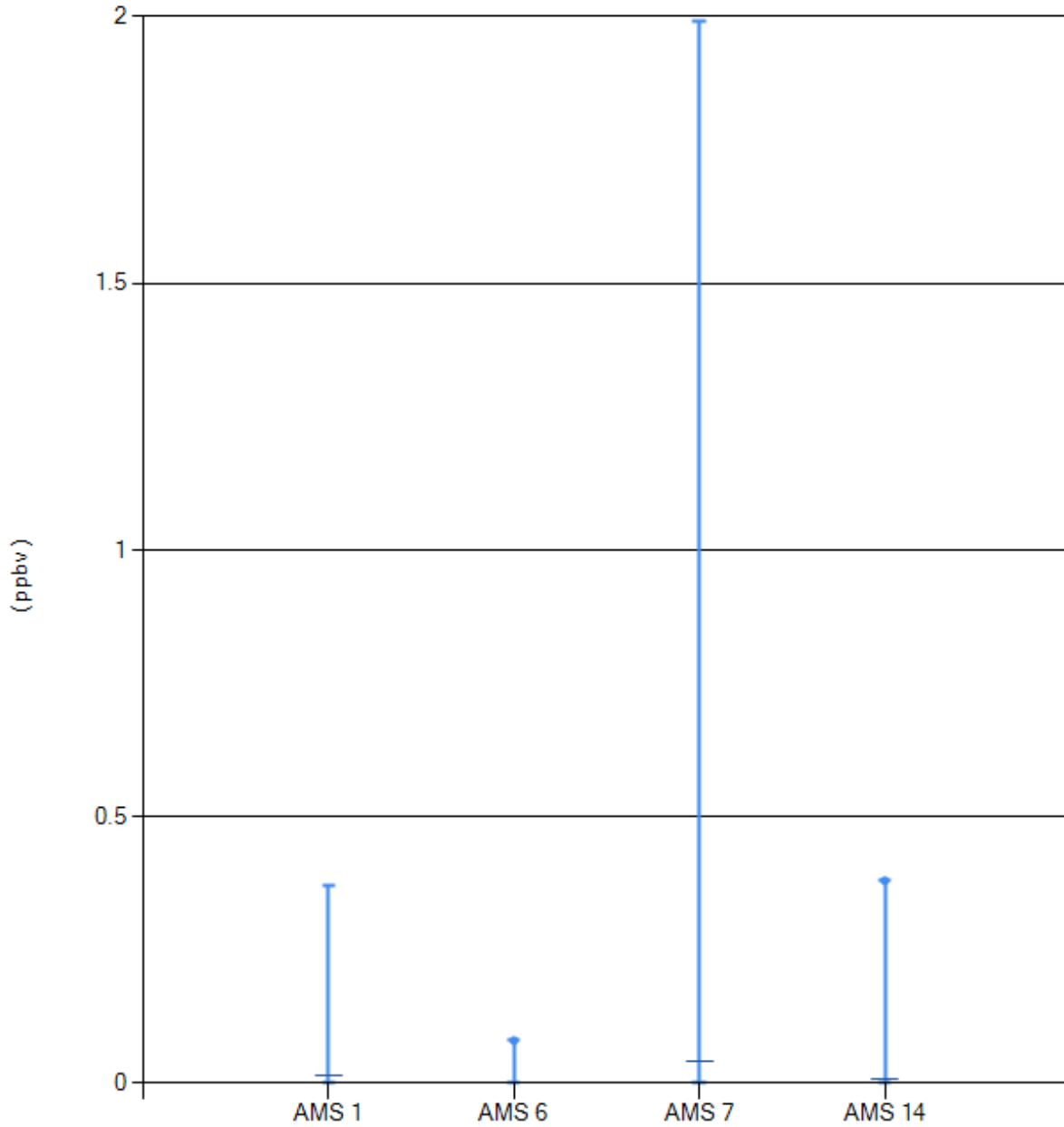
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	18.7	0.4
AMS 6 Patricia McInnes	0	0	0	0	0.55	0.04
AMS 7 Athabasca Valley	0	0	0	0	0.52	0.02
AMS 14 Anzac	0	0	0	0	1.51	0.04





VOC - Naphthalene - (ppbv) - 2014

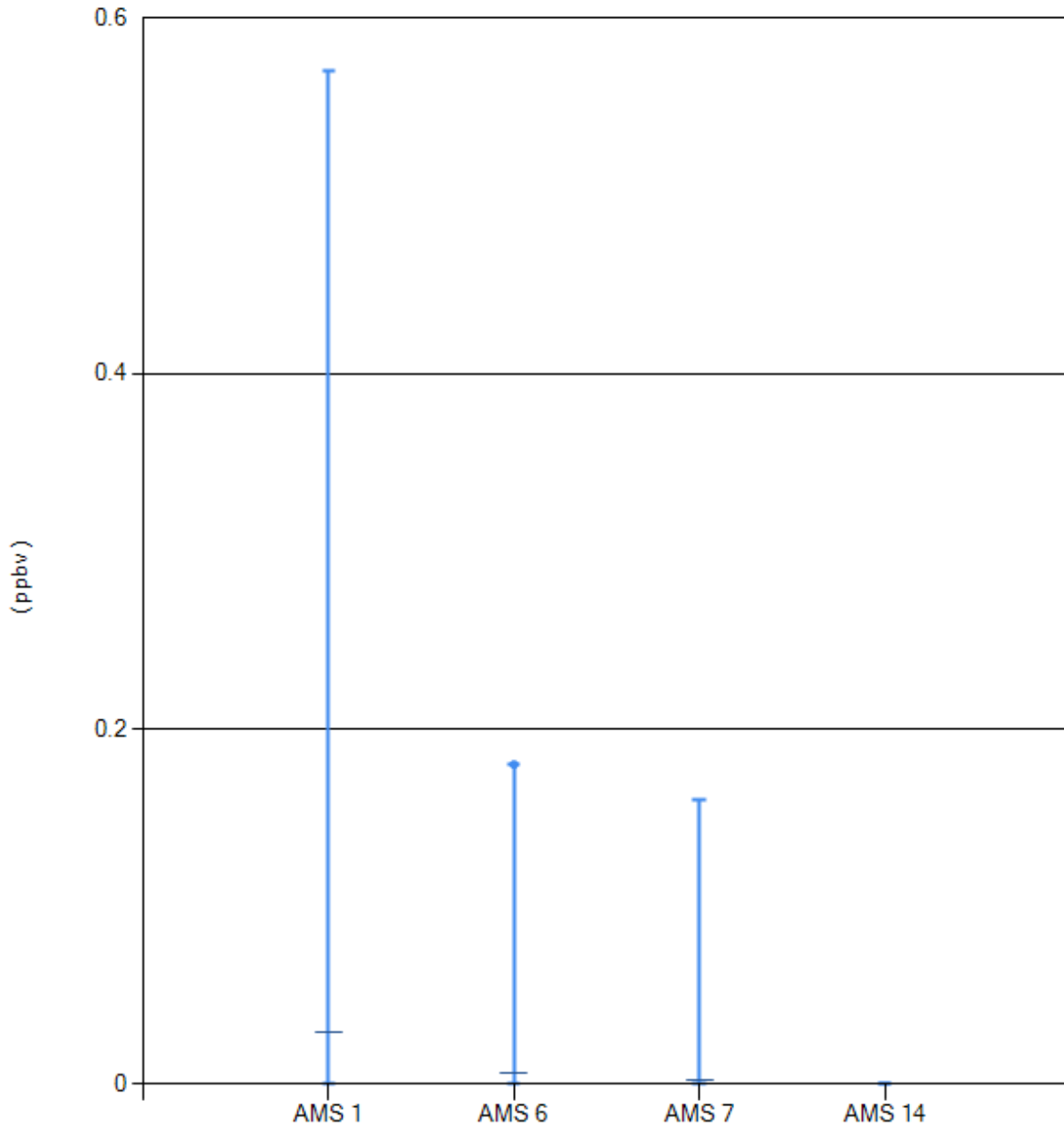
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.37	0.01
AMS 6 Patricia McInnes	0	0	0	0	0.08	0
AMS 7 Athabasca Valley	0	0	0	0	1.99	0.04
AMS 14 Anzac	0	0	0	0	0.38	0.01





VOC - Nonane - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.57	0.03
AMS 6 Patricia McInnes	0	0	0	0	0.18	0.01
AMS 7 Athabasca Valley	0	0	0	0	0.16	0
AMS 14 Anzac	0	0	0	0	0	0

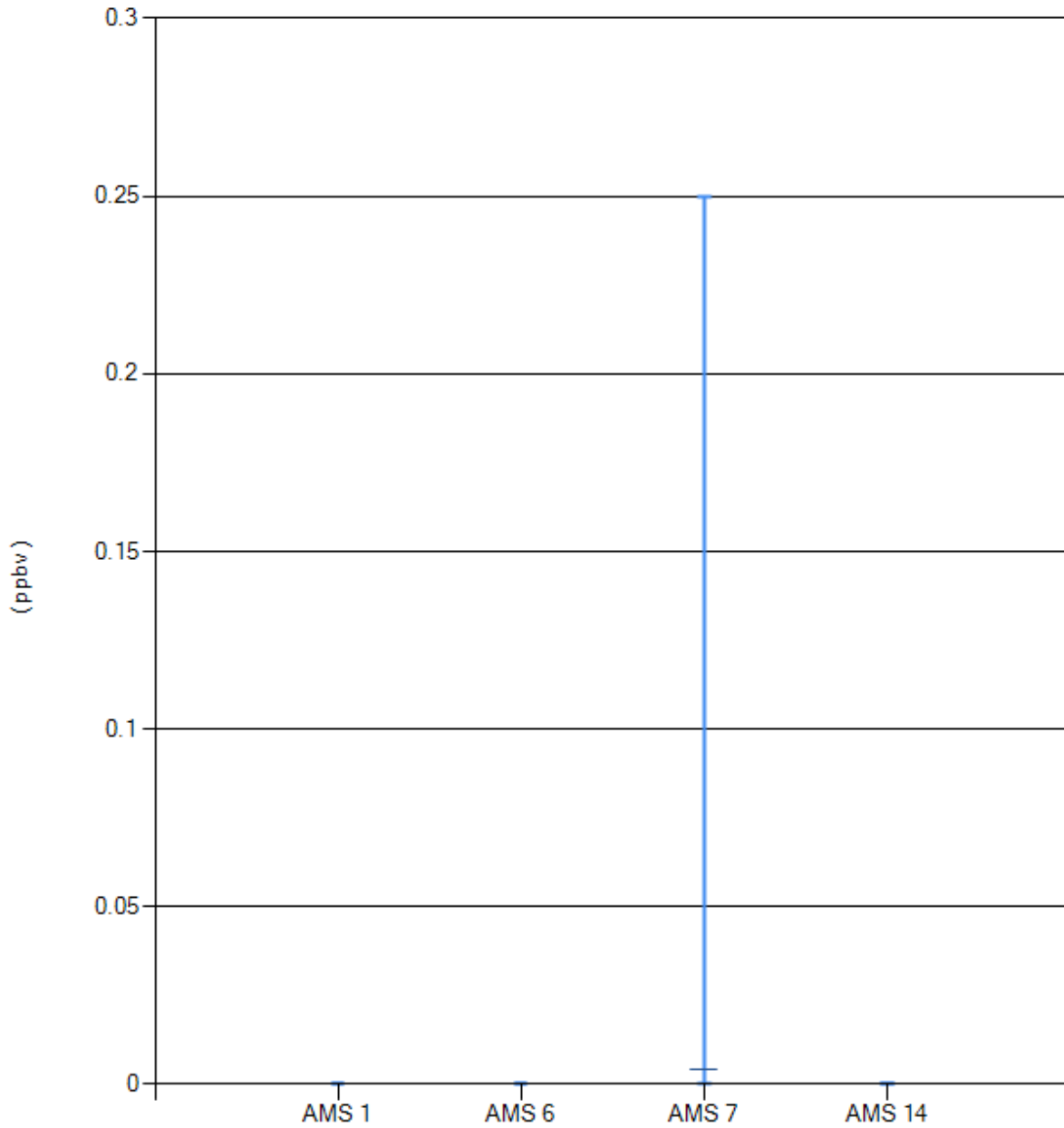






VOC - n-Propylbenzene - (ppbv) - 2014

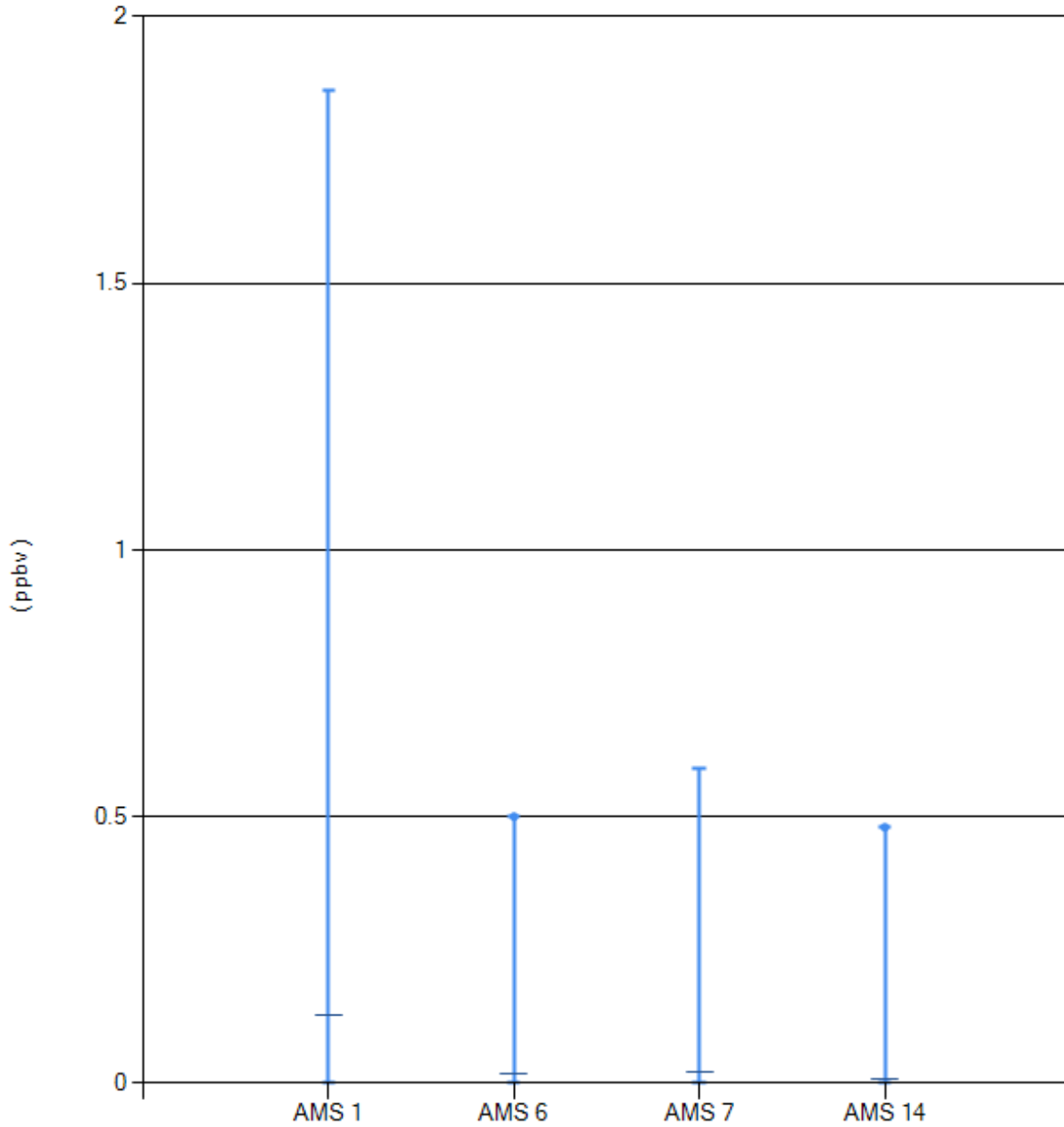
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.25	0
AMS 14 Anzac	0	0	0	0	0	0





VOC - Octane - (ppbv) - 2014

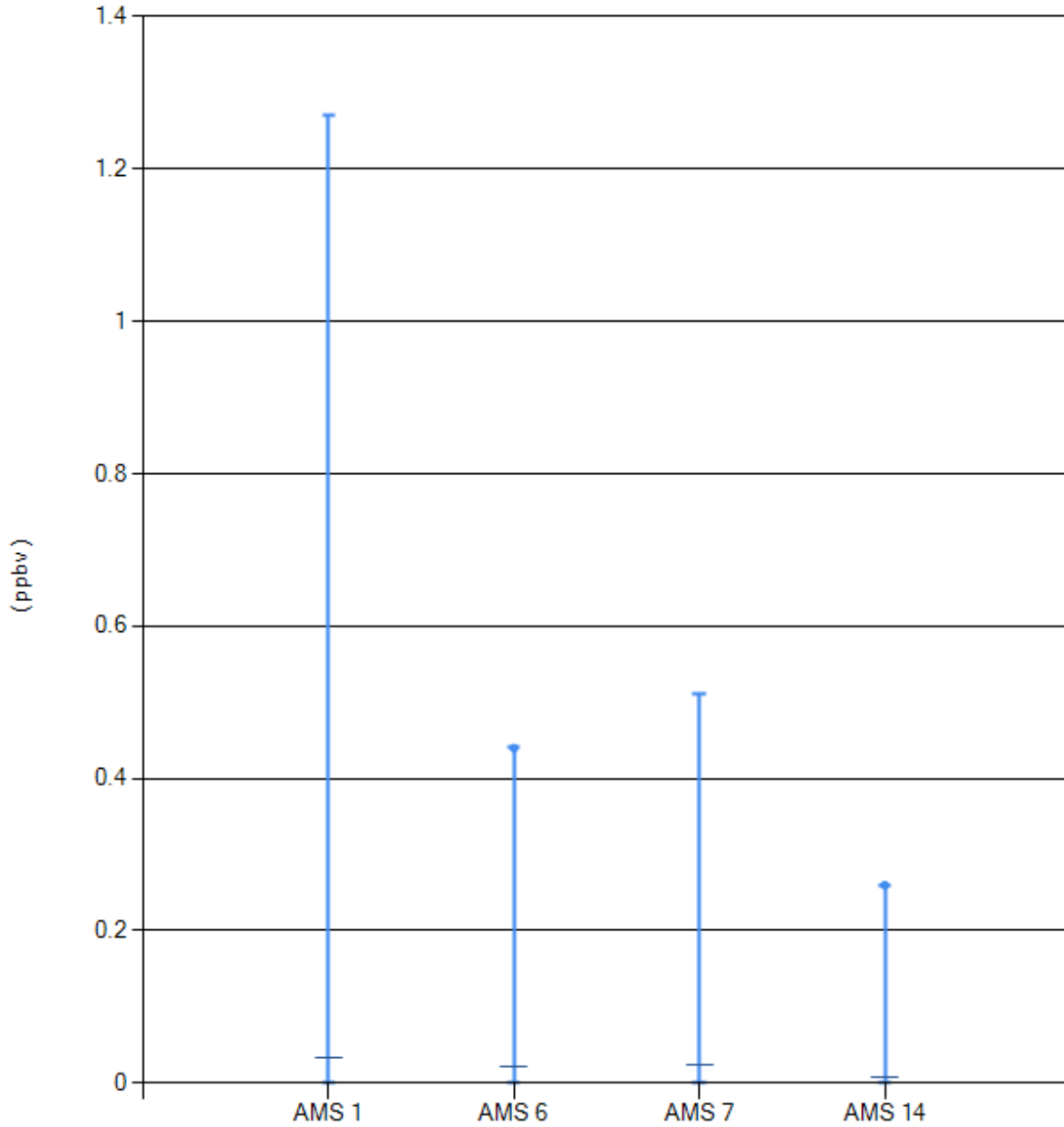
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	1.86	0.13
AMS 6 Patricia McInnes	0	0	0	0	0.5	0.02
AMS 7 Athabasca Valley	0	0	0	0	0.59	0.02
AMS 14 Anzac	0	0	0	0	0.48	0.01





VOC - o-Xylene - (ppbv) - 2014

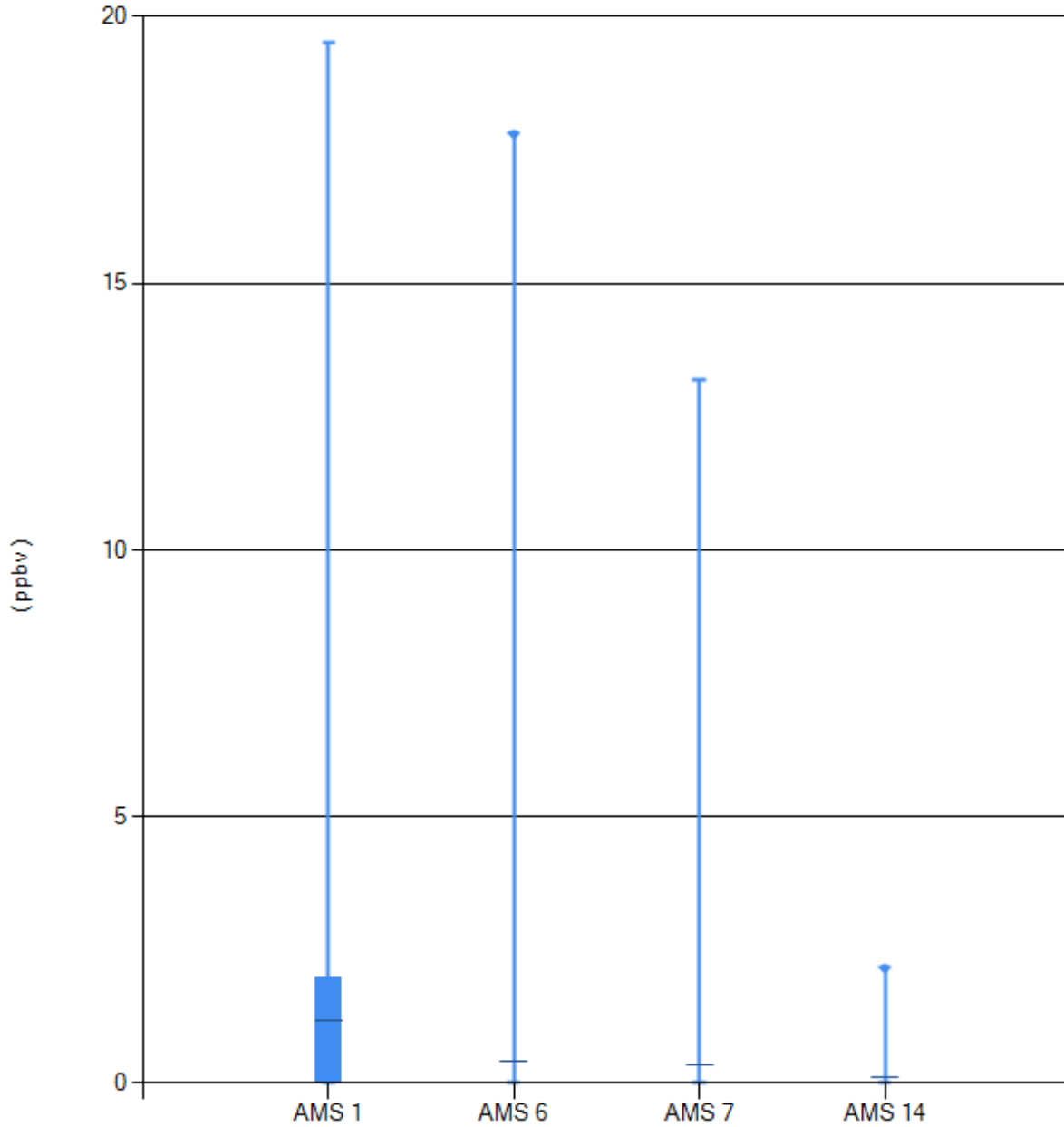
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	1.27	0.03
AMS 6 Patricia McInnes	0	0	0	0	0.44	0.02
AMS 7 Athabasca Valley	0	0	0	0	0.51	0.02
AMS 14 Anzac	0	0	0	0	0.26	0.01





VOC - Pentane - (ppbv) - 2014

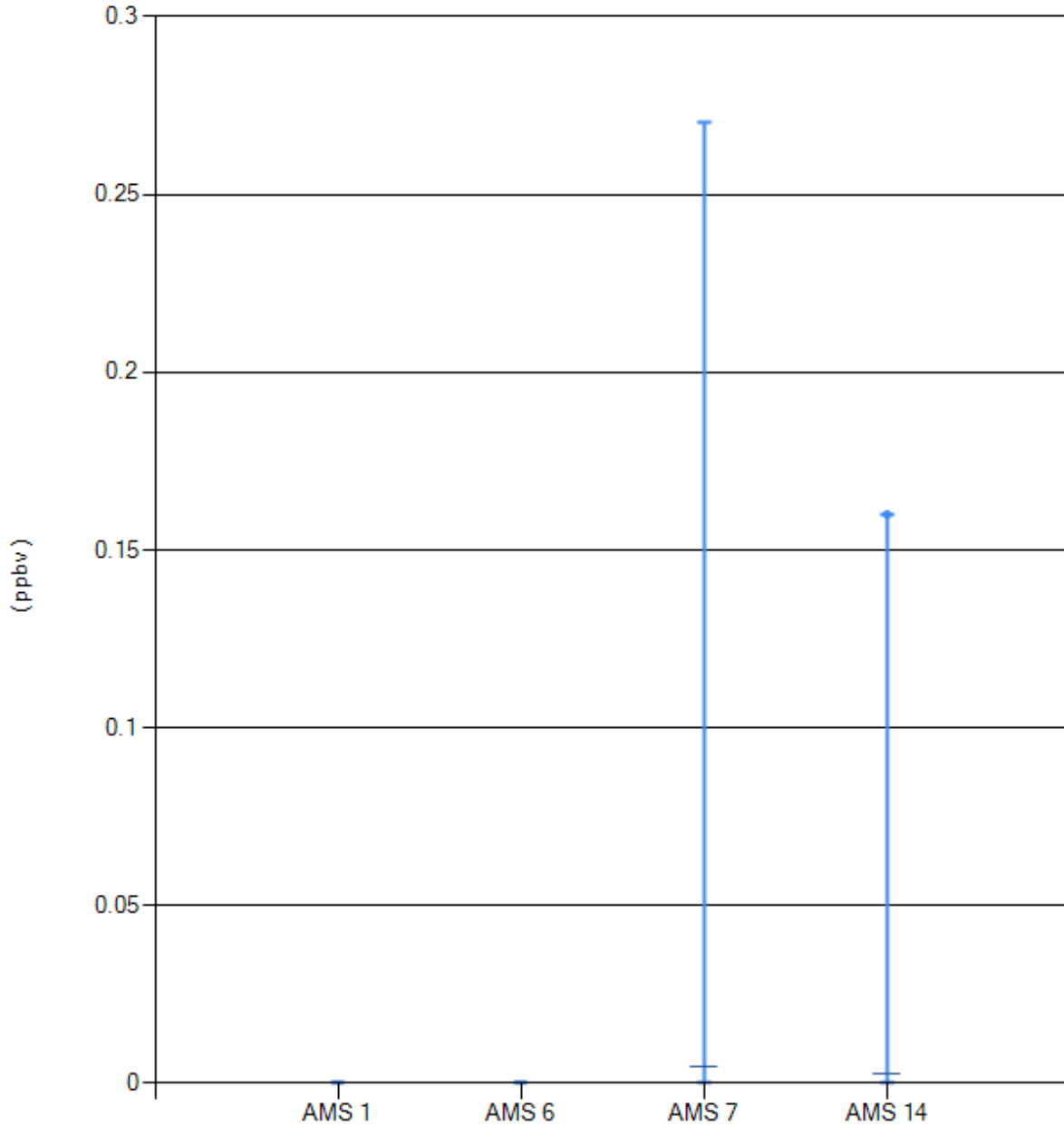
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	2.03	19.5	1.17
AMS 6 Patricia McInnes	0	0	0	0	17.8	0.42
AMS 7 Athabasca Valley	0	0	0	0	13.2	0.35
AMS 14 Anzac	0	0	0	0	2.16	0.11





VOC - Styrene - (ppbv) - 2014

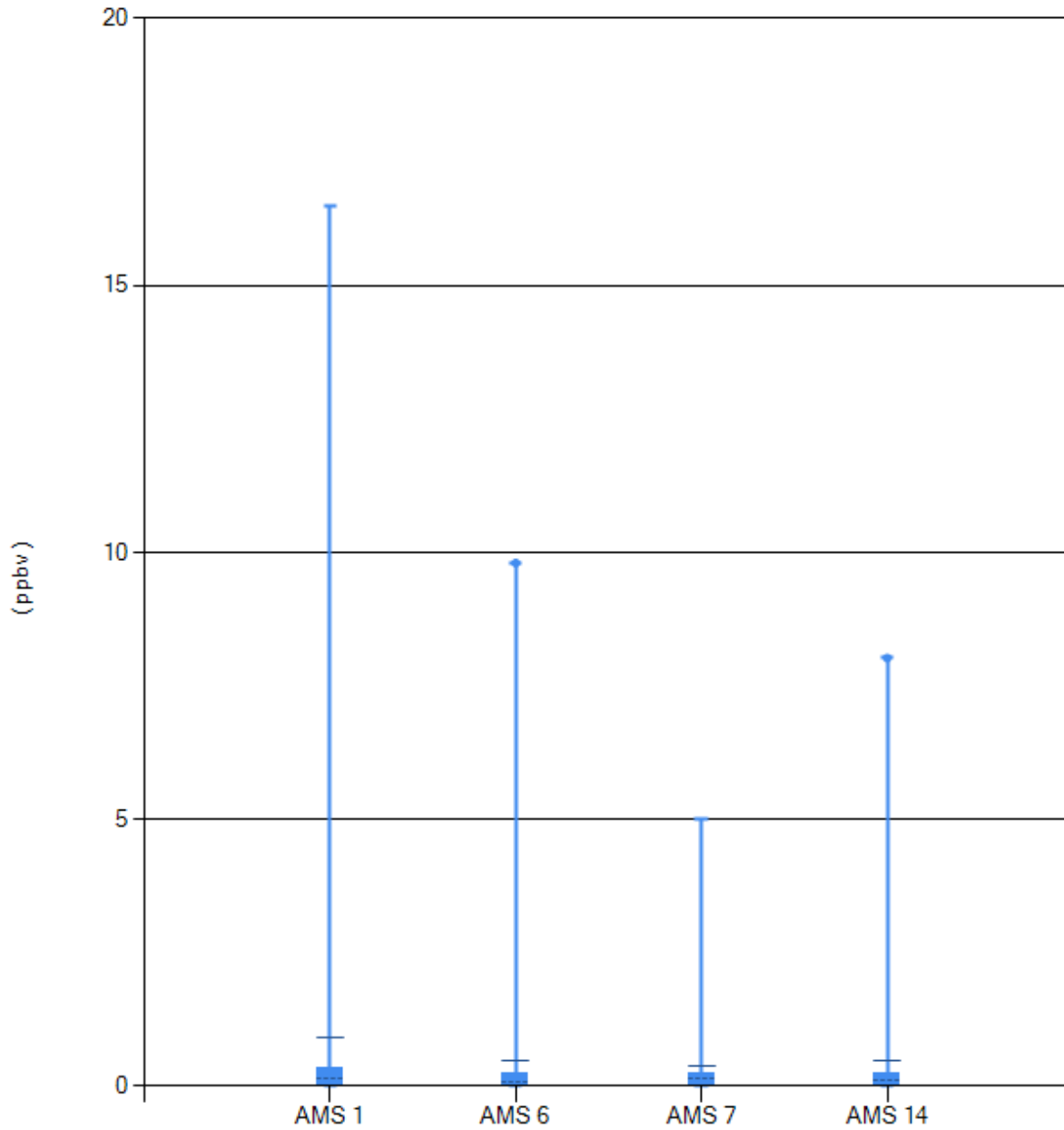
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.27	0
AMS 14 Anzac	0	0	0	0	0.16	0





VOC - Toluene - (ppbv) - 2014

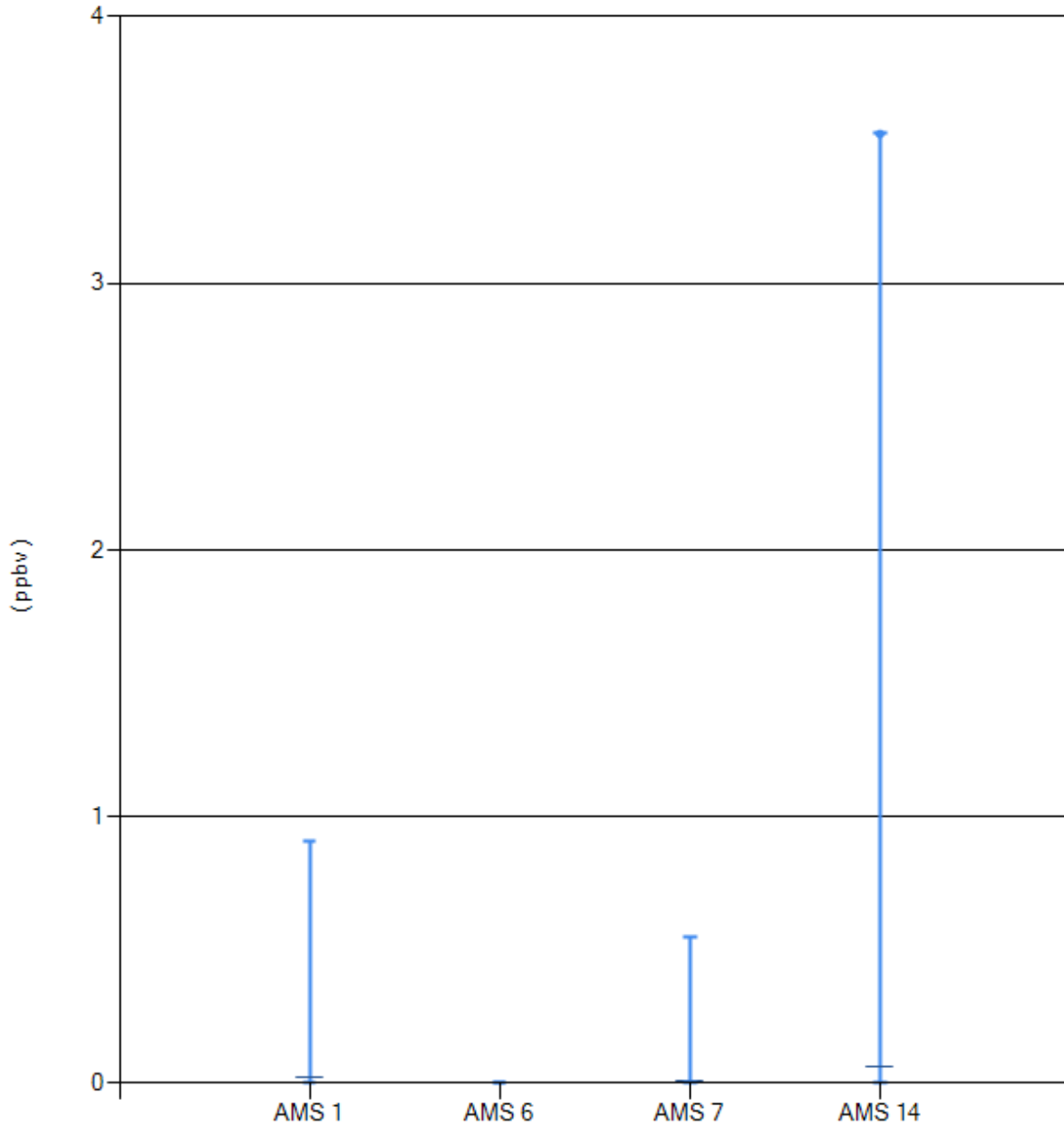
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0.15	0.33	16.5	0.91
AMS 6 Patricia McInnes	0	0	0.09	0.23	9.8	0.47
AMS 7 Athabasca Valley	0	0	0.14	0.24	5.02	0.39
AMS 14 Anzac	0	0	0.12	0.24	8.02	0.49





VOC - trans-2-Butene - (ppbv) - 2014

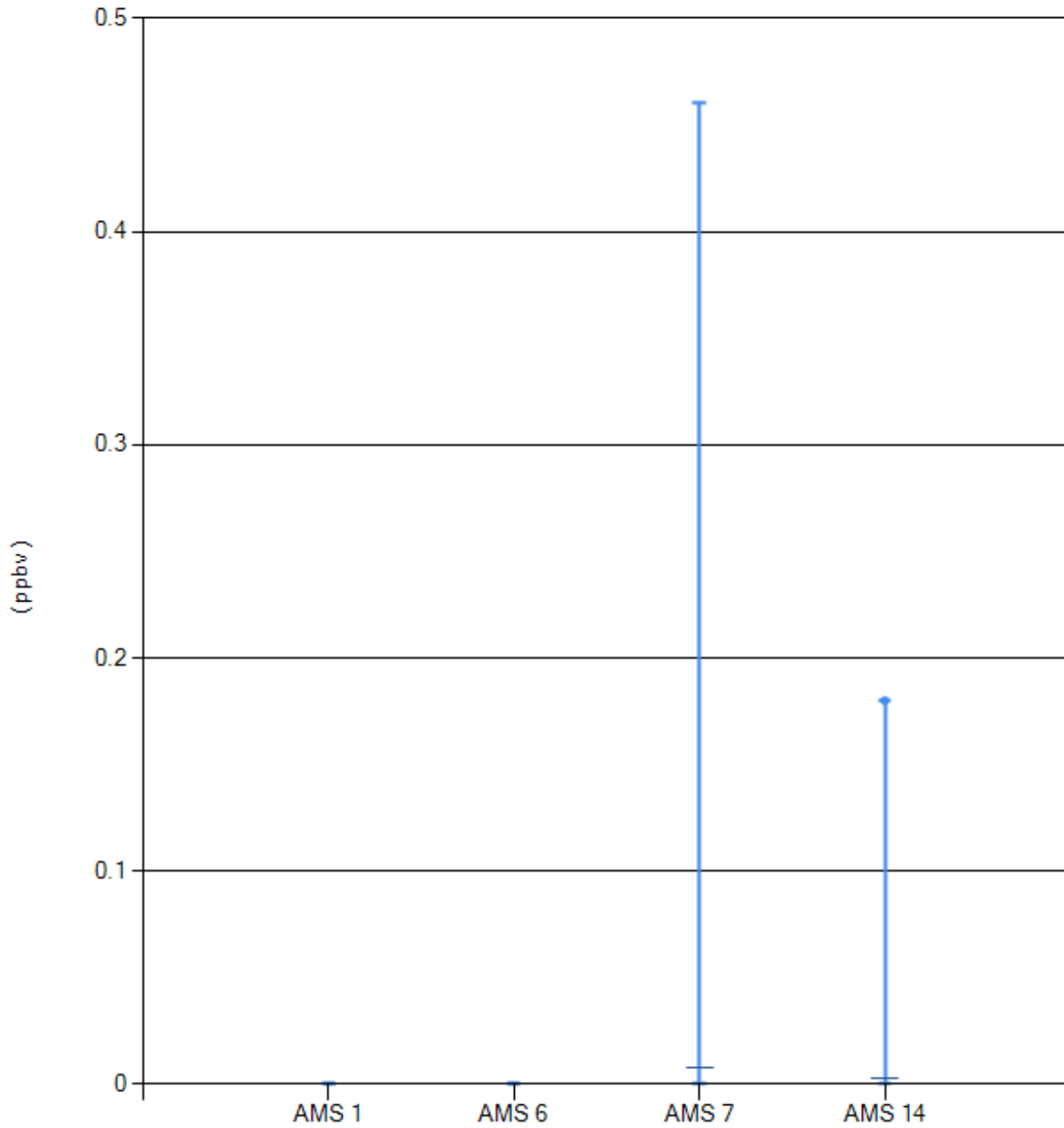
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.91	0.02
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.55	0.01
AMS 14 Anzac	0	0	0	0	3.56	0.06





VOC - trans-2-Hexene - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.46	0.01
AMS 14 Anzac	0	0	0	0	0.18	0

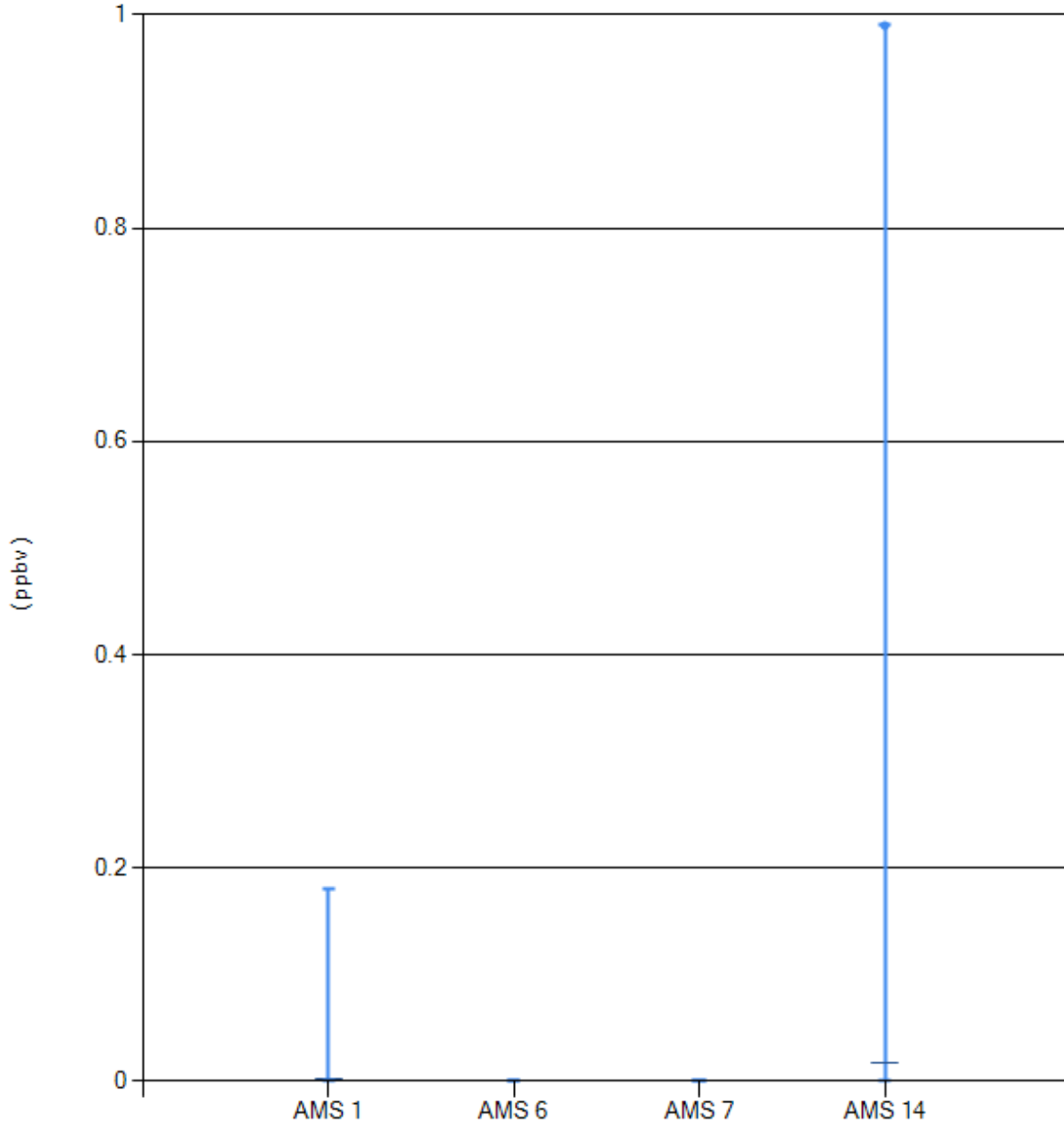






VOC - trans-2-Pentene - (ppbv) - 2014

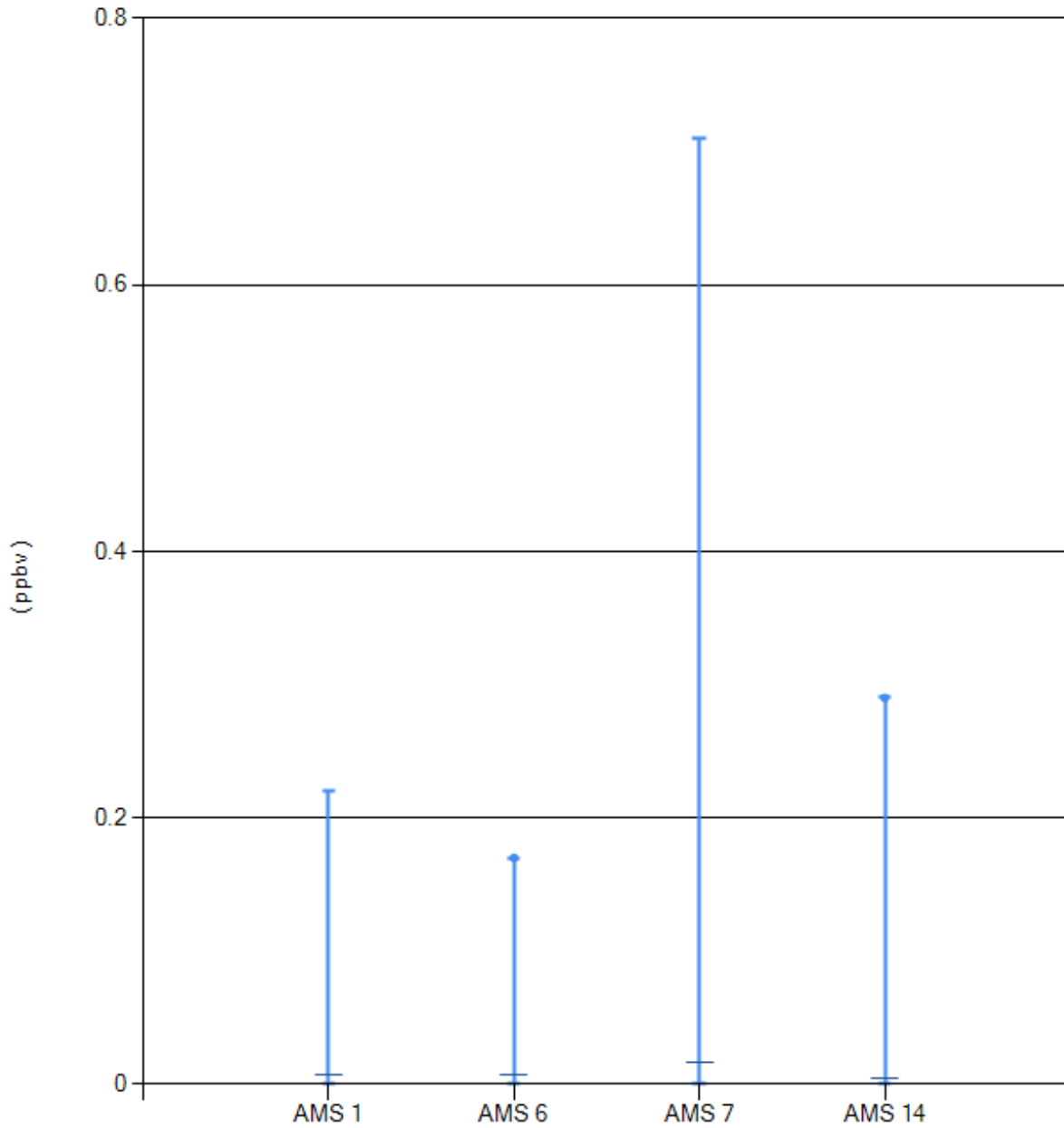
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.18	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0.99	0.02





VOC - Undecane - (ppbv) - 2014

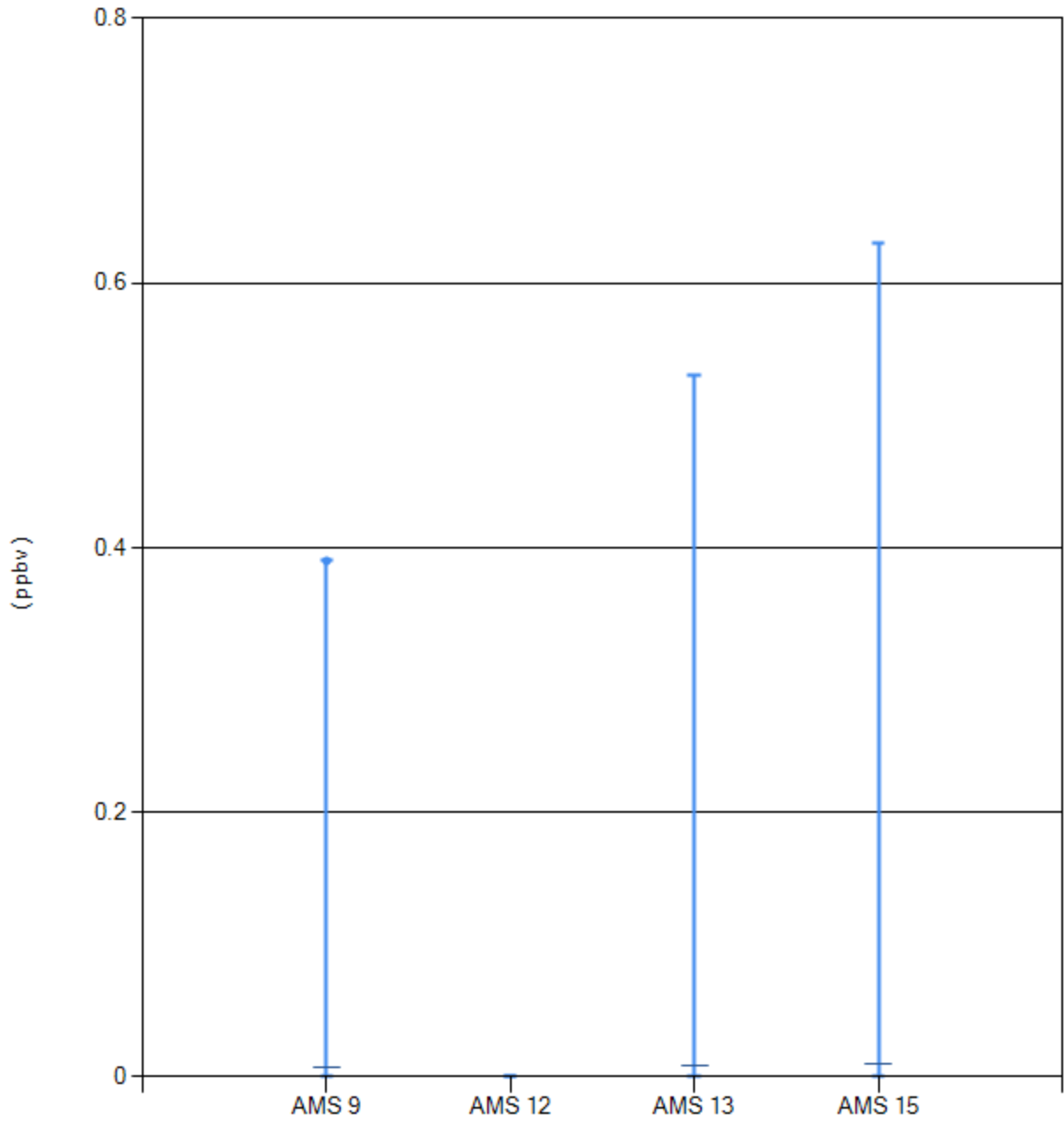
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.22	0.01
AMS 6 Patricia McInnes	0	0	0	0	0.17	0.01
AMS 7 Athabasca Valley	0	0	0	0	0.71	0.02
AMS 14 Anzac	0	0	0	0	0.29	0





Volatile Organic Compound (VOC) - trans-2-Pentene - (ppbv) - 2014

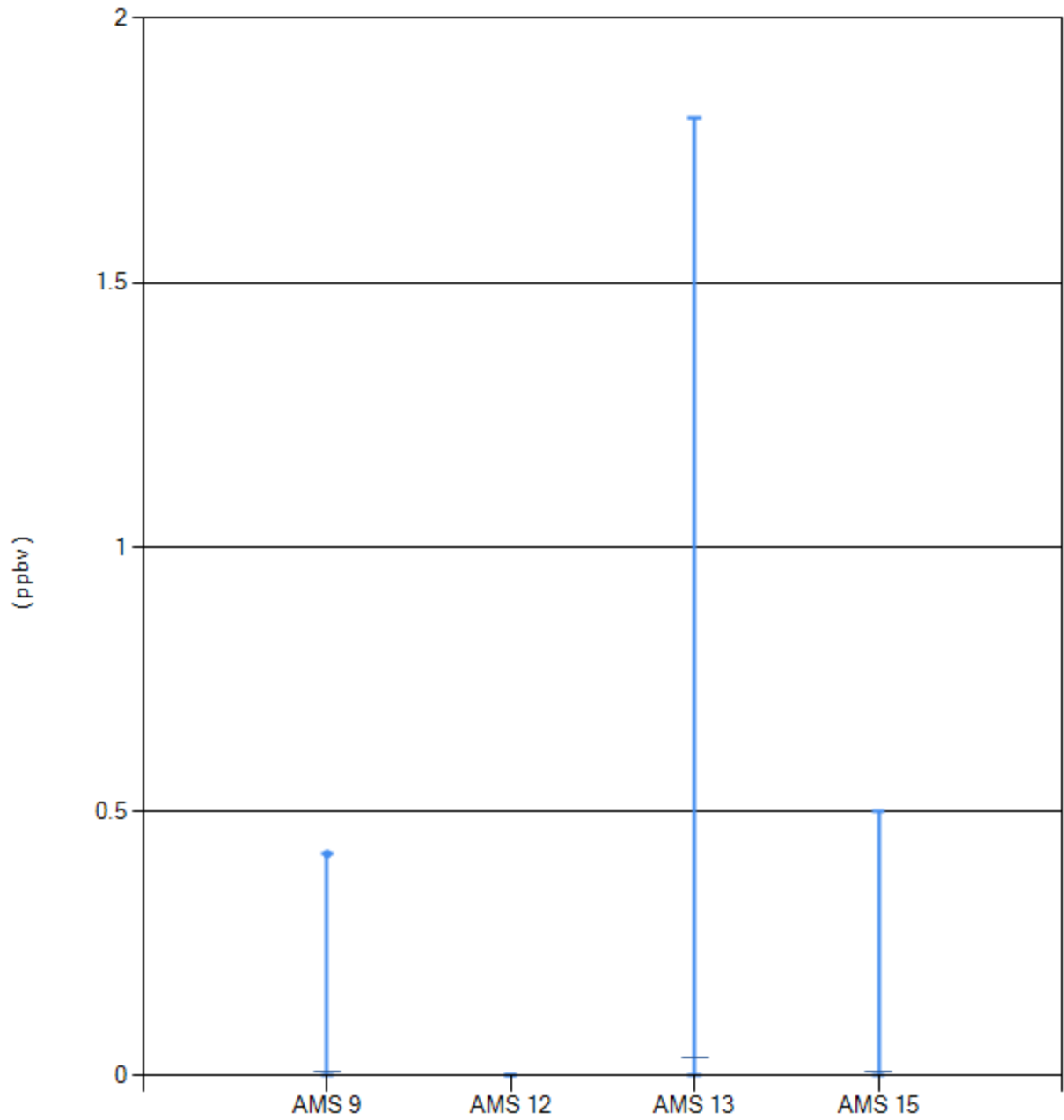
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.39	0.01
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0.53	0.01
AMS 15 Horizon	0	0	0	0	0.63	0.01





Volatile Organic Compound (VOC) - trans-2-Hexene - (ppbv) - 2014

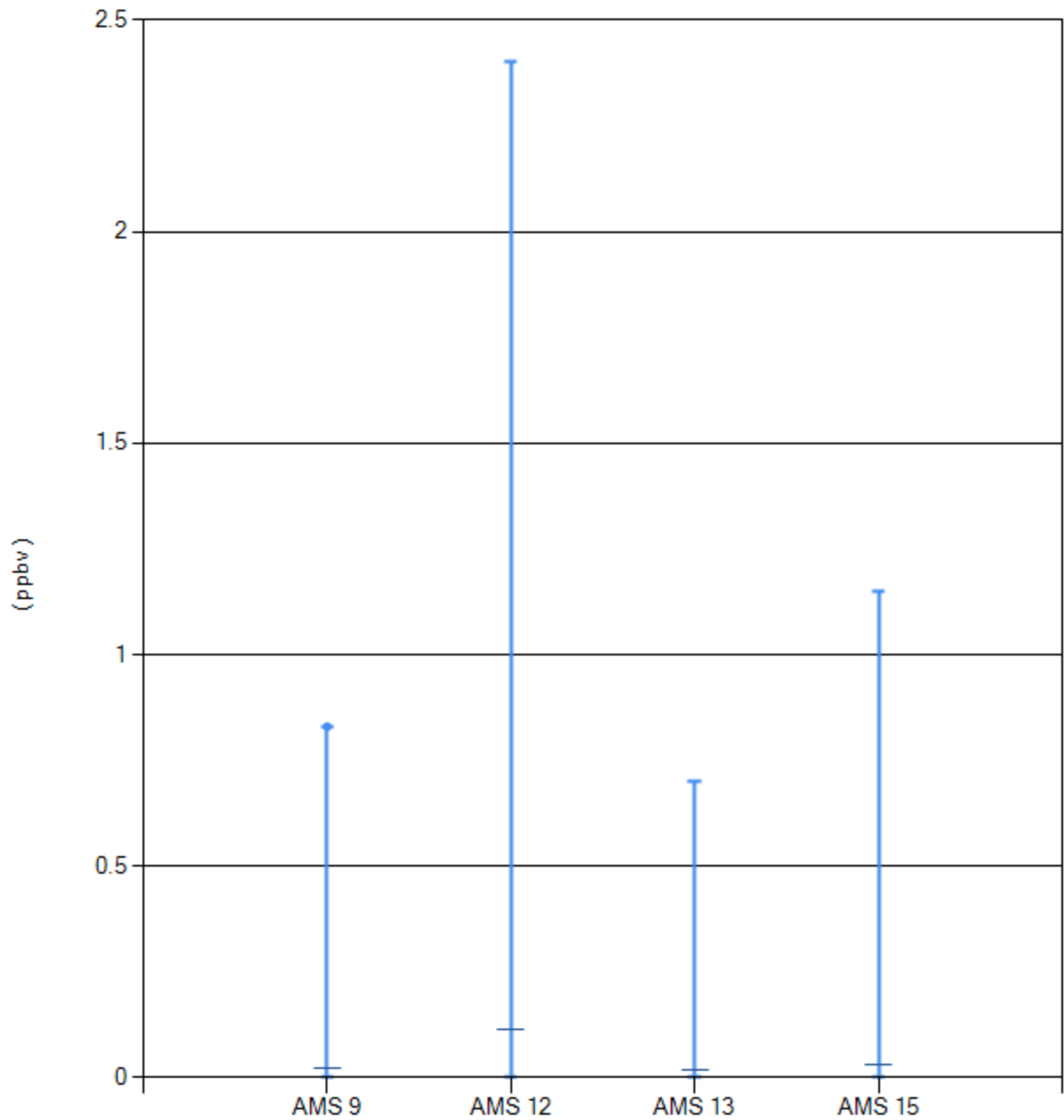
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.42	0.01
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	1.81	0.04
AMS 15 Horizon	0	0	0	0	0.5	0.01





Volatile Organic Compound (VOC) - trans-2-Butene - (ppbv) - 2014

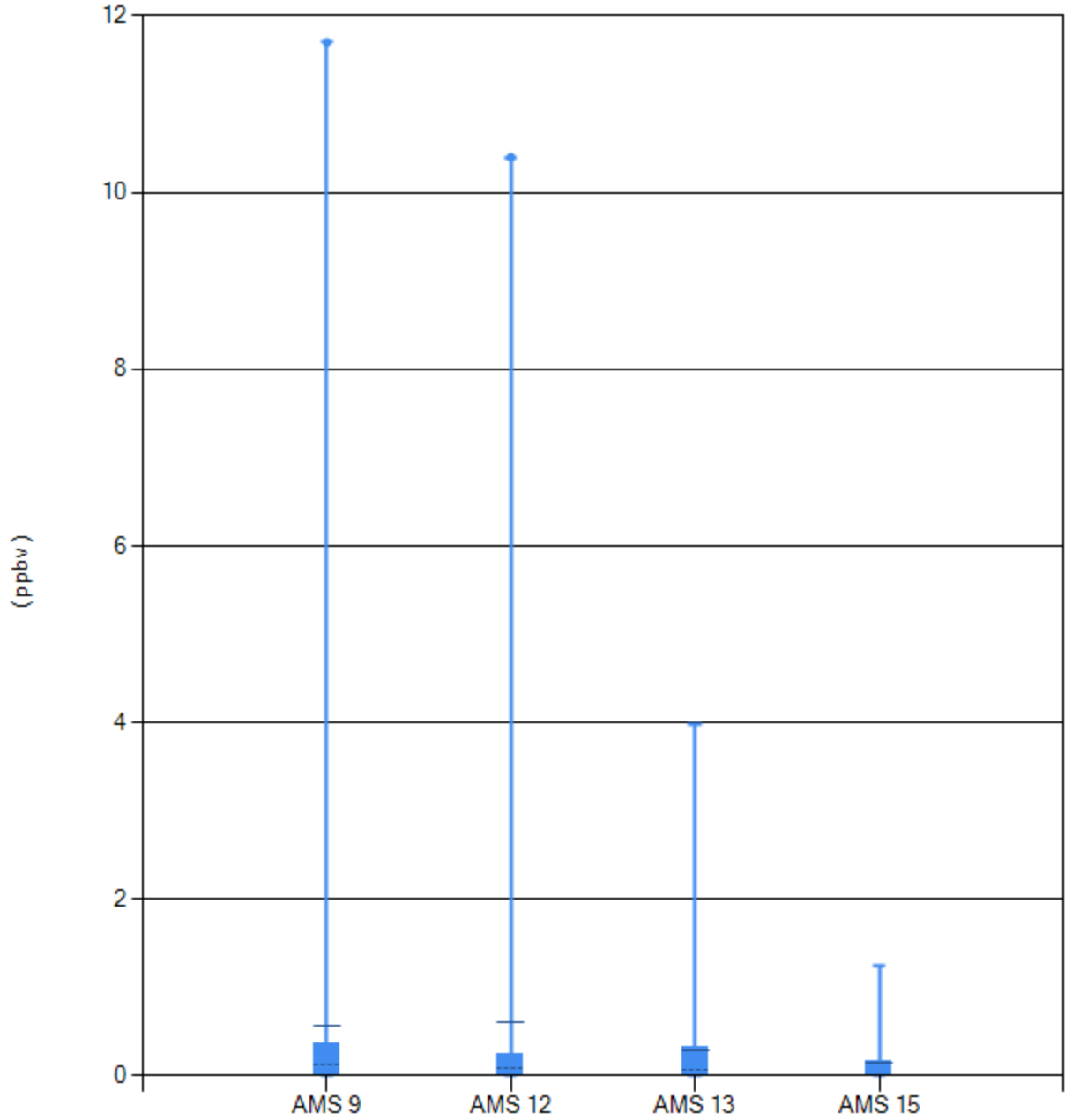
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.83	0.02
AMS 12 Millennium	0	0	0	0	2.4	0.11
AMS 13 Fort McKay South	0	0	0	0	0.7	0.02
AMS 15 Horizon	0	0	0	0	1.15	0.03





Volatile Organic Compound (VOC) - Toluene - (ppbv) - 2014

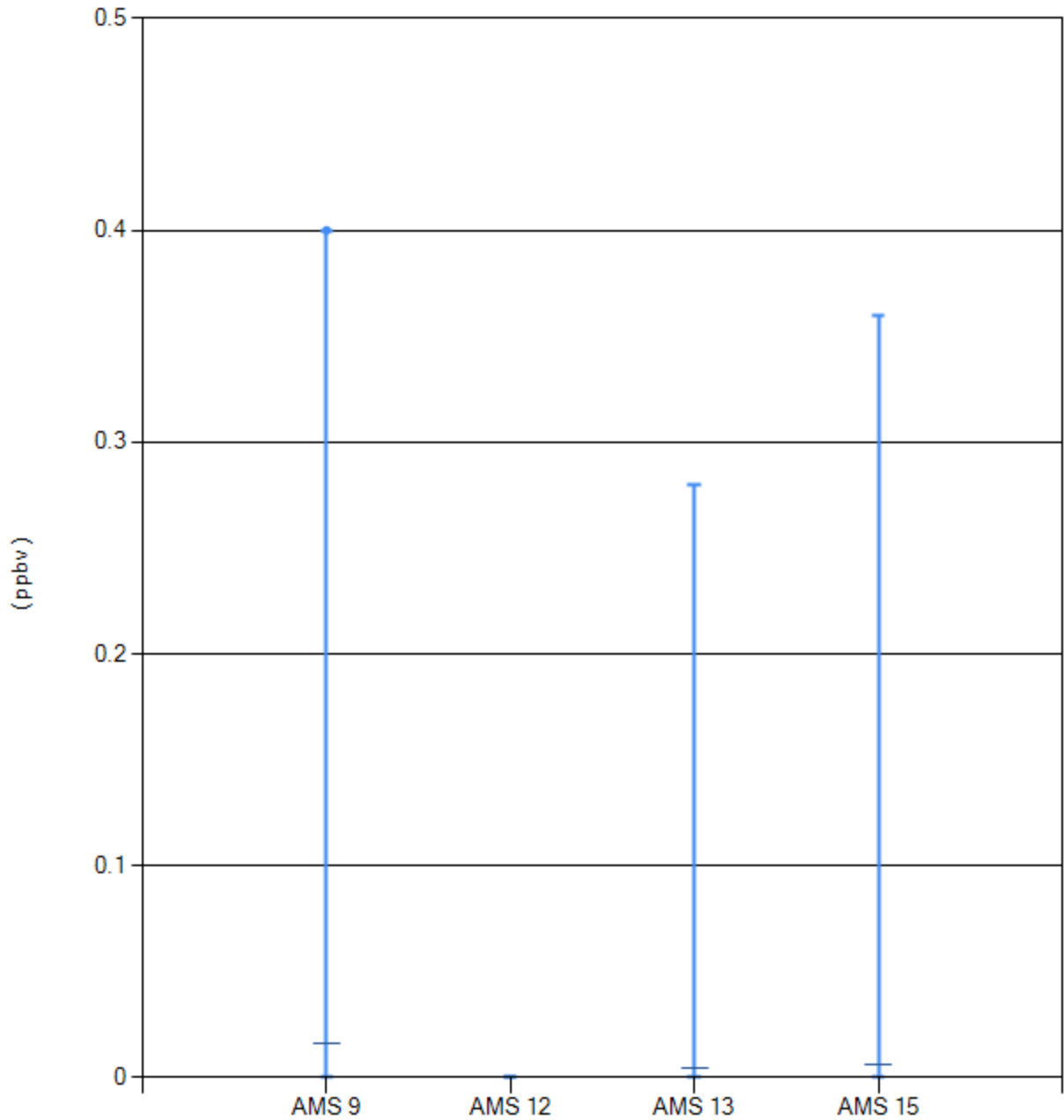
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0.12	0.37	11.7	0.58
AMS 12 Millennium	0	0	0.08	0.25	10.4	0.61
AMS 13 Fort McKay South	0	0	0.07	0.33	3.98	0.28
AMS 15 Horizon	0	0	0	0.16	1.24	0.14





Volatile Organic Compound (VOC) - Styrene - (ppbv) - 2014

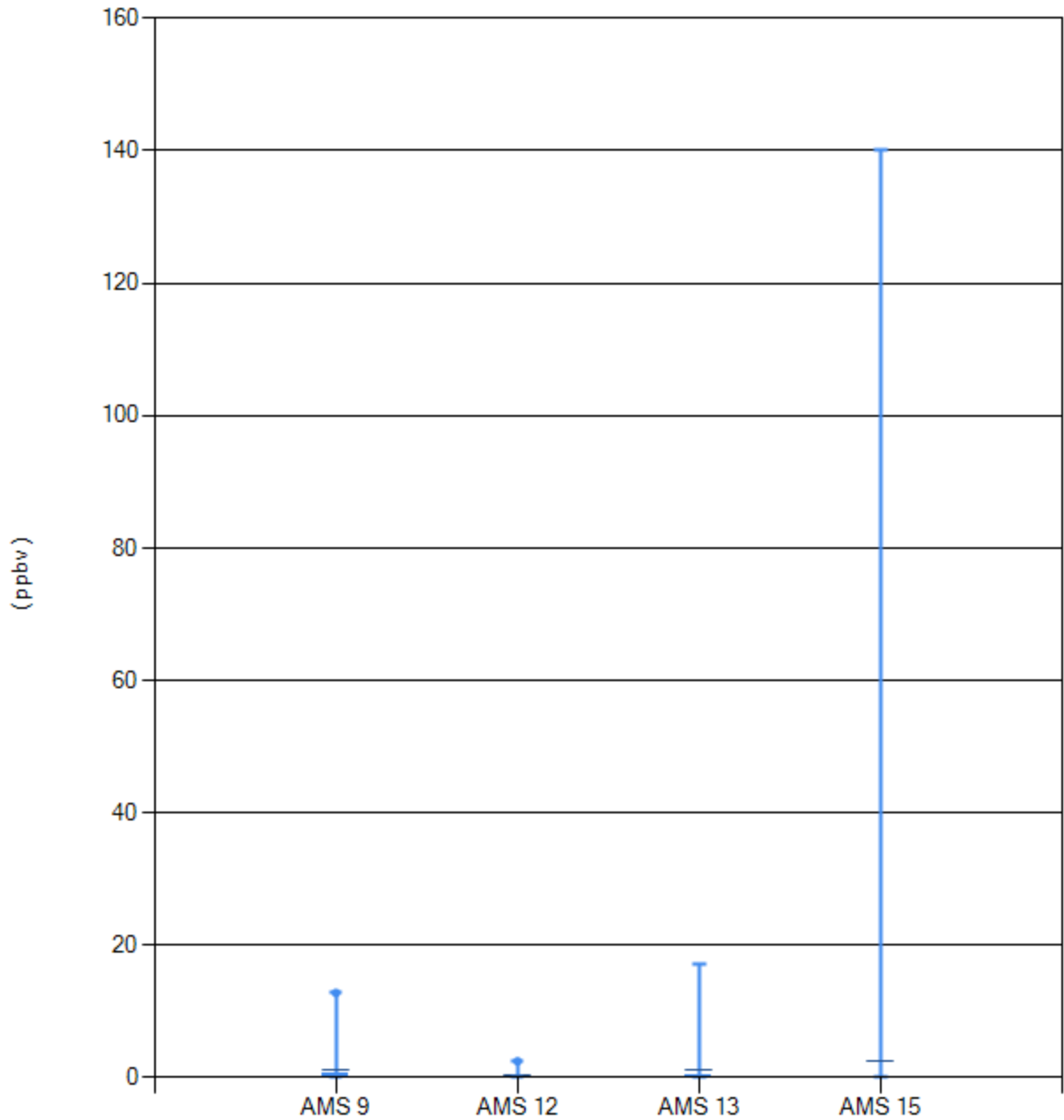
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.4	0.02
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0.28	0
AMS 15 Horizon	0	0	0	0	0.36	0.01





Volatile Organic Compound (VOC) - Pentane - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0.67	12.8	1.06
AMS 12 Millennium	0	0	0	0	2.47	0.26
AMS 13 Fort McKay South	0	0	0	0.33	17.1	1.05
AMS 15 Horizon	0	0	0	0	140	2.46

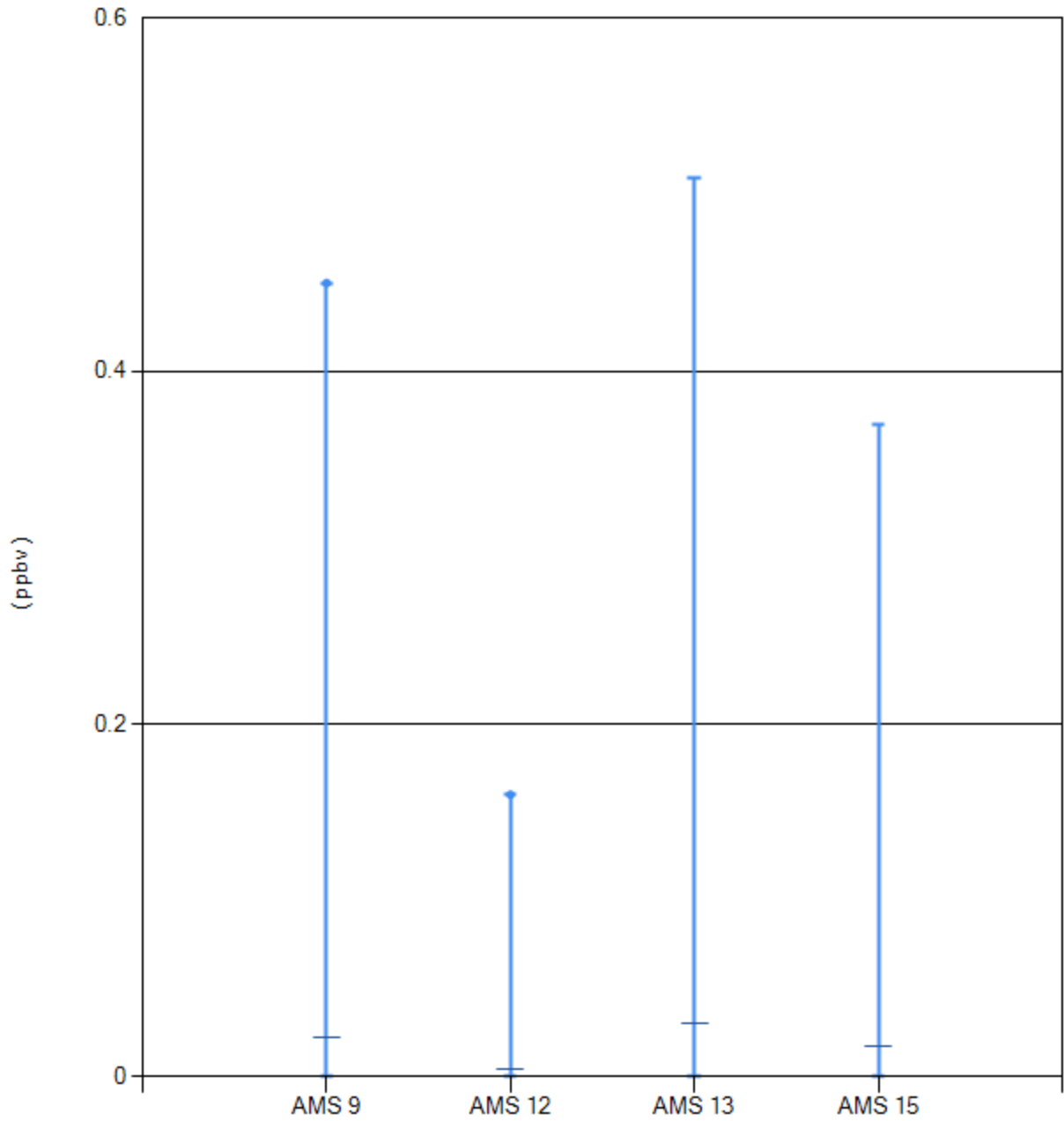






Volatile Organic Compound (VOC) - o-Xylene - (ppbv) - 2014

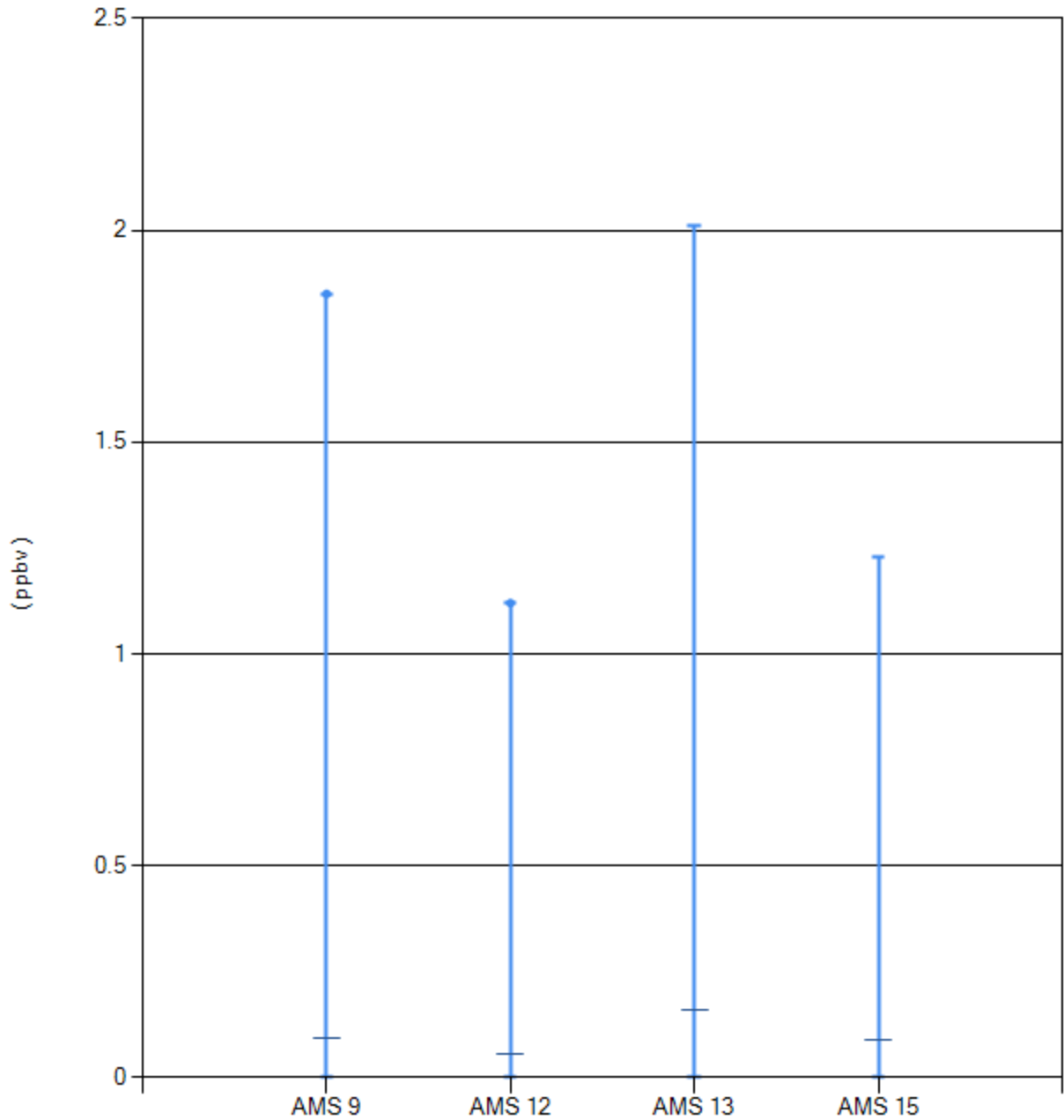
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.45	0.02
AMS 12 Millennium	0	0	0	0	0.16	0
AMS 13 Fort McKay South	0	0	0	0	0.51	0.03
AMS 15 Horizon	0	0	0	0	0.37	0.02





Volatile Organic Compound (VOC) - Octane - (ppbv) - 2014

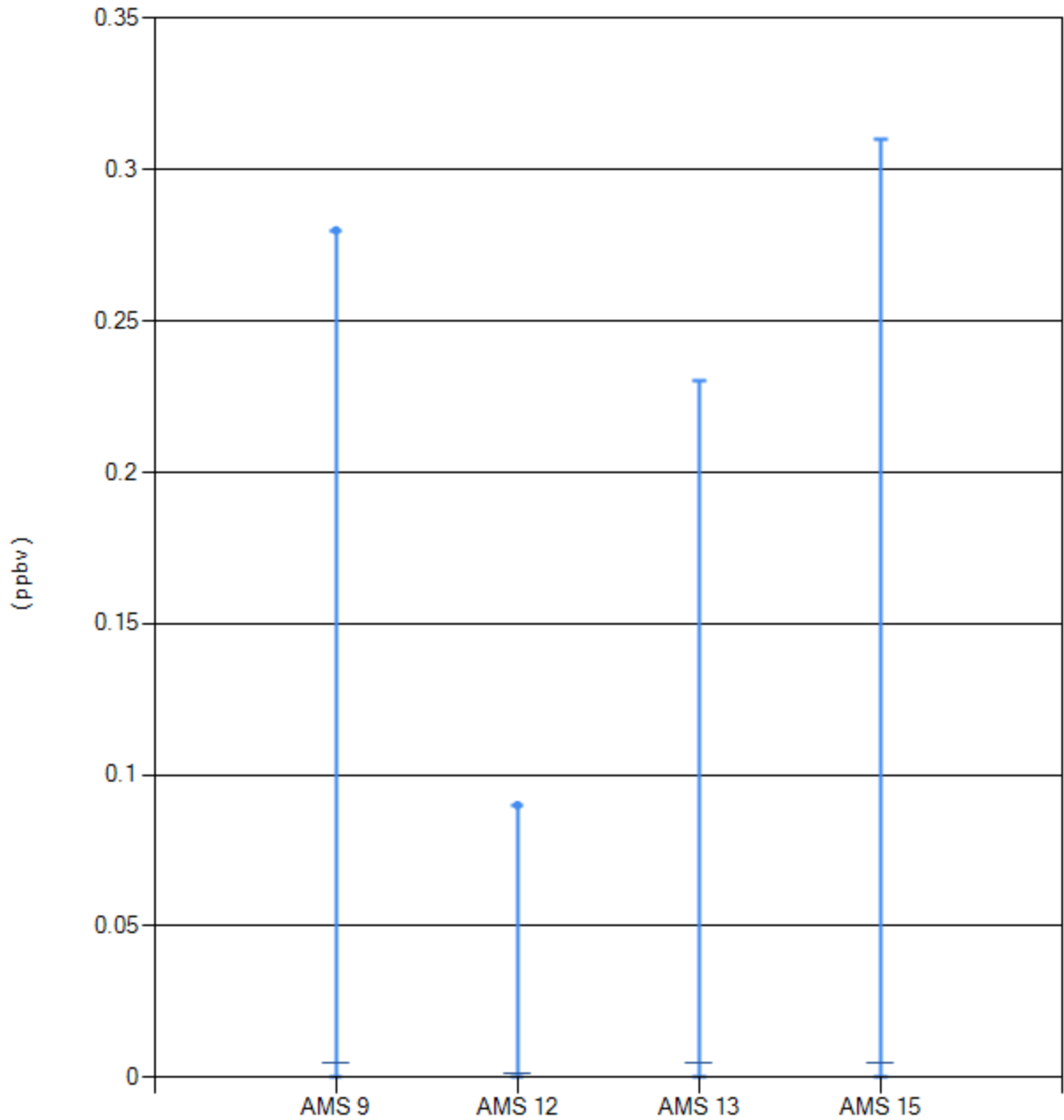
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	1.85	0.09
AMS 12 Millennium	0	0	0	0	1.12	0.05
AMS 13 Fort McKay South	0	0	0	0	2.01	0.16
AMS 15 Horizon	0	0	0	0	1.23	0.09





Volatile Organic Compound (VOC) - n-Propylbenzene - (ppbv) - 2014

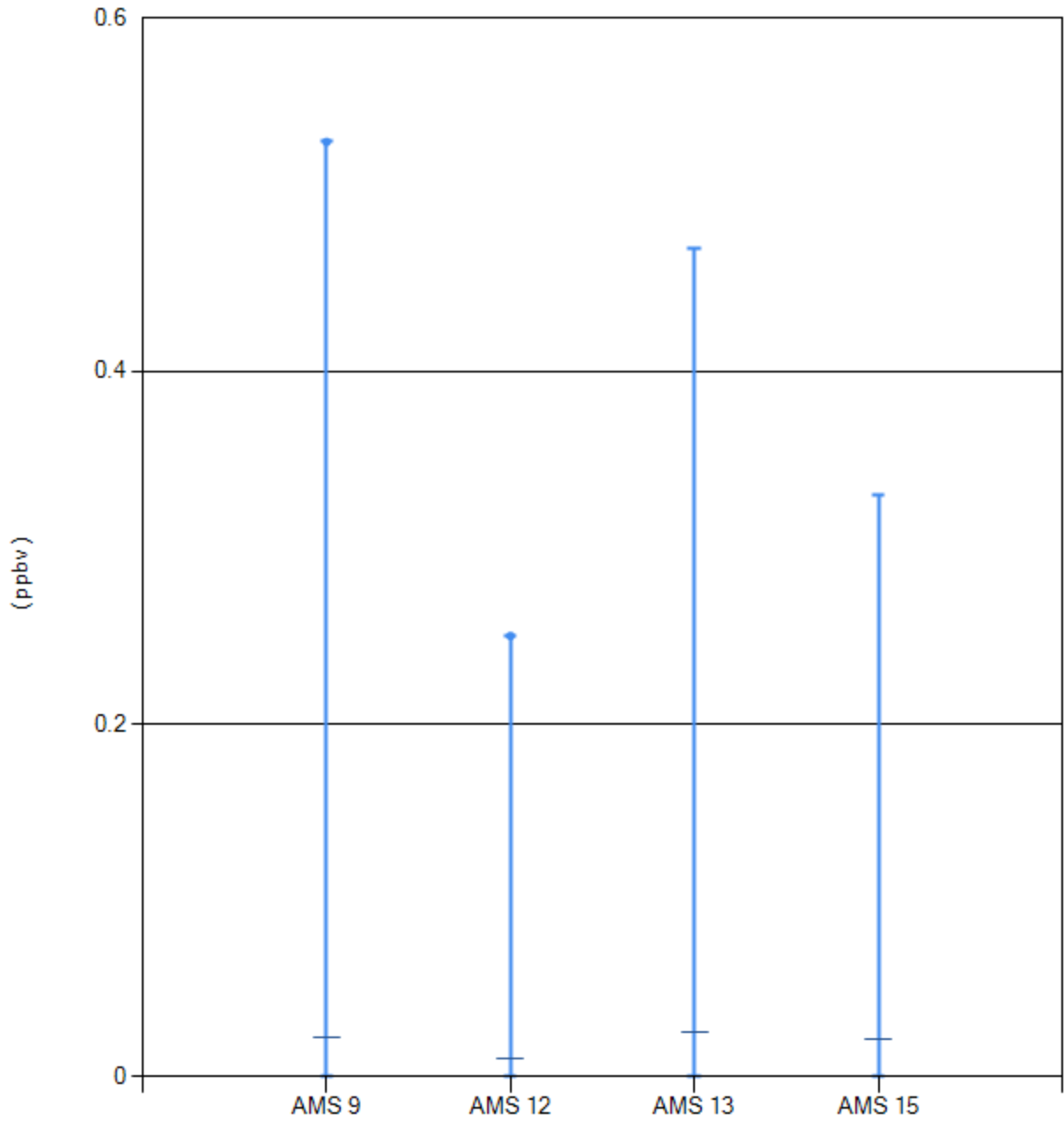
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.28	0
AMS 12 Millennium	0	0	0	0	0.09	0
AMS 13 Fort McKay South	0	0	0	0	0.23	0
AMS 15 Horizon	0	0	0	0	0.31	0.01





Volatile Organic Compound (VOC) - Nonane - (ppbv) - 2014

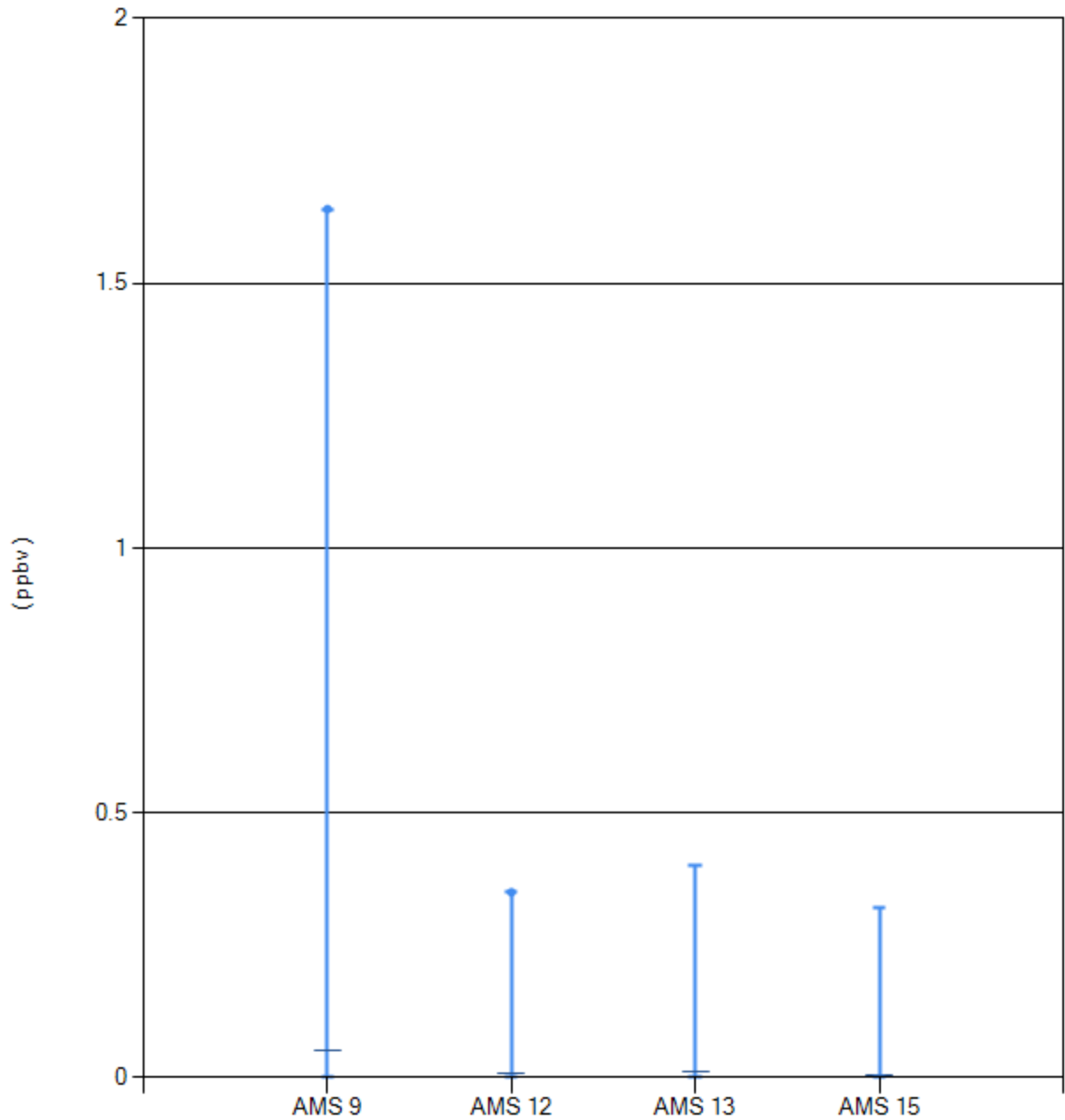
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.53	0.02
AMS 12 Millennium	0	0	0	0	0.25	0.01
AMS 13 Fort McKay South	0	0	0	0	0.47	0.03
AMS 15 Horizon	0	0	0	0	0.33	0.02





Volatile Organic Compound (VOC) - Naphthalene - (ppbv) - 2014

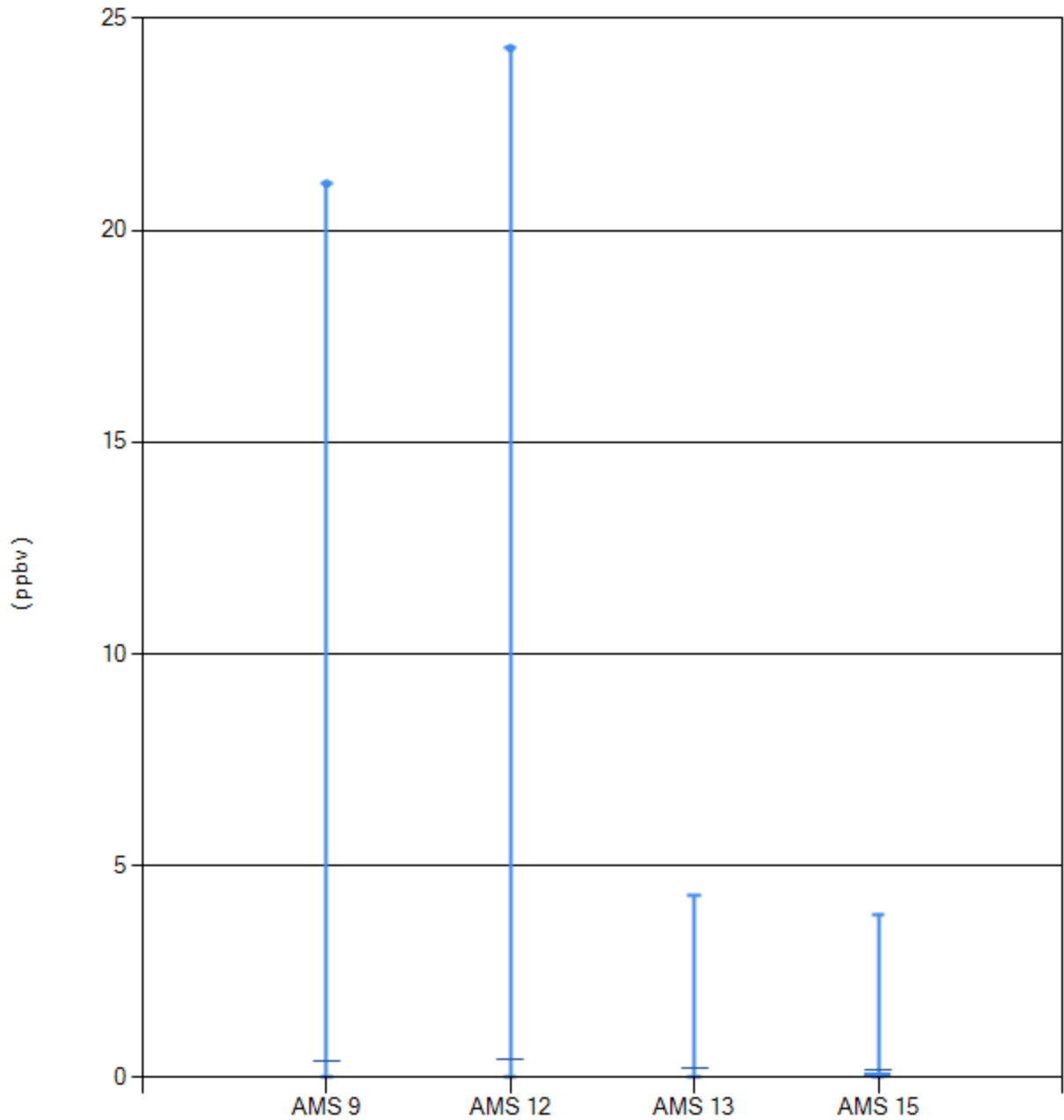
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	1.64	0.05
AMS 12 Millennium	0	0	0	0	0.35	0.01
AMS 13 Fort McKay South	0	0	0	0	0.4	0.01
AMS 15 Horizon	0	0	0	0	0.32	0.01





Volatile Organic Compound (VOC) - Methylcyclopentane - (ppbv) - 2014

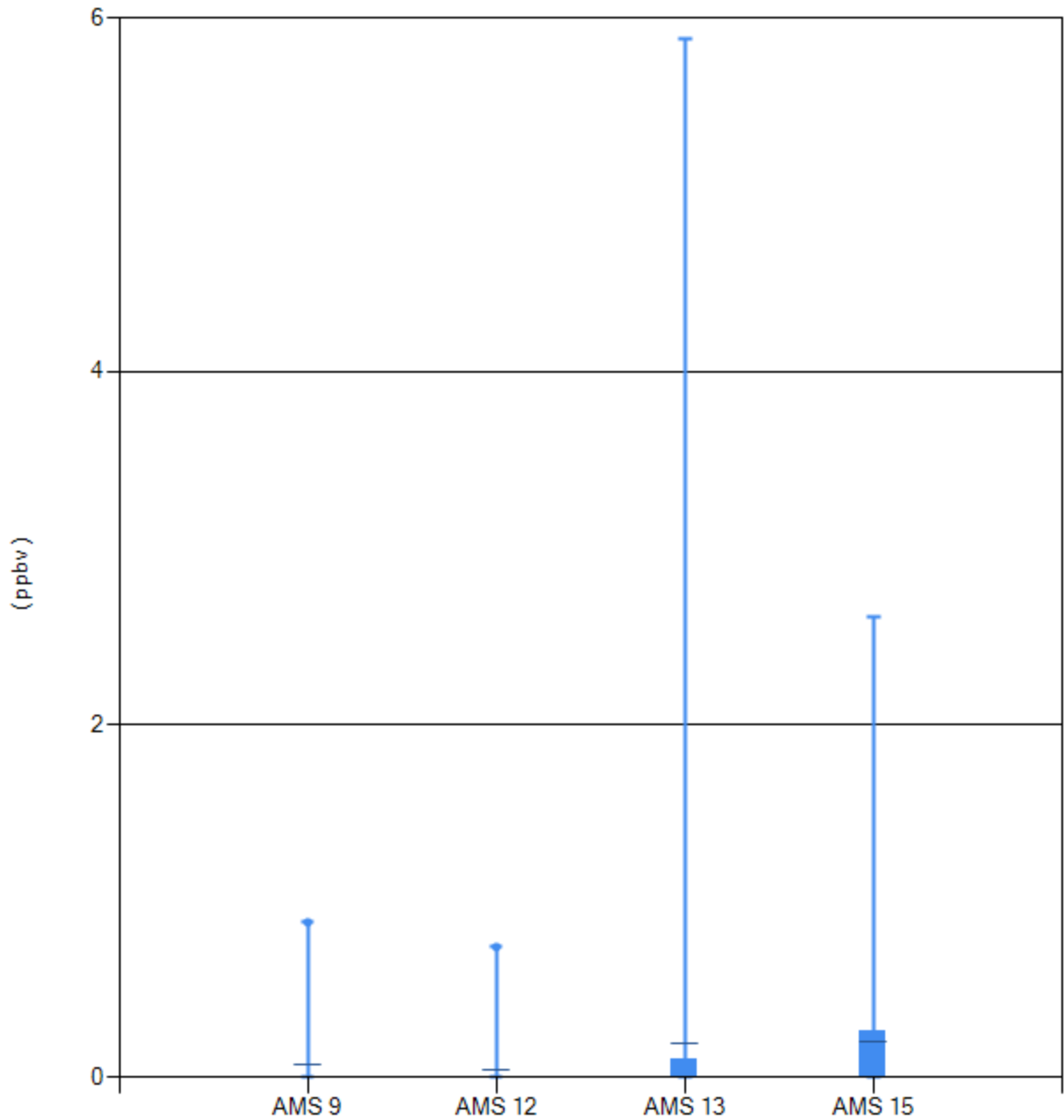
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	21.1	0.4
AMS 12 Millennium	0	0	0	0	24.3	0.42
AMS 13 Fort McKay South	0	0	0	0	4.28	0.23
AMS 15 Horizon	0	0	0	0.08	3.83	0.19





Volatile Organic Compound (VOC) - Methylcyclohexane - (ppbv) - 2014

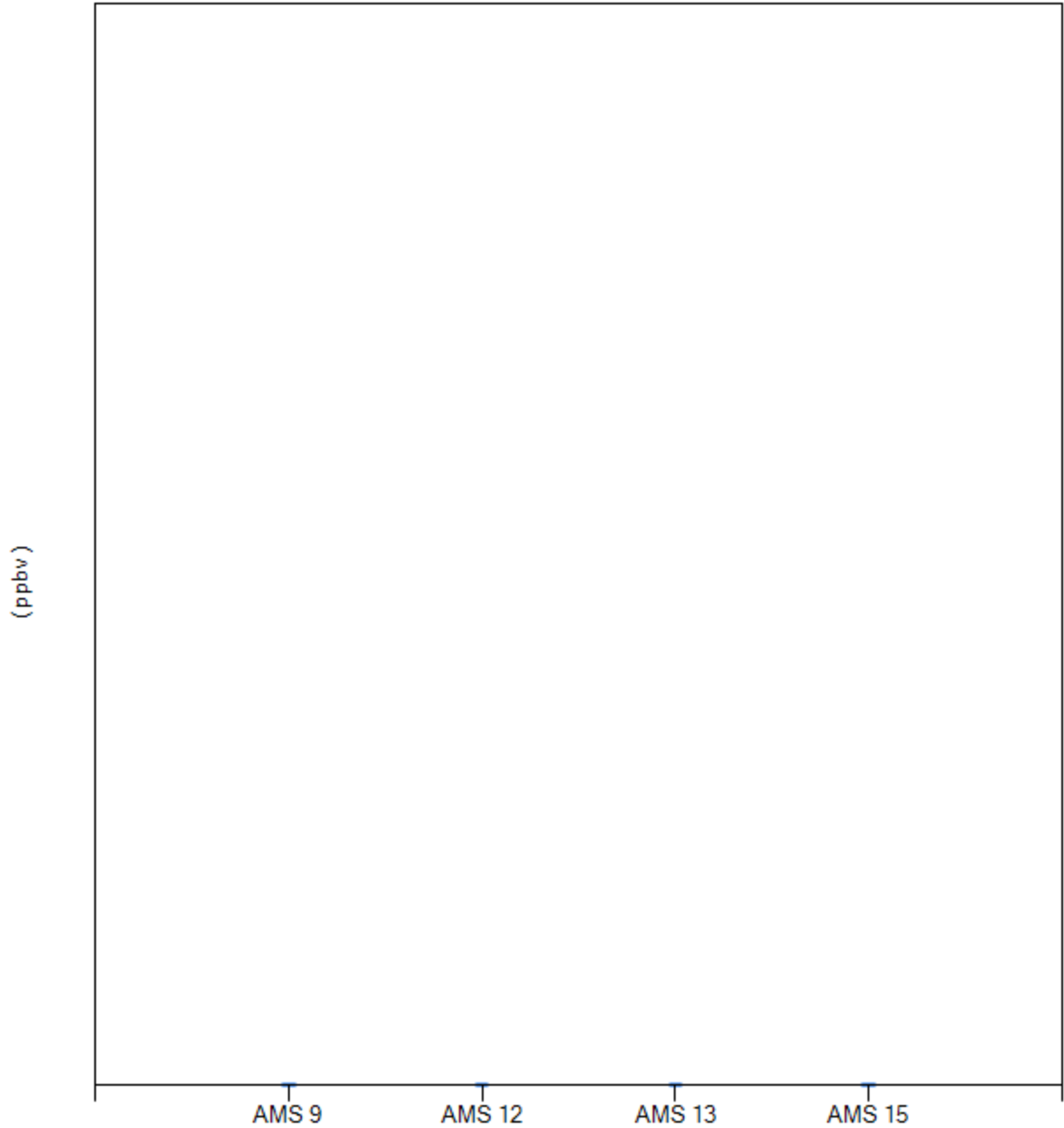
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.88	0.08
AMS 12 Millennium	0	0	0	0	0.74	0.04
AMS 13 Fort McKay South	0	0	0	0.11	5.88	0.2
AMS 15 Horizon	0	0	0	0.27	2.61	0.2





Volatile Organic Compound (VOC) - Methyl isobutyl ketone - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0

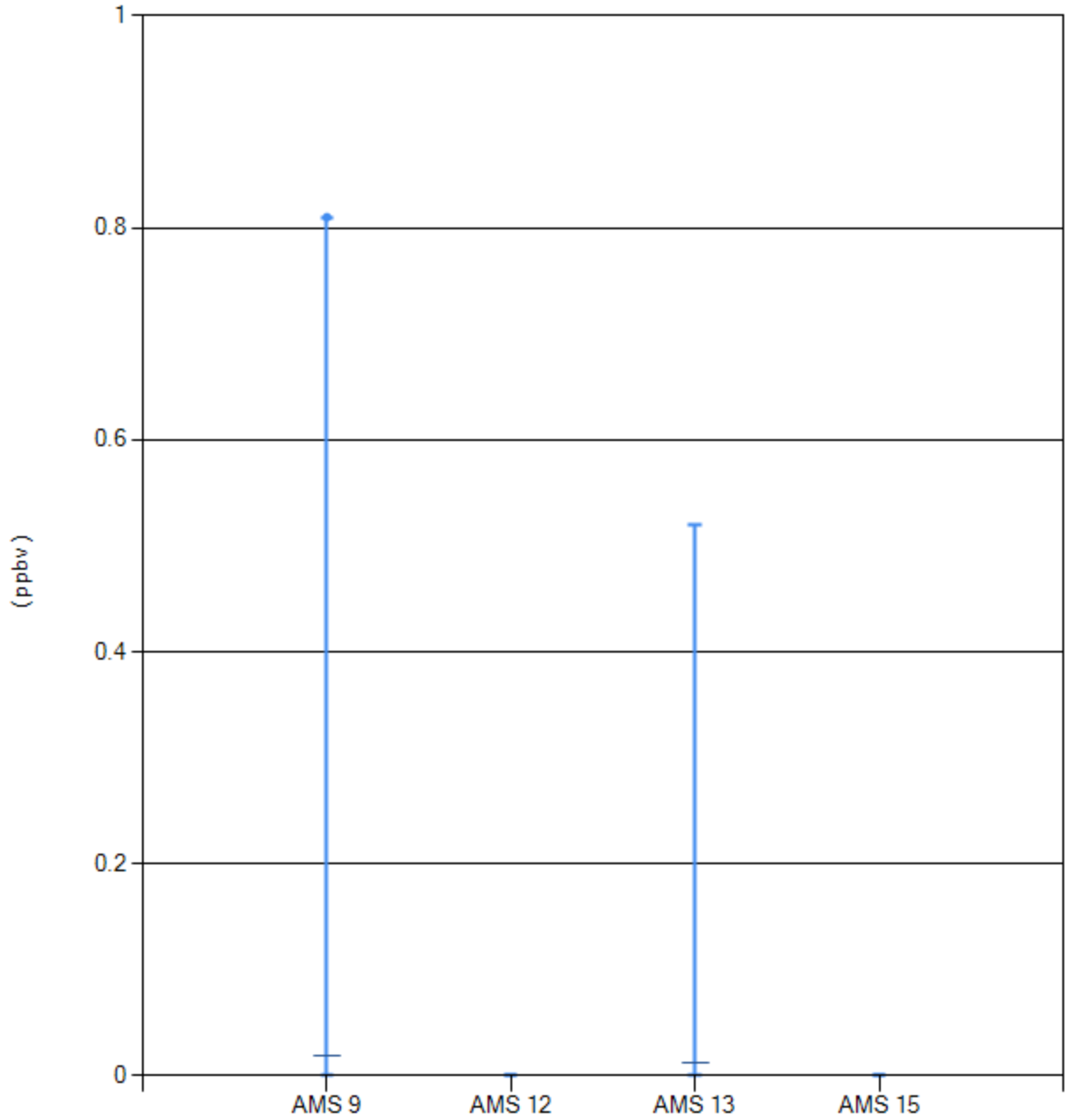






Volatile Organic Compound (VOC) - Methyl ethyl ketone - (ppbv) - 2014

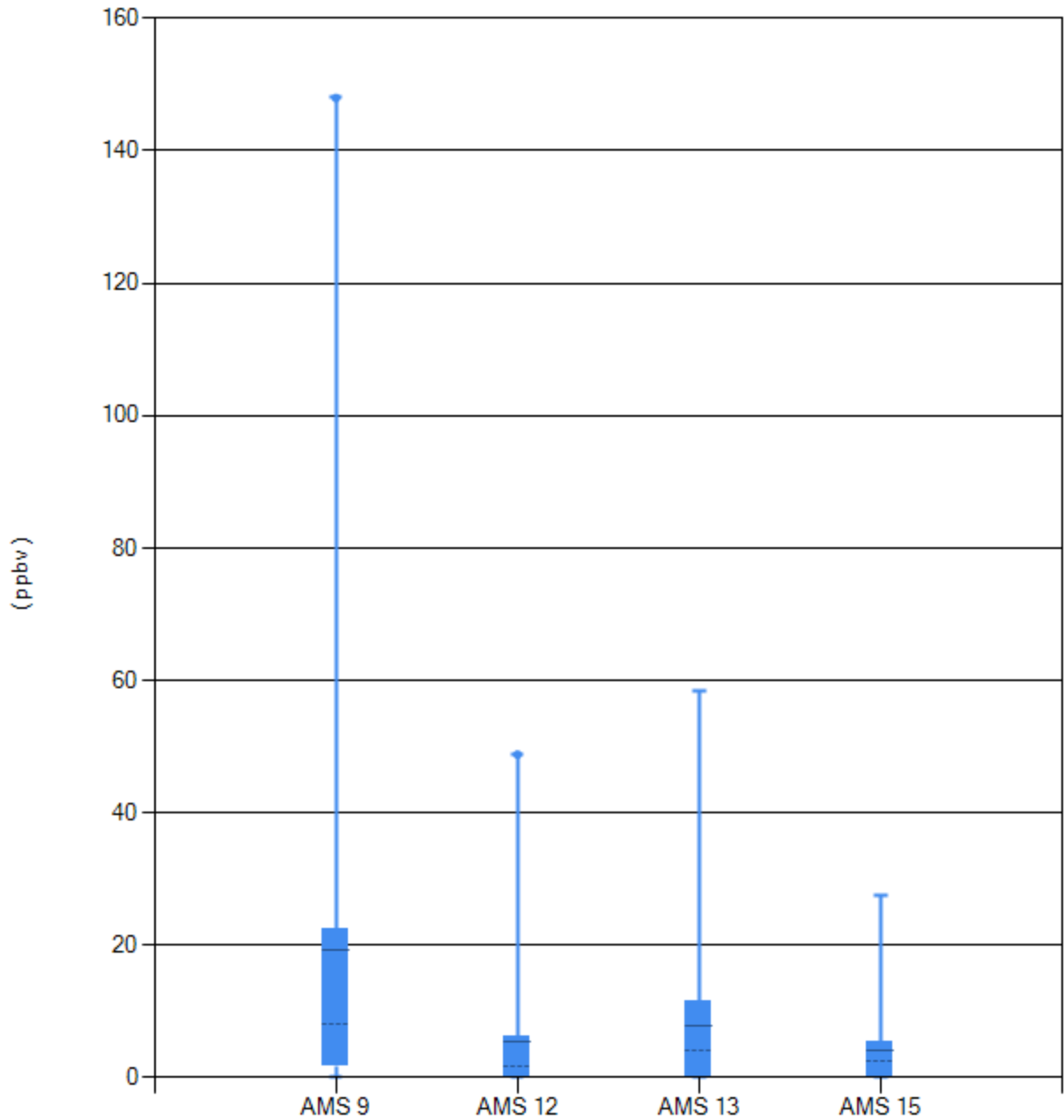
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.81	0.02
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0.52	0.01
AMS 15 Horizon	0	0	0	0	0	0





Volatile Organic Compound (VOC) - Methanol - (ppbv) - 2014

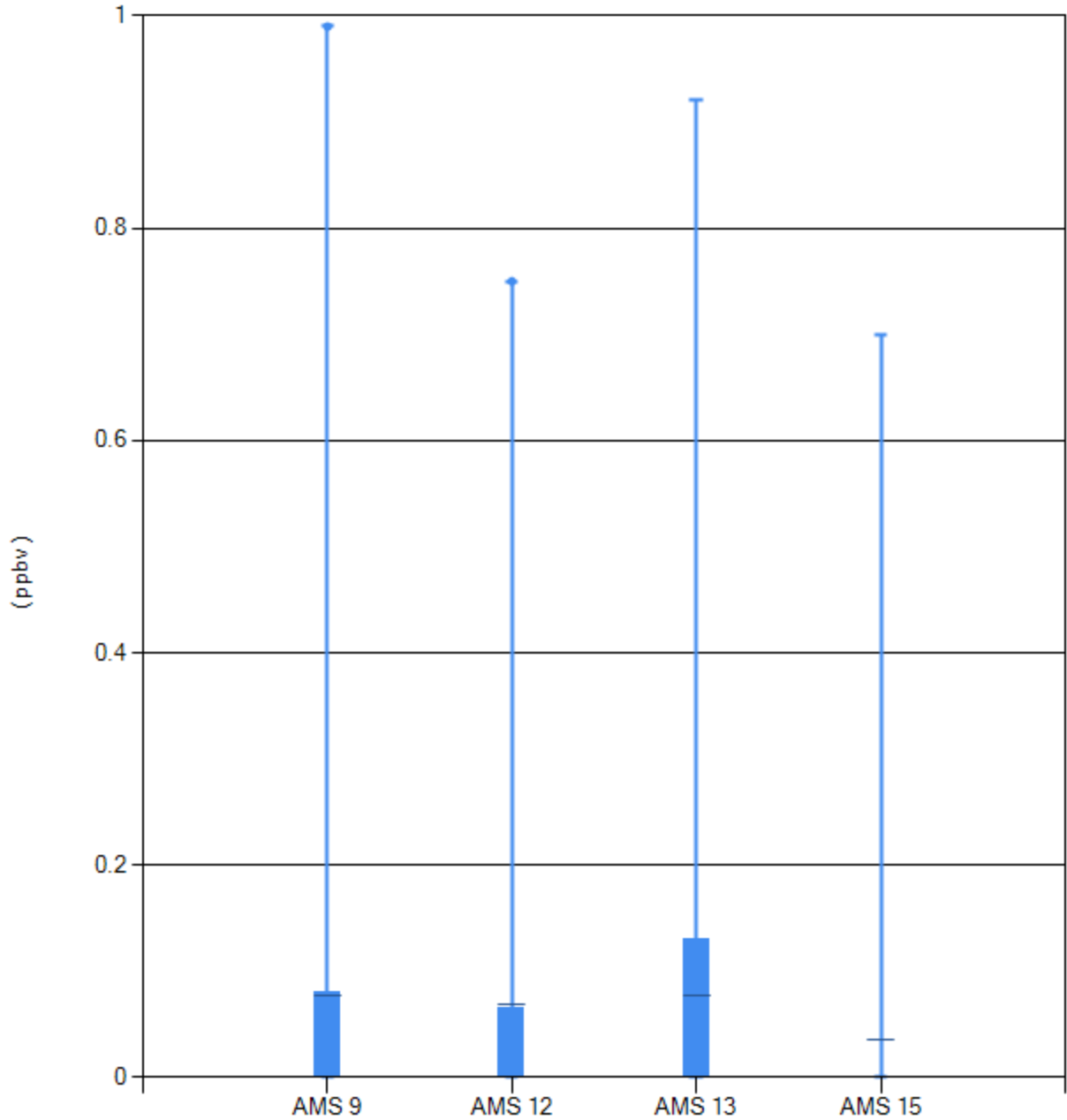
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0.87	7.96	22.68	148	19.15
AMS 12 Millennium	0	0	1.71	6.69	48.8	5.45
AMS 13 Fort McKay South	0	0	4.1	11.53	58.4	7.89
AMS 15 Horizon	0	0	2.47	5.44	27.5	4.12





Volatile Organic Compound (VOC) - m,p-Xylene - (ppbv) - 2014

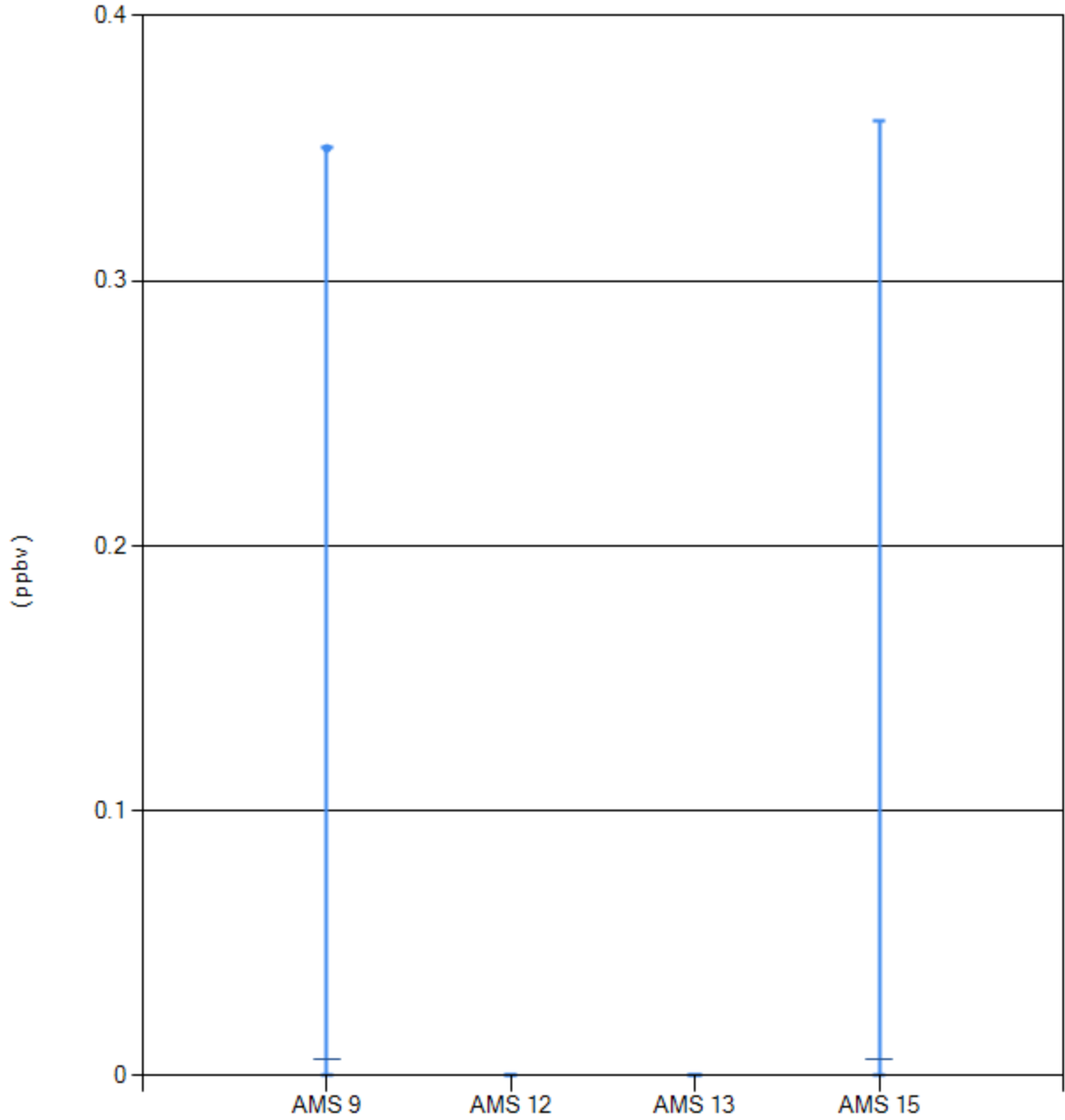
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0.08	0.99	0.08
AMS 12 Millennium	0	0	0	0.07	0.75	0.07
AMS 13 Fort McKay South	0	0	0	0.13	0.92	0.08
AMS 15 Horizon	0	0	0	0	0.7	0.04





Volatile Organic Compound (VOC) - Isopropylbenzene - (ppbv) - 2014

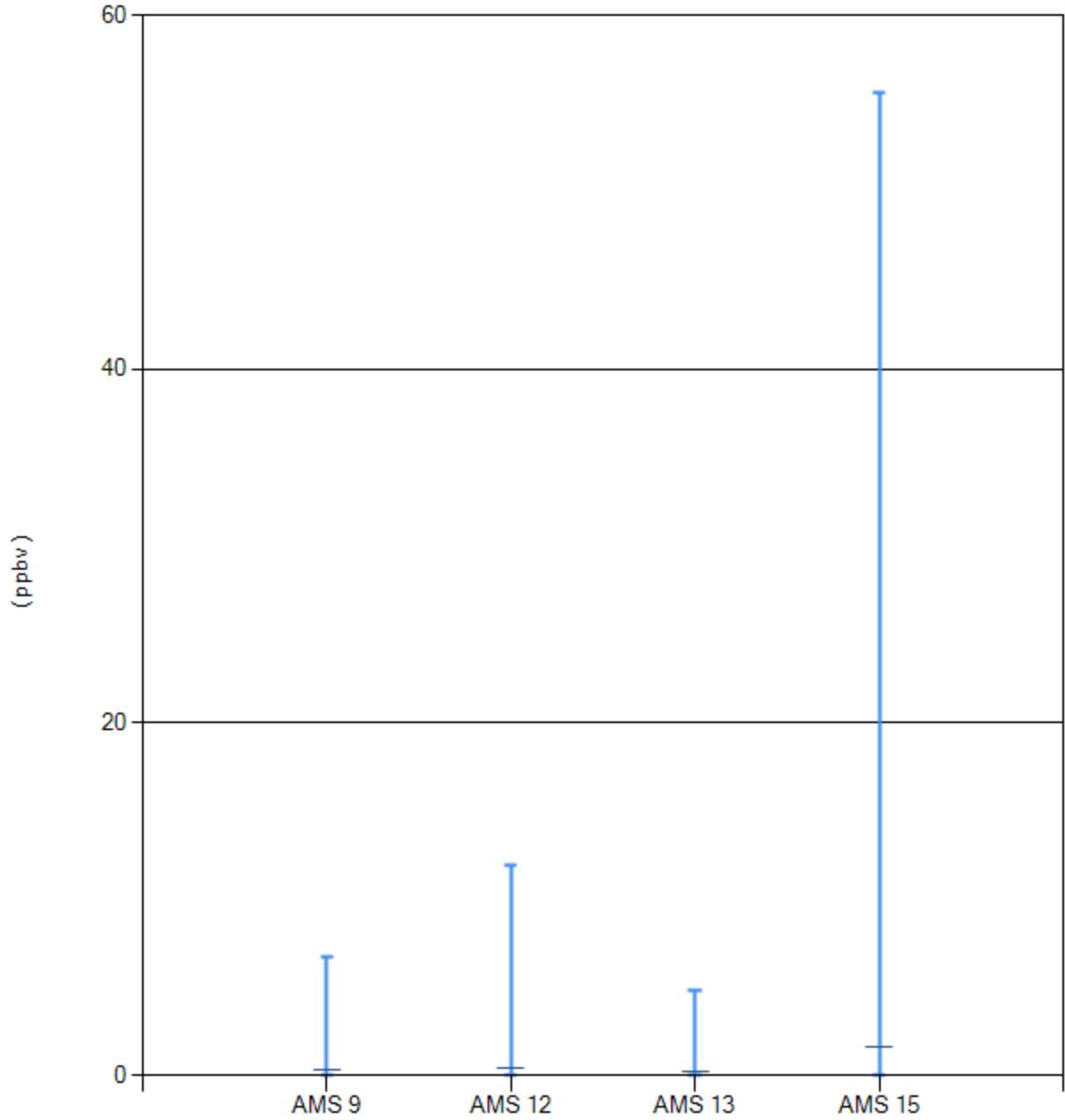
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.35	0.01
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0.36	0.01





Volatile Organic Compound (VOC) - Isopropyl alcohol - (ppbv) - 2014

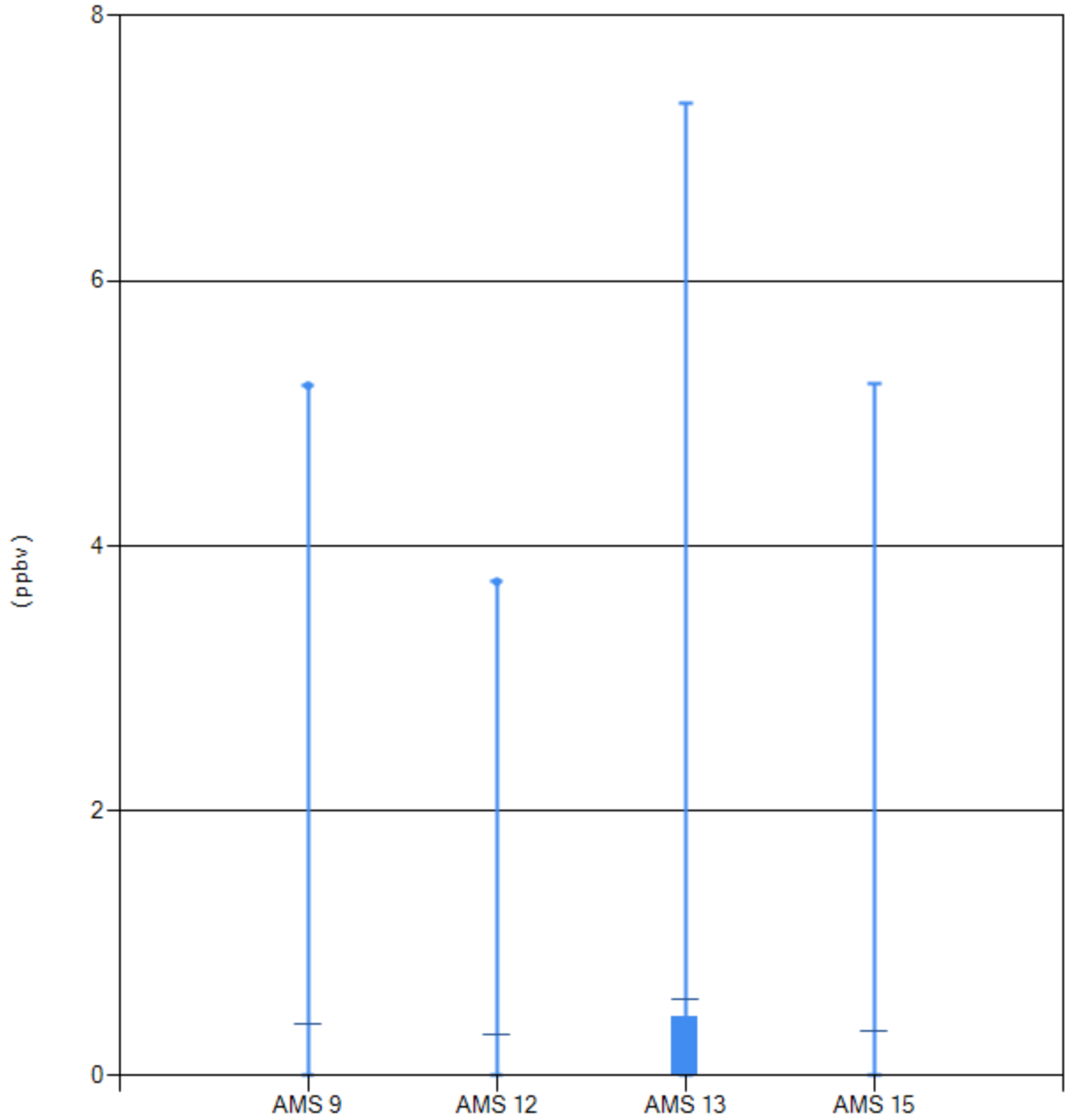
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	6.71	0.36
AMS 12 Millennium	0	0	0	0	11.9	0.45
AMS 13 Fort McKay South	0	0	0	0	4.84	0.21
AMS 15 Horizon	0	0	0	0	55.6	1.61





Volatile Organic Compound (VOC) - Isoprene - (ppbv) - 2014

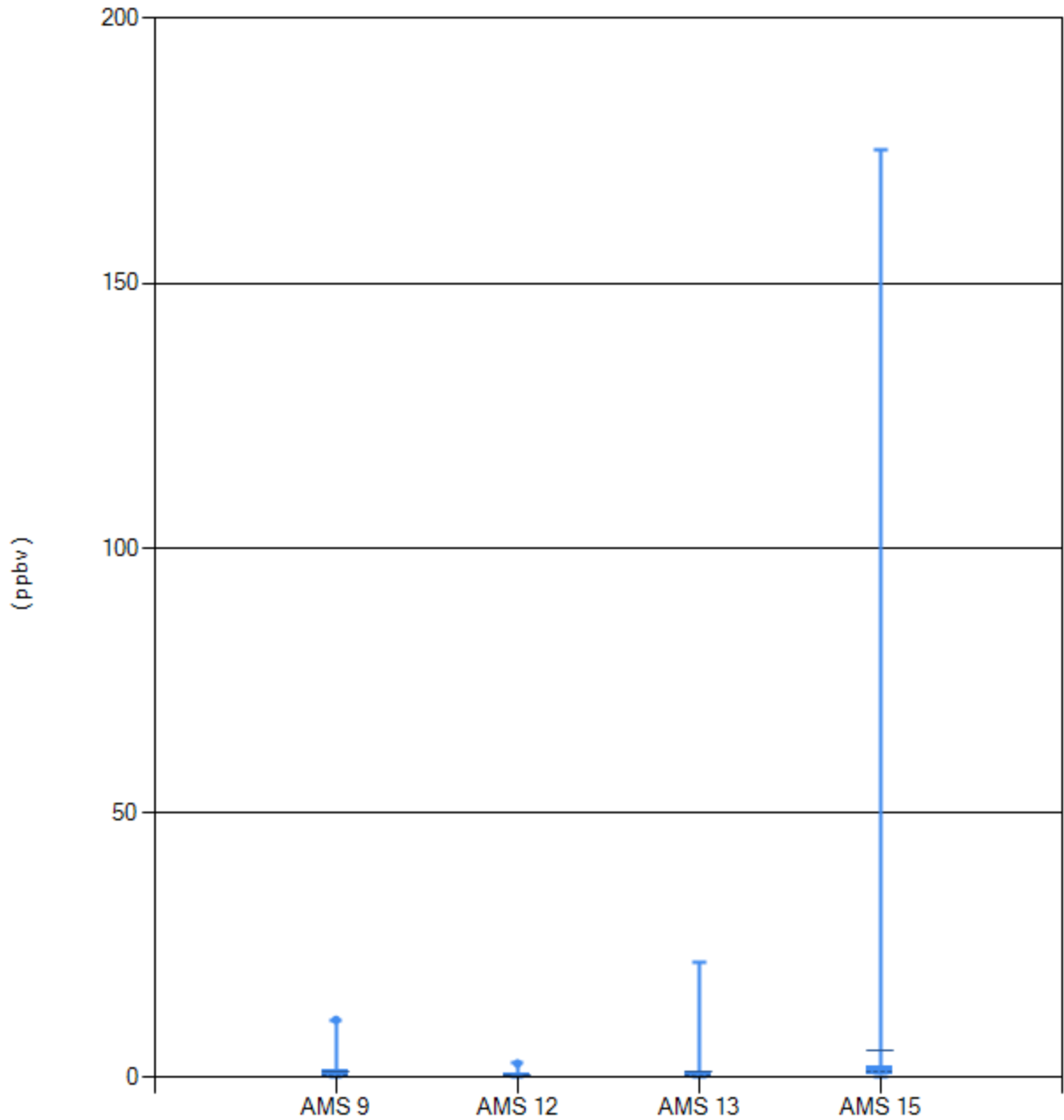
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	5.21	0.39
AMS 12 Millennium	0	0	0	0	3.73	0.32
AMS 13 Fort McKay South	0	0	0	0.46	7.34	0.58
AMS 15 Horizon	0	0	0	0	5.22	0.34





Volatile Organic Compound (VOC) - Isopentane - (ppbv) - 2014

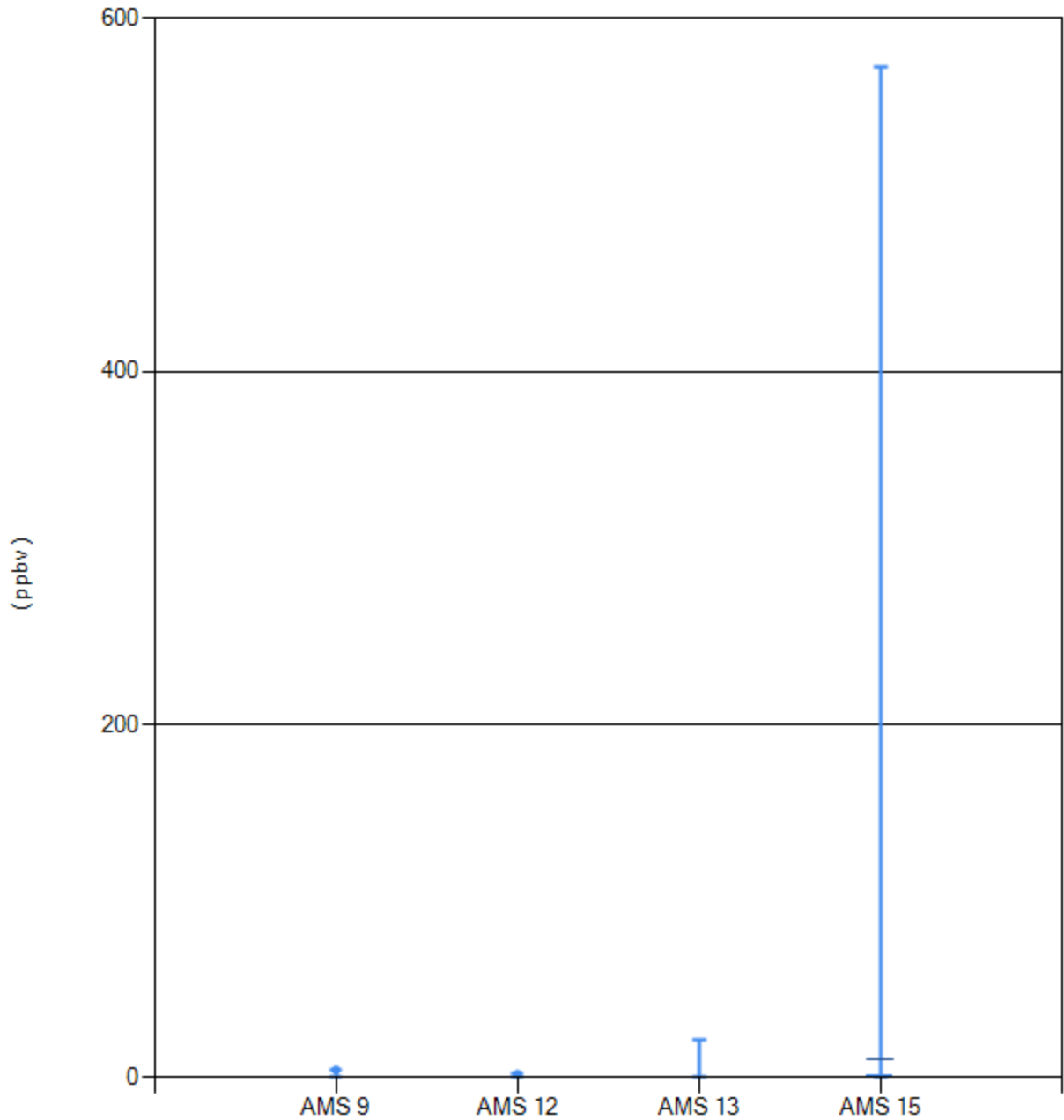
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0.44	1.56	10.9	1.13
AMS 12 Millennium	0	0	0.43	0.79	2.66	0.49
AMS 13 Fort McKay South	0	0	0.29	1.15	21.8	1.25
AMS 15 Horizon	0	0.49	1.07	2.25	175	5.11





Volatile Organic Compound (VOC) - Isobutane - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0.53	4.39	0.4
AMS 12 Millennium	0	0	0	0.38	2.05	0.27
AMS 13 Fort McKay South	0	0	0	0.39	21.1	0.63
AMS 15 Horizon	0	0	0.14	1.02	572	10.29

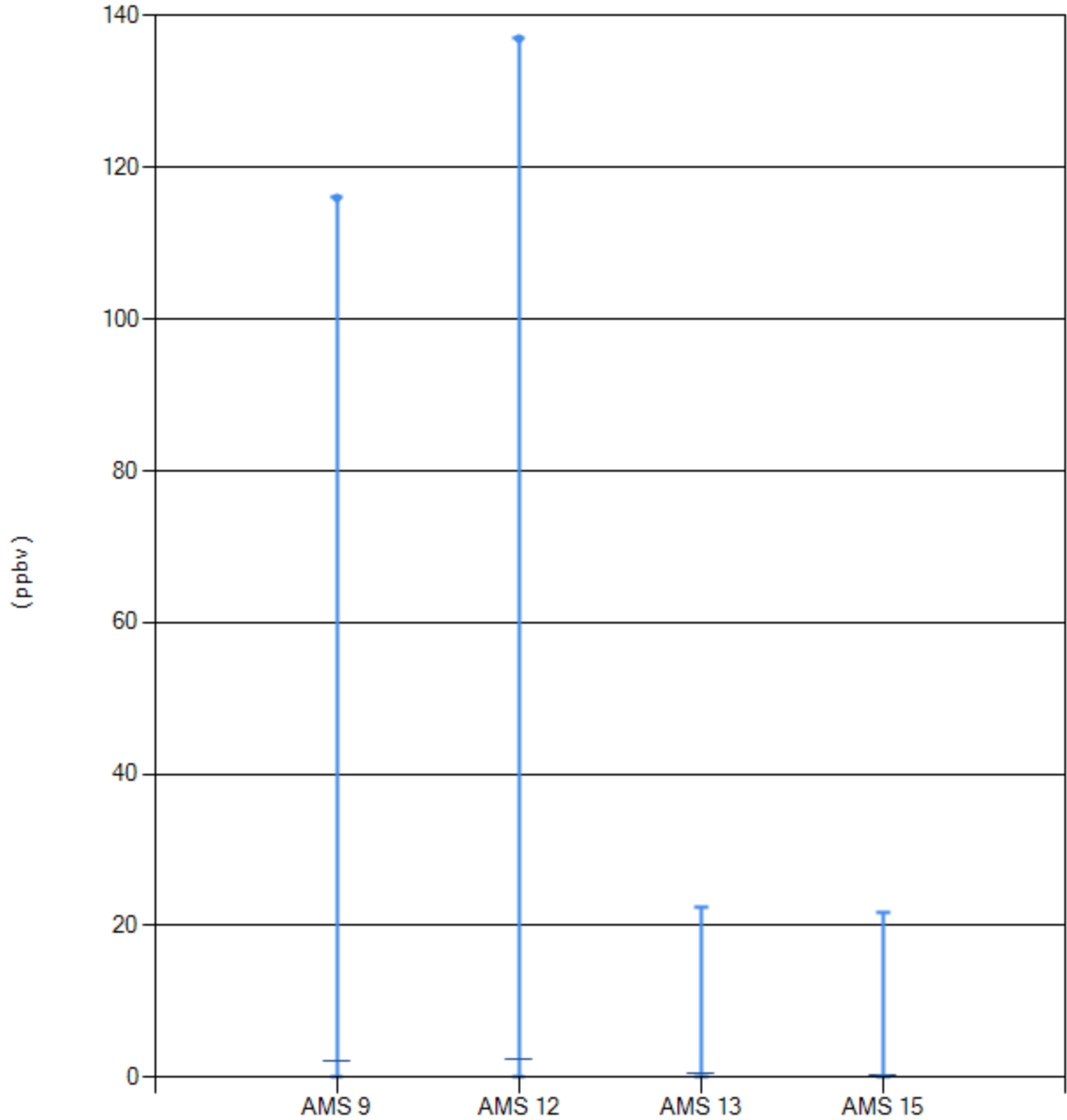






Volatile Organic Compound (VOC) - Hexane - (ppbv) - 2014

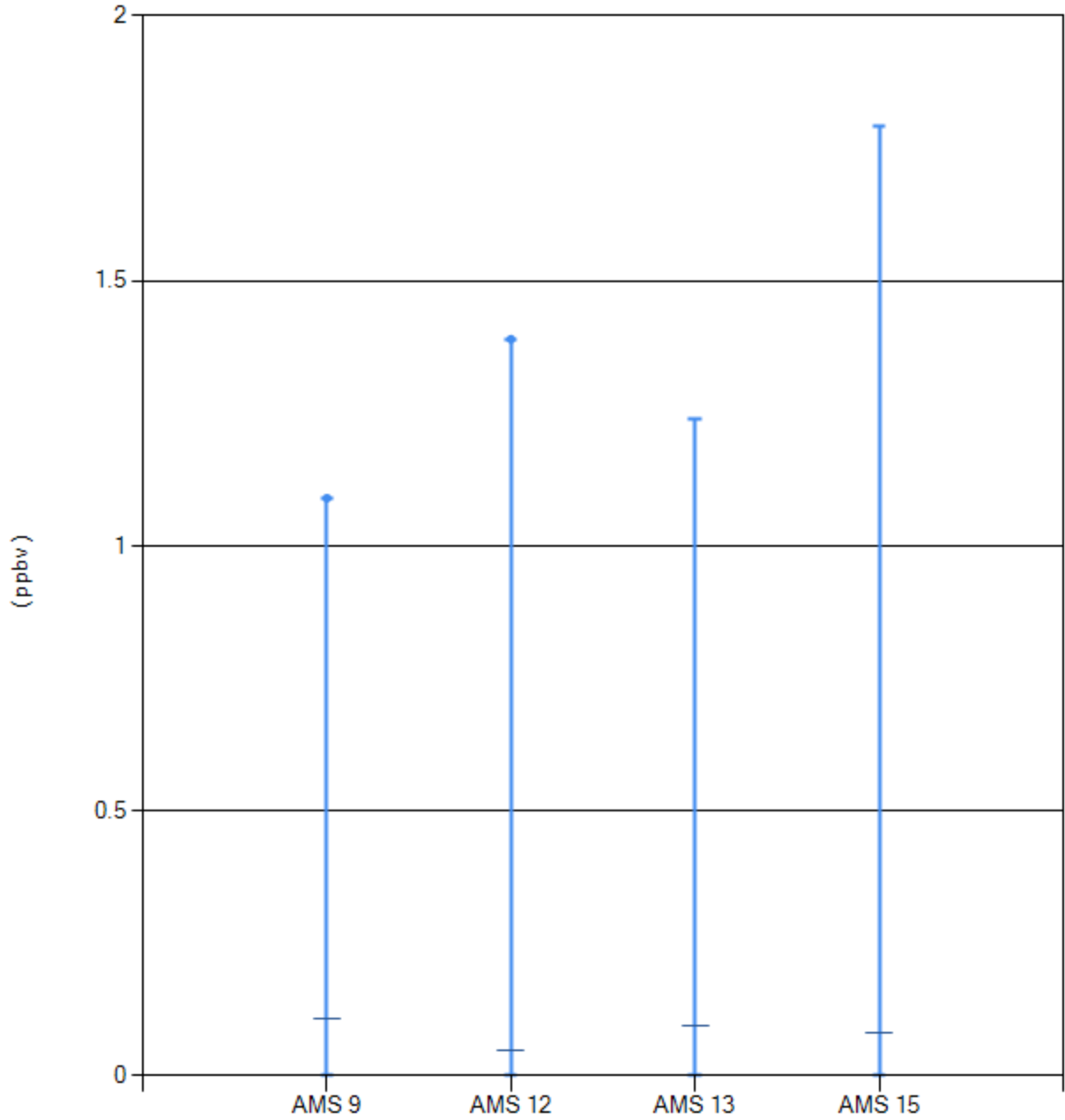
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0.03	116	2.1
AMS 12 Millennium	0	0	0	0	137	2.38
AMS 13 Fort McKay South	0	0	0	0.03	22.5	0.63
AMS 15 Horizon	0	0	0	0	21.7	0.42





Volatile Organic Compound (VOC) - Heptane - (ppbv) - 2014

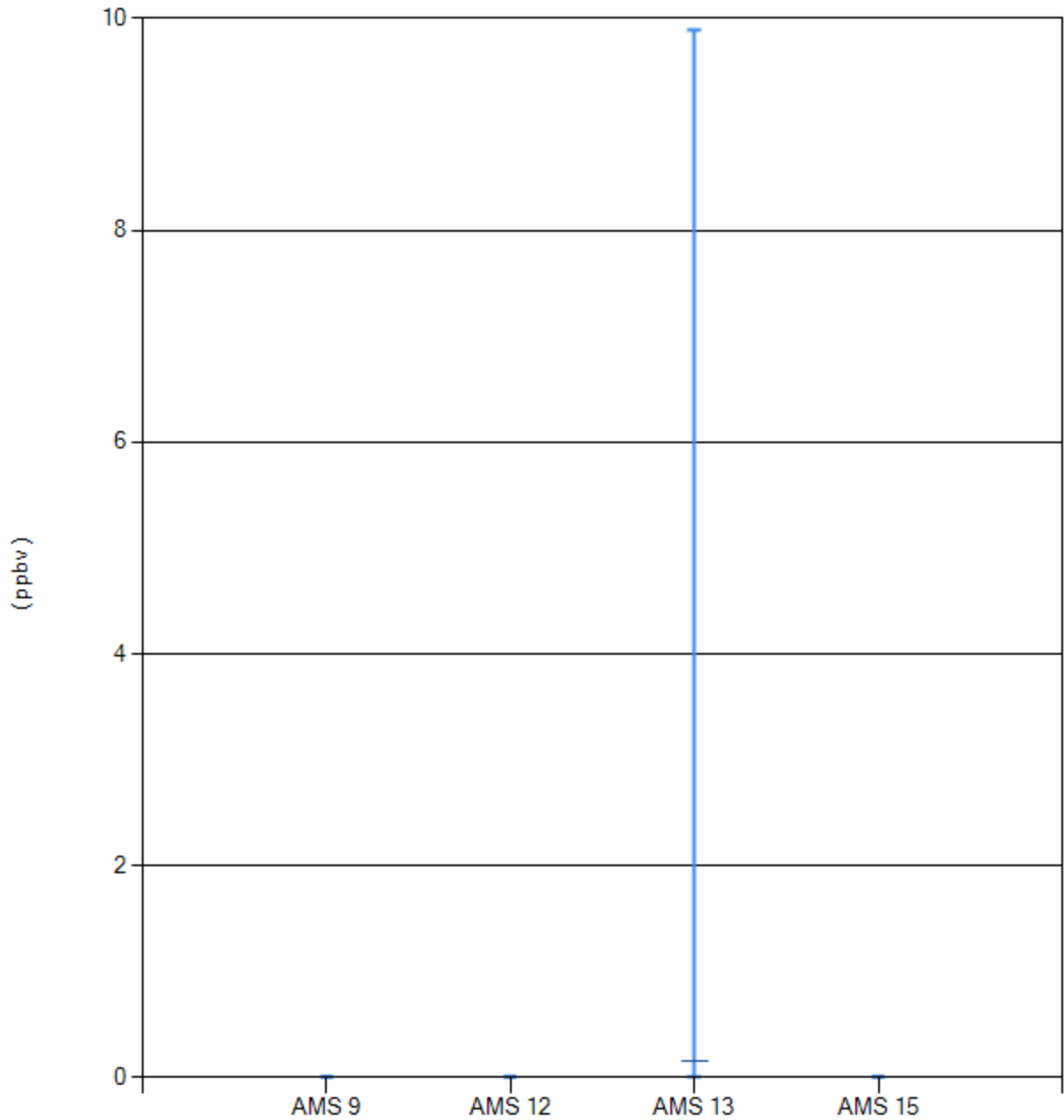
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	1.09	0.11
AMS 12 Millennium	0	0	0	0	1.39	0.05
AMS 13 Fort McKay South	0	0	0	0	1.24	0.09
AMS 15 Horizon	0	0	0	0	1.79	0.08





Volatile Organic Compound (VOC) - Formaldehyde - (ppbv) - 2014

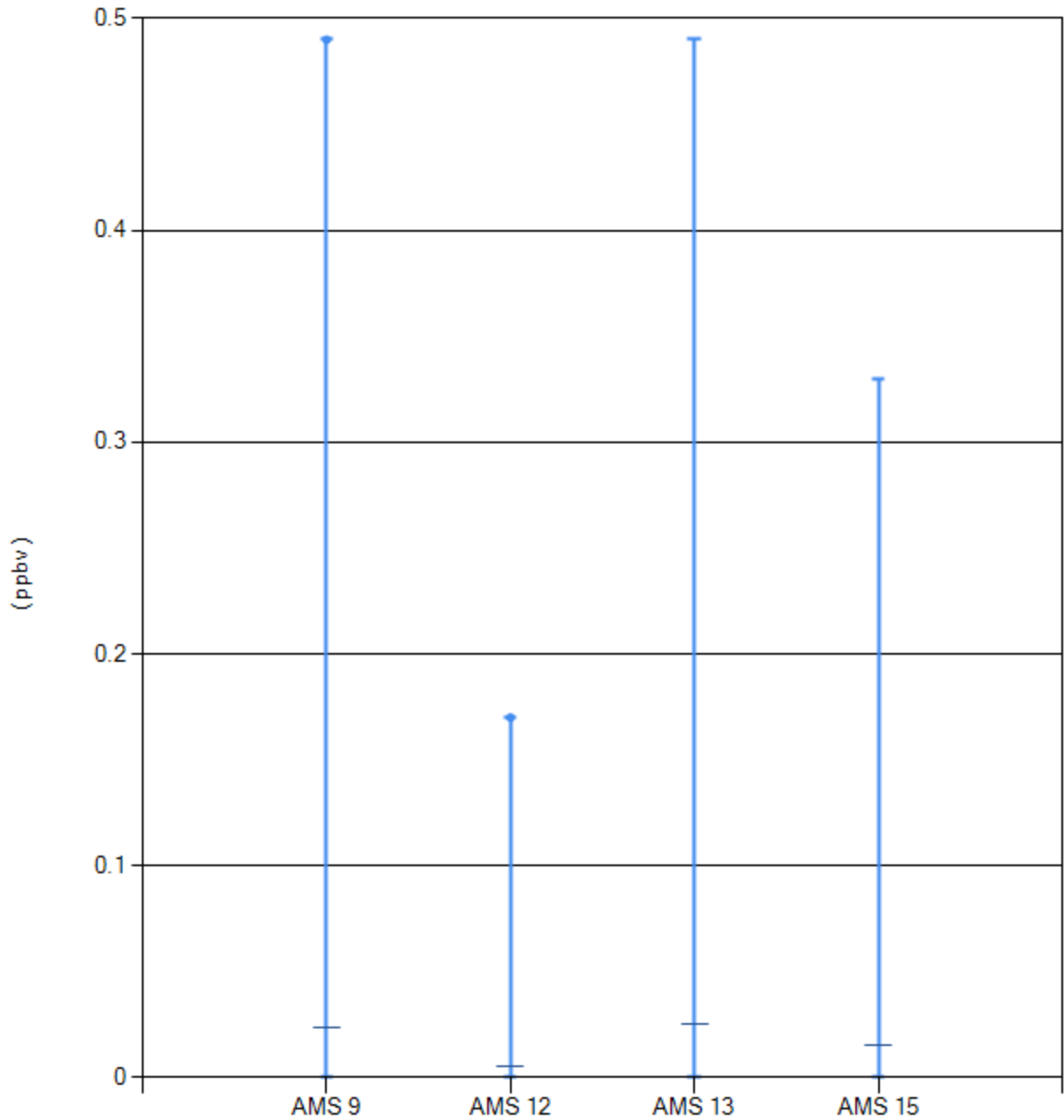
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	9.89	0.16
AMS 15 Horizon	0	0	0	0	0	0





Volatile Organic Compound (VOC) - Ethyl benzene - (ppbv) - 2014

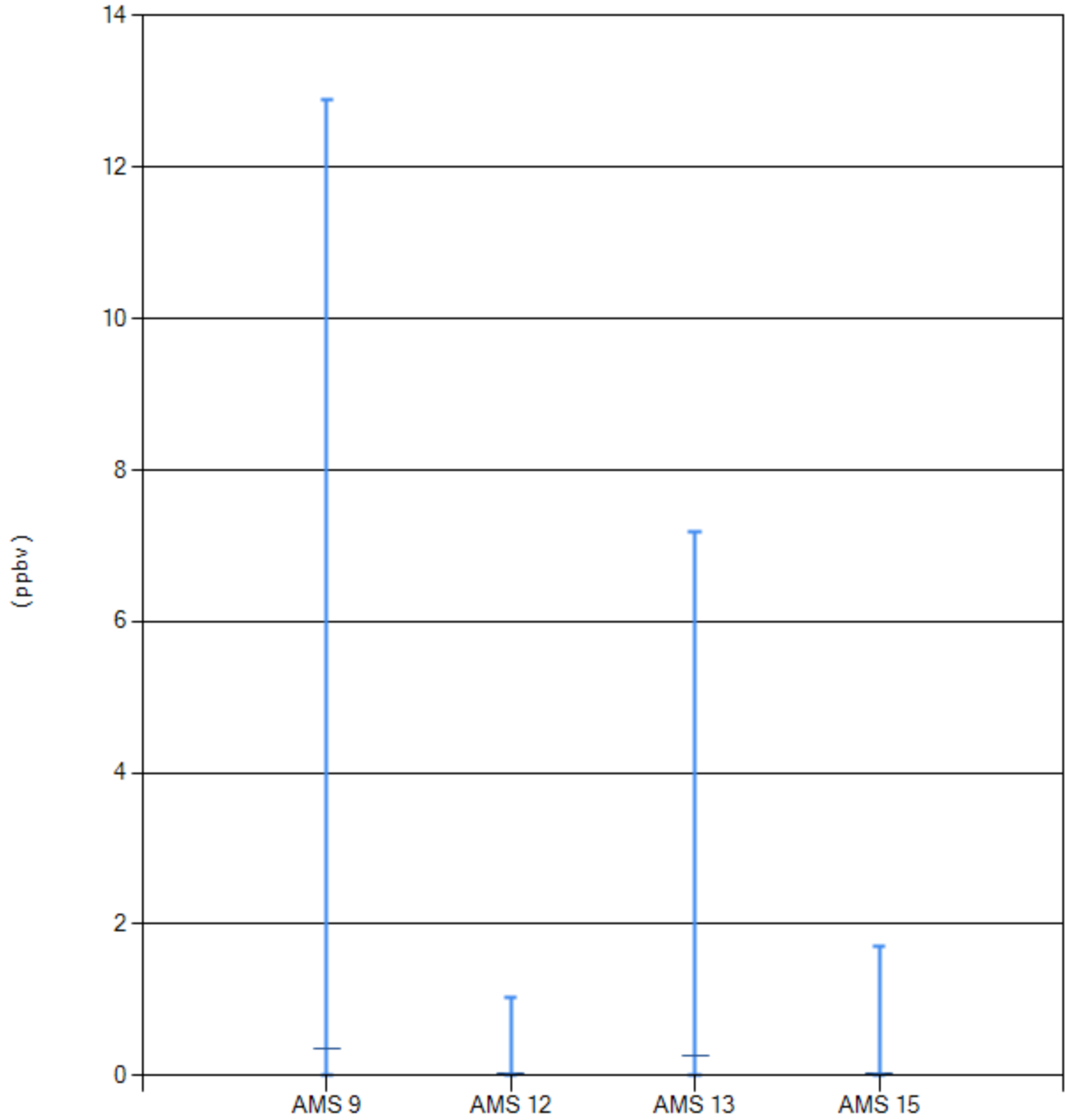
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.49	0.02
AMS 12 Millennium	0	0	0	0	0.17	0.01
AMS 13 Fort McKay South	0	0	0	0	0.49	0.03
AMS 15 Horizon	0	0	0	0	0.33	0.01





Volatile Organic Compound (VOC) - Ethanol - (ppbv) - 2014

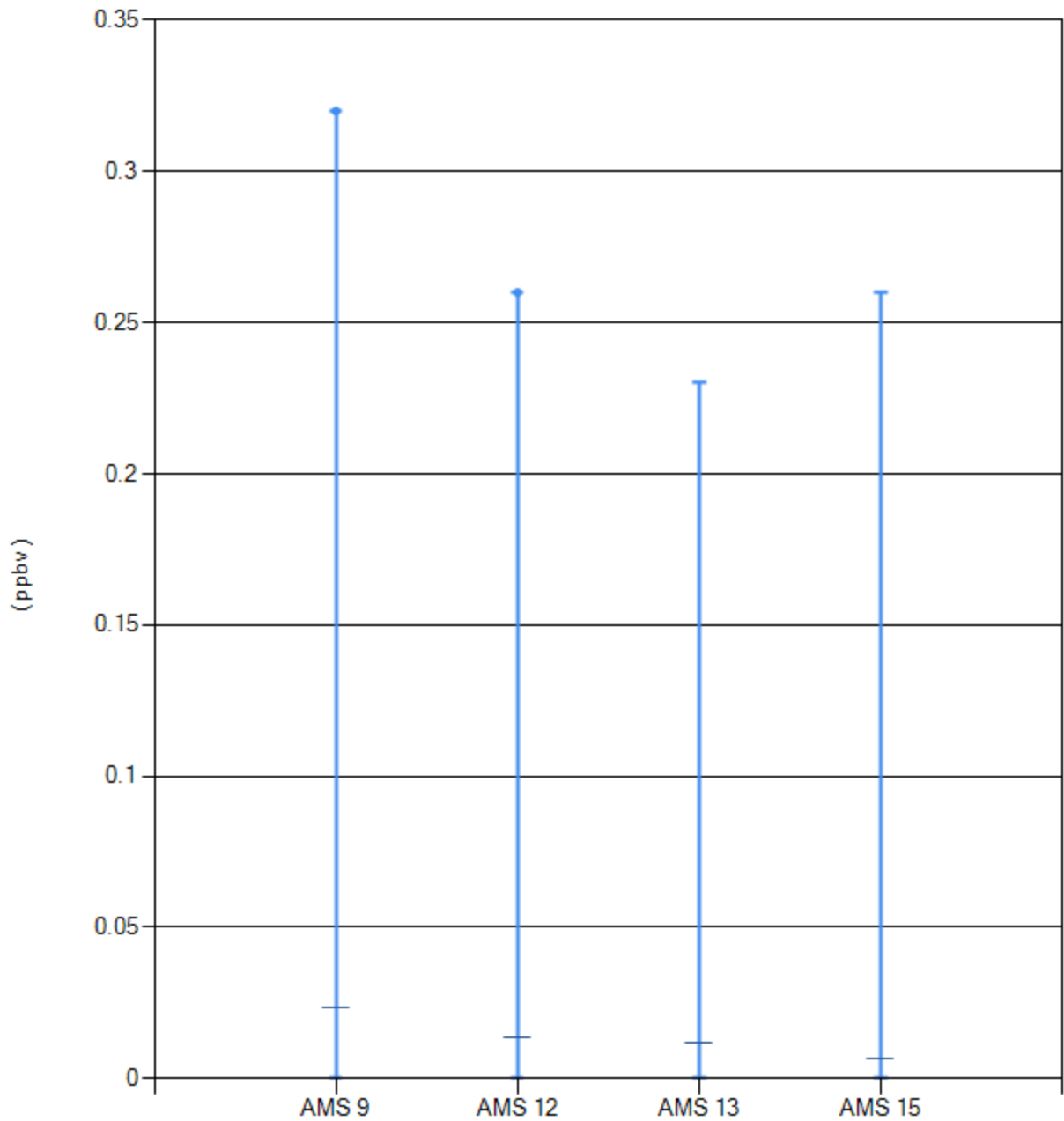
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	12.9	0.35
AMS 12 Millennium	0	0	0	0	1.04	0.03
AMS 13 Fort McKay South	0	0	0	0	7.18	0.27
AMS 15 Horizon	0	0	0	0	1.71	0.04





Volatile Organic Compound (VOC) - Dodecane - (ppbv) - 2014

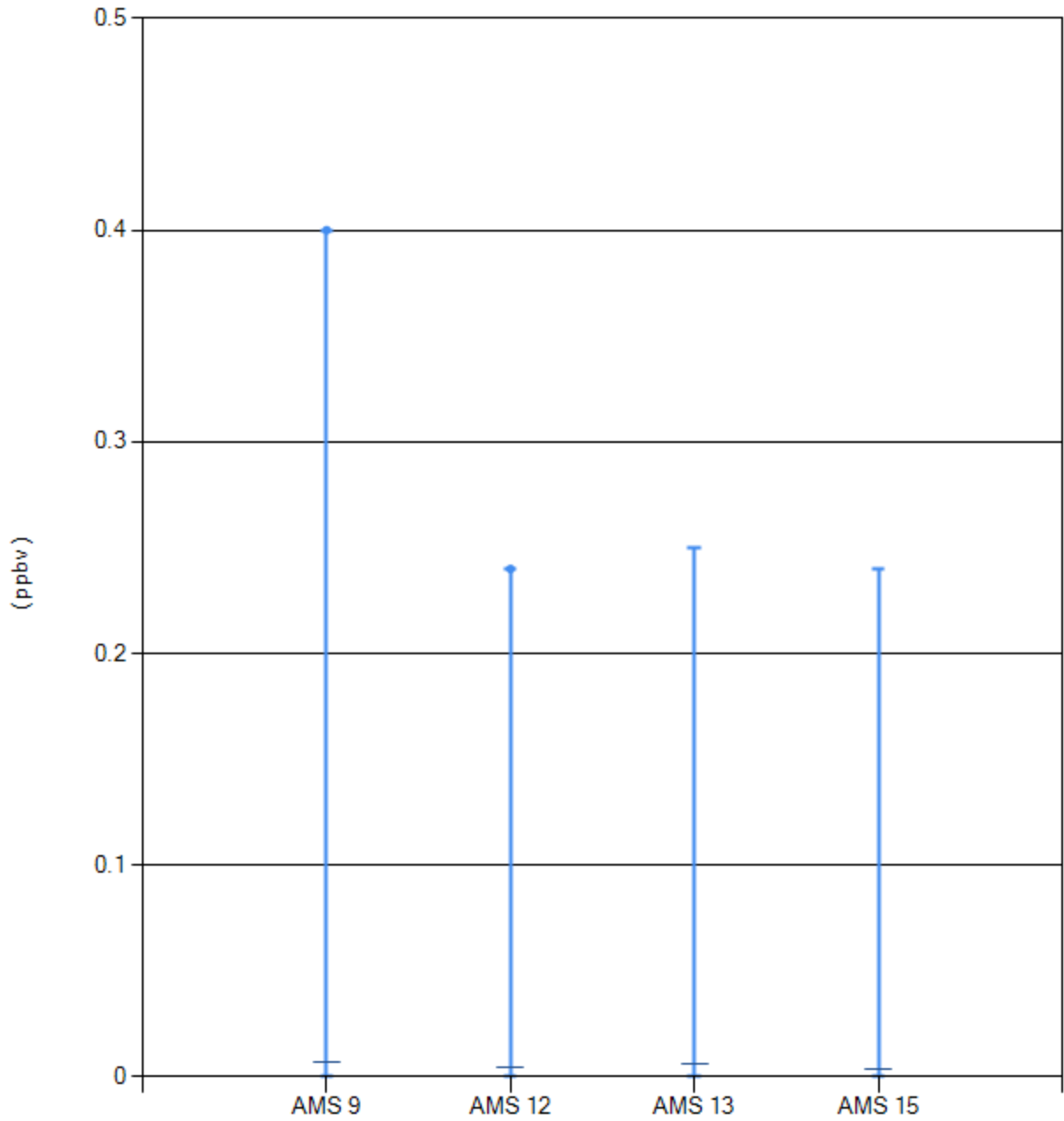
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.32	0.02
AMS 12 Millennium	0	0	0	0	0.26	0.01
AMS 13 Fort McKay South	0	0	0	0	0.23	0.01
AMS 15 Horizon	0	0	0	0	0.26	0.01





Volatile Organic Compound (VOC) - Decane - (ppbv) - 2014

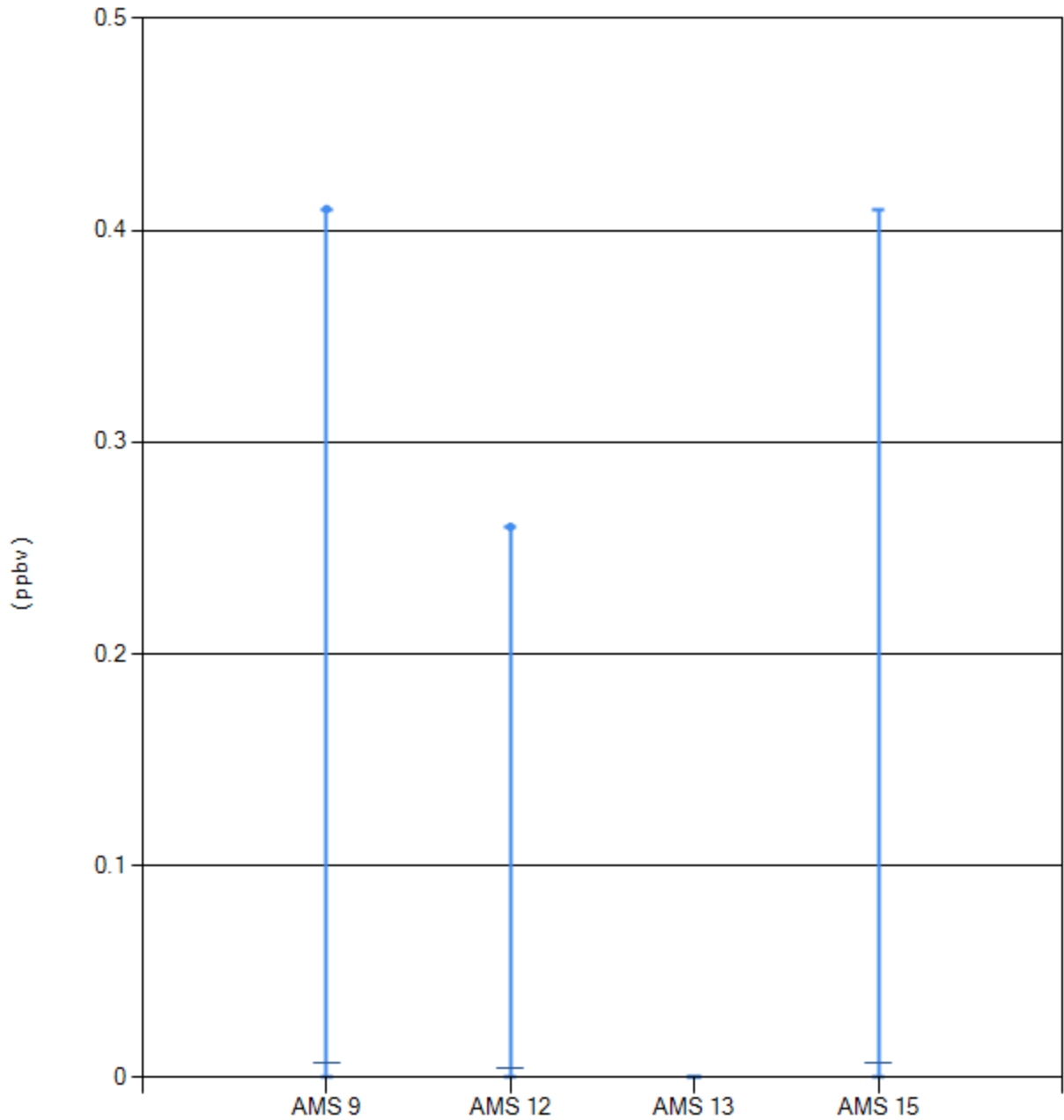
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.4	0.01
AMS 12 Millennium	0	0	0	0	0.24	0
AMS 13 Fort McKay South	0	0	0	0	0.25	0.01
AMS 15 Horizon	0	0	0	0	0.24	0





Volatile Organic Compound (VOC) - Cyclopentene - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.41	0.01
AMS 12 Millennium	0	0	0	0	0.26	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0.41	0.01

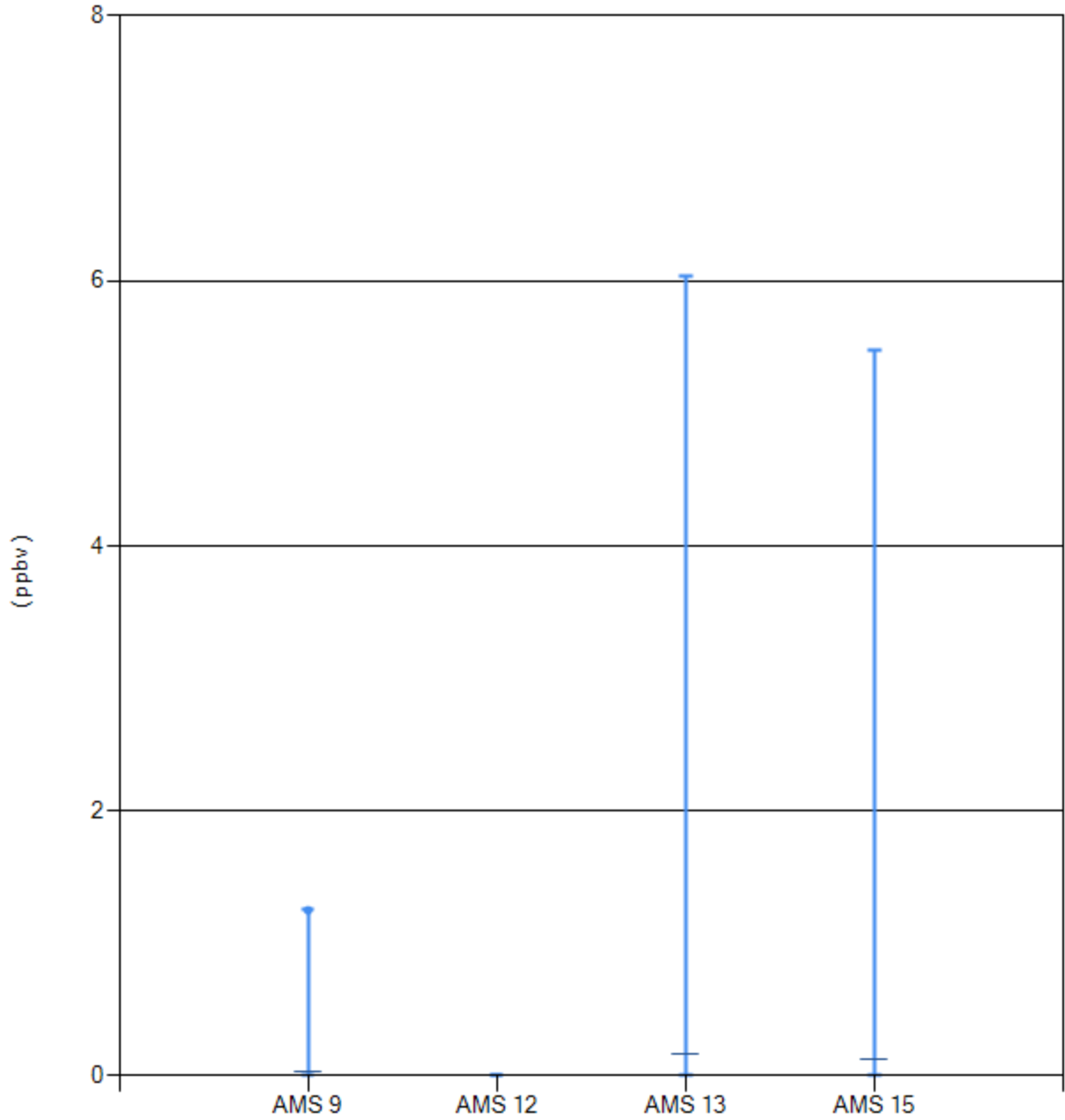






Volatile Organic Compound (VOC) - Cyclopentane - (ppbv) - 2014

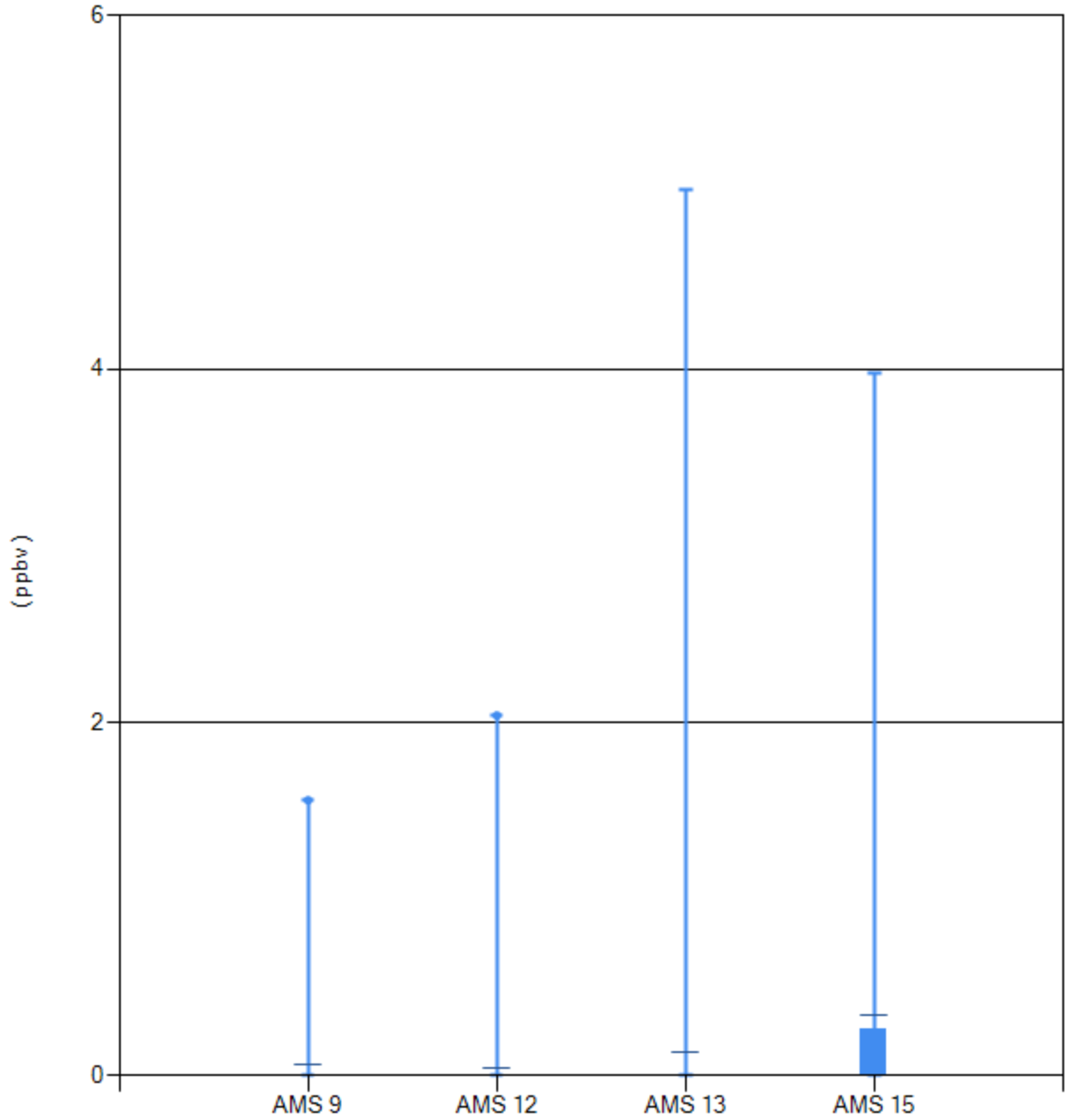
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	1.25	0.03
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	6.03	0.16
AMS 15 Horizon	0	0	0	0	5.47	0.13





Volatile Organic Compound (VOC) - Cyclohexane - (ppbv) - 2014

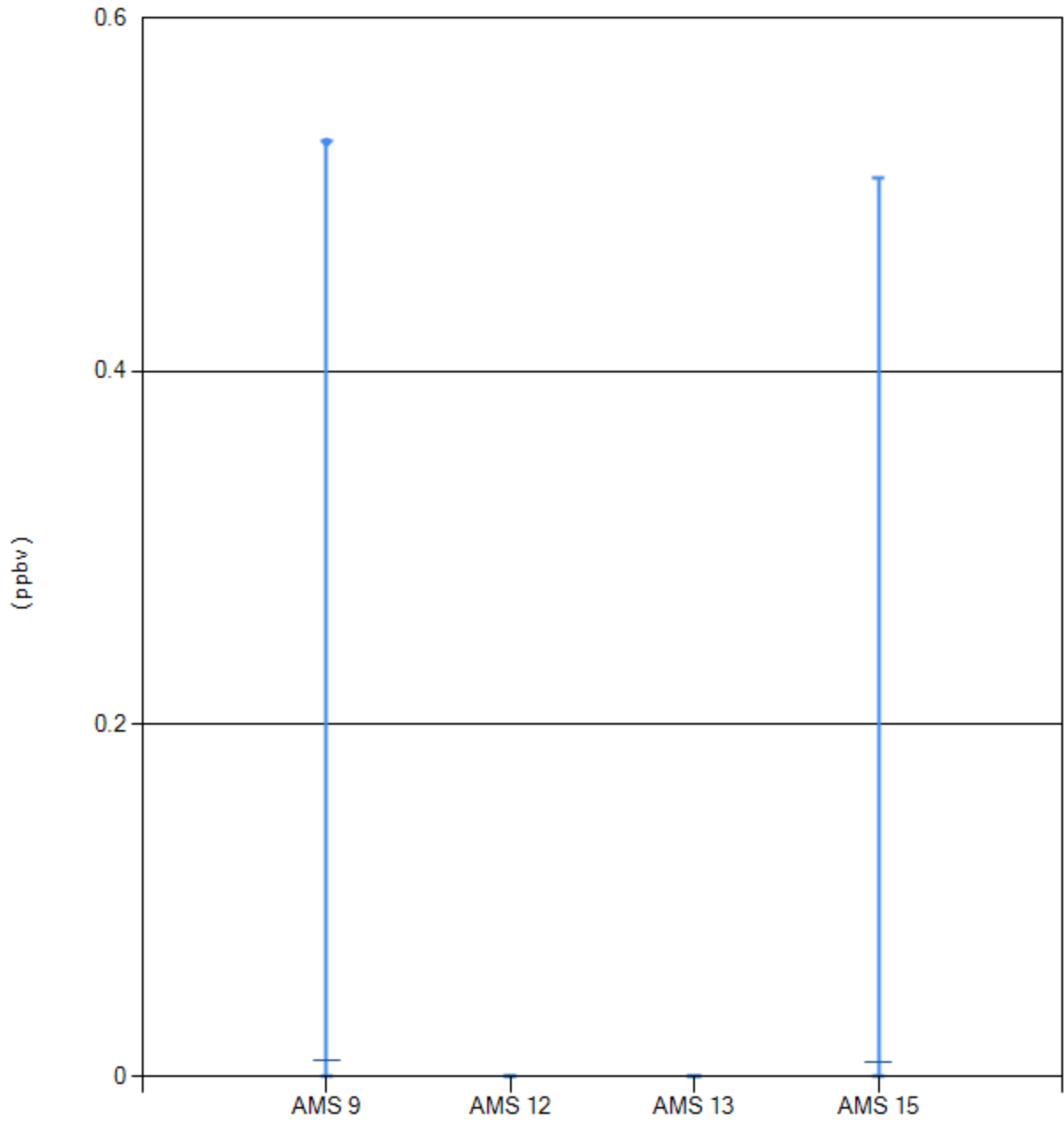
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	1.56	0.06
AMS 12 Millennium	0	0	0	0	2.04	0.04
AMS 13 Fort McKay South	0	0	0	0	5.02	0.13
AMS 15 Horizon	0	0	0	0.27	3.98	0.34





Volatile Organic Compound (VOC) - cis-2-Pentene - (ppbv) - 2014

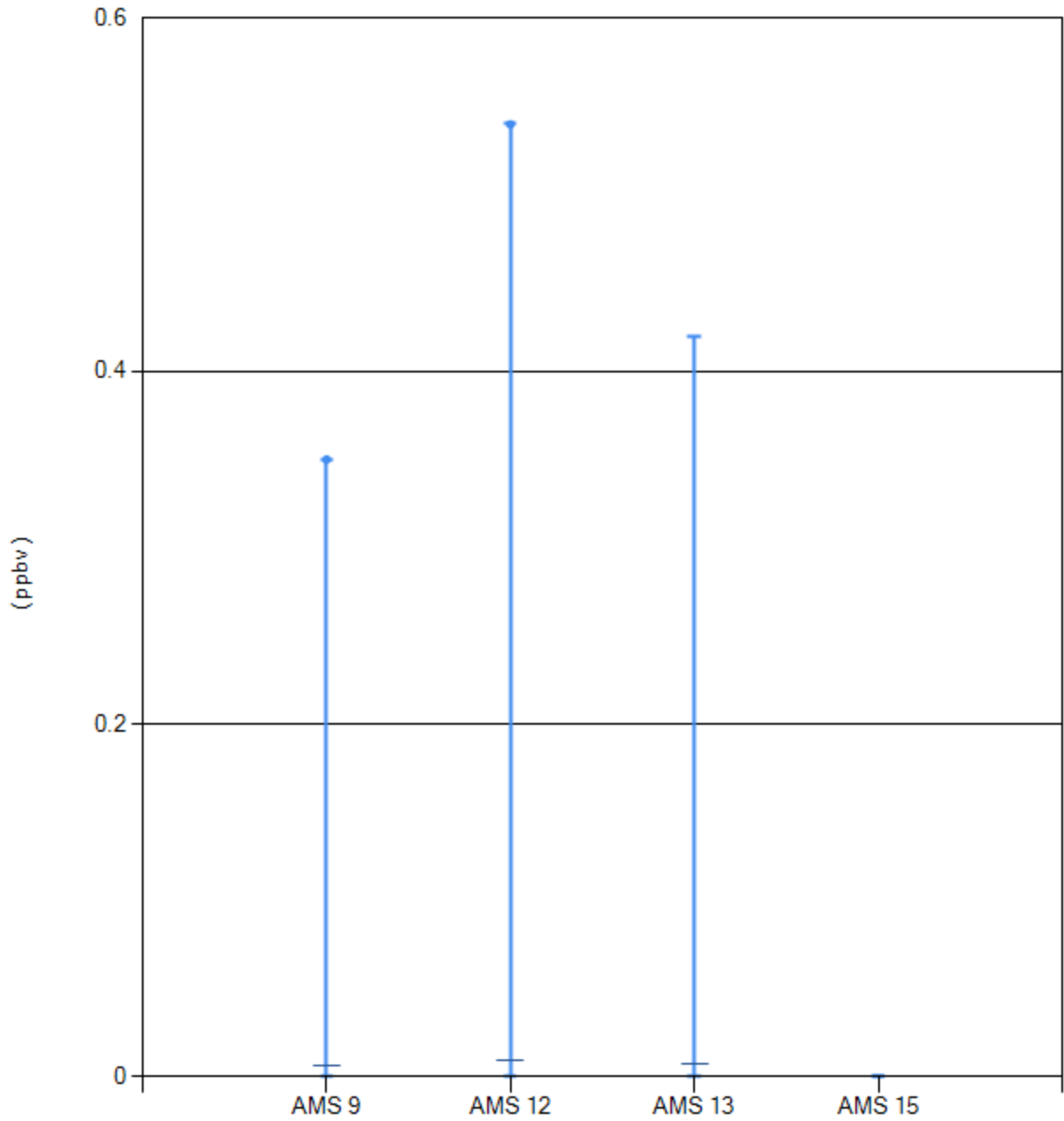
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.53	0.01
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0.51	0.01





Volatile Organic Compound (VOC) - cis-2-Hexene - (ppbv) - 2014

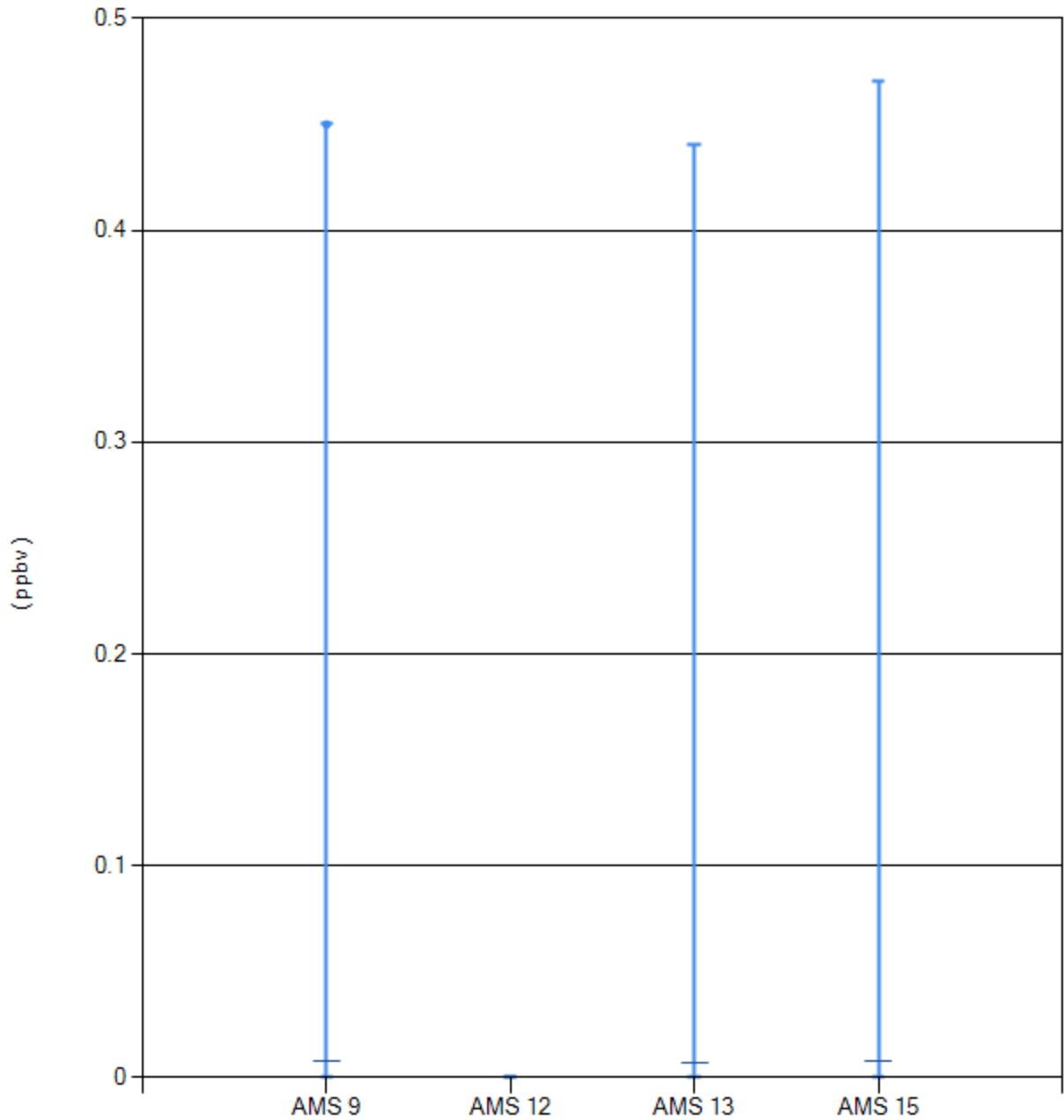
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.35	0.01
AMS 12 Millennium	0	0	0	0	0.54	0.01
AMS 13 Fort McKay South	0	0	0	0	0.42	0.01
AMS 15 Horizon	0	0	0	0	0	0





Volatile Organic Compound (VOC) - cis-2-Butene - (ppbv) - 2014

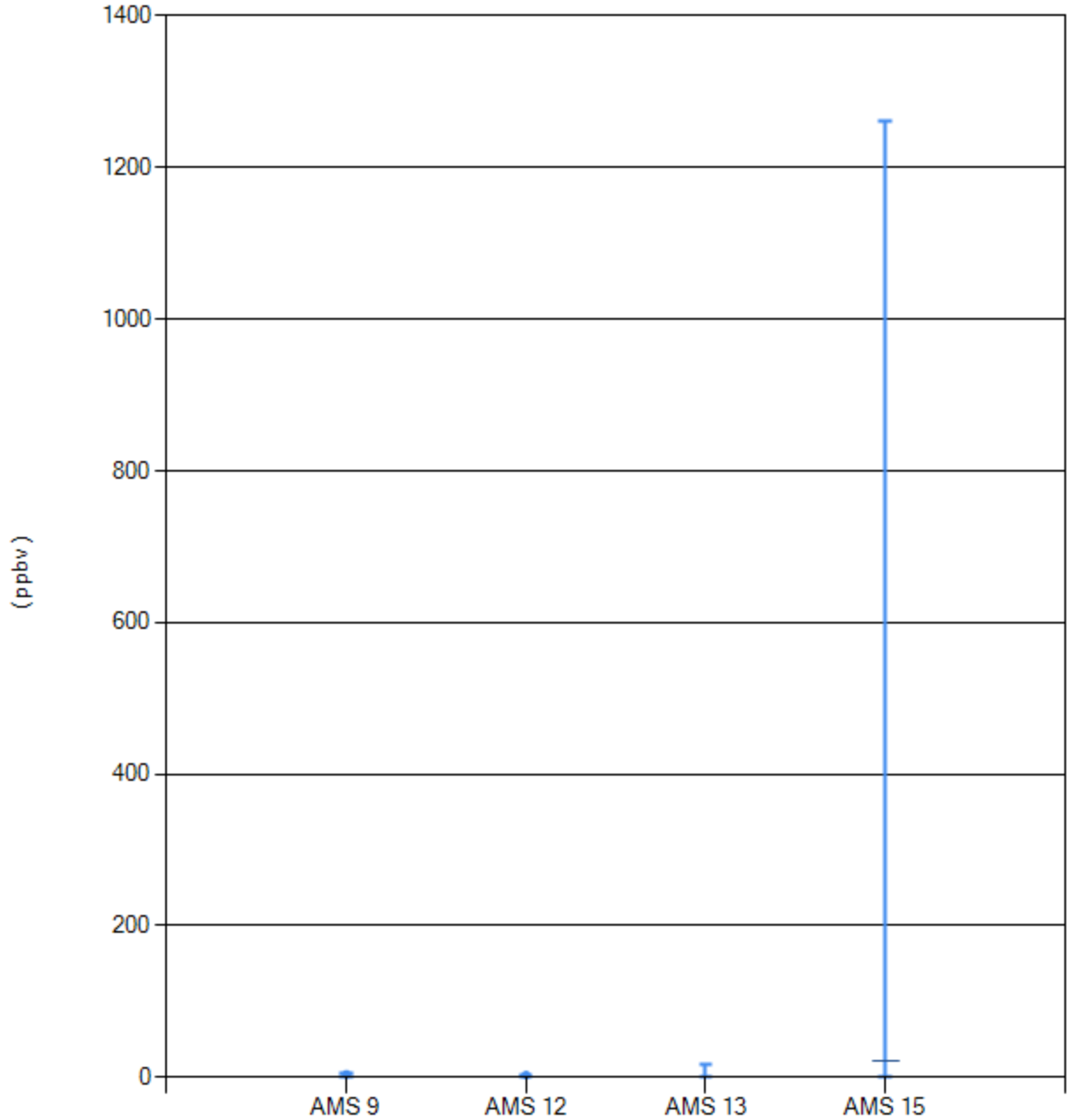
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.45	0.01
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0.44	0.01
AMS 15 Horizon	0	0	0	0	0.47	0.01





Volatile Organic Compound (VOC) - Butane - (ppbv) - 2014

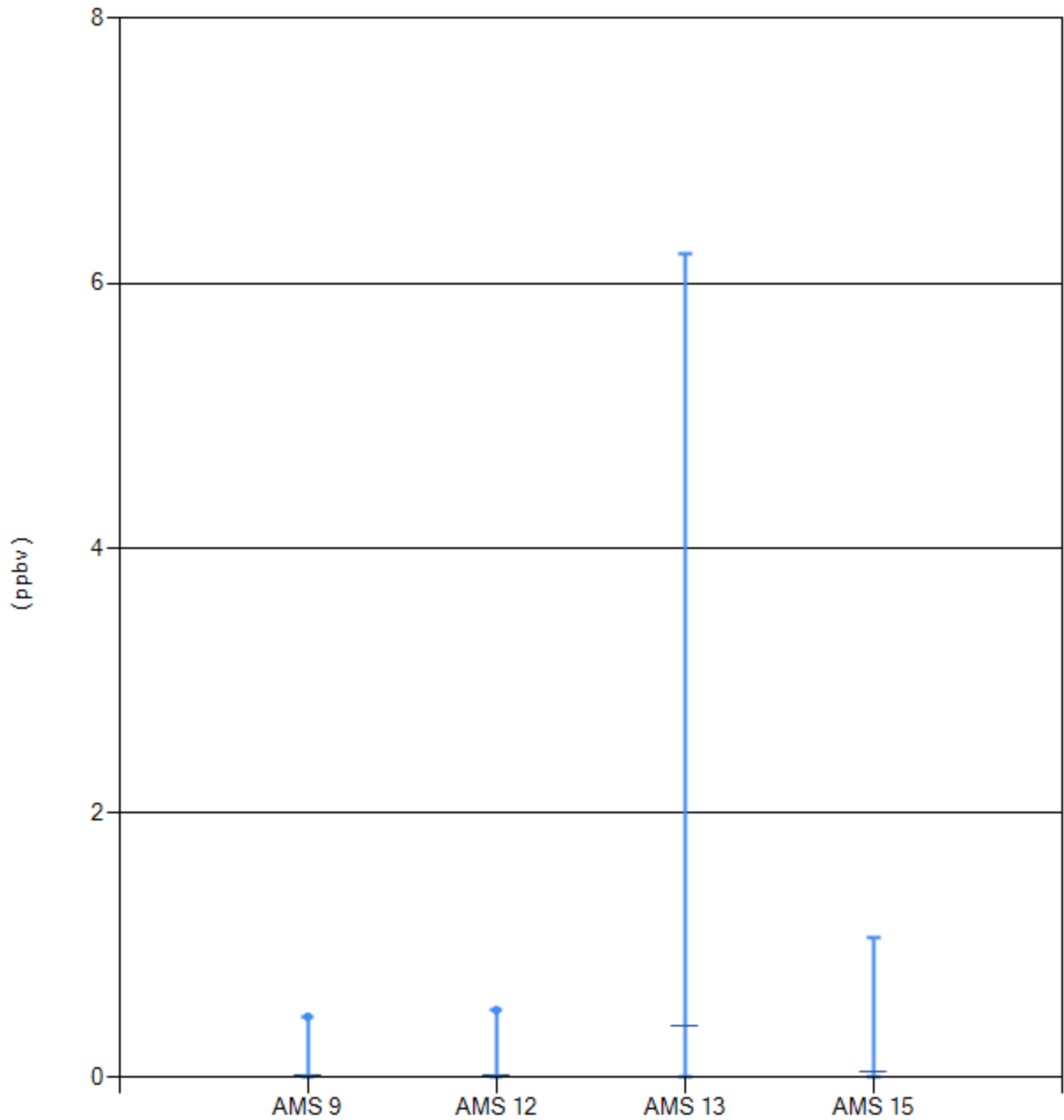
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0.57	1.11	4.4	0.76
AMS 12 Millennium	0	0	0.68	1.09	3.35	0.73
AMS 13 Fort McKay South	0	0	0.57	1.19	17.2	1
AMS 15 Horizon	0	0	0.58	1.03	1260	21.34





Volatile Organic Compound (VOC) - beta Pinene - (ppbv) - 2014

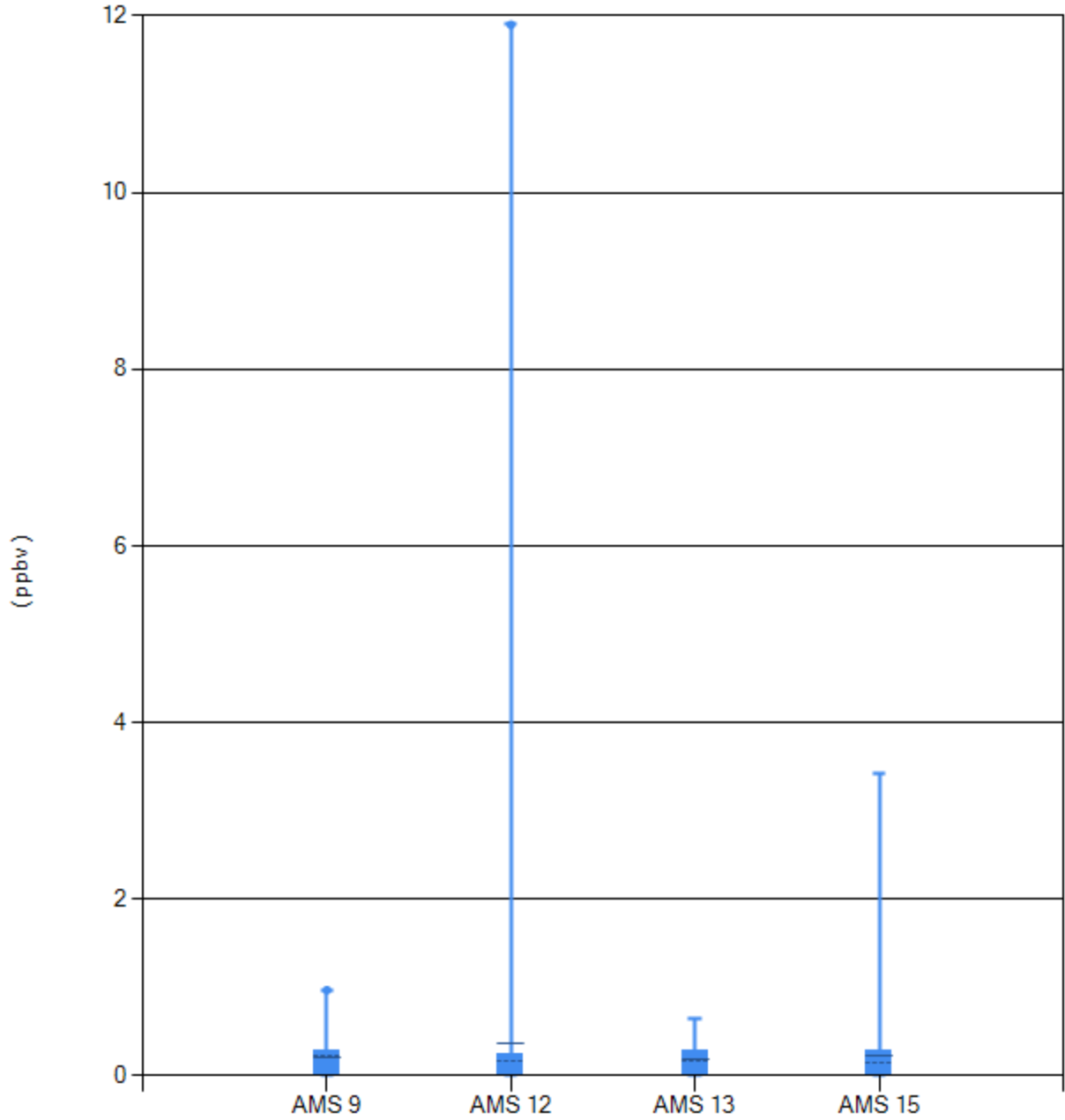
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.46	0.02
AMS 12 Millennium	0	0	0	0	0.51	0.02
AMS 13 Fort McKay South	0	0	0	0	6.22	0.39
AMS 15 Horizon	0	0	0	0	1.05	0.04





Volatile Organic Compound (VOC) - Benzene - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0.22	0.29	0.97	0.2
AMS 12 Millennium	0	0	0.16	0.26	11.9	0.36
AMS 13 Fort McKay South	0	0	0.16	0.29	0.65	0.2
AMS 15 Horizon	0	0	0.14	0.28	3.43	0.22

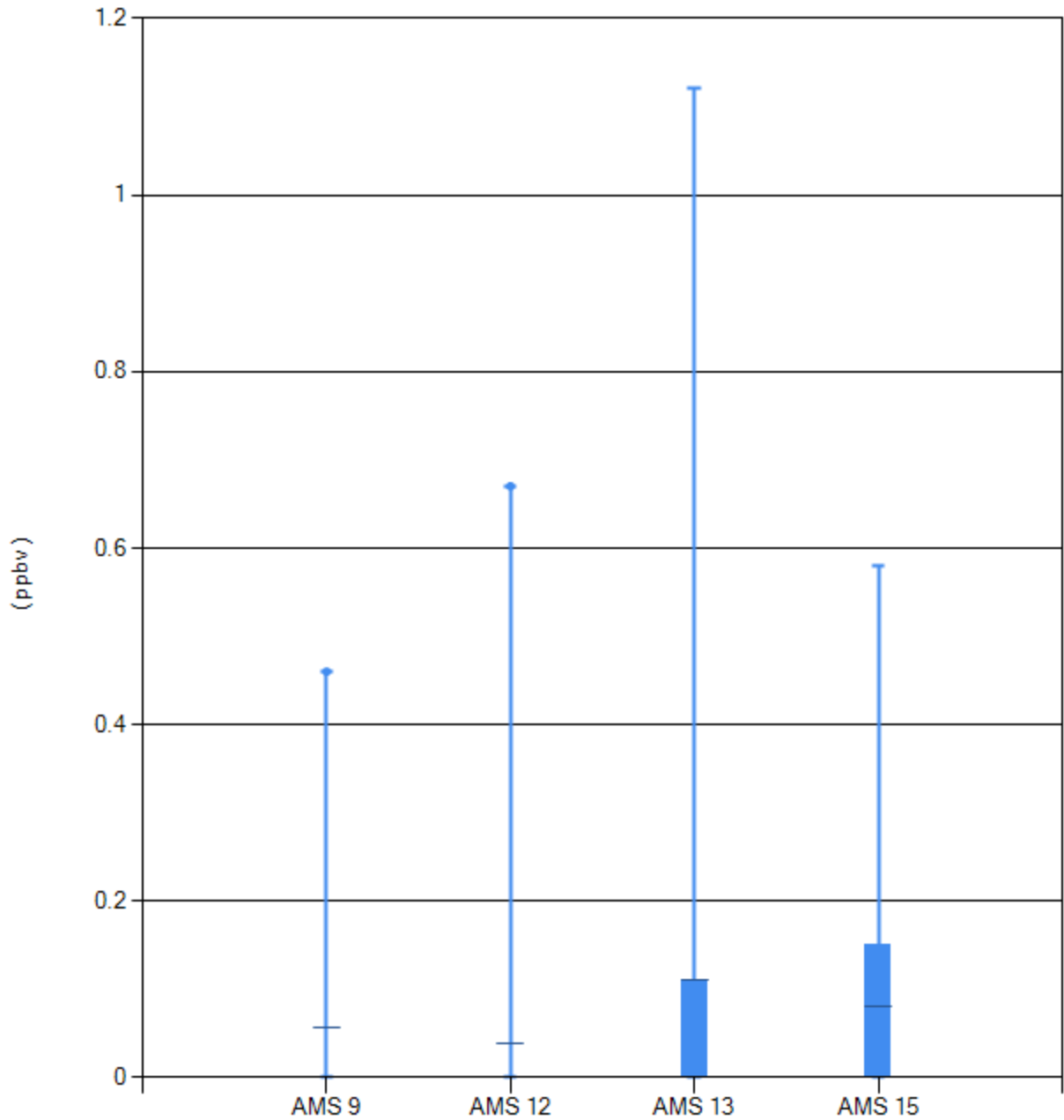






Volatile Organic Compound (VOC) - alpha Pinene - (ppbv) - 2014

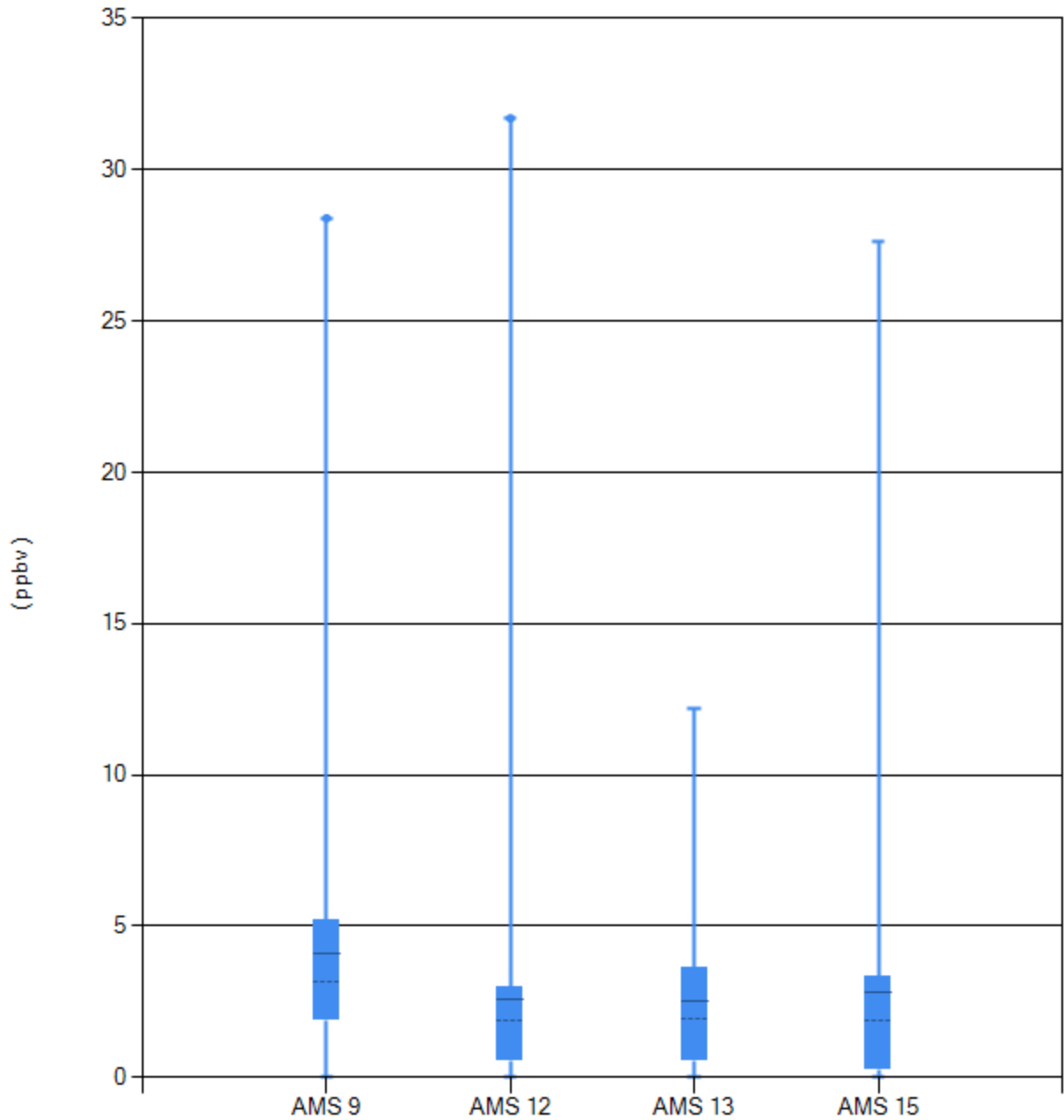
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.46	0.06
AMS 12 Millennium	0	0	0	0	0.67	0.04
AMS 13 Fort McKay South	0	0	0	0.13	1.12	0.11
AMS 15 Horizon	0	0	0	0.15	0.58	0.08





Volatile Organic Compound (VOC) - Acetone - (ppbv) - 2014

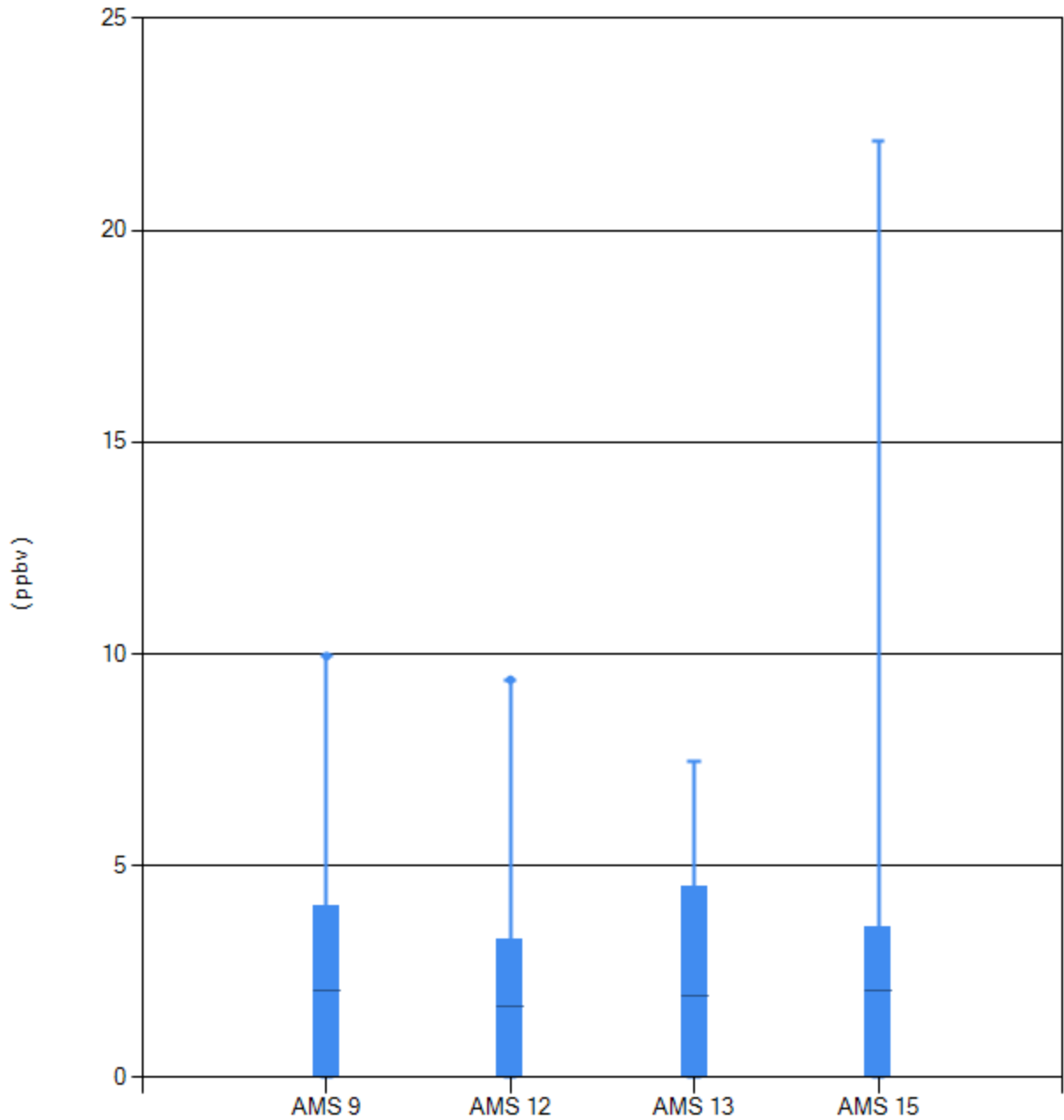
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	1.87	3.15	5.19	28.4	4.09
AMS 12 Millennium	0	0.54	1.91	3.02	31.7	2.57
AMS 13 Fort McKay South	0	0.55	1.97	3.63	12.2	2.54
AMS 15 Horizon	0	0.19	1.86	3.35	27.6	2.8





Volatile Organic Compound (VOC) - Acetaldehyde - (ppbv) - 2014

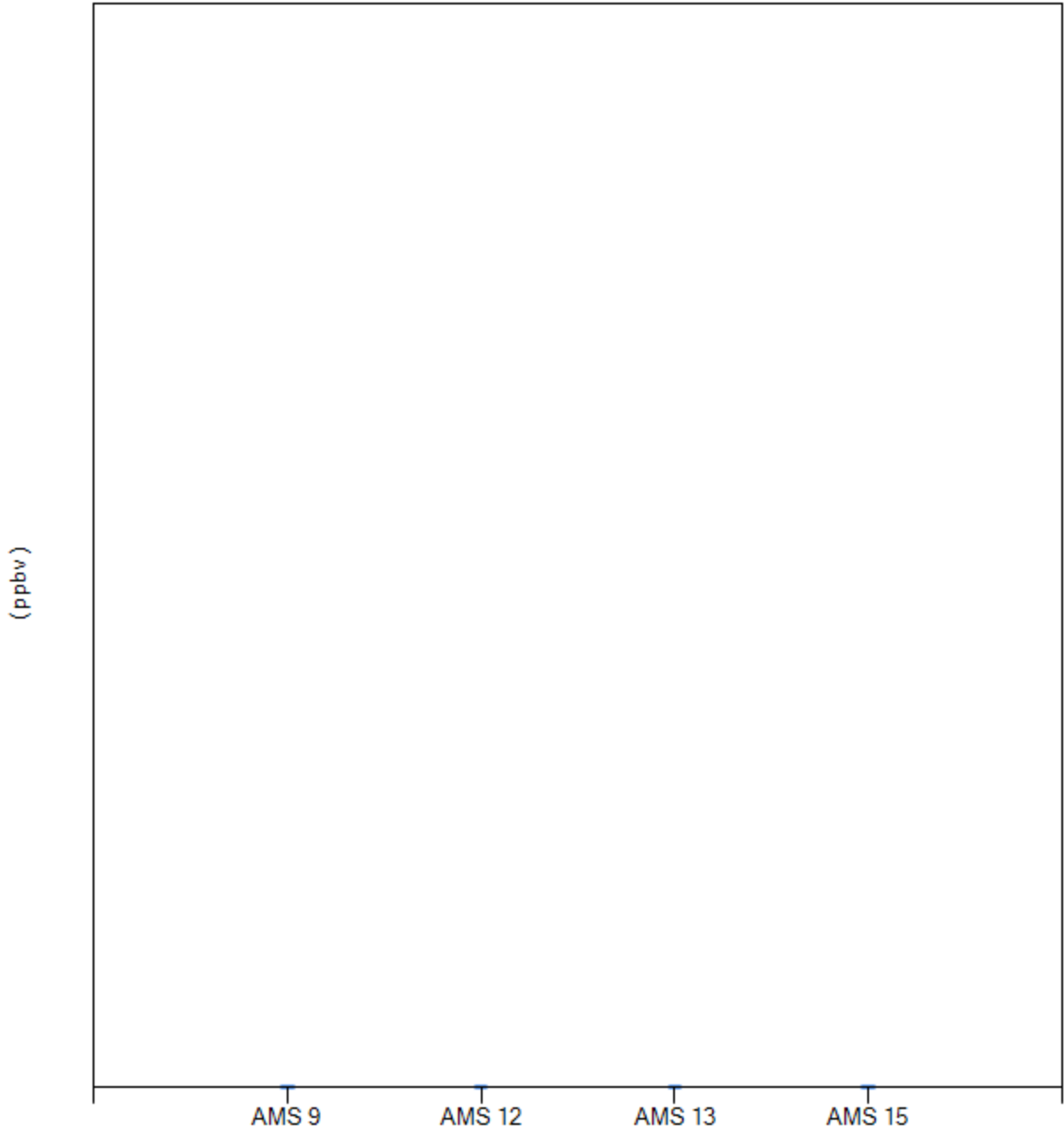
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	4.06	9.95	2.04
AMS 12 Millennium	0	0	0	3.31	9.39	1.68
AMS 13 Fort McKay South	0	0	0	4.5	7.45	1.95
AMS 15 Horizon	0	0	0	3.56	22.1	2.07





Volatile Organic Compound (VOC) - 4-Methyl-1-pentene - (ppbv) - 2014

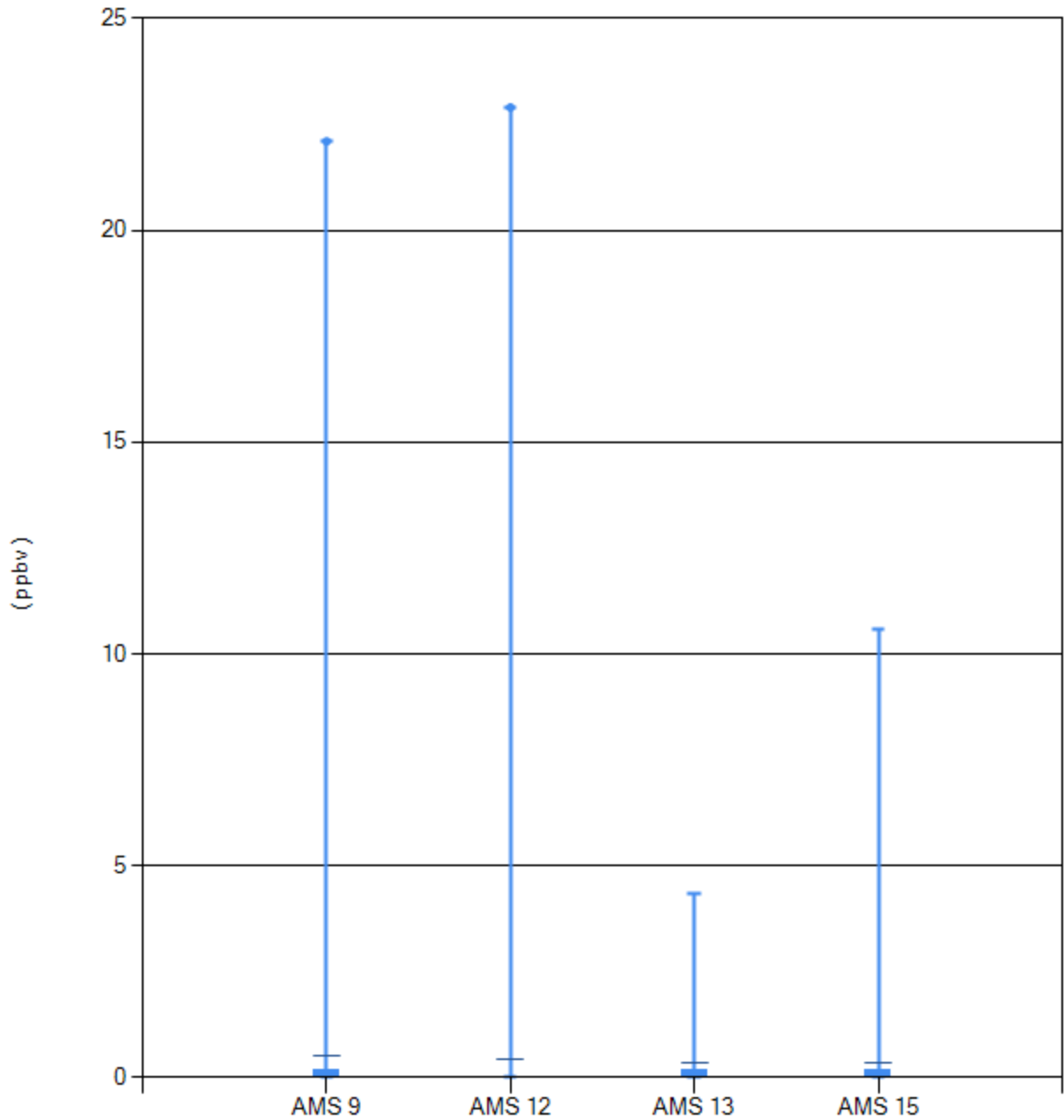
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





Volatile Organic Compound (VOC) - 3-Methylpentane - (ppbv) - 2014

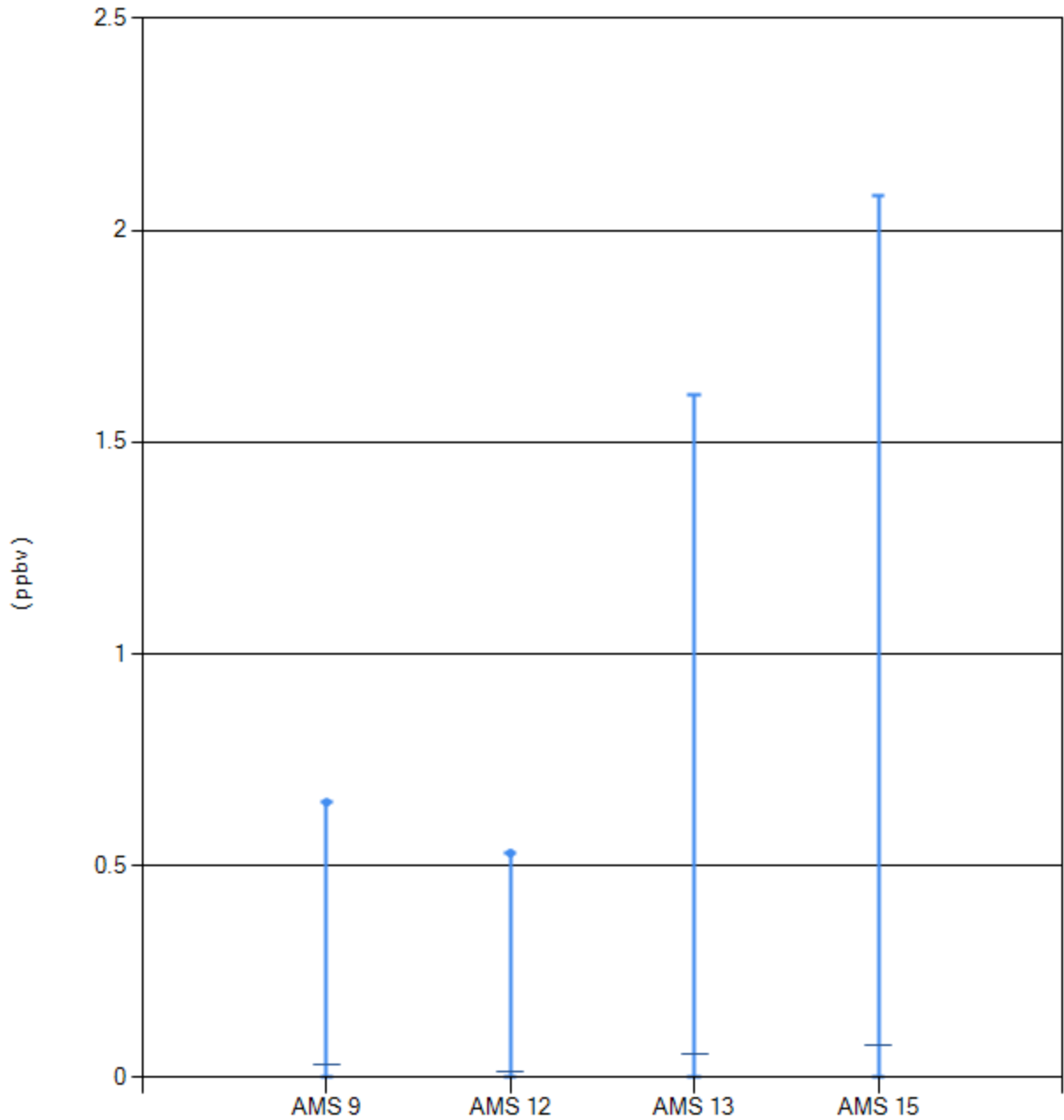
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0.22	22.1	0.52
AMS 12 Millennium	0	0	0	0	22.9	0.42
AMS 13 Fort McKay South	0	0	0	0.2	4.33	0.34
AMS 15 Horizon	0	0	0	0.19	10.6	0.36





Volatile Organic Compound (VOC) - 3-Methylhexane - (ppbv) - 2014

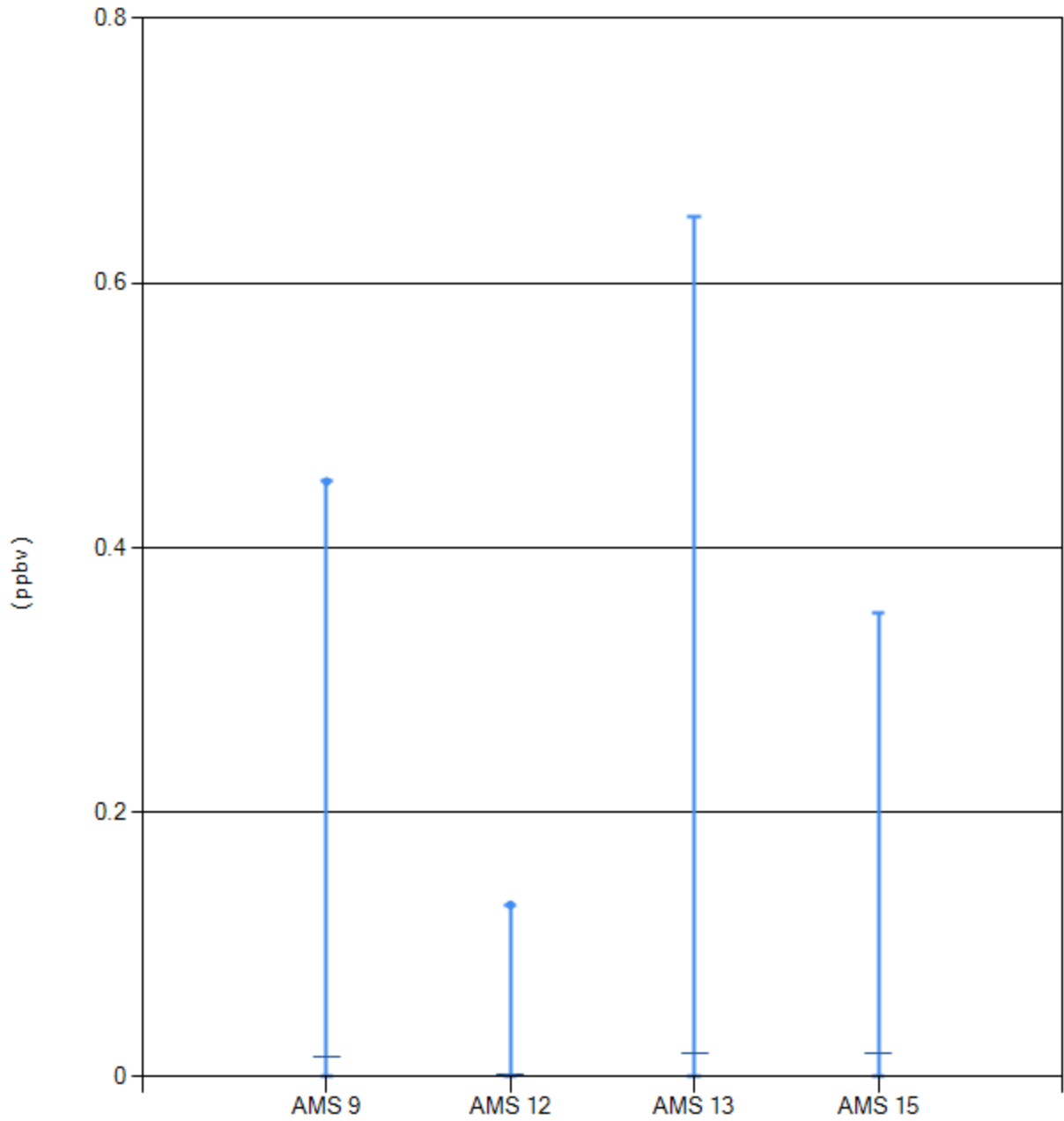
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.65	0.03
AMS 12 Millennium	0	0	0	0	0.53	0.01
AMS 13 Fort McKay South	0	0	0	0	1.61	0.06
AMS 15 Horizon	0	0	0	0	2.08	0.08





Volatile Organic Compound (VOC) - 3-Methylheptane - (ppbv) - 2014

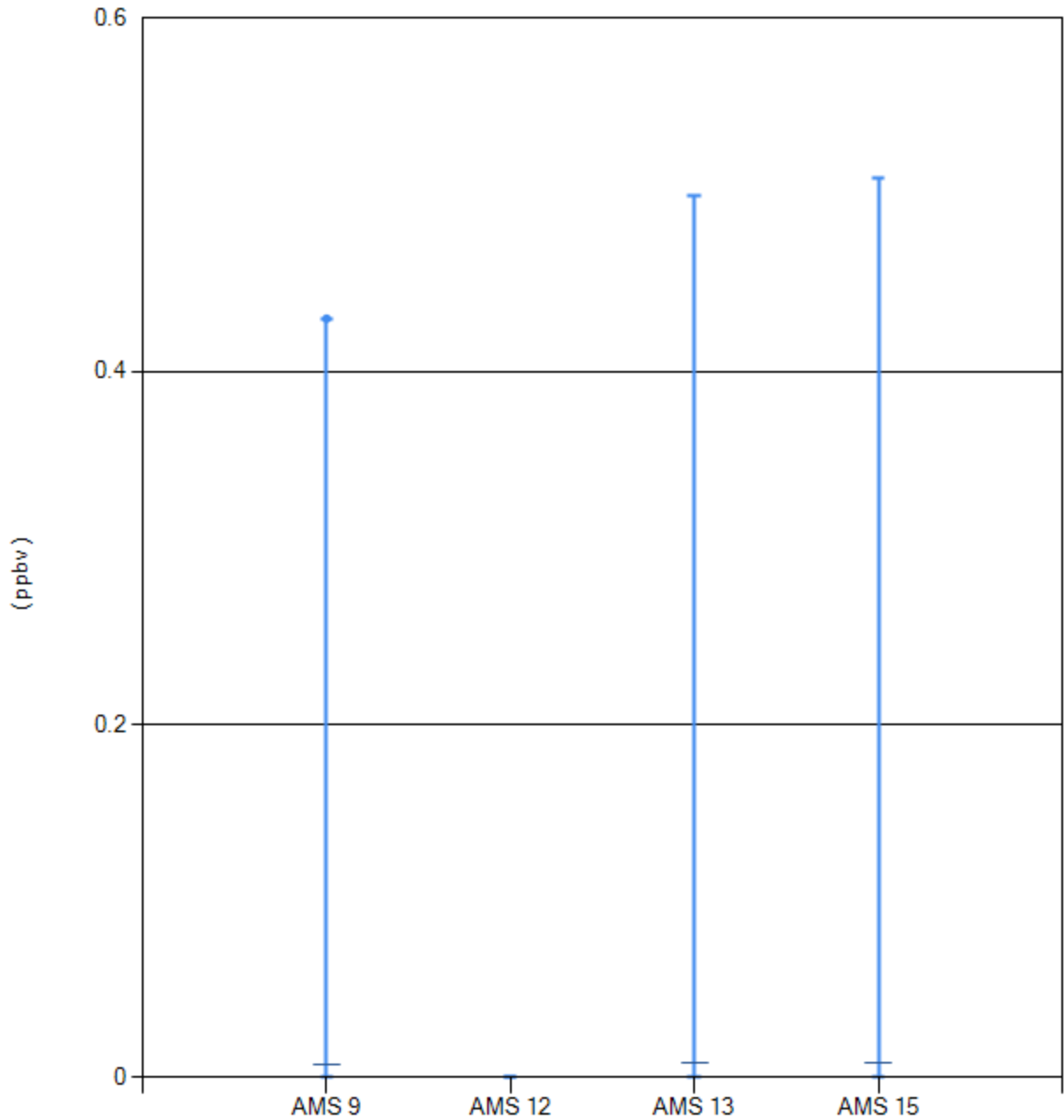
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.45	0.02
AMS 12 Millennium	0	0	0	0	0.13	0
AMS 13 Fort McKay South	0	0	0	0	0.65	0.02
AMS 15 Horizon	0	0	0	0	0.35	0.02





Volatile Organic Compound (VOC) - 3-Methyl-1-butene - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.43	0.01
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0.5	0.01
AMS 15 Horizon	0	0	0	0	0.51	0.01

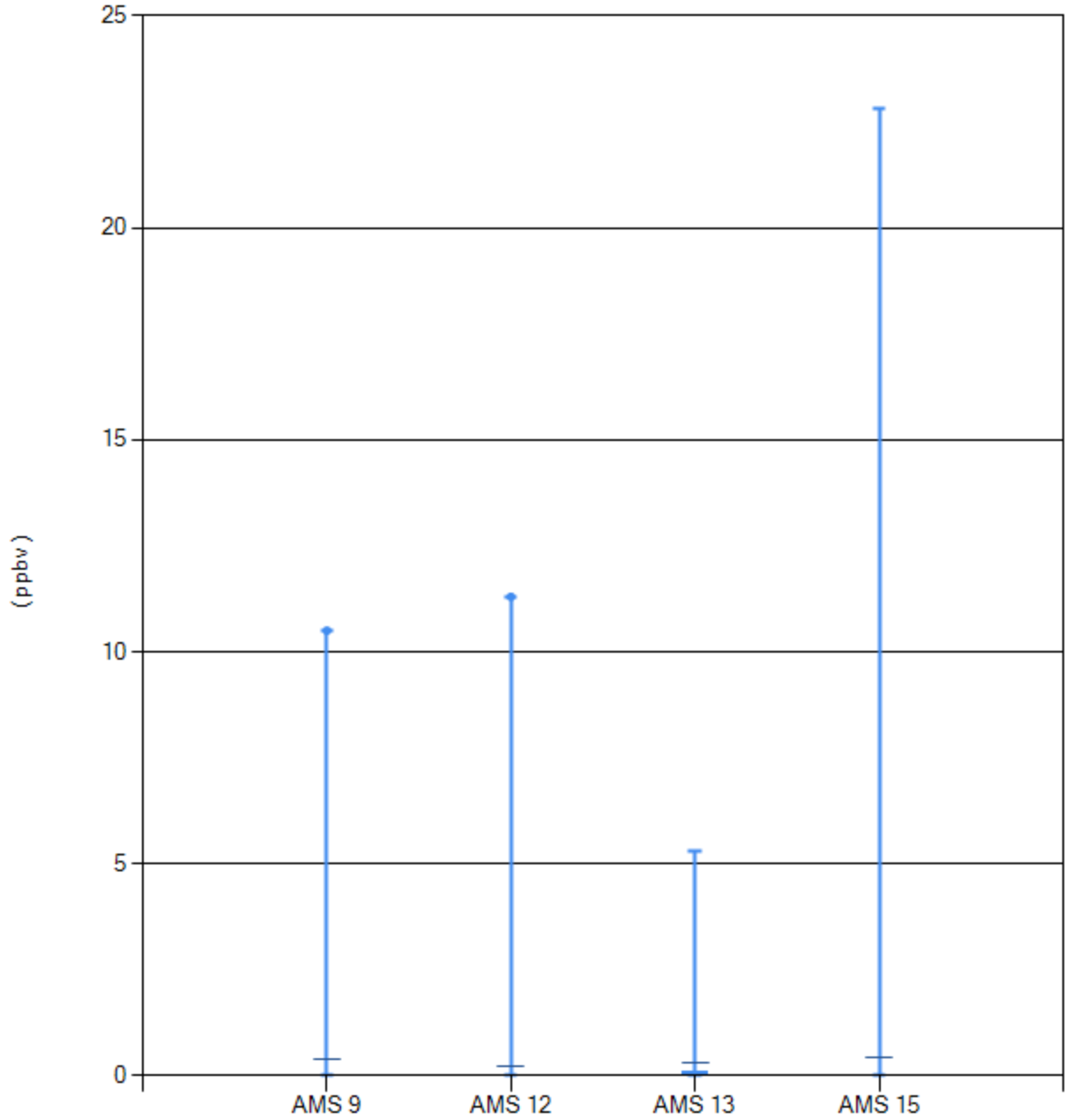






Volatile Organic Compound (VOC) - 2-Methylpentane - (ppbv) - 2014

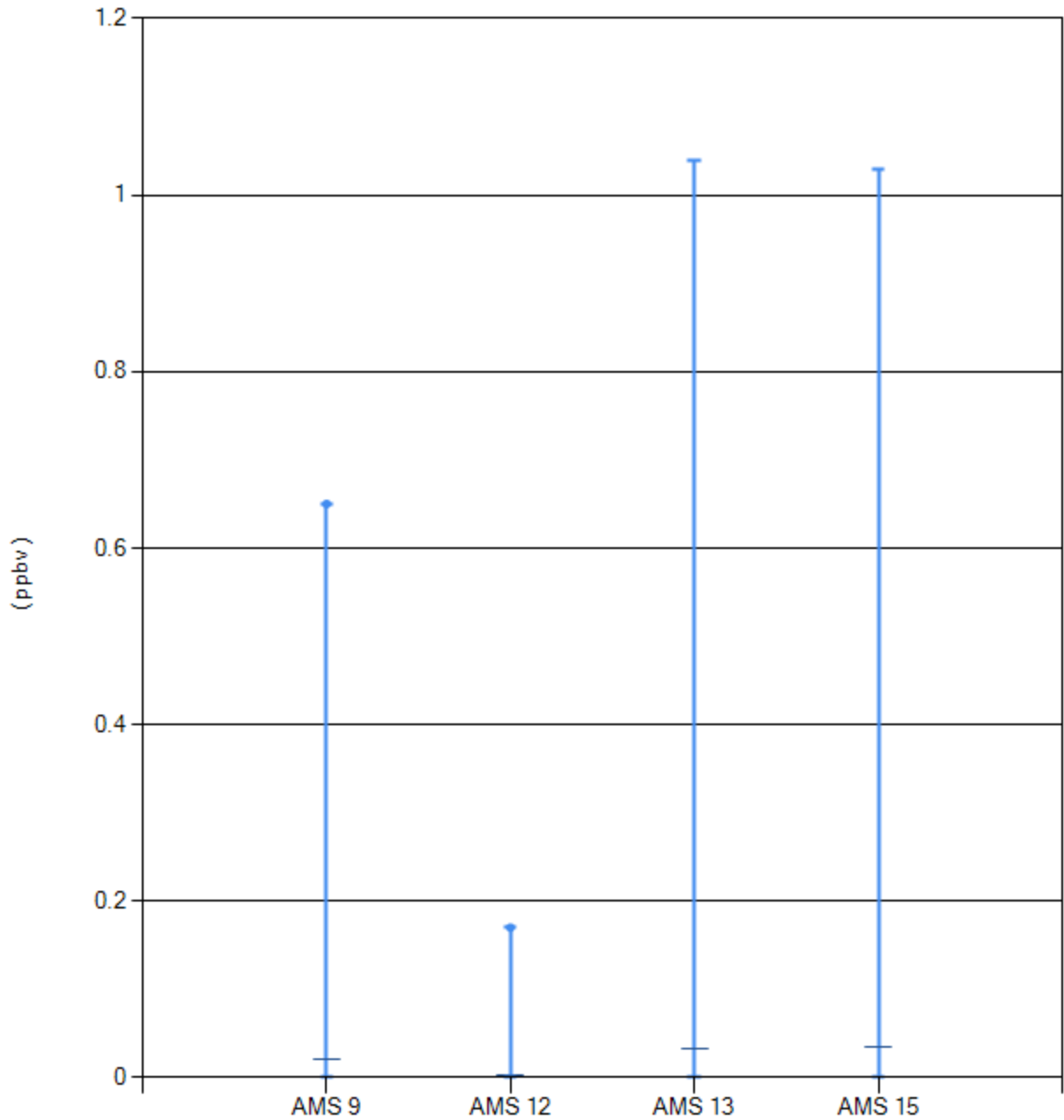
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	10.5	0.41
AMS 12 Millennium	0	0	0	0	11.3	0.21
AMS 13 Fort McKay South	0	0	0	0.11	5.31	0.29
AMS 15 Horizon	0	0	0	0	22.8	0.42





Volatile Organic Compound (VOC) - 2-Methylhexane - (ppbv) - 2014

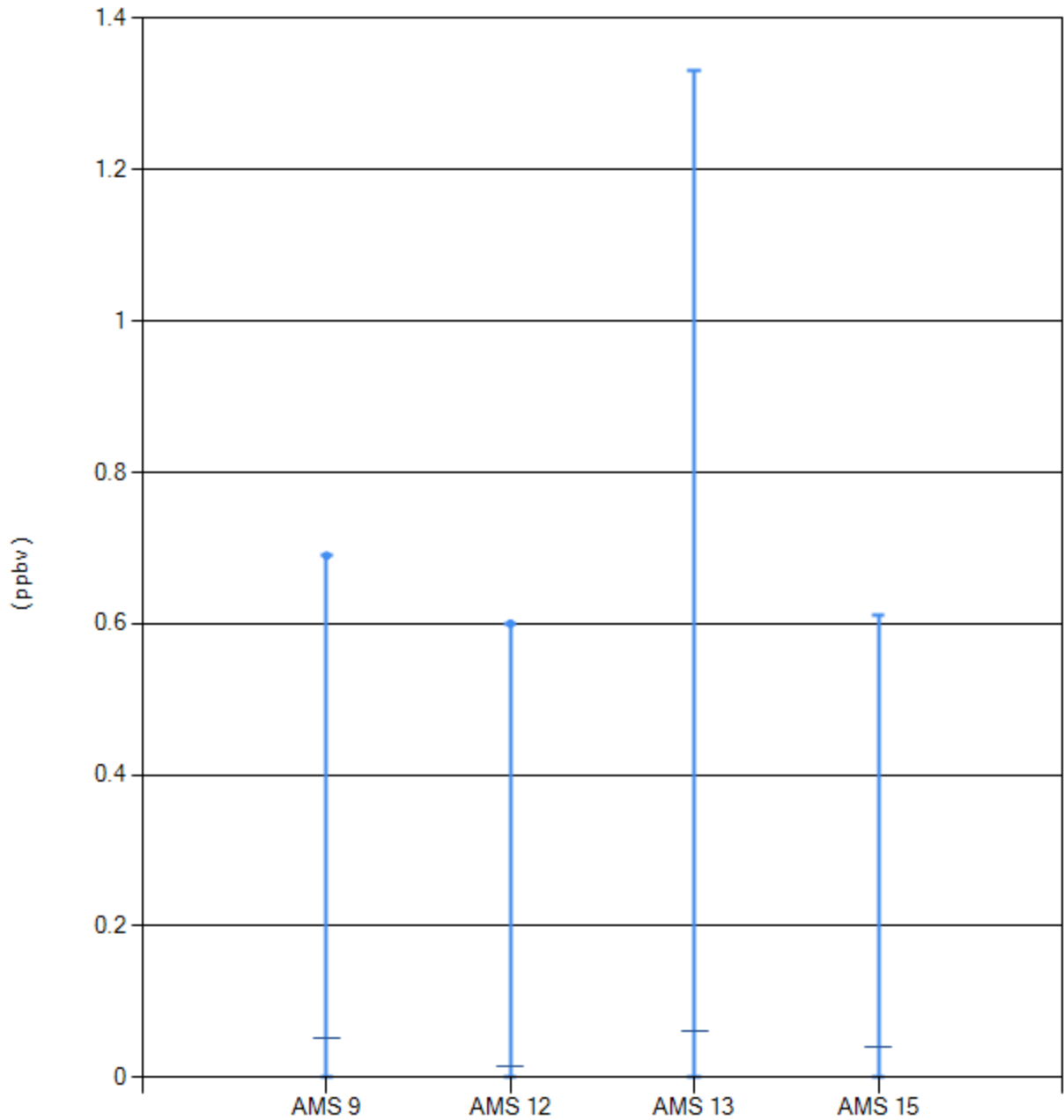
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.65	0.02
AMS 12 Millennium	0	0	0	0	0.17	0
AMS 13 Fort McKay South	0	0	0	0	1.04	0.03
AMS 15 Horizon	0	0	0	0	1.03	0.03





Volatile Organic Compound (VOC) - 2-Methylheptane - (ppbv) - 2014

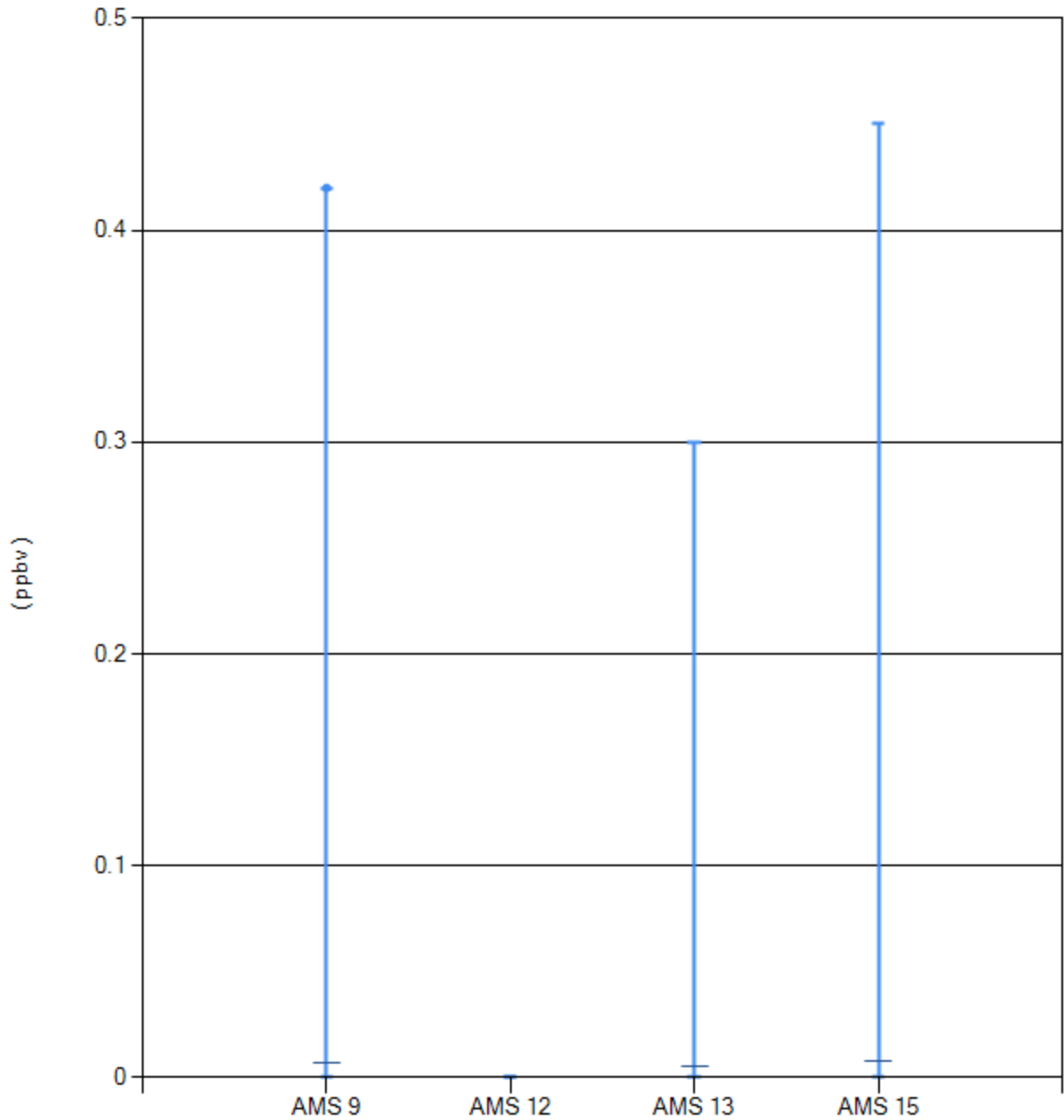
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.69	0.05
AMS 12 Millennium	0	0	0	0	0.6	0.02
AMS 13 Fort McKay South	0	0	0	0	1.33	0.06
AMS 15 Horizon	0	0	0	0	0.61	0.04





Volatile Organic Compound (VOC) - 2-Methyl-2-butene - (ppbv) - 2014

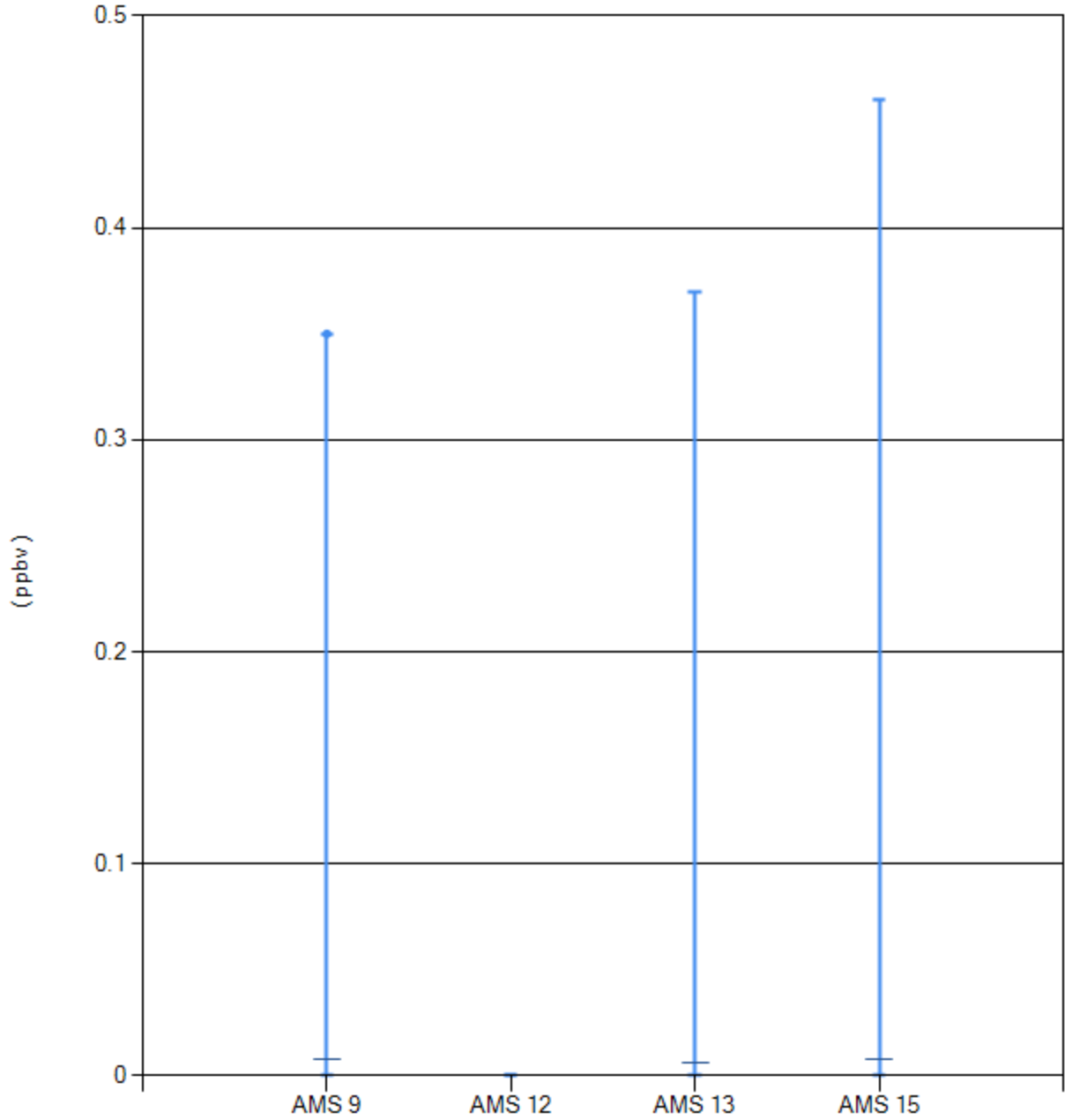
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.42	0.01
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0.3	0
AMS 15 Horizon	0	0	0	0	0.45	0.01





Volatile Organic Compound (VOC) - 2-Methyl-1-pentene - (ppbv) - 2014

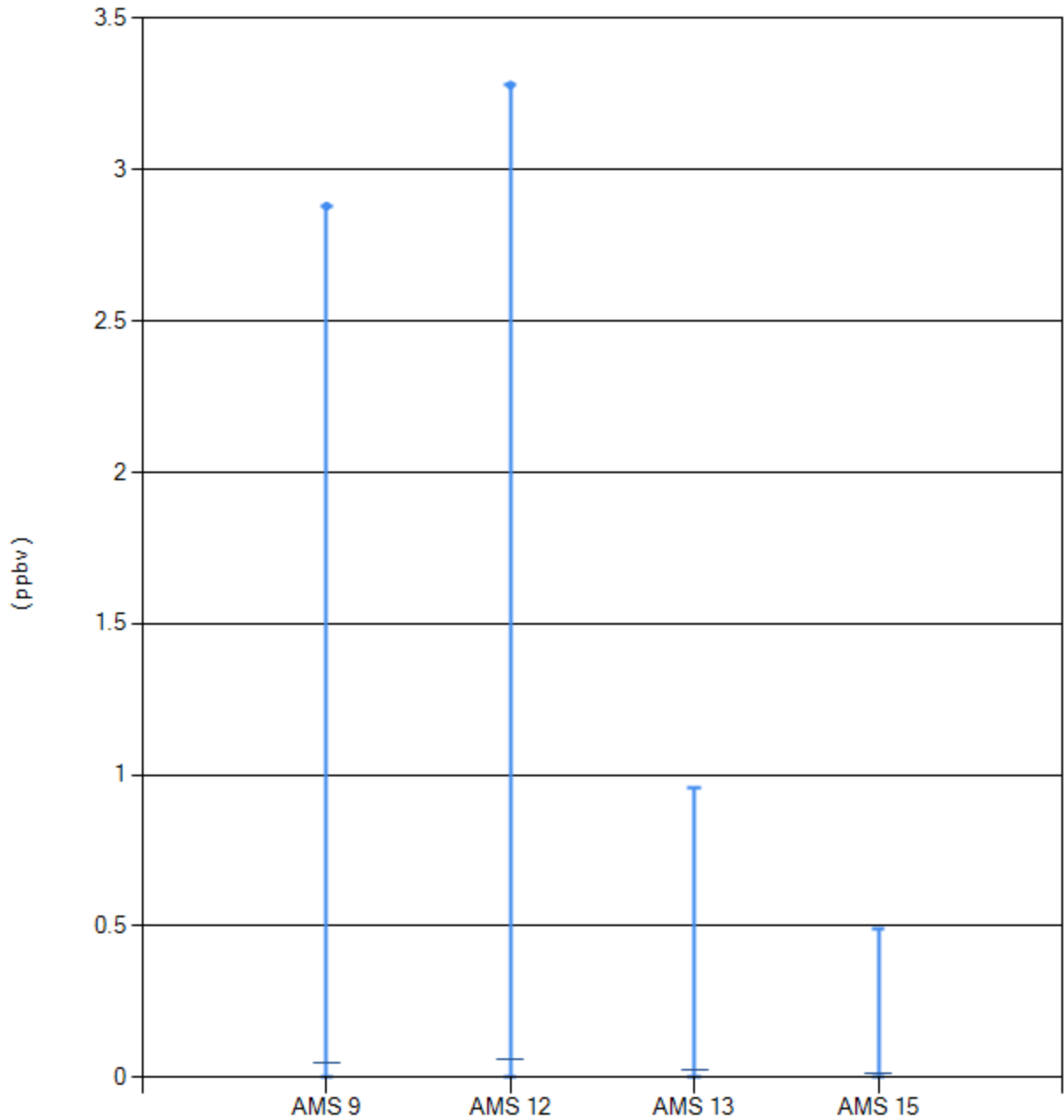
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.35	0.01
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0.37	0.01
AMS 15 Horizon	0	0	0	0	0.46	0.01





Volatile Organic Compound (VOC) - 2,4-Dimethylpentane - (ppbv) - 2014

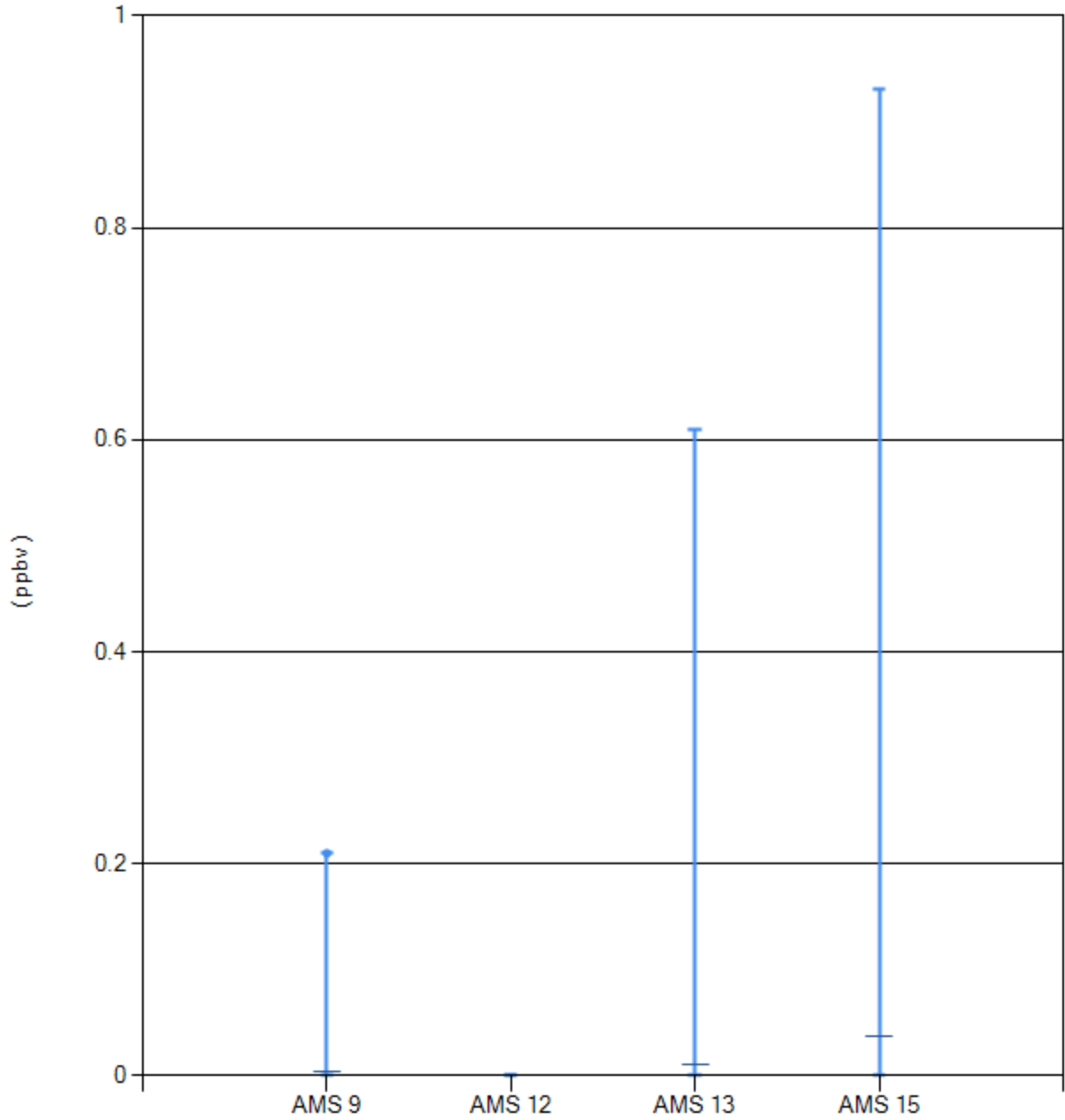
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	2.88	0.05
AMS 12 Millennium	0	0	0	0	3.28	0.06
AMS 13 Fort McKay South	0	0	0	0	0.96	0.03
AMS 15 Horizon	0	0	0	0	0.49	0.02





Volatile Organic Compound (VOC) - 2,3-Dimethylpentane - (ppbv) - 2014

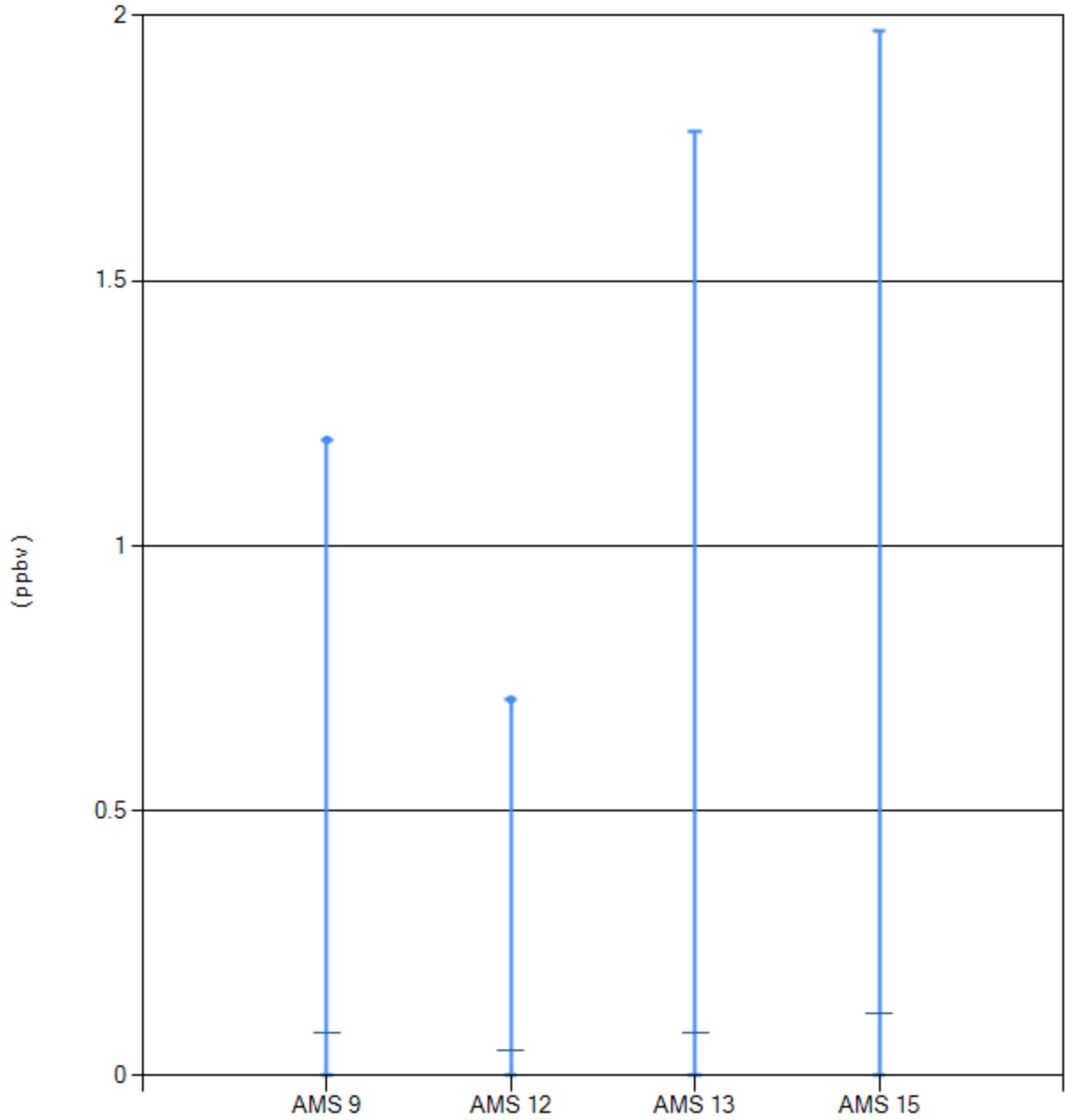
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.21	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0.61	0.01
AMS 15 Horizon	0	0	0	0	0.93	0.04





Volatile Organic Compound (VOC) - 2,3-Dimethylbutane - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	1.2	0.08
AMS 12 Millennium	0	0	0	0	0.71	0.05
AMS 13 Fort McKay South	0	0	0	0	1.78	0.08
AMS 15 Horizon	0	0	0	0	1.97	0.12

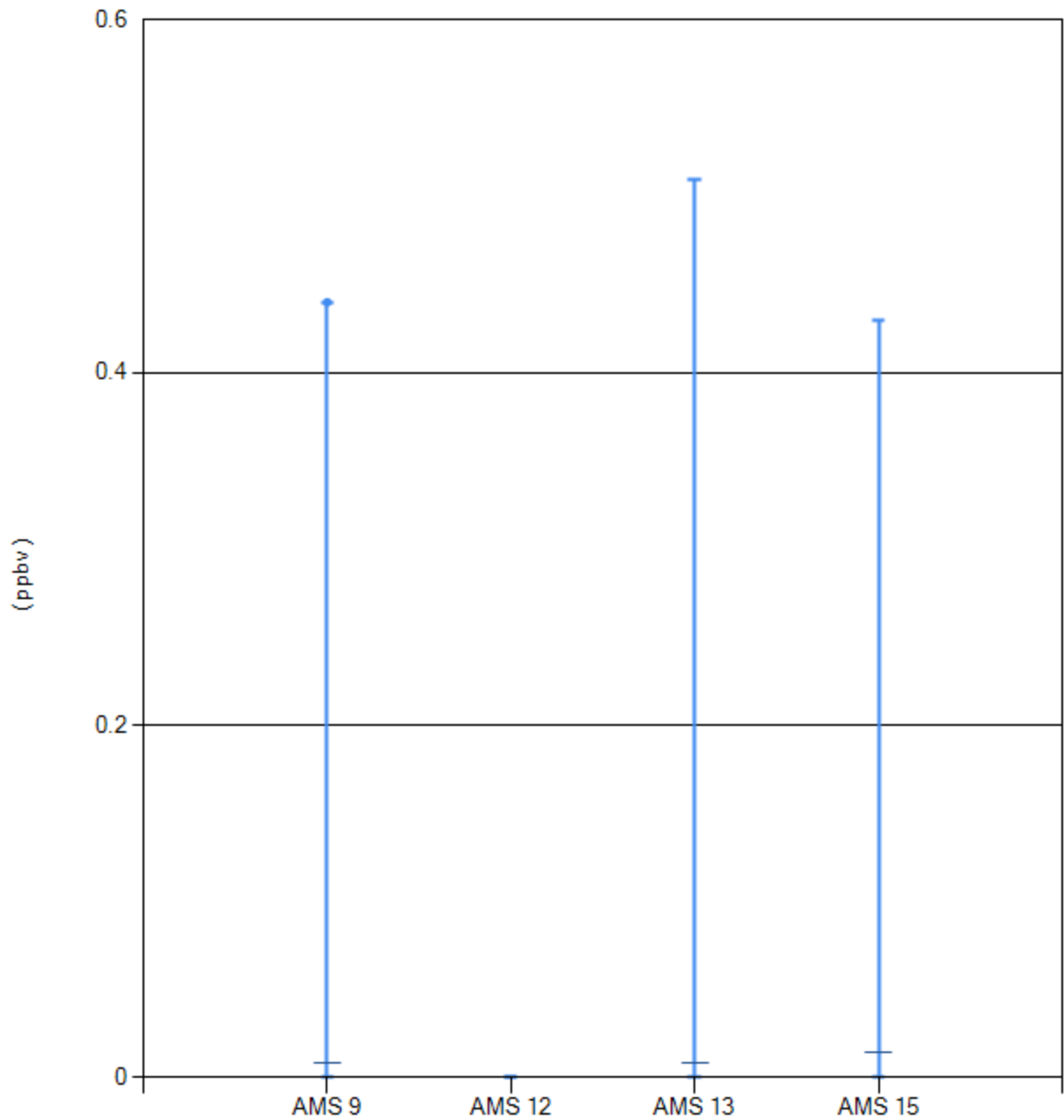






Volatile Organic Compound (VOC) - 2,3,4-Trimethylpentane - (ppbv) - 2014

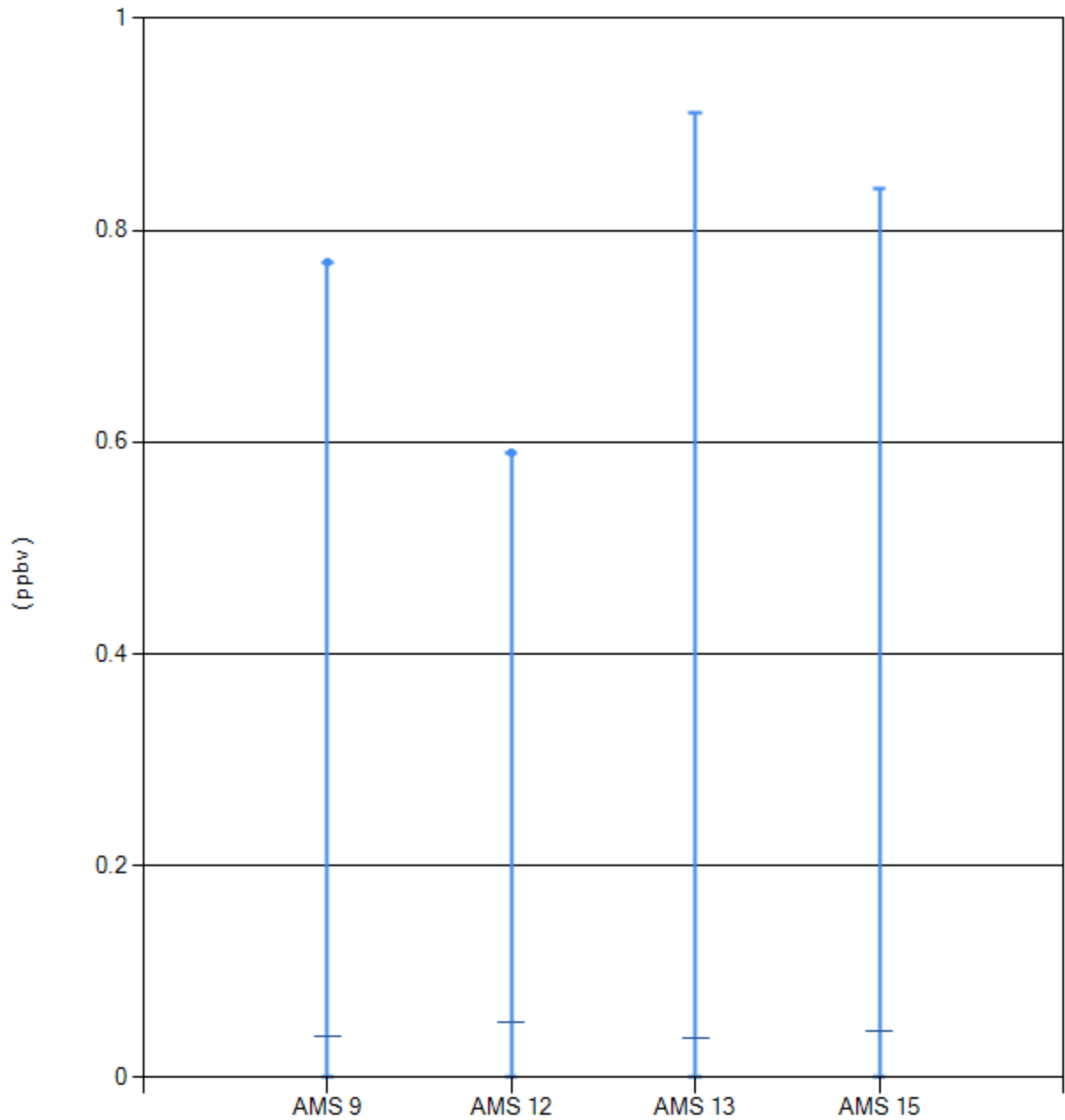
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.44	0.01
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0.51	0.01
AMS 15 Horizon	0	0	0	0	0.43	0.01





Volatile Organic Compound (VOC) - 2,2-Dimethylbutane - (ppbv) - 2014

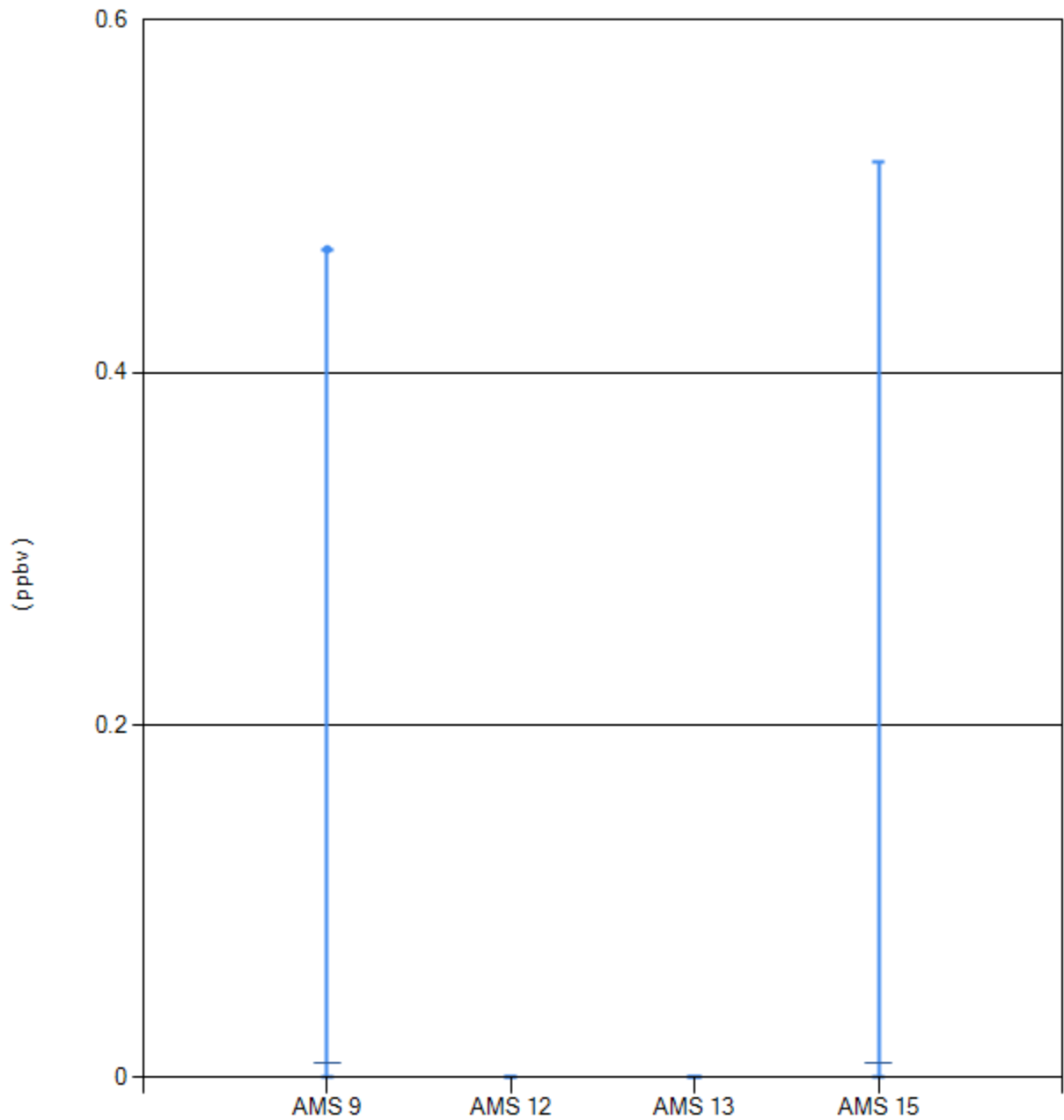
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.77	0.04
AMS 12 Millennium	0	0	0	0	0.59	0.05
AMS 13 Fort McKay South	0	0	0	0	0.91	0.04
AMS 15 Horizon	0	0	0	0	0.84	0.04





Volatile Organic Compound (VOC) - 2,2,4-Trimethylpentane - (ppbv) - 2014

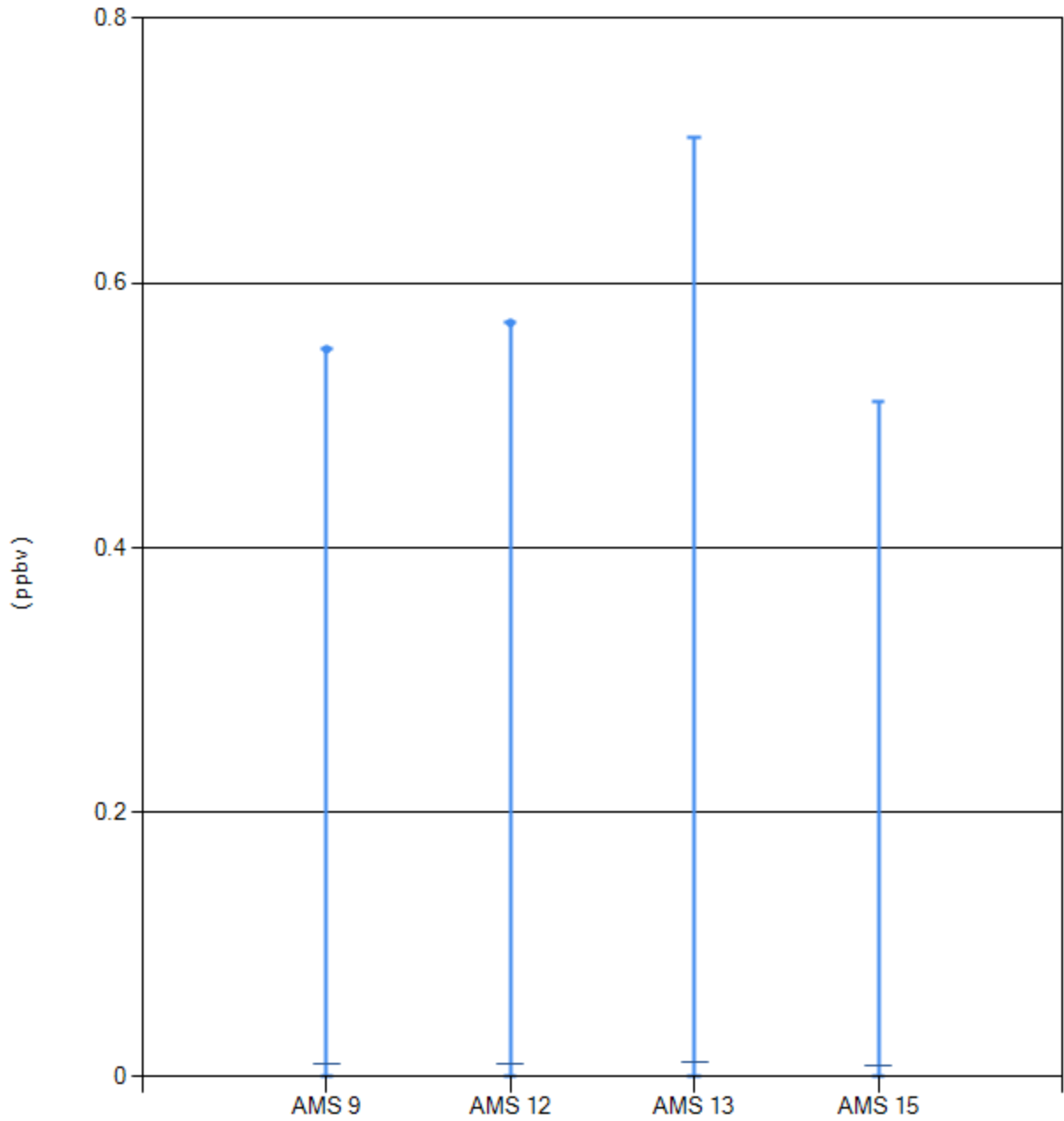
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.47	0.01
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0.52	0.01





Volatile Organic Compound (VOC) - 1-Pentene - (ppbv) - 2014

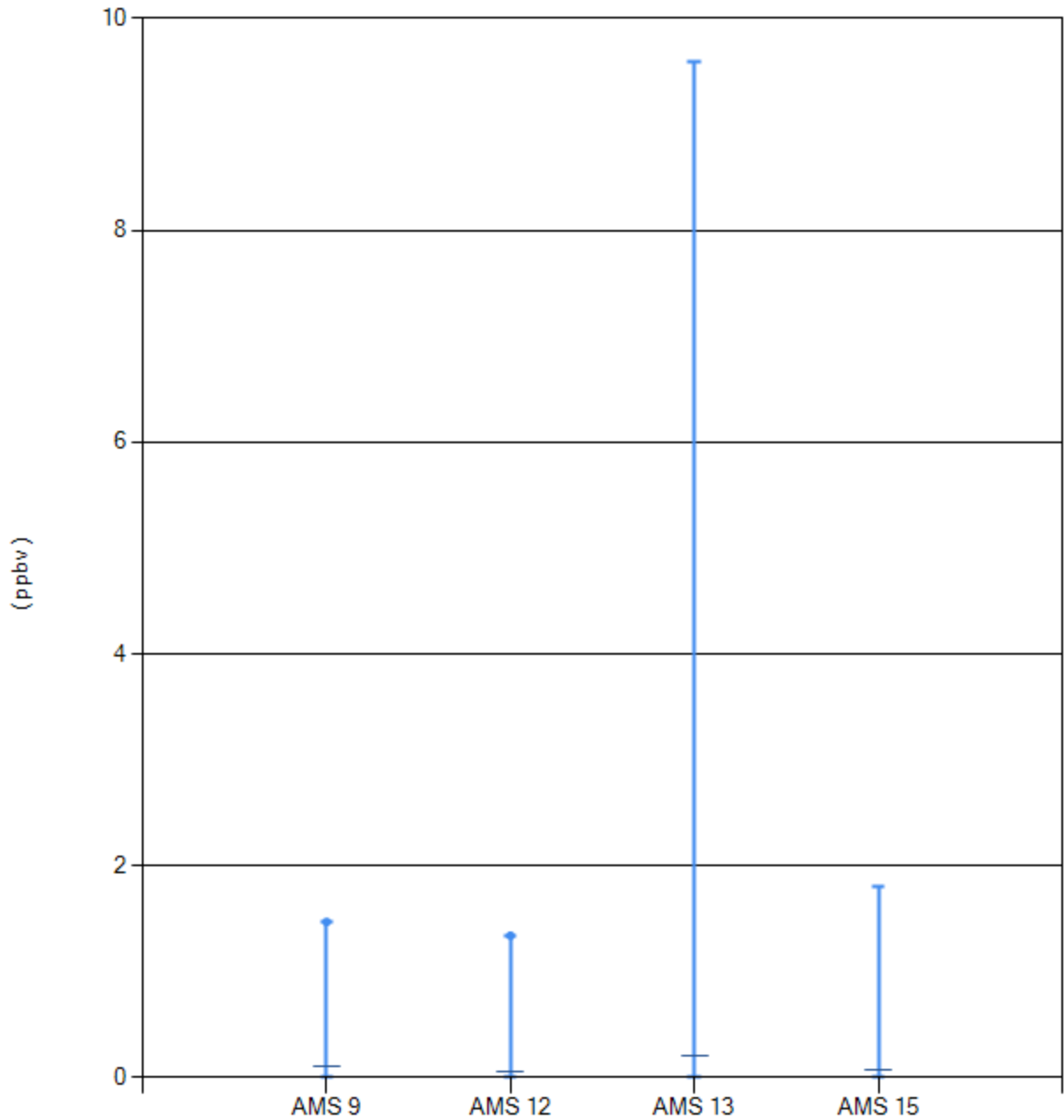
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.55	0.01
AMS 12 Millennium	0	0	0	0	0.57	0.01
AMS 13 Fort McKay South	0	0	0	0	0.71	0.01
AMS 15 Horizon	0	0	0	0	0.51	0.01





Volatile Organic Compound (VOC) - 1-Butene - (ppbv) - 2014

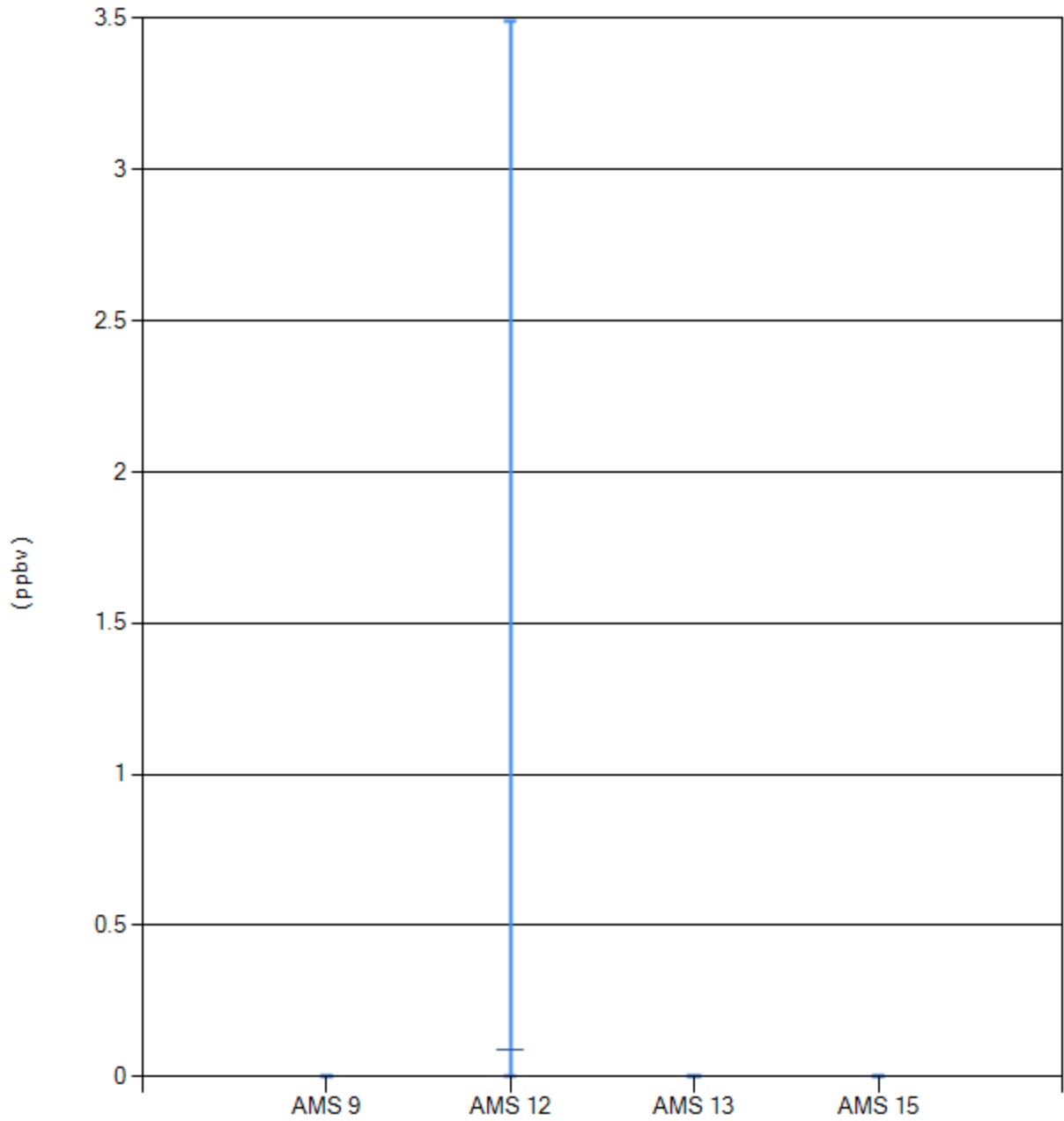
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	1.47	0.11
AMS 12 Millennium	0	0	0	0	1.34	0.06
AMS 13 Fort McKay South	0	0	0	0	9.59	0.21
AMS 15 Horizon	0	0	0	0	1.8	0.07





Volatile Organic Compound (VOC) - 1,3-Butadiene - (ppbv) - 2014

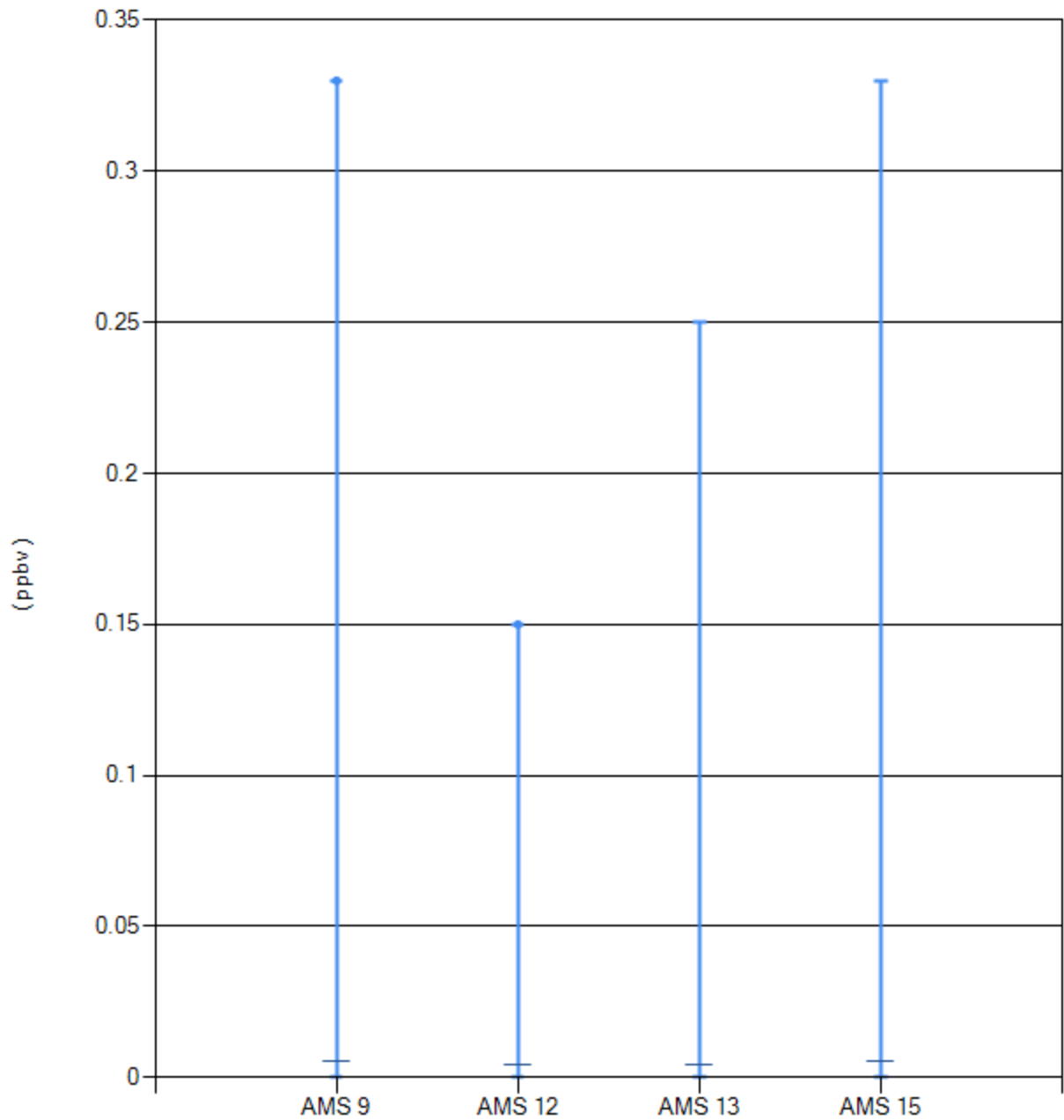
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	3.49	0.09
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





Volatile Organic Compound (VOC) - 1,3,5-Trimethylbenzene - (ppbv) - 2014

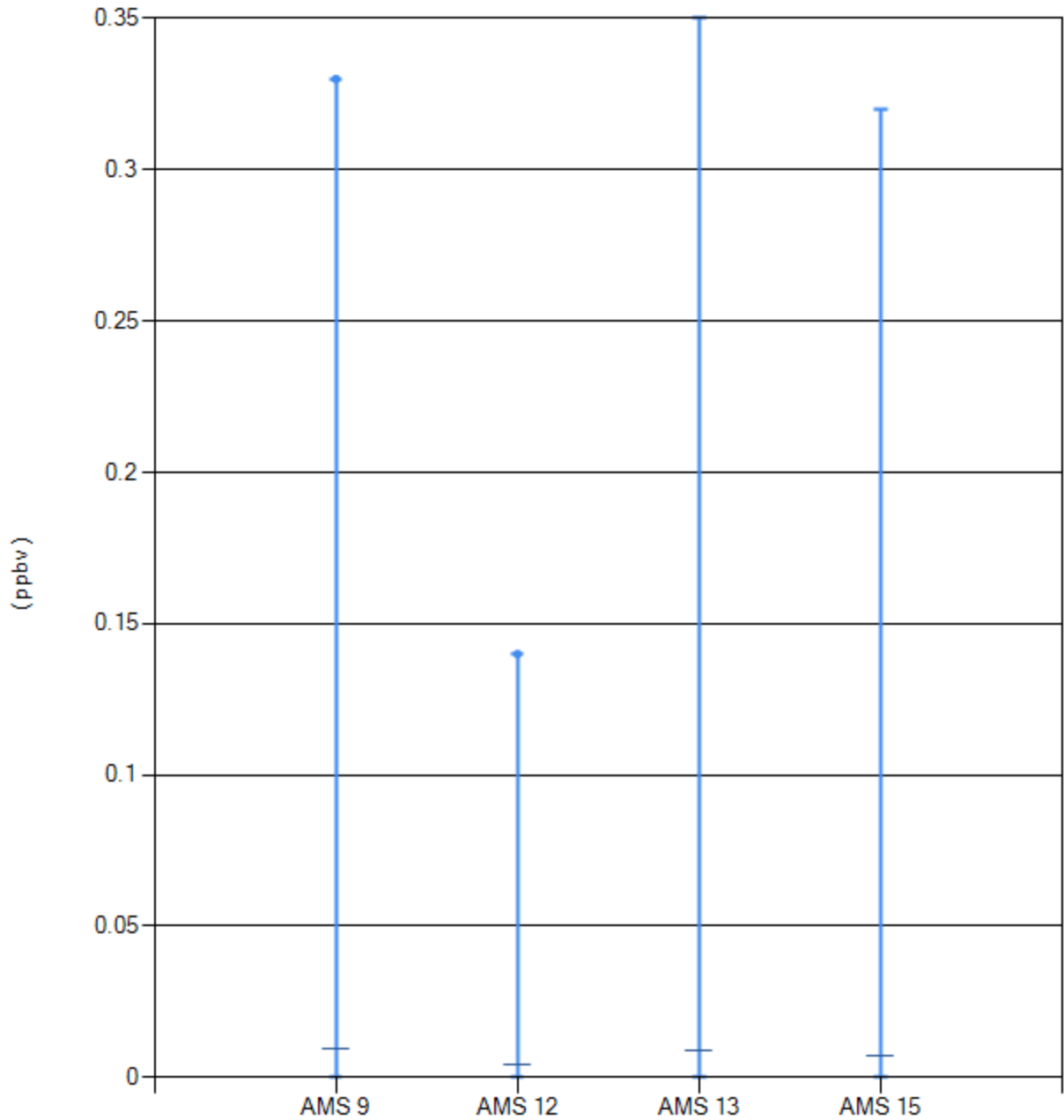
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.33	0.01
AMS 12 Millennium	0	0	0	0	0.15	0
AMS 13 Fort McKay South	0	0	0	0	0.25	0
AMS 15 Horizon	0	0	0	0	0.33	0.01





Volatile Organic Compound (VOC) - 1,2,4-Trimethylbenzene - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.33	0.01
AMS 12 Millennium	0	0	0	0	0.14	0
AMS 13 Fort McKay South	0	0	0	0	0.35	0.01
AMS 15 Horizon	0	0	0	0	0.32	0.01

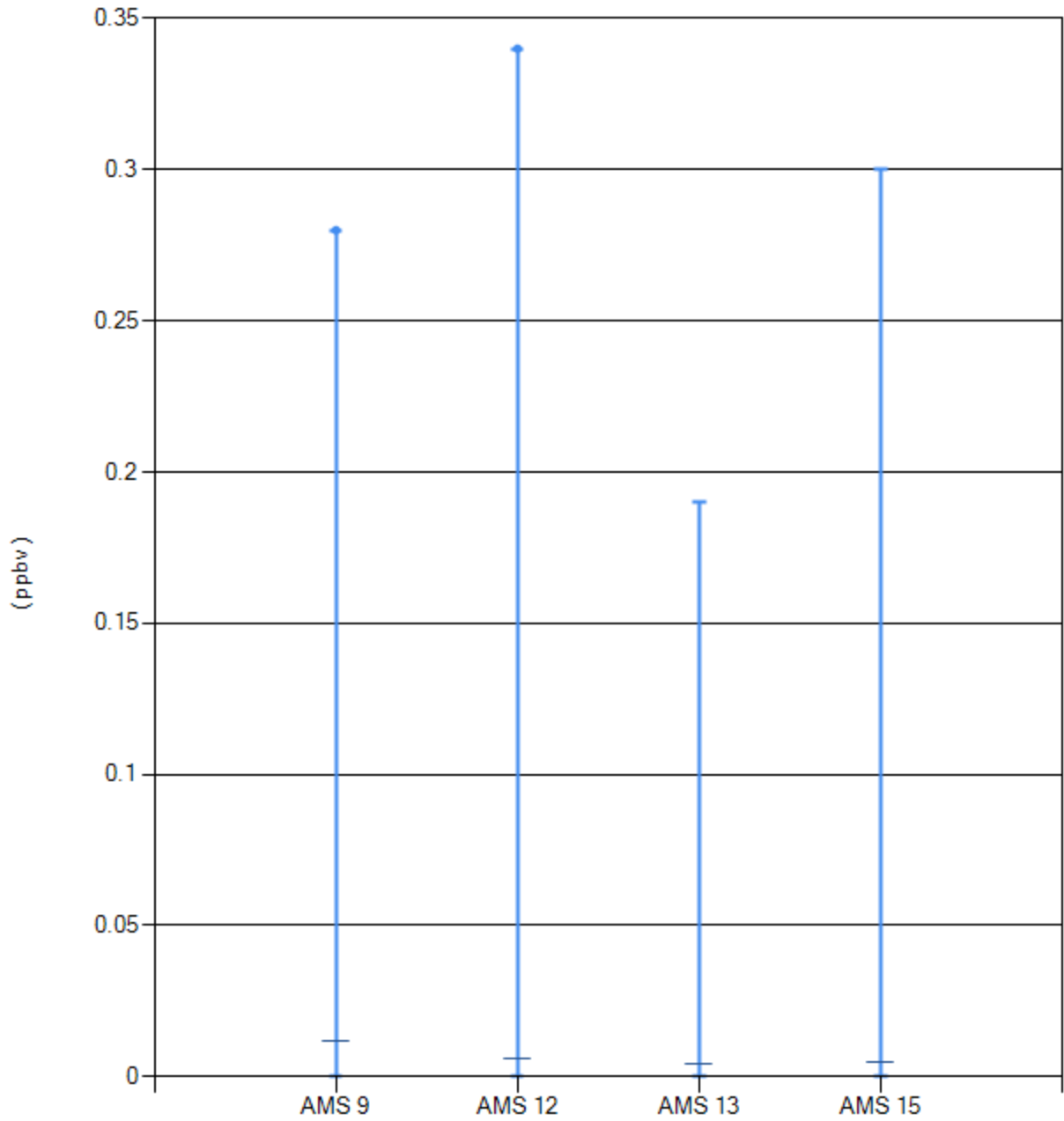






Volatile Organic Compound (VOC) - Undecane - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.28	0.01
AMS 12 Millennium	0	0	0	0	0.34	0.01
AMS 13 Fort McKay South	0	0	0	0	0.19	0
AMS 15 Horizon	0	0	0	0	0.3	0





## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

### **INTEGRATED MONITORING PROGRAM ANNUAL REPORT**

### **REDUCED SULPHUR COMPOUNDS DATA SUMMARY 2014**

Prepared  
March 12, 2015

#### **SAMPLE COLLECTION BY:**

**Wood Buffalo Environmental Association**  
Fort McMurray, Alberta

#### **LABORATORY ANALYSIS BY:**

RSCs: Alberta Innovates - Technology Futures  
Vegreville, Alberta

#### **DATA COMPILATION BY:**

Aurora Atmospherics Inc.  
Calgary, Alberta

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RSC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 05-Jan	Patricia McInnes 05-Jan	Athabasca Valley 05-Jan	Anzac 05-Jan
2,5-dimethyl Thiophene	1	0	0	0	0
2-ethyl Thiophene	1	0	0	0	0
2-methyl Thiophene	1	0	0	0	0
3-methyl Thiophene	1	0	0	0	0
Allyl sulphide	1	0	0	0	0
Butyl mercaptan	1	0	0	0	0
Carbon disulphide	1	0.3	0	0	0
Carbonyl sulphide	1	2	0.9	1	0.9
Dimethyl disulphide	1	0	0	0	0
Dimethyl sulphide	1	0	0	0	0
Ethyl mercaptan	1	0	0	0	0
Ethyl sulphide	1	0	0	0	0
Hydrogen sulphide	1	0	0	0	0
Isobutyl mercaptan	1	0	0	0	0
Isopropyl mercaptan	1	0	0	0	0
Methyl mercaptan	1	0	0	0	0
Pentyl mercaptan	1	0	0	0	0
Propyl mercaptan	1	0	0	0	0
sec-Butyl mercaptan	1	0	0	0	0
tert-Butyl mercaptan	1	0	0	0	0
tert-Pentyl mercaptan	1	0	0	0	0
Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 9	AMS 12	AMS 13	AMS 15
			Barge Landing 05-Jan	Millennium 05-Jan	Fort McKay South 05-Jan	Horizon 05-Jan
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	1	0.9	0.9	2
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 11-Jan	Patricia McInnes 11-Jan	Athabasca Valley 11-Jan	Anzac 11-Jan
2,5-dimethyl Thiophene	1	0	0	0	0
2-ethyl Thiophene	1	0	0	0	0
2-methyl Thiophene	1	0	0	0	0
3-methyl Thiophene	1	0	0	0	0
Allyl sulphide	1	0	0	0	0
Butyl mercaptan	1	0	0	0	0
Carbon disulphide	1	0	0	0	0
Carbonyl sulphide	1	2	1	0.6	0.9
Dimethyl disulphide	1	0	0	0	0
Dimethyl sulphide	1	0	0	0	0
Ethyl mercaptan	1	0	0	0	0
Ethyl sulphide	1	0	0	0	0
Hydrogen sulphide	1	0	0	0	0
Isobutyl mercaptan	1	0	0	0	0
Isopropyl mercaptan	1	0	0	0	0
Methyl mercaptan	1	0	0	0	0
Pentyl mercaptan	1	0	0	0	0
Propyl mercaptan	1	0	0	0	0
sec-Butyl mercaptan	1	0	0	0	0
tert-Butyl mercaptan	1	0	0	0	0
tert-Pentyl mercaptan	1	0	0	0	0
Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 9	AMS 12	AMS 13	AMS 15
			Barge Landing 11-Jan	Millennium 11-Jan	Fort McKay South 11-Jan	Horizon 11-Jan
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	1	0.8	0.7	1
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 17-Jan	AMS 6 Patricia McInnes 17-Jan	AMS 7 Athabasca Valley 17-Jan	AMS 14 Anzac 17-Jan
Compound Name	MDL				
2,5-dimethyl Thiophene	1	0	0	0	0
2-ethyl Thiophene	1	0	0	0	0
2-methyl Thiophene	1	0	0	0	0
3-methyl Thiophene	1	0	0	0	0
Allyl sulphide	1	0	0	0	0
Butyl mercaptan	1	0	0	0	0
Carbon disulphide	1	0	0	0	0
Carbonyl sulphide	1	0	0.7	0.8	0.5
Dimethyl disulphide	1	0	0	0	0
Dimethyl sulphide	1	0	0	0	0
Ethyl mercaptan	1	0	0	0	0
Ethyl sulphide	1	0	0	0	0
Hydrogen sulphide	1	0	0	0	0
Isobutyl mercaptan	1	0	0	0	0
Isopropyl mercaptan	1	0	0	0	0
Methyl mercaptan	1	0	0	0	0
Pentyl mercaptan	1	0	0	0	0
Propyl mercaptan	1	0	0	0	0
sec-Butyl mercaptan	1	0	0	0	0
tert-Butyl mercaptan	1	0	0	0	0
tert-Pentyl mercaptan	1	0	0	0	0
Thiophene	1	0	0	0	0





RSC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 17-Jan	Millennium 17-Jan	Fort McKay South 17-Jan	Horizon 17-Jan
Compound Name					
2,5-dimethyl Thiophene	1	0	0	0	0
2-ethyl Thiophene	1	0	0	0	0
2-methyl Thiophene	1	0	0	0	0
3-methyl Thiophene	1	0	0	0	0
Allyl sulphide	1	0	0	0	0
Butyl mercaptan	1	0	0	0	0
Carbon disulphide	1	0	0	0	0
Carbonyl sulphide	1	0.7	0.9	0	0
Dimethyl disulphide	1	0	0	0	0
Dimethyl sulphide	1	0	0	0	0
Ethyl mercaptan	1	0	0	0	0
Ethyl sulphide	1	0	0	0	0
Hydrogen sulphide	1	0	0.5	0	0
Isobutyl mercaptan	1	0	0	0	0
Isopropyl mercaptan	1	0	0	0	0
Methyl mercaptan	1	0	0	0	0
Pentyl mercaptan	1	0	0	0	0
Propyl mercaptan	1	0	0	0	0
sec-Butyl mercaptan	1	0	0	0	0
tert-Butyl mercaptan	1	0	0	0	0
tert-Pentyl mercaptan	1	0	0	0	0
Thiophene	1	0	0	0	0



RSC Canisters	MDL	Results (ppbv)		
		AMS 1	AMS 6	AMS 7
		Bertha Ganter 23-Jan	Patricia McInnes 23-Jan	Athabasca Valley 23-Jan
2,5-dimethyl Thiophene	1	0	0	0
2-ethyl Thiophene	1	0	0	0
2-methyl Thiophene	1	0	0	0
3-methyl Thiophene	1	0	0	0
Allyl sulphide	1	0	0	0
Butyl mercaptan	1	0	0	0
Carbon disulphide	1	0.3	0	0
Carbonyl sulphide	1	1	0.7	0.7
Dimethyl disulphide	1	0	0	0
Dimethyl sulphide	1	0	0	0
Ethyl mercaptan	1	0	0	0
Ethyl sulphide	1	0	0	0
Hydrogen sulphide	1	0	0	0
Isobutyl mercaptan	1	0	0	0
Isopropyl mercaptan	1	0	0	0
Methyl mercaptan	1	0	0	0
Pentyl mercaptan	1	0	0	0
Propyl mercaptan	1	0	0	0
sec-Butyl mercaptan	1	0	0	0
tert-Butyl mercaptan	1	0	0	0
tert-Pentyl mercaptan	1	0	0	0
Thiophene	1	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 9	AMS 12	AMS 13	AMS 15
			Barge Landing 23-Jan	Millennium 23-Jan	Fort McKay South 23-Jan	Horizon 23-Jan
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0.2	0
	Carbonyl sulphide	1	0.6	1	0.8	0.7
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 1	AMS 6	AMS 7	AMS 14
			Bertha Ganter 29-Jan	Patricia McInnes 29-Jan	Athabasca Valley 29-Jan	Anzac 29-Jan
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	1	1	0.9	1
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 9	AMS 12	AMS 13	AMS 15
			Barge Landing 29-Jan	Millennium 29-Jan	Fort McKay South 29-Jan	Horizon 29-Jan
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0.2
	Carbonyl sulphide	1	0.6	0.8	0.9	0.8
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 1	AMS 6	AMS 7	AMS 14
			Bertha Ganter 04-Feb	Patricia McInnes 04-Feb	Athabasca Valley 04-Feb	Anzac 04-Feb
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0.3	0.4	0.2	0.2
	Carbonyl sulphide	1	1	2	2	2
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 04-Feb	Millennium 04-Feb	Fort McKay South 04-Feb	Horizon 04-Feb
Compound Name					
2,5-dimethyl Thiophene	1	0	0	0	0
2-ethyl Thiophene	1	0	0	0	0
2-methyl Thiophene	1	0	0	0	0
3-methyl Thiophene	1	0	0	0	0
Allyl sulphide	1	0	0	0	0
Butyl mercaptan	1	0	0	0	0
Carbon disulphide	1	0.2	0	0	0
Carbonyl sulphide	1	2	2	0.8	0.8
Dimethyl disulphide	1	0	0	0	0
Dimethyl sulphide	1	0	0	0	0
Ethyl mercaptan	1	0	0	0	0
Ethyl sulphide	1	0	0	0	0
Hydrogen sulphide	1	0	0	0	0
Isobutyl mercaptan	1	0	0	0	0
Isopropyl mercaptan	1	0	0	0	0
Methyl mercaptan	1	0	0	0	0
Pentyl mercaptan	1	0	0	0	0
Propyl mercaptan	1	0	0	0	0
sec-Butyl mercaptan	1	0	0	0	0
tert-Butyl mercaptan	1	0	0	0	0
tert-Pentyl mercaptan	1	0	0	0	0
Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 1	AMS 6	AMS 7	AMS 14
			Bertha Ganter 10-Feb	Patricia McInnes 10-Feb	Athabasca Valley 10-Feb	Anzac 10-Feb
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	1	1	2	0
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0





RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 9	AMS 12	AMS 13	AMS 15
			Barge Landing 10-Feb	Millennium 10-Feb	Fort McKay South 10-Feb	Horizon 10-Feb
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	2	2	0	2
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 16-Feb	Patricia McInnes 16-Feb	Athabasca Valley 16-Feb	Anzac 16-Feb
Compound Name					
2,5-dimethyl Thiophene	1	0	0	0	0
2-ethyl Thiophene	1	0	0	0	0
2-methyl Thiophene	1	0	0	0	0
3-methyl Thiophene	1	0	0	0	0
Allyl sulphide	1	0	0	0	0
Butyl mercaptan	1	0	0	0	0
Carbon disulphide	1	0	0	0	0
Carbonyl sulphide	1	2	1	0.8	0.7
Dimethyl disulphide	1	0	0	0	0
Dimethyl sulphide	1	0	0	0	0
Ethyl mercaptan	1	0	0	0	0
Ethyl sulphide	1	0	0	0	0
Hydrogen sulphide	1	0	0	0	0
Isobutyl mercaptan	1	0	0	0	0
Isopropyl mercaptan	1	0	0	0	0
Methyl mercaptan	1	0	0	0	0
Pentyl mercaptan	1	0	0	0	0
Propyl mercaptan	1	0	0	0	0
sec-Butyl mercaptan	1	0	0	0	0
tert-Butyl mercaptan	1	0	0	0	0
tert-Pentyl mercaptan	1	0	0	0	0
Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 9	AMS 12	AMS 13	AMS 15
			Barge Landing 16-Feb	Millennium 16-Feb	Fort McKay South 16-Feb	Horizon 16-Feb
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0.6	0.6	0.5	0.8
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 22-Feb	AMS 6 Patricia McInnes 22-Feb	AMS 7 Athabasca Valley 22-Feb	AMS 14 Anzac 22-Feb
Compound Name	MDL				
2,5-dimethyl Thiophene	1	0	0	0	0
2-ethyl Thiophene	1	0	0	0	0
2-methyl Thiophene	1	0	0	0	0
3-methyl Thiophene	1	0	0	0	0
Allyl sulphide	1	0	0	0	0
Butyl mercaptan	1	0	0	0	0
Carbon disulphide	1	0	0	0	0
Carbonyl sulphide	1	0	1	0	0
Dimethyl disulphide	1	0	0	0	0
Dimethyl sulphide	1	0	0	0	0
Ethyl mercaptan	1	0	0	0	0
Ethyl sulphide	1	0	0	0	0
Hydrogen sulphide	1	0	0	0	0
Isobutyl mercaptan	1	0	0	0	0
Isopropyl mercaptan	1	0	0	0	0
Methyl mercaptan	1	0	0	0	0
Pentyl mercaptan	1	0	0	0	0
Propyl mercaptan	1	0	0	0	0
sec-Butyl mercaptan	1	0	0	0	0
tert-Butyl mercaptan	1	0	0	0	0
tert-Pentyl mercaptan	1	0	0	0	0
Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 9	AMS 12	AMS 13	AMS 15
			Barge Landing 22-Feb	Millennium 22-Feb	Fort McKay South 22-Feb	Horizon 22-Feb
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0	0	0	1
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	MDL	Results (ppbv)		
		AMS 1	AMS 7	AMS 14
		Bertha Ganter 28-Feb	Athabasca Valley 28-Feb	Anzac 28-Feb
Compound Name				
2,5-dimethyl Thiophene	1	0	0	0
2-ethyl Thiophene	1	0	0	0
2-methyl Thiophene	1	0	0	0
3-methyl Thiophene	1	0	0	0
Allyl sulphide	1	0	0	0
Butyl mercaptan	1	0	0	0
Carbon disulphide	1	0	0	0
Carbonyl sulphide	1	1	1	0.9
Dimethyl disulphide	1	0	0	0
Dimethyl sulphide	1	0	0	0
Ethyl mercaptan	1	0	0	0
Ethyl sulphide	1	0	0	0
Hydrogen sulphide	1	0	0	0
Isobutyl mercaptan	1	0	0	0
Isopropyl mercaptan	1	0	0	0
Methyl mercaptan	1	0	0	0
Pentyl mercaptan	1	0	0	0
Propyl mercaptan	1	0	0	0
sec-Butyl mercaptan	1	0	0	0
tert-Butyl mercaptan	1	0	0	0
tert-Pentyl mercaptan	1	0	0	0
Thiophene	1	0	0	0



RSC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 28-Feb	Millennium 28-Feb	Fort McKay South 28-Feb	Horizon 28-Feb
Compound Name					
2,5-dimethyl Thiophene	1	0	0	0	0
2-ethyl Thiophene	1	0	0	0	0
2-methyl Thiophene	1	0	0	0	0
3-methyl Thiophene	1	0	0	0	0
Allyl sulphide	1	0	0	0	0
Butyl mercaptan	1	0	0	0	0
Carbon disulphide	1	0	0	0	0
Carbonyl sulphide	1	0.5	1	1	1
Dimethyl disulphide	1	0	0	0	0
Dimethyl sulphide	1	0	0	0	0
Ethyl mercaptan	1	0	0	0	0
Ethyl sulphide	1	0	0	0	0
Hydrogen sulphide	1	0	0	0	0
Isobutyl mercaptan	1	0	0	0	0
Isopropyl mercaptan	1	0	0	0	0
Methyl mercaptan	1	0	0	0	0
Pentyl mercaptan	1	0	0	0	0
Propyl mercaptan	1	0	0	0	0
sec-Butyl mercaptan	1	0	0	0	0
tert-Butyl mercaptan	1	0	0	0	0
tert-Pentyl mercaptan	1	0	0	0	0
Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 1	AMS 6	AMS 7	AMS 14
			Bertha Ganter 06-Mar	Patricia McInnes 06-Mar	Athabasca Valley 06-Mar	Anzac 06-Mar
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0.9	0.6	0.8	0.6
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0.7	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0





RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 9	AMS 12	AMS 13	AMS 15
			Barge Landing 06-Mar	Millennium 06-Mar	Fort McKay South 06-Mar	Horizon 06-Mar
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0.7	0.9	0.8	0.7
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 1	AMS 6	AMS 7	AMS 14
			Bertha Ganter 12-Mar	Patricia McInnes 12-Mar	Athabasca Valley 12-Mar	Anzac 12-Mar
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	1	0.7	0.6	0.6
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 9	AMS 12	AMS 13	AMS 15
			Barge Landing 12-Mar	Millennium 12-Mar	Fort McKay South 12-Mar	Horizon 12-Mar
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0.8	0.5	0.6	0.5
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 1	AMS 6	AMS 7	AMS 14
			Bertha Ganter 18-Mar	Patricia McInnes 18-Mar	Athabasca Valley 18-Mar	Anzac 18-Mar
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0.7	0.6	0.8	0.6
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters		Results (ppbv)		
Compound Name	MDL	AMS 12	AMS 13	AMS 15
		Millennium 18-Mar	Fort McKay South 18-Mar	Horizon 18-Mar
2,5-dimethyl Thiophene	1	0	0	0
2-ethyl Thiophene	1	0	0	0
2-methyl Thiophene	1	0	0	0
3-methyl Thiophene	1	0	0	0
Allyl sulphide	1	0	0	0
Butyl mercaptan	1	0	0	0
Carbon disulphide	1	0	0	0
Carbonyl sulphide	1	0.6	0.7	0.8
Dimethyl disulphide	1	0	0	0
Dimethyl sulphide	1	0	0	0
Ethyl mercaptan	1	0	0	0
Ethyl sulphide	1	0	0	0
Hydrogen sulphide	1	0	0	0
Isobutyl mercaptan	1	0	0	0
Isopropyl mercaptan	1	0	0	0
Methyl mercaptan	1	0	0	0
Pentyl mercaptan	1	0	0	0
Propyl mercaptan	1	0	0	0
sec-Butyl mercaptan	1	0	0	0
tert-Butyl mercaptan	1	0	0	0
tert-Pentyl mercaptan	1	0	0	0
Thiophene	1	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 1	AMS 6	AMS 7	AMS 14
			Bertha Ganter 24-Mar	Patricia McInnes 24-Mar	Athabasca Valley 24-Mar	Anzac 24-Mar
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0.7	0.4	0.4	0
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 9	AMS 12	AMS 13	AMS 15
			Barge Landing 24-Mar	Millennium 24-Mar	Fort McKay South 24-Mar	Horizon 24-Mar
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0.6	0.4	0.4	0.5
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 1	AMS 6	AMS 7	AMS 14
			Bertha Ganter 30-Mar	Patricia McInnes 30-Mar	Athabasca Valley 30-Mar	Anzac 30-Mar
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0.8	0.7	0	0.8
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0





RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 9	AMS 12	AMS 13	AMS 15
			Barge Landing 30-Mar	Millennium 30-Mar	Fort McKay South 30-Mar	Horizon 30-Mar
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0.7	0	0.8	0.7
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 1	AMS 6	AMS 7	AMS 14
			Bertha Ganter 05-Apr	Patricia McInnes 05-Apr	Athabasca Valley 05-Apr	Anzac 05-Apr
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0.6	0.7	0.6	0
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 9	AMS 12	AMS 13	AMS 15
			Barge Landing 05-Apr	Millennium 05-Apr	Fort McKay South 05-Apr	Horizon 05-Apr
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0.6	0.7	0.6	0.5
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 11-Apr	AMS 6 Patricia McInnes 11-Apr	AMS 7 Athabasca Valley 11-Apr	AMS 14 Anzac 11-Apr
Compound Name	MDL				
2,5-dimethyl Thiophene	1	0	0	0	0
2-ethyl Thiophene	1	0	0	0	0
2-methyl Thiophene	1	0	0	0	0
3-methyl Thiophene	1	0	0	0	0
Allyl sulphide	1	0	0	0	0
Butyl mercaptan	1	0	0	0	0
Carbon disulphide	1	0	0	0	0
Carbonyl sulphide	1	0.9	0	0	0
Dimethyl disulphide	1	0	0	0	0
Dimethyl sulphide	1	0	0	0	0
Ethyl mercaptan	1	0	0	0	0
Ethyl sulphide	1	0	0	0	0
Hydrogen sulphide	1	0	0	0	0
Isobutyl mercaptan	1	0	0	0	0
Isopropyl mercaptan	1	0	0	0	0
Methyl mercaptan	1	0	0	0	0
Pentyl mercaptan	1	0	0	0	0
Propyl mercaptan	1	0	0	0	0
sec-Butyl mercaptan	1	0	0	0	0
tert-Butyl mercaptan	1	0	0	0	0
tert-Pentyl mercaptan	1	0	0	0	0
Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 9	AMS 12	AMS 13	AMS 15
			Barge Landing 11-Apr	Millennium 11-Apr	Fort McKay South 11-Apr	Horizon 11-Apr
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0	0.8	0	0
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 1	AMS 6	AMS 7	AMS 14
			Bertha Ganter 17-Apr	Patricia McInnes 17-Apr	Athabasca Valley 17-Apr	Anzac 17-Apr
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0.9	0	0.7	0
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 9	AMS 12	AMS 13	AMS 15
			Barge Landing 17-Apr	Millennium 17-Apr	Fort McKay South 17-Apr	Horizon 17-Apr
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0	0.7	1	1
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 1	AMS 6	AMS 7	AMS 14
			Bertha Ganter 23-Apr	Patricia McInnes 23-Apr	Athabasca Valley 23-Apr	Anzac 23-Apr
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0	0.6	0	0.5
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0





RSC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 23-Apr	Millennium 23-Apr	Fort McKay South 23-Apr	Horizon 23-Apr
Compound Name					
2,5-dimethyl Thiophene	1	0	0	0	0
2-ethyl Thiophene	1	0	0	0	0
2-methyl Thiophene	1	0	0	0	0
3-methyl Thiophene	1	0	0	0	0
Allyl sulphide	1	0	0	0	0
Butyl mercaptan	1	0	0	0	0
Carbon disulphide	1	0	0	0	0
Carbonyl sulphide	1	0.4	0.3	0.6	0
Dimethyl disulphide	1	0	0	0	0
Dimethyl sulphide	1	0	0	0	0
Ethyl mercaptan	1	0	0	0	0
Ethyl sulphide	1	0	0	0	0
Hydrogen sulphide	1	0	0	0	0
Isobutyl mercaptan	1	0	0	0	0
Isopropyl mercaptan	1	0	0	0	0
Methyl mercaptan	1	0	0	0	0
Pentyl mercaptan	1	0	0	0	0
Propyl mercaptan	1	0	0	0	0
sec-Butyl mercaptan	1	0	0	0	0
tert-Butyl mercaptan	1	0	0	0	0
tert-Pentyl mercaptan	1	0	0	0	0
Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 1	AMS 6	AMS 7	AMS 14
			Bertha Ganter 29-Apr	Patricia McInnes 29-Apr	Athabasca Valley 29-Apr	Anzac 29-Apr
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0	0	0.4	0
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters	Compound Name	MDL	Results (ppbv)			
			AMS 9	AMS 12	AMS 13	AMS 15
			Barge Landing 29-Apr	Millennium 29-Apr	Fort McKay South 29-Apr	Horizon 29-Apr
	2,5-dimethyl Thiophene	1	0	0	0	0
	2-ethyl Thiophene	1	0	0	0	0
	2-methyl Thiophene	1	0	0	0	0
	3-methyl Thiophene	1	0	0	0	0
	Allyl sulphide	1	0	0	0	0
	Butyl mercaptan	1	0	0	0	0
	Carbon disulphide	1	0	0	0	0
	Carbonyl sulphide	1	0	0	0	0
	Dimethyl disulphide	1	0	0	0	0
	Dimethyl sulphide	1	0	0	0	0
	Ethyl mercaptan	1	0	0	0	0
	Ethyl sulphide	1	0	0	0	0
	Hydrogen sulphide	1	0	0	0	0
	Isobutyl mercaptan	1	0	0	0	0
	Isopropyl mercaptan	1	0	0	0	0
	Methyl mercaptan	1	0	0	0	0
	Pentyl mercaptan	1	0	0	0	0
	Propyl mercaptan	1	0	0	0	0
	sec-Butyl mercaptan	1	0	0	0	0
	tert-Butyl mercaptan	1	0	0	0	0
	tert-Pentyl mercaptan	1	0	0	0	0
	Thiophene	1	0	0	0	0



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 05-May	AMS 6 Patricia McInnes 05-May	AMS 7 Athabasca Valley 05-May	AMS 14 Anzac 05-May
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 05-May	AMS 12 Millennium 05-May	AMS 13 Fort McKay South 05-May	AMS 15 Horizon 05-May
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 11-May	AMS 6 Patricia McInnes 11-May	AMS 7 Athabasca Valley 11-May	AMS 14 Anzac 11-May
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 11-May	Millennium 11-May	Fort McKay South 11-May	Horizon 11-May
Compound Name					
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 17-May	AMS 6 Patricia McInnes 17-May	AMS 7 Athabasca Valley 17-May	AMS 14 Anzac 17-May
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	0.8	< 0.1	0.6	0.6
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1





RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 17-May	AMS 12 Millennium 17-May	AMS 13 Fort McKay South 17-May	AMS 15 Horizon 17-May
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	0.8	0.6	0.7	0.6
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 23-May	AMS 6 Patricia McInnes 23-May	AMS 7 Athabasca Valley 23-May	AMS 14 Anzac 23-May
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 23-May	AMS 12 Millennium 23-May	AMS 13 Fort McKay South 23-May	AMS 15 Horizon 23-May
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	1.4	< 0.1	0.9	0.8
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 29-May	AMS 6 Patricia McInnes 29-May	AMS 7 Athabasca Valley 29-May	AMS 14 Anzac 29-May
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 29-May	AMS 12 Millennium 29-May	AMS 13 Fort McKay South 29-May	AMS 15 Horizon 29-May
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter	AMS 6 Patricia McInnes	AMS 7 Athabasca Valley	AMS 14 Anzac
Compound Name	MDL	04-Jun	04-Jun	04-Jun	04-Jun
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters	MDL	Results (ppbv)		
		AMS 9	AMS 13	AMS 15
		Barge Landing 04-Jun	Fort McKay South 04-Jun	Horizon 04-Jun
Compound Name				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide				
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan				
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan				
Thiophene	0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 10-Jun	AMS 6 Patricia McInnes 10-Jun	AMS 7 Athabasca Valley 10-Jun	AMS 14 Anzac 10-Jun
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1





RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 10-Jun	AMS 12 Millennium 10-Jun	AMS 13 Fort McKay South 10-Jun	AMS 15 Horizon 10-Jun
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 16-Jun	AMS 6 Patricia McInnes 16-Jun	AMS 7 Athabasca Valley 16-Jun	AMS 14 Anzac 16-Jun
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.3	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 16-Jun	AMS 12 Millennium 16-Jun	AMS 13 Fort McKay South 16-Jun	AMS 15 Horizon 16-Jun
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	0.3
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 22-Jun	AMS 6 Patricia McInnes 22-Jun	AMS 7 Athabasca Valley 22-Jun	AMS 14 Anzac 22-Jun
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	0.2	< 0.1	0.4
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 22-Jun	AMS 12 Millennium 22-Jun	AMS 13 Fort McKay South 22-Jun	AMS 15 Horizon 22-Jun
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.3	< 0.1	0.3	0.2
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 28-Jun	AMS 6 Patricia McInnes 28-Jun	AMS 7 Athabasca Valley 28-Jun	AMS 14 Anzac 28-Jun
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
Compound Name	MDL	AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 28-Jun	Millennium 28-Jun	Fort McKay South 28-Jun	Horizon 28-Jun
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	0.6	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 04-Jul	AMS 6 Patricia McInnes 04-Jul	AMS 7 Athabasca Valley 04-Jul	AMS 14 Anzac 04-Jul
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1





RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 04-Jul	AMS 12 Millennium 04-Jul	AMS 13 Fort McKay South 04-Jul	AMS 15 Horizon 04-Jul
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	0.2	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 10-Jul	AMS 6 Patricia McInnes 10-Jul	AMS 7 Athabasca Valley 10-Jul	AMS 14 Anzac 10-Jul
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.1	0.2	0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 10-Jul	AMS 12 Millennium 10-Jul	AMS 13 Fort McKay South 10-Jul	AMS 15 Horizon 10-Jul
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	0.6	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter	AMS 6 Patricia McInnes	AMS 7 Athabasca Valley	AMS 14 Anzac
Compound Name	MDL	16-Jul	16-Jul	16-Jul	16-Jul
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 16-Jul	AMS 12 Millennium 16-Jul	AMS 13 Fort McKay South 16-Jul	AMS 15 Horizon 16-Jul
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
Compound Name	MDL	AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 22-Jul	Patricia McInnes 22-Jul	Athabasca Valley 22-Jul	Anzac 22-Jul
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.4	< 0.1	0.4	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 22-Jul	AMS 12 Millennium 22-Jul	AMS 13 Fort McKay South 22-Jul	AMS 15 Horizon 22-Jul
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.4	0.4	0.4	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 28-Jul	AMS 6 Patricia McInnes 28-Jul	AMS 7 Athabasca Valley 28-Jul	AMS 14 Anzac 28-Jul
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.2	< 0.1	0.4	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1





RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 28-Jul	AMS 12 Millennium 28-Jul	AMS 13 Fort McKay South 28-Jul	AMS 15 Horizon 28-Jul
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.5	0.2	0.6	0.2
Carbonyl sulphide	0.1	< 0.1	< 0.1	1.3	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 03-Aug	AMS 6 Patricia McInnes 03-Aug	AMS 7 Athabasca Valley 03-Aug	AMS 14 Anzac 03-Aug
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	2.3	0.8	< 0.1
Carbonyl sulphide	0.1	< 0.1	0.3	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	4	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 03-Aug	AMS 12 Millennium 03-Aug	AMS 13 Fort McKay South 03-Aug	AMS 15 Horizon 03-Aug
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	3.3	3.3	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.8	0.8	0.8	2.3
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	0.3
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	4
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 09-Aug	AMS 6 Patricia McInnes 09-Aug	AMS 7 Athabasca Valley 09-Aug	AMS 14 Anzac 09-Aug
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	0.2	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	0.3	0.3	0.3
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	2	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 09-Aug	AMS 12 Millennium 09-Aug	AMS 13 Fort McKay South 09-Aug	AMS 15 Horizon 09-Aug
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	1.6	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	1.2	< 0.1	0.8	< 0.1
Carbonyl sulphide	0.1	0.3	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	1	< 0.1



RSC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 15-Aug	Patricia McInnes 15-Aug	Athabasca Valley 15-Aug	Anzac 15-Aug
Compound Name					
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	0.6	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
Compound Name	MDL	AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 15-Aug	Millennium 15-Aug	Fort McKay South 15-Aug	Horizon 15-Aug
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	1.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)		
		AMS 1 Bertha Ganter 21-Aug	AMS 6 Patricia McInnes 21-Aug	AMS 7 Athabasca Valley 21-Aug
Compound Name	MDL			
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide				
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan				
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan				
Thiophene	0.1	< 0.1	< 0.1	< 0.1





RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 21-Aug	AMS 12 Millennium 21-Aug	AMS 13 Fort McKay South 21-Aug	AMS 15 Horizon 21-Aug
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 27-Aug	AMS 6 Patricia McInnes 27-Aug	AMS 7 Athabasca Valley 27-Aug	AMS 14 Anzac 27-Aug
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 27-Aug	AMS 12 Millennium 27-Aug	AMS 13 Fort McKay South 27-Aug	AMS 15 Horizon 27-Aug
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 02-Sep	AMS 6 Patricia McInnes 02-Sep	AMS 7 Athabasca Valley 02-Sep	AMS 14 Anzac 02-Sep
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)		
		AMS 9 Barge Landing 02-Sep	AMS 13 Fort McKay South 02-Sep	AMS 15 Horizon 02-Sep
Compound Name	MDL			
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide				
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan				
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan				
Thiophene	0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 08-Sep	AMS 6 Patricia McInnes 08-Sep	AMS 7 Athabasca Valley 08-Sep	AMS 14 Anzac 08-Sep
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 08-Sep	AMS 12 Millennium 08-Sep	AMS 13 Fort McKay South 08-Sep	AMS 15 Horizon 08-Sep
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	2.2	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 14-Sep	Patricia McInnes 14-Sep	Athabasca Valley 14-Sep	Anzac 14-Sep
Compound Name					
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	1.6
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	1.1
2-methyl Thiophene	0.1	4.1	< 0.1	< 0.1	0.8
3-methyl Thiophene	0.1	4.3	< 0.1	< 0.1	1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	3.2	< 0.1	0.8	0.8
Carbonyl sulphide	0.1	2.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	4	< 0.1	< 0.1	1.5
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	0.2	< 0.1





RSC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 14-Sep	Millennium 14-Sep	Fort McKay South 14-Sep	Horizon 14-Sep
Compound Name					
2,5-dimethyl Thiophene	0.1	1.8	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	0.8	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.8	< 0.1	3.2	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	0.7
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 20-Sep	AMS 6 Patricia McInnes 20-Sep	AMS 7 Athabasca Valley 20-Sep	AMS 14 Anzac 20-Sep
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	2	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	0.7	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.8	0.8	0.8	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	1.9	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	0.8	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 20-Sep	AMS 12 Millennium 20-Sep	AMS 13 Fort McKay South 20-Sep	AMS 15 Horizon 20-Sep
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters	Results (ppbv)	
	AMS 1	
	Bertha Ganter	
Compound Name	MDL	22-Sep
2,5-dimethyl Thiophene	0.1	2.2
2-ethyl Thiophene	0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1
Allyl sulphide		
Butyl mercaptan	0.1	< 0.1
Carbon disulphide	0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1
Ethyl sulphide	0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1
Methyl mercaptan	0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1
Propyl mercaptan	0.1	< 0.1
sec-Butyl mercaptan		
tert-Butyl mercaptan	0.1	< 0.1
tert-Pentyl mercaptan		
Thiophene	0.1	< 0.1



RSC Canisters	Results (ppbv)
Compound Name	MDL
2,5-dimethyl Thiophene	0.1
2-ethyl Thiophene	0.1
2-methyl Thiophene	0.1
3-methyl Thiophene	0.1
Allyl sulphide	
Butyl mercaptan	0.1
Carbon disulphide	0.1
Carbonyl sulphide	0.1
Dimethyl disulphide	0.1
Dimethyl sulphide	0.1
Ethyl mercaptan	0.1
Ethyl sulphide	0.1
Hydrogen sulphide	0.1
Isobutyl mercaptan	0.1
Isopropyl mercaptan	0.1
Methyl mercaptan	0.1
Pentyl mercaptan	0.1
Propyl mercaptan	0.1
sec-Butyl mercaptan	
tert-Butyl mercaptan	0.1
tert-Pentyl mercaptan	
Thiophene	0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 26-Sep	AMS 6 Patricia McInnes 26-Sep	AMS 7 Athabasca Valley 26-Sep	AMS 14 Anzac 26-Sep
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	0.9	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	0.6	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.6	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	1.5	1.3	0.4	0.6
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	1.7	1.6	0.4	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	0.7	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 26-Sep	AMS 12 Millennium 26-Sep	AMS 13 Fort McKay South 26-Sep	AMS 15 Horizon 26-Sep
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	0.7	< 0.1
Carbonyl sulphide	0.1	0.6	1.4	1.9	0.4
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	2.2	1.7	0.6
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 08-Oct	AMS 6 Patricia McInnes 08-Oct	AMS 7 Athabasca Valley 08-Oct	AMS 14 Anzac 08-Oct
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.4	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1





RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 08-Oct	AMS 12 Millennium 08-Oct	AMS 13 Fort McKay South 08-Oct	AMS 15 Horizon 08-Oct
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters	MDL	Results (ppbv)			
		AMS 1	AMS 6	AMS 7	AMS 14
		Bertha Ganter 14-Oct	Patricia McInnes 14-Oct	Athabasca Valley 14-Oct	Anzac 14-Oct
Compound Name					
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	1	0.8	1	0.9
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 14-Oct	AMS 12 Millennium 14-Oct	AMS 13 Fort McKay South 14-Oct	AMS 15 Horizon 14-Oct
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	0.9	0.9	1	0.9
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 20-Oct	AMS 6 Patricia McInnes 20-Oct	AMS 7 Athabasca Valley 20-Oct	AMS 14 Anzac 20-Oct
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.7	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	0.5	0.6	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	0.9	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 20-Oct	AMS 12 Millennium 20-Oct	AMS 13 Fort McKay South 20-Oct	AMS 15 Horizon 20-Oct
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	0.7
Carbonyl sulphide	0.1	0.6	< 0.1	< 0.1	0.6
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 26-Oct	AMS 6 Patricia McInnes 26-Oct	AMS 7 Athabasca Valley 26-Oct	AMS 14 Anzac 26-Oct
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.6	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	0.5	0.1	0.2	0.3
Dimethyl disulphide	0.1	0.6	0.5	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	0.8	< 0.1	0.5	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 26-Oct	AMS 12 Millennium 26-Oct	AMS 13 Fort McKay South 26-Oct	AMS 15 Horizon 26-Oct
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	0.6	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	0.3	0.5	0.4	0.4
Dimethyl disulphide	0.1	0.6	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	0.3	0.8	0.6	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 01-Nov	AMS 6 Patricia McInnes 01-Nov	AMS 7 Athabasca Valley 01-Nov	AMS 14 Anzac 01-Nov
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1





RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 01-Nov	AMS 12 Millennium 01-Nov	AMS 13 Fort McKay South 01-Nov	AMS 15 Horizon 01-Nov
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 07-Nov	AMS 6 Patricia McInnes 07-Nov	AMS 7 Athabasca Valley 07-Nov	AMS 14 Anzac 07-Nov
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 07-Nov	AMS 12 Millennium 07-Nov	AMS 13 Fort McKay South 07-Nov	AMS 15 Horizon 07-Nov
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 13-Nov	AMS 6 Patricia McInnes 13-Nov	AMS 7 Athabasca Valley 13-Nov	AMS 14 Anzac 13-Nov
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	0.2	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 13-Nov	AMS 12 Millennium 13-Nov	AMS 13 Fort McKay South 13-Nov	AMS 15 Horizon 13-Nov
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	0.4
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	0.5
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 19-Nov	AMS 6 Patricia McInnes 19-Nov	AMS 7 Athabasca Valley 19-Nov	AMS 14 Anzac 19-Nov
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 19-Nov	AMS 12 Millennium 19-Nov	AMS 13 Fort McKay South 19-Nov	AMS 15 Horizon 19-Nov
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 25-Nov	AMS 6 Patricia McInnes 25-Nov	AMS 7 Athabasca Valley 25-Nov	AMS 14 Anzac 25-Nov
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	0.5	0.4
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1





RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 25-Nov	AMS 12 Millennium 25-Nov	AMS 13 Fort McKay South 25-Nov	AMS 15 Horizon 25-Nov
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	0.8	0.8	0.7
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 01-Dec	AMS 6 Patricia McInnes 01-Dec	AMS 7 Athabasca Valley 01-Dec	AMS 14 Anzac 01-Dec
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 01-Dec	AMS 12 Millennium 01-Dec	AMS 13 Fort McKay South 01-Dec	AMS 15 Horizon 01-Dec
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 07-Dec	AMS 6 Patricia McInnes 07-Dec	AMS 7 Athabasca Valley 07-Dec	AMS 14 Anzac 07-Dec
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)		
Compound Name	MDL	AMS 12	AMS 13	AMS 15
		Millennium 07-Dec	Fort McKay South 07-Dec	Horizon 07-Dec
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide				
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan				
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan				
Thiophene	0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 13-Dec	AMS 6 Patricia McInnes 13-Dec	AMS 7 Athabasca Valley 13-Dec	AMS 14 Anzac 13-Dec
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 13-Dec	AMS 12 Millennium 13-Dec	AMS 13 Fort McKay South 13-Dec	AMS 15 Horizon 13-Dec
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 19-Dec	AMS 6 Patricia McInnes 19-Dec	AMS 7 Athabasca Valley 19-Dec	AMS 14 Anzac 19-Dec
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1





RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 19-Dec	AMS 12 Millennium 19-Dec	AMS 13 Fort McKay South 19-Dec	AMS 15 Horizon 19-Dec
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 25-Dec	AMS 6 Patricia McInnes 25-Dec	AMS 7 Athabasca Valley 25-Dec	AMS 14 Anzac 25-Dec
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	0.3	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters	MDL	Results (ppbv)			
		AMS 9	AMS 12	AMS 13	AMS 15
		Barge Landing 25-Dec	Millennium 25-Dec	Fort McKay South 25-Dec	Horizon 25-Dec
Compound Name					
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	3.3
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 1 Bertha Ganter 31-Dec	AMS 6 Patricia McInnes 31-Dec	AMS 7 Athabasca Valley 31-Dec	AMS 14 Anzac 31-Dec
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters		Results (ppbv)			
		AMS 9 Barge Landing 31-Dec	AMS 12 Millennium 31-Dec	AMS 13 Fort McKay South 31-Dec	AMS 15 Horizon 31-Dec
Compound Name	MDL				
2,5-dimethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-methyl Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Allyl sulphide					
Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbon disulphide	0.1	< 0.1	< 0.1	0.6	< 0.1
Carbonyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl disulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ethyl sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hydrogen sulphide	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isobutyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Isopropyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Methyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Propyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
sec-Butyl mercaptan					
tert-Butyl mercaptan	0.1	< 0.1	< 0.1	< 0.1	< 0.1
tert-Pentyl mercaptan					
Thiophene	0.1	< 0.1	< 0.1	< 0.1	< 0.1



RSC Canisters	Period Average (ppbv)			
	AMS 1	AMS 6	AMS 7	AMS 14
	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac
Compound Name				
2,5-dimethyl Thiophene	0.06885245	0.01525424	0	0.02758621
2-ethyl Thiophene	0	0.01016949	0.003333333	0.01896552
2-methyl Thiophene	0.07868852	0	0	0.0137931
3-methyl Thiophene	0.08688525	0	0	0.01724138
Allyl sulphide	0	0	0	0
Butyl mercaptan	0	0	0	0
Carbon disulphide	0.1344262	0.06610169	0.07166667	0.02586207
Carbonyl sulphide	0.4081967	0.2881356	0.3216667	0.2258621
Dimethyl disulphide	0.07540984	0.008474576	0	0.02586207
Dimethyl sulphide	0	0	0	0
Ethyl mercaptan	0	0.06779661	0	0
Ethyl sulphide	0	0	0	0
Hydrogen sulphide	0.04098361	0.02711864	0.04	0
Isobutyl mercaptan	0	0	0	0
Isopropyl mercaptan	0.0147541	0	0	0
Methyl mercaptan	0	0	0	0
Pentyl mercaptan	0	0	0.03333334	0
Propyl mercaptan	0	0	0	0
sec-Butyl mercaptan	0	0	0	0
tert-Butyl mercaptan	0	0	0	0
tert-Pentyl mercaptan	0	0	0	0
Thiophene	0.01147541	0	0.003333333	0



RSC Canisters	Period Average (ppbv)			
	AMS 9	AMS 12	AMS 13	AMS 15
	Barge Landing	Millennium	Fort McKay South	Horizon
Compound Name				
2,5-dimethyl Thiophene	0.03103448	0	0	0
2-ethyl Thiophene	0.07068966	0.05689655	0	0
2-methyl Thiophene	0	0	0	0
3-methyl Thiophene	0	0	0.02666667	0
Allyl sulphide	0	0	0	0
Butyl mercaptan	0	0	0	0
Carbon disulphide	0.1034483	0.04137931	0.1266667	0.07166667
Carbonyl sulphide	0.3155172	0.3672414	0.3016666	0.3333333
Dimethyl disulphide	0.01034483	0	0	0
Dimethyl sulphide	0	0	0	0
Ethyl mercaptan	0	0	0	0.06666667
Ethyl sulphide	0	0	0	0
Hydrogen sulphide	0.005172414	0.06034483	0.03833334	0.07666667
Isobutyl mercaptan	0	0	0	0
Isopropyl mercaptan	0	0	0.01	0
Methyl mercaptan	0	0	0	0
Pentyl mercaptan	0	0	0	0
Propyl mercaptan	0	0	0	0
sec-Butyl mercaptan	0	0	0	0
tert-Butyl mercaptan	0	0	0.003333333	0
tert-Pentyl mercaptan	0	0	0	0
Thiophene	0	0	0.01666667	0



RSC Canisters	Period Sum (ppbv)			
	AMS 1	AMS 6	AMS 7	AMS 14
	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac
Compound Name				
2,5-dimethyl Thiophene	4.2	0.9	0	1.6
2-ethyl Thiophene	0	0.6	0.2	1.1
2-methyl Thiophene	4.8	0	0	0.8
3-methyl Thiophene	5.3	0	0	1
Allyl sulphide	0	0	0	0
Butyl mercaptan	0	0	0	0
Carbon disulphide	8.200001	3.9	4.3	1.5
Carbonyl sulphide	24.9	17	19.3	13.1
Dimethyl disulphide	4.6	0.5	0	1.5
Dimethyl sulphide	0	0	0	0
Ethyl mercaptan	0	4	0	0
Ethyl sulphide	0	0	0	0
Hydrogen sulphide	2.5	1.6	2.4	0
Isobutyl mercaptan	0	0	0	0
Isopropyl mercaptan	0.9	0	0	0
Methyl mercaptan	0	0	0	0
Pentyl mercaptan	0	0	2	0
Propyl mercaptan	0	0	0	0
sec-Butyl mercaptan	0	0	0	0
tert-Butyl mercaptan	0	0	0	0
tert-Pentyl mercaptan	0	0	0	0
Thiophene	0.7	0	0.2	0





RSC Canisters	Period Sum (ppbv)			
	AMS 9 Barge Landing	AMS 12 Millennium	AMS 13 Fort McKay South	AMS 15 Horizon
Compound Name				
2,5-dimethyl Thiophene	1.8	0	0	0
2-ethyl Thiophene	4.1	3.3	0	0
2-methyl Thiophene	0	0	0	0
3-methyl Thiophene	0	0	1.6	0
Allyl sulphide	0	0	0	0
Butyl mercaptan	0	0	0	0
Carbon disulphide	6	2.4	7.6	4.3
Carbonyl sulphide	18.3	21.3	18.1	20
Dimethyl disulphide	0.6	0	0	0
Dimethyl sulphide	0	0	0	0
Ethyl mercaptan	0	0	0	4
Ethyl sulphide	0	0	0	0
Hydrogen sulphide	0.3	3.5	2.3	4.6
Isobutyl mercaptan	0	0	0	0
Isopropyl mercaptan	0	0	0.6	0
Methyl mercaptan	0	0	0	0
Pentyl mercaptan	0	0	0	0
Propyl mercaptan	0	0	0	0
sec-Butyl mercaptan	0	0	0	0
tert-Butyl mercaptan	0	0	0.2	0
tert-Pentyl mercaptan	0	0	0	0
Thiophene	0	0	1	0



RSC Canisters	Total Samples (#)			
	AMS 1	AMS 6	AMS 7	AMS 14
	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac
Compound Name				
2,5-dimethyl Thiophene	61	59	60	58
2-ethyl Thiophene	61	59	60	58
2-methyl Thiophene	61	59	60	58
3-methyl Thiophene	61	59	60	58
Allyl sulphide	20	19	20	19
Butyl mercaptan	61	59	60	58
Carbon disulphide	61	59	60	58
Carbonyl sulphide	61	59	60	58
Dimethyl disulphide	61	59	60	58
Dimethyl sulphide	61	59	60	58
Ethyl mercaptan	61	59	60	58
Ethyl sulphide	61	59	60	58
Hydrogen sulphide	61	59	60	58
Isobutyl mercaptan	61	59	60	58
Isopropyl mercaptan	61	59	60	58
Methyl mercaptan	61	59	60	58
Pentyl mercaptan	61	59	60	58
Propyl mercaptan	61	59	60	58
sec-Butyl mercaptan	20	19	20	19
tert-Butyl mercaptan	61	59	60	58
tert-Pentyl mercaptan	20	19	20	19
Thiophene	61	59	60	58

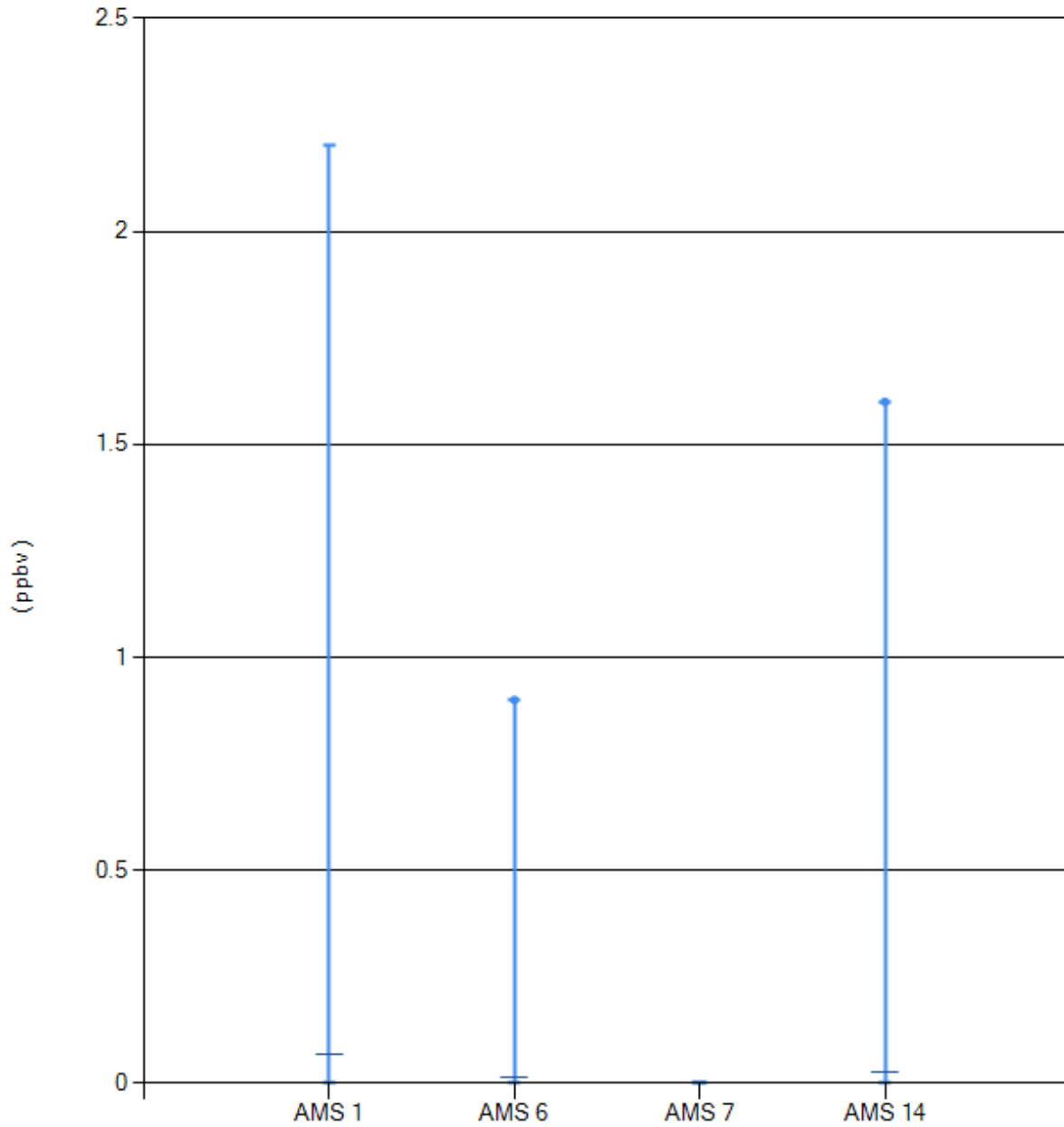


RSC Canisters	Total Samples (#)			
	AMS 9	AMS 12	AMS 13	AMS 15
	Barge Landing	Millennium	Fort McKay South	Horizon
Compound Name				
2,5-dimethyl Thiophene	58	58	60	60
2-ethyl Thiophene	58	58	60	60
2-methyl Thiophene	58	58	60	60
3-methyl Thiophene	58	58	60	60
Allyl sulphide	19	20	20	20
Butyl mercaptan	58	58	60	60
Carbon disulphide	58	58	60	60
Carbonyl sulphide	58	58	60	60
Dimethyl disulphide	58	58	60	60
Dimethyl sulphide	58	58	60	60
Ethyl mercaptan	58	58	60	60
Ethyl sulphide	58	58	60	60
Hydrogen sulphide	58	58	60	60
Isobutyl mercaptan	58	58	60	60
Isopropyl mercaptan	58	58	60	60
Methyl mercaptan	58	58	60	60
Pentyl mercaptan	58	58	60	60
Propyl mercaptan	58	58	60	60
sec-Butyl mercaptan	19	20	20	20
tert-Butyl mercaptan	58	58	60	60
tert-Pentyl mercaptan	19	20	20	20
Thiophene	58	58	60	60



RSC - 2,5-dimethyl Thiophene - (ppbv) - 2014

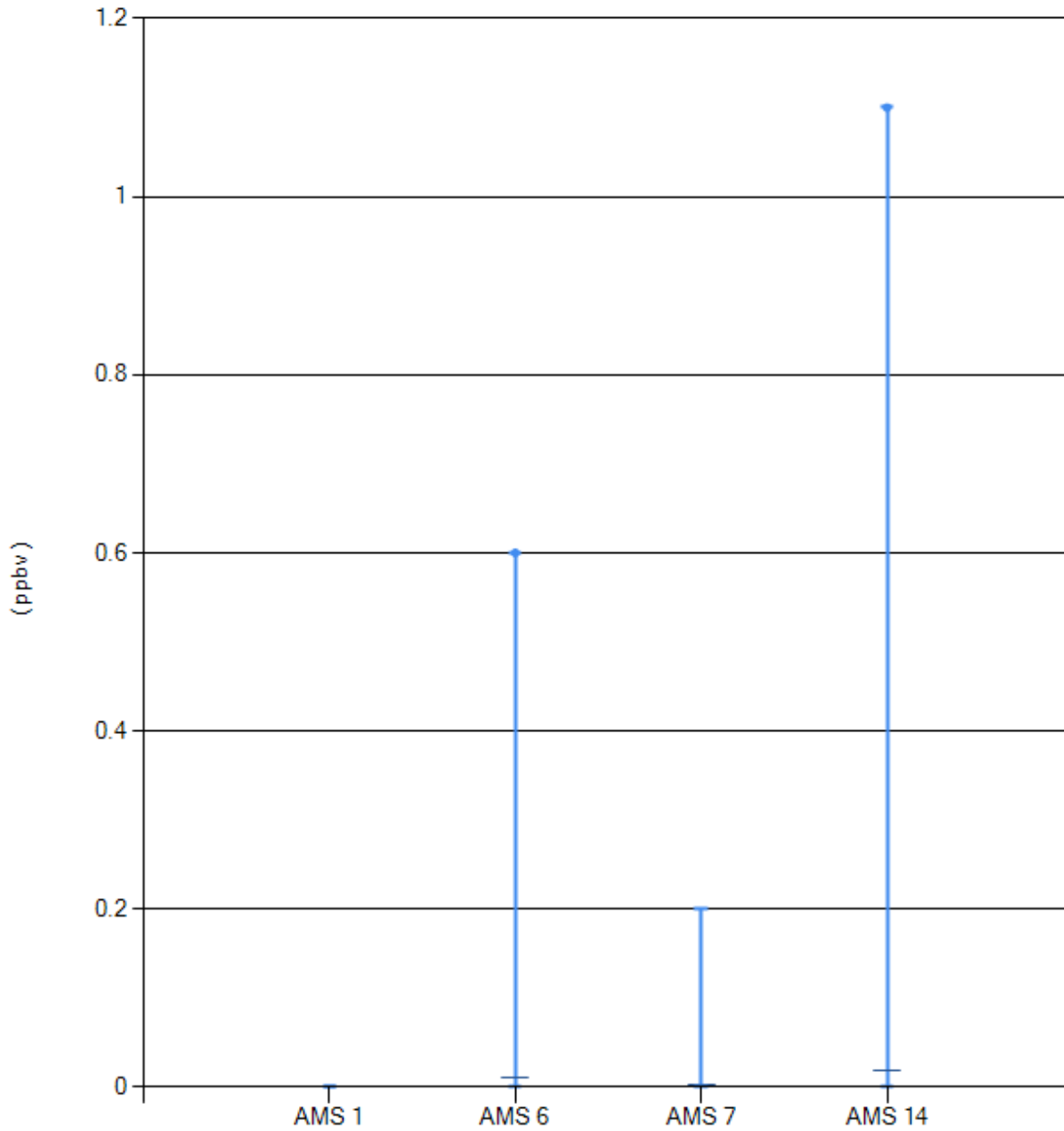
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	2.2	0.07
AMS 6 Patricia McInnes	0	0	0	0	0.9	0.02
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	1.6	0.03





RSC - 2-ethyl Thiophene - (ppbv) - 2014

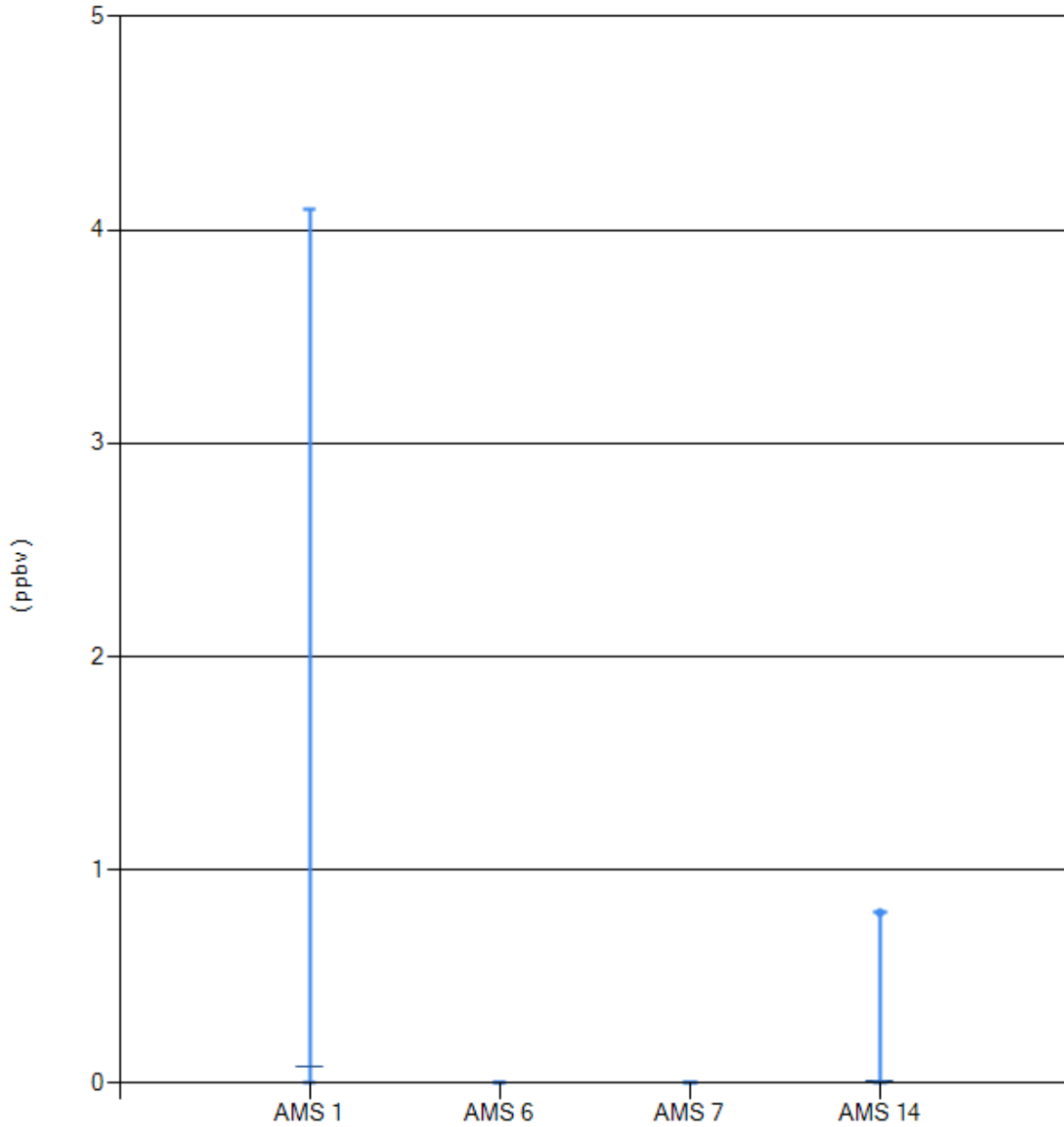
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0.6	0.01
AMS 7 Athabasca Valley	0	0	0	0	0.2	0
AMS 14 Anzac	0	0	0	0	1.1	0.02





RSC - 2-methyl Thiophene - (ppbv) - 2014

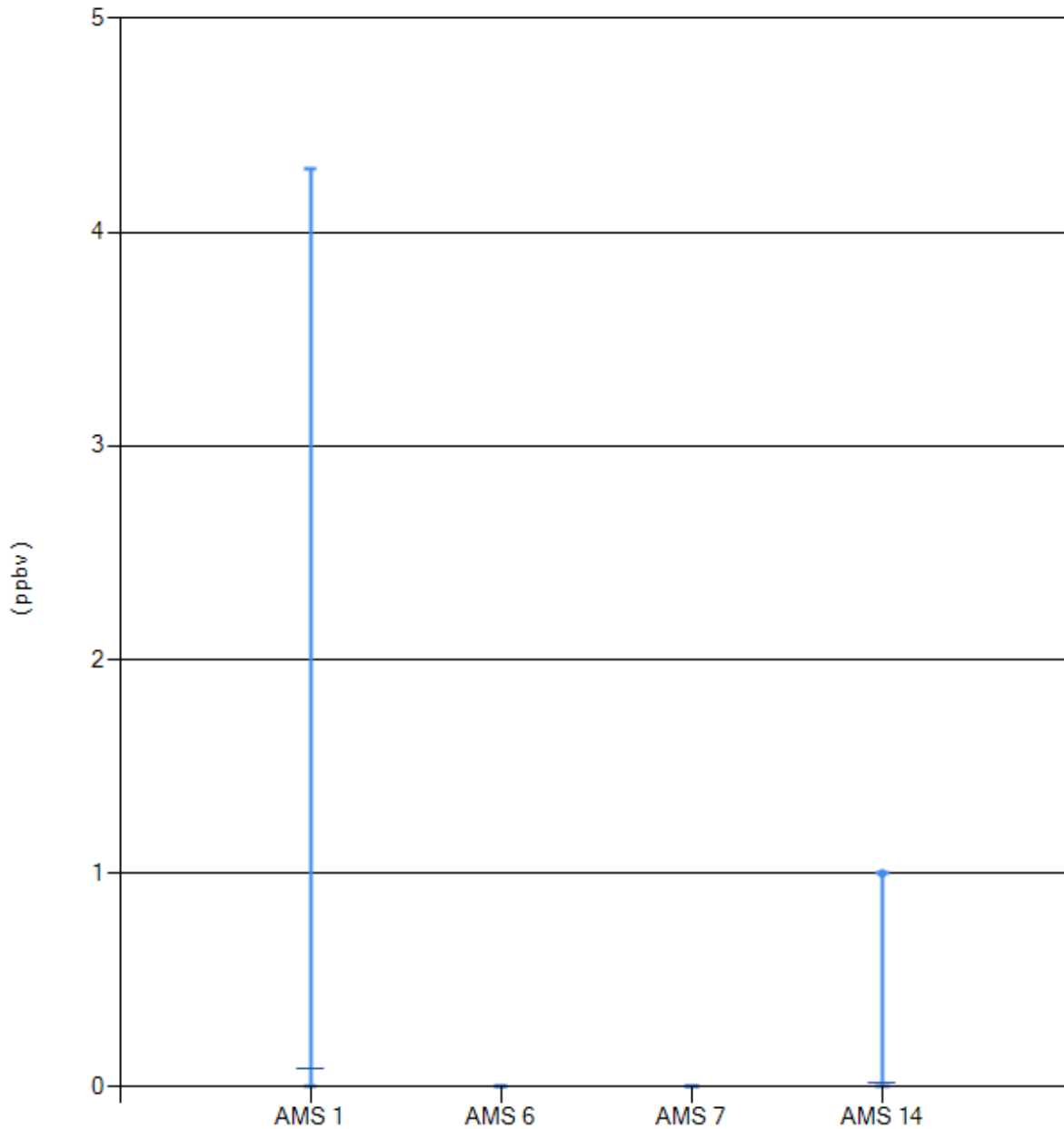
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	4.1	0.08
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0.8	0.01





RSC - 3-methyl Thiophene - (ppbv) - 2014

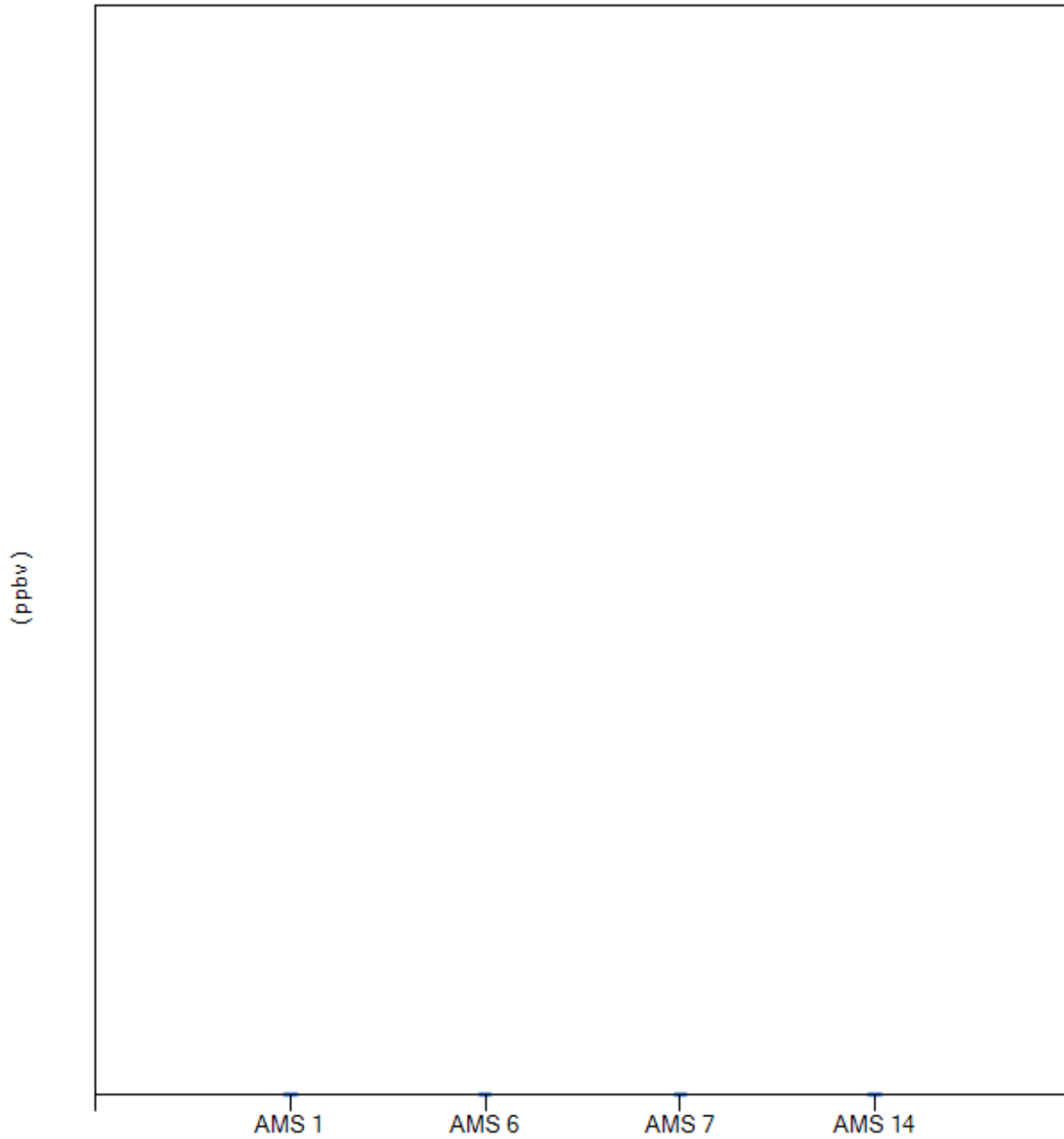
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	4.3	0.09
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	1	0.02





RSC - Allyl sulphide - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0

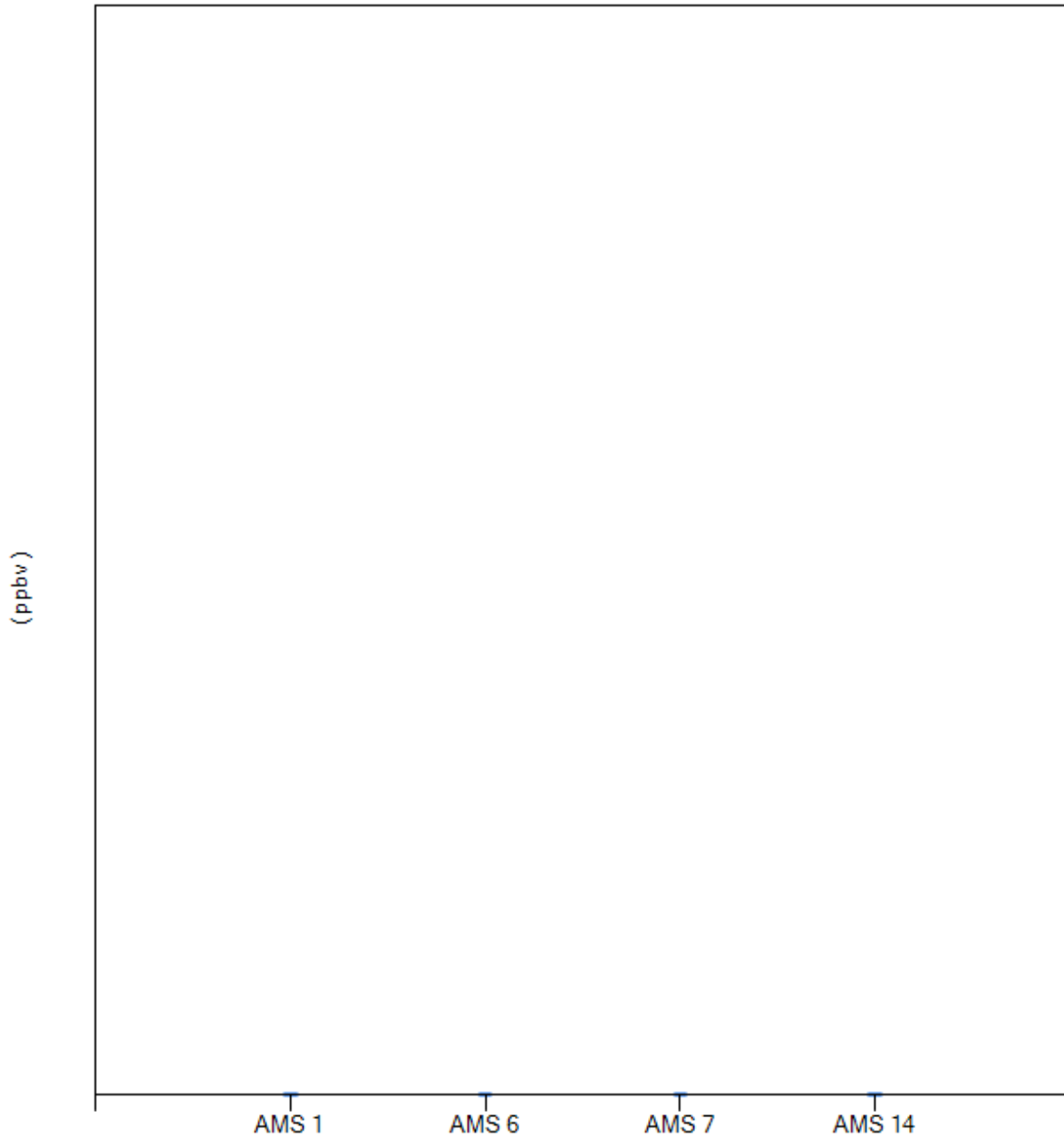






RSC - Butyl mercaptan - (ppbv) - 2014

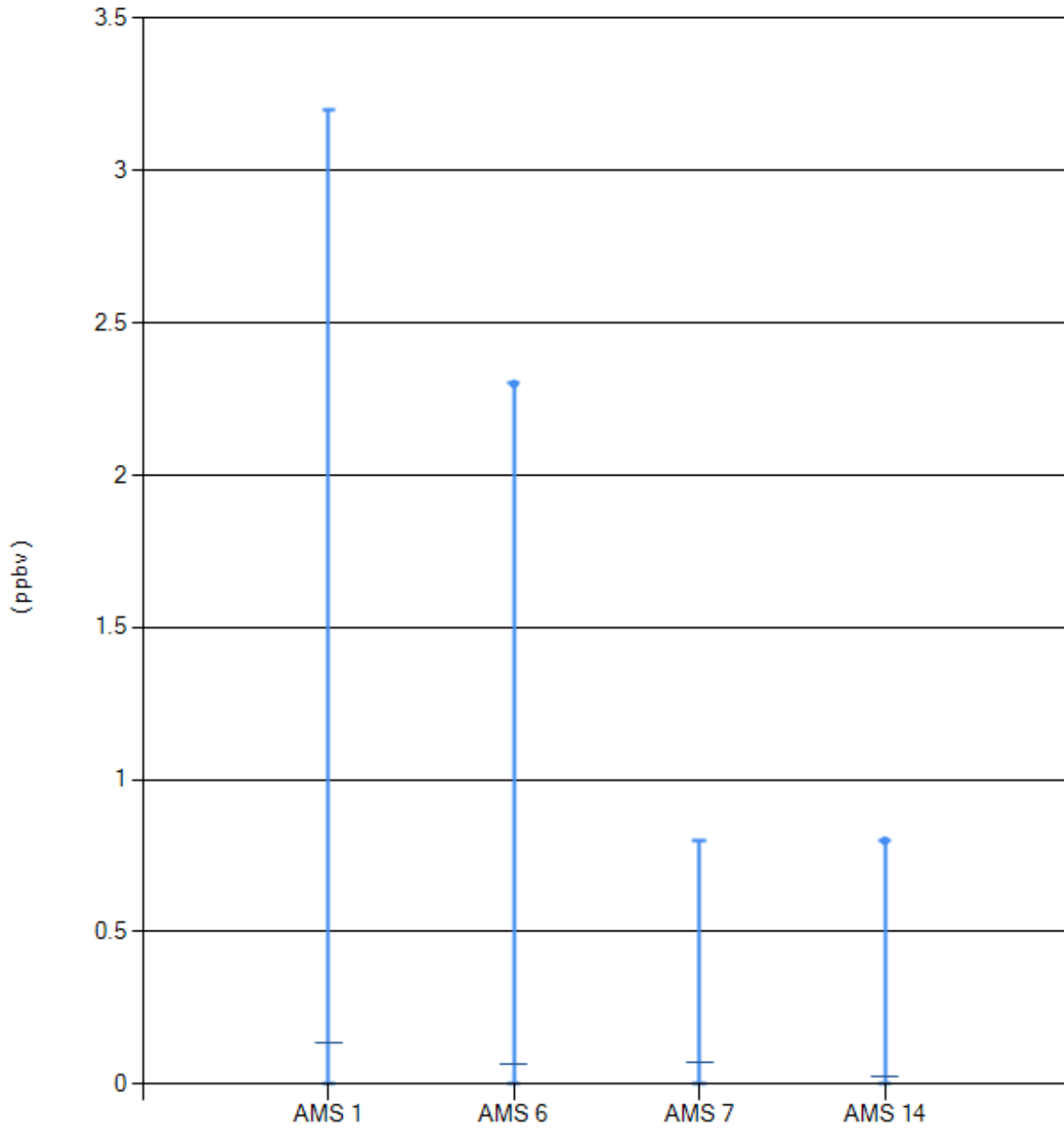
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





RSC - Carbon disulphide - (ppbv) - 2014

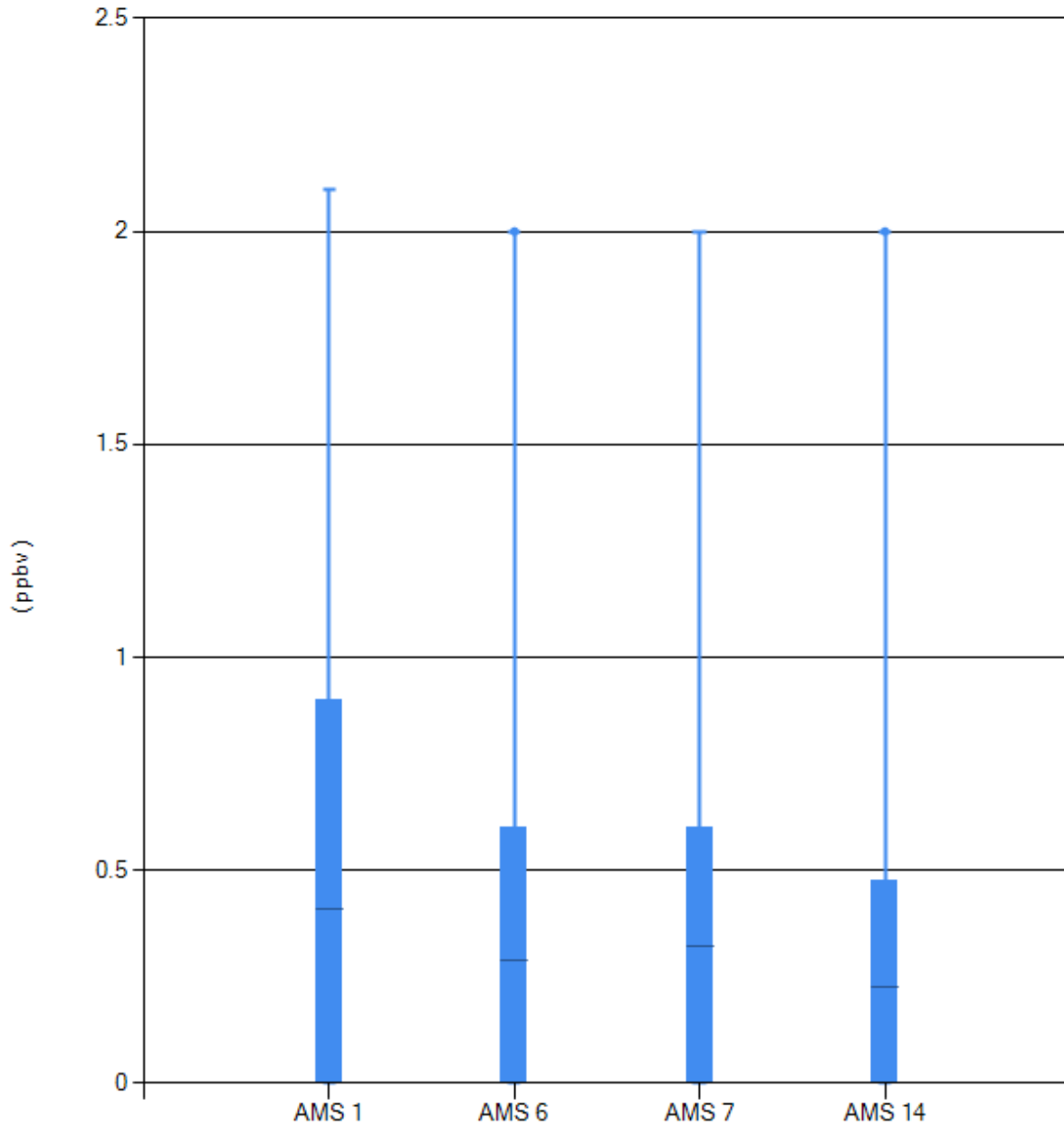
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	3.2	0.13
AMS 6 Patricia McInnes	0	0	0	0	2.3	0.07
AMS 7 Athabasca Valley	0	0	0	0	0.8	0.07
AMS 14 Anzac	0	0	0	0	0.8	0.03





RSC - Carbonyl sulphide - (ppbv) - 2014

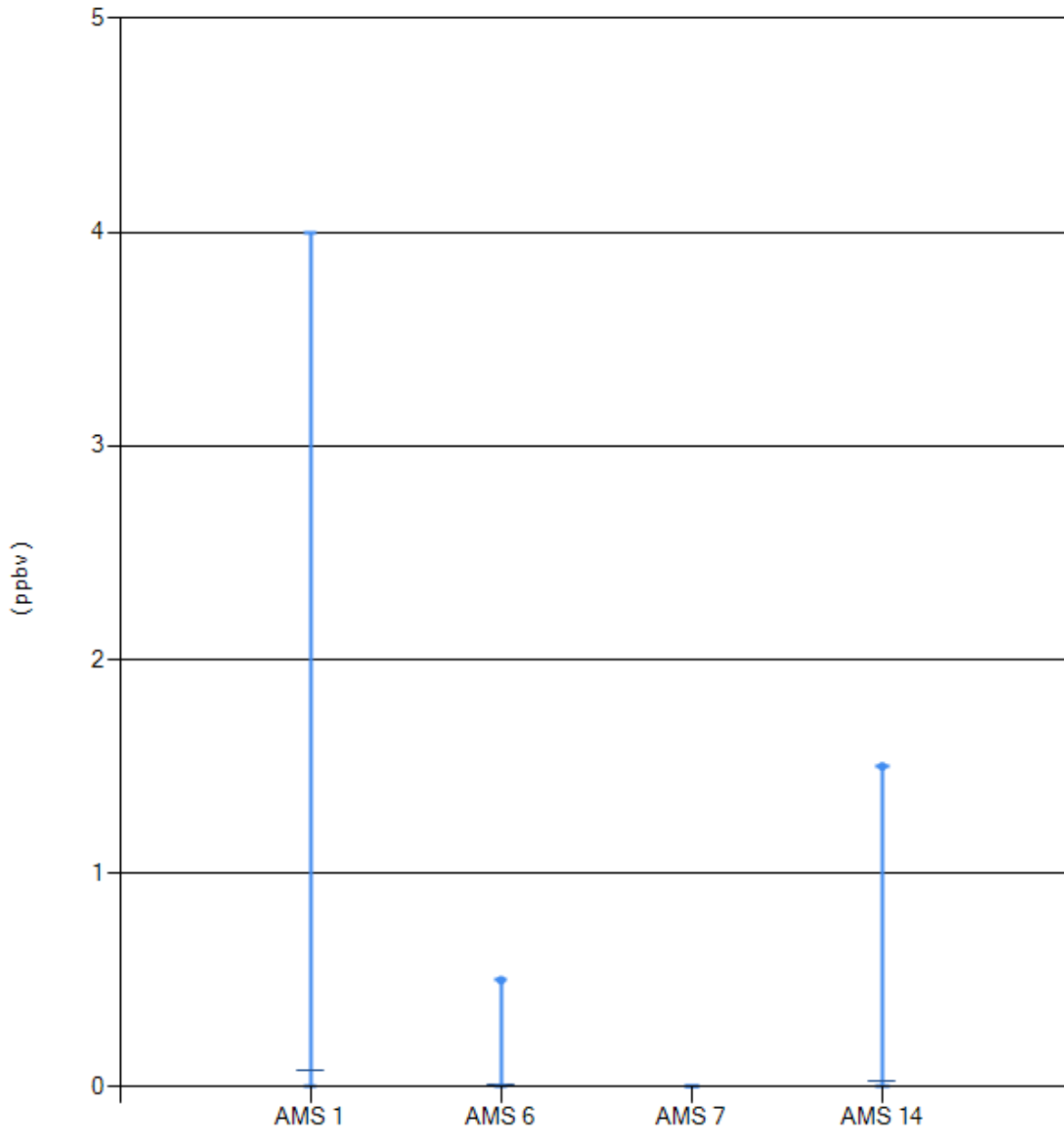
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0.9	2.1	0.41
AMS 6 Patricia McInnes	0	0	0	0.6	2	0.29
AMS 7 Athabasca Valley	0	0	0	0.6	2	0.32
AMS 14 Anzac	0	0	0	0.5	2	0.23





RSC - Dimethyl disulphide - (ppbv) - 2014

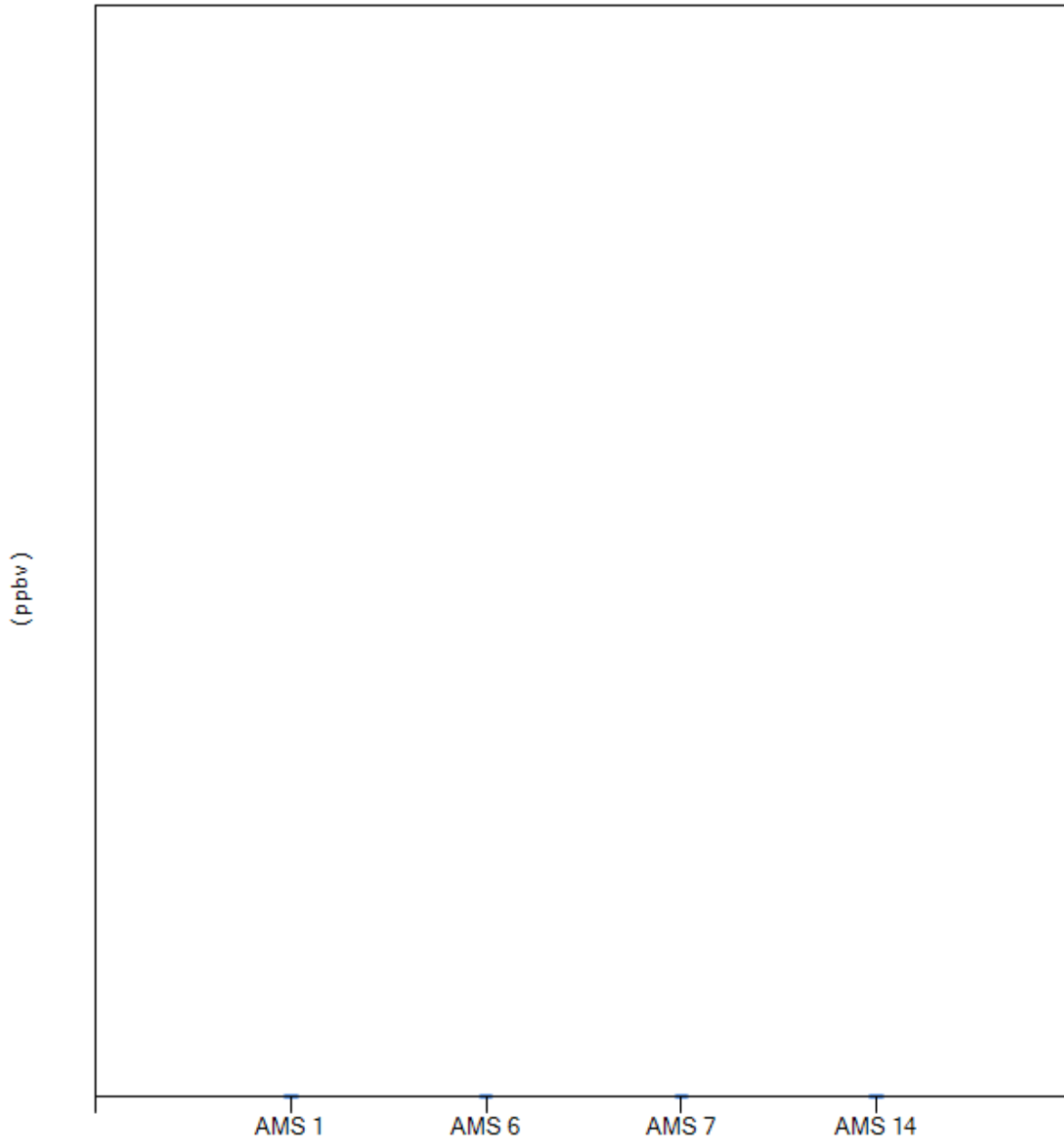
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	4	0.08
AMS 6 Patricia McInnes	0	0	0	0	0.5	0.01
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	1.5	0.03





RSC - Dimethyl sulphide - (ppbv) - 2014

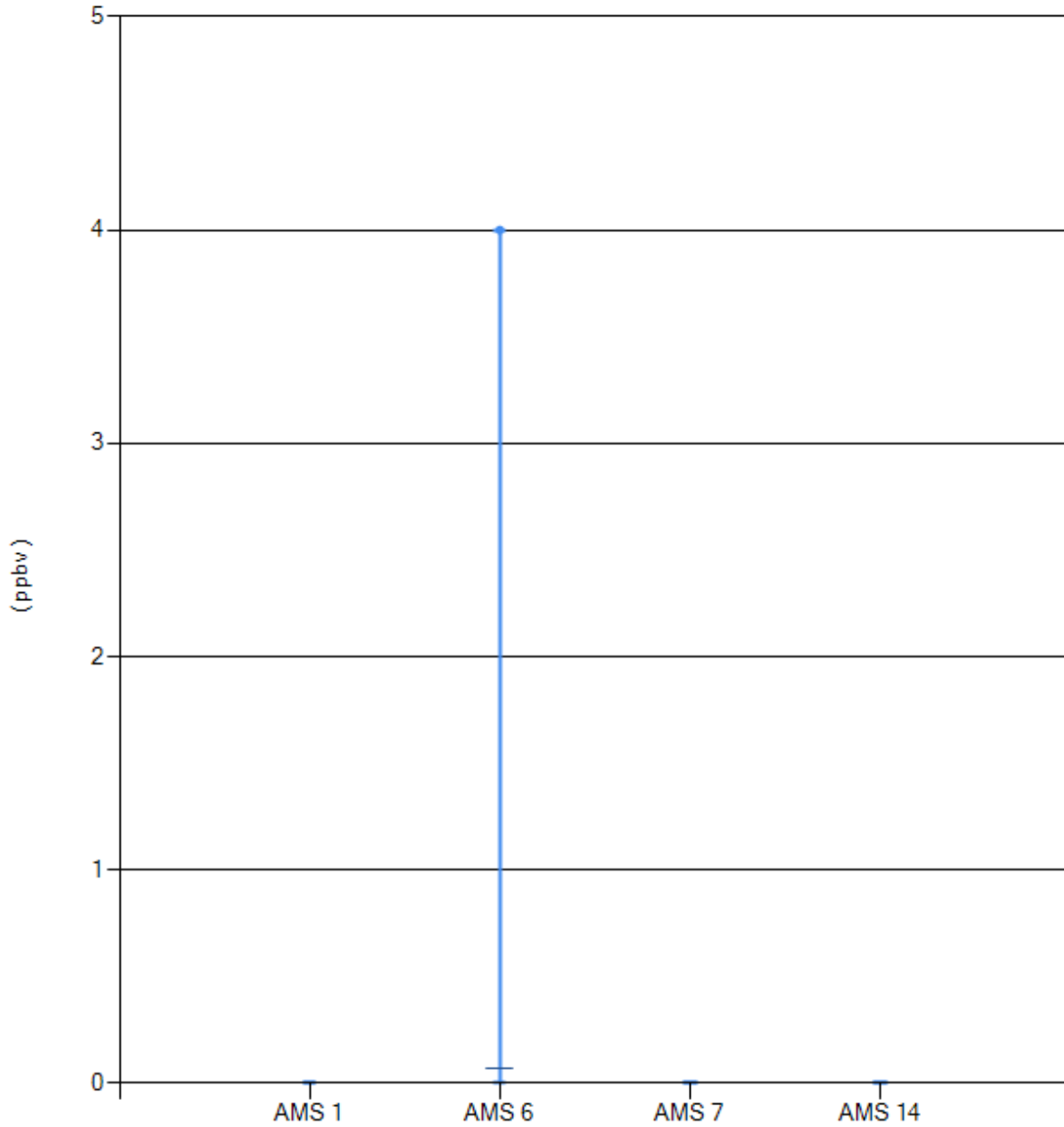
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





RSC - Ethyl mercaptan - (ppbv) - 2014

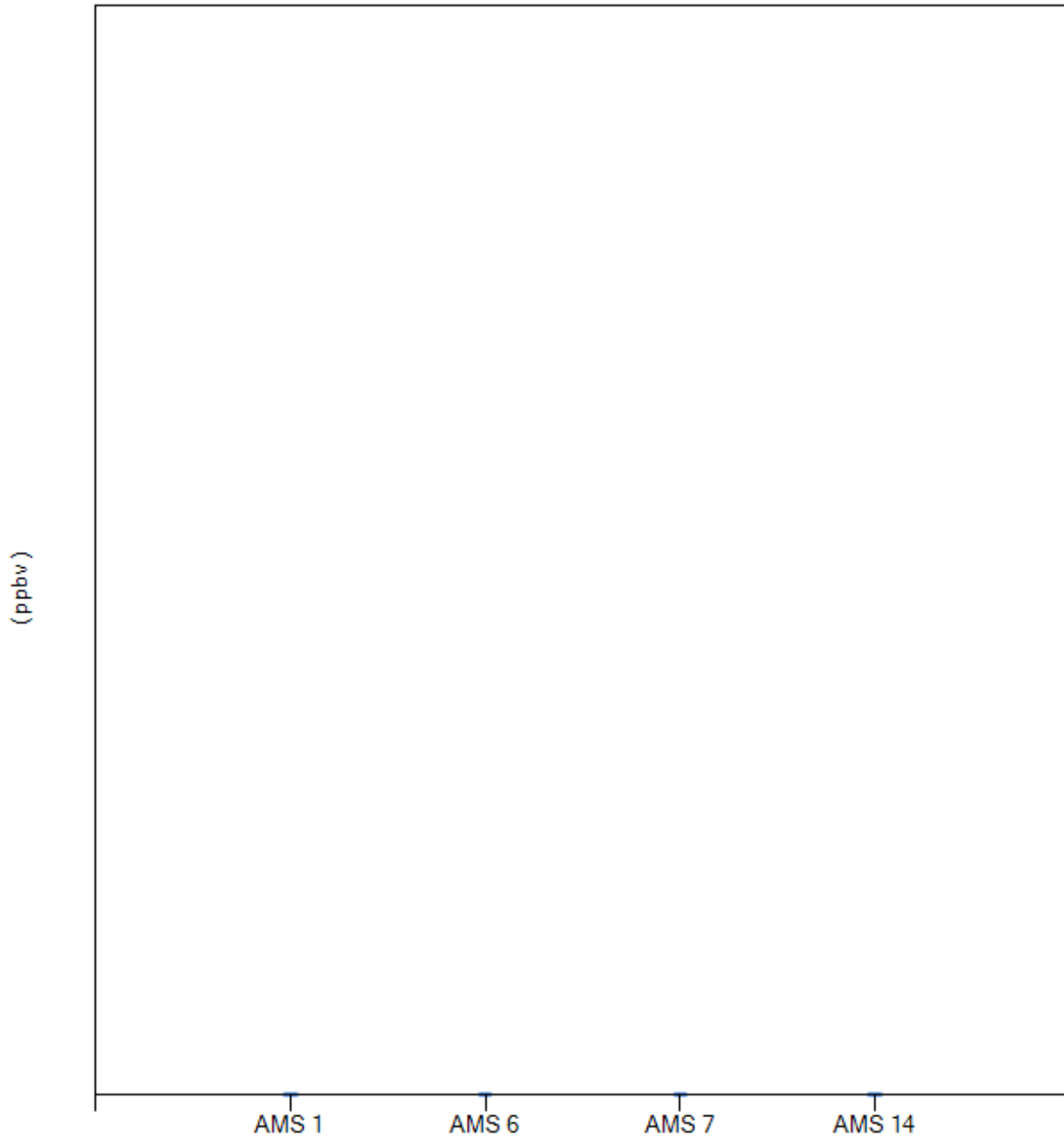
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	4	0.07
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





RSC - Ethyl sulphide - (ppbv) - 2014

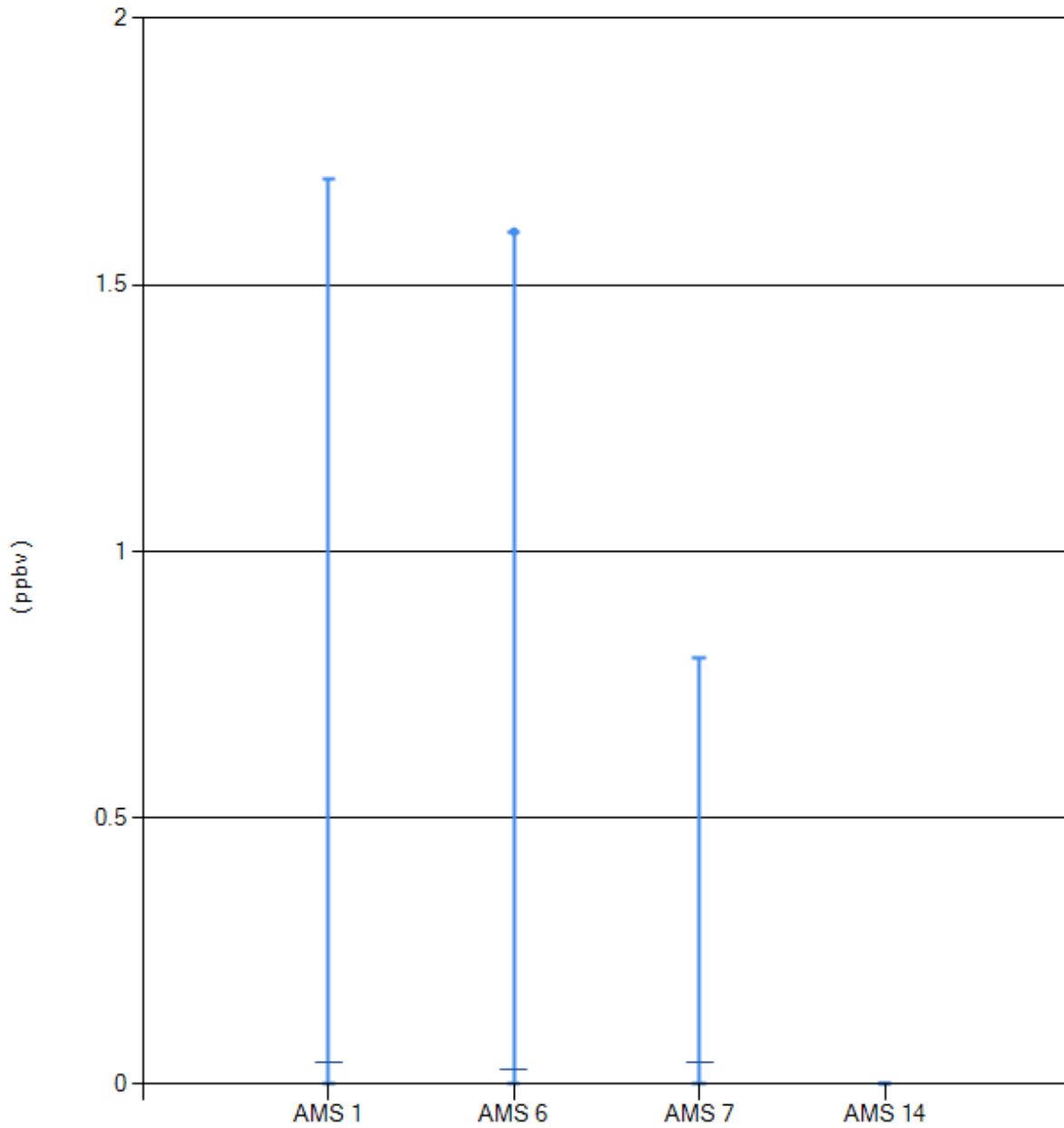
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





RSC - Hydrogen sulphide - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	1.7	0.04
AMS 6 Patricia McInnes	0	0	0	0	1.6	0.03
AMS 7 Athabasca Valley	0	0	0	0	0.8	0.04
AMS 14 Anzac	0	0	0	0	0	0

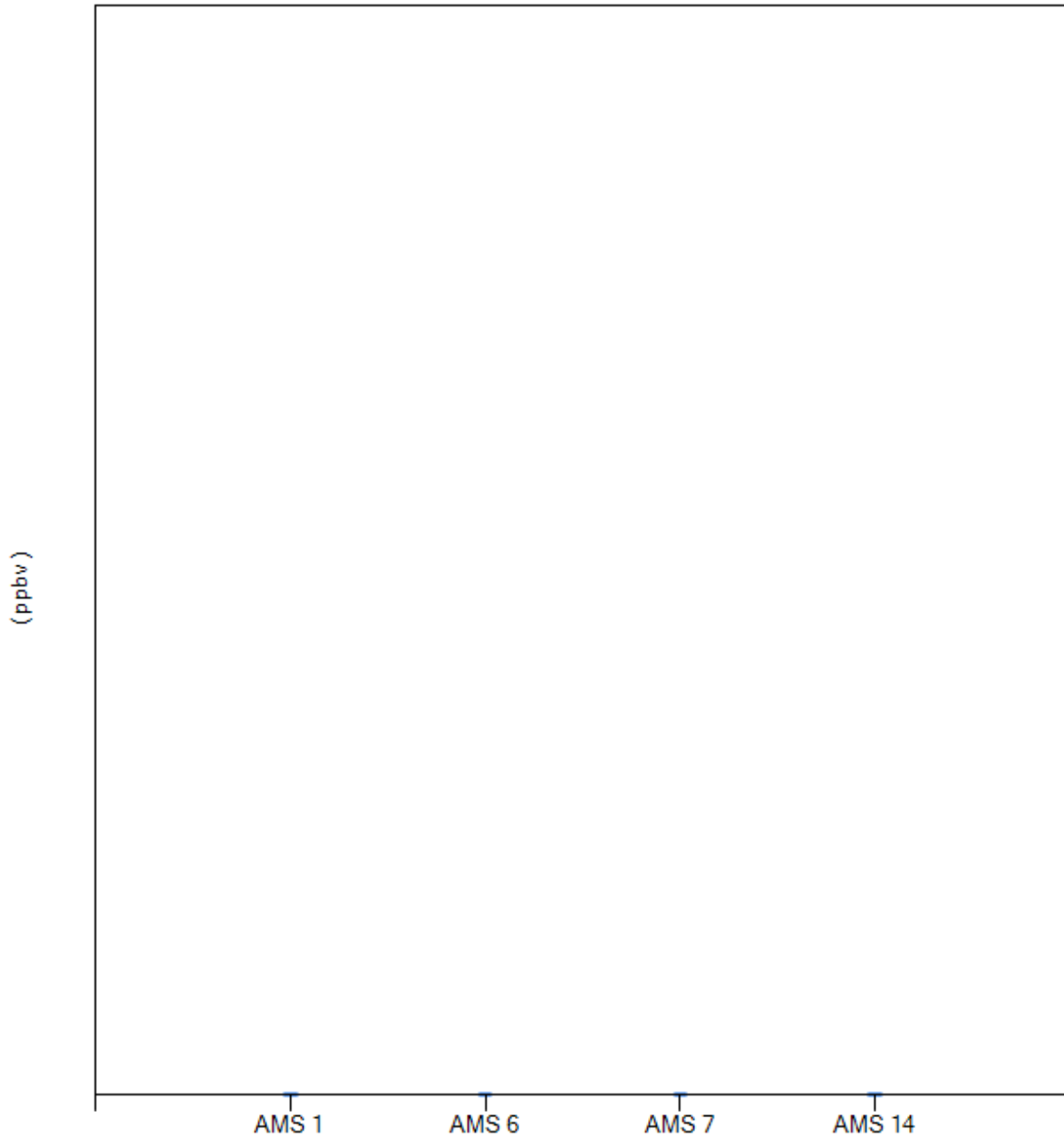






RSC - Isobutyl mercaptan - (ppbv) - 2014

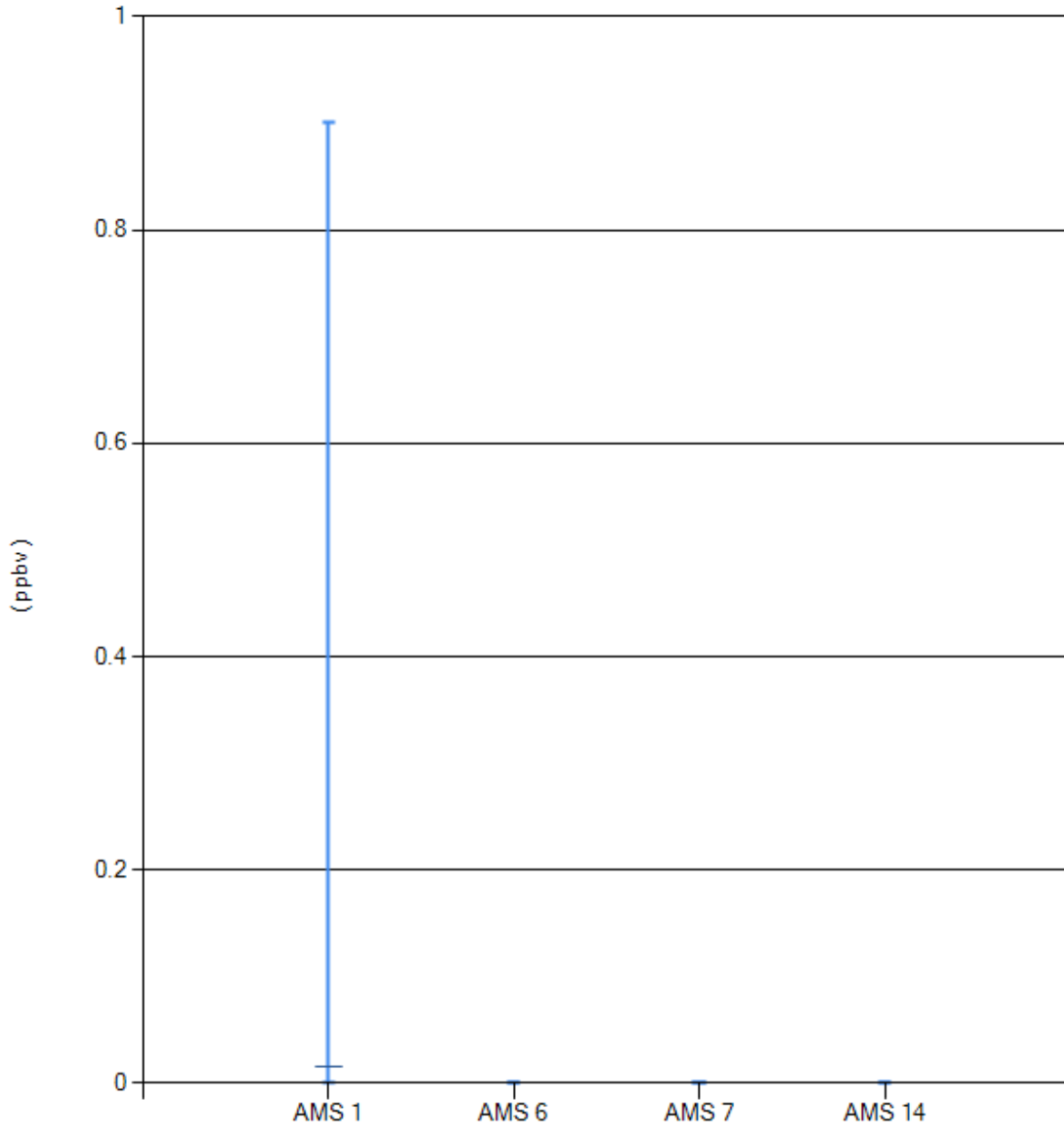
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





RSC - Isopropyl mercaptan - (ppbv) - 2014

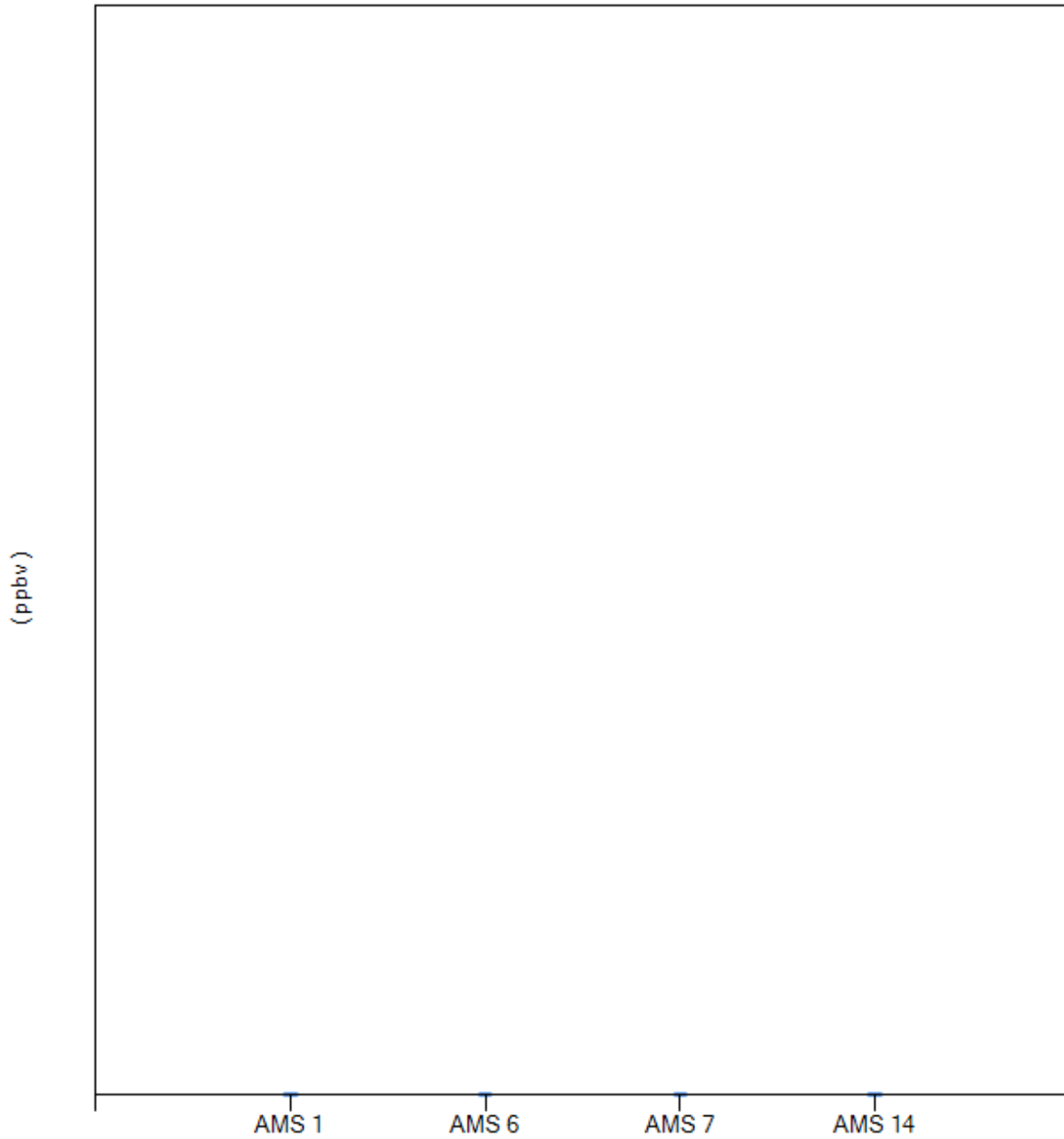
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.9	0.01
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





RSC - Methyl mercaptan - (ppbv) - 2014

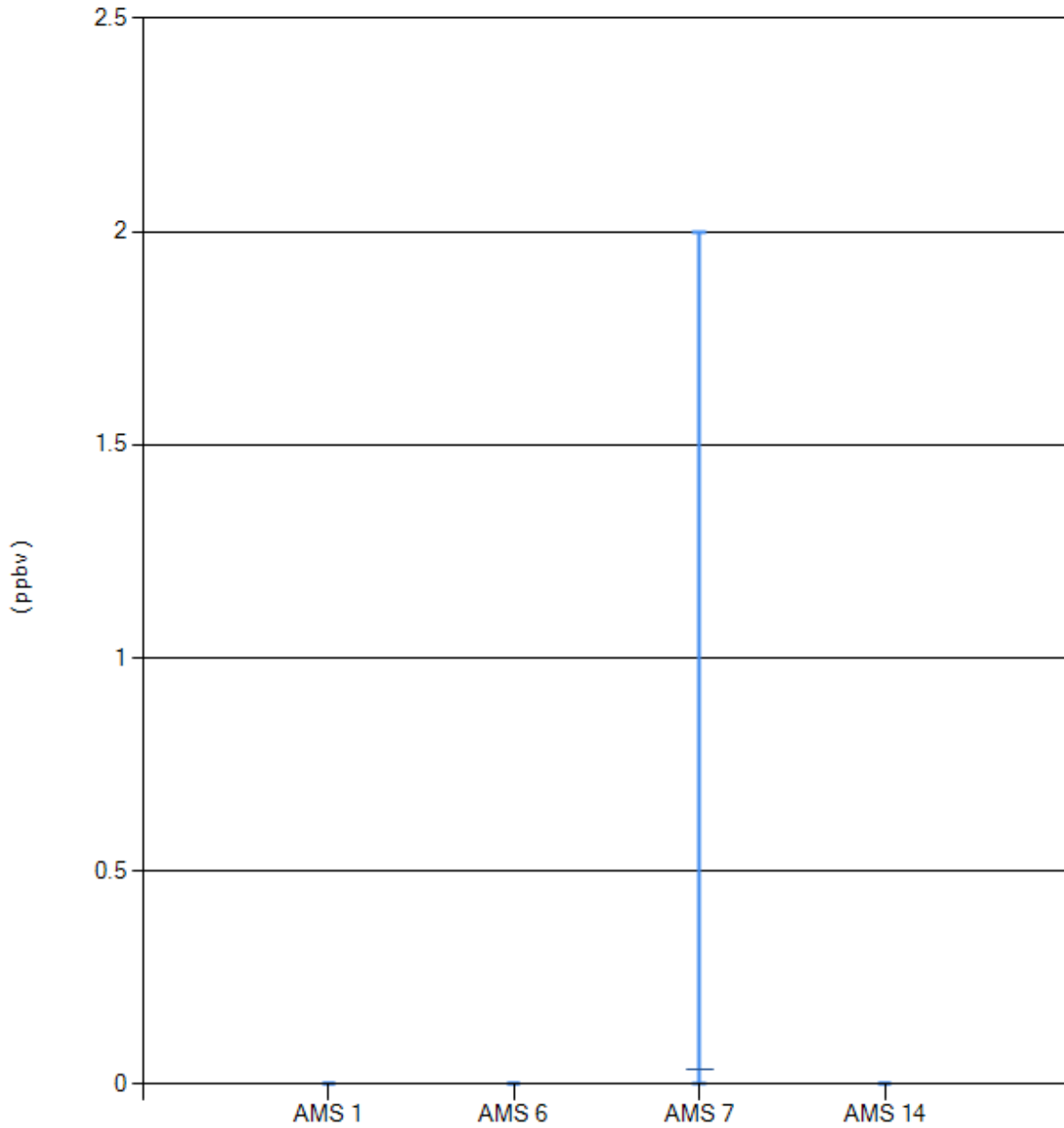
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





RSC - Pentyl mercaptan - (ppbv) - 2014

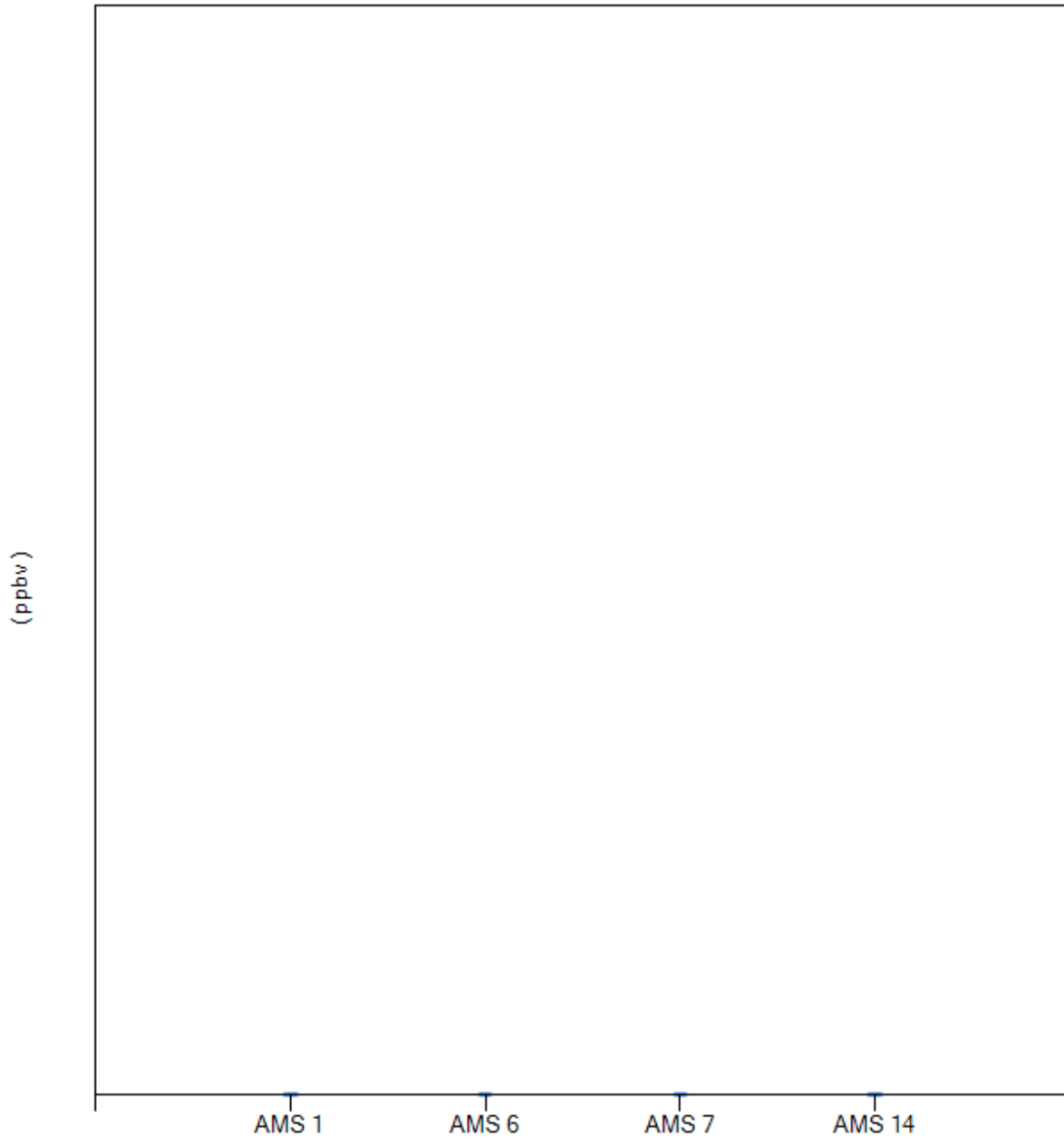
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	2	0.03
AMS 14 Anzac	0	0	0	0	0	0





RSC - Propyl mercaptan - (ppbv) - 2014

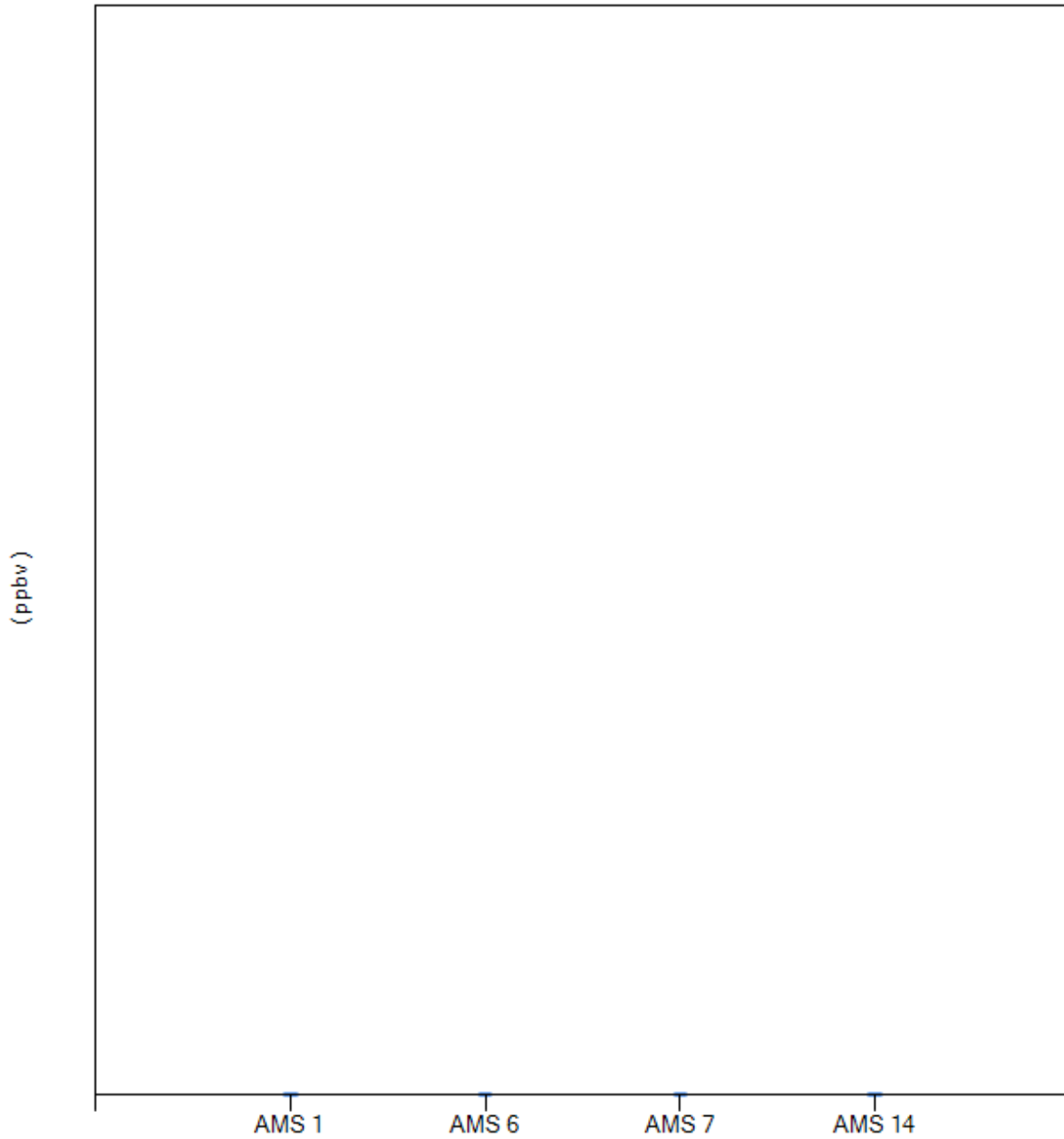
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





RSC - sec-Butyl mercaptan - (ppbv) - 2014

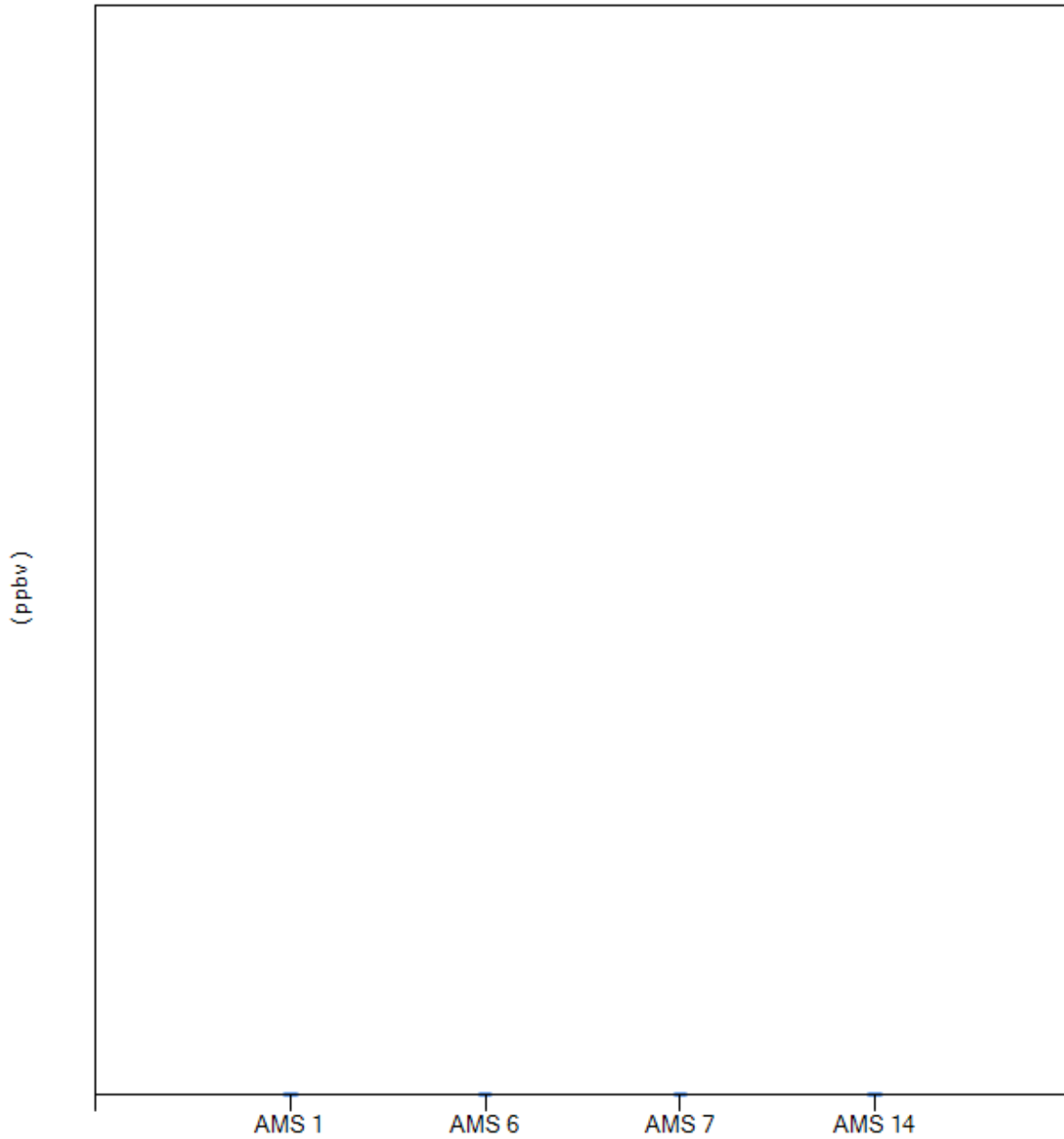
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





RSC - tert-Butyl mercaptan - (ppbv) - 2014

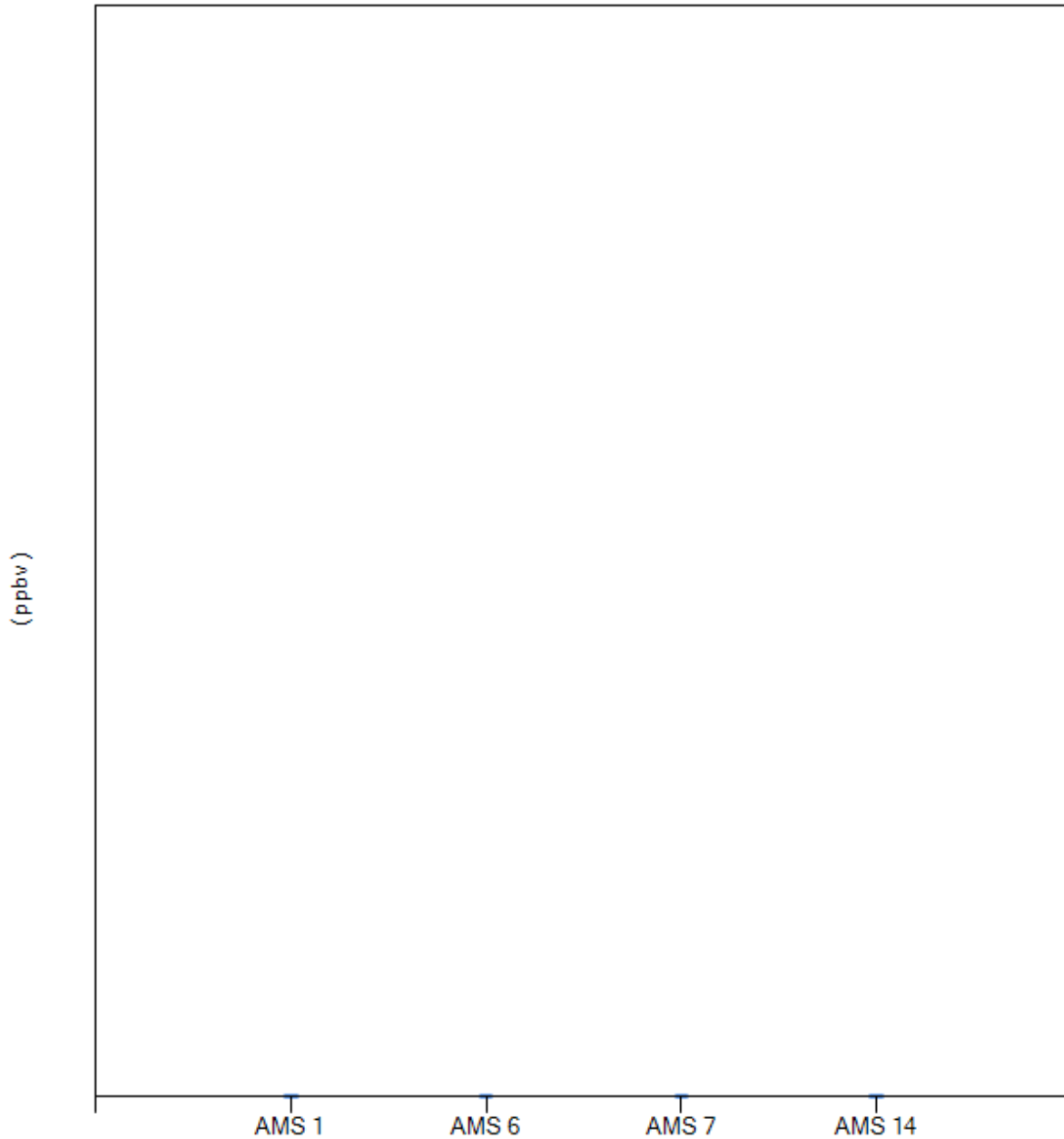
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





RSC - tert-Pentyl mercaptan - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0

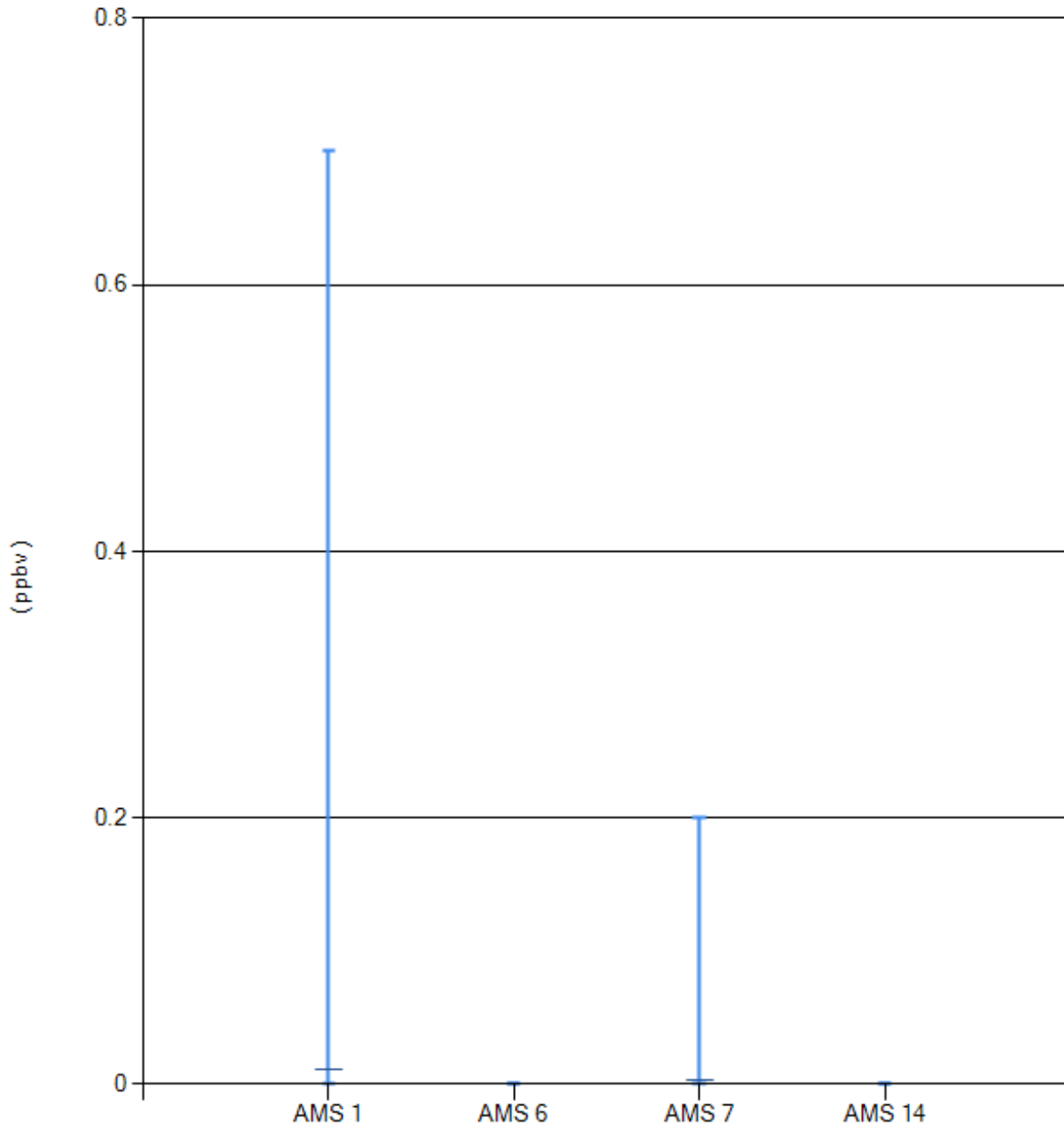






RSC - Thiophene - (ppbv) - 2014

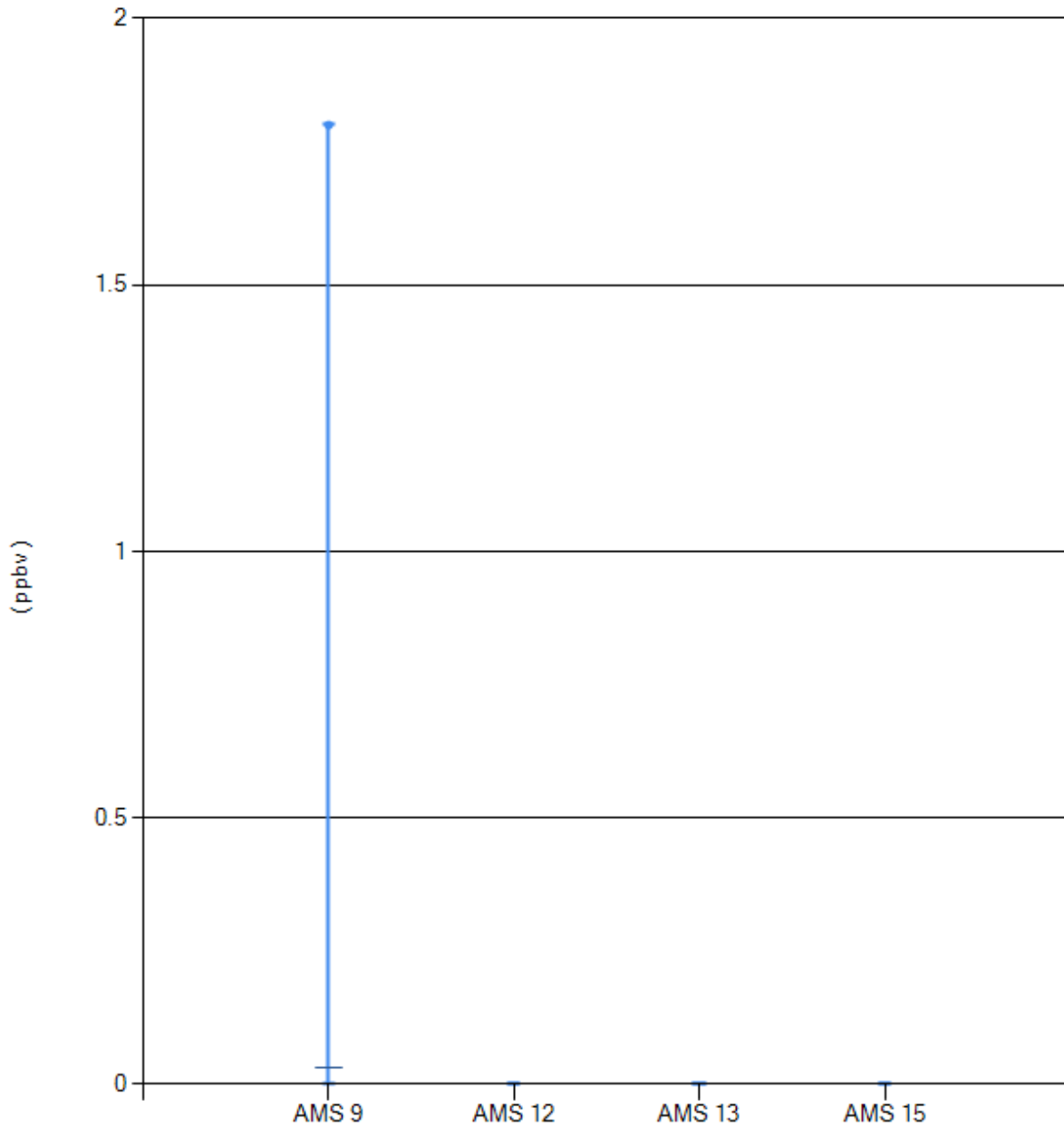
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.7	0.01
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.2	0
AMS 14 Anzac	0	0	0	0	0	0





RSC - 2,5-dimethyl Thiophene - (ppbv) - 2014

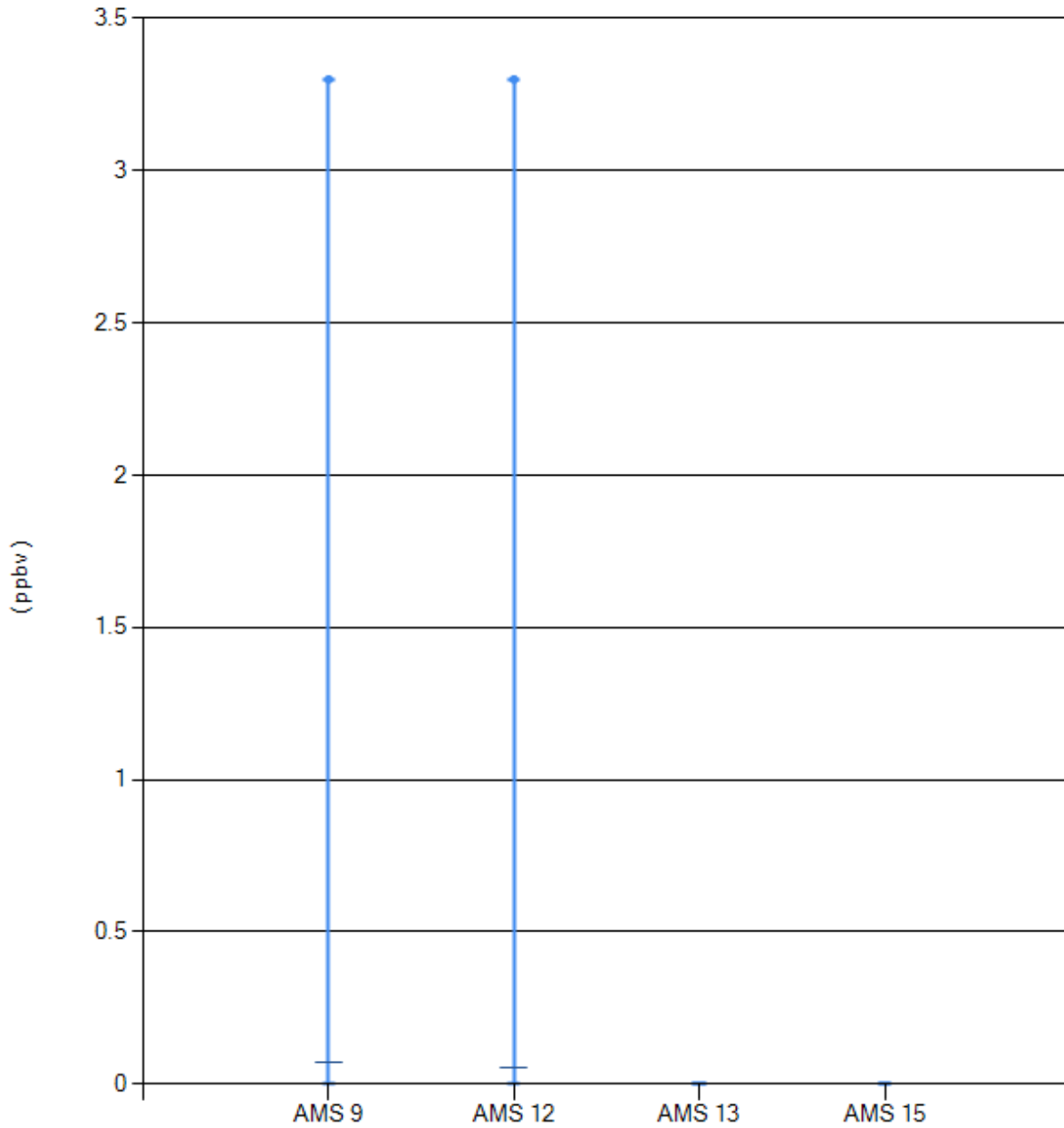
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	1.8	0.03
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





RSC - 2-ethyl Thiophene - (ppbv) - 2014

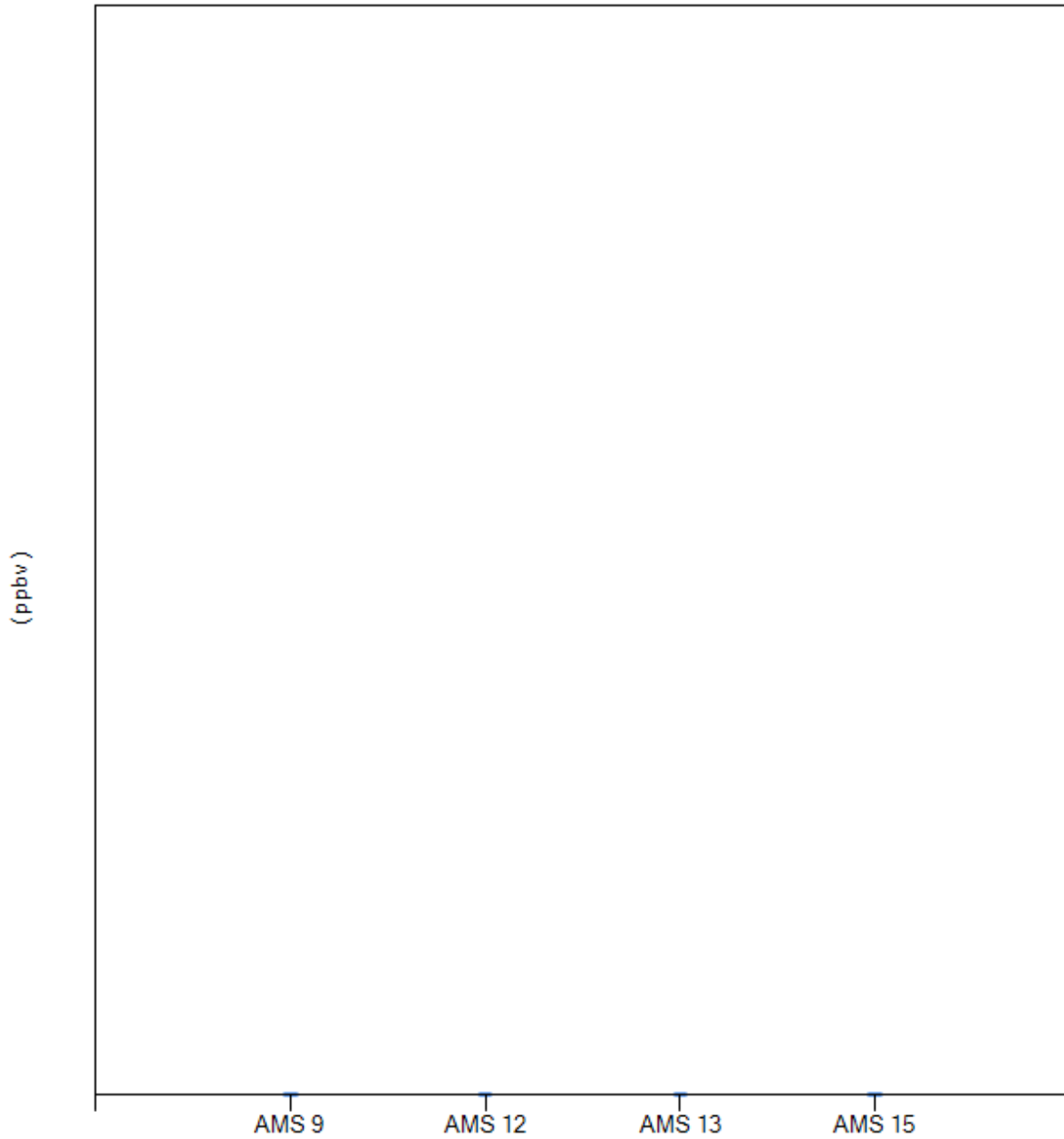
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	3.3	0.07
AMS 12 Millennium	0	0	0	0	3.3	0.06
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





RSC - 2-methyl Thiophene - (ppbv) - 2014

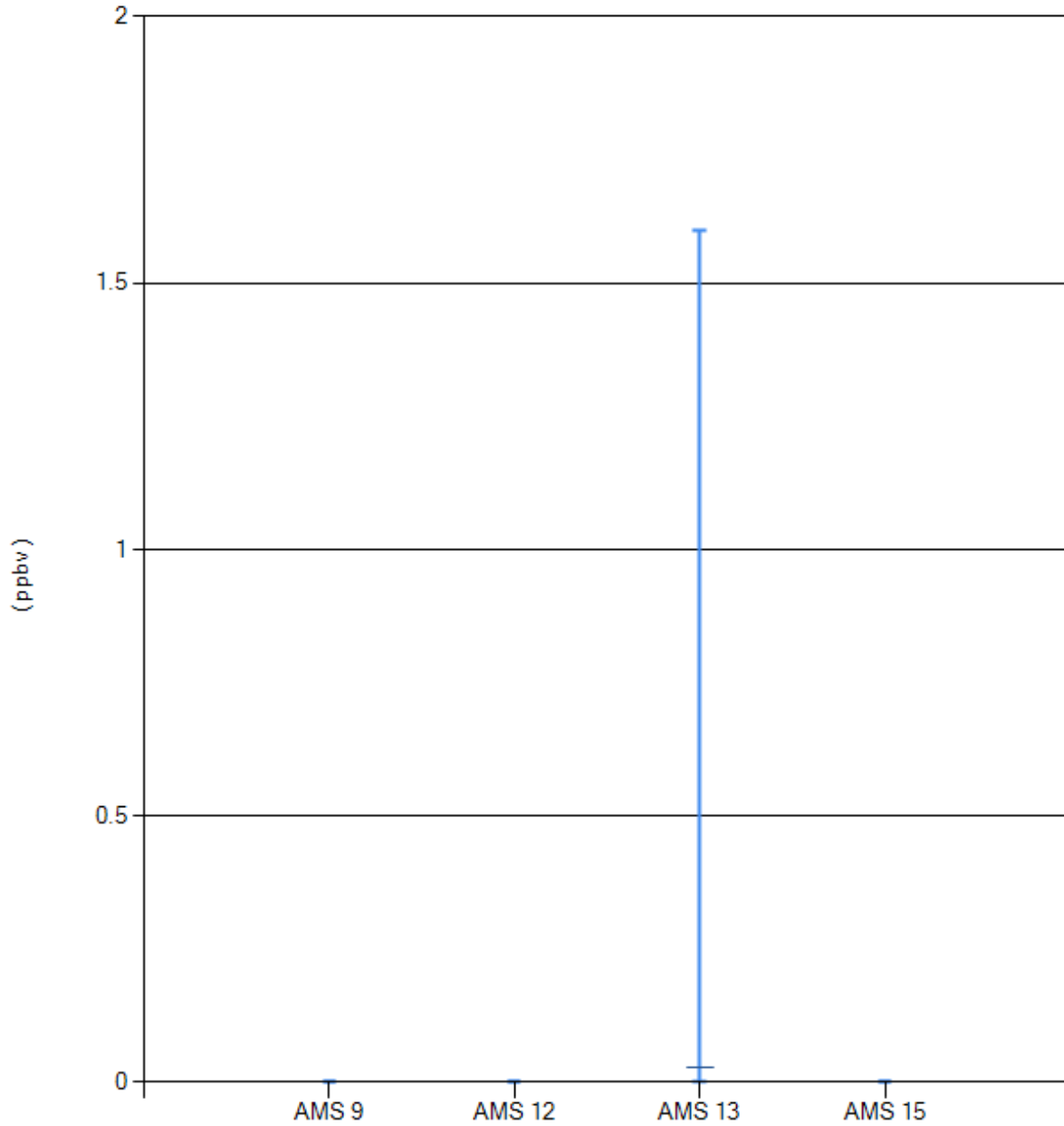
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





RSC - 3-methyl Thiophene - (ppbv) - 2014

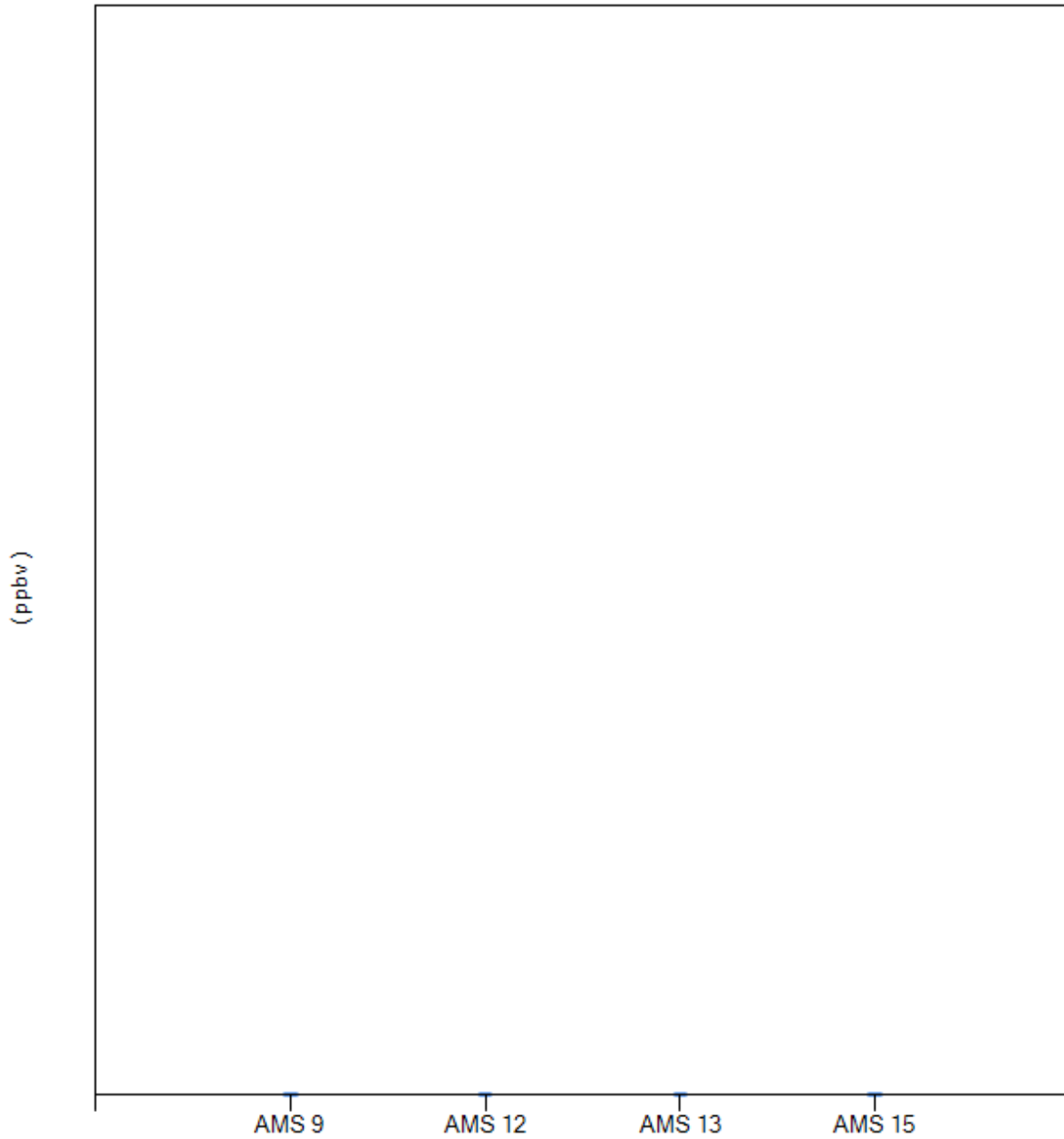
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	1.6	0.03
AMS 15 Horizon	0	0	0	0	0	0





RSC - Allyl sulphide - (ppbv) - 2014

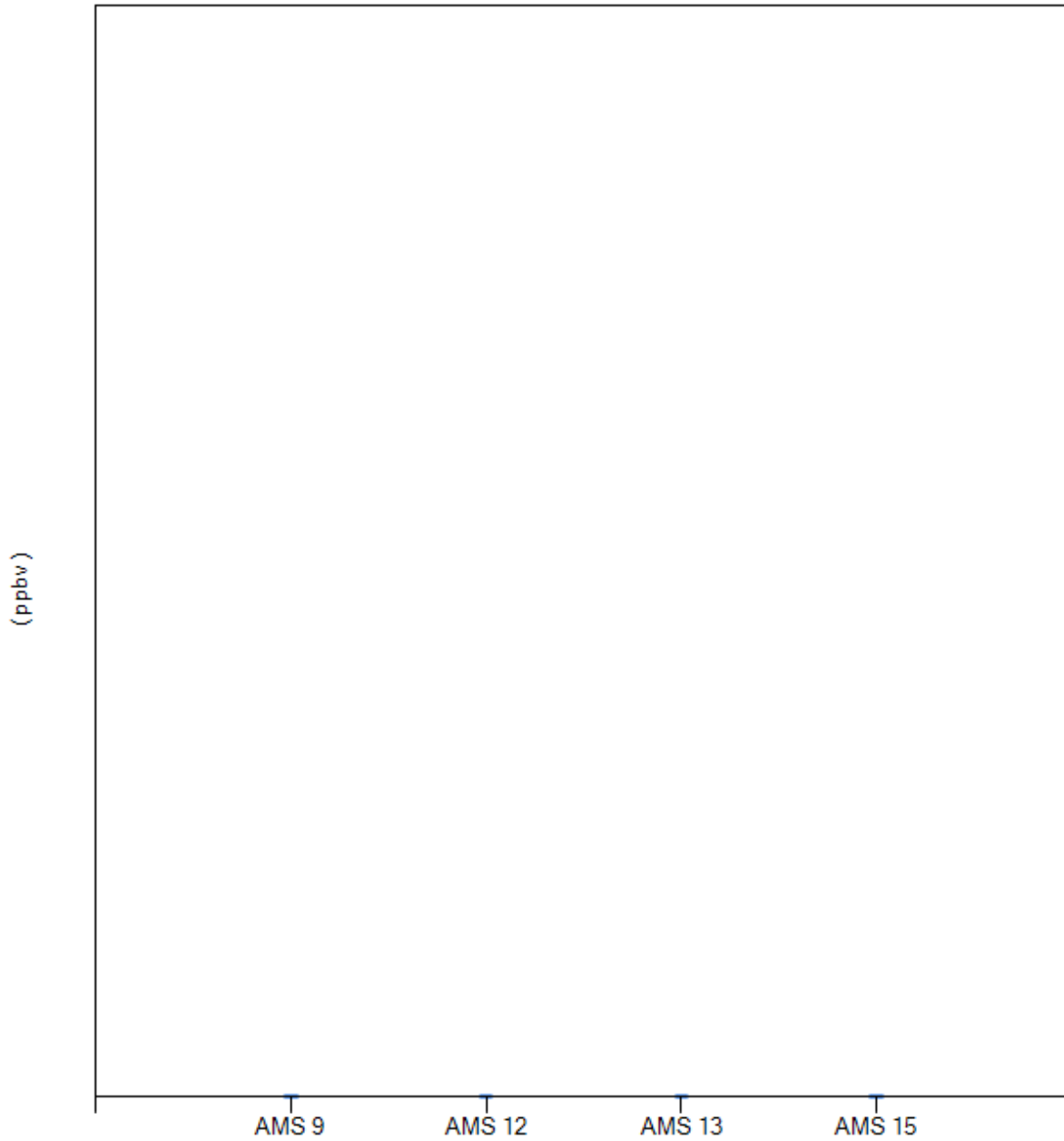
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





RSC - Butyl mercaptan - (ppbv) - 2014

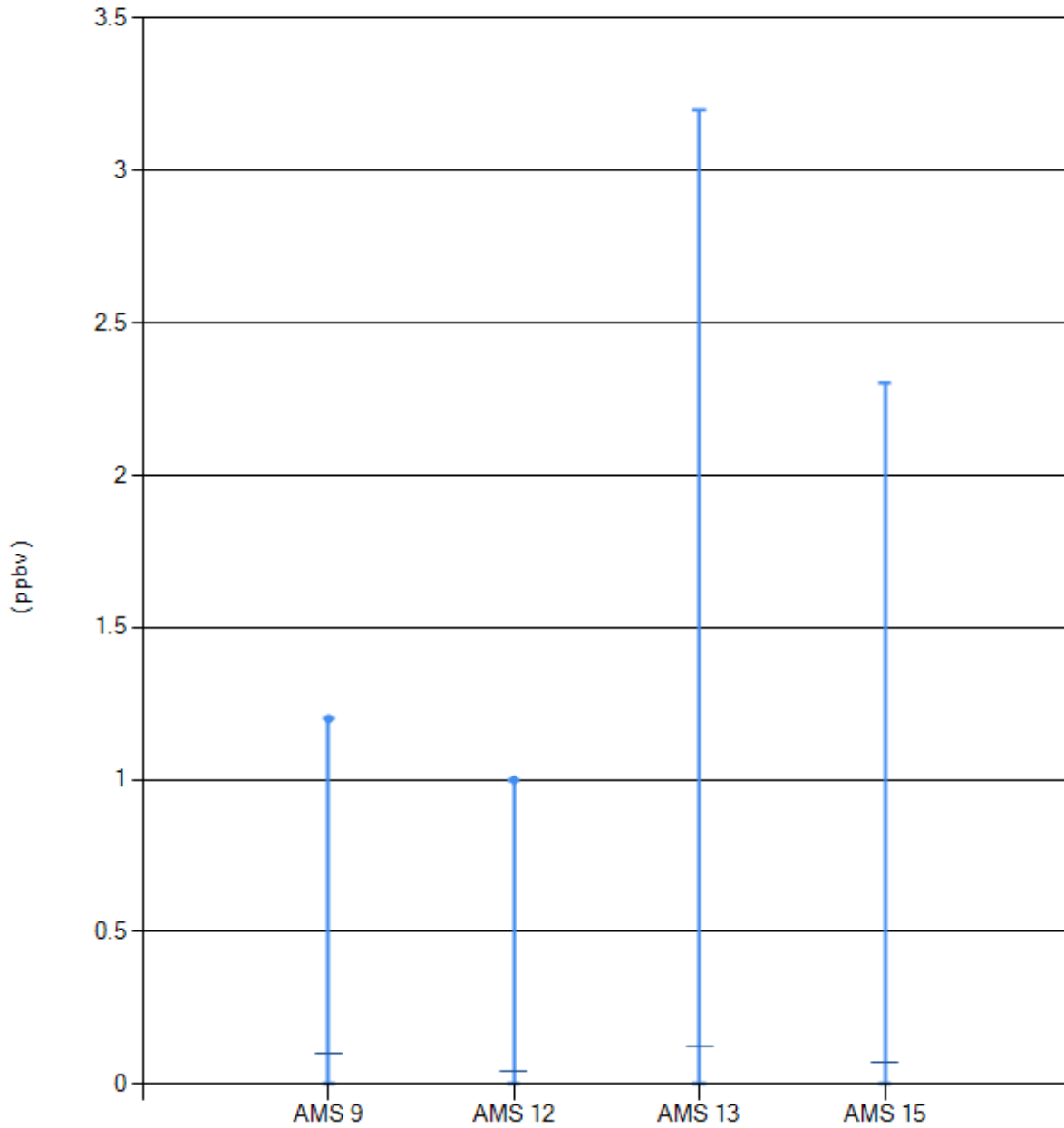
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





RSC - Carbon disulphide - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	1.2	0.1
AMS 12 Millennium	0	0	0	0	1	0.04
AMS 13 Fort McKay South	0	0	0	0	3.2	0.13
AMS 15 Horizon	0	0	0	0	2.3	0.07

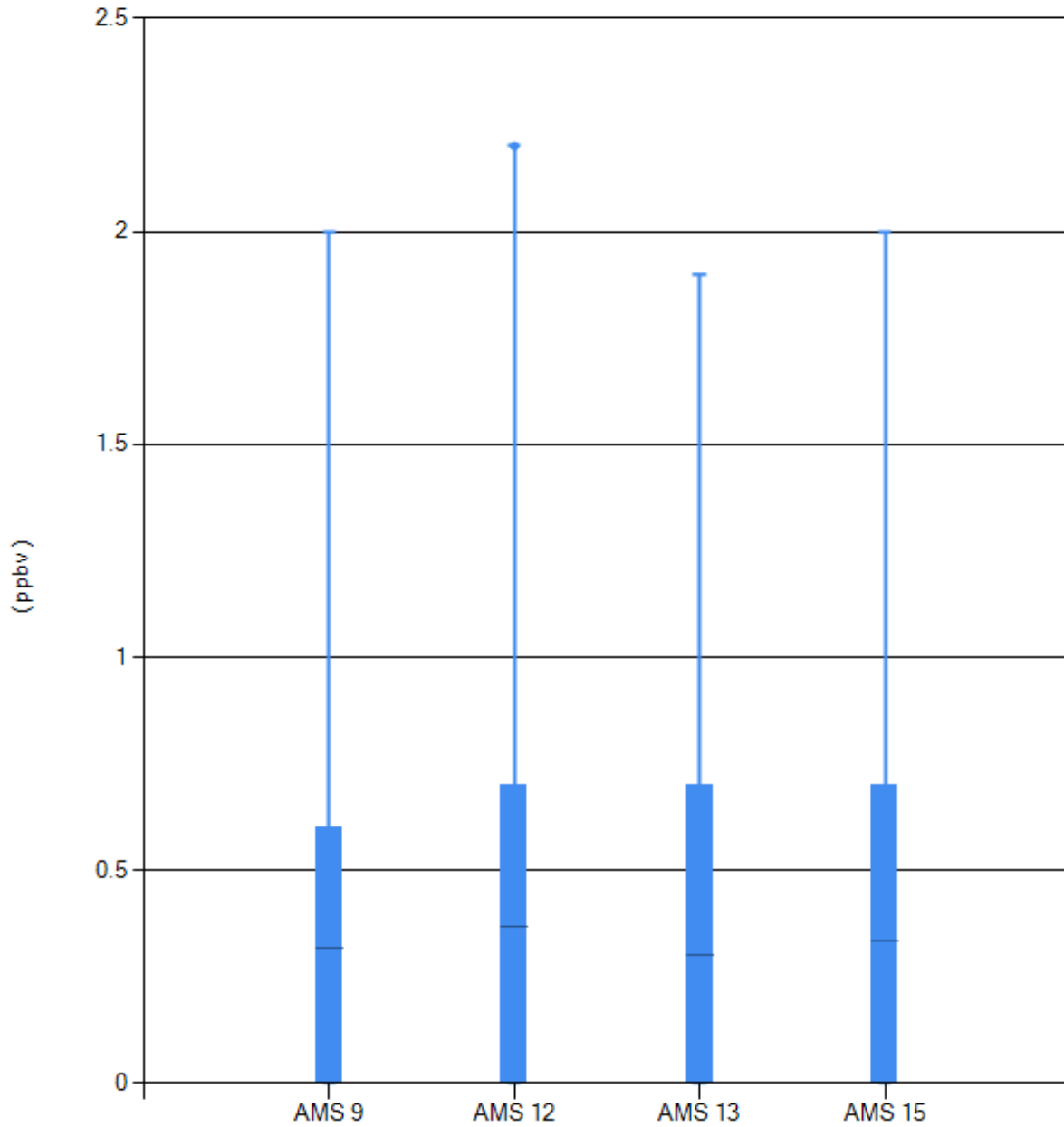






RSC - Carbonyl sulphide - (ppbv) - 2014

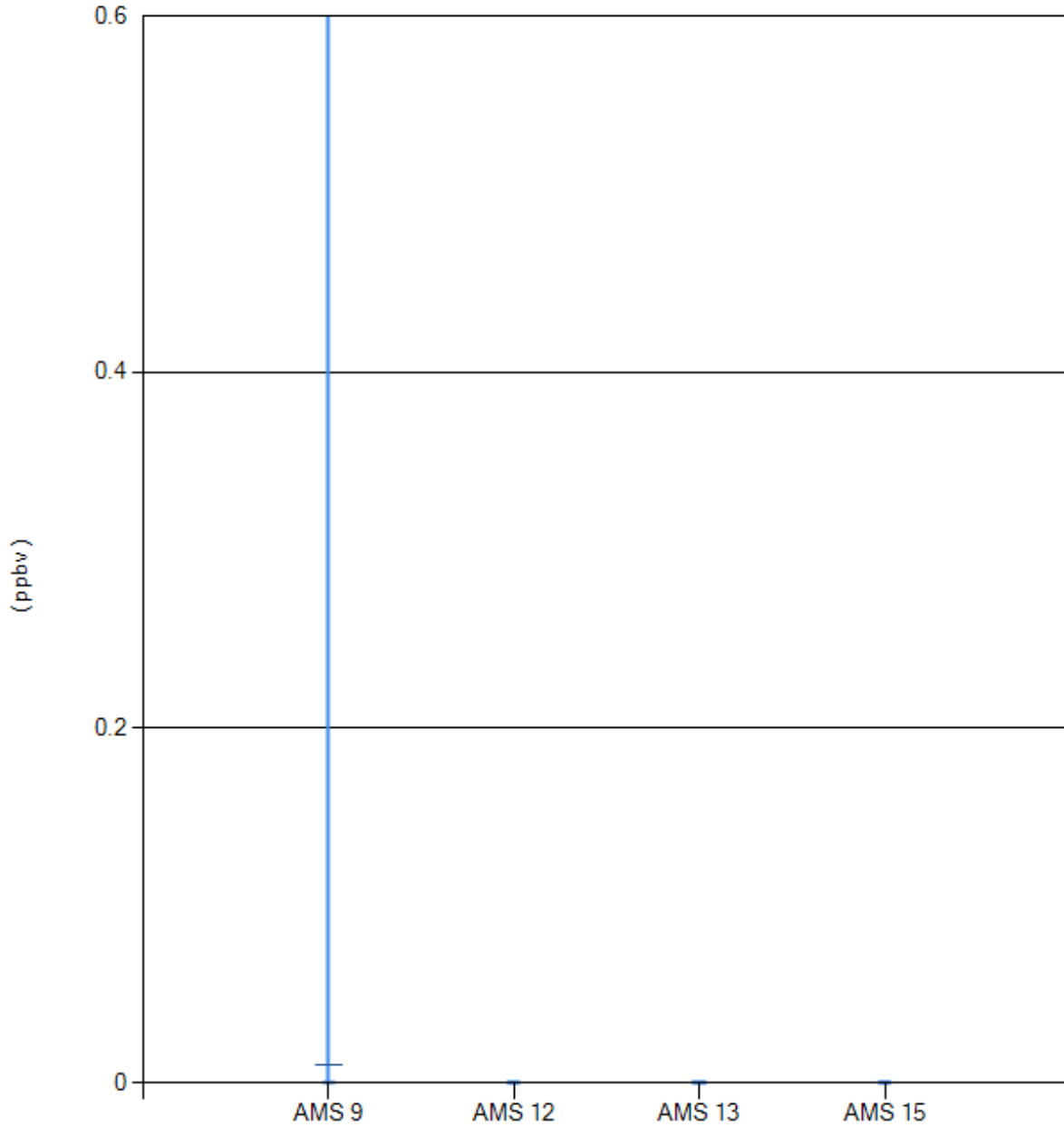
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0.6	2	0.32
AMS 12 Millennium	0	0	0	0.7	2.2	0.37
AMS 13 Fort McKay South	0	0	0	0.7	1.9	0.3
AMS 15 Horizon	0	0	0	0.7	2	0.33





RSC - Dimethyl disulphide - (ppbv) - 2014

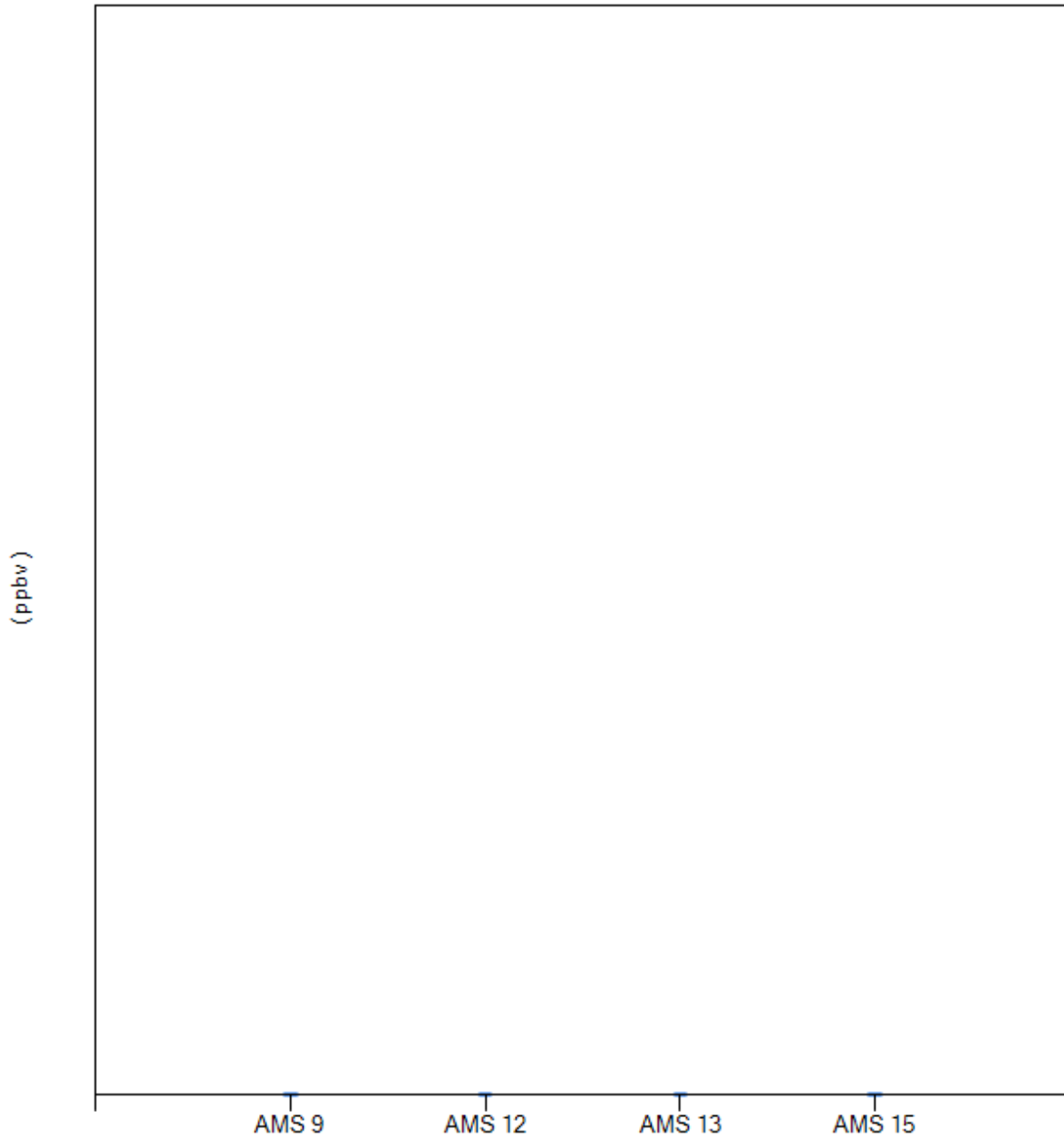
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.6	0.01
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





RSC - Dimethyl sulphide - (ppbv) - 2014

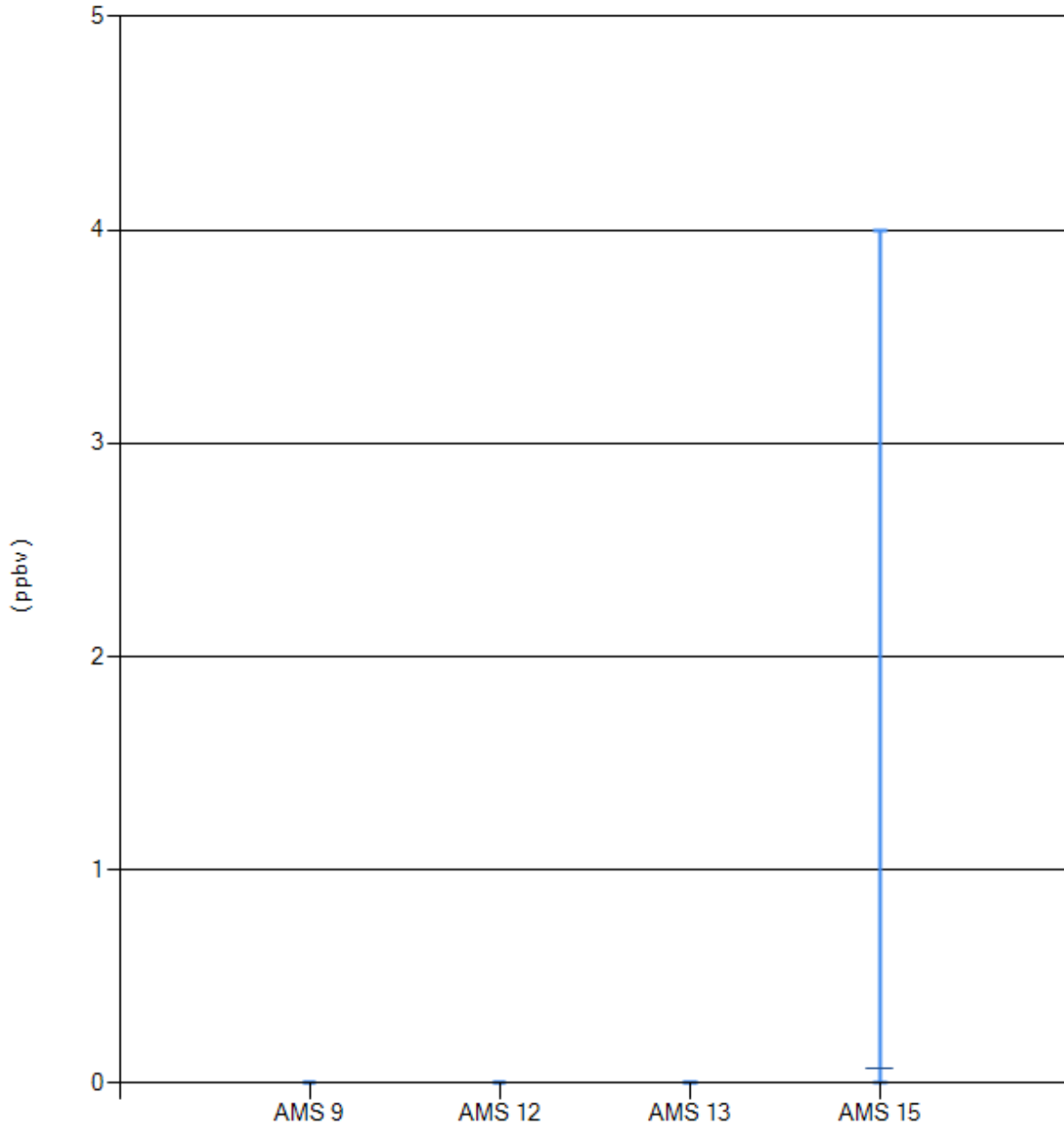
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





RSC - Ethyl mercaptan - (ppbv) - 2014

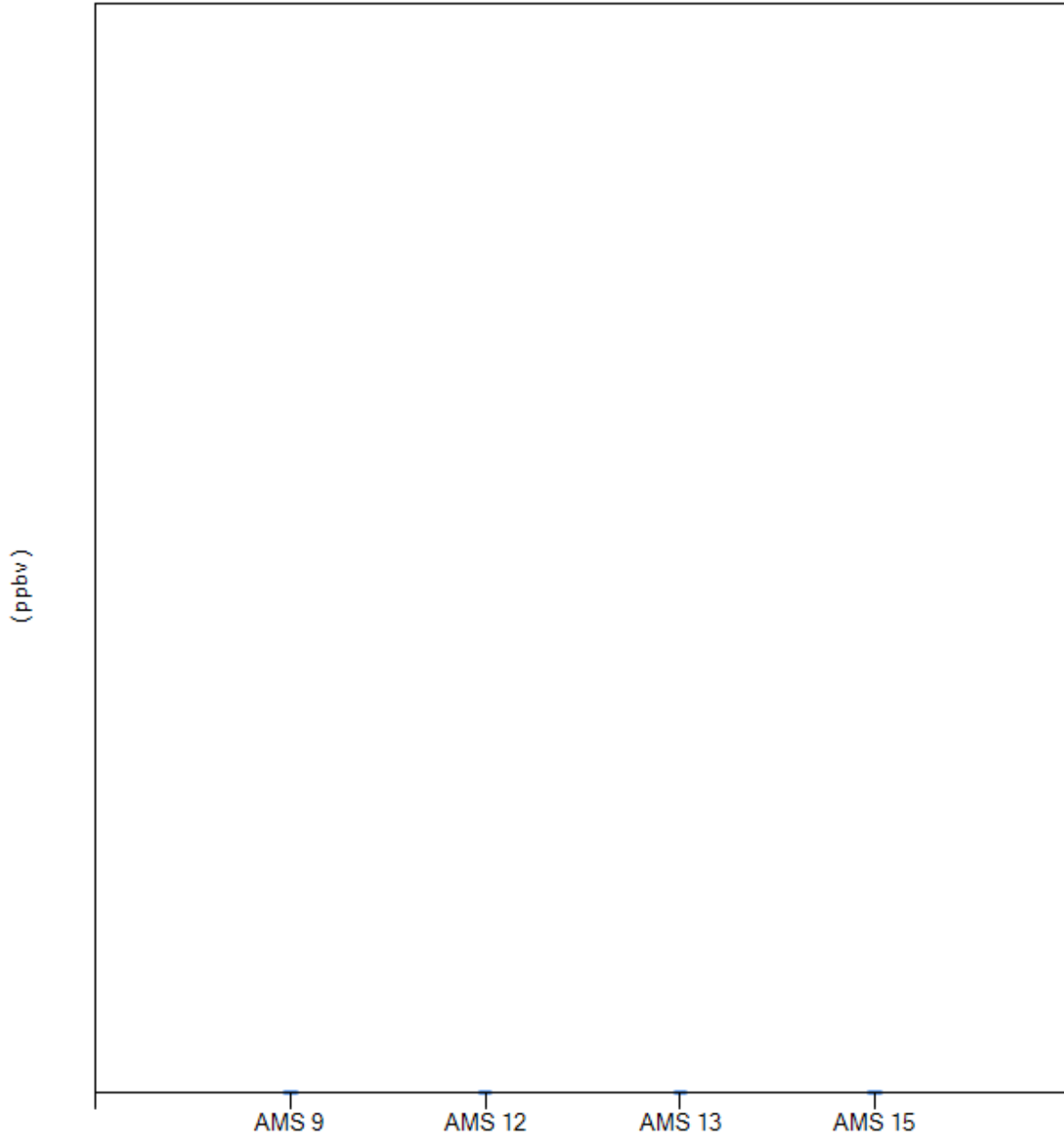
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	4	0.07





RSC - Ethyl sulphide - (ppbv) - 2014

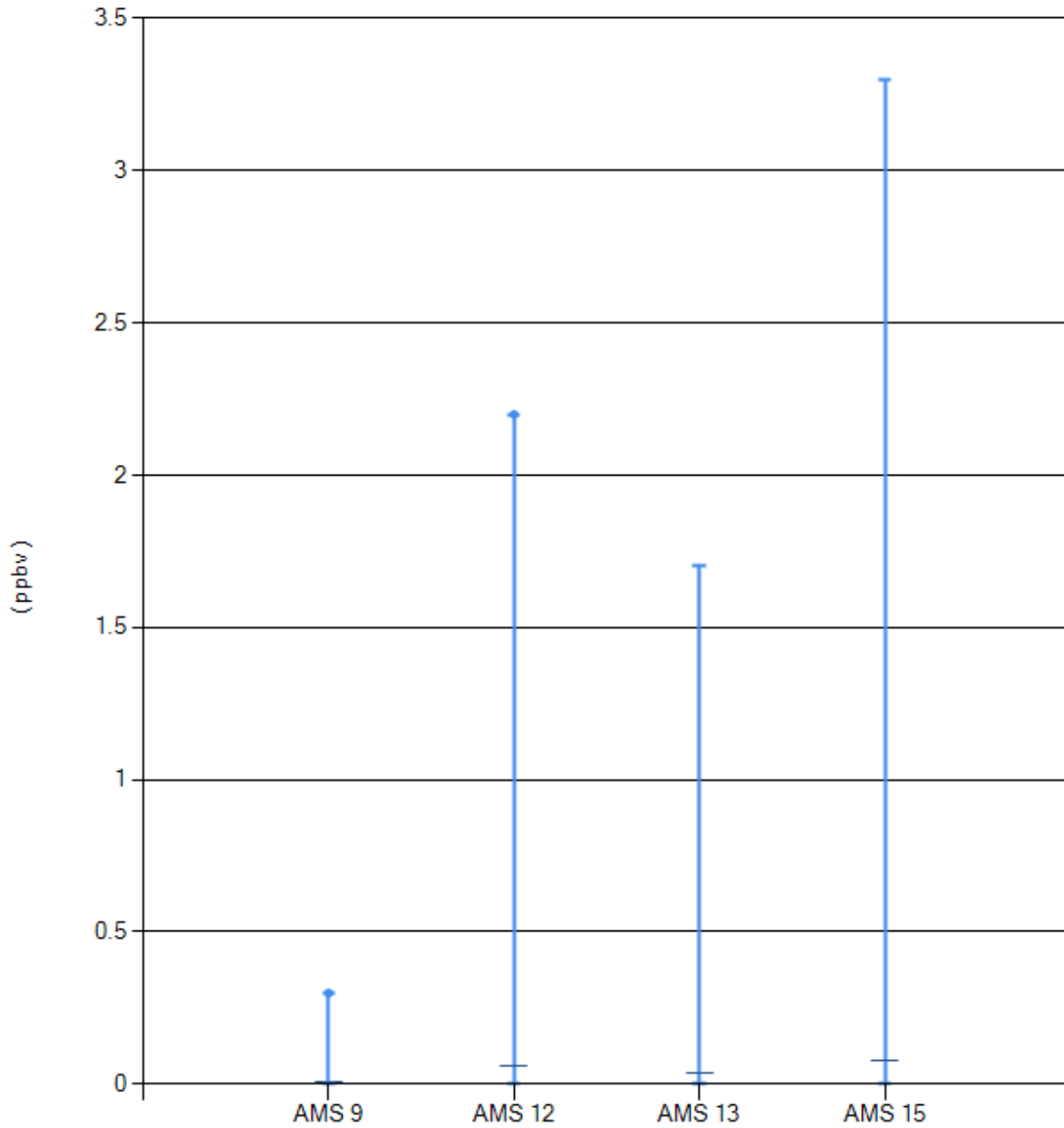
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





RSC - Hydrogen sulphide - (ppbv) - 2014

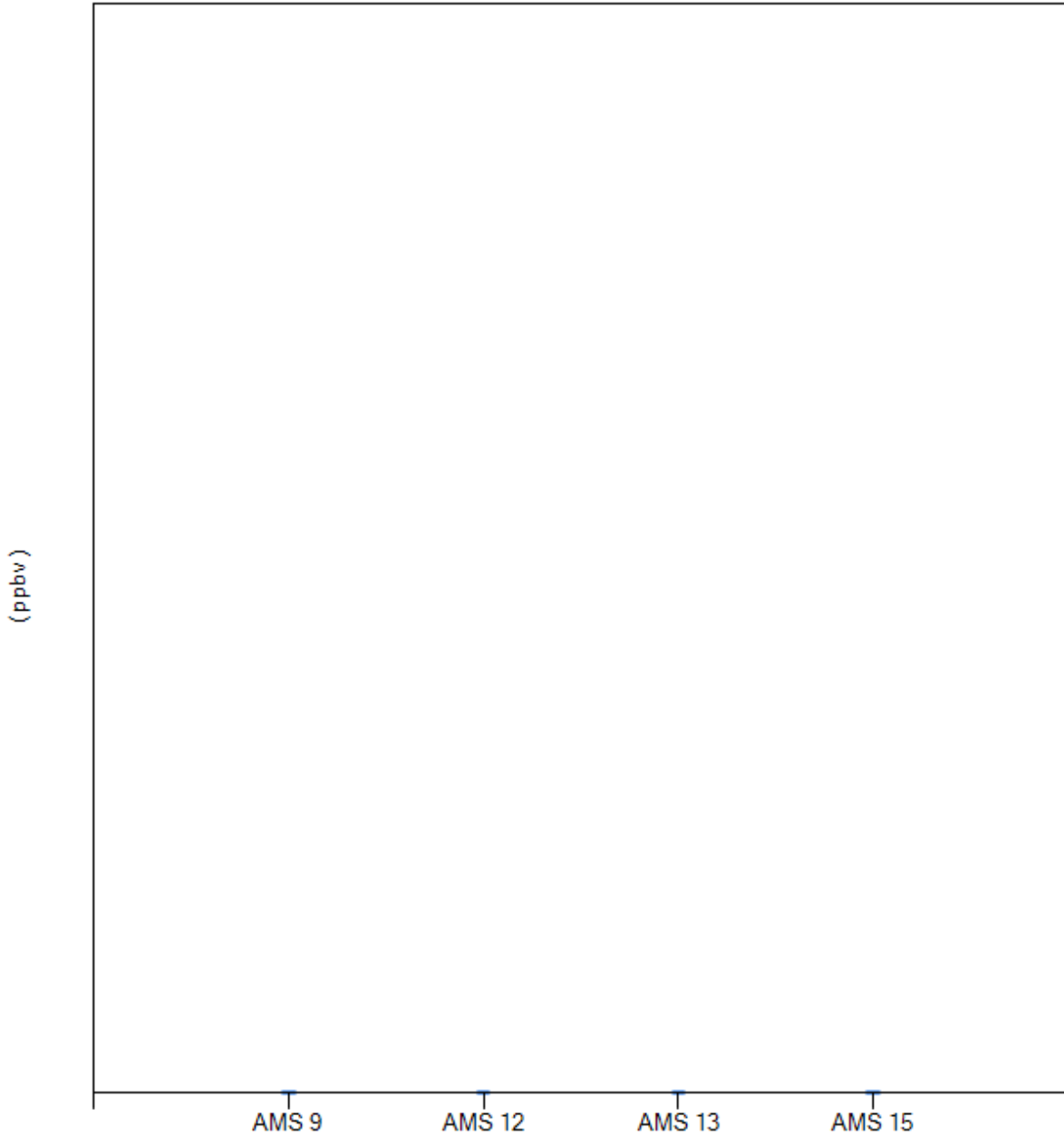
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0.3	0.01
AMS 12 Millennium	0	0	0	0	2.2	0.06
AMS 13 Fort McKay South	0	0	0	0	1.7	0.04
AMS 15 Horizon	0	0	0	0	3.3	0.08





RSC - Isobutyl mercaptan - (ppbv) - 2014

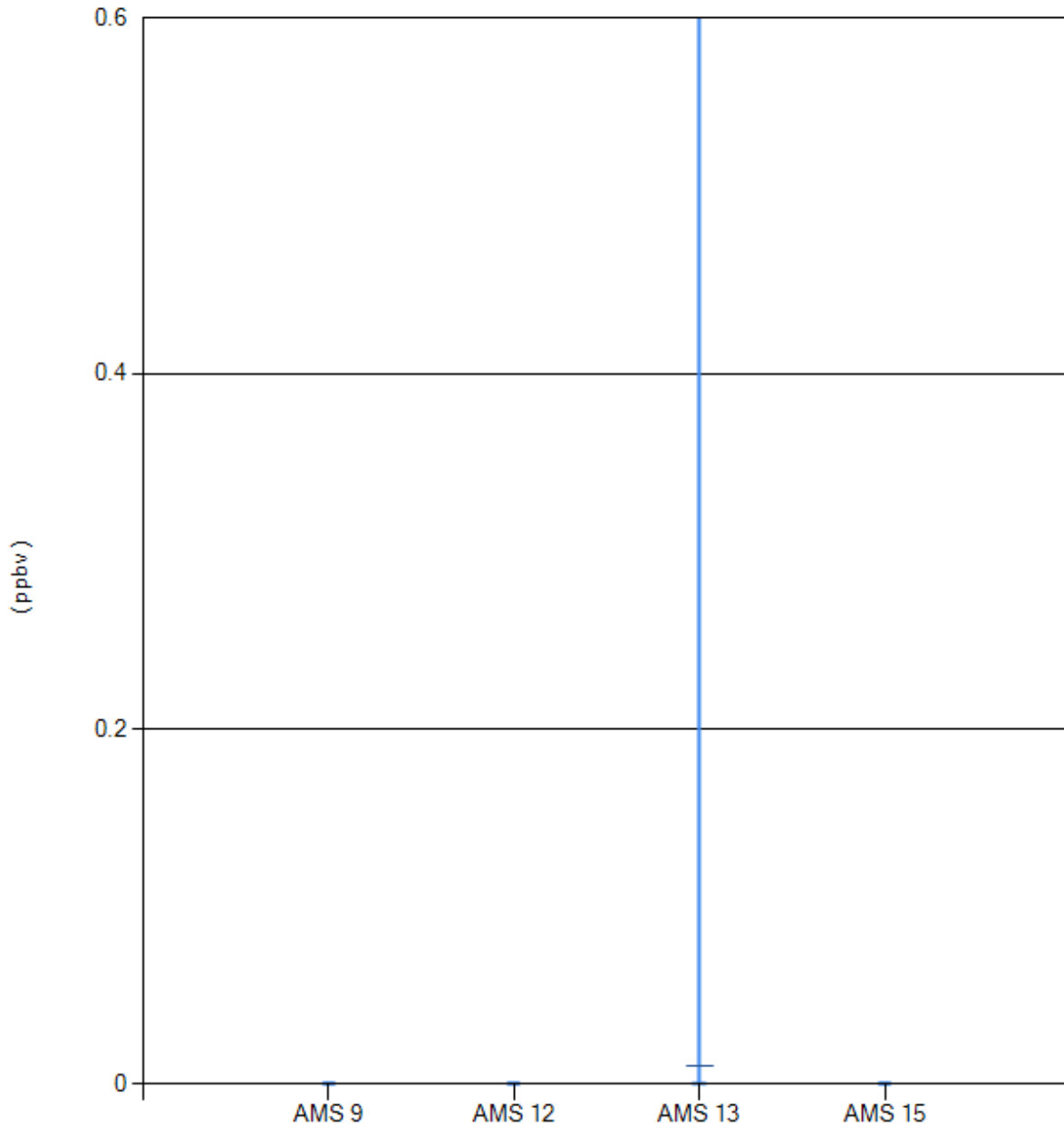
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





RSC - Isopropyl mercaptan - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0.6	0.01
AMS 15 Horizon	0	0	0	0	0	0

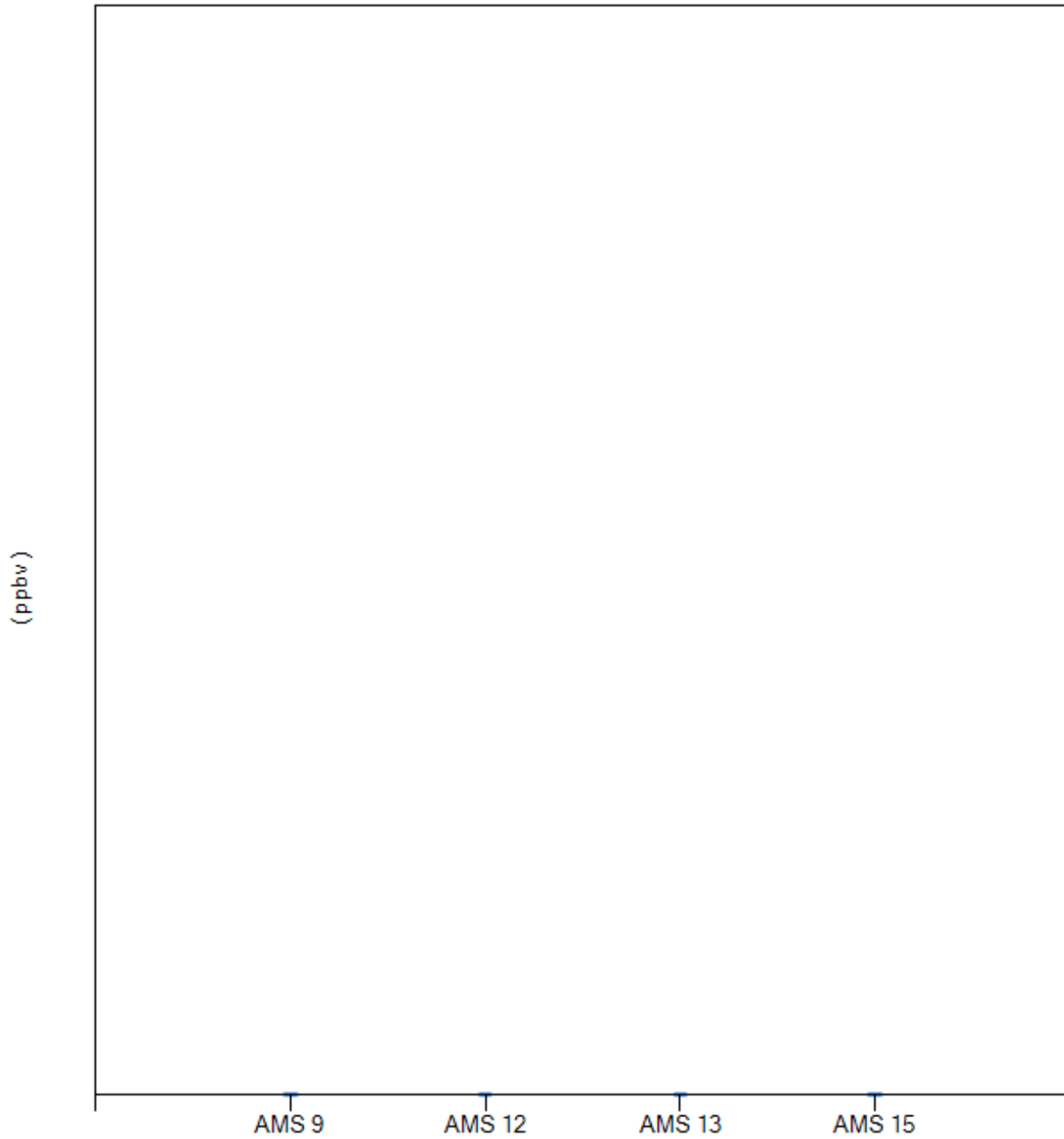






RSC - Methyl mercaptan - (ppbv) - 2014

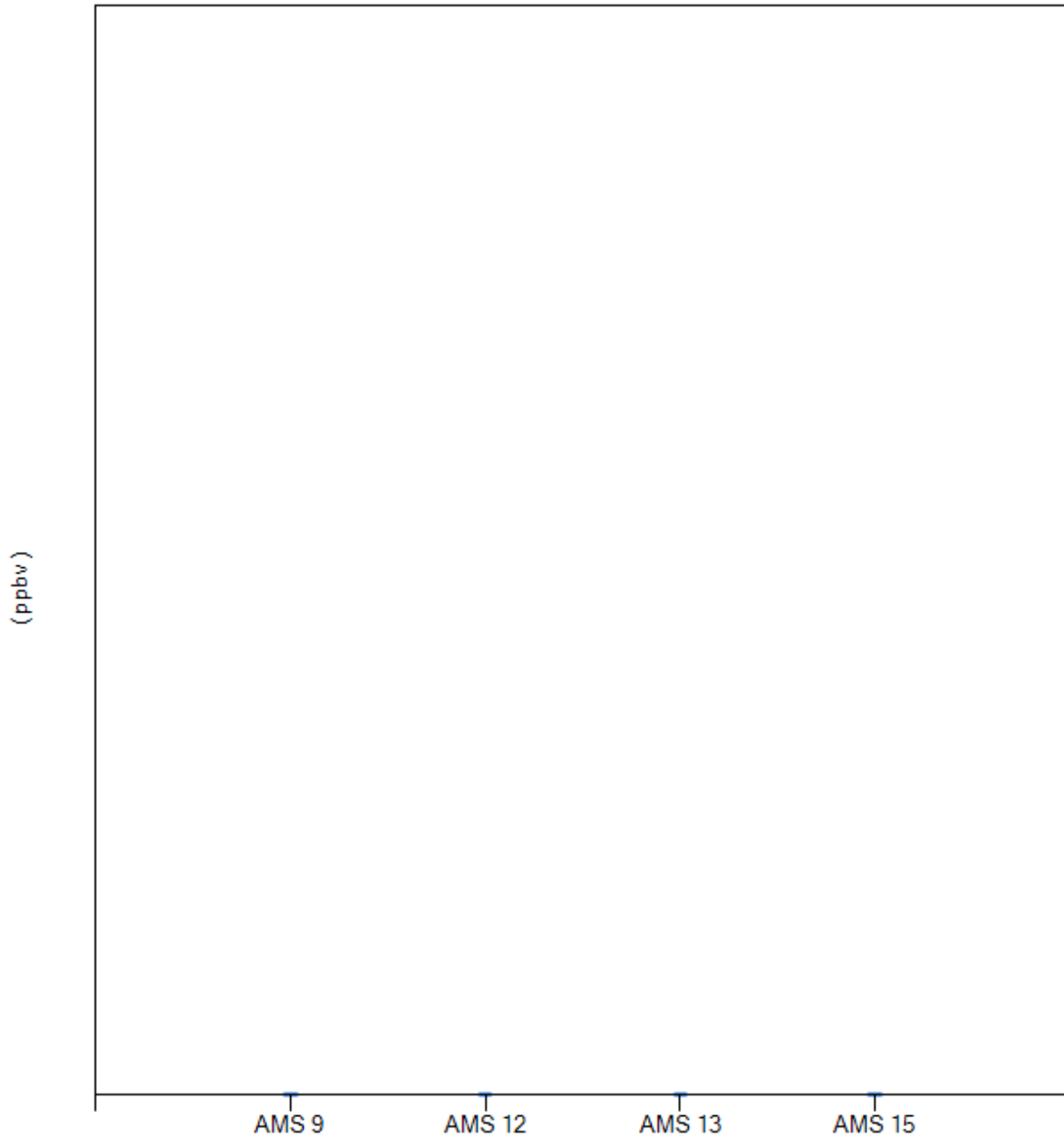
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





RSC - Pentyl mercaptan - (ppbv) - 2014

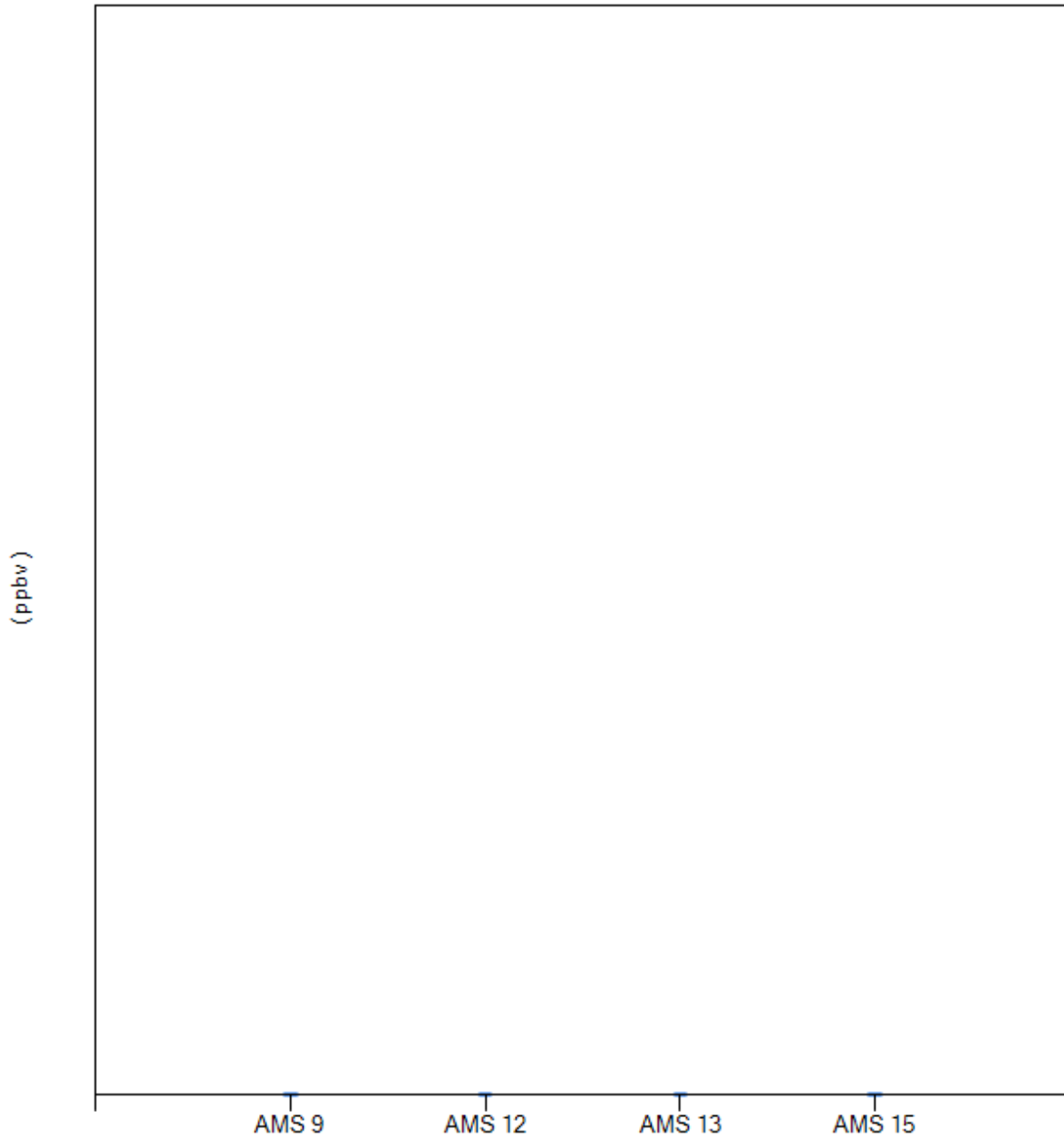
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





RSC - Propyl mercaptan - (ppbv) - 2014

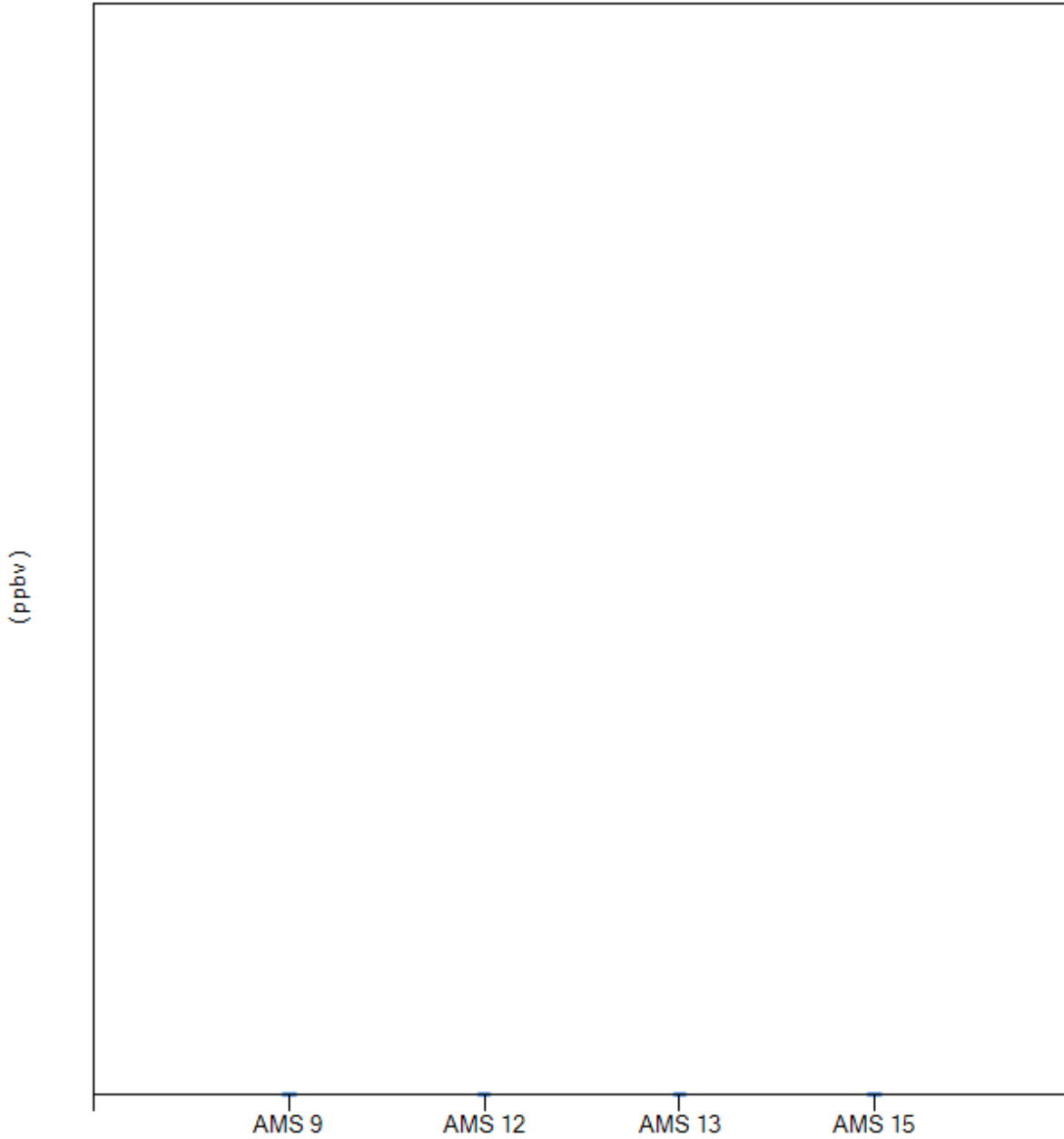
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





RSC - sec-Butyl mercaptan - (ppbv) - 2014

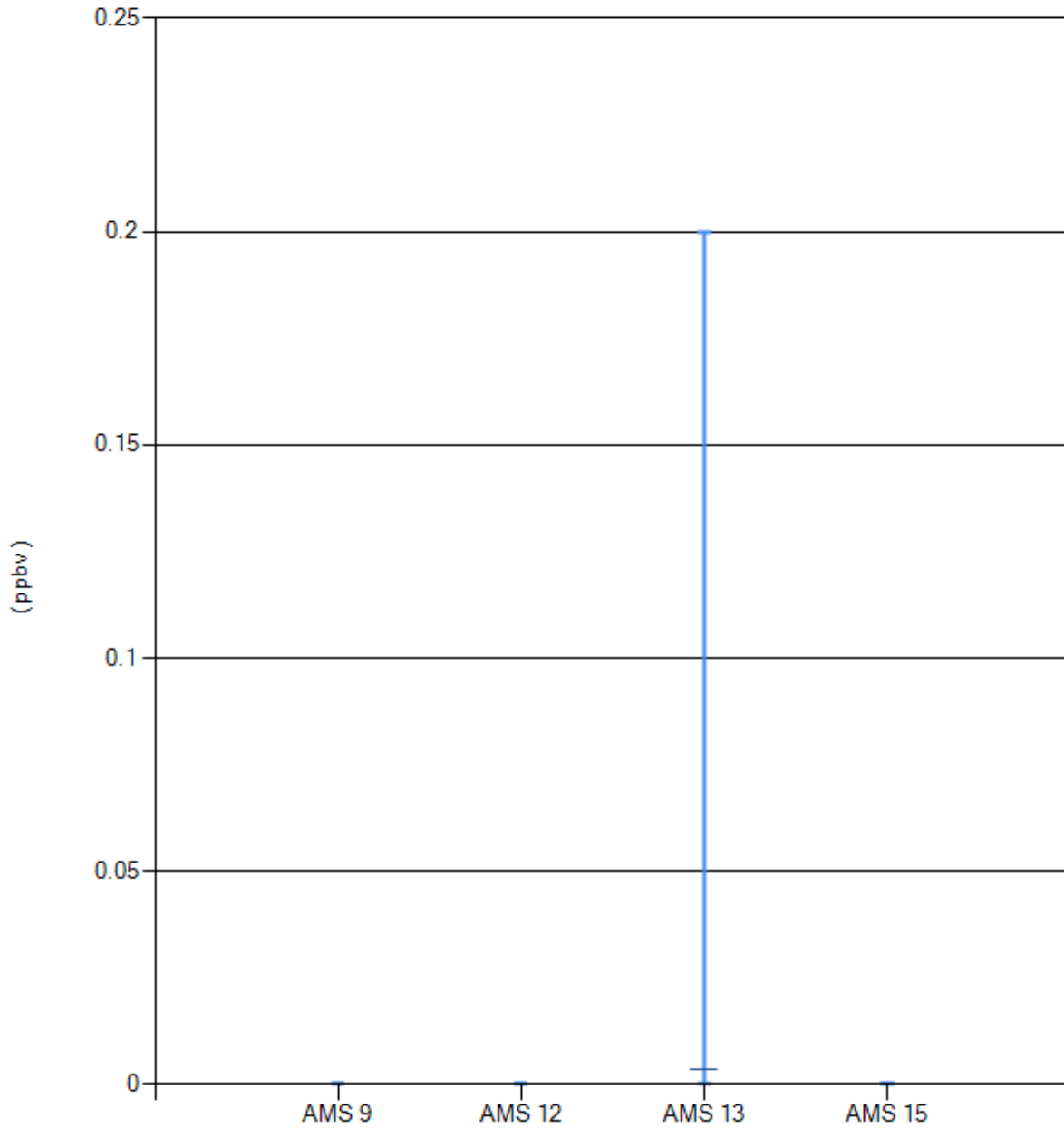
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





RSC - tert-Butyl mercaptan - (ppbv) - 2014

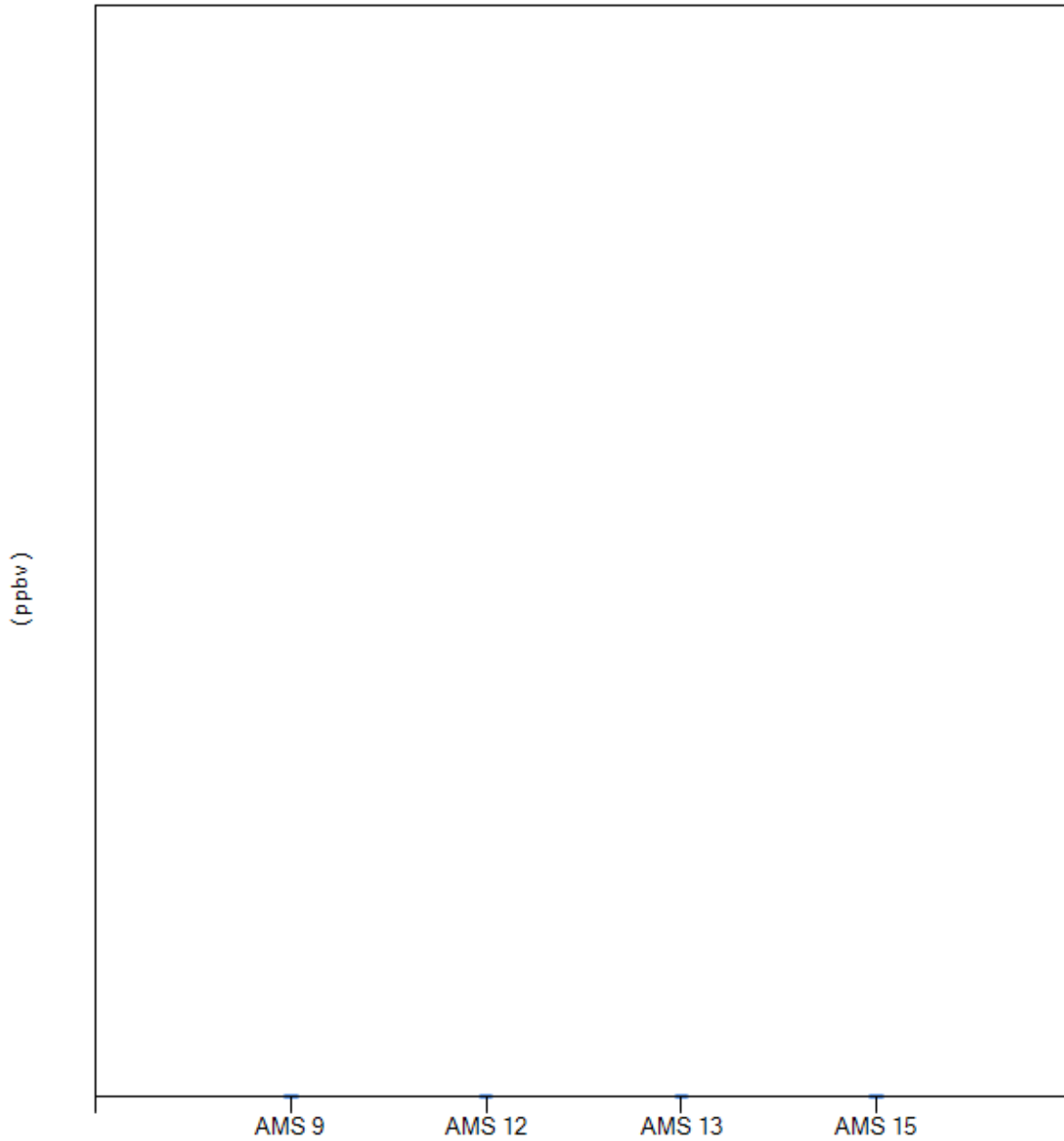
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0.2	0
AMS 15 Horizon	0	0	0	0	0	0





RSC - tert-Pentyl mercaptan - (ppbv) - 2014

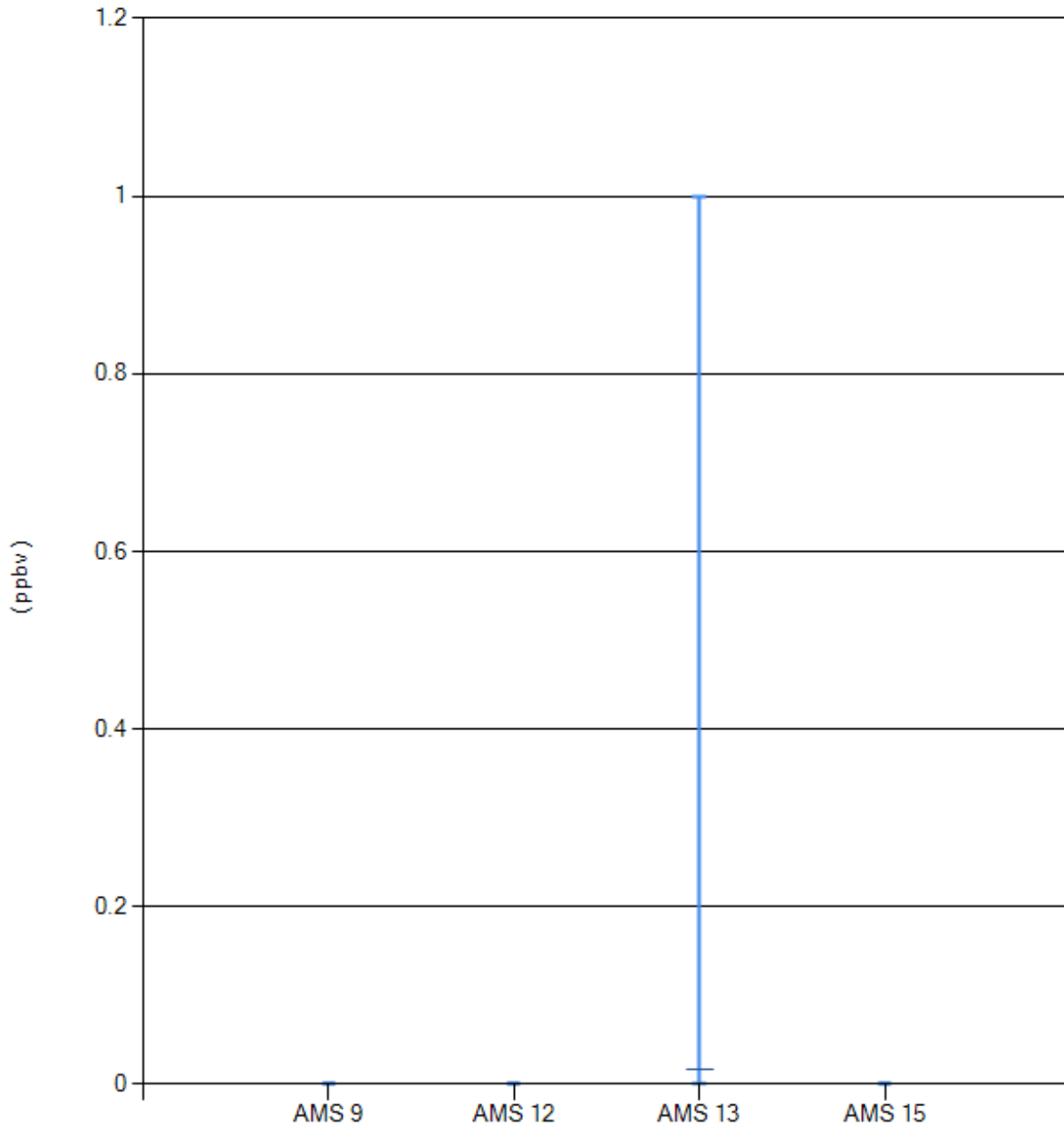
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0





RSC - Thiophene - (ppbv) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 9 Barge Landing	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	1	0.02
AMS 15 Horizon	0	0	0	0	0	0





## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

### **INTEGRATED MONITORING PROGRAM ANNUAL REPORT**

### **PARTICULATE MATTER - METALS DATA SUMMARY 2014**

Prepared  
March 12, 2015

**SAMPLE COLLECTION BY:**

**Wood Buffalo Environmental Association**  
Fort McMurray, Alberta

**LABORATORY ANALYSIS BY:**

PM metals: ALS Canada Ltd  
Burlington, Ontario

**DATA COMPILATION BY:**

Aurora Atmospherics Inc.  
Calgary, Alberta



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Station # Station Name Sample Date PM Size(µm) Total Air Volume (M3)	MDL	Lab Blank Filters		Travel Blank Filters	
		05-Jan N/A	05-Jan pm2.5	05-Jan pm2.5	24
Unit		ug		µg/sample	
Particulate Matter	1	274		30.8	
Aluminum	0.2	1.833391031		0.641608781	
Arsenic	0.005	0.009905531		0.005347875	
Barium	0.005	0.0651105		0.0063315	
Beryllium	0.005	<		<	
Boron	0.2	0.421964156		0.382558125	
Cadmium	0.005	<		<	
Chromium	0.02	0.04547925		0.061752938	
Cobalt	0.002	0.005998688		0.0028275	
Copper	0.01	0.948161625		0.017761031	
Iron	0.2	5.765731031		0.232752188	
Lead	0.005	0.031976719		0.011311125	
Manganese	0.002	0.152356781		0.033197438	
Molybdenum	0.002	0.027330563		0.019719938	
Nickel	0.02	0.040602		<	
Phosphorus	5	<		<	
Silver	0.002	<		<	
Strontium	0.005	0.020295281		<	
Titanium	0.02	0.052165313		<	
Uranium	0.002	<		<	
Vanadium	0.02	0.081790688		<	
Zinc	0.02	0.498315656		0.573410438	

Station # Station Name Sample Date PM Size(µm) Total Air Volume (M3)	AMS 1 Bertha Ganter 05-Jan pm10 24	AMS 12 Millennium 05-Jan pm10 24	AMS 13 Fort McKay South 05-Jan pm10 24	AMS 15 Horizon 05-Jan pm10 24	AMS 16 Muskeg River 05-Jan pm10 24	Travel Blank Filters 05-Jan pm10 24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	11.4	11.4	8.46	67.5	17.5	-41.9
Aluminum	0.0764	0.0962	0.0594	0.0589	0.0738	0.782383594
Arsenic	0.000413	0.000272	0.000228	0.000521	0.000284	0.008229469
Barium	0.00271	0.00195	0.00173	0.00146	0.00118	0.016544156
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0176	0.0179	0.017	0.0152	0.0162	0.430256813
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00189	0.00254	0.00232	0.00268	0.00252	0.1498485
Cobalt	0.00025	0.000376	0.000196	0.000241	0.00017	0.009273563
Copper	0.0395	0.00216	0.0075	0.00307	0.00133	0.016820344
Iron	0.24	0.343	0.147	0.155	0.162	0.253198781
Lead	0.00133	0.00147	0.00124	0.00295	0.00128	0.019157344
Manganese	0.00635	0.0069	0.00457	0.00528	0.00466	0.688638469
Molybdenum	0.00114	0.000552	0.000731	0.000749	0.000909	0.056035688
Nickel	0.00169	<0.000833	0.00112	0.00139	<0.000833	0.022393969
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.000846	0.000702	0.000573	0.000476	0.000515	0.005707969
Titanium	0.00217	0.00262	0.00191	<0.000833	<0.000833	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00341	0.00106	0.00245	0.0015	0.00104	0.038521219
Zinc	0.0208	0.0244	0.0127	0.022	0.0248	0.946486969



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Particulate Matter - Metals

2014  
Indicated Sites and Dates

Station #	AMS 1	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Athabasca Valley	Anzac		11-Jan	11-Jan
Sample Date	11-Jan	11-Jan	11-Jan		11-Jan	11-Jan
PM Size(µm)	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	3.97	5.67	2.03	1	95.2	8.17
Aluminum	0.0299	0.0285	0.0492	0.2	0.718108125	0.405700313
Arsenic	0.00227	<0.000208	<0.000208	0.005	0.054528375	<
Barium	0.000639	0.0019	0.000602	0.005	0.015330563	<
Beryllium	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0264	0.0201	0.0192	0.2	0.633501938	0.49651125
Cadmium	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00247	0.0034	0.00281	0.02	0.059160375	0.073868531
Cobalt	0.000258	0.000229	0.000213	0.002	0.006192563	0.002571656
Copper	0.022	0.00381	0.00597	0.01	0.528275719	0.074875688
Iron	0.0505	0.06	0.0488	0.2	1.211607375	0.602435906
Lead	0.00105	0.00114	0.00108	0.005	0.025141031	0.005442
Manganese	0.00473	0.00426	0.00341	0.002	0.113622844	0.092607281
Molybdenum	0.00189	0.000235	0.000285	0.002	0.045291188	0.014586188
Nickel	<0.000833	0.0011	0.00107	0.02	<	<
Phosphorus	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.000336	0.000413	<0.000208	0.005	0.008052563	<
Titanium	<0.000833	<0.000833	<0.000833	0.02	<	<
Uranium	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000833	0.00096	0.000836	0.02	<	<
Zinc	0.0255	0.0606	0.0219	0.02	0.611968219	1.126370813

Station #	AMS 1	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	11-Jan
Sample Date	11-Jan	11-Jan	11-Jan	11-Jan	11-Jan	11-Jan	11-Jan	11-Jan
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24.1	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	38.6	9.29	2.05	7.63	6.13	2.88	4.03	4.17
Aluminum	0.0672	0.103	0.0215	0.12	0.0453	0.0738	0.072	0.646483313
Arsenic	0.00205	0.000361	<0.000208	0.0005	0.00161	<0.000208	0.000256	<
Barium	0.00116	0.00843	0.000392	0.00182	0.000912	0.00153	0.000924	0.006377625
Beryllium	<0.000208	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0227	0.0212	0.0208	0.0195	0.0188	0.0202	0.0198	0.537373313
Cadmium	0.000238	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00261	0.00412	0.00347	0.00305	0.00274	0.00316	0.00371	0.067563375
Cobalt	0.000208	0.000244	0.000194	0.000318	0.000282	0.000189	0.000213	0.0035685
Copper	0.029	0.0198	0.0161	0.00167	0.00195	0.00671	0.00105	0.130550063
Iron	0.14	0.232	0.0294	0.305	0.0931	0.156	0.187	0.435293813
Lead	0.000894	0.00129	0.000633	0.000755	0.000836	0.0011	0.000673	0.01330125
Manganese	0.00497	0.0122	0.00282	0.00723	0.00911	0.0035	0.00464	0.135688594
Molybdenum	0.000736	0.00059	0.000355	0.000331	0.000132	0.000349	0.000392	0.027844688
Nickel	<0.000833	0.00136	0.000977	0.00109	0.00117	<0.000833	0.00248	<
Phosphorus	<0.208	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.000491	0.00306	<0.000208	0.000796	0.000417	0.000507	0.000486	<
Titanium	0.000924	0.0019	<0.000833	0.00156	<0.000833	<0.000833	0.00185	<
Uranium	<0.0000833	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00126	0.00194	0.000951	0.00131	0.000993	0.00103	0.000852	<
Zinc	0.0237	0.0388	0.018	0.0228	0.0186	0.0217	0.0248	0.45553575



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		17-Jan	17-Jan
Sample Date	17-Jan	17-Jan	17-Jan	17-Jan			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24

Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	1.5	1.84	2.48	1.18	1	36.1	1.75
Aluminum	0.0266	0.0371	0.0211	0.0174	0.2	0.637909875	0.415089656
Arsenic	0.00101	0.000488	<0.000208	<0.000208	0.005	0.024258281	<
Barium	0.00058	0.0021	0.000844	0.00029	0.005	0.013919344	0.00543825
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0245	0.0176	0.0174	0.0172	0.2	0.588898219	0.459446438
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.0022	0.00216	0.00229	0.00199	0.02	0.052688625	0.054807469
Cobalt	0.000248	0.000152	0.000218	0.000161	0.002	0.005951625	0.005157656
Copper	0.015	0.00313	0.00819	0.00419	0.01	0.359473125	0.021243188
Iron	0.0654	0.0496	0.0333	<0.00833	0.2	1.568539125	0.208988813
Lead	0.00396	0.000657	0.000931	0.00117	0.005	0.094969031	0.017674125
Manganese	0.00537	0.00347	0.00395	0.00214	0.002	0.128993906	7.450266469
Molybdenum	0.00128	0.000189	0.000086	0.000401	0.002	0.030645938	0.016961344
Nickel	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	<0.000208	<0.000208	<0.000208	0.000429	0.005	<	<
Titanium	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Zinc	0.0345	0.0122	0.0289	0.00856	0.02	0.82833075	0.154190063

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	17-Jan
Sample Date	17-Jan	17-Jan	17-Jan	17-Jan	17-Jan	17-Jan	17-Jan	17-Jan	17-Jan
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24.1	24	24	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	5.54	63.3	3.46	2.63	5.46	0.963	5.83	4.5	5.08	
Aluminum	0.0417	0.0439	0.0478	0.0341	0.101	0.0407	0.0322	0.0837	0.460760156	
Arsenic	0.000417	<0.000208	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<	
Barium	0.00101	0.00112	0.00215	0.00063	0.00159	0.000392	0.000838	0.00117	0.005358375	
Beryllium	<0.000208	<0.000208	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<	
Boron	0.0208	0.0169	0.0189	0.0136	0.0173	0.0197	0.0166	0.0191	0.431320594	
Cadmium	<0.000208	<0.000208	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<	
Chromium	0.00227	0.00267	0.00276	0.00147	0.00246	0.00258	0.00194	0.00227	0.042292594	
Cobalt	0.000505	0.000123	0.000357	0.000192	0.000135	0.000115	0.0000915	0.000248	0.003011625	
Copper	0.0245	0.00493	0.00956	0.0167	0.00139	0.00164	0.00178	0.00253	0.013333219	
Iron	0.0876	0.059	0.181	0.0219	0.207	0.0715	0.0369	0.193	<	
Lead	0.000715	0.00101	0.000466	0.000864	0.000862	0.000316	0.00047	0.000587	0.014635125	
Manganese	0.00535	0.00425	0.00427	0.00535	0.00527	0.00142	0.00259	0.00494	0.082650938	
Molybdenum	0.000576	0.000148	0.000185	0.000122	0.000161	0.000353	0.000256	0.000441	0.024817219	
Nickel	0.00122	0.00111	<0.000830	0.000864	0.00089	<0.000833	<0.000833	0.000967	<	
Phosphorus	<0.208	<0.208	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<	
Silver	<0.0000833	<0.0000833	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<	
Strontium	0.000347	0.000224	0.000477	<0.000208	0.000484	<0.000208	0.000393	0.000453	<	
Titanium	<0.000833	<0.000833	<0.000830	0.0023	0.00189	<0.000833	<0.000833	0.00107	<	
Uranium	<0.0000833	<0.0000833	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<	
Vanadium	0.00171	<0.000833	<0.000830	<0.000833	<0.000833	<0.000833	<0.000833	0.00134	<	
Zinc	0.0109	0.0341	0.0225	0.0109	0.0276	0.0335	0.0122	0.0203	0.194826	



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		23-Jan	23-Jan
Sample Date	23-Jan	23-Jan	23-Jan	23-Jan			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24

Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	9.17	5.5	8.04	3.36	1	220	50
Aluminum	0.0159	0.0152	0.0234	0.0103	0.2	0.381733875	0.636013875
Arsenic	0.000539	0.000223	0.00193	<0.000208	0.005	0.012935063	<
Barium	0.00064	0.000483	0.00598	0.000439	0.005	0.015368813	0.016668281
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0216	0.0204	0.0198	0.019	0.2	0.517417688	0.486654375
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00208	0.00225	0.002	0.00212	0.02	0.050024438	0.063909094
Cobalt	0.000221	0.000121	0.00042	0.000451	0.002	0.00531375	0.008357625
Copper	0.0215	0.00149	0.0151	0.0021	0.01	0.516242063	0.057811875
Iron	0.0375	0.0277	0.26	0.0154	0.2	0.900040031	1.072855969
Lead	0.00083	0.00265	0.00344	0.000909	0.005	0.019917375	0.008716688
Manganese	0.00303	0.00262	0.0215	0.00276	0.002	0.072765281	0.329706094
Molybdenum	0.000735	<0.000833	<0.000833	<0.000833	0.002	0.01765125	0.002462063
Nickel	0.001	0.000837	0.00105	<0.000833	0.02	0.024095625	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	0.00017	<0.000833	<0.000833	<0.000833	0.002	0.004076438	<
Strontium	0.000224	<0.000208	0.000765	<0.000208	0.005	0.005376656	0.005697281
Titanium	<0.000833	<0.000833	0.00354	<0.000833	0.02	<	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Vanadium	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Zinc	0.0128	0.0219	0.0278	0.0102	0.02	0.306182719	0.400875094

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	Travel Blank Filters
Sample Date	23-Jan	23-Jan	23-Jan	23-Jan	23-Jan	23-Jan	23-Jan	23-Jan	23-Jan
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24.1	24	24	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	9.79	8.04	19.5	3.85	9.17	3.65	5.21	10.1	35.8	
Aluminum	0.0342	0.0252	0.066	0.0262	0.0671	0.0414	0.0288	0.0349	0.671287781	
Arsenic	0.000264	0.00108	0.00192	<0.000208	<0.000208	<0.000208	0.000359	0.000497	<	
Barium	0.00151	0.00148	0.0186	0.000549	0.00194	0.0014	0.000853	0.00127	0.010278656	
Beryllium	<0.000208	<0.000208	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<	
Boron	0.0195	0.0174	0.0189	0.0185	0.0193	0.0172	0.0178	0.0204	0.481723125	
Cadmium	<0.000208	<0.000208	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<	
Chromium	0.00221	0.00239	0.00274	0.00201	0.00221	0.00217	0.0023	0.00256	0.053905031	
Cobalt	0.000202	0.00608	0.000447	0.000175	0.000239	0.000233	0.000246	0.000755	0.003793688	
Copper	0.0431	0.00457	0.0197	0.00575	0.00754	0.00212	0.0114	0.00163	0.024560063	
Iron	0.0835	0.132	0.73	0.0524	0.21	0.106	0.111	0.121	0.987300375	
Lead	0.000942	0.00767	0.00313	0.000849	0.000834	0.00143	0.00131	0.000801	0.025668938	
Manganese	0.0045	0.00714	0.0244	0.00218	0.00709	0.00673	0.00268	0.00485	0.091426969	
Molybdenum	0.000147	<0.000833	0.000534	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	0.005651438	
Nickel	0.00132	0.00123	0.000966	<0.000833	0.00132	<0.000833	<0.000833	<0.000833	<	
Phosphorus	<0.208	<0.208	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<	
Silver	<0.000833	<0.000833	<0.000830	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<	
Strontium	0.000439	0.00244	0.00176	<0.000208	0.000535	0.000496	0.000359	0.000474	<	
Titanium	0.000914	<0.000833	0.011	<0.000833	0.00149	0.00477	<0.000833	0.000879	<	
Uranium	<0.000833	<0.000833	<0.000830	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<	
Vanadium	0.00235	<0.000833	<0.000830	<0.000833	0.00179	0.000869	<0.000833	<0.000833	<	
Zinc	0.0121	0.0285	0.0306	0.0127	0.03	0.0212	0.0291	0.0788	0.486581156	



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		29-Jan	29-Jan
Sample Date	29-Jan	29-Jan	29-Jan	29-Jan		N/A	29-Jan
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5			pm2.5
Total Air Volume (M3)	24	24	24.1	24			24

Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	1.71	2.71	4.73	0.417	1	41	-39
Aluminum	0.0363	0.0275	0.0576	0.0793	0.2	0.871741969	0.619449094
Arsenic	0.00131	0.000232	0.00031	<0.000208	0.005	0.031439063	<
Barium	0.000459	0.000387	0.000894	0.000461	0.005	0.011027625	0.018474094
Beryllium	<0.000208	<0.000208	<0.000207	<0.000208	0.005	<	<
Boron	0.0203	0.0168	0.0186	0.019	0.2	0.487112625	0.493570125
Cadmium	<0.000208	<0.000208	0.00031	<0.000208	0.005	<	<
Chromium	0.00183	0.00251	0.0024	0.00284	0.02	0.043854938	0.074168531
Cobalt	0.00169	0.000203	0.000204	0.000342	0.002	0.040622063	0.007450875
Copper	0.043	0.00284	0.00161	0.00344	0.01	1.032305344	0.057228094
Iron	0.0703	0.0529	0.0582	0.0825	0.2	1.687539281	1.060209094
Lead	0.00139	0.00147	0.00183	0.000988	0.005	0.033394688	0.040487156
Manganese	0.00518	0.00608	0.00272	0.00273	0.002	0.124327688	0.41858025
Molybdenum	0.000754	0.000145	0.000095	0.000181	0.002	0.018101813	0.00536325
Nickel	<0.000833	<0.000833	<0.000830	<0.000833	0.02	<	0.027906563
Phosphorus	<0.208	<0.208	<0.207	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000830	<0.0000833	0.002	<	<
Strontium	0.000446	0.000466	0.000369	0.000527	0.005	0.010706813	0.015144469
Titanium	<0.000833	<0.000833	0.00173	<0.000833	0.02	<	<
Uranium	<0.0000833	<0.0000833	<0.0000830	<0.0000833	0.002	<	<
Vanadium	<0.000833	0.00119	0.000859	0.0011	0.02	<	<
Zinc	0.0228	0.0167	0.0312	0.0302	0.02	0.546983906	0.929667469

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	29-Jan
Sample Date	29-Jan	29-Jan	29-Jan	29-Jan	29-Jan	29-Jan	29-Jan	29-Jan	29-Jan
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24.01	24	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	3.71	5.67	14	2.87	10.6	4.21	6.04	20.8		34
Aluminum	0.0885	0.101	0.144	0.0653	0.218	0.0856	0.141	0.393		0.908185688
Arsenic	0.000333	<0.000208	0.000464	0.000231	0.000334	0.00024	0.000353	0.00055		0.088638375
Barium	0.00122	0.00215	0.00412	0.00131	0.00458	0.00202	0.00202	0.00624		0.025067344
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208		<
Boron	0.0222	0.0175	0.0178	0.018	0.0183	0.0193	0.0187	0.0182		0.437478844
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208		0.014136938
Chromium	0.00252	0.00239	0.00222	0.00232	0.00266	0.00229	0.00257	0.00352		0.049287188
Cobalt	0.000173	0.000295	0.00195	0.000259	0.000678	0.0003	0.000283	0.000645		0.019951125
Copper	0.0693	0.00402	0.00836	0.00931	0.00207	0.00674	0.000892	0.00383		0.134974125
Iron	0.237	0.232	0.5	0.127	0.71	0.283	0.413	1.53		0.831362719
Lead	0.00104	0.00167	0.00286	0.00149	0.00169	0.00363	0.00132	0.00122		0.849845344
Manganese	0.00648	0.0308	0.0122	0.00603	0.0131	0.00911	0.00788	0.0324		1.266017719
Molybdenum	0.000373	0.000276	0.000343	0.000273	0.000276	<0.0000833	0.000162	0.000263		0.004692469
Nickel	<0.000833	0.00136	0.00128	<0.000833	0.00138	<0.000833	<0.000833	0.00163		<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208		<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833		<
Strontium	0.000671	0.000782	0.00141	0.000605	0.00163	0.000898	0.00106	0.00295		0.006618375
Titanium	0.00169	0.00295	0.00497	<0.000833	0.00591	0.00238	0.00311	0.0154		<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833		<
Vanadium	0.0012	0.00307	0.00199	0.00109	0.00167	0.000952	0.00174	0.00232		<
Zinc	0.0139	0.024	0.0249	0.0247	0.0243	0.0154	0.00727	0.0253		0.669516



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Station #	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Patricia McInnes	Athabasca Valley	Anzac		04-Feb	04-Feb
Sample Date	04-Feb	04-Feb	04-Feb			
PM Size(µm)	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	3.33	5.08	3.79	1	89	63
Aluminum	0.0353	0.0505	0.033	0.2	1.029052219	0.54178425
Arsenic	0.000457	0.000284	<0.000208	0.005	0.007732313	<
Barium	0.00113	0.00162	0.00103	0.005	0.042325969	<
Beryllium	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0186	0.0291	0.0272	0.2	0.486464906	0.607229156
Cadmium	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00188	0.00285	0.00204	0.02	0.038218781	0.043934625
Cobalt	0.000212	0.000724	0.000248	0.002	0.015738656	0.004516031
Copper	0.00541	0.00366	0.0113	0.01	1.717349813	0.017821781
Iron	0.07	0.0714	0.035	0.2	1.950779531	0.967321688
Lead	0.00619	0.00238	0.00084	0.005	0.065912719	0.006404813
Manganese	0.00369	0.00356	0.00257	0.002	0.099891844	0.076818844
Molybdenum	<0.0000833	0.000524	<0.0000833	0.002	<	0.008998594
Nickel	<0.000833	0.000928	<0.000833	0.02	<	<
Phosphorus	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	<0.000208	0.00103	<0.000208	0.005	0.008445469	<
Titanium	<0.000833	<0.000833	<0.000833	0.02	<	<
Uranium	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000833	<0.000833	<0.000833	0.02	<	<
Zinc	0.021	0.0253	0.0196	0.02	0.393986438	0.321773719

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	
Sample Date	04-Feb	04-Feb	04-Feb	04-Feb	04-Feb	04-Feb	04-Feb	04-Feb	04-Feb
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	3.69	3.58	10.4	3.21	5.75	2.08	5.63	7.71	3
Aluminum	0.0427	0.0363	0.0475	0.0343	0.102	0.0362	0.129	0.027	0.325335281
Arsenic	0.000321	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Barium	0.00176	0.000663	0.00325	0.000552	0.0023	0.000516	0.00172	0.000898	0.006049594
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0202	0.0243	0.0254	0.0284	0.0295	0.0292	0.0289	0.0269	0.667802156
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00159	0.00166	0.00156	0.00142	0.00214	0.00161	0.00252	0.00159	0.035718844
Cobalt	0.000653	0.000161	0.000392	0.000252	0.000277	0.000184	0.000388	0.000341	0.002324906
Copper	0.0713	0.00495	0.00424	0.0634	0.00189	0.00728	0.00241	0.0127	0.025755563
Iron	0.0809	0.064	0.14	0.0416	0.31	0.0724	0.211	0.0483	0.337060219
Lead	0.00273	0.000689	0.00176	0.000845	0.00092	0.00126	0.000882	<0.000208	0.006993188
Manganese	0.00414	0.00221	0.0109	0.0048	0.00866	0.00772	0.00695	0.00595	0.03268275
Molybdenum	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.000309	<0.0000833	0.018046594
Nickel	<0.000830	<0.000833	<0.000833	<0.000833	0.00142	<0.000833	<0.000833	<0.000833	<
Phosphorus	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00035	0.000237	0.000575	0.000286	0.000647	0.000561	0.000755	0.000762	0.048373313
Titanium	<0.000830	<0.000833	0.00221	0.00174	0.00217	<0.000833	0.00187	<0.000833	<
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	<0.000830	<0.000833	<0.000833	<0.000833	0.00126	<0.000833	<0.000833	<0.000833	<
Zinc	0.0163	0.0159	0.0158	0.013	0.02	0.0141	0.0403	0.0176	0.119657344



Station #	AMS 1	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Athabasca Valley	Anzac		10-Feb	10-Feb
Sample Date	10-Feb	10-Feb	10-Feb		N/A	10-Feb
PM Size(µm)	pm2.5	pm2.5	pm2.5			pm2.5
Total Air Volume (M3)	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	11.5	8.46	5.5	1	276	-3
Aluminum	0.0373	0.0588	0.0292	0.2	0.894312844	0.255729844
Arsenic	0.000218	<0.000208	<0.000208	0.005	0.005225906	<
Barium	0.00243	0.0025	0.00107	0.005	0.058248375	<
Beryllium	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0226	0.0219	0.0189	0.2	0.541434563	0.459661969
Cadmium	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00268	0.00288	0.00146	0.02	0.064278563	0.037507313
Cobalt	0.000458	0.000192	0.000108	0.002	0.010989844	0.002378719
Copper	0.0294	0.00526	0.13	0.01	0.705891281	0.010812281
Iron	0.111	0.128	0.0538	0.2	2.667402469	<
Lead	0.00161	0.00122	0.000814	0.005	0.03873375	0.005531156
Manganese	0.0051	0.00628	0.0024	0.002	0.122517281	0.053172938
Molybdenum	0.000605	0.000905	0.000232	0.002	0.014525438	0.010582875
Nickel	0.00138	0.00129	<0.000833	0.02	0.033090281	<
Phosphorus	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.000544	0.000617	0.000292	0.005	0.013050094	<
Titanium	<0.000833	0.00106	<0.000833	0.02	<	<
Uranium	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	0.00106	0.00116	0.000853	0.02	0.025340063	<
Zinc	0.0249	0.0596	0.0333	0.02	0.597251625	0.148184156

Station #	AMS 1	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	10-Feb
Sample Date	10-Feb	10-Feb	10-Feb	10-Feb	10-Feb	10-Feb	10-Feb	10-Feb
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24.1	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	15.8	15.4	8.83	32.3	25.2	43.1	22.3	34
Aluminum	0.177	0.117	0.057	0.378	0.136	0.203	0.323	0.365529563
Arsenic	0.000224	0.000216	0.000252	0.000459	0.000454	0.000349	0.000331	<
Barium	0.00442	0.011	0.00635	0.00978	0.00355	0.00476	0.00691	0.006199406
Beryllium	<0.000208	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0208	0.0218	0.0216	0.0235	0.0211	0.0205	0.0212	0.467040844
Cadmium	<0.000208	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00596	0.00269	0.00242	0.00327	0.00277	0.00184	0.0023	0.036794438
Cobalt	0.000292	0.000843	0.000163	0.000748	0.00271	0.000401	0.000579	<
Copper	0.0819	0.033	0.615	0.00478	0.00717	0.00277	0.0106	0.013301063
Iron	0.552	0.583	0.234	1.76	0.341	0.55	1.17	<
Lead	0.00094	0.00333	0.00124	0.00191	0.00656	0.00235	0.00157	<
Manganese	0.0138	0.0181	0.00429	0.0327	0.0117	0.0145	0.0301	0.025242469
Molybdenum	0.000899	0.000635	0.000339	0.000869	0.000587	0.000743	0.000681	0.025094625
Nickel	0.00223	0.00578	0.000919	0.00285	0.00128	0.00138	0.00175	<
Phosphorus	<0.208	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000830	0.000266	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00152	0.00205	0.000947	0.00329	0.00132	0.0016	0.00327	<
Titanium	0.0054	0.00571	0.00136	0.0123	0.00419	0.00538	0.013	<
Uranium	<0.0000833	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.0021	0.00208	0.00138	0.00534	0.00141	0.00275	0.00255	<
Zinc	0.0192	0.0392	0.0181	0.0381	0.0244	0.0296	0.0419	0.160682906





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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		16-Feb	16-Feb
Sample Date	16-Feb	16-Feb	16-Feb	16-Feb			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	12	8.83	11.3	7.67	1	287	276
Aluminum	0.0383	0.0491	0.0429	0.0281	0.2	0.92035125	0.603065156
Arsenic	0.00065	0.000248	0.00024	0.000286	0.005	0.015601969	0.005587594
Barium	0.00108	0.00156	0.00222	0.00078	0.005	0.025909688	0.017701219
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0261	0.0241	0.0223	0.0231	0.2	0.62689275	0.519861281
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00276	0.00229	0.00346	0.00251	0.02	0.066277875	0.071051438
Cobalt	0.000443	0.000284	0.000355	0.000286	0.002	0.010625719	0.010130625
Copper	0.0269	0.0484	0.00887	0.00537	0.01	0.645461438	0.04412025
Iron	0.142	0.0678	0.113	0.0465	0.2	3.396792563	3.479288719
Lead	0.0017	0.00111	0.00158	0.000958	0.005	0.040705031	0.01214325
Manganese	0.00853	0.00409	0.00598	0.00278	0.002	0.204627938	0.122128125
Molybdenum	0.00158	0.000514	0.000546	0.000562	0.002	0.038032313	0.025991063
Nickel	0.000864	0.000884	<0.000833	<0.000833	0.02	0.020728406	0.031830938
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	0.000114	<0.000833	<0.000833	<0.000833	0.002	0.002732063	<
Strontium	0.000507	0.000426	0.000529	0.000281	0.005	0.012177281	0.005307469
Titanium	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Vanadium	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Zinc	0.0431	0.0244	0.0571	0.0194	0.02	1.034616375	0.962724188

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Horizon	Muskeg River	
Sample Date	16-Feb	16-Feb	16-Feb	16-Feb	16-Feb	16-Feb	16-Feb	16-Feb
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24.1	24.004	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	14.8	9.79	12	8.12	16	18	22.2	281
Aluminum	0.104	0.0842	0.0532	0.0522	0.138	0.129	0.185	0.821988281
Arsenic	0.000534	0.00022	0.000246	0.000245	0.000403	0.000414	0.00057	0.007320844
Barium	0.00283	0.0038	0.00577	0.00211	0.00452	0.004	0.00446	0.014699719
Beryllium	<0.000208	<0.000208	<0.000207	<0.000208	0.000213	<0.000208	<0.000208	<
Boron	0.0245	0.024	0.0243	0.0245	0.0238	0.0244	0.0257	0.594452719
Cadmium	<0.000208	<0.000208	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.0036	0.00394	0.00351	0.0033	0.00399	0.0038	0.00816	0.063652969
Cobalt	0.000257	0.000843	0.000284	0.000272	0.000658	0.000402	0.000838	0.010444875
Copper	0.047	0.0558	0.0422	0.0252	0.00276	0.00348	0.00433	0.076033594
Iron	0.293	0.169	0.246	0.0901	0.438	0.419	0.855	1.451038125
Lead	0.00156	0.00183	0.00172	0.00107	0.00149	0.00134	0.00217	0.011531906
Manganese	0.009	0.00835	0.00831	0.00371	0.0118	0.0102	0.0193	0.090315375
Molybdenum	0.000883	0.000548	0.000745	0.000463	0.00079	0.00125	0.00145	0.065717344
Nickel	0.00131	0.00114	0.000919	<0.000833	0.00153	0.00115	0.00168	0.026640938
Phosphorus	<0.208	<0.208	<0.207	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.000833	<0.000833	<0.000830	<0.000833	<0.000833	<0.000833	<0.000833	<
Strontium	0.000843	0.000911	0.000748	0.000547	0.00145	0.00105	0.00155	0.005268188
Titanium	0.00306	0.00104	0.00292	<0.000833	0.00271	0.00314	0.00852	<
Uranium	<0.000833	<0.000833	<0.000830	<0.000833	0.000179	<0.000833	<0.000833	<
Vanadium	0.00173	0.000938	0.000932	0.000847	0.00188	0.00215	0.00226	<
Zinc	0.0381	0.0566	0.0319	0.0164	0.0378	0.0268	0.0336	0.381765469



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Station #	AMS 1	AMS 6	AMS 7	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley		22-Feb	22-Feb
Sample Date	22-Feb	22-Feb	22-Feb			
PM Size(µm)	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24			24

Unit	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	5.79	6.71	2.71	1	139	207
Aluminum	0.0333	0.0307	0.0197	0.2	0.799789406	0.835482938
Arsenic	0.000486	<0.000208	<0.000208	0.005	0.011673938	<
Barium	0.000603	0.000564	0.000453	0.005	0.014463656	0.024847031
Beryllium	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0227	0.0181	0.017	0.2	0.544330031	0.449369813
Cadmium	<0.000208	0.000402	<0.000208	0.005	<	<
Chromium	0.00297	0.00318	0.00225	0.02	0.071192438	0.047369906
Cobalt	0.000375	0.000316	0.000402	0.002	0.009003844	0.008409656
Copper	0.0174	0.00591	0.000648	0.01	0.41672325	0.023415844
Iron	0.0573	0.0328	0.0231	0.2	1.376247938	0.791689594
Lead	0.00145	0.00094	0.000477	0.005	0.034809469	0.015445406
Manganese	0.0115	0.0117	0.00297	0.002	0.277113281	0.056630531
Molybdenum	0.000871	0.000434	<0.000833	0.002	0.020912625	0.012388125
Nickel	0.000899	0.00127	<0.000833	0.02	0.021566719	<
Phosphorus	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.000649	0.000522	<0.000208	0.005	0.015586406	<
Titanium	<0.000833	<0.000833	<0.000833	0.02	<	0.030357281
Uranium	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000833	0.0027	<0.000833	0.02	<	<
Zinc	0.0207	0.0193	0.0146	0.02	0.496379906	0.349127344

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Horizon	Muskeg River	22-Feb
Sample Date	22-Feb	22-Feb	22-Feb	22-Feb	22-Feb	22-Feb	22-Feb	22-Feb
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	10.6	10.2	2.13	7.25	14.3	5.96	28.1	12
Aluminum	0.11	0.0884	0.0161	0.0638	0.174	0.0462	0.357	0.807073594
Arsenic	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	0.000371	<
Barium	0.00255	0.00214	0.000377	0.0014	0.0034	0.001	0.00646	0.009932625
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0226	0.0183	0.017	0.0186	0.0189	0.0195	0.0193	0.452776969
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00241	0.0029	0.00214	0.00367	0.00283	0.00276	0.00351	0.04446075
Cobalt	0.000355	0.000494	0.000281	0.000229	0.0005	0.000597	0.00107	0.005666813
Copper	0.0372	0.00846	0.00263	0.0194	0.00179	0.00126	0.0031	0.141784781
Iron	0.322	0.27	0.0232	0.169	0.733	0.121	1.44	0.805020844
Lead	0.000992	0.00152	0.000545	0.000946	0.000965	0.000869	0.00152	0.009441469
Manganese	0.0213	0.368	0.00264	0.00368	0.0127	0.00642	0.0309	0.076105219
Molybdenum	0.000307	0.000707	<0.000833	0.000379	0.000357	0.000518	0.00067	0.02699775
Nickel	0.00118	0.00151	<0.000833	0.00129	0.00161	0.00143	0.00413	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00132	0.00108	<0.000208	0.000765	0.00154	0.000816	0.0031	<
Titanium	0.0037	0.00307	<0.000833	0.00122	0.00514	<0.000833	0.016	0.02839575
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.000956	0.00389	<0.000833	0.00133	0.00143	<0.000833	0.00251	<
Zinc	0.0289	0.0207	0.0133	0.0167	0.0246	0.102	0.0332	0.427081219



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Station #	AMS 1	AMS 6	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes		28-Feb	28-Feb
Sample Date	28-Feb	28-Feb		N/A	28-Feb
PM Size(µm)	pm2.5	pm2.5			pm2.5
Total Air Volume (M3)	24	24			24
Unit	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	5.54	7.42	1	133	129
Aluminum	0.0444	0.026	0.2	1.065193969	0.451380281
Arsenic	0.000604	0.000319	0.005	0.014497313	<
Barium	0.000807	0.000833	0.005	0.019376813	0.008049563
Beryllium	<0.000208	<0.000208	0.005	<	<
Boron	0.0223	0.015	0.2	0.534085875	0.373927031
Cadmium	<0.000208	<0.000208	0.005	<	<
Chromium	0.00268	0.00284	0.02	0.064365656	0.052996313
Cobalt	0.000319	0.000332	0.002	0.007644844	0.008829938
Copper	0.0126	0.00213	0.01	0.303100781	0.014052938
Iron	0.0921	0.051	0.2	2.209964156	0.693998344
Lead	0.00247	0.00265	0.005	0.059241188	0.014300531
Manganese	0.00346	0.0022	0.002	0.083056594	0.062555531
Molybdenum	0.000866	0.000379	0.002	0.02078475	0.016067156
Nickel	0.000943	0.00106	0.02	0.022627219	<
Phosphorus	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.000745	0.000643	0.005	0.0178695	0.005247563
Titanium	<0.000833	<0.000833	0.02	<	<
Uranium	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000833	0.00284	0.02	<	<
Zinc	0.0278	0.0164	0.02	0.6671925	0.35200125

Station #	AMS 1	AMS 6	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Millennium	Fort McKay South	Horizon	Muskeg River	28-Feb
Sample Date	28-Feb	28-Feb	28-Feb	28-Feb	28-Feb	28-Feb	28-Feb
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	31.8	13.6	23.3	9.13	10.5	48.1	164
Aluminum	0.159	0.125	0.277	0.132	0.123	0.828	0.553536469
Arsenic	0.00061	0.000536	0.000492	0.000325	0.000462	0.00103	0.006001875
Barium	0.00285	0.00259	0.00673	0.00239	0.00389	0.0138	0.012667781
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0199	0.0172	0.0172	0.0162	0.0168	0.0194	0.403895156
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00301	0.00367	0.00356	0.00271	0.00408	0.00441	0.104593969
Cobalt	0.000526	0.000476	0.000744	0.000492	0.000347	0.00178	0.012086156
Copper	0.0276	0.00356	0.00292	0.00475	0.00207	0.0031	0.047410875
Iron	0.438	0.361	1.71	0.32	0.47	3.25	1.032453938
Lead	0.00386	0.00334	0.00304	0.00279	0.00317	0.00509	0.016321125
Manganese	0.0134	0.00801	0.0256	0.00684	0.0107	0.0628	0.072914063
Molybdenum	0.000624	0.000589	0.000428	0.000281	0.00067	0.000837	0.041472844
Nickel	0.00112	0.00171	0.0015	0.000905	0.00148	0.00348	0.047090344
Phosphorus	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00186	0.00177	0.00303	0.00154	0.00242	0.00675	0.00516
Titanium	0.0044	0.00403	0.0106	0.00383	0.00384	0.0392	<
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.0000833	<
Vanadium	0.00126	0.0052	0.00234	0.00106	0.00126	0.00516	<
Zinc	0.0221	0.0197	0.0201	0.0146	0.0154	0.0391	0.726879



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Station #	AMS 1	AMS 7	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Athabasca Valley		06-Mar	06-Mar
Sample Date	06-Mar	06-Mar		N/A	06-Mar
PM Size(µm)	pm2.5	pm2.5			pm2.5
Total Air Volume (M3)	27.147	24			24
Unit	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	4.05	7.4375	1	54	8.5
Aluminum	0.055	0.0678	0.2	1.49384175	0.717035531
Arsenic	<0.000184	<0.000208	0.005	<	<
Barium	0.0009	0.00254	0.005	0.024445313	0.012483469
Beryllium	<0.000184	<0.000208	0.005	<	<
Boron	0.0164	0.0179	0.2	0.445555781	0.408297188
Cadmium	<0.000184	<0.000208	0.005	<	<
Chromium	0.0035	0.00291	0.02	0.095037844	0.069700781
Cobalt	0.000156	0.000253	0.002	0.004239375	0.005500781
Copper	0.0115	0.00451	0.01	0.313293844	0.016635563
Iron	0.111	0.154	0.2	3.016248563	1.117450406
Lead	0.000866	0.00142	0.005	0.023519813	0.007326
Manganese	0.00305	0.00309	0.002	0.082713844	0.04611975
Molybdenum	0.000938	0.00026	0.002	0.025461	0.002833031
Nickel	0.00109	0.000902	0.02	0.029605313	0.042887813
Phosphorus	<0.184	<0.208	5	<	<
Silver	<0.0000737	<0.0000833	0.002	<	0.005475281
Strontium	0.000262	0.000466	0.005	0.007104094	<
Titanium	0.00108	0.00112	0.02	0.029313469	<
Uranium	<0.0000737	<0.0000833	0.002	<	<
Vanadium	0.00109	0.00254	0.02	0.029694844	<
Zinc	0.00904	0.0199	0.02	0.245451094	0.326779125

Station #	AMS 1	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Millennium	Fort McKay South	Horizon	Muskeg River	06-Mar
Sample Date	06-Mar	06-Mar	06-Mar	06-Mar	06-Mar	06-Mar
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	18.2	39.02083333	4.854166667	9.104166667	11.16666667	-5
Aluminum	0.152	0.742	0.143	0.194	0.216	1.267431094
Arsenic	<0.000208	0.000398	<0.000208	<0.000208	<0.000208	<
Barium	0.00808	0.0157	0.00294	0.00371	0.00388	0.009710344
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0169	0.0205	0.0182	0.0178	0.0176	0.479960906
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00378	0.00412	0.00395	0.00296	0.00325	0.144487313
Cobalt	0.000239	0.00123	0.000337	0.000266	0.000339	0.008369719
Copper	0.0324	0.00304	0.00525	0.00109	0.00203	<
Iron	0.472	3.48	0.361	0.48	0.671	1.895116406
Lead	0.0012	0.00186	0.00195	0.00105	0.000909	0.005426719
Manganese	0.00819	0.0478	0.00638	0.00981	0.0122	0.033215438
Molybdenum	0.000138	0.000401	<0.0000833	0.000145	<0.0000833	0.0239415
Nickel	0.00131	0.00422	0.0014	0.000905	0.00561	0.049139906
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00117	0.00646	0.000907	0.00127	0.0016	<
Titanium	0.00495	0.0215	0.00179	0.00379	0.00711	<
Uranium	<0.0000833	0.0000949	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00189	0.00564	0.00157	0.0015	0.00153	<
Zinc	0.0184	0.0219	0.0181	0.0108	0.0127	0.209266219



Station #	MDL	Travel Blank Filters	
Station Name		12-Mar	12-Mar
Sample Date		N/A	pm2.5
PM Size(µm)			24
Total Air Volume (M3)			
Unit		µg	µg/sample
Particulate Matter	1	19.5	1
Aluminum	0.2	1.526292656	0.306423094
Arsenic	0.005	<	<
Barium	0.005	0.031444313	0.007147406
Beryllium	0.005	<	<
Boron	0.2	0.413668875	0.402655031
Cadmium	0.005	<	<
Chromium	0.02	0.072093844	0.049010344
Cobalt	0.002	0.004569	0.003154313
Copper	0.01	0.020604094	0.013783688
Iron	0.2	3.856022906	0.570121219
Lead	0.005	0.029821875	0.006878625
Manganese	0.002	0.075664594	0.037929938
Molybdenum	0.002	0.002542594	0.007481344
Nickel	0.02	0.026069719	<
Phosphorus	5	<	<
Silver	0.002	<	<
Strontium	0.005	0.010863375	<
Titanium	0.02	0.061656563	<
Uranium	0.002	<	<
Vanadium	0.02	<	<
Zinc	0.02	0.183720375	0.127756406

Station #	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Millennium	Fort McKay South	Horizon	Muskeg River	12-Mar
Sample Date	12-Mar	12-Mar	12-Mar	12-Mar	12-Mar
PM Size(µm)	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	0.8125	0.083333333	1.104166667	1.645833333	0.5
Aluminum	0.0636	0.0541	0.059	0.0583	0.60270075
Arsenic	<0.000208	<0.000208	<0.000208	<0.000208	<
Barium	0.00131	0.000858	0.000832	0.00154	0.010278469
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0172	0.0177	0.0167	0.0173	0.391214531
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.003	0.00292	0.00273	0.00317	0.048001688
Cobalt	0.00019	0.000334	0.000185	0.000194	0.002097375
Copper	0.000859	0.00217	0.000898	0.00129	<
Iron	0.161	0.0714	0.0888	0.15	0.744851719
Lead	0.00124	0.000659	0.00124	0.000879	0.019041656
Manganese	0.00315	0.00212	0.00304	0.00953	0.037759969
Molybdenum	0.000106	0.0000838	0.000199	0.000344	0.021091875
Nickel	0.00109	<0.000833	0.0011	0.00112	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.000453	0.00027	0.000313	0.000593	<
Titanium	0.00257	<0.000833	<0.000833	0.00092	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	<0.000833	<0.000833	<0.000833	<0.000833	<
Zinc	0.00766	0.016	0.0179	0.00788	0.356566125



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		18-Mar	18-Mar
Sample Date	18-Mar	18-Mar	18-Mar	18-Mar			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	25.3	24	24	24			24

Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	3.326745718	1.986111111	4.263888889	1.243055556	1	84.16666667	-22.25
Aluminum	0.028	0.0326	0.0311	0.0634	0.2	0.709661344	0.509430375
Arsenic	0.00051	<0.000208	<0.000208	<0.000208	0.005	0.012900094	<
Barium	0.000899	0.00573	0.00283	0.000881	0.005	0.02274	0.012783375
Beryllium	<0.000198	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0189	0.0164	0.0177	0.0173	0.2	0.478010063	0.396492938
Cadmium	<0.000198	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00249	0.00248	0.00315	0.00259	0.02	0.063055125	0.059429906
Cobalt	0.000124	0.000181	0.000317	0.000243	0.002	0.003129281	0.004036781
Copper	0.0106	0.00611	0.00747	0.0112	0.01	0.267496219	0.026117906
Iron	0.0804	0.0804	0.104	0.09	0.2	2.034486094	1.070726344
Lead	0.000613	0.00113	0.000728	0.00091	0.005	0.015505125	0.014538938
Manganese	0.00413	0.00544	0.00247	0.00349	0.002	0.104390625	0.047836219
Molybdenum	0.00149	0.000161	0.000308	0.000213	0.002	0.037705406	0.011121938
Nickel	0.00199	<0.000833	0.000885	<0.000833	0.02	0.050468156	<
Phosphorus	<0.198	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000791	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.000246	0.000298	0.00034	<0.000208	0.005	0.0062325	<
Titanium	<0.000791	<0.000833	0.00542	<0.000833	0.02	<	<
Uranium	<0.0000791	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000791	0.000954	0.00118	0.000988	0.02	<	<
Zinc	0.0105	0.0136	0.00968	0.0163	0.02	0.265222313	0.220562906

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	18-Mar
Sample Date	18-Mar	18-Mar	18-Mar	18-Mar	18-Mar	18-Mar	18-Mar	18-Mar	18-Mar
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	7.527777778	4.625	9.9375	1.097222222	5.673611111	3.708333333	3.173611111	5.090277778	-17.83333333
Aluminum	0.0998	0.0832	0.126	0.0888	0.0867	0.0527	0.0801	0.101	0.813142406
Arsenic	0.000226	<0.000208	0.000228	0.00021	<0.000208	<0.000208	<0.000208	0.000213	0.009485156
Barium	0.0033	0.00474	0.00878	0.00284	0.00243	0.00157	0.00132	0.00227	0.022926281
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0175	0.0168	0.0175	0.0173	0.0186	0.018	0.02	0.0172	0.420336938
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.0028	0.00302	0.00271	0.00247	0.00235	0.00222	0.00347	0.00286	0.069879844
Cobalt	0.000308	0.000169	0.000208	0.000241	0.000215	0.00015	0.000204	0.000263	0.005257781
Copper	0.0671	0.00838	0.0285	0.0614	0.00196	0.00509	0.00175	0.00283	0.018194813
Iron	0.573	0.262	0.497	0.329	0.243	0.129	0.223	0.348	1.004399813
Lead	0.000838	0.00111	0.000919	0.00138	0.000804	0.000685	0.00107	0.00128	0.054616313
Manganese	0.0119	0.00658	0.0104	0.00459	0.00559	0.00369	0.00444	0.00879	0.034854094
Molybdenum	0.000102	0.000217	0.000462	0.000248	0.000196	0.000157	0.00053	0.000338	0.021232219
Nickel	0.00106	0.00199	0.003	0.00105	0.000941	0.00354	0.000877	0.00149	0.02155375
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00161	0.000722	0.00144	0.000481	0.000785	0.000611	0.00068	0.00106	<
Titanium	0.00401	0.00258	0.00553	0.00193	0.0019	<0.000833	0.00112	0.00282	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	<0.000833	0.0012	0.00125	0.00102	0.00099	<0.000833	0.000958	0.00102	<
Zinc	0.0114	0.0126	0.0207	0.0193	0.0144	0.00957	0.0233	0.0192	0.200714156



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		24-Mar	24-Mar
Sample Date	24-Mar	24-Mar	24-Mar	24-Mar			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	2.840277778	1.222222222	4.256944444	1.104166667	1	68.16666667	-29.33333333
Aluminum	0.058	0.0436	0.0499	0.0288	0.2	1.392269156	0.584513156
Arsenic	0.000442	<0.000208	<0.000208	<0.000208	0.005	0.01061625	<
Barium	0.00158	0.0011	0.00179	0.000923	0.005	0.037869375	0.010682531
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0255	0.0231	0.0221	0.0215	0.2	0.611992594	0.557579906
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00325	0.00341	0.00291	0.00226	0.02	0.078115781	0.059619844
Cobalt	0.000315	0.000249	0.000225	0.000161	0.002	0.00756	0.005877375
Copper	0.012	0.00252	0.00376	0.0065	0.01	0.288348375	0.096065156
Iron	0.399	0.0627	0.188	0.0475	0.2	9.5713245	1.522365094
Lead	0.000898	0.000754	0.00145	0.000906	0.005	0.021546281	0.008051531
Manganese	0.0051	0.00506	0.00291	0.00207	0.002	0.122391563	0.035964844
Molybdenum	0.000892	<0.000833	0.000128	0.00015	0.002	0.021409594	0.011368031
Nickel	<0.000833	0.00238	0.00194	<0.000833	0.02	<	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Strontium	0.0006	0.000568	0.000679	0.000353	0.005	0.014406844	<
Titanium	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Vanadium	<0.000833	0.000845	<0.000833	<0.000833	0.02	<	<
Zinc	0.00913	0.0103	0.0253	0.011	0.02	0.219086063	0.22139025

Station #	Station Name	Sample Date	PM Size(µm)	Total Air Volume (M3)	Travel Blank Filters
					24-Mar
					pm10
					24
Unit					µg/sample
Particulate Matter					-76
Aluminum					0.69012075
Arsenic					0.007857375
Barium					0.008739938
Beryllium					<
Boron					0.550786781
Cadmium					<
Chromium					0.057340031
Cobalt					0.002502094
Copper					0.034034344
Iron					0.939174375
Lead					0.027717188
Manganese					0.0310665
Molybdenum					0.019095
Nickel					<
Phosphorus					<
Silver					<
Strontium					<
Titanium					<
Uranium					<
Vanadium					<
Zinc					0.149062406



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		30-Mar	30-Mar
Sample Date	30-Mar	30-Mar	30-Mar	30-Mar			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	13.02083333	6.347222222	9.166666667	2.798611111	1	312.5	-25.5
Aluminum	0.116	0.0758	0.102	0.042	0.2	2.784909656	0.484353563
Arsenic	0.000479	0.000314	0.000244	0.000402	0.005	0.011500125	<
Barium	0.00254	0.00164	0.00269	0.000873	0.005	0.060881625	0.008211188
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0258	0.0238	0.0232	0.0234	0.2	0.618564188	0.614253375
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00292	0.0029	0.0032	0.0025	0.02	0.069994875	0.067104938
Cobalt	0.00025	0.000263	0.00108	0.000257	0.002	0.006007219	0.018754406
Copper	0.0196	0.00883	0.00356	0.0083	0.01	0.471544125	<
Iron	0.483	0.217	0.282	0.069	0.2	11.592312	0.653899125
Lead	0.0128	0.00199	0.00233	0.00191	0.005	0.307836	0.006046031
Manganese	0.00756	0.014	0.00759	0.00189	0.002	0.181478719	0.048664781
Molybdenum	0.000892	0.000499	0.00114	0.000206	0.002	0.021412875	0.012810375
Nickel	0.00154	0.00382	0.00435	<0.000833	0.02	0.036976219	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.00124	0.000809	0.00126	0.000429	0.005	0.029857031	0.005881125
Titanium	0.00315	0.00161	0.00279	<0.000833	0.02	0.075715031	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	0.00108	0.00305	0.0026	<0.000833	0.02	0.026016188	<
Zinc	0.247	0.0148	0.0127	0.0112	0.02	5.928857813	0.211730719

Station #	Station Name	Sample Date	PM Size(µm)	Total Air Volume (M3)	Travel Blank Filters
					30-Mar
					pm10
					24
Unit					µg/sample
Particulate Matter					-42
Aluminum					0.670088344
Arsenic					<
Barium					0.007896656
Beryllium					<
Boron					0.656089313
Cadmium					<
Chromium					0.071062875
Cobalt					0.003352688
Copper					0.017344125
Iron					0.602978344
Lead					<
Manganese					0.021150469
Molybdenum					0.032863688
Nickel					0.036547031
Phosphorus					<
Silver					<
Strontium					<
Titanium					<
Uranium					<
Vanadium					<
Zinc					0.102673125





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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		05-Apr	05-Apr
Sample Date	05-Apr	05-Apr	05-Apr	05-Apr			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5			
Total Air Volume (M3)	24	24	24	24		N/A	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	5.42	3.88	8.79	4.25	1	130	-9
Aluminum	0.0691	0.0704	0.0771	0.0434	0.2	1.6591515	0.483045375
Arsenic	<0.000208	<0.000208	<0.000208	0.000668	0.005	<	<
Barium	0.00111	0.00182	0.0027	0.00121	0.005	0.026563219	0.01079775
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0158	0.0147	0.0192	0.0169	0.2	0.379204219	0.402828375
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.0021	0.00192	0.00235	0.00308	0.02	0.050477156	0.171578625
Cobalt	0.000705	0.00151	0.000911	0.00138	0.002	0.016928813	0.00933525
Copper	0.0134	0.017	0.0131	0.0188	0.01	0.320559656	0.086783344
Iron	0.285	0.648	0.266	0.13	0.2	6.841448063	3.758923875
Lead	0.00197	0.00138	0.00164	0.00147	0.005	0.047270063	0.008627813
Manganese	0.00684	0.0144	0.00717	0.00423	0.002	0.16411725	0.116328188
Molybdenum	<0.0000833	0.000227	0.000169	0.000628	0.002	<	<
Nickel	0.00128	0.00327	0.00229	0.00139	0.02	0.030791156	0.043181063
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.00055	0.000685	0.000721	0.000359	0.005	0.01320075	<
Titanium	0.00418	0.00196	0.00219	<0.000833	0.02	0.100417406	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000833	0.00253	0.00299	<0.000833	0.02	<	0.040098
Zinc	0.014	0.0255	0.0283	0.0165	0.02	0.337094063	0.608447719

Station #	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 16	Travel Blank Filters
Station Name	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Muskeg River	05-Apr
Sample Date	05-Apr	05-Apr	05-Apr	05-Apr	05-Apr	05-Apr	05-Apr
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	23.9	24.003	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	9.92	15.5	5.17	23.13	18.4	17.1	0
Aluminum	0.155	0.246	0.0701	0.455	0.377	0.338	0.800802188
Arsenic	<0.000208	<0.000209	<0.000208	0.000405	<0.000208	<0.000208	<
Barium	0.00544	0.00799	0.00237	0.00687	0.00553	0.0052	0.013311844
Beryllium	<0.000208	<0.000209	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0206	0.0165	0.0177	0.0205	0.0162	0.0166	0.372453094
Cadmium	<0.000208	<0.000209	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.0026	0.00236	0.00618	0.00273	0.00397	0.00319	0.04275075
Cobalt	0.000759	0.000963	0.000584	0.00169	0.00167	0.00201	0.02795175
Copper	0.0164	0.0372	0.0715	0.0115	0.00422	0.0023	0.030229688
Iron	0.462	0.918	0.346	1.3	1.25	1.38	2.6783505
Lead	0.00214	0.0021	0.00165	0.00262	0.00209	0.00138	0.015637969
Manganese	0.0112	0.0194	0.00533	0.0265	0.0251	0.0253	0.134997938
Molybdenum	0.00062	0.000571	<0.0000833	0.00456	0.000344	0.00012	<
Nickel	0.00246	0.00474	0.00185	0.0172	0.00223	0.0026	0.020726531
Phosphorus	<0.208	<0.209	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000837	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00145	0.00242	0.000564	0.00412	0.00298	0.00282	0.006270281
Titanium	0.00651	0.0101	0.0011	0.0386	0.0149	0.0117	<
Uranium	<0.0000833	<0.0000837	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00656	0.00736	0.000908	0.0808	0.00165	0.00182	<
Zinc	0.0199	0.0294	0.0128	0.023	0.0324	0.025	0.339531



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		11-Apr	11-Apr
Sample Date	11-Apr	11-Apr	11-Apr	11-Apr			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	26.016	24	24	24.005			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	1.77	2.58	3.54	2.86	1	46	23
Aluminum	0.0548	0.0679	0.0601	0.061437829	0.2	1.425118688	0.32868675
Arsenic	0.000543	<0.000208	<0.000208	<0.000172	0.005	0.014133	<
Barium	0.000766	0.00139	0.00642	0.000953063	0.005	0.019921969	0.008635313
Beryllium	<0.000192	<0.000208	<0.000208	<0.000172	0.005	<	<
Boron	0.0176	0.0221	0.0199	0.019029707	0.2	0.458596219	0.417236531
Cadmium	<0.000192	<0.000208	<0.000208	<0.000172	0.005	<	<
Chromium	0.00183	0.00294	0.00221	0.001800027	0.02	0.047722031	0.047747438
Cobalt	0.000987	0.000547	0.000821	0.00080757	0.002	0.02567175	0.032364469
Copper	0.0131	0.00353	0.00236	0.036396531	0.01	0.342105375	0.055876125
Iron	0.101	0.129	0.208	0.117550233	0.2	2.6396895	1.367885438
Lead	0.00127	0.00155	0.00126	0.001238617	0.005	0.032970094	0.007794938
Manganese	0.0109	0.00294	0.0069	0.010177266	0.002	0.284366719	0.182983125
Molybdenum	0.00173	<0.000833	<0.000833	<0.000690	0.002	0.044948063	0.006094031
Nickel	0.000831	0.00178	0.000871	0.001061455	0.02	0.021629906	<
Phosphorus	<0.192	<0.208	<0.208	<0.172	5	<	<
Silver	<0.0000769	<0.000833	<0.000833	<0.000690	0.002	<	<
Strontium	0.00046	0.000424	0.000731	0.000511171	0.005	0.011955469	<
Titanium	0.00492	0.00152	0.00113	0.001783144	0.02	0.128088188	<
Uranium	<0.0000769	<0.000833	<0.000833	<0.000690	0.002	<	<
Vanadium	<0.000769	0.00152	<0.000833	<0.000690	0.02	<	<
Zinc	0.00825	0.0624	0.015	0.010466327	0.02	0.214627031	0.279317063

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Muskeg River	11-Apr
Sample Date	11-Apr	11-Apr	11-Apr	11-Apr	11-Apr	11-Apr	11-Apr	11-Apr
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	16.5	8.63	13.3	27.9	10.21	14.5	27.9	-19
Aluminum	0.382	0.139	0.223	0.757	0.271	0.294	0.757	0.822652406
Arsenic	0.00044	<0.000208	0.00039	0.000573	0.000304	0.000312	0.000573	<
Barium	0.00474	0.00302	0.00464	0.00898	0.00296	0.00412	0.00898	0.007372406
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0132	0.0179	0.0181	0.0196	0.0197	0.0179	0.0196	0.369244125
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00176	0.00205	0.00224	0.0034	0.00266	0.0027	0.0034	0.048279938
Cobalt	0.000862	0.000809	0.000956	0.00238	0.000941	0.00133	0.00238	0.016186406
Copper	0.0351	0.00751	0.00452	0.00203	0.00129	0.00123	0.00203	0.015578344
Iron	1.04	0.436	0.545	2.37	0.561	0.749	2.37	2.711651719
Lead	0.00162	0.00115	0.00175	0.00215	0.00222	0.00125	0.00215	0.010366031
Manganese	0.0213	0.00924	0.0121	0.0529	0.0116	0.021	0.0529	0.194364844
Molybdenum	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.024596531
Nickel	0.00152	0.00146	0.0021	0.00225	0.0012	0.00148	0.00225	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00243	0.00109	0.00181	0.0047	0.00166	0.00201	0.0047	<
Titanium	0.0193	0.00568	0.00697	0.0269	0.00838	0.0599	0.0269	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00189	0.00255	0.00135	0.00345	0.00164	0.00177	0.00345	<
Zinc	0.00799	0.00817	0.0144	0.0135	0.0297	0.00831	0.0135	0.631458656



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Station #	AMS 6	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Patricia McInnes	Anzac		17-Apr	17-Apr
Sample Date	17-Apr	17-Apr		N/A	17-Apr
PM Size(µm)	pm2.5	pm2.5			pm2.5
Total Air Volume (M3)	24	24.1			24
Unit	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	5.71	6.72	1	60	12
Aluminum	0.215	0.121	0.2	1.317478781	0.393810656
Arsenic	0.000268	0.000325	0.005	0.006000656	<
Barium	0.00126	0.00214	0.005	0.021252375	0.006800156
Beryllium	<0.000208	<0.000207	0.005	<	<
Boron	0.0182	0.0174	0.2	0.468805313	0.397976906
Cadmium	<0.000208	<0.000207	0.005	<	<
Chromium	0.00238	0.00181	0.02	0.053953031	0.035807438
Cobalt	0.000637	0.00121	0.002	0.017674969	0.041689688
Copper	0.00806	0.00372	0.01	0.032955	0.015409969
Iron	0.19	0.446	0.2	3.531160031	2.007656438
Lead	0.00175	0.00162	0.005	0.015292219	<
Manganese	0.0061	0.00868	0.002	0.117696938	0.313871438
Molybdenum	0.000183	0.000215	0.002	0.017129438	0.017343563
Nickel	0.001	0.00127	0.02	0.021821063	<
Phosphorus	<0.208	<0.207	5	<	<
Silver	0.00037	<0.0000830	0.002	<	<
Strontium	0.000386	0.001	0.005	0.01708125	<
Titanium	0.00136	0.00711	0.02	0.024372188	<
Uranium	<0.0000833	<0.0000830	0.002	<	<
Vanadium	<0.000833	0.00133	0.02	0.029407969	<
Zinc	0.0122	0.00639	0.02	0.189692625	0.208977563

Station #	AMS 1	AMS 6	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	17-Apr
Sample Date	17-Apr	17-Apr	17-Apr	17-Apr	17-Apr	17-Apr	17-Apr	17-Apr
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	2.5	14.8	6.08	44.08	28	14.9	9.08	14
Aluminum	0.0549	0.257	0.0488	1.11	0.735	0.328	0.143	0.441713344
Arsenic	0.00025	0.000368	0.000282	0.000882	0.000732	0.000458	0.000325	<
Barium	0.000886	0.00545	0.0011	0.0111	0.00825	0.00426	0.0021	0.005105344
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0195	0.0176	0.0159	0.021	0.0192	0.0188	0.0174	0.378048938
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00225	0.00179	0.0018	0.004	0.00299	0.00248	0.0035	0.027490969
Cobalt	0.000736	0.00111	0.00238	0.00258	0.00174	0.00116	0.00149	0.013175156
Copper	0.00137	0.00886	0.004	0.0027	0.00232	0.00157	0.00147	0.012040406
Iron	0.147	0.878	0.0971	1.99	1.25	0.801	0.484	0.333580875
Lead	0.000637	0.00206	0.00167	0.00285	0.00251	0.00286	0.00184	<
Manganese	0.0049	0.015	0.00306	0.0344	0.0214	0.0167	0.0218	0.289359469
Molybdenum	0.000714	0.000222	0.000244	0.000491	0.00144	0.000839	0.000462	0.025153406
Nickel	0.000909	0.00101	0.00102	0.00349	0.00452	0.00236	0.00154	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.000712	0.00183	0.000354	0.00828	0.00469	0.00219	0.00121	<
Titanium	0.00102	0.0109	0.001	0.0375	0.0307	0.0166	0.00546	<
Uranium	<0.0000833	<0.0000833	<0.0000833	0.000128	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00123	0.001	<0.000833	0.00399	0.0175	0.00792	0.000859	<
Zinc	0.0079	0.0159	0.0101	0.0168	0.0146	0.0107	0.00868	0.210910594



Station #	AMS 6	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Patricia McInnes	Anzac			
Sample Date	23-Apr	23-Apr			
PM Size(µm)	pm2.5	pm2.5			
Total Air Volume (M3)	24	24.001		N/A	24
Unit	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	4.25	3.25	1	102	6
Aluminum	0.0422	0.0235	0.2	1.012035	0.258408469
Arsenic	<0.000208	<0.000208	0.005	<	<
Barium	0.00113	0.00068	0.005	0.027042375	0.005775469
Beryllium	<0.000208	<0.000208	0.005	<	<
Boron	0.0211	0.0208	0.2	0.506576906	0.470656313
Cadmium	<0.000208	<0.000208	0.005	<	<
Chromium	0.00233	0.00202	0.02	0.055833188	0.03759825
Cobalt	0.000625	0.000999	0.002	0.015009188	0.025990031
Copper	0.00316	0.00094	0.01	0.075741188	0.010139438
Iron	0.101	0.0501	0.2	2.431389656	3.453671906
Lead	0.000941	0.00145	0.005	0.022593	0.005335969
Manganese	0.00286	0.00333	0.002	0.068622938	0.061559438
Molybdenum	<0.0000833	0.000568	0.002	<	0.009721969
Nickel	<0.000833	<0.000833	0.02	<	<
Phosphorus	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.000351	0.00025	0.005	0.008435063	<
Titanium	0.00112	<0.000833	0.02	0.026818781	<
Uranium	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000833	<0.000833	0.02	<	<
Zinc	0.00672	0.00451	0.02	0.161197781	0.10452675

Station #	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	
Sample Date	23-Apr	23-Apr	23-Apr	23-Apr	23-Apr	23-Apr	23-Apr	23-Apr
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	22.2	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	16.1	20	4.46	41.54	21	18.5	27.6	3
Aluminum	0.285	0.414	0.0843	0.888	0.405	0.329	0.505	2.243572031
Arsenic	0.000295	0.000456	0.000231	0.000718	0.000385	0.000316	0.000424	<
Barium	0.00638	0.00864	0.00292	0.00994	0.00624	0.0045	0.00667	0.006198563
Beryllium	<0.000208	<0.000225	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0212	0.0246	0.0197	0.0238	0.0206	0.0193	0.0205	0.4677315
Cadmium	<0.000208	<0.000225	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.0024	0.00319	0.00192	0.00361	0.00253	0.00195	0.0026	0.124230656
Cobalt	0.0014	0.000901	0.0111	0.00138	0.002	0.000949	0.00246	0.013645594
Copper	0.00998	0.00295	0.00661	0.00362	0.00387	0.000883	0.00247	0.018767156
Iron	1.09	1.61	0.203	1.92	1.43	1.03	2.09	1.538442188
Lead	0.00133	0.00142	0.00194	0.00157	0.00168	0.0012	0.00124	<
Manganese	0.0172	0.0262	0.0197	0.0293	0.0271	0.0205	0.0407	0.339645
Molybdenum	0.000127	0.000342	0.000201	0.000521	0.000127	0.000284	0.000259	0.026710969
Nickel	0.00158	0.00144	0.00159	0.00274	0.00233	0.00115	0.00205	0.056335313
Phosphorus	<0.208	<0.225	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000901	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.0019	0.00265	0.0027	0.0066	0.00302	0.0019	0.00398	<
Titanium	0.0123	0.0182	0.00237	0.0425	0.0187	0.0121	0.0248	<
Uranium	<0.0000833	<0.0000901	<0.0000833	0.0000947	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00137	0.0021	<0.000833	0.00398	0.00206	0.00166	0.00243	<
Zinc	0.0179	0.0209	0.0308	0.0234	0.0157	0.0162	0.0115	0.343803656



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		29-Apr	29-Apr
Sample Date	29-Apr	29-Apr	29-Apr	29-Apr		N/A	pm2.5
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5			
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	4.79	0.542	4.04	2.5	1	115	9
Aluminum	0.0742	0.0733	0.122	0.039	0.2	1.781788125	0.587961281
Arsenic	0.000237	<0.000208	<0.000208	<0.000208	0.005	0.005684156	<
Barium	0.000922	0.000479	0.00361	0.000542	0.005	0.02211975	0.007812375
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0206	0.0168	0.018	0.0175	0.2	0.49487025	0.366505406
Cadmium	<0.000208	<0.000208	<0.000208	0.000319	0.005	<	<
Chromium	0.0252	0.00192	0.00198	0.00158	0.02	0.6049695	0.029683125
Cobalt	0.000501	0.000474	0.000373	0.000323	0.002	0.012016688	0.011570719
Copper	0.0015	<0.000417	<0.000417	0.0222	0.01	0.036023438	<
Iron	0.434	0.374	0.44	0.354	0.2	10.40659688	1.02240825
Lead	0.000857	0.000678	0.000613	0.000566	0.005	0.020561156	0.007034813
Manganese	0.00564	0.0146	0.00712	0.00702	0.002	0.135373219	0.054047625
Molybdenum	0.000683	<0.000833	<0.000833	<0.000833	0.002	0.016382344	0.006325125
Nickel	0.00238	0.00118	<0.000833	0.000916	0.02	0.057125063	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Strontium	0.000403	0.00046	0.000651	0.000269	0.005	0.009674813	<
Titanium	<0.000833	<0.000833	0.0029	<0.000833	0.02	<	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Vanadium	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Zinc	0.0461	0.0302	0.0155	0.0149	0.02	1.105583344	0.168506063

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	Travel Blank Filters
Sample Date	29-Apr	29-Apr	29-Apr	29-Apr	29-Apr	29-Apr	29-Apr	29-Apr	29-Apr
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	22.9	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	11.5	10.1	28.8	10.8	49.5	6.13	28.3	37.2	11
Aluminum	0.212	0.203	0.584	0.161	0.946	0.094	0.618	0.772	0.348656625
Arsenic	0.000209	<0.000208	0.000418	<0.000208	0.0006	<0.000208	0.000502	0.000624	<
Barium	0.00391	0.00445	0.0162	0.00665	0.0115	0.00164	0.0101	0.0119	0.005703375
Beryllium	<0.000208	<0.000208	<0.000218	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.019	0.018	0.0178	0.0171	0.0164	0.019	0.017	0.0186	0.378241125
Cadmium	<0.000208	<0.000208	<0.000218	0.000443	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00208	0.00201	0.00373	0.00255	0.00278	0.00218	0.00214	0.0032	0.027795469
Cobalt	0.000917	0.000354	0.000799	0.000464	0.00102	0.000285	0.000968	0.000952	0.0062745
Copper	0.0432	<0.000417	0.00624	0.0227	<0.000417	0.00246	<0.000417	<0.000417	<
Iron	0.841	0.614	2.23	1.14	1.8	0.255	1.3	3.07	2.21703225
Lead	0.00125	0.000717	0.00121	0.000995	0.00134	0.000495	0.000999	0.00166	0.005813906
Manganese	0.0142	0.013	0.0402	0.02	0.0393	0.00574	0.0238	0.0583	0.113973188
Molybdenum	0.000207	<0.000833	0.000246	0.000365	0.000346	0.000187	0.00032	0.00047	0.005214281
Nickel	0.00148	<0.000833	0.00157	0.00175	0.00243	0.000859	0.00247	0.00299	<
Phosphorus	<0.208	<0.208	<0.218	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.000833	<0.000833	<0.000873	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Strontium	0.00196	0.00262	0.0043	0.00142	0.00882	0.00088	0.00459	0.00699	<
Titanium	0.00545	0.0058	0.0184	0.00575	0.0223	0.00223	0.0143	0.031	<
Uranium	<0.000833	<0.000833	<0.000873	<0.000833	<0.000833	<0.000833	<0.000833	0.000857	<
Vanadium	0.00167	0.000851	0.00257	<0.000833	0.00423	0.00157	0.00364	0.00667	<
Zinc	0.0226	0.0228	0.0361	0.0317	0.0218	0.0125	0.0211	0.0351	0.202371375



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		05-May	05-May
Sample Date	05-May	05-May	05-May	05-May			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	25.037	24	24	24			24.001

Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	4.27	3.08	9.58	2.5	1	107	8
Aluminum	0.0444	0.0565	0.261	0.102	0.2	1.110858938	0.782124656
Arsenic	0.000415	<0.000208	<0.000208	0.000533	0.005	0.010392844	<
Barium	0.000774	0.00125	0.00449	0.001	0.005	0.019389563	0.008568938
Beryllium	<0.000200	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0139	0.0197	0.0173	0.0176	0.2	0.346912594	0.363388313
Cadmium	<0.000200	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00162	0.0023	0.00343	0.00194	0.02	0.040605563	0.059208375
Cobalt	0.000256	0.000148	0.000407	0.000336	0.002	0.006400031	0.005473219
Copper	0.028	0.017	0.00599	0.0139	0.01	0.700403813	0.080113594
Iron	0.0994	0.144	0.817	0.134	0.2	2.488102406	1.768646531
Lead	0.000518	0.000609	0.000905	0.0025	0.005	0.012976125	0.007894969
Manganese	0.00676	0.00647	0.0164	0.00889	0.002	0.169344938	0.067669219
Molybdenum	0.00145	<0.000833	<0.000833	0.00143	0.002	0.036299438	0.015157031
Nickel	0.00115	<0.000833	0.00129	0.00201	0.02	0.028888875	<
Phosphorus	<0.200	<0.208	<0.208	<0.208	5	<	<
Silver	<0.000799	<0.000833	<0.000833	<0.000833	0.002	<	<
Strontium	0.000444	0.000416	0.0018	0.000537	0.005	0.011106094	0.005943844
Titanium	0.00132	<0.000833	0.00961	0.00198	0.02	0.033103125	<
Uranium	<0.000799	<0.000833	<0.000833	<0.000833	0.002	<	<
Vanadium	<0.000799	<0.000833	0.00117	<0.000833	0.02	<	<
Zinc	0.0711	0.0237	0.0176	0.0548	0.02	1.780369875	0.55180575

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	Travel Blank Filters
Sample Date	05-May	05-May	05-May	05-May	05-May	05-May	05-May	05-May	05-May
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	22.6	23.5	24	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	11	8.92	24.2	2.34	8.29	10.5	9.21	11.4	1	
Aluminum	0.216	0.224	0.606	0.0456	0.229	0.221	0.207	0.166	0.416896969	
Arsenic	0.000303	<0.000208	0.000324	<0.000213	<0.000208	<0.000208	<0.000208	<0.000208	<	
Barium	0.00227	0.0048	0.0107	0.00109	0.00239	0.00246	0.0031	0.00236	<	
Beryllium	<0.000208	<0.000208	<0.000221	<0.000213	<0.000208	<0.000208	<0.000208	<0.000208	<	
Boron	0.0164	0.0226	0.0211	0.0168	0.021	0.0166	0.0126	0.0143	0.265557094	
Cadmium	<0.000208	<0.000208	<0.000221	<0.000213	<0.000208	<0.000208	<0.000208	<0.000208	<	
Chromium	0.00301	0.00272	0.00299	0.0021	0.00293	0.00263	0.00217	0.00231	0.036196031	
Cobalt	0.000377	0.000274	0.0014	0.000239	0.000398	0.000369	0.000316	0.000332	0.002618344	
Copper	0.0733	0.0353	0.00512	0.011	0.00633	0.011	0.00947	0.00366	0.01930125	
Iron	0.507	0.585	2.1	0.223	0.346	0.497	0.562	0.656	0.784743188	
Lead	0.00109	0.000867	0.000994	0.00106	0.00076	0.000685	0.000598	0.000598	0.005838188	
Manganese	0.0181	0.0124	0.0334	0.00512	0.00677	0.0133	0.347	0.0131	0.051494813	
Molybdenum	<0.000833	<0.000833	<0.000885	<0.000851	0.00023	0.000138	<0.000833	0.000221	0.013208906	
Nickel	0.00178	<0.000833	0.00145	<0.000851	0.00115	0.0012	0.00104	0.00117	<	
Phosphorus	<0.208	<0.208	<0.221	<0.213	<0.208	<0.208	<0.208	<0.208	<	
Silver	0.000149	<0.000833	<0.000885	<0.000851	<0.000833	<0.000833	<0.000833	<0.000833	<	
Strontium	0.00168	0.00157	0.00372	0.00033	0.00147	0.00152	0.000951	0.0016	<	
Titanium	0.0077	0.0071	0.0194	0.00147	0.00646	0.00728	0.00764	0.00827	<	
Uranium	<0.000833	<0.000833	<0.000885	<0.000851	<0.000833	<0.000833	<0.000833	<0.000833	<	
Vanadium	0.00119	0.00107	0.0022	<0.000851	0.00178	0.00141	0.00102	0.00118	<	
Zinc	0.0595	0.0339	0.0171	0.02	0.0225	0.0244	0.0237	0.0126	0.189225563	



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		11-May	11-May
Sample Date	11-May	11-May	11-May	11-May			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	2.42	3.83	3.79	2.63	1	58	20
Aluminum	0.0625	0.055	0.0505	0.0294	0.2	1.499510344	0.732894375
Arsenic	0.000417	<0.000208	<0.000208	<0.000208	0.005	0.010007906	<
Barium	0.000695	0.000889	0.0013	0.000343	0.005	0.016673063	<
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0145	0.0182	0.0159	0.00991	0.2	0.348189563	0.284314875
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00166	0.00237	0.00167	0.00118	0.02	0.039911531	0.041167969
Cobalt	0.000567	0.00018	0.00014	0.000134	0.002	0.013599281	0.00944775
Copper	0.0245	0.00269	0.0135	0.0189	0.01	0.587344313	0.048040125
Iron	0.28	0.144	0.102	0.0414	0.2	6.730726125	0.712151719
Lead	0.00108	0.000692	0.000424	0.000399	0.005	0.025991625	0.006574219
Manganese	0.0125	0.00523	0.00308	0.00297	0.002	0.300784313	0.0463425
Molybdenum	0.00223	0.00047	0.000478	0.000186	0.002	0.053501719	0.024971344
Nickel	0.00492	<0.000833	<0.000833	<0.000833	0.02	0.118011656	0.094726875
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.000412	0.000432	0.000367	0.000247	0.005	0.009888188	<
Titanium	0.00175	0.00167	0.00117	0.00173	0.02	0.041958188	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Zinc	0.0385	0.0227	0.0125	0.0174	0.02	0.925058438	0.210863719

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	Travel Blank Filters
Sample Date	11-May	11-May	11-May	11-May	11-May	11-May	11-May	11-May	11-May
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	8.88	13.1	10.5	4.71	11	5.33	3.42	13.7	11
Aluminum	0.133	0.284	0.264	0.0544	0.254	0.0837	0.0711	0.276	0.421760063
Arsenic	0.000296	0.000289	0.000209	<0.000208	<0.000208	<0.000208	<0.000208	0.000293	<
Barium	0.00168	0.00455	0.00464	0.000892	0.00302	0.00107	0.000892	0.00358	0.006769781
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0145	0.0143	0.0109	0.011	0.0125	0.012	0.013	0.0116	0.331714406
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00165	0.00305	0.0016	0.00118	0.00166	0.00199	0.0015	0.0019	0.040806375
Cobalt	0.00247	0.000363	0.000301	0.000148	0.000336	0.000214	0.000166	0.00077	0.005020875
Copper	0.0917	0.00722	0.0102	0.0115	0.00375	0.0114	0.0021	0.00363	0.0254985
Iron	0.299	0.773	0.565	0.0908	0.442	0.21	0.179	0.901	1.024228875
Lead	0.000746	0.00106	0.000846	0.00035	0.00067	0.000436	0.000451	0.000754	<
Manganese	0.0492	0.0188	0.0102	0.00509	0.0112	0.00501	0.00497	0.0183	0.128956313
Molybdenum	0.000259	0.000645	0.000244	0.000286	0.000405	0.000154	0.000312	0.000427	0.036162281
Nickel	0.00147	0.00118	0.00152	<0.000833	0.00101	<0.000833	0.000914	0.00118	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00201	0.0022	0.0014	0.000374	0.00152	0.000649	0.000626	0.00197	<
Titanium	0.00529	0.00912	0.00739	0.00135	0.00718	0.00282	0.00157	0.0115	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	<0.000833	0.000961	0.00114	<0.000833	0.00159	<0.000833	<0.000833	0.00119	<
Zinc	0.033	0.0312	0.0207	0.0219	0.0136	0.0645	0.0098	0.0238	0.089745094



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Particulate Matter - Metals

2014  
Indicated Sites and Dates

Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters		Travel Blank Filters	
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		17-May		17-May	
Sample Date	17-May	17-May	17-May	17-May		N/A		pm2.5	
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5					
Total Air Volume (M3)	24.42	24	24	24				24	
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg		µg/sample	
Particulate Matter	7.17	7.71	8.13	4.71	1	175		47	
Aluminum	0.0627	0.0686	0.111	0.0468	0.2	1.532209031		0.886456125	
Arsenic	0.000403	0.000648	0.000373	<0.000208	0.005	0.009846281		<	
Barium	0.00129	0.00148	0.00285	0.000553	0.005	0.0313965		0.011669625	
Beryllium	<0.000205	<0.000208	<0.000208	<0.000208	0.005	<		<	
Boron	0.0167	0.016	0.0211	0.0173	0.2	0.408851063		0.319215	
Cadmium	<0.000205	<0.000208	<0.000208	<0.000208	0.005	<		<	
Chromium	0.00203	0.00175	0.00249	0.00228	0.02	0.0496905		0.059696438	
Cobalt	0.000256	0.000211	0.000355	0.000263	0.002	0.006262875		0.008993344	
Copper	0.0147	0.011	0.0134	0.00962	0.01	0.359219063		0.239603063	
Iron	0.254	0.153	0.291	0.0939	0.2	6.19331325		2.919397688	
Lead	0.000904	0.0038	0.00149	0.00084	0.005	0.022084031		0.007832906	
Manganese	0.00848	0.00745	0.00782	0.00559	0.002	0.207180656		0.129524344	
Molybdenum	0.00253	0.000326	0.000324	0.000525	0.002	0.061798219		0.012652125	
Nickel	0.000894	0.000932	0.00135	<0.000833	0.02	0.021824719		0.052336875	
Phosphorus	<0.205	<0.208	<0.208	<0.208	5	<		<	
Silver	<0.0000819	<0.0000833	<0.0000833	<0.0000833	0.002	<		<	
Strontium	0.000591	0.000452	0.00076	0.000348	0.005	0.014420438		<	
Titanium	0.00175	0.00756	0.00362	<0.000833	0.02	0.042724781		<	
Uranium	<0.0000819	<0.0000833	<0.0000833	<0.0000833	0.002	<		<	
Vanadium	0.00206	<0.000833	0.000992	<0.000833	0.02	0.050227969		<	
Zinc	0.0157	0.0241	0.0189	0.0163	0.02	0.384530438		0.45537906	

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	17-May	17-May	17-May	17-May	17-May	17-May	17-May	17-May
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24.01	24	24	24	22.6
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	29	21.8	20.6	9.29	61.8	21.6	7.46	37.6
Aluminum	0.454	0.458	0.298	0.105	1.26	0.357	0.129	0.537
Arsenic	0.000486	0.00102	0.000439	<0.000208	0.000944	0.000322	<0.000208	0.000388
Barium	0.0069	0.00859	0.00803	0.00196	0.0151	0.0049	0.00195	0.00787
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000221
Boron	0.0163	0.0201	0.0137	0.0123	0.0177	0.0146	0.0177	0.0144
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000221
Chromium	0.00271	0.00306	0.00206	0.00291	0.00399	0.00245	0.0106	0.01
Cobalt	0.000548	0.000508	0.000389	0.00041	0.00133	0.000506	0.00026	0.000669
Copper	0.0152	0.0186	0.0123	0.0594	0.00709	0.0115	0.00498	0.00702
Iron	1.64	1.21	1.07	0.348	2.18	0.975	0.51	2.45
Lead	0.0016	0.00487	0.00128	0.00138	0.00192	0.00124	0.00086	0.00127
Manganese	0.0358	0.0302	0.018	0.00931	0.0321	0.0231	0.0102	0.0459
Molybdenum	0.0008	0.000276	0.000346	0.00025	0.000321	0.000532	0.000367	0.000506
Nickel	0.0058	0.0019	0.00107	0.00214	0.00321	0.00218	0.000984	0.00265
Phosphorus	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.221
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000885
Strontium	0.0045	0.00279	0.0023	0.000893	0.00998	0.0029	0.00101	0.00517
Titanium	0.0191	0.0157	0.0116	0.00787	0.0351	0.012	0.00398	0.0223
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	0.000111	<0.0000833	<0.0000833	<0.0000885
Vanadium	0.00367	0.00186	0.00162	0.000907	0.00493	0.00429	0.00102	0.00225
Zinc	0.0294	0.0363	0.0251	0.0154	0.0234	0.0309	0.0139	0.0191





Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		23-May	23-May
Sample Date	23-May	23-May	23-May	23-May			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	10.8	6.54	6.83	5.92	1	258	8
Aluminum	0.148	0.0899	0.11	0.0888	0.2	3.557771344	0.327743531
Arsenic	0.000553	0.000504	<0.000208	0.000234	0.005	0.013270313	<
Barium	0.0033	0.00274	0.00684	0.00166	0.005	0.079291031	0.007591031
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0183	0.0125	0.00982	0.0119	0.2	0.440030063	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00413	0.00373	0.00402	0.00441	0.02	0.099047156	0.077544281
Cobalt	0.000344	0.000226	0.000256	0.000547	0.002	0.008254781	0.010786969
Copper	0.00342	0.0072	0.00791	0.00604	0.01	0.082020563	0.037725375
Iron	0.513	0.219	0.311	0.193	0.2	12.30752138	1.216736531
Lead	0.000653	0.000781	0.000782	0.000886	0.005	0.015661406	0.007561594
Manganese	0.0157	0.00891	0.00878	0.00699	0.002	0.377872875	0.15170775
Molybdenum	0.000926	0.000173	0.00022	0.00068	0.002	0.022216781	0.008793469
Nickel	0.00164	<0.000833	0.000838	0.00229	0.02	0.039265781	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.00173	0.00089	0.00105	0.000862	0.005	0.041583	0.007015406
Titanium	0.00471	0.00195	0.00174	0.000886	0.02	0.112979344	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	0.00426	0.00107	0.00123	0.00121	0.02	0.10219725	<
Zinc	0.0196	0.0179	0.0135	0.0155	0.02	0.471060938	0.409382625

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	Travel Blank Filters
Sample Date	23-May	23-May	23-May	23-May	23-May	23-May	23-May	23-May	23-May
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24.007	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	45.2	22.5	30.8	15.8	68	37.3	7.75	51	11
Aluminum	0.7	0.473	0.614	0.285	1.43	0.527	0.137	0.74	0.451564031
Arsenic	0.0008	0.00087	0.000586	0.000395	0.00102	0.000666	<0.000208	0.000767	0.021119063
Barium	0.015	0.0143	0.0199	0.0065	0.0213	0.0103	0.0022	0.0145	0.012825844
Beryllium	0.000249	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	0.025814906
Boron	0.018	0.0167	0.0131	<0.00833	0.0147	0.00962	<0.00833	0.00877	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	0.047776406
Chromium	0.00514	0.00525	0.00537	0.00371	0.00664	0.00438	0.00325	0.00472	0.130945313
Cobalt	0.00103	0.000561	0.00076	0.000673	0.00182	0.000917	0.000397	0.00178	0.077814563
Copper	0.0101	0.0162	0.023	0.0187	0.00754	0.0116	0.00332	0.00602	0.08246475
Iron	2.84	1.54	2.21	0.817	3.32	1.72	0.427	2.99	0.996282938
Lead	0.00148	0.00122	0.00178	0.0011	0.00221	0.0013	0.000563	0.00124	0.026593125
Manganese	0.0513	0.0304	0.0391	0.0204	0.0602	0.0331	0.0087	0.055	0.255677531
Molybdenum	0.000873	0.000501	0.00057	0.000479	0.000672	0.000745	0.000257	0.000611	0.017922844
Nickel	0.00293	0.00178	0.00237	0.00167	0.00466	0.00467	0.000957	0.00286	0.052570031
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.0086	0.00443	0.00541	0.00224	0.0143	0.00561	0.00153	0.00818	0.111242625
Titanium	0.025	0.0163	0.0232	0.0102	0.0423	0.0197	0.00328	0.0291	<
Uranium	0.000139	0.0000958	0.000149	<0.0000833	0.000224	0.00011	<0.0000833	0.000122	0.030752438
Vanadium	0.00739	0.00232	0.00301	0.00169	0.0066	0.00663	0.00112	0.00479	0.083240438
Zinc	0.0216	0.0264	0.0353	0.0182	0.0244	0.019	0.00979	0.0302	0.592039969



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		29-May	29-May
Sample Date	29-May	29-May	29-May	29-May		N/A	29-May
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5			pm2.5
Total Air Volume (M3)	24.665	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	3.31	4.4	3.53	2.36	1	81.66666667	13
Aluminum	0.0263	0.0313	0.0219	0.0149	0.2	0.649808719	0.617196375
Arsenic	0.000595	<0.000208	<0.000208	<0.000208	0.005	0.0146775	<
Barium	0.000726	0.00202	0.00112	0.000288	0.005	0.017901469	0.009555844
Beryllium	<0.000203	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0159	0.0135	0.0148	0.0131	0.2	0.39124125	0.264411656
Cadmium	<0.000203	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00445	0.00463	0.00364	0.00335	0.02	0.109674375	0.069195188
Cobalt	0.00051	0.000606	0.000149	0.000301	0.002	0.012576094	0.00435
Copper	0.0227	0.0124	0.00263	0.00501	0.01	0.558796875	0.272676563
Iron	0.129	0.234	0.126	0.0535	0.2	3.180451125	1.208303531
Lead	0.00175	0.000699	0.000509	0.000551	0.005	0.043043625	0.008674313
Manganese	0.00832	0.0174	0.00531	0.00526	0.002	0.205128563	0.065741906
Molybdenum	0.000829	0.000347	0.000226	0.000206	0.002	0.0204525	0.007799438
Nickel	0.00191	0.00112	<0.000833	0.00492	0.02	0.04712625	<
Phosphorus	<0.203	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000811	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.000366	0.000915	0.000278	<0.000208	0.005	0.009027	<
Titanium	<0.000811	<0.000833	<0.000833	<0.000833	0.02	<	<
Uranium	<0.0000811	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.0000811	0.0012	0.000993	<0.000833	0.02	<	<
Zinc	0.0189	0.0156	0.0111	0.0152	0.02	0.465241781	0.362244469

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	Travel Blank Filters
Sample Date	29-May	29-May	29-May	29-May	29-May	29-May	29-May	29-May	29-May
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	6.08	7.58	6.25	2.86	6.93	6.75	6.72	12.3	4.333333333
Aluminum	0.0539	0.109	0.069	0.0161	0.0876	0.058	0.1	0.181	0.408542156
Arsenic	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Barium	0.00177	0.00396	0.00305	0.00041	0.00134	0.00181	0.0017	0.00359	0.012735
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0134	0.0111	0.0115	0.0131	0.0105	0.0129	0.0121	0.0141	0.25005525
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00395	0.00656	0.00321	0.00364	0.00301	0.00324	0.00335	0.00522	0.093592031
Cobalt	0.000303	0.000522	0.000191	0.000179	0.000284	0.000279	0.000208	0.000411	0.036983156
Copper	0.0662	0.0211	0.014	0.0153	0.00144	0.0253	0.0015	0.00644	0.016484719
Iron	0.415	0.423	0.216	0.0585	0.264	0.324	0.366	1.14	1.257951938
Lead	0.000673	0.00074	0.000756	0.000722	0.000471	0.000949	0.000532	0.000855	0.052109719
Manganese	0.0101	0.0109	0.00929	0.00947	0.00536	0.00772	0.00774	0.0211	0.179403844
Molybdenum	0.000343	0.000318	0.000214	0.000337	0.00101	0.000234	0.000279	0.0005	0.014634188
Nickel	0.003	0.00139	0.000882	0.00087	0.000888	0.000976	0.000875	0.00279	0.051468563
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.000861	0.000959	0.000663	0.000254	0.000734	0.000703	0.000913	0.00196	<
Titanium	<0.000833	0.00264	0.00137	<0.000833	0.0024	<0.000833	0.00139	0.00627	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.000917	0.00134	0.000906	0.000988	0.000992	<0.000833	0.000989	0.00158	<
Zinc	0.0159	0.0156	0.0131	0.0251	0.0129	0.015	0.0219	0.0156	0.384318938



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		04-Jun	04-Jun
Sample Date	04-Jun	04-Jun	04-Jun	04-Jun			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.474	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	2.41	6.29	4.25	3.22	1	59	11.7
Aluminum	<0.00817	0.0183	0.0306	0.011	0.2	<	<
Arsenic	0.000228	<0.000208	<0.000208	<0.000208	0.005	0.005572781	<
Barium	0.00135	0.00116	0.000729	<0.000208	0.005	0.0331275	0.012873281
Beryllium	<0.000204	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.023	0.0229	0.0207	0.0211	0.2	0.562826063	0.486181781
Cadmium	<0.000204	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00197	0.00191	0.00148	0.00136	0.02	0.04816875	0.028458188
Cobalt	0.000277	0.000328	0.000279	0.000271	0.002	0.0067845	0.006858375
Copper	0.0179	0.00256	0.00223	0.00439	0.01	0.437654063	0.052581
Iron	0.0548	0.19	0.119	0.0552	0.2	1.342369781	2.900867063
Lead	0.000443	0.00074	0.00049	0.000673	0.005	0.010836656	0.00701175
Manganese	0.00228	0.00843	0.00449	0.00105	0.002	0.0558495	0.133291781
Molybdenum	<0.0000817	<0.0000833	<0.0000833	<0.0000833	0.002	<	0.007709813
Nickel	<0.000817	0.000958	<0.000833	<0.000833	0.02	<	0.02680875
Phosphorus	<0.204	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000817	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	<0.000204	<0.000208	<0.000208	<0.000208	0.005	<	<
Titanium	<0.000817	0.000865	0.0022	<0.000833	0.02	<	<
Uranium	<0.0000817	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000817	<0.000833	0.00134	<0.000833	0.02	<	<
Zinc	0.00767	0.0168	0.0174	0.0107	0.02	0.187767656	0.223584094

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Fort McKay South	Horizon	Muskeg River	04-Jun
Sample Date	04-Jun	04-Jun	04-Jun	04-Jun	04-Jun	04-Jun	04-Jun	04-Jun
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	5.33	9.88	9.08	6.25	4.17	4.63	18.3	34
Aluminum	0.0275	0.0928	0.135	0.162	0.0373	0.0878	0.453	<
Arsenic	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	0.000262	<
Barium	0.000594	0.00207	0.00328	0.000417	0.00157	0.00123	0.00496	0.006395906
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0209	0.02	0.0197	0.0216	0.0188	0.0214	0.0224	0.626155688
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00167	0.00155	0.00369	0.00187	0.00116	0.00137	0.00347	0.056948438
Cobalt	0.000535	0.000439	0.000491	0.000276	0.000314	0.000358	0.00111	0.008881969
Copper	0.0698	0.00508	0.00611	0.00592	0.00735	0.00121	0.00276	0.038673469
Iron	0.148	0.407	0.49	0.096	0.184	0.348	1.37	2.591774906
Lead	0.000729	0.000569	0.00159	0.000601	0.000875	0.00054	0.000949	0.012055781
Manganese	0.00714	0.0104	0.00752	0.00535	0.00479	0.00706	0.0308	0.071131688
Molybdenum	<0.0000833	<0.0000833	<0.0000833	0.000432	<0.0000833	<0.0000833	<0.0000833	0.020162813
Nickel	0.00193	0.00234	0.00114	0.00115	<0.000833	<0.000833	0.00154	0.021134156
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	0.00191	<
Titanium	0.002	0.00544	0.00536	<0.000833	0.00146	0.00258	0.0176	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	<0.000833	0.000919	0.00166	<0.000833	<0.000833	<0.000833	0.00142	<
Zinc	0.0147	0.0133	0.0443	0.00784	0.0194	0.0207	0.0272	0.323163563



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Particulate Matter - Metals

2014  
Indicated Sites and Dates

Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters		Travel Blank Filters	
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		10-Jun	10-Jun		
Sample Date	10-Jun	10-Jun	10-Jun	10-Jun					
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5		
Total Air Volume (M3)	23.975	24	24	24			24		
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample		
Particulate Matter	4.5	6	5.21	4.29	1	108	12.7		
Aluminum	0.0471	0.0326	0.0653	0.0286	0.2	1.128620531	<		
Arsenic	0.000467	0.000445	<0.000208	<0.000208	0.005	0.011199094	<		
Barium	0.00172	0.000664	0.00133	0.000923	0.005	0.041321063	<		
Beryllium	<0.000209	<0.000208	<0.000208	<0.000208	0.005	<	<		
Boron	0.026	0.0251	0.0256	0.02	0.2	0.622753688	0.463731375		
Cadmium	<0.000209	<0.000208	<0.000208	<0.000208	0.005	<	<		
Chromium	0.00193	<0.000833	<0.000833	<0.000833	0.02	0.046295531	<		
Cobalt	0.000505	0.00028	0.000309	0.000236	0.002	0.012104719	0.009869719		
Copper	0.00958	0.00316	0.00991	0.00439	0.01	0.229653094	0.034075031		
Iron	0.137	0.116	0.142	0.101	0.2	3.285510094	1.159853063		
Lead	0.000618	0.000585	0.000894	0.000597	0.005	0.014808656	0.005422219		
Manganese	0.0074	0.0144	0.00264	0.000681	0.002	0.177295219	0.039213094		
Molybdenum	0.00284	0.0004	<0.000833	<0.000833	0.002	0.068002969	0.006591		
Nickel	<0.000834	<0.000833	<0.000833	<0.000833	0.02	<	0.032553094		
Phosphorus	<0.209	<0.208	<0.208	<0.208	5	<	<		
Silver	<0.000834	<0.000833	<0.000833	<0.000833	0.002	<	<		
Strontium	<0.000209	<0.000208	<0.000208	<0.000208	0.005	<	<		
Titanium	0.0014	0.0015	0.00199	0.00102	0.02	0.0335115	<		
Uranium	<0.000834	<0.000833	<0.000833	<0.000833	0.002	<	<		
Vanadium	<0.000834	<0.000833	<0.000833	<0.000833	0.02	<	<		
Zinc	0.0164	0.018	0.00954	0.0122	0.02	0.393189469	0.140771531		

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	Travel Blank Filters
Sample Date	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	13.7	14.2	20.1	10.6	12.9	14.9	10.7	23.1	4.67
Aluminum	0.191	0.249	0.422	0.099	0.212	0.28	0.171	0.396	<
Arsenic	0.000302	0.000823	0.000384	<0.000208	<0.000208	<0.000208	<0.000208	0.000362	<
Barium	0.00233	0.00448	0.00775	0.0014	0.00241	0.00251	0.00226	0.00556	0.005665406
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0241	0.0257	0.0271	0.0262	0.0248	0.028	0.0259	0.0261	0.522152531
Cadmium	<0.000208	0.00138	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.0021	0.00122	0.00145	0.00106	0.00147	0.00135	0.00104	0.00152	0.020724281
Cobalt	0.00054	0.000461	0.000661	0.000617	0.000578	0.000448	0.000349	0.000656	0.005347969
Copper	0.0475	0.00815	0.0197	0.0251	0.00137	0.0258	0.0237	0.00185	0.015654375
Iron	0.631	0.747	1.2	0.266	0.609	0.542	0.578	1.49	1.120386375
Lead	0.000923	0.00256	0.00144	0.00108	0.000995	0.00085	0.000875	0.000931	0.006297
Manganese	0.0108	0.0186	0.0328	0.00561	0.00947	0.00847	0.00912	0.0227	<
Molybdenum	0.000541	0.000195	0.000125	<0.000833	0.00042	0.000443	<0.000833	0.000256	0.019575844
Nickel	0.00112	<0.000833	0.0012	<0.000833	0.00123	<0.000833	0.00685	0.00113	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Strontium	0.00113	0.00109	0.00191	0.000516	0.000999	0.00111	0.000724	0.00263	<
Titanium	0.0175	0.00894	0.0136	0.0048	0.00628	0.00706	0.00686	0.0159	0.022612031
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Vanadium	0.0011	0.000958	0.00138	<0.000833	0.000946	0.000847	<0.000833	0.00157	<
Zinc	0.0113	0.0186	0.0235	0.00903	0.0186	0.0108	0.0226	0.0158	0.107056031



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		16-Jun	16-Jun
Sample Date	16-Jun	16-Jun	16-Jun	16-Jun		16-Jun	16-Jun
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24

Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	8.75	6.5	8.46	3.96	1	210	8
Aluminum	0.111	0.0726	0.165	0.0461	0.2	2.655869906	<
Arsenic	0.000363	0.000288	0.00033	<0.000208	0.005	0.008707031	<
Barium	0.00216	0.00176	0.00535	0.000475	0.005	0.051762094	<
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0261	0.026	0.0304	0.0243	0.2	0.6255705	0.582412031
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00105	0.00121	0.00121	0.00093	0.02	0.025091531	0.025225125
Cobalt	0.000501	0.000223	0.000454	0.000346	0.002	0.012026438	0.006469969
Copper	0.0223	0.00977	0.0157	0.0136	0.01	0.535933875	0.030446813
Iron	0.396	0.248	0.593	0.0912	0.2	9.509974125	1.083414656
Lead	0.00072	0.000797	0.00123	0.000405	0.005	0.017272031	<
Manganese	0.00871	0.00281	0.00717	0.00206	0.002	0.209036625	0.022269281
Molybdenum	0.00112	0.000429	0.000287	0.000767	0.002	0.026921063	0.01958025
Nickel	0.000983	<0.000833	<0.000833	<0.000833	0.02	0.023593125	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.000588	<0.000208	0.000535	<0.000208	0.005	0.014117719	<
Titanium	0.0045	0.00376	0.00616	0.00152	0.02	0.107996625	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	0.00106	<0.000833	<0.000833	<0.000833	0.02	0.025392563	<
Zinc	0.0153	0.0102	0.0373	0.00969	0.02	0.367928719	0.155860406

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	Travel Blank Filters
Sample Date	16-Jun	16-Jun	16-Jun	16-Jun	16-Jun	16-Jun	16-Jun	16-Jun	16-Jun
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24.009	24	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	42.6	24.8	43	10.1	147	29.8	52.9	55	15.3
Aluminum	0.912	0.667	1.22	0.108	4.15	0.562	1.17	1.18	<
Arsenic	0.000567	0.000596	0.000983	<0.000208	0.00208	0.000293	0.000761	0.000734	<
Barium	0.0125	0.0133	0.0259	0.00209	0.041	0.00736	0.0183	0.0167	<
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.000309	<0.000208	<0.000208	<0.000208	<
Boron	0.0323	0.027	0.0286	0.0273	0.0343	0.0274	0.0277	0.0264	0.561131625
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00222	0.0021	0.00335	0.000881	0.00818	0.00135	0.00274	0.00275	<
Cobalt	0.000991	0.000633	0.00123	0.000295	0.00384	0.000656	0.00204	0.00136	0.004125094
Copper	0.0721	0.0169	0.0261	0.0664	0.0102	0.0128	0.00264	0.00277	<
Iron	2.49	1.95	4.14	0.387	5.42	1.4	4.17	5.3	0.890485969
Lead	0.00138	0.00156	0.00238	0.00043	0.00371	0.000819	0.00129	0.00126	<
Manganese	0.0431	0.0293	0.066	0.00757	0.0817	0.0221	0.0674	0.0885	0.036781125
Molybdenum	0.000638	0.000231	0.000431	0.000222	0.000848	0.000339	0.000394	0.000272	0.0508455
Nickel	0.00198	0.00103	0.00263	<0.000833	0.00851	0.00145	0.00258	0.00244	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	0.222	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00838	0.00444	0.00663	0.00022	0.0272	0.00401	0.00759	0.00819	<
Titanium	0.0284	0.0246	0.0388	0.00534	0.109	0.0189	0.0411	0.0483	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.000314	<0.0000833	0.000101	0.0000963	<
Vanadium	0.00412	0.00205	0.00383	<0.000833	0.0137	0.00265	0.0045	0.00447	<
Zinc	0.0196	0.0286	0.0457	0.0211	0.0472	0.0114	0.0149	0.02	0.311027156



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Station #	AMS 1	AMS 6	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Anzac		22-Jun	22-Jun
Sample Date	22-Jun	22-Jun	22-Jun		N/A	22-Jun
PM Size(µm)	pm2.5	pm2.5	pm2.5			pm2.5
Total Air Volume (M3)	23.835	24	24			24
Unit	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	6.08	11.6	8.33	1	145	6
Aluminum	<0.00839	0.0132	<0.00833	0.2	<	<
Arsenic	0.000295	<0.000208	<0.000208	0.005	0.007043156	<
Barium	0.000652	0.00175	0.000509	0.005	0.01552875	<
Beryllium	<0.000210	<0.000208	<0.000208	0.005	<	<
Boron	0.0243	0.0258	0.0205	0.2	0.578277844	0.560838
Cadmium	<0.000210	<0.000208	<0.000208	0.005	<	<
Chromium	0.00166	0.00187	0.00148	0.02	0.039577031	0.053573438
Cobalt	0.000507	0.000528	0.000224	0.002	0.012087188	0.006185438
Copper	0.017	0.00375	0.0119	0.01	0.405719156	0.049543781
Iron	0.0537	0.0781	0.0416	0.2	1.279228875	1.058274188
Lead	0.000284	0.000466	0.000246	0.005	0.006774656	0.037351313
Manganese	0.00268	0.0015	0.000862	0.002	0.063963188	0.015685875
Molybdenum	<0.0000839	<0.0000833	<0.0000833	0.002	<	0.007010719
Nickel	<0.000839	<0.000833	<0.000833	0.02	<	<
Phosphorus	<0.210	<0.208	<0.208	5	<	<
Silver	<0.0000839	<0.0000833	<0.0000833	0.002	<	<
Strontium	<0.000210	<0.000208	<0.000208	0.005	<	<
Titanium	0.000923	<0.000833	<0.000833	0.02	0.022002844	<
Uranium	<0.0000839	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000839	0.00148	<0.000833	0.02	<	<
Zinc	0.00311	0.00717	0.0167	0.02	0.074016	0.23448525

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	22-Jun
Sample Date	22-Jun	22-Jun	22-Jun	22-Jun	22-Jun	22-Jun	22-Jun	22-Jun	22-Jun
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	12.1	19.3	23.3	14.8	16	13.3	11.4	24	3.67
Aluminum	0.0603	0.114	0.198	0.0162	0.103	0.0337	0.0377	0.422	<
Arsenic	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	0.000214	<
Barium	0.000783	0.00358	0.00613	0.00076	0.00633	0.00649	0.000731	0.00445	0.059698219
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0262	0.0254	0.0262	0.0248	0.0264	0.0261	0.0272	0.0289	0.508712156
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00233	0.0023	0.00245	0.00206	0.00244	0.00213	0.00175	0.00253	0.038763
Cobalt	0.000421	0.0004	0.000289	0.00597	0.000339	0.000172	0.000241	0.000576	0.003427594
Copper	0.107	0.00866	0.00462	0.0653	0.00515	0.0142	0.00155	0.00186	<
Iron	0.228	0.433	0.682	0.0878	0.381	0.139	0.154	1.35	0.630786563
Lead	0.000427	0.000676	0.000605	0.000597	0.000546	0.000307	0.000378	0.000741	<
Manganese	0.00283	0.00888	0.00905	0.00184	0.00759	0.00383	0.00331	0.0216	<
Molybdenum	<0.0000833	<0.0000833	<0.0000833	0.000273	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.005210906
Nickel	<0.000833	<0.000833	<0.000833	0.000878	<0.000833	<0.000833	<0.000833	0.001	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	0.000749	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.000119	<
Strontium	<0.000208	0.000258	0.000938	<0.000208	0.00105	<0.000208	<0.000208	0.00189	<
Titanium	0.00162	0.00641	0.00767	0.000932	0.00365	0.00358	0.00134	0.0158	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	<0.000833	0.00193	0.00233	0.00109	0.000852	<0.000833	<0.000833	0.00172	<
Zinc	0.00813	0.01	0.0289	0.00603	0.0147	0.00833	0.00749	0.0176	0.104863406



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Station #	AMS 1	AMS 6	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Anzac		28-Jun	28-Jun
Sample Date	28-Jun	28-Jun	28-Jun			
PM Size(µm)	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	6.21	12	11	1	149	3.67
Aluminum	<0.00833	0.0393	0.0131	0.2	<	<
Arsenic	0.000329	0.000219	0.000277	0.005	0.007891781	<
Barium	0.000341	0.00125	0.00118	0.005	0.008193094	<
Beryllium	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.00984	0.0316	0.0221	0.2	0.236210906	0.590900625
Cadmium	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	<0.000833	0.00173	0.00132	0.02	<	0.044513531
Cobalt	0.000205	0.000182	0.000283	0.002	0.004928531	0.007033313
Copper	0.0124	0.00533	0.00253	0.01	0.298393781	0.032160188
Iron	0.0549	0.152	0.102	0.2	1.31817675	0.636538125
Lead	0.000245	0.000421	0.000353	0.005	0.005881688	0.006978375
Manganese	<0.000833	0.0024	0.0016	0.002	<	0.054123656
Molybdenum	0.000652	0.000365	0.00028	0.002	0.01563975	0.018711844
Nickel	<0.000833	<0.000833	<0.000833	0.02	<	<
Phosphorus	<0.208	<0.208	<0.208	5	<	<
Silver	<0.000833	<0.000833	<0.000833	0.002	<	<
Strontium	<0.000208	<0.000208	<0.000208	0.005	<	<
Titanium	0.00106	0.00164	0.00122	0.02	0.025557469	<
Uranium	<0.000833	<0.000833	<0.000833	0.002	<	<
Vanadium	<0.000833	0.00148	0.000873	0.02	<	<
Zinc	0.00641	0.0164	0.0105	0.02	0.153846469	0.310704469

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	28-Jun
Sample Date	28-Jun	28-Jun	28-Jun	28-Jun	28-Jun	28-Jun	28-Jun	28-Jun	28-Jun
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	19.3	34.5	29.2	21.5	26.8	14.4	28.9	43.3	<
Aluminum	0.187	0.597	0.437	0.174	0.3	0.0888	0.418	0.795	<
Arsenic	0.000273	0.000537	0.00149	0.000501	0.000269	<0.000208	0.000351	0.000639	<
Barium	0.00253	0.00922	0.00978	0.00554	0.00503	0.00196	0.00584	0.00936	<
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0273	0.0299	0.0285	0.0263	0.0281	0.0278	0.0286	0.0326	0.587507906
Cadmium	<0.000208	<0.000208	<0.000208	0.000473	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00209	0.00282	0.00267	0.00201	0.00236	0.00173	0.00168	0.00316	0.026673
Cobalt	0.00044	0.000591	0.00139	0.000402	0.00103	0.000255	0.000686	0.000928	0.012591563
Copper	0.127	0.0133	0.0224	0.00199	0.00206	0.0106	0.00186	0.00293	0.014794406
Iron	0.562	1.71	1.33	0.831	1.23	0.315	1.21	2.55	0.342831281
Lead	0.000479	0.00113	0.00118	0.00126	0.000822	0.000378	0.000683	0.00134	<
Manganese	0.0108	0.0425	0.021	0.0144	0.0202	0.00696	0.0163	0.0448	<
Molybdenum	0.000361	0.000522	0.000573	0.000513	0.000611	0.000302	0.000348	0.000633	0.030066844
Nickel	<0.000833	0.00176	0.00152	<0.000833	0.00444	<0.000833	0.0011	0.00167	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Strontium	0.0011	0.00338	0.00236	0.000546	0.00204	<0.000208	0.00193	0.00492	<
Titanium	0.00506	0.0223	0.0184	0.00793	0.0132	0.00308	0.0128	0.0293	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Vanadium	0.000875	0.00373	0.00356	0.00177	0.00332	<0.000833	0.00171	0.00316	<
Zinc	0.0101	0.0371	0.127	0.0116	0.0213	0.0112	0.0187	0.023	0.120650063



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		04-Jul	04-Jul
Sample Date	04-Jul	04-Jul	04-Jul	04-Jul			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	23.283	24	20	24.01			24

Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	5.11	2	4.55	2.79	1	119	<
Aluminum	0.0261	0.0283	0.0952	0.0252	0.2	0.607078031	0.36479775
Arsenic	0.000405	0.000583	0.000312	<0.000208	0.005	0.009430781	<
Barium	0.00105	0.00121	0.00431	0.000507	0.005	0.024404063	0.036854719
Beryllium	<0.000215	<0.000208	<0.000250	<0.000208	0.005	<	<
Boron	0.0251	0.0207	0.0248	0.021	0.2	0.584239969	0.555389531
Cadmium	<0.000215	<0.000208	<0.000250	<0.000208		<	<
Chromium	0.00243	0.0023	0.00254	0.00209	0.02	0.056483719	0.070321688
Cobalt	0.000376	0.00023	0.000344	0.000186	0.002	0.008752125	0.00963
Copper	0.00498	0.00104	0.0524	0.00601	0.01	0.116008219	0.020499188
Iron	0.0643	0.0608	0.339	0.0863	0.2	1.496663813	0.835003031
Lead	0.000308	0.000219	0.000911	0.000284	0.005	0.007176281	0.007604719
Manganese	0.00719	0.00431	0.00791	0.0027	0.002	0.167300063	0.141971344
Molybdenum	<0.0000859	<0.0000833	<0.000100	<0.0000833	0.002	<	<
Nickel	0.00137	0.00105	0.00507	<0.000833	0.02	0.031967156	0.042768656
Phosphorus	<0.215	<0.208	<0.250	<0.208	5	<	<
Silver	<0.0000859	<0.0000833	<0.000100	<0.0000833	0.002	<	<
Strontium	0.00038	0.000314	0.000752	<0.000208	0.005	0.008842219	0.009339188
Titanium	<0.000859	<0.000833	0.00293	<0.000833	0.02	<	<
Uranium	<0.0000859	<0.0000833	<0.000100	<0.0000833	0.002	<	<
Vanadium	<0.000859	<0.000833	<0.00100	<0.000833	0.02	<	<
Zinc	0.0132	0.0119	0.0122	0.00604	0.02	0.308241656	0.388761188

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	Travel Blank Filters
Sample Date	04-Jul	04-Jul	04-Jul	04-Jul	04-Jul	04-Jul	04-Jul	04-Jul	04-Jul
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	20	24	24.01	24	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	8.88	9	11	10.3	12.6	6.54	6.92	34.9	<	<
Aluminum	0.0875	0.149	0.177	0.177	0.159	0.152	0.0602	0.445	<	<
Arsenic	0.000242	0.000867	0.00026	<0.000208	<0.000208	<0.000208	<0.000208	0.000517	<	<
Barium	0.0016	0.00373	0.00673	0.00371	0.0034	0.00235	0.00329	0.00826	0.005214375	<
Beryllium	<0.000208	<0.000250	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<	<
Boron	0.0227	0.027	0.0222	0.0247	0.0232	0.0226	0.0241	0.0268	0.398284125	<
Cadmium	<0.000208	<0.000250	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<	<
Chromium	0.00249	0.00352	0.00255	0.00373	0.00264	0.00247	0.00261	0.00321	0.047774438	<
Cobalt	0.000305	0.000479	0.000372	0.000332	0.000371	0.000659	0.000276	0.000895	0.004035094	<
Copper	0.0316	0.00423	0.0102	0.0304	0.0048	0.0111	0.00188	0.00334	0.025958719	<
Iron	0.222	0.462	0.521	0.646	0.515	0.247	0.166	2.02	0.43054275	<
Lead	0.000272	0.000506	0.000648	0.00044	0.000383	0.000281	0.000299	0.00103	<	<
Manganese	0.00634	0.016	0.0108	0.0126	0.0124	0.00727	0.00625	0.0395	0.059071406	<
Molybdenum	<0.0000833	<0.000100	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.0000899	<	<
Nickel	0.00339	0.00505	0.00251	0.0015	0.00216	0.00159	0.0012	0.00343	<	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<	<
Silver	<0.0000833	<0.000100	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<	<
Strontium	0.00069	0.00146	0.00139	0.00116	0.0014	0.00115	0.000587	0.00411	<	<
Titanium	0.00373	0.00389	0.0062	0.00599	0.00422	0.00364	0.00169	0.0189	<	<
Uranium	<0.0000833	<0.000100	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<	<
Vanadium	<0.000833	0.00107	0.000986	0.00112	<0.000833	0.000934	<0.000833	0.00258	<	<
Zinc	0.0116	0.0181	0.0155	0.012	0.0128	0.0103	0.0107	0.0261	0.151228594	<





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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		10-Jul	10-Jul
Sample Date	10-Jul	10-Jul	10-Jul	10-Jul			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24

Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	7.21	16.2	17.2	9.25	1	173	<
Aluminum	0.437	0.0347	0.05	1.29	0.2	10.49864831	0.304200563
Arsenic	0.000446	<0.000208	<0.000208	<0.000208	0.005	0.010715813	<
Barium	0.00088	0.00103	0.00154	0.00136	0.005	0.02111925	0.009309
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0261	0.0289	0.0288	0.0251	0.2	0.625509281	0.496625063
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208		<	<
Chromium	0.00323	0.00185	0.00162	0.00279	0.02	0.077539031	0.050412656
Cobalt	0.00032	0.000308	0.000405	0.00031	0.002	0.007677094	0.005582531
Copper	0.0105	0.0015	0.00225	0.0618	0.01	0.252157031	0.010736438
Iron	0.0843	0.186	0.414	0.0818	0.2	2.023634719	0.682761938
Lead	0.000383	0.000333	0.000275	0.0089	0.005	0.009194063	<
Manganese	0.00456	0.00443	0.00364	0.0131	0.002	0.109505063	0.031256156
Molybdenum	0.00135	0.000118	0.000103	<0.000833	0.002	0.032436469	0.022906875
Nickel	0.0016	0.00151	0.00189	0.00145	0.02	0.03831075	0.026615813
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Strontium	0.000361	0.000502	0.000411	0.000332	0.005	0.008673375	<
Titanium	<0.000833	0.000904	0.00152	0.00148	0.02	<	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Vanadium	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Zinc	0.0176	0.0272	0.0263	0.0288	0.02	0.421552031	0.276725719

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	10-Jul
Sample Date	10-Jul	10-Jul	10-Jul	10-Jul	10-Jul	10-Jul	10-Jul	10-Jul	10-Jul
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	18.5	24	24	24	24	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	34.9	31.6	16.8	12.5	30.3	13.5	22.8	30	5	
Aluminum	0.518	0.418	0.211	0.0654	0.288	0.0274	0.259	0.329	<	
Arsenic	0.000733	0.000389	0.000219	<0.000208	0.000263	<0.000208	0.0003	0.00034	<	
Barium	0.00878	0.0108	0.00455	0.00153	0.00512	0.00117	0.0048	0.00579	<	
Beryllium	<0.000270	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<	
Boron	0.0337	0.0239	0.0228	0.0254	0.0273	0.0227	0.029	0.0307	0.545134781	
Cadmium	<0.000270	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<	
Chromium	0.0027	0.00232	0.00432	0.0016	0.00199	0.0013	0.00217	0.002	0.048173438	
Cobalt	0.00101	0.000414	0.000488	0.000363	0.000598	0.000359	0.000441	0.000612	0.003298969	
Copper	0.0695	0.00122	0.0039	0.0178	0.00223	0.0137	0.0039	0.00131	<	
Iron	1.34	1.07	0.544	0.141	0.948	0.047	0.773	1.54	0.577056	
Lead	0.00186	0.000597	0.000397	0.000327	0.000748	0.000331	0.000508	0.000823	0.014639625	
Manganese	0.0376	0.0205	0.0127	0.00683	0.018	0.00638	0.0157	0.028	0.031142438	
Molybdenum	0.000436	0.000142	0.000362	0.000121	0.000423	0.000125	0.00032	0.000231	0.039857906	
Nickel	0.00377	0.00165	0.0229	0.00246	0.00202	0.00201	0.00149	0.00203	0.027601688	
Phosphorus	<0.270	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<	
Silver	<0.000108	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<	
Strontium	0.0034	0.00543	0.00121	0.000589	0.00289	0.000539	0.00179	0.00291	<	
Titanium	0.0192	0.0135	0.00549	0.00246	0.00966	0.000904	0.0077	0.0128	<	
Uranium	<0.000108	<0.000833	0.0000895	0.0000847	<0.000833	<0.000833	<0.000833	<0.000833	<	
Vanadium	0.00219	0.00142	<0.000833	<0.000833	0.00247	<0.000833	0.00118	0.0015	<	
Zinc	0.0196	0.019	0.032	0.011	0.0138	0.0133	0.0133	0.0182	0.112595156	



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		16-Jul	16-Jul
Sample Date	16-Jul	16-Jul	16-Jul	16-Jul		16-Jul	16-Jul
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24

Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	23.8	21	21.9	19.8	1	572	9
Aluminum	0.0973	0.0782	0.0819	0.0688	0.2	2.334748219	0.319018594
Arsenic	0.000557	<0.000208	<0.000208	<0.000208	0.005	0.013358906	<
Barium	0.00277	0.00269	0.00408	0.00259	0.005	0.06655275	0.019282781
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.029	0.038	0.0336	0.0301	0.2	0.695164688	0.416983406
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208		<	<
Chromium	0.00202	0.0025	0.00373	0.00586	0.02	0.048443063	0.041254219
Cobalt	0.000436	0.000551	0.00441	0.000337	0.002	0.010457813	0.009769125
Copper	0.0167	0.00252	0.00474	0.0102	0.01	0.401906625	0.031171875
Iron	0.194	0.185	0.22	0.193	0.2	4.648656	0.480948
Lead	0.00139	0.00115	0.00159	0.000551	0.005	0.033433781	<
Manganese	0.00772	0.0062	0.0121	0.0131	0.002	0.185349094	0.167523281
Molybdenum	0.00146	0.00036	0.000925	0.000906	0.002	0.03504075	0.010118438
Nickel	0.00192	0.00146	0.016	0.0028	0.02	0.046016906	0.044843344
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.00123	0.000865	0.000988	0.000833	0.005	0.029541938	0.009666469
Titanium	0.00479	0.00491	0.00399	0.00258	0.02	0.114975563	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000833	0.00105	0.00162	0.00104	0.02	<	<
Zinc	0.0146	0.0147	0.024	0.0246	0.02	0.349627594	0.337635938

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	16-Jul
Sample Date	16-Jul	16-Jul	16-Jul	16-Jul	16-Jul	16-Jul	16-Jul	16-Jul	16-Jul
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	21.4	24	24	24.01	22.8	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	41.9	50.4	48	30.6	61.4	31.2	32.3	53.2		26
Aluminum	0.379	0.806	0.625	0.337	0.764	0.255	0.248	0.57		0.225922125
Arsenic	0.00058	0.000579	0.00072	0.000336	0.000572	0.000402	0.000353	0.000587		<
Barium	0.00707	0.0229	0.0182	0.00686	0.0131	0.0055	0.00663	0.0107		0.011672344
Beryllium	<0.000234	<0.000208	<0.000208	<0.000208	<0.000219	<0.000208	<0.000208	<0.000208		<
Boron	0.0347	0.0312	0.0279	0.0286	0.0376	0.0357	0.0392	0.0342		0.470036813
Cadmium	0.00166	<0.000208	<0.000208	<0.000208	<0.000219	<0.000208	<0.000208	<0.000208		<
Chromium	0.00293	0.00305	0.00356	0.00276	0.00781	0.00575	0.00407	0.00315		0.035212125
Cobalt	0.000616	0.000707	0.000895	0.000463	0.00123	0.000767	0.000435	0.00094		0.015899063
Copper	0.115	0.00358	0.012	0.0368	0.00362	0.0143	0.00101	0.00537		0.013599281
Iron	1.28	2.29	1.97	0.742	2.36	0.743	0.847	2.41		<
Lead	0.00151	0.00128	0.00142	0.000769	0.00244	0.000643	0.000494	0.00162		<
Manganese	0.0251	0.0411	0.0379	0.0396	0.045	0.0249	0.0225	0.0572		0.088517156
Molybdenum	0.000287	0.000158	0.000543	0.000237	0.000851	0.000855	0.000768	0.000305		0.023623219
Nickel	0.00288	0.00247	0.00375	0.00216	0.00327	0.00187	0.00143	0.0033		0.028710375
Phosphorus	<0.234	<0.208	<0.208	<0.208	<0.219	<0.208	<0.208	<0.208		<
Silver	<0.0000935	<0.0000833	<0.0000833	<0.0000833	<0.0000877	<0.0000833	<0.0000833	<0.0000833		<
Strontium	0.00413	0.00892	0.00495	0.00193	0.00692	0.0023	0.0023	0.00565		<
Titanium	0.0126	0.03	0.0214	0.0103	0.0234	0.00817	0.00912	0.0226		<
Uranium	<0.0000935	<0.0000833	<0.0000833	<0.0000833	<0.0000877	<0.0000833	<0.0000833	<0.0000833		<
Vanadium	0.00227	0.00314	0.00293	0.0017	0.00377	0.00142	0.00129	0.0026		<
Zinc	0.0185	0.0268	0.0326	0.0332	0.0264	0.0255	0.0309	0.0457		0.226260375



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		22-Jul	22-Jul
Sample Date	22-Jul	22-Jul	22-Jul	22-Jul			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	23.021	24	24	24			24

Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	38.7	17.1	30.6	31.8	1	892	32
Aluminum	0.0754	0.0399	0.0663	0.0732	0.2	1.736605125	0.319168313
Arsenic	0.000848	0.000469	0.00068	0.000452	0.005	0.019520438	<
Barium	0.00341	0.00423	0.0039	0.00266	0.005	0.078578344	0.02469375
Beryllium	<0.000217	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0433	0.0362	0.0401	0.0338	0.2	0.996826875	0.563614969
Cadmium	<0.000217	<0.000208	<0.000208	<0.000208		<	<
Chromium	0.00385	0.0031	0.00273	0.00265	0.02	0.08874525	0.045664313
Cobalt	0.000993	0.000438	0.000392	0.000408	0.002	0.022865813	0.010410938
Copper	0.00478	0.00202	0.00333	0.0163	0.01	0.110121938	0.011280844
Iron	0.322	0.1	0.182	0.227	0.2	7.401716719	0.657173813
Lead	0.00121	0.00103	0.000924	0.000959	0.005	0.027815063	0.015749813
Manganese	0.00631	0.00254	0.00369	0.00446	0.002	0.1453275	0.029225344
Molybdenum	0.00138	0.000334	0.000571	0.00046	0.002	0.031710094	0.022383469
Nickel	0.00156	<0.000833	0.000912	0.000891	0.02	0.035856375	<
Phosphorus	<0.217	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000869	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.00108	0.000834	0.00104	0.00152	0.005	0.024886031	0.008550563
Titanium	0.00235	<0.000833	0.00211	0.00195	0.02	0.054036	<
Uranium	<0.0000869	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	0.00313	<0.000833	0.000896	0.000911	0.02	0.072091125	<
Zinc	0.016	0.00814	0.0123	0.0136	0.02	0.367550063	0.09873

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	Travel Blank Filters
Sample Date	22-Jul	22-Jul	22-Jul	22-Jul	22-Jul	22-Jul	22-Jul	22-Jul	22-Jul
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	69.8	94.3	57.8	62.1	99.8	57.5	55	59.5	5	
Aluminum	0.657	0.312	0.551	0.646	1.03	0.384	0.421	0.378	<	
Arsenic	0.00103	0.00077	0.000847	0.000996	0.00118	0.000664	0.00071	0.000647	0.005645719	
Barium	0.013	0.00911	0.0172	0.0143	0.0176	0.00881	0.00773	0.00798	0.010949438	
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<	
Boron	0.0436	0.0354	0.0344	0.0312	0.0474	0.0378	0.0384	0.0383	0.532817531	
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<	
Chromium	0.00496	0.0037	0.00406	0.00342	0.00527	0.0031	0.00325	0.00319	0.063575906	
Cobalt	0.00105	0.00048	0.000758	0.00112	0.00164	0.000735	0.000846	0.000723	0.00859725	
Copper	0.0464	0.012	0.00971	0.06	0.0032	0.0105	0.00256	0.00228	0.015802781	
Iron	2.62	1.23	2.04	2.5	3.53	1.64	1.45	1.75	0.696235875	
Lead	0.00197	0.00181	0.00191	0.0022	0.00388	0.00168	0.00125	0.00101	0.008646094	
Manganese	0.0432	0.0211	0.0324	0.0472	0.0599	0.0266	0.0229	0.0295	0.013860938	
Molybdenum	0.00129	0.000662	0.000697	0.000457	0.00126	0.000837	0.000795	0.00102	0.0644441406	
Nickel	0.00453	0.00138	0.00207	0.00228	0.00364	0.00239	0.0022	0.00192	<	
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<	
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<	
Strontium	0.00691	0.00269	0.00432	0.00401	0.0114	0.00403	0.00529	0.00518	<	
Titanium	0.0228	0.0111	0.0212	0.0257	0.0434	0.0157	0.0128	0.0204	<	
Uranium	0.0000844	<0.0000833	<0.0000833	<0.0000833	0.000131	<0.0000833	<0.0000833	<0.0000833	<	
Vanadium	0.00821	0.00216	0.00272	0.00325	0.0065	0.00625	0.00483	0.00505	0.020328281	
Zinc	0.0244	0.0207	0.0275	0.0173	0.0245	0.0222	0.014	0.0137	0.105740063	



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		28-Jul	28-Jul
Sample Date	28-Jul	28-Jul	28-Jul	28-Jul			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	11.6	7.75	7.25	6.04	1	279	6
Aluminum	0.0435	0.0227	0.0357	0.0195	0.2	1.044291844	0.272181
Arsenic	0.000627	<0.000208	0.000272	0.000232	0.005	0.015045938	0.005913938
Barium	0.000976	0.00104	0.0027	0.000606	0.005	0.023421844	0.010849594
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.025	0.0258	0.0281	0.0239	0.2	0.6010635	0.528383344
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208		<	<
Chromium	0.00199	0.00215	0.0022	0.00196	0.02	0.047705531	0.048455531
Cobalt	0.00032	0.000273	0.000208	0.000192	0.002	0.007686469	0.007646438
Copper	0.0259	0.00344	0.00325	0.0322	0.01	0.621622594	0.065468625
Iron	0.169	0.082	0.114	0.0681	0.2	4.046735625	0.365538938
Lead	0.000288	0.000827	0.000864	0.000434	0.005	0.006908156	0.006919031
Manganese	0.00286	0.00164	0.00211	0.00164	0.002	0.068738156	0.099521344
Molybdenum	0.000541	0.000325	0.000395	0.000397	0.002	0.012978844	0.016587844
Nickel	<0.000833	0.00111	<0.000833	<0.000833	0.02	<	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Strontium	0.000319	0.000317	0.000707	<0.000208	0.005	0.00765375	<
Titanium	0.001	<0.000833	0.0009	<0.000833	0.02	0.024070125	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Vanadium	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Zinc	0.00711	0.00443	0.00472	0.00293	0.02	0.170759438	0.087256031

Station #	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	28-Jul
Sample Date	28-Jul	28-Jul	28-Jul	28-Jul	28-Jul	28-Jul	28-Jul	28-Jul
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	17.5	21.8	13.9	29.7	24	13.6	40.3	10
Aluminum	0.194	0.279	0.126	0.402	0.332	0.122	0.492	<
Arsenic	0.000263	0.000423	0.000334	0.000512	0.000479	0.00024	0.000589	0.005576156
Barium	0.00565	0.0114	0.00315	0.0068	0.00556	0.00217	0.0093	0.045985406
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0255	0.0281	0.0265	0.0292	0.0254	0.0259	0.0288	0.496497094
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00266	0.00313	0.00235	0.00374	0.00254	0.00214	0.00321	0.041416688
Cobalt	0.000257	0.000749	0.000222	0.00082	0.000442	0.000195	0.000717	0.013016063
Copper	0.00541	0.00814	0.147	0.00184	0.00508	<0.000417	0.0023	<
Iron	0.887	1	0.574	1.45	0.785	0.437	2.35	0.289684594
Lead	0.000475	0.00161	0.000317	0.000851	0.00117	0.000254	0.001	<
Manganese	0.014	0.021	0.00967	0.0253	0.0109	0.00724	0.0401	0.018097031
Molybdenum	0.000263	0.000537	0.000357	0.000605	0.00035	0.000348	0.000728	0.024832969
Nickel	0.00107	0.00149	<0.000833	0.00198	0.00126	<0.000833	0.00229	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Strontium	0.00197	0.00219	0.000756	0.004	0.00303	0.00126	0.00494	<
Titanium	0.00704	0.0105	0.00395	0.0134	0.00817	0.00328	0.0192	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Vanadium	0.00117	0.00145	0.000905	0.00245	0.0018	<0.000833	0.00452	<
Zinc	0.0114	0.0208	0.00631	0.0162	0.00801	0.00244	0.00796	<



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Station #	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Patricia McInnes	Athabasca Valley	Anzac		03-Aug	03-Aug
Sample Date	03-Aug	03-Aug	03-Aug			
PM Size(µm)	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24			24

Unit	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	12.6	10.8	12.3	1	988	6
Aluminum	0.0679	0.0459	<0.00833	0.2	10.4206755	0.27644625
Arsenic	0.000347	0.000766	<0.000208	0.005	0.013485844	<
Barium	0.00173	0.00357	<0.000208	0.005	0.200300438	0.049274156
Beryllium	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0285	0.029	<0.00833	0.2	0.899197219	0.439198219
Cadmium	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00149	0.00133	<0.000833	0.02	0.124622438	<
Cobalt	0.000558	0.000834	<0.000833	0.002	0.065718844	0.031489125
Copper	0.00515	0.00763	0.000912	0.01	1.099326375	0.023759813
Iron	0.152	0.104	<0.00833	0.2	35.89042659	<
Lead	0.00213	0.00297	<0.000208	0.005	0.027072094	0.005745469
Manganese	0.00491	0.00705	0.00154	0.002	0.645667969	0.068211188
Molybdenum	<0.000833	0.00017	<0.000833	0.002	0.01630125	0.011585438
Nickel	0.00123	0.00116	<0.000833	0.02	0.1544115	0.031000313
Phosphorus	<0.208	<0.208	<0.208	5	<	<
Silver	<0.000833	<0.000833	<0.000833	0.002	<	<
Strontium	0.000912	0.000751	<0.000208	0.005	0.136969781	0.008699063
Titanium	0.00219	0.0021	<0.000833	0.02	1.137617531	<
Uranium	<0.000833	<0.000833	<0.000833	0.002	<	<
Vanadium	<0.000833	<0.000833	<0.000833	0.02	0.113375156	<
Zinc	0.0124	0.02	0.00353	0.02	0.575148563	0.247619625

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	03-Aug
Sample Date	03-Aug	03-Aug	03-Aug	03-Aug	03-Aug	03-Aug	03-Aug	pm10
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	41.2	23.8	23.8	19.5	71.2	24.8	33.8	7
Aluminum	0.434	0.263	0.308	0.171	0.832	0.222	0.433	0.280447219
Arsenic	0.000562	0.000516	0.0011	0.000386	0.000594	0.00023	0.000467	<
Barium	0.00835	0.00647	0.0136	0.00745	0.0156	0.00411	0.00846	0.009666281
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0375	0.0276	0.0365	0.0284	0.0262	0.0302	0.0331	0.401631094
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00519	0.00175	0.0026	0.00257	0.00277	0.00167	0.00281	<
Cobalt	0.00274	0.000655	0.00105	0.000902	0.00214	0.0012	0.000595	0.010695281
Copper	0.0458	0.0419	0.0123	0.209	0.00397	0.0107	0.00283	0.027636656
Iron	1.5	0.894	0.958	1	2.86	0.575	1.23	<
Lead	0.00113	0.00239	0.00388	0.000848	0.00146	0.0005	0.000743	<
Manganese	0.0269	0.022	0.0185	0.0172	0.0505	0.0137	0.0264	0.063749438
Molybdenum	0.000679	0.000192	0.000658	0.000835	0.000711	0.000475	0.00246	0.014748375
Nickel	0.00643	0.00303	0.00179	0.00214	0.00336	0.00195	0.00172	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Strontium	0.00571	0.00313	0.00281	0.00132	0.0106	0.00246	0.00459	0.007130813
Titanium	0.0474	0.00922	0.0109	0.00494	0.0276	0.00619	0.0123	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	0.0001	<0.000833	<0.000833	<
Vanadium	0.00472	0.00168	0.00248	0.00175	0.0057	0.00296	0.0026	<
Zinc	0.024	0.0181	0.0313	0.0202	0.0308	0.0104	0.0167	0.209434781



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters		Travel Blank Filters	
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		09-Aug	09-Aug	09-Aug	09-Aug
Sample Date	09-Aug	09-Aug	09-Aug	09-Aug		N/A			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5					
Total Air Volume (M3)	24.1	24	24	24					24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		ug			µg/sample
Particulate Matter	5.98	5.75	9.25	5	1	144			<
Aluminum	0.0176	0.0167	0.0509	0.0214	0.2	0.424278094			0.335427
Arsenic	0.000378	<0.000208	0.000796	0.000249	0.005	0.009105			<
Barium	0.000599	0.000974	0.00296	0.000961	0.005	0.014446594			0.009190125
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	0.005	<			<
Boron	0.0253	0.0289	0.0256	0.0272	0.2	0.609547594			0.601854
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	0.005	<			<
Chromium	0.00139	0.00155	0.00203	0.00232	0.02	0.033473625			0.054680438
Cobalt	0.000204	0.000183	0.000194	0.000316	0.002	0.004912594			0.010151719
Copper	0.0192	0.00122	0.00333	0.00314	0.01	0.463219594			0.022482
Iron	<0.00830	0.0531	0.139	0.057	0.2	<			0.907339219
Lead	0.000546	0.000413	0.000648	0.000386	0.005	0.013159219			<
Manganese	0.004	0.00166	0.00479	0.00212	0.002	0.096389438			0.120149156
Molybdenum	0.000222	0.000421	0.000273	0.000573	0.002	0.005340094			0.025106625
Nickel	<0.000830	<0.000833	<0.000833	<0.000833	0.02	<			<
Phosphorus	<0.207	<0.208	<0.208	<0.208	5	<			<
Silver	<0.000830	<0.000833	<0.000833	<0.000833	0.002	<			<
Strontium	0.000302	0.000256	0.000566	0.000366	0.005	0.00727875			0.007858781
Titanium	<0.000830	<0.000833	0.00132	<0.000833	0.02	<			<
Uranium	<0.000830	<0.000833	<0.000833	<0.000833	0.002	<			<
Vanadium	<0.000830	0.000951	0.0014	<0.000833	0.02	<			<
Zinc	0.00999	0.0076	0.0165	0.00894	0.02	0.24069525			0.380678438

Station #	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters	
Station Name	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	09-Aug	09-Aug
Sample Date	09-Aug	09-Aug	09-Aug	09-Aug	09-Aug	09-Aug	09-Aug	09-Aug	09-Aug
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	8.42	27.5	7.75	15.1	9.54	10.6	21.8		13
Aluminum	0.0585	0.341	0.0487	0.104	0.0234	0.0727	0.197		0.322169813
Arsenic	<0.000208	0.00106	0.000226	<0.000208	<0.000208	<0.000208	0.000296		<
Barium	0.00189	0.0132	0.00114	0.0022	0.000806	0.00148	0.00406		0.0121365
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208		<
Boron	0.0276	0.0262	0.0251	0.0281	0.028	0.0296	0.032		0.540434625
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208		<
Chromium	0.0023	0.00266	0.00307	0.00222	0.00178	0.00183	0.00214		0.034848188
Cobalt	0.000263	0.000439	0.000274	0.000315	0.000446	0.000286	0.000618		0.01073775
Copper	0.00281	0.00686	0.0133	0.0017	0.0125	0.0013	0.00236		0.027118594
Iron	0.139	1.18	0.0984	0.333	0.063	0.207	0.779		0.803321438
Lead	0.000469	0.000953	0.00026	0.00101	0.000255	0.00025	0.000396		<
Manganese	0.0129	0.0209	0.00281	0.00706	0.00299	0.00654	0.0177		0.059905594
Molybdenum	0.0003	0.000469	0.000301	0.000517	0.000238	0.000397	0.000563		0.059575031
Nickel	0.00108	0.00223	0.00126	0.00172	<0.000833	0.00216	0.00178		<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208		<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833		<
Strontium	0.000676	0.00315	0.00039	0.00118	0.000441	0.000988	0.0028		0.00763725
Titanium	0.00115	0.0119	0.0013	0.00507	<0.000833	0.00162	0.00692		<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833		<
Vanadium	0.00131	0.00301	<0.000833	0.00324	<0.000833	<0.000833	0.00137		<
Zinc	0.0157	0.0257	0.00885	0.0106	0.0067	0.0109	0.0146		0.201935813



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		15-Aug	15-Aug
Sample Date	15-Aug	15-Aug	15-Aug	15-Aug		N/A	pm2.5
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5			pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	14.3	13.2	17.9	12.7	1	342	4
Aluminum	0.0745	0.0639	0.0819	0.0377	0.2	1.788960094	0.372235406
Arsenic	0.000318	<0.000208	<0.000208	<0.000208	0.005	0.007620281	<
Barium	0.00164	0.00194	0.00355	0.00264	0.005	0.039309	0.013372875
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0311	0.0287	0.03	0.0308	0.2	0.74661075	0.516374625
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00205	0.00219	0.00244	0.00285	0.02	0.049277438	0.054054375
Cobalt	0.00055	0.000168	0.000195	0.000184	0.002	0.013210969	0.009056063
Copper	0.0323	0.00134	0.00451	0.00307	0.01	0.774901594	0.025260188
Iron	0.238	0.14	0.269	0.149	0.2	5.723948063	0.633742594
Lead	0.000376	0.000283	0.00161	0.000409	0.005	0.009018281	<
Manganese	0.00441	0.00638	0.0233	0.00411	0.002	0.105773906	0.099420188
Molybdenum	0.000229	0.000116	0.000278	0.000208	0.002	0.005507531	0.00937575
Nickel	<0.000833	<0.000833	0.000995	<0.000833	0.02	<	0.022227375
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Strontium	0.000793	0.000707	0.00089	0.00176	0.005	0.019034906	0.008719875
Titanium	0.00143	0.001	0.00196	<0.000833	0.02	0.034244625	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Vanadium	<0.000833	0.000914	0.00137	0.000869	0.02	<	<
Zinc	0.00776	0.019	0.0162	0.0135	0.02	0.186128719	0.170237813

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	Travel Blank Filters
Sample Date	15-Aug	15-Aug	15-Aug	15-Aug	15-Aug	15-Aug	15-Aug	15-Aug	15-Aug
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	39.1	43.6	51.3	22	106	35.4	22.2	86.1	2
Aluminum	0.584	0.593	0.721	0.173	1.06	0.481	0.198	0.891	0.2779725
Arsenic	0.000556	0.00043	0.000617	0.000268	0.000759	0.000488	0.000228	0.000729	<
Barium	0.0106	0.018	0.0225	0.00637	0.019	0.00977	0.00467	0.0193	0.023969156
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0304	0.0273	0.0345	0.031	0.0317	0.0301	0.0325	0.0355	0.486774375
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00282	0.00327	0.00488	0.00249	0.00434	0.00333	0.00232	0.00402	<
Cobalt	0.000617	0.000467	0.000866	0.000295	0.00183	0.000954	0.00081	0.00151	0.003137531
Copper	0.125	0.00506	0.00851	0.00347	0.00368	0.0126	0.00194	0.00365	0.021625594
Iron	1.68	1.27	2.7	0.588	3.88	1.41	1.06	3.76	0.631477969
Lead	0.00103	0.00082	0.00315	0.00055	0.00177	0.000889	0.000607	0.00154	<
Manganese	0.0253	0.0259	0.045	0.0122	0.0701	0.0228	0.0259	0.0834	0.062229094
Molybdenum	0.00025	0.000269	0.000792	0.000249	0.000585	0.00032	0.000365	0.000635	0.026291625
Nickel	0.00234	0.00144	0.00291	0.000893	0.00419	0.00397	0.00137	0.00353	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Strontium	0.00598	0.00822	0.00664	0.0029	0.0133	0.00529	0.00217	0.0103	0.0061545
Titanium	0.0224	0.0186	0.0247	0.00543	0.0354	0.0147	0.00505	0.0357	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	0.000131	0.000106	<0.000833	0.000148	<
Vanadium	0.00264	0.00262	0.00445	0.00139	0.00601	0.00269	0.00125	0.00547	<
Zinc	0.0139	0.018	0.0338	0.0126	0.0219	0.0146	0.0123	0.026	0.156230156



Station #	AMS 1	AMS 6	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Anzac		21-Aug	21-Aug
Sample Date	21-Aug	21-Aug	21-Aug		21-Aug	21-Aug
PM Size(µm)	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	2.38	6.58	6.13	1	57	<
Aluminum	0.0354	0.0355	0.024	0.2	0.850195781	0.349636406
Arsenic	0.000603	0.000498	0.000363	0.005	0.014474063	0.009863063
Barium	0.00127	0.00034	<0.000208	0.005	0.030384281	<
Beryllium	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	0.0239	0.0243	0.0198	0.2	0.573773625	0.425980125
Cadmium	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00238	0.00309	0.00246	0.02	0.057111375	0.040540125
Cobalt	0.000506	0.00022	0.000183	0.002	0.012137531	0.007869094
Copper	0.116	0.00303	0.000917	0.01	2.792399438	0.068697563
Iron	0.137	0.079	0.0234	0.2	3.284875781	<
Lead	0.000619	0.000491	0.000447	0.005	0.014852906	0.007244625
Manganese	0.00679	0.00231	0.00161	0.002	0.162891375	0.013954969
Molybdenum	0.000537	<0.000833	<0.000833	0.002	0.01287825	<
Nickel	0.0099	<0.000833	<0.000833	0.02	0.237684094	<
Phosphorus	<0.208	<0.208	<0.208	5	<	<
Silver	<0.000833	<0.000833	<0.000833	0.002	<	<
Strontium	0.000638	0.000412	0.00036	0.005	0.015321563	0.005539875
Titanium	<0.000833	<0.000833	<0.000833	0.02	<	<
Uranium	<0.000833	<0.000833	<0.000833	0.002	<	<
Vanadium	<0.000833	0.0012	0.000921	0.02	<	<
Zinc	0.0321	0.0251	0.0225	0.02	0.771516938	0.753439688

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	21-Aug
Sample Date	21-Aug	21-Aug	21-Aug	21-Aug	21-Aug	21-Aug	21-Aug	21-Aug	21-Aug
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	21.6	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	9.71	20.4	30.9	11	29.9	7.17	13.5	23.6	<
Aluminum	0.0986	0.295	0.529	0.107	0.379	0.0713	0.193	0.325	0.57255375
Arsenic	0.000576	0.000709	0.000889	0.000369	0.000475	0.000338	0.000665	0.000596	0.010697063
Barium	0.00156	0.00605	0.0136	0.00199	0.00534	0.00111	0.00375	0.00704	<
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000231	<
Boron	0.0237	0.0171	0.0217	0.0213	0.0213	0.019	0.0254	0.0257	0.415143281
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000231	<
Chromium	0.0027	0.00258	0.00306	0.00258	0.00294	0.00218	0.00492	0.00364	0.04246875
Cobalt	0.000274	0.000569	0.000601	0.000322	0.000518	0.000438	0.000509	0.00105	0.015569438
Copper	0.00134	0.0285	0.00348	0.00125	0.00136	0.00341	0.00296	0.00198	0.017043938
Iron	0.325	0.96	1.67	0.364	0.977	0.237	0.926	1.4	0.210687563
Lead	0.000362	0.000903	0.00145	0.000597	0.000645	0.00029	0.000573	0.000839	0.006345
Manganese	0.007	0.0185	0.0302	0.00685	0.0199	0.00579	0.0198	0.0306	0.027022688
Molybdenum	0.000194	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	0.00081	<0.0000926	0.018511125
Nickel	<0.000833	0.00319	0.00182	0.000969	0.00233	<0.000833	0.0012	0.00145	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.231	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.0000926	<
Strontium	0.00172	0.00293	0.00386	0.000939	0.00467	0.000783	0.00278	0.00373	0.005466675
Titanium	0.00255	0.0103	0.016	0.00231	0.00853	0.00106	0.00832	0.0119	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.0000926	<
Vanadium	0.000851	0.00204	0.00356	0.00122	0.00192	<0.000833	0.00144	0.00204	<
Zinc	0.0174	0.0284	0.0362	0.0368	0.0414	0.0248	0.0326	0.0424	1.033698





Station #	AMS 6	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Patricia McInnes		27-Aug	27-Aug
Sample Date	27-Aug		N/A	pm2.5
PM Size(µm)	pm2.5			
Total Air Volume (M3)	24			24
Unit	µg/M3		ug	µg/sample
Particulate Matter	4.42	1	327	<
Aluminum	0.0485	0.2	2.982896063	0.461457656
Arsenic	0.000294	0.005	<	<
Barium	0.000777	0.005	0.042583969	<
Beryllium	<0.000208	0.005	<	<
Boron	0.026	0.2	0.552596906	0.44971725
Cadmium	<0.000208	0.005	<	<
Chromium	0.00552	0.02	0.058429969	0.040765406
Cobalt	0.000648	0.002	0.006672	0.005641594
Copper	0.00303	0.01	0.440555531	0.020412188
Iron	0.128	0.2	7.009305656	0.278259281
Lead	0.00042	0.005	0.007173094	<
Manganese	0.00231	0.002	0.13740075	0.018183
Molybdenum	0.000226	0.002	0.008793563	0.010594781
Nickel	<0.000833	0.02	0.035731594	<
Phosphorus	<0.208	5	<	<
Silver	<0.0000833	0.002	<	<
Strontium	0.000539	0.005	0.036320156	0.00580875
Titanium	<0.000833	0.02	0.048555938	<
Uranium	<0.0000833	0.002	<	<
Vanadium	0.00103	0.02	0.025274438	<
Zinc	0.0372	0.02	0.776334938	0.59714175

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	Travel Blank Filters
Sample Date	27-Aug	27-Aug	27-Aug	27-Aug	27-Aug	27-Aug	27-Aug	27-Aug	27-Aug
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	23.996	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	13.6	20.4	33.1	6.67	<	12.5	18.6	12.3	3
Aluminum	0.124	0.375	0.614	0.191	0.0159	0.0433	0.329	0.286	0.433551938
Arsenic	<0.000207	0.000353	0.000442	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Barium	0.00177	0.00856	0.0182	0.00264	<0.000208	0.000399	0.00544	0.006	<
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0229	0.0183	0.0194	0.0159	0.0183	0.0214	0.0282	0.0279	0.489158344
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00242	0.00268	0.00313	0.00201	0.0018	0.00194	0.00365	0.00434	0.045633281
Cobalt	0.000277	0.000308	0.00063	0.000324	0.000323	0.000546	0.000673	0.000589	0.007023469
Copper	0.0183	0.00816	0.00808	0.00423	0.00252	0.0733	0.00218	0.00233	0.018651844
Iron	0.291	1.03	1.76	0.324	0.0647	0.292	0.631	1.21	0.950287125
Lead	0.000298	0.000529	0.000966	0.000489	0.000241	0.000234	0.000548	0.000615	0.005245031
Manganese	0.0057	0.0391	0.0309	0.00684	0.00316	0.00501	0.0153	0.0217	0.022473375
Molybdenum	0.000365	0.000212	0.000421	0.00051	0.000159	0.00014	0.000434	0.000669	0.024320531
Nickel	0.00148	0.00106	0.00213	0.000903	<0.000833	0.00341	0.00154	0.00184	0.021145219
Phosphorus	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00151	0.00462	0.00424	0.000864	0.000244	0.000482	0.0031	0.00322	<
Titanium	0.00201	0.0113	0.0177	0.00335	<0.000833	<0.000833	0.00687	0.00917	<
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00105	0.0017	0.00254	<0.000833	<0.000833	<0.000833	0.00188	0.00205	<
Zinc	0.0322	0.0299	0.0482	0.0281	0.0276	0.0195	0.0352	0.0525	0.704110688



Station #	AMS 1	AMS 7	AMS 14	MDL	Travel Blank Filters
Station Name	Bertha Ganter	Athabasca Valley	Anzac		
Sample Date	02-Sep	02-Sep	02-Sep		02-Sep
PM Size(µm)	pm2.5	pm2.5	pm2.5		pm2.5
Total Air Volume (M3)	24.1	24	24.003		24.1
Unit	µg/M3	µg/M3	µg/M3		µg/sample
Particulate Matter	2.86	7.75	4.42	0	8
Aluminum	0.0202	0.0454	0.0145	1.145429431	0.331360313
Arsenic	<0.000207	<0.000208	<0.000208	<	<
Barium	0.00059	0.00275	0.000433	0.007946091	0.005256563
Beryllium	<0.000207	<0.000208	<0.000208	<	<
Boron	<0.00830	<0.00833	<0.00833	0.241772166	<
Cadmium	<0.000207	<0.000208	<0.000208	<	<
Chromium	0.00427	0.00358	0.00325	<	0.041556094
Cobalt	0.000819	0.00108	0.00214	0.022821291	0.017482781
Copper	0.0267	0.00297	0.0011	0.019413106	0.021394313
Iron	0.062	0.124	0.0372	0.404268047	2.275029938
Lead	0.000289	0.000406	0.00025	<	0.005363344
Manganese	0.00536	0.00637	0.00307	0.185784488	0.045948844
Molybdenum	<0.0000830	<0.0000833	<0.0000833	0.01442775	<
Nickel	0.000858	<0.000833	0.000975	<	<
Phosphorus	<0.207	<0.208	<0.208	<	<
Silver	<0.0000830	<0.0000833	<0.0000833	<	<
Strontium	0.000349	0.000442	<0.000208	<	<
Titanium	<0.000830	<0.000833	<0.000833	<	<
Uranium	<0.0000830	<0.0000833	<0.0000833	<	<
Vanadium	0.00102	0.0015	0.00129	0.041366344	<
Zinc	0.0121	0.0147	0.00729	0.197255709	0.595429219

Station #	AMS 1	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	
Sample Date	02-Sep	02-Sep	02-Sep	02-Sep	02-Sep	02-Sep	02-Sep	02-Sep
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	8.17	17	10.5	15.2	5.88	7.5	12.7	15
Aluminum	0.0743	0.261	0.0683	0.0817	0.0339	0.0372	0.142	0.306284625
Arsenic	<0.000207	0.000224	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Barium	0.00146	0.0105	0.00159	0.00234	0.000775	0.000867	0.00282	0.005467781
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	<0.00830	<0.00833	<0.00833	<0.00833	<0.00833	0.0106	0.0101	<
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00426	0.00485	0.00409	0.00368	0.00412	0.00396	0.00499	0.082302375
Cobalt	0.000754	0.00107	0.00125	0.00129	0.00193	0.00158	0.00252	0.013460063
Copper	0.133	0.00619	0.00124	0.00282	0.0236	0.00119	0.022	0.018580969
Iron	0.253	0.852	0.243	0.364	0.0886	0.108	0.612	3.49466175
Lead	0.000373	0.000586	0.000387	0.000406	0.000308	0.000328	0.00127	<
Manganese	0.013	0.0167	0.00491	0.0101	0.00302	0.00438	0.0137	0.217971563
Molybdenum	<0.0000830	<0.0000833	<0.0000833	0.000105	<0.0000833	<0.0000833	<0.0000833	0.006676125
Nickel	<0.000830	0.00151	0.000868	0.00117	<0.000833	<0.000833	0.0014	<
Phosphorus	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.000928	0.00216	0.000493	0.0274	0.000368	0.000322	0.00173	<
Titanium	<0.000830	0.00661	<0.000833	0.00351	<0.000833	<0.000833	0.00367	<
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00141	0.00257	0.00173	0.00286	0.00114	0.00105	0.00167	<
Zinc	0.0172	0.0275	0.00878	0.0158	0.0105	0.00774	0.023	0.138543375



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Particulate Matter - Metals

2014  
Indicated Sites and Dates

Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		
Sample Date	08-Sep	08-Sep	08-Sep	08-Sep		08-Sep
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		pm2.5
Total Air Volume (M3)	24	24	24	24		24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg/sample
Particulate Matter	1.46	4.33	4.96	2	0	<
Aluminum	0.0579	0.0283	0.0847	0.0258	1.145429431	1.484426813
Arsenic	0.000333	0.000232	<0.000208	<0.000208	<	<
Barium	0.00057	0.000853	0.00239	0.000254	0.007946091	0.006471938
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<	<
Boron	<0.00833	0.0109	<0.00833	<0.00833	0.241772166	0.240378938
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<	<
Chromium	0.00347	0.00336	0.00422	0.0035	<	0.084450188
Cobalt	0.000578	0.000496	0.000423	0.00104	0.022821291	0.035776031
Copper	0.00116	0.00263	0.00224	0.00345	0.019413106	0.028930594
Iron	0.0586	0.105	0.273	0.0226	0.404268047	0.319948406
Lead	<0.000208	0.000425	0.000265	0.000234	<	<
Manganese	0.00567	0.0977	0.00942	0.00245	0.185784488	1.581838594
Molybdenum	0.000493	0.00106	0.00026	0.00012	0.01442775	0.006595125
Nickel	<0.000833	<0.000833	0.001	<0.000833	<	0.031289063
Phosphorus	<0.208	<0.208	<0.208	<0.208	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<	<
Strontium	<0.000208	0.00031	0.000499	<0.000208	<	0.006416906
Titanium	<0.000833	<0.000833	<0.000833	<0.000833	<	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<	<
Vanadium	0.000902	0.00172	0.00167	0.00132	0.041366344	0.042703875
Zinc	0.00703	0.0141	0.0131	0.00706	0.197255709	0.282861

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	
Sample Date	08-Sep	08-Sep	08-Sep	08-Sep	08-Sep	08-Sep	08-Sep	08-Sep	08-Sep
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	5.96	8.17	29.1	3.13	8.79	4.5	3.63	23.9	9
Aluminum	0.0862	0.275	4.56	0.0294	0.126	0.0662	0.0453	0.446	174.3064823
Arsenic	0.000231	0.000661	0.00159	<0.000208	<0.000208	<0.000208	<0.000208	0.000359	0.078080063
Barium	0.00153	0.00237	0.022	0.000593	0.00272	0.00155	0.000936	0.00566	0.567813844
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	0.0124	0.0133	0.479328656
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	0.005951156
Chromium	0.00421	0.00442	0.00795	0.00348	0.0038	0.00446	0.00392	0.00411	0.223630125
Cobalt	0.00432	0.000657	0.00537	0.00223	0.000952	0.000693	0.000644	0.00145	0.262972781
Copper	0.00222	0.0017	0.0104	0.00249	0.0017	0.00208	0.000871	0.00604	0.653718375
Iron	0.331	0.419	2.49	0.0632	0.627	0.304	0.194	1.36	17.45633194
Lead	<0.000208	0.00035	0.00239	0.000242	0.000509	0.000878	<0.000208	0.000623	0.086881969
Manganese	0.0211	0.0086	0.0416	0.00457	0.0211	0.00673	0.00572	0.0285	1.031920031
Molybdenum	0.00072	0.000275	0.00293	0.000162	0.000122	0.000176	0.000236	0.000386	0.149581781
Nickel	<0.000833	0.00185	0.0377	<0.000833	0.00103	0.000864	<0.000833	0.00192	2.186136563
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	0.000303	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.008280281
Strontium	0.00106	0.00116	0.00854	0.000243	0.00122	0.000626	0.000461	0.00329	0.259990406
Titanium	0.00405	0.00337	0.0856	<0.000833	0.00229	0.00107	<0.000833	0.0158	3.839926125
Uranium	<0.0000833	<0.0000833	0.000151	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.006216
Vanadium	0.00124	0.00462	0.104	0.000959	0.00141	0.00112	0.00113	0.00372	6.016042219
Zinc	0.0106	0.00994	0.0237	0.0105	0.0128	0.0142	0.0211	0.0238	0.546253594



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Particulate Matter - Metals

2014  
Indicated Sites and Dates

Station #	AMS 1	AMS 7	AMS 14	MDL	Travel Blank Filters
Station Name	Bertha Ganter	Athabasca Valley	Anzac		
Sample Date	14-Sep	14-Sep	14-Sep		14-Sep
PM Size(µm)	pm2.5	pm2.5	pm2.5		pm2.5
Total Air Volume (M3)	24.1	24	24		24
Unit	µg/M3	µg/M3	µg/M3		µg/sample
Particulate Matter	9.09	15.6	7.63	0	0
Aluminum	0.0432	0.192	0.0331	1.145429431	0.403383656
Arsenic	0.0006	0.000564	<0.000208	<	<
Barium	0.00128	0.00788	0.00137	0.007946091	0.010562719
Beryllium	<0.000207	<0.000208	<0.000208	<	<
Boron	0.019	<0.00833	<0.00833	0.241772166	0.364172906
Cadmium	<0.000207	<0.000208	<0.000208	<	<
Chromium	0.00348	0.00354	0.00327	<	0.093963094
Cobalt	0.000649	0.000763	0.000772	0.022821291	0.022314938
Copper	0.00192	0.00485	0.00247	0.019413106	0.017245875
Iron	0.118	0.666	0.172	0.404268047	0.920205844
Lead	0.000549	0.000871	0.00125	<	<
Manganese	0.00628	0.0393	0.0107	0.185784488	0.05437875
Molybdenum	0.000748	0.00035	0.000341	0.01442775	0.010937813
Nickel	0.0018	0.001	0.00091	<	<
Phosphorus	<0.207	<0.208	<0.208	<	<
Silver	<0.0000830	<0.0000833	<0.0000833	<	<
Strontium	0.000482	0.00131	0.000361	<	<
Titanium	<0.000830	0.00601	<0.000833	<	<
Uranium	0.000133	<0.0000833	<0.0000833	<	<
Vanadium	0.00154	0.00148	0.00109	0.041366344	0.021309281
Zinc	0.0148	0.0189	0.0164	0.197255709	0.189378938

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	
Sample Date	14-Sep	14-Sep	14-Sep	14-Sep	14-Sep	14-Sep	14-Sep	14-Sep	14-Sep
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	22.5	11	29.6	10	1.17	15.2	17.7	39.2	<
Aluminum	0.257	0.414	0.479	0.16	0.037	0.13	0.271	0.439	0.328517625
Arsenic	0.000532	0.000347	0.000975	0.000305	<0.000208	0.000422	0.000343	0.00061	<
Barium	0.00538	0.00572	0.0176	0.0037	0.000555	0.00356	0.00438	0.00939	0.014790938
Beryllium	<0.000207	0.00122	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	0.0135	0.0389	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	0.017	0.315598781
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00518	0.00919	0.00448	0.00402	0.00261	0.00343	0.00316	0.00486	0.059334469
Cobalt	0.00117	0.00225	0.000867	0.00105	0.00052	0.00111	0.00648	0.00176	0.014638313
Copper	0.0105	0.0047	0.00927	0.00279	0.00238	0.0167	0.0014	0.0028	0.012145406
Iron	0.922	0.751	1.77	0.416	0.0651	0.492	0.561	2.44	0.780823781
Lead	0.000746	0.00223	0.00135	0.00134	<0.000208	0.000418	0.000481	0.000911	<
Manganese	0.0206	0.0165	0.0302	0.00757	0.00386	0.0125	0.0136	0.0484	0.079748156
Molybdenum	0.000618	0.00142	0.000579	0.000248	0.000093	0.000942	0.000325	0.000811	0.018802219
Nickel	0.00977	0.00261	0.00155	0.00215	<0.000833	0.0012	0.00135	0.00207	<
Phosphorus	<0.207	0.27	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00268	0.0017	0.00328	0.000621	0.000233	0.00142	0.00216	0.00542	<
Titanium	0.00841	0.0052	0.0185	0.00222	<0.000833	0.00282	0.00734	0.0164	<
Uranium	<0.0000830	0.00138	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00323	0.00829	0.00249	0.00227	<0.000833	0.00208	0.00359	0.0041	<
Zinc	0.0188	0.0364	0.0324	0.0121	0.0112	0.0157	0.0385	0.0272	0.110560875



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		
Sample Date	20-Sep	20-Sep	20-Sep	20-Sep		20-Sep
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		pm2.5
Total Air Volume (M3)	24.1	24	24	24		24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg/sample
Particulate Matter	2.82	2.25	5	1.42	0	<
Aluminum	0.0806	0.025	0.0682	0.0183	1.145429431	0.580868719
Arsenic	0.000217	<0.000208	0.000705	<0.000208	<	<
Barium	0.000648	0.000657	0.00282	0.000504	0.007946091	0.020706563
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	<	<
Boron	<0.00830	<0.00833	<0.00833	<0.00833	0.241772166	<
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	<	<
Chromium	0.00442	0.00502	0.00193	0.00513	<	0.024433688
Cobalt	0.000397	0.000984	0.000581	0.000494	0.022821291	0.010999219
Copper	0.000979	0.00557	0.00444	0.000841	0.019413106	0.07799475
Iron	0.092	0.0635	0.196	0.0605	0.404268047	0.281813063
Lead	0.000252	0.000407	0.0011	0.000221	<	<
Manganese	0.0121	0.00641	0.0103	0.00317	0.185784488	0.061868531
Molybdenum	<0.0000830	0.000269	0.000243	0.000341	0.01442775	0.014496188
Nickel	<0.000830	0.0115	0.00584	<0.000833	<	<
Phosphorus	<0.207	<0.208	<0.208	<0.208	<	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<	<
Strontium	0.000433	<0.000208	0.000453	<0.000208	<	0.005480531
Titanium	<0.000830	<0.000833	0.00198	<0.000833	<	<
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<	<
Vanadium	0.00116	0.00117	<0.000833	0.00125	0.041366344	<
Zinc	0.00763	0.0103	0.0121	0.0103	0.197255709	0.229375406

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	
Sample Date	20-Sep	20-Sep	20-Sep	20-Sep	20-Sep	20-Sep	20-Sep	20-Sep	20-Sep
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24.002	24	24	24	24	24.002
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	11.1	4.5	12.7	4.87	16.3	7.92	5.88	14.5	1
Aluminum	0.186	0.0457	0.247	0.0419	0.223	0.0987	0.2	0.231	0.445141313
Arsenic	0.0003	<0.000208	0.000794	<0.000208	0.000252	<0.000208	<0.000208	<0.000208	<
Barium	0.00352	0.00161	0.00838	0.000922	0.00421	0.00143	0.00193	0.0046	0.00568725
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	<0.00830	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00546	0.00436	0.00472	0.00464	0.0059	0.00534	0.00434	0.00443	0.086897906
Cobalt	0.000724	0.000302	0.000511	0.00043	0.000822	0.000375	0.000591	0.000716	0.009346875
Copper	0.00222	0.00263	0.00961	0.00121	0.00244	0.047	0.001	0.00171	0.082518
Iron	0.594	0.144	0.749	0.11	0.948	0.246	0.25	1.2	0.313159313
Lead	0.000459	0.000314	0.00124	0.000322	0.000581	0.000469	0.000255	0.000514	<
Manganese	0.0121	0.0188	0.0153	0.00346	0.0206	0.00674	0.00952	0.0209	0.061455188
Molybdenum	<0.0000830	0.000183	0.000275	0.000391	0.00104	0.00141	0.000541	0.000779	0.049198594
Nickel	0.00117	<0.000833	0.0009	<0.000833	0.00159	0.00106	<0.000833	0.00106	<
Phosphorus	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00194	0.000392	0.00152	0.000298	0.00236	0.000764	0.000894	0.0021	<
Titanium	0.00249	<0.000833	0.00564	<0.000833	0.00554	<0.000833	<0.000833	0.00677	<
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00203	0.00112	0.00174	0.00127	0.00222	0.00147	0.0013	0.00206	0.0200925
Zinc	0.0135	0.0225	0.0177	0.00635	0.0156	0.013	0.00827	0.0119	0.142294875



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		
Sample Date	26-Sep	26-Sep	26-Sep	26-Sep		26-Sep
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		pm2.5
Total Air Volume (M3)	24.1	24	24	24		24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg/sample
Particulate Matter	0.871	1.08	0.542	0.208	0	4
Aluminum	0.0287	0.0358	0.02	0.0188	1.145429431	0.475654781
Arsenic	0.000266	<0.000208	<0.000208	<0.000208	<	<
Barium	0.000543	0.00124	0.000542	0.000388	0.007946091	0.008959313
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	<	<
Boron	<0.00830	<0.00833	<0.00833	<0.00833	0.241772166	<
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	<	<
Chromium	0.00305	0.00423	0.00133	0.00333	<	0.066852
Cobalt	0.000531	0.000332	0.000222	0.000432	0.022821291	0.005055656
Copper	0.00125	0.0013	0.000797	0.00113	0.019413106	<
Iron	0.0185	0.0636	0.0218	0.0138	0.404268047	0.700603406
Lead	0.00026	<0.000208	<0.000208	<0.000208	<	<
Manganese	0.0136	0.0141	0.00494	0.00136	0.185784488	0.044770125
Molybdenum	0.000215	0.000223	0.0000981	0.000355	0.01442775	0.024159844
Nickel	0.00232	0.00145	<0.000833	0.00304	<	<
Phosphorus	<0.207	<0.208	<0.208	<0.208	<	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<	<
Strontium	0.000292	0.000272	<0.000208	<0.000208	<	<
Titanium	<0.000830	<0.000833	<0.000833	<0.000833	<	0.024270938
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<	<
Vanadium	0.000887	0.00117	<0.000833	0.000884	0.041366344	<
Zinc	0.00948	0.0132	0.00855	0.00906	0.197255709	0.212453719

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	
Sample Date	26-Sep	26-Sep	26-Sep	26-Sep	26-Sep	26-Sep	26-Sep	26-Sep	26-Sep
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	23.99	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	3.15	0.75	2.17	1.54	2.04	2.04	0.958	2.04	8
Aluminum	0.0486	0.066	0.0374	0.0219	0.0353	0.0312	0.0171	0.053	0.269421844
Arsenic	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Barium	0.000854	0.00206	0.00115	0.000276	0.00108	0.000798	0.000291	0.000675	0.012527625
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	<0.00830	<0.00833	<0.00833	<0.00834	<0.00833	<0.00833	<0.00833	<0.00833	<
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00386	0.00431	0.00296	0.00296	0.00302	0.0032	0.00457	0.00347	0.059404406
Cobalt	0.0008	0.00037	0.000203	0.000266	0.000187	0.000245	0.00014	0.00113	0.003881438
Copper	0.00106	0.00177	0.00118	0.00249	0.000899	0.0108	0.000591	0.00636	0.013694156
Iron	0.102	0.0577	0.055	0.0169	0.0572	0.0475	0.0606	0.108	0.496786406
Lead	<0.000207	0.000379	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Manganese	0.00751	0.00423	0.00399	0.00201	0.00566	0.00468	0.00596	0.00308	0.065392875
Molybdenum	0.000245	0.000252	0.000166	0.000233	0.000214	0.000543	0.0009	0.000591	0.030628125
Nickel	0.000938	0.00157	<0.000833	<0.000834	<0.000833	<0.000833	<0.000833	0.0195	<
Phosphorus	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000834	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.000479	0.000551	0.000265	<0.000208	0.000303	0.000268	<0.000208	0.000816	<
Titanium	<0.000830	<0.000833	<0.000833	<0.000834	<0.000833	<0.000833	<0.000833	<0.000833	<
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000834	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00114	0.00122	<0.000833	<0.000834	0.000864	0.000919	0.00112	0.000942	<
Zinc	0.0107	0.0178	0.0269	0.0371	0.0146	0.00872	0.00761	0.00659	0.189625688



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		02-Oct	02-Oct
Sample Date	02-Oct	02-Oct	02-Oct	02-Oct			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.1	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	1.2	1.333333333	<	0.291666667	1	29	22
Aluminum	<0.00830	0.0249	<0.00833	0.0212	0.2	<	<
Arsenic	0.000213	<0.000208	<0.000208	<0.000208	0.005	0.005136094	<
Barium	0.0017	0.000391	<0.000208	0.000959	0.005	0.041038031	0.070784719
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	<0.00830	<0.00833	<0.00833	<0.00833	0.2	<	<
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.0029	0.00315	0.00285	0.00296	0.02	0.069989531	0.064319063
Cobalt	0.00058	0.000551	0.000394	0.000765	0.002	0.013975313	0.013262906
Copper	0.00145	0.000922	0.000684	0.00398	0.01	0.034954969	0.105331219
Iron	0.0291	0.0474	0.0208	0.0315	0.2	0.700571438	1.028780719
Lead	0.00023	<0.000208	<0.000208	0.00132	0.005	0.00554625	<
Manganese	0.00395	0.00855	0.00319	0.00248	0.002	0.095101594	0.086973938
Molybdenum	<0.0000830	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Nickel	<0.000830	<0.000833	<0.000833	0.00495	0.02	<	<
Phosphorus	<0.207	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.00131	0.000632	0.00169	0.00247	0.005	0.031519688	0.018571125
Titanium	<0.000830	<0.000833	<0.000833	<0.000833	0.02	<	<
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000830	0.00091	<0.000833	0.000838	0.02	<	<
Zinc	0.0424	<0.000833	<0.000833	<0.000833	0.02	1.021104	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	02-Oct
Sample Date	02-Oct	02-Oct	02-Oct	02-Oct	02-Oct	02-Oct	02-Oct	02-Oct	02-Oct
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	1.41	1.17	3.708333333	0.833333333	5.125	3.416666667	2.416666667	6.916666667	21
Aluminum	0.0126	<0.00833	0.064	<0.00833	0.0341	<0.00833	0.0109	0.1	<
Arsenic	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Barium	0.00157	0.00125	0.00262	0.00033	0.000587	0.00137	0.0019	0.00268	<
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	<0.00830	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00281	0.00322	0.00357	0.00283	0.00304	0.00268	0.0031	0.00564	0.065989594
Cobalt	0.000551	0.000435	0.000874	0.000643	0.000666	0.000857	0.000681	0.00147	0.01453125
Copper	0.00109	0.000561	0.00312	0.00112	0.00109	0.0288	0.00147	0.00135	0.023384625
Iron	0.0582	0.0254	0.232	0.0324	0.136	0.0562	0.0954	0.696	0.661693781
Lead	0.000385	<0.000208	0.000268	0.00035	<0.000208	<0.000208	<0.000208	0.00025	<
Manganese	0.00393	0.00289	0.00532	0.00164	0.00388	0.00156	0.00234	0.0117	0.19366425
Molybdenum	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002375438
Nickel	<0.000830	<0.000833	<0.000833	0.00101	<0.000833	<0.000833	<0.000833	0.00124	<
Phosphorus	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00208	0.00188	0.00241	0.00736	0.00139	0.0014	0.00138	0.00163	0.058360406
Titanium	<0.000830	<0.000833	0.00103	<0.000833	<0.000833	<0.000833	<0.000833	0.00262	<
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	<0.000830	0.000859	0.00119	0.000834	0.00161	<0.000833	0.000923	0.00116	<
Zinc	<0.000830	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	0.00222	<



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		08-Oct	08-Oct
Sample Date	08-Oct	08-Oct	08-Oct	08-Oct			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.1	24	24	24			24

Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	10.7	3.416666667	3.875	1.67	1	257	56
Aluminum	0.0459	0.0174	0.084	<0.00833	0.2	1.105092094	<
Arsenic	0.000514	<0.000208	<0.000208	<0.000208	0.005	0.012375938	<
Barium	0.00136	0.000548	0.00221	<0.000208	0.005	0.03280725	<
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	<0.00830	<0.00833	<0.00833	<0.00833	0.2	<	<
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.0027	0.00245	0.00253	0.00259	0.02	0.065026031	0.0602805
Cobalt	0.000572	0.000428	0.000654	0.000625	0.002	0.013784438	0.028106438
Copper	0.00274	0.00228	0.00535	0.00081	0.01	0.065932313	0.011900063
Iron	0.236	0.099	0.224	0.04	0.2	5.689791469	0.455877469
Lead	0.000353	0.000497	0.000666	<0.000208	0.005	0.008502	<
Manganese	0.0109	0.00402	0.00557	0.00195	0.002	0.263124094	0.200607094
Molybdenum	0.000622	<0.000833	<0.000833	0.0000892	0.002	0.014986688	0.009540563
Nickel	0.00102	0.000966	<0.000833	<0.000833	0.02	0.024503719	<
Phosphorus	<0.207	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.000953	0.000707	0.00136	0.000744	0.005	0.022966594	0.013358156
Titanium	0.00115	<0.000833	0.0017	<0.000833	0.02	0.027620531	<
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000830	<0.000833	<0.000833	<0.000833	0.02	<	<
Zinc	0.00238	<0.000833	<0.000833	<0.000833	0.02	0.057418406	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	08-Oct
Sample Date	08-Oct	08-Oct	08-Oct	08-Oct	08-Oct	08-Oct	08-Oct	08-Oct	08-Oct
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	25.47717842	11.3	30.08333333	3.541666667	29.8	17.8	18	36.54166667	49	
Aluminum	0.303	0.167	0.895	0.0317	0.599	0.219	0.314	0.674	<	
Arsenic	0.000443	<0.000208	0.000554	<0.000208	0.000286	0.000281	<0.000208	0.000363	<	
Barium	0.00553	0.00472	0.0211	<0.000208	0.0219	0.00363	0.00702	0.0091	<	
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<	
Boron	<0.00830	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<	
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<	
Chromium	0.00306	0.0027	0.00544	0.00253	0.00288	0.00314	0.00307	0.00363	0.059787094	
Cobalt	0.000778	0.000567	0.00128	0.000512	0.00112	0.00128	0.000986	0.00235	0.009887063	
Copper	0.0032	0.00815	0.00907	0.00119	0.00318	0.00286	0.00171	0.00324	0.018683813	
Iron	1.17	0.55	2.56	0.352	1.17	1.38	0.962	3.23	1.055391	
Lead	0.000488	0.000782	0.00117	<0.000208	0.000538	0.000578	0.000358	0.000644	<	
Manganese	0.0243	0.014	0.0484	0.00624	0.0221	0.0153	0.0174	0.0561	0.031842188	
Molybdenum	0.000376	0.000161	0.00037	0.000167	0.000246	0.000415	0.000295	0.000407	0.018660469	
Nickel	0.00132	0.00101	0.00232	<0.000833	0.00162	0.00128	0.00127	0.00197	0.022772438	
Phosphorus	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<	
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<	
Strontium	0.00504	0.00163	0.00546	0.000551	0.0126	0.00269	0.00379	0.00638	0.062664563	
Titanium	0.0099	0.00561	0.031	0.000962	0.0206	0.0067	0.00896	0.0253	<	
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<	
Vanadium	0.00168	0.00105	0.0032	<0.000833	0.00205	0.00282	0.00165	0.00285	<	
Zinc	<0.000830	<0.000833	0.00979	<0.000833	<0.000833	0.0732	<0.000833	<0.000833	0.5061645	





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Particulate Matter - Metals

2014  
Indicated Sites and Dates

Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		14-Oct	14-Oct
Sample Date	14-Oct	14-Oct	14-Oct	14-Oct			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24

Unit	µg/M3	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	3.875	6.416666667	8.08	3.67	1	93	132
Aluminum	0.0451	0.0129	0.0826	<0.00833	0.2	1.083397875	<
Arsenic	0.000393	0.0004	0.000214	0.00151	0.005	0.009433313	<
Barium	0.000764	0.000733	0.00379	<0.000208	0.005	0.018334875	<
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	0.2	<	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00292	0.00244	0.00243	0.00197	0.02	0.070003781	0.062485313
Cobalt	0.000373	0.000281	0.000324	0.00162	0.002	0.008958844	0.008302219
Copper	0.00351	0.0017	0.00371	0.0493	0.01	0.084142781	0.029204156
Iron	0.319	0.0835	0.27	0.07	0.2	7.649884406	2.792161969
Lead	0.000379	0.000287	0.000373	0.0262	0.005	0.009092625	0.006519656
Manganese	0.0199	0.00322	0.00932	0.00252	0.002	0.476684438	0.088039406
Molybdenum	0.000819	<0.000833	0.000273	0.000174	0.002	0.019650844	0.008799844
Nickel	<0.000833	<0.000833	<0.000833	0.0704	0.02	<	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.000833	<0.000833	<0.000833	0.000809	0.002	<	<
Strontium	0.000887	0.000567	0.00121	0.000548	0.005	0.021284531	0.025583438
Titanium	<0.000833	<0.000833	0.00318	<0.000833	0.02	<	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Vanadium	0.000919	<0.000833	<0.000833	<0.000833	0.02	0.022054031	<
Zinc	0.0125	<0.000833	<0.000833	<0.000833	0.02	0.300531	0.591086531

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	14-Oct
Sample Date	14-Oct	14-Oct	14-Oct	14-Oct	14-Oct	14-Oct	14-Oct	14-Oct	14-Oct
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	19.5	10.5	26.8	8.58	30.29166667	9.83	9.5	17	171
Aluminum	0.31	0.142	0.58	0.112	0.619	0.119	0.0513	0.271	<
Arsenic	0.000316	0.000483	0.000527	0.000253	0.000426	<0.000208	<0.000208	0.000229	<
Barium	0.00448	0.00519	0.0179	0.00205	0.00595	0.00234	0.00117	0.00357	<
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00305	0.00264	0.00353	0.00269	0.00311	0.00211	0.00233	0.00297	0.044779781
Cobalt	0.000579	0.000385	0.000741	0.000525	0.00262	0.000586	0.000288	0.000904	0.007555219
Copper	0.00313	0.00748	0.0104	0.00152	0.0134	0.0353	0.00145	0.00268	0.016603969
Iron	1.28	0.433	1.65	0.353	1.26	0.52	0.307	1.08	1.344793688
Lead	0.000456	0.000501	0.000922	0.000666	0.000624	0.000391	0.000354	0.000783	<
Manganese	0.0233	0.0152	0.0303	0.0132	0.0244	0.0107	0.00652	0.0246	0.200300344
Molybdenum	0.000254	0.000171	0.000448	0.00017	0.000313	0.00101	0.00018	0.000291	0.015806813
Nickel	0.00109	<0.000833	0.00139	0.00118	0.0379	<0.000833	0.000938	0.0014	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Strontium	0.00463	0.00266	0.00405	0.0046	0.00484	0.00211	0.00223	0.00385	0.006079594
Titanium	0.00936	0.00536	0.0196	0.00729	0.0206	0.00356	0.00104	0.00989	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Vanadium	0.00154	0.00104	0.0023	0.000909	0.00245	0.000916	0.00094	0.0016	<
Zinc	<0.000833	<0.000833	0.0326	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		20-Oct	20-Oct
Sample Date	20-Oct	20-Oct	20-Oct	20-Oct			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	10.2	7.17	14.5	9.71	1	245	82
Aluminum	0.0899	0.0679	0.122	0.056	0.2	2.157115969	0.477031969
Arsenic	0.000425	0.00184	<0.000208	<0.000208	0.005	0.010200469	<
Barium	0.00284	0.00246	0.00754	0.00129	0.005	0.068043938	0.006760875
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	0.2	<	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00542	0.00323	0.00384	0.00301	0.02	0.130006406	0.080186531
Cobalt	0.000402	0.000204	0.000185	0.000161	0.002	0.009658031	0.004514625
Copper	0.00367	0.00266	0.00686	0.00118	0.01	0.087998813	0.0208035
Iron	0.37	0.152	0.461	0.0839	0.2	8.882670563	1.574129531
Lead	0.00185	0.00116	0.000731	0.000418	0.005	0.044400469	<
Manganese	0.00725	0.00545	0.00812	0.00279	0.002	0.174055031	0.02715225
Molybdenum	0.000164	<0.000833	<0.000833	<0.000833	0.002	0.003941344	<
Nickel	0.00487	<0.000833	0.0011	0.00128	0.02	0.116800031	0.03598425
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	0.002682188
Strontium	0.000991	0.00145	0.00259	0.000382	0.005	0.023783063	0.006676594
Titanium	0.00272	0.000836	0.00371	<0.000833	0.02	0.065271469	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Vanadium	0.00188	0.000859	0.00112	<0.000833	0.02	0.045057938	<
Zinc	0.012	0.0331	0.0493	0.00923	0.02	0.288110906	0.146641125

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	20-Oct
Sample Date	20-Oct	20-Oct	20-Oct	20-Oct	20-Oct	20-Oct	20-Oct	20-Oct	20-Oct
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	39.8	22.2	32.5	9.46	50.2	22.9	26.4	21.6	70
Aluminum	0.729	0.472	0.732	0.281	0.647	0.359	0.466	0.367	0.331379531
Arsenic	0.000472	0.00218	0.000524	<0.000208	0.000291	0.000319	0.000336	0.000307	<
Barium	0.0117	0.0132	0.0254	0.00458	0.0083	0.00703	0.00956	0.00611	0.015269813
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00434	0.00412	0.00479	0.00338	0.00638	0.00379	0.00405	0.0037	0.074278219
Cobalt	0.000643	0.000416	0.000646	0.000273	0.000784	0.000506	0.000491	0.000458	0.004317094
Copper	0.0412	0.00739	0.0164	0.00148	0.00247	0.0212	0.0028	0.00214	0.035482875
Iron	1.96	1.52	3	0.491	1.41	1.1	1.4	1.1	1.030758
Lead	0.00104	0.00131	0.00138	0.000598	0.000979	0.000714	0.000756	0.00084	<
Manganese	0.0363	0.0264	0.0337	0.0121	0.0242	0.0188	0.025	0.0202	0.027293906
Molybdenum	<0.000833	<0.000833	0.000103	<0.000833	<0.000833	0.000362	<0.000833	0.000498	0.008381531
Nickel	0.00247	0.00166	0.00243	0.00155	0.00234	0.00145	0.00179	0.00183	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	0.094933125
Strontium	0.00676	0.00354	0.00455	0.00132	0.00495	0.00303	0.0042	0.00282	<
Titanium	0.0192	0.0167	0.0257	0.00873	0.0174	0.0114	0.0141	0.0159	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Vanadium	0.0051	0.00212	0.00279	0.0013	0.00271	0.00351	0.00337	0.00649	<
Zinc	0.0242	0.0224	0.066	0.024	0.0251	0.0368	0.0166	0.0129	0.804297281



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Particulate Matter - Metals

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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		26-Oct	26-Oct
Sample Date	26-Oct	26-Oct	26-Oct	26-Oct		N/A	26-Oct
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5			pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	3.88	4.21	8.13	4.58	1	93	21
Aluminum	0.0252	0.0186	0.0232	0.014	0.2	0.603624844	0.291520688
Arsenic	0.000309	<0.000208	<0.000208	<0.000208	0.005	0.007412906	<
Barium	0.000575	0.000774	0.0024	0.000337	0.005	0.013801406	0.005507813
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	0.2	<	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00277	0.0031	0.0034	0.00287	0.02	0.066474281	0.080152313
Cobalt	0.00104	0.00112	0.000209	0.000333	0.002	0.025062563	0.006012188
Copper	0.00606	0.00197	0.00112	0.000446	0.01	0.145552594	0.040612688
Iron	0.152	0.0592	0.0591	0.0165	0.2	3.658633969	14.78789184
Lead	<0.000208	<0.000208	0.000214	<0.000208	0.005	<	<
Manganese	0.00218	0.0019	0.00163	0.000814	0.002	0.052319813	0.043903875
Molybdenum	0.000492	0.0000922	<0.000833	<0.000833	0.002	0.01181175	0.009164438
Nickel	0.015	<0.000833	<0.000833	<0.000833	0.02	0.359667656	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.00031	0.000888	0.000287	0.000254	0.005	0.007439531	0.017536313
Titanium	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	0.00101	0.000845	0.000903	<0.000833	0.02	0.024205688	0.020112844
Zinc	0.0164	0.0138	0.0726	0.0197	0.02	0.394664906	1.852279031

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	26-Oct
Sample Date	26-Oct	26-Oct	26-Oct	26-Oct	26-Oct	26-Oct	26-Oct	26-Oct	26-Oct
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	4.96	4.25	8.79	2.458333333	3.67	4.75	3.92	5.71	24
Aluminum	0.0294	0.0291	0.0582	0.0456	0.0163	0.0272	0.0201	0.0634	0.394724531
Arsenic	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Barium	0.00069	0.00186	0.00289	0.000491	0.000446	0.00127	0.000533	0.00109	0.007039594
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00321	0.00326	0.00355	0.00297	0.00342	0.00297	0.00312	0.00726	0.060175219
Cobalt	0.000339	0.000197	0.000345	0.000153	0.000209	0.000231	0.000299	0.000263	0.003566438
Copper	0.00183	0.00144	0.00192	0.00162	0.000458	0.00257	0.0007	0.000801	<
Iron	0.083	0.101	0.179	0.0503	0.0408	0.0961	0.0445	0.311	0.617631375
Lead	0.000306	0.00122	0.000339	0.000515	<0.000208	0.000215	<0.000208	<0.000208	<
Manganese	0.00219	0.00276	0.00516	0.0015	0.00162	0.00252	0.00171	0.00754	0.014468063
Molybdenum	0.000244	0.000166	0.0000999	0.0000975	0.000325	0.000178	0.000187	0.000249	0.018289781
Nickel	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.0039	0.00389	0.000586	0.000366	0.00035	0.00274	0.00649	0.000597	<
Titanium	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00126	0.000876	0.00108	<0.000833	0.000934	0.00118	0.00108	0.000988	<
Zinc	0.0144	0.0213	0.0241	0.0441	0.00836	0.0139	0.0133	0.00818	0.223917844



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		01-Nov	01-Nov
Sample Date	01-Nov	01-Nov	01-Nov	01-Nov			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5			pm2.5
Total Air Volume (M3)	24	24	24	24		N/A	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	7.25	5.38	10.5	5.04	1	174	5
Aluminum	0.0601	0.0907	0.0884	0.0334	0.2	1.443203719	<
Arsenic	<0.000208	0.00342	0.00112	<0.000208	0.005	<	<
Barium	0.00134	0.00212	0.00667	0.000811	0.005	0.032098219	<
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	0.2	<	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00295	0.00284	0.00244	0.00243	0.02	0.070772156	0.072703313
Cobalt	0.00227	0.00265	0.00228	0.00308	0.002	0.054440625	0.080282438
Copper	0.00144	0.00278	0.00498	0.00254	0.01	0.034642406	<
Iron	0.658	0.0712	0.262	0.0262	0.2	15.78242803	<
Lead	0.000881	0.000623	0.000814	0.000618	0.005	0.021154875	<
Manganese	0.00808	0.00275	0.00537	0.00165	0.002	0.1938645	0.037127531
Molybdenum	<0.0000833	<0.0000833	0.000153	0.000115	0.002	<	0.023096813
Nickel	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.000435	0.000269	0.000711	0.00077	0.005	0.010430719	<
Titanium	0.0153	<0.000833	0.00371	<0.000833	0.02	0.36658425	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	0.00087	<0.000833	<0.000833	<0.000833	0.02	0.020886281	<
Zinc	0.0145	0.0732	0.0269	0.0342	0.02	0.347683313	0.348405375

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	01-Nov
Sample Date	01-Nov	01-Nov	01-Nov	01-Nov	01-Nov	01-Nov	01-Nov	01-Nov	01-Nov
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24.1	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	26.3	12.6	39.7	6.46	8.46	5	8.05	11.2	20
Aluminum	0.425	0.172	0.998	0.0264	0.0858	0.0302	0.0242	0.143	0.868260844
Arsenic	0.000225	0.00407	0.00171	<0.000208	0.000213	<0.000208	<0.000207	<0.000208	<
Barium	0.00721	0.00549	0.0325	0.000769	0.00267	0.000898	0.000836	0.00271	<
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000207	<0.000208	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00830	<0.00833	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000207	<0.000208	<
Chromium	0.00344	0.00274	0.00419	0.00232	0.0195	0.0025	0.00236	0.00266	0.052978125
Cobalt	0.00332	0.00302	0.00671	0.00428	0.00562	0.00507	0.00529	0.00645	0.110290969
Copper	0.00357	0.00446	0.0184	0.000938	0.0175	0.0158	0.00121	0.0016	0.035035031
Iron	1.46	0.531	2.77	0.0314	0.381	0.0399	0.0885	0.469	<
Lead	0.000798	0.000741	0.00161	0.000388	0.000607	0.000499	0.000313	0.000442	<
Manganese	0.0242	0.00961	0.0434	0.00162	0.00879	0.00165	0.00148	0.00867	0.031937625
Molybdenum	<0.0000833	0.0000934	0.00061	0.000192	0.000695	0.000492	0.000269	0.000387	0.0381585
Nickel	0.00103	0.00109	0.00195	<0.000833	0.000905	<0.000833	<0.000830	<0.000833	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.207	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000830	<0.0000833	<
Strontium	0.00324	0.00118	0.00571	0.000285	0.000727	0.000418	0.000347	0.00155	<
Titanium	0.0159	0.00553	0.0349	<0.000833	<0.000833	<0.000833	<0.000830	0.00525	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000830	<0.0000833	<
Vanadium	0.00215	0.00104	0.00342	<0.000833	0.00101	<0.000833	<0.000830	0.00108	<
Zinc	0.0238	0.0177	0.0321	0.0207	0.0307	0.0109	0.00959	0.0289	0.276866438



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		07-Nov	07-Nov
Sample Date	07-Nov	07-Nov	07-Nov	07-Nov		N/A	07-Nov
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5			pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	2.21	3.83	2.96	3.46	1	53	7
Aluminum	0.0178	0.0439	0.0334	0.0158	0.2	0.427907156	<
Arsenic	0.000395	0.00034	<0.000208	<0.000208	0.005	0.009490313	<
Barium	0.000552	0.000619	0.000772	0.000409	0.005	0.013258125	0.016424531
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	0.2	<	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00205	0.00195	0.00203	0.00192	0.02	0.049216125	0.044385375
Cobalt	0.0019	0.00187	0.0021	0.00193	0.002	0.04557075	0.078758906
Copper	0.000726	0.00179	0.00239	0.000574	0.01	0.017416781	<
Iron	0.0225	0.0582	0.0694	0.027	0.2	0.540022406	<
Lead	0.000362	0.000343	0.000239	0.000266	0.005	0.008697844	<
Manganese	0.00179	0.00331	0.00254	0.00119	0.002	0.042868781	0.029938125
Molybdenum	0.00013	<0.0000833	<0.0000833	0.000132	0.002	0.003124969	0.011563031
Nickel	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.000252	0.000262	0.000311	0.000273	0.005	0.006037875	0.006532219
Titanium	<0.000833	<0.000833	0.00169	<0.000833	0.02	<	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000833	<0.000833	0.000841	<0.000833	0.02	<	<
Zinc	0.0102	0.0152	0.00875	0.00885	0.02	0.244267313	0.169590281

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	07-Nov
Sample Date	07-Nov	07-Nov	07-Nov	07-Nov	07-Nov	07-Nov	07-Nov	07-Nov	07-Nov
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	8.42	11.5	18	9.83	13.3	4.25	7.83	57.1	6
Aluminum	0.0925	0.125	0.277	0.143	0.182	0.0702	0.135	1.08	0.390814594
Arsenic	<0.000208	0.000394	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	0.000535	<
Barium	0.0017	0.00193	0.00466	0.00313	0.0027	0.00126	0.00279	0.014	0.032621531
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00242	0.00235	0.00242	0.00226	0.0022	0.00132	0.00248	0.00339	0.056170594
Cobalt	0.00218	0.0025	0.00288	0.00315	0.00349	0.00425	0.00432	0.00925	0.081914719
Copper	0.000748	0.000747	0.00199	0.00262	0.000918	0.0068	0.000758	0.00273	0.017130656
Iron	0.264	0.359	0.785	0.313	0.54	0.157	0.593	4.29	2.996154375
Lead	0.000304	0.000338	0.00051	0.000435	0.000436	0.000296	0.00033	0.0011	<
Manganese	0.00641	0.00866	0.0152	0.0068	0.011	0.0172	0.00938	0.0792	0.024627844
Molybdenum	<0.0000833	<0.0000833	0.000131	0.000168	0.0000877	0.0002	0.000475	0.000601	0.034330313
Nickel	<0.000833	<0.000833	0.00136	0.00222	<0.000833	0.00566	<0.000833	0.00218	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00089	0.00105	0.00239	0.00511	0.00214	0.000665	0.00108	0.00848	<
Titanium	0.00266	0.00458	0.00751	0.00281	0.0688	0.00146	0.00363	0.0368	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.0000901	<
Vanadium	0.000949	0.00111	0.00174	0.00112	0.00105	<0.000833	0.00102	0.00413	<
Zinc	0.00989	0.0115	0.0433	0.0118	0.0113	0.0147	0.00822	0.0157	2.34350625



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters		Travel Blank Filters	
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		13-Nov	13-Nov		
Sample Date	13-Nov	13-Nov	13-Nov	13-Nov					
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5		
Total Air Volume (M3)	24	24	24	24				24	
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample		
Particulate Matter	12.3	14	11.8	7.46	1	294	6		
Aluminum	0.119	0.018	0.0413	0.0191	0.2	2.846857406	0.287840906		
Arsenic	0.000512	0.000451	0.000269	0.000302	0.005	0.0122895	<		
Barium	0.00277	0.00339	0.0051	0.00159	0.005	0.066530531	<		
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<		
Boron	<0.00833	<0.00833	<0.00833	<0.00833	0.2	<	<		
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<		
Chromium	0.00253	0.00266	0.00267	0.00275	0.02	0.060777188	0.057186094		
Cobalt	0.0038	0.00201	0.00331	0.00493	0.002	0.091123594	0.114028781		
Copper	0.00185	0.00114	0.00445	0.00282	0.01	0.044321156	0.016016156		
Iron	0.338	0.0495	0.181	0.0214	0.2	8.122051875	0.302974688		
Lead	0.000636	0.000802	0.000652	0.00131	0.005	0.015266531	<		
Manganese	0.00863	0.00201	0.00428	0.00343	0.002	0.20700525	0.013550813		
Molybdenum	0.0004	0.00016	0.00027	0.000185	0.002	0.009600844	0.01422075		
Nickel	<0.000833	<0.000833	<0.000833	0.00133	0.02	<	<		
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<		
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<		
Strontium	0.00091	0.000316	0.00065	0.000406	0.005	0.021849281	0.011961938		
Titanium	0.00142	<0.000833	0.00195	<0.000833	0.02	0.034192406	<		
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<		
Vanadium	0.00133	0.00126	0.00165	<0.000833	0.02	0.03201375	<		
Zinc	0.0276	0.0169	0.014	0.0291	0.02	0.661729781	0.383228063		

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	13-Nov
Sample Date	13-Nov	13-Nov	13-Nov	13-Nov	13-Nov	13-Nov	13-Nov	13-Nov	13-Nov
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	41.5	20.5	35.1	7.5	51.5	27	28.5	65.5	7
Aluminum	0.701	0.171	0.366	0.0398	0.602	0.384	0.547	1.02	<
Arsenic	0.000655	0.000506	0.000542	0.000278	0.000839	0.000464	0.000432	0.000949	<
Barium	0.0108	0.00409	0.0218	0.00162	0.00913	0.00781	0.011	0.0168	<
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.0034	0.00355	0.0114	0.00247	0.00367	0.00306	0.00336	0.00408	0.048120281
Cobalt	0.00263	0.00359	0.00287	0.00308	0.0055	0.00665	0.00603	0.0115	0.091372125
Copper	0.00447	0.00217	0.014	0.00106	0.00208	0.022	0.00219	0.00677	0.021732281
Iron	2.1	0.686	1.72	0.0656	2	1.36	2.75	4.55	0.302252531
Lead	0.00102	0.000899	0.00104	0.000613	0.00136	0.000765	0.000903	0.00175	<
Manganese	0.0429	0.0138	0.0254	0.00271	0.0339	0.0233	0.0443	0.0801	0.009507188
Molybdenum	0.000572	0.000279	0.000684	0.000256	0.000734	0.000982	0.000467	0.00117	0.037310438
Nickel	0.00233	0.000911	0.00128	<0.000833	0.00193	0.0129	0.002	0.0115	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00513	0.00197	0.00446	0.000409	0.00666	0.00327	0.00439	0.00897	<
Titanium	0.0205	0.00534	0.0107	<0.000833	0.0169	0.0114	0.0252	0.0332	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.0000953	<
Vanadium	0.00501	0.00219	0.00537	<0.000833	0.00488	0.00385	0.00326	0.00712	<
Zinc	0.0296	0.0167	0.0246	0.0158	0.0272	0.0424	0.0211	0.079	0.408335719



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		19-Nov	19-Nov
Sample Date	19-Nov	19-Nov	19-Nov	19-Nov		N/A	19-Nov
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5			pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	4.88	5.04	10.3	7.5	1	117	8
Aluminum	0.0416	0.024	0.0324	0.0149	0.2	0.9993	<
Arsenic	0.000415	0.000408	<0.000208	<0.000208	0.005	0.00969563	<
Barium	0.00119	0.000801	0.00186	<0.000208	0.005	0.028646813	<
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	0.2	<	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00225	0.00247	0.00219	0.00253	0.02	0.054002531	0.052001813
Cobalt	0.00398	0.00393	0.00479	0.00586	0.002	0.095445281	0.184747781
Copper	0.00102	0.00162	0.00176	0.00122	0.01	0.024583594	<
Iron	0.138	0.0318	0.0952	0.0505	0.2	3.322381594	<
Lead	0.00043	0.000361	0.000469	0.000212	0.005	0.01032	<
Manganese	0.00427	0.00256	0.00221	0.00155	0.002	0.102472031	0.015727688
Molybdenum	0.000247	<0.000833	<0.000833	0.000139	0.002	0.005926313	0.011992969
Nickel	<0.000833	0.00123	<0.000833	<0.000833	0.02	<	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Strontium	0.000548	0.00022	0.000375	0.000245	0.005	0.013147969	<
Titanium	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	0.002	<	<
Vanadium	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Zinc	0.0126	0.0179	0.00863	0.00738	0.02	0.301581281	0.2573745

Station #	AMS 1	AMS 6	AMS 7	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Millennium	Fort McKay South	Horizon	Muskeg River	19-Nov
Sample Date	19-Nov	19-Nov	19-Nov	19-Nov	19-Nov	19-Nov	19-Nov	19-Nov
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	27	12.7	21.2	35.6	12.3	11.7	39.9	19
Aluminum	0.577	0.107	0.179	0.644	0.272	0.176	0.693	0.233118469
Arsenic	0.000458	0.000507	<0.000208	0.000291	0.00022	<0.000208	0.000373	<
Barium	0.00896	0.0046	0.00733	0.00683	0.00434	0.0029	0.00821	<
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00369	0.00269	0.00317	0.00294	0.00289	0.00239	0.00338	0.052254188
Cobalt	0.00502	0.00579	0.0049	0.0072	0.00965	0.0066	0.0138	0.148165313
Copper	0.00243	0.00435	0.00577	0.00257	0.0156	0.00091	0.00282	0.01037175
Iron	1.65	0.416	0.673	1.7	0.918	0.545	2.28	<
Lead	0.000822	0.000468	0.000771	0.000783	0.000604	0.000424	0.000924	<
Manganese	0.03	0.00862	0.0104	0.0313	0.0172	0.0109	0.0435	0.027429656
Molybdenum	0.000372	0.000125	0.000229	0.000383	0.000741	0.000347	0.000636	0.033184313
Nickel	0.00202	<0.000833	0.00111	0.0017	0.000873	<0.000833	0.00159	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Strontium	0.00604	0.00121	0.00177	0.00501	0.00198	0.0016	0.00553	<
Titanium	0.0181	0.00366	0.0059	0.0136	0.0093	0.00364	0.0173	<
Uranium	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<
Vanadium	0.00415	0.000917	0.00108	0.00243	0.00167	0.00108	0.00293	<
Zinc	0.0128	0.0121	0.0217	0.024	0.0186	0.00739	0.0196	0.140791313



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters		Travel Blank Filters	
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		25-Nov	25-Nov		
Sample Date	25-Nov	25-Nov	25-Nov	25-Nov		N/A	pm2.5		
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5			pm2.5		
Total Air Volume (M3)	24	24	24	24			24		
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample		
Particulate Matter	3.25	0.5	3.58	3.5	1	78	8		
Aluminum	0.0819	0.0113	0.03	0.02	0.2	1.965217406	0.330871969		
Arsenic	0.000313	<0.000208	<0.000208	<0.000208	0.005	0.007502531	<		
Barium	0.000536	0.000267	0.0011	0.000341	0.005	0.012856406	0.009247969		
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<		
Boron	<0.00833	<0.00833	<0.00833	<0.00833	0.2	<	<		
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<		
Chromium	0.00273	0.00319	0.0034	0.00311	0.02	0.065528531	0.075238406		
Cobalt	0.000304	0.00045	0.00124	0.000458	0.002	0.007297125	0.010046719		
Copper	0.00362	0.000529	0.00302	0.00107	0.01	0.086912344	0.016676625		
Iron	0.0313	0.0175	0.0528	0.0393	0.2	0.7501575	<		
Lead	0.000594	<0.000208	0.000521	0.000453	0.005	0.014264156	<		
Manganese	0.00284	0.00141	0.00825	0.00237	0.002	0.068164688	0.064175344		
Molybdenum	0.000138	<0.0000833	0.00057	0.000568	0.002	0.003311719	0.013237875		
Nickel	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<		
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<		
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<		
Strontium	0.000304	0.000438	0.00101	<0.000208	0.005	0.007285875	<		
Titanium	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<		
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<		
Vanadium	<0.000833	<0.000833	0.0036	0.00327	0.02	<	0.020090906		
Zinc	0.00782	0.014	0.0105	0.0207	0.02	0.187575469	1.318846219		

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	25-Nov
Sample Date	25-Nov	25-Nov	25-Nov	25-Nov	25-Nov	25-Nov	25-Nov	25-Nov	25-Nov
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	7.42	0.25	8.33	4.21	20.9	11.4	4.54	9.58	21
Aluminum	0.103	0.0182	0.048	0.0266	0.314	0.0595	0.0407	0.117	<
Arsenic	<0.000208	<0.000208	<0.000208	<0.000208	0.000247	<0.000208	<0.000208	<0.000208	<
Barium	0.0012	0.000215	0.00327	0.00121	0.00462	0.00103	0.00088	0.00197	0.005188969
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.0029	0.00315	0.00349	0.00318	0.0042	0.00331	0.00338	0.00339	0.064492875
Cobalt	0.000269	0.000521	0.000467	0.00133	0.00107	0.000477	0.000574	0.000317	0.008682094
Copper	0.0011	0.00303	0.00402	0.000993	0.00565	0.000818	0.00576	0.0102	0.011438813
Iron	0.17	0.0158	0.192	0.119	1.07	0.143	0.135	0.41	0.322682156
Lead	0.00045	0.000805	0.000768	0.000429	0.000739	0.000428	0.00064	0.000536	<
Manganese	0.00473	0.00342	0.00558	0.00232	0.0417	0.00452	0.00559	0.0117	0.027248344
Molybdenum	0.0000954	<0.0000833	0.000639	0.000515	0.000349	0.000193	0.000262	0.000405	0.03691425
Nickel	<0.000833	<0.000833	0.000839	<0.000833	0.0137	<0.000833	<0.000833	<0.000833	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.000604	0.000218	0.00072	0.000337	0.00333	0.000508	0.000463	0.00106	<
Titanium	0.00427	<0.000833	0.00143	<0.000833	0.0071	<0.000833	<0.000833	0.00228	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00101	<0.000833	0.00402	0.00246	0.0017	0.001	0.000935	0.00114	<
Zinc	0.00742	0.0138	0.0104	0.00873	0.0194	0.00819	0.00931	0.00744	0.105381281





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Station #	MDL
Station Name	
Sample Date	
PM Size(µm)	
Total Air Volume (M3)	
<b>Unit</b>	
Particulate Matter	1
Aluminum	0.2
Arsenic	0.005
Barium	0.005
Beryllium	0.005
Boron	0.2
Cadmium	0.005
Chromium	0.02
Cobalt	0.002
Copper	0.01
Iron	0.2
Lead	0.005
Manganese	0.002
Molybdenum	0.002
Nickel	0.02
Phosphorus	5
Silver	0.002
Strontium	0.005
Titanium	0.02
Uranium	0.002
Vanadium	0.02
Zinc	0.02
<b>Station #</b>	
Station Name	AMS 12
Sample Date	Millennium
PM Size(µm)	30-Nov
Total Air Volume (M3)	pm10
	24
<b>Unit</b>	
Particulate Matter	µg/M3
Aluminum	19.5
Arsenic	0.228
Barium	0.000331
Beryllium	0.00378
Boron	<0.000208
Cadmium	<0.00833
Chromium	<0.000208
Cobalt	0.00333
Copper	0.00406
Iron	0.00396
Lead	0.763
Manganese	0.00127
Molybdenum	0.0145
Nickel	0.000485
Phosphorus	0.0013
Silver	<0.208
Strontium	<0.0000833
Titanium	0.00313
Uranium	0.00739
Vanadium	<0.0000833
Zinc	0.00305
	0.0708



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		01-Dec	01-Dec
Sample Date	01-Dec	01-Dec	01-Dec	01-Dec			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	19.7	8.71	6.67	2.21	1	473	<
Aluminum	0.114	0.0319	0.0247	0.0157	0.2	2.729153438	0.203963719
Arsenic	0.00166	0.000367	<0.000208	<0.000208	0.005	0.039728719	<
Barium	0.00554	0.00321	0.00282	0.000388	0.005	0.132930938	0.006456844
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	0.2	<	<
Cadmium	<	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00332	0.00329	0.00265	0.00233	0.02	0.079616906	0.055029844
Cobalt	0.0014	0.00159	0.00364	0.00467	0.002	0.033515438	0.083197969
Copper	0.00469	0.00456	0.00709	0.00223	0.01	0.112637063	0.056153344
Iron	0.449	0.129	0.0904	0.0337	0.2	10.77188616	1.052373281
Lead	0.00168	0.00257	0.00136	0.00202	0.005	0.040431281	<
Manganese	0.0138	0.00484	0.00641	0.00191	0.002	0.331247813	0.030130313
Molybdenum	<0.0000833	0.000712	0.000341	0.00027	0.002	<	0.013205813
Nickel	0.00244	<0.000833	0.0147	0.00129	0.02	0.058508063	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.00169	0.000433	0.000585	0.000225	0.005	0.040563375	<
Titanium	0.00389	0.00131	0.00113	<0.000833	0.02	0.093478406	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	0.00597	0.00148	<0.000833	<0.000833	0.02	0.14320275	<
Zinc	0.0251	0.0195	0.0146	0.0134	0.02	0.603405375	0.141448406

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Fort McKay South	Horizon	Muskeg River	01-Dec
Sample Date	01-Dec	01-Dec	01-Dec	01-Dec	01-Dec	01-Dec	01-Dec	01-Dec
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	10	11.1	9.29	3.46	10.3	5.25	<0.0417	<
Aluminum	0.0272	0.0439	0.0429	0.0322	0.061	0.0284	0.00996	<
Arsenic	0.00176	0.000323	<0.000208	0.00025	<0.000208	<0.000208	<0.000208	<
Barium	0.00242	0.00605	0.011	0.000986	0.00322	0.000718	0.000294	0.0053385
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	<0.00830	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<
Chromium	0.00366	0.00284	0.00281	0.00317	0.00299	0.00237	0.00266	0.05783325
Cobalt	0.00177	0.00117	0.00235	0.00314	0.00395	0.00285	0.00277	0.084311625
Copper	0.00383	0.00726	0.0107	0.0011	0.0146	0.00149	0.00187	0.010028719
Iron	0.139	0.213	0.294	0.0801	0.243	0.0742	0.0347	0.341950406
Lead	0.00175	0.00253	0.00155	0.00211	0.00103	0.00143	0.000215	<
Manganese	0.00581	0.00451	0.00423	0.00271	0.0072	0.00213	0.000857	0.040179469
Molybdenum	<0.0000830	0.00052	0.000501	0.000727	0.000898	0.000442	0.00195	0.022637531
Nickel	0.00127	<0.000833	<0.000833	<0.000833	0.00201	<0.000833	0.00464	<
Phosphorus	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.000513	0.000692	0.00192	0.000371	0.00094	0.000361	0.000325	<
Titanium	<0.000830	0.00373	0.00485	<0.000833	0.00145	<0.000833	<0.000833	<
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00179	0.00169	0.000837	<0.000833	0.00275	<0.000833	<0.000833	<
Zinc	0.0315	0.0161	0.0183	0.0113	0.0172	0.0131	0.00727	0.145347375



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		07-Dec	07-Dec
Sample Date	07-Dec	07-Dec	07-Dec	07-Dec			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.1	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	4.15	5.67	5.5	4.25	1	100	4
Aluminum	0.018	0.0245	0.0195	0.0125	0.2	0.433109063	0.246606
Arsenic	0.000314	<0.000208	<0.000208	<0.000208	0.005	0.007565813	<
Barium	0.000475	0.00134	0.000839	0.000363	0.005	0.011459063	<
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	<0.00830	<0.00833	<0.00833	<0.00833	0.2	<	<
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00281	0.00241	0.0023	0.00209	0.02	0.067830563	0.045894844
Cobalt	0.00154	0.00127	0.00503	0.00512	0.002	0.037163438	0.136126875
Copper	0.00637	0.00172	0.00172	0.00127	0.01	0.1536105	0.037606031
Iron	0.0562	0.0532	0.0437	<0.00833	0.2	1.35351675	0.42048675
Lead	0.000535	0.000532	0.000491	0.000421	0.005	0.012892781	<
Manganese	0.00293	0.00367	0.011	0.00145	0.002	0.070579594	0.021382781
Molybdenum	0.000373	0.000155	0.000414	0.000237	0.002	0.008999625	0.014655656
Nickel	<0.000830	<0.000833	<0.000833	<0.000833	0.02	<	<
Phosphorus	<0.207	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.000587	0.000402	0.00208	0.000213	0.005	0.014137594	<
Titanium	<0.000830	<0.000833	<0.000833	<0.000833	0.02	<	<
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000830	<0.000833	0.00108	<0.000833	0.02	<	<
Zinc	0.0156	0.0127	0.0181	0.0153	0.02	0.376128656	0.119400656

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	07-Dec
Sample Date	07-Dec	07-Dec	07-Dec	07-Dec	07-Dec	07-Dec	07-Dec	07-Dec	07-Dec
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24.1	1	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	5.93	5.79	5.83	3.88	5.63	4.83	4.81	<1.00	<
Aluminum	0.0331	0.0242	0.0259	0.0409	0.0547	0.0338	0.0293	<0.200	0.207453656
Arsenic	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000207	<0.00500	<
Barium	0.000796	0.00124	0.00188	0.000558	0.000817	0.000951	0.000625	0.00784	<
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000207	<0.00500	<
Boron	<0.00830	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00830	<0.200	<
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000207	<0.00500	<
Chromium	0.0027	0.00222	0.00195	0.00254	0.00189	0.00205	0.00199	0.0584	0.047279344
Cobalt	0.0028	0.00142	0.00317	0.00298	0.00223	0.00316	0.00231	0.0917	0.063967313
Copper	0.001	0.00193	0.00255	0.000684	0.000907	0.00356	0.000772	<0.0100	0.012993469
Iron	0.104	0.047	0.0583	0.0174	0.116	0.0687	0.0492	<0.200	<
Lead	0.000505	0.00049	0.000463	0.000574	0.000443	0.000442	0.000474	<0.00500	<
Manganese	0.00345	0.00371	0.00305	0.00174	0.00344	0.00331	0.00254	0.0618	0.034189594
Molybdenum	0.000183	0.00018	0.000281	0.000445	0.000217	0.000217	0.000352	0.0103	0.039381188
Nickel	<0.000830	<0.000833	<0.000833	<0.000833	<0.000833	<0.000833	<0.000830	<0.0200	<
Phosphorus	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<0.207	<5.00	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000830	<0.00200	<
Strontium	0.000468	0.000436	0.000799	0.00023	0.000516	0.000386	0.000364	<0.00500	<
Titanium	<0.000830	<0.000833	<0.000833	<0.000833	0.00103	<0.000833	<0.000830	<0.0200	<
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000830	<0.00200	<
Vanadium	0.000942	<0.000833	0.00107	<0.000833	<0.000833	<0.000833	<0.000830	<0.0200	<
Zinc	0.0111	0.0105	0.0197	0.0108	0.0159	0.0103	0.00627	0.152	0.191956594



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		13-Dec	13-Dec
Sample Date	13-Dec	13-Dec	13-Dec	13-Dec		N/A	13-Dec
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5			pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	23.2	38	37.2	11.5	1	557	22
Aluminum	0.0166	0.0176	0.02	0.0127	0.2	0.397285781	<
Arsenic	0.000395	<0.000208	0.000219	<0.000208	0.005	0.0094815	<
Barium	0.000733	0.0018	0.00184	0.000416	0.005	0.01760175	0.005112281
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	<0.00833	<0.00833	<0.00833	<0.00833	0.2	<	<
Cadmium	<0.000208	0.000298	0.000285	<0.000208	0.005	<	<
Chromium	0.00256	0.00298	0.00214	0.00191	0.02	0.061355625	0.051247969
Cobalt	0.00131	0.00241	0.00642	0.00463	0.002	0.031503469	0.129447
Copper	0.00287	0.00382	0.00349	0.00242	0.01	0.068904094	0.015245063
Iron	0.0568	0.0496	0.0392	<0.00833	0.2	1.363946813	<
Lead	0.00111	0.00117	0.00137	0.000388	0.005	0.02667	<
Manganese	0.007	0.013	0.00557	0.00154	0.002	0.167927813	0.050012063
Molybdenum	0.000324	0.000543	0.000419	0.000225	0.002	0.007781625	0.018026344
Nickel	<0.000833	<0.000833	<0.000833	<0.000833	0.02	<	<
Phosphorus	<0.208	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.00031	0.00284	0.000432	0.000233	0.005	0.007431	<
Titanium	<0.000833	<0.000833	0.000936	<0.000833	0.02	<	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.002	<	0.00239475
Vanadium	<0.000833	0.00186	0.00185	0.00117	0.02	<	<
Zinc	0.0342	0.0441	0.0477	0.0172	0.02	0.821181469	0.133730531

Station #	AMS 1	AMS 6	AMS 14	AMS 12	AMS 13	AMS 15
Station Name	Bertha Ganter	Patricia McInnes	Anzac	Millennium	Fort McKay South	Horizon
Sample Date	13-Dec	13-Dec	13-Dec	13-Dec	13-Dec	13-Dec
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	24.3	40	15	47.9	24.4	10.6
Aluminum	0.0481	0.0217	0.0127	0.129	0.0436	0.0422
Arsenic	0.000249	<0.000208	<0.000208	0.000271	<0.000208	<0.000208
Barium	0.00146	0.00291	0.000584	0.00517	0.00148	0.000946
Beryllium	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	0.000273
Boron	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833
Cadmium	0.000292	0.000296	<0.000208	0.000254	<0.000208	<0.000208
Chromium	0.00246	0.00211	0.00184	0.00278	0.00196	0.00203
Cobalt	0.00145	0.00171	0.00281	0.00275	0.00389	0.00223
Copper	0.00302	0.00574	0.000955	0.292	0.00569	0.00419
Iron	0.143	0.0827	0.0189	0.381	0.0978	0.277
Lead	0.00123	0.000975	0.000406	0.00833	0.000823	0.000737
Manganese	0.00616	0.006	0.00207	0.0128	0.00845	0.00711
Molybdenum	0.000318	0.000437	0.000407	0.000987	0.000355	0.000404
Nickel	<0.000833	<0.000833	<0.000833	0.372	0.00105	<0.000833
Phosphorus	<0.208	<0.208	<0.208	<0.208	<0.208	<0.208
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833
Strontium	0.00107	0.000377	<0.000208	0.00123	0.000527	0.00048
Titanium	<0.000833	0.00188	<0.000833	0.0038	<0.000833	<0.000833
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	0.000184
Vanadium	0.001	0.00181	0.00148	0.00242	0.000959	<0.000833
Zinc	0.0253	0.0432	0.022	0.222	0.0194	0.0245



Station #	MDL
Station Name	
Sample Date	
PM Size(µm)	
Total Air Volume (M3)	
<b>Unit</b>	
Particulate Matter	1
Aluminum	0.2
Arsenic	0.005
Barium	0.005
Beryllium	0.005
Boron	0.2
Cadmium	0.005
Chromium	0.02
Cobalt	0.002
Copper	0.01
Iron	0.2
Lead	0.005
Manganese	0.002
Molybdenum	0.002
Nickel	0.02
Phosphorus	5
Silver	0.002
Strontium	0.005
Titanium	0.02
Uranium	0.002
Vanadium	0.02
Zinc	0.02

Station #	AMS 16	
Station Name	Muskeg River	Travel Blank Filters
Sample Date	15-Dec	15-Dec
PM Size(µm)	pm10	pm10
Total Air Volume (M3)	24.1	24
<b>Unit</b>		
Particulate Matter	µg/M3	µg/sample
Aluminum	9.63	<
Arsenic	0.0806	0.316132594
Barium	<0.000207	<
Beryllium	0.00194	0.005041875
Boron	<0.000207	<
Cadmium	<0.00830	<
Chromium	<0.000207	<
Cobalt	0.00253	0.039082688
Copper	0.00383	0.077498344
Iron	0.00362	0.016325156
Lead	0.205	<
Manganese	0.000489	<
Molybdenum	0.00538	0.020841188
Nickel	0.000726	0.039396656
Phosphorus	0.00182	<
Silver	<0.207	<
Strontium	<0.0000830	<
Titanium	0.000587	<
Uranium	0.00237	<
Vanadium	<0.0000830	<
Zinc	0.00262	<
	0.0158	0.113218969



Station #	AMS 1	AMS 6	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Anzac		19-Dec	19-Dec
Sample Date	19-Dec	19-Dec	19-Dec		19-Dec	19-Dec
PM Size(µm)	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.1	24	24			24
Unit	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	17.6	14	11.3	1	425	16
Aluminum	0.016	0.0172	0.0232	0.2	0.386766469	<
Arsenic	0.000491	<0.000208	<0.000208	0.005	0.011844094	<
Barium	0.00136	0.00713	0.00119	0.005	0.032785688	0.022746188
Beryllium	<0.000207	<0.000208	<0.000208	0.005	<	<
Boron	<0.00830	<0.00833	<0.00833	0.2	<	<
Cadmium	<0.000207	<0.000208	<0.000208	0.005	<	<
Chromium	0.0015	0.00201	0.00138	0.02	0.036177188	0.047436281
Cobalt	0.00058	0.000287	0.000987	0.002	0.013986375	0.00400575
Copper	0.00368	0.00244	0.00645	0.01	0.088729313	0.015211594
Iron	0.0388	0.0239	<0.00833	0.2	0.935724656	<
Lead	0.000701	0.000514	0.000538	0.005	0.016899938	<
Manganese	0.00317	0.00256	0.00173	0.002	0.076430719	0.032272313
Molybdenum	0.00189	0.00024	0.00159	0.002	0.045643781	0.007767844
Nickel	<0.000830	<0.000833	0.0199	0.02	<	<
Phosphorus	<0.207	<0.208	<0.208	5	<	<
Silver	<0.0000830	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.000436	0.000805	0.000246	0.005	0.010518844	<
Titanium	<0.000830	<0.000833	<0.000833	0.02	<	<
Uranium	0.0000928	<0.0000833	<0.0000833	0.002	0.002235469	<
Vanadium	0.000877	<0.000833	0.005	0.02	0.021124125	<
Zinc	0.0307	0.0207	0.0354	0.02	0.740096531	0.167563031

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	Travel Blank Filters
Sample Date	19-Dec	19-Dec	19-Dec	19-Dec	19-Dec	19-Dec	19-Dec	19-Dec	19-Dec
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24.1	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	22.5	14.8	14.5	13.3	48.7	14.8	16.4	26.4	8
Aluminum	0.0708	0.0268	0.0249	0.0174	0.588	0.0586	0.049	0.13	0.496227844
Arsenic	0.000355	<0.000208	<0.000208	<0.000207	0.000279	<0.000208	<0.000208	0.000237	<
Barium	0.00345	0.00315	0.00683	0.00278	0.0114	0.00214	0.00314	0.00346	0.007925438
Beryllium	<0.000208	<0.000208	<0.000208	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<
Boron	<0.00833	<0.00833	<0.00833	<0.00830	<0.00833	<0.00833	<0.00833	<0.00833	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000207	<0.000208	<0.000208	<0.000208	0.000224	<
Chromium	0.00156	0.00194	0.00187	0.00244	0.00537	0.00493	0.00215	0.00241	0.038389313
Cobalt	0.000489	0.00023	0.000204	0.000154	0.000557	0.000168	0.000236	0.000505	0.005299406
Copper	0.00422	0.00366	0.00641	0.00116	0.0064	0.0223	0.00127	0.00223	0.010007906
Iron	0.161	0.0443	0.139	0.234	1.38	0.14	0.0929	0.366	<
Lead	0.000755	0.00053	0.000535	0.000416	0.00121	0.000508	0.000523	0.000716	<
Manganese	0.00685	0.00303	0.00379	0.00391	0.0219	0.00528	0.00417	0.00968	0.072975844
Molybdenum	0.000846	0.000182	0.000202	0.00027	0.000658	0.00123	0.000415	0.000793	0.018570375
Nickel	0.00162	<0.000833	<0.000833	0.00304	0.00528	0.00145	<0.000833	0.0013	<
Phosphorus	<0.208	<0.208	<0.208	<0.207	<0.208	<0.208	<0.208	<0.208	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Strontium	0.00234	0.000425	0.000837	0.000303	0.00448	0.000547	0.000562	0.00124	<
Titanium	0.00288	0.00115	0.00303	<0.000830	0.0154	<0.000833	<0.000833	0.00431	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<
Vanadium	0.00295	<0.000833	<0.000833	0.00666	0.00228	0.00122	0.00164	0.00403	<
Zinc	0.035	0.0251	0.0251	0.0155	0.0302	0.0281	0.0193	0.0291	0.278910281



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Particulate Matter - Metals

2014  
Indicated Sites and Dates

Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		25-Dec	25-Dec
Sample Date	25-Dec	25-Dec	25-Dec	25-Dec			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.1	24	24	24			24

Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	5.73	5.5	5.25	2.79	1	138	14
Aluminum	0.035	0.011	0.0113	0.0168	0.2	0.844099125	0.206373094
Arsenic	0.000343	<0.000208	<0.000208	<0.000208	0.005	0.008264719	<
Barium	0.000922	0.000842	0.00052	0.00025	0.005	0.022213125	<
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	0.005	<	<
Boron	<0.00830	<0.00833	<0.00833	<0.00833	0.2	<	<
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	0.005	<	<
Chromium	0.00202	0.00216	0.00156	0.00213	0.02	0.048767906	0.055420125
Cobalt	0.00139	0.00047	0.000212	0.000194	0.002	0.033581156	0.005917031
Copper	0.00134	0.00151	0.000929	<0.000417	0.01	0.032300906	0.015404156
Iron	0.0689	0.0118	0.00898	0.0157	0.2	1.659388594	2.648459625
Lead	0.000708	0.000622	0.000506	0.000281	0.005	0.017073	<
Manganese	0.00721	0.00587	0.00161	0.00153	0.002	0.173717344	0.044440031
Molybdenum	0.000252	0.000113	0.00137	0.000361	0.002	0.006067219	0.015663375
Nickel	<0.000830	<0.000833	<0.000833	<0.000833	0.02	<	<
Phosphorus	<0.207	<0.208	<0.208	<0.208	5	<	<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Strontium	0.000847	0.000363	0.000229	0.000359	0.005	0.020420719	<
Titanium	<0.000830	<0.000833	<0.000833	<0.000833	0.02	<	<
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	0.002	<	<
Vanadium	<0.000830	<0.000833	<0.000833	<0.000833	0.02	<	<
Zinc	0.0177	0.0252	0.00925	0.00674	0.02	0.425945813	0.370202625

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	25-Dec
Sample Date	25-Dec	25-Dec	25-Dec	25-Dec	25-Dec	25-Dec	25-Dec	25-Dec	25-Dec
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24.1	24.1	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	6.22	6.17	4.92	4.04	9.92	4.58	5.06	7.55		1
Aluminum	0.0385	0.0196	0.0375	0.0111	0.0635	0.0302	0.0307	0.0611		0.408168094
Arsenic	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000207	<0.000207		<
Barium	0.000846	0.00179	0.00155	0.000431	0.00177	0.000941	0.000523	0.00127		0.0062025
Beryllium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000207	<0.000207		<
Boron	<0.00830	<0.00833	<0.00833	<0.00833	<0.00833	<0.00833	<0.00830	<0.00830		<
Cadmium	<0.000207	<0.000208	<0.000208	<0.000208	<0.000208	<0.000208	<0.000207	<0.000207		<
Chromium	0.00211	0.00243	0.00217	0.00194	0.00218	0.00317	0.00207	0.00185		0.043004719
Cobalt	0.00088	0.00094	0.000307	0.000291	0.000289	0.000302	0.000412	0.00136		0.007923375
Copper	0.00244	0.00608	0.00171	0.000583	0.00138	0.0108	0.00194	0.0019		0.027698906
Iron	0.097	0.0442	0.056	0.0131	0.215	0.0628	0.0545	0.161		0.412418344
Lead	0.000694	0.000719	0.000493	0.000359	0.000448	0.000424	0.000498	0.000698		<
Manganese	0.00449	0.00155	0.00296	0.00145	0.00542	0.0027	0.00193	0.00922		0.031697625
Molybdenum	0.000133	0.000292	0.000242	0.00034	0.000262	0.000634	0.000289	0.000476		0.037250906
Nickel	<0.000830	0.0125	<0.000833	<0.000833	<0.000833	0.00147	<0.000830	<0.000830		<
Phosphorus	<0.207	<0.208	<0.208	<0.208	<0.208	<0.208	<0.207	<0.207		<
Silver	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000830	<0.0000830		<
Strontium	0.00178	0.000431	0.000496	<0.000208	0.000791	0.000612	0.000297	0.00055		<
Titanium	<0.000830	<0.000833	<0.000833	<0.000833	0.00123	<0.000833	<0.000830	0.00653		<
Uranium	<0.0000830	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000833	<0.0000830	<0.0000830		<
Vanadium	<0.000830	<0.000833	0.000874	0.00113	<0.000833	<0.000833	0.000959	<0.000830		<
Zinc	0.0269	0.0111	0.017	0.00826	0.0152	0.0146	0.00748	0.0195		0.213481125



Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		31-Dec	31-Dec
Sample Date	31-Dec	31-Dec	31-Dec	31-Dec			
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5			pm2.5
Total Air Volume (M3)	24	24	24	24.1		N/A	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3		ug	µg/sample
Particulate Matter	1.54	2.58	1.42	1.24	1	37	<
Aluminum	0.0138	0.0155	0.0084	0.0109	0.2	0.331460063	<
Arsenic	<0.000208	<0.000208	0.00326	<0.000207	0.005	<	<
Barium	0.000471	0.0028	0.000957	0.000319	0.005	0.011311031	<
Beryllium	<0.000208	<0.000208	<0.000208	<0.000207	0.005	<	<
Boron	<0.00833	<0.00833	<0.00833	<0.00830	0.2	<	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000207	0.005	<	<
Chromium	0.00178	0.00201	<0.000833	0.00182	0.02	0.042810844	0.047618719
Cobalt	0.000193	<0.0000833	0.0000909	0.0000992	0.002	0.004636313	0.0064695
Copper	0.000846	0.0064	0.000922	<0.000415	0.01	0.02030325	<
Iron	0.0288	0.021	0.0435	0.0292	0.2	0.691192406	0.405005438
Lead	0.000223	0.000668	<0.000208	<0.000207	0.005	0.005358188	<
Manganese	0.00196	0.00127	0.00104	0.00126	0.002	0.047003531	0.394082344
Molybdenum	<0.0000833	<0.0000833	<0.0000833	0.000197	0.002	<	<
Nickel	<0.000833	<0.000833	<0.000833	<0.000830	0.02	<	<
Phosphorus	<0.208	<0.208	<0.208	<0.207	5	<	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000830	0.002	<	<
Strontium	<0.000208	0.00117	<0.000208	0.000259	0.005	<	<
Titanium	<0.000833	<0.000833	<0.000833	<0.000830	0.02	<	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000830	0.002	<	<
Vanadium	<0.000833	<0.000833	<0.000833	<0.000830	0.02	<	<
Zinc	0.00581	0.00843	0.0183	0.00512	0.02	0.139523531	0.209256656

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Horizon	Muskeg River	Travel Blank Filters
Sample Date	31-Dec	31-Dec	31-Dec	31-Dec	31-Dec	31-Dec	31-Dec	31-Dec
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24.1	24	24	24.1	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/sample
Particulate Matter	4.42	3.42	3.25	2.45	5.63	4.33	3.94	4
Aluminum	0.119	0.025	0.0288	0.0216	0.0517	0.0416	0.0499	<
Arsenic	<0.000208	<0.000208	0.00213	<0.000207	<0.000208	<0.000208	<0.000207	<
Barium	0.00127	0.00424	0.00328	0.000675	0.00121	0.0019	0.00095	<
Beryllium	<0.000208	<0.000208	<0.000208	<0.000207	<0.000208	<0.000208	<0.000207	<
Boron	<0.00833	<0.00833	<0.00833	<0.00830	<0.00833	<0.00833	<0.00830	<
Cadmium	<0.000208	<0.000208	<0.000208	<0.000207	<0.000208	<0.000208	<0.000207	<
Chromium	0.00237	0.00172	0.00206	0.00189	0.00229	0.0022	0.00218	0.041763844
Cobalt	0.00033	0.000185	0.00014	<0.0000830	0.00012	0.000175	0.000183	0.004084219
Copper	0.00165	0.00867	0.00398	0.00178	0.00129	0.0034	0.00046	<
Iron	0.111	0.0605	0.116	0.0581	0.166	0.0867	0.128	0.210710719
Lead	0.000297	0.000725	<0.000208	<0.000207	0.000288	0.000212	<0.000207	<
Manganese	0.00396	0.00223	0.0022	0.00289	0.00512	0.0023	0.00281	0.017068688
Molybdenum	<0.0000833	<0.0000833	<0.0000833	<0.0000830	<0.0000833	<0.0000833	<0.0000830	0.0187815
Nickel	<0.000833	<0.000833	<0.000833	<0.000830	<0.000833	<0.000833	<0.000830	<
Phosphorus	<0.208	<0.208	<0.208	<0.207	<0.208	<0.208	<0.207	<
Silver	<0.0000833	<0.0000833	<0.0000833	<0.0000830	<0.0000833	<0.0000833	<0.0000830	<
Strontium	0.000356	0.00128	0.000243	0.000611	0.000502	0.00021	0.000459	<
Titanium	0.0016	<0.000833	0.0015	<0.000830	<0.000833	<0.000833	<0.000830	<
Uranium	<0.0000833	<0.0000833	<0.0000833	<0.0000830	<0.0000833	<0.0000833	<0.0000830	<
Vanadium	<0.000833	<0.000833	<0.000833	<0.000830	0.000878	<0.000833	<0.000830	<
Zinc	0.0119	0.00535	0.00716	0.017	0.0102	0.00699	0.00553	0.073900219





WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

Particulate Matter - Metals

Period Average

2014

Indicated Sites and Dates

Station #	AMS 1	AMS 6	AMS 7	AMS 14	Lab Blank Filters	Travel Blank Filters				
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac						
Sample Date										
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5	pm2.5	pm2.5				
Unit	ug/m3	ug/m3	ug/m3	ug/m3	ug	ug/sample				
Particulate Matter	7.410444	6.867115	8.290431	5.440955	196.2196	21.42962				
Aluminum	0.05548889	0.04243889	0.0621	0.05465886	1.550549	0.3622928				
Arsenic	0.000475056	0.000264852	0.000252706	0.000106055	0.01108381	0.000437909				
Barium	0.00126513	0.001564907	0.002831568	0.00077711	0.03547792	0.00994628				
Beryllium	0	0	0	0	0	0				
Boron	0.01413777	0.01472222	0.01372196	0.01248981	0.3875596	0.3061858				
Cadmium	0	1.30E-05	1.17E-05	5.80E-06	0	0				
Chromium	0.003012963	0.002584815	0.00250647	0.002380364	0.07009004	0.05534787				
Cobalt	0.000727611	0.000628296	0.000980449	0.000956123	0.01795904	0.02272909				
Copper	0.01389354	0.004907611	0.005850784	0.01055557	0.3877135	0.03872817				
Iron	0.1674333	0.1145889	0.1935859	0.07581	4.81591	1.231572				
Lead	0.001075759	0.000994574	0.000980451	0.001328175	0.02802535	0.005894084				
Manganese	0.006586296	0.007324815	0.00696451	0.003471351	0.158026	0.2315455				
Molybdenum	0.000755722	0.0001983	0.000262884	0.000285422	0.01833809	0.01152427				
Nickel	0.001302815	0.000777722	0.001348059	0.002257154	0.03313152	0.009622308				
Phosphorus	0	0	0	0	0	0				
Silver	5.26E-06	6.85E-06	0	1.47E-05	0.00012158	0.000133729				
Strontium	0.000532815	0.000502685	0.000699804	0.000360967	0.01596166	0.00371372				
Titanium	0.00119987	0.0006975	0.001788157	0.000422894	0.05212549	0.000895545				
Uranium	4.18E-06	0	0	0	3.99E-05	3.93E-05				
Vanadium	0.000594537	0.000690333	0.000764588	0.000491691	0.0158813	0.002365818				
Zinc	0.02269851	0.01852204	0.02093177	0.01473247	0.5555939	0.3591531				

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	
Sample Date									
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Unit	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/sample
Particulate Matter	18.15324	16.73632	20.10036	9.517232	27.48662	13.38921	14.40555	23.8695	16.82983
Aluminum	0.2201759	0.2023151	0.3914755	0.1080611	0.4250723	0.162475	0.175693	0.353408	3.302616
Arsenic	0.000362833	0.000395868	0.000476623	0.000128167	0.000313121	0.000176321	0.000156491	0.000309828	0.004144186
Barium	0.00405276	0.005266376	0.0106024	0.002511611	0.0066325	0.003069572	0.003302825	0.005902603	0.01875029
Beryllium	4.61E-06	2.30E-05	0	0	9.00E-06	0	4.79E-06	0	0.000430248
Boron	0.01424074	0.01434528	0.01384717	0.01312593	0.01453793	0.01378607	0.01443509	0.015015	0.3098676
Cadmium	4.06E-05	3.16E-05	0	1.70E-05	4.38E-06	0	0	3.86E-06	0.001131075
Chromium	0.003036481	0.002979434	0.003398679	0.002667426	0.003626725	0.002759643	0.002894737	0.004451552	0.05785227
Cobalt	0.000978204	0.000926019	0.001103396	0.001134407	0.001305431	0.001221679	0.001056342	0.0032355	0.02409036
Copper	0.03722848	0.009145621	0.0111834	0.0328145	0.008504845	0.01220318	0.002666578	0.003548293	0.03664327
Iron	0.6984666	0.5950868	1.077764	0.3428037	1.104841	0.4791965	0.5530738	1.413207	1.114421
Lead	0.000951574	0.001274962	0.001304151	0.000800907	0.001267638	0.000951482	0.000798105	0.000995948	0.02216945
Manganese	0.01609963	0.02111283	0.01990302	0.008700371	0.02072397	0.01067518	0.01725088	0.02908961	0.120389
Molybdenum	0.000354415	0.000246725	0.000379715	0.000297528	0.000471184	0.000386211	0.000392333	0.000633774	0.02790965
Nickel	0.001596426	0.001369076	0.00254483	0.000867611	0.009295414	0.001446911	0.000923684	0.002261845	0.04486614
Phosphorus	0	0.00509434	0	0	0.003827586	0	0	0	0
Silver	1.66E-05	0	5.72E-06	4.93E-06	0	0	0	2.05E-06	0.001720223
Strontium	0.002348296	0.001979076	0.002546358	0.001057556	0.004333465	0.001490161	0.001624369	0.003136327	0.01003542
Titanium	0.007790148	0.006634339	0.01215453	0.003209334	0.01419104	0.00587275	0.004920175	0.01332671	0.0648489
Uranium	4.14E-06	2.78E-05	7.35E-06	1.57E-06	2.60E-05	3.86E-06	5.00E-06	1.24E-05	0.000616141
Vanadium	0.001896852	0.001736396	0.003907641	0.000942185	0.003843552	0.001648911	0.001333053	0.002326741	0.1029704
Zinc	0.01840241	0.02013887	0.02835566	0.0162237	0.02471242	0.01825589	0.0174607	0.02449397	0.3232008



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

Particulate Matter - Metals

Period Sum

2014

Indicated Sites and Dates

Station #	AMS 1	AMS 6	AMS 7	AMS 14	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		
Sample Date						
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5	pm2.5	pm2.5
Unit	ug/m3	ug/m3	ug/m3	ug/m3	ug	ug/sample
Particulate Matter	400.164	370.8242	422.812	299.2525	10988.3	1307.207
Aluminum	2.9964	2.2917	3.1671	3.006238	86.83076	22.09986
Arsenic	0.025653	0.014302	0.012888	0.005833	0.6206933	0.02671247
Barium	0.068317	0.08450498	0.14441	0.04274107	1.986764	0.6067231
Beryllium	0	0	0	0	0	0
Boron	0.7634398	0.795	0.69982	0.6869397	21.70334	18.67734
Cadmium	0	0.0007	0.000595	0.000319	0	0
Chromium	0.1627	0.13958	0.12783	0.13092	3.925042	3.37622
Cobalt	0.039291	0.033928	0.0500029	0.05258677	1.005706	1.386475
Copper	0.7502511	0.265011	0.29839	0.5805566	21.71196	2.362419
Iron	9.0414	6.187799	9.87288	4.16955	269.6909	75.12589
Lead	0.05809101	0.05370699	0.05000298	0.07304962	1.56942	0.3595392
Manganese	0.35566	0.39554	0.35519	0.1909243	8.849456	14.12428
Molybdenum	0.04080901	0.0107082	0.0134071	0.0156982	1.026933	0.7029806
Nickel	0.070352	0.041997	0.06875099	0.1241435	1.855365	0.5869608
Phosphorus	0	0	0	0	0	0
Silver	0.000284	0.00037	0	0.000809	0.0068085	0.008157469
Strontium	0.028772	0.027145	0.03569001	0.01985317	0.8938528	0.2265369
Titanium	0.064793	0.037665	0.09119601	0.02325914	2.919028	0.05462822
Uranium	0.0002258	0	0	0	0.002235469	0.00239475
Vanadium	0.032105	0.037278	0.038994	0.027043	0.8893529	0.1443149
Zinc	1.22572	1.00019	1.06752	0.8102861	31.11326	21.90834

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	
Sample Date									
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Unit	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/sample
Particulate Matter	980.2748	887.0248	1065.319	513.9305	1594.224	749.7956	821.1166	1384.431	1009.79
Aluminum	11.8895	10.7227	20.7482	5.835299	24.6542	9.098599	10.0145	20.49766	198.157
Arsenic	0.019593	0.020981	0.025261	0.006921	0.018161	0.009873999	0.008919999	0.01797	0.2486511
Barium	0.218849	0.2791179	0.561927	0.135627	0.384685	0.171896	0.188261	0.342351	1.125018
Beryllium	0.000249	0.00122	0	0	0.000522	0	0.000273	0	0.02581491
Boron	0.7689999	0.7602999	0.7339	0.7088	0.8432	0.77202	0.8228	0.8708699	18.59206
Cadmium	0.00219	0.001676	0	0.000916	0.000254	0	0	0.000224	0.0678645
Chromium	0.16397	0.15791	0.18013	0.144041	0.21035	0.15454	0.165	0.25819	3.471136
Cobalt	0.052823	0.04907899	0.05847999	0.061258	0.07571501	0.06841401	0.0602115	0.187659	1.445422
Copper	2.010338	0.4847179	0.59272	1.771983	0.493281	0.683378	0.151995	0.205801	2.198596
Iron	37.7172	31.5396	57.12151	18.5114	64.0808	26.835	31.5252	81.966	66.86526
Lead	0.05138501	0.067573	0.06911999	0.04324899	0.07352301	0.053283	0.045492	0.057765	1.330167
Manganese	0.8693801	1.11898	1.05486	0.46982	1.20199	0.5978099	0.9833	1.687197	7.223342
Molybdenum	0.0191384	0.0130764	0.0201249	0.0160665	0.0273287	0.0216278	0.022363	0.0367589	1.674579
Nickel	0.08620699	0.07256101	0.134876	0.04685101	0.539134	0.08102701	0.05265001	0.131187	2.691968
Phosphorus	0	0.27	0	0	0.222	0	0	0	0
Silver	0.000898	0	0.000303	0.000266	0	0	0	0.000119	0.1032134
Strontium	0.126808	0.104891	0.134957	0.057108	0.251341	0.08344901	0.09258901	0.181907	0.602125
Titanium	0.420668	0.35162	0.64419	0.173304	0.8230801	0.328874	0.28045	0.7729491	3.890934
Uranium	0.0002234	0.0014758	0.0003895	8.47E-05	0.0015076	0.000216	0.000285	0.0007207	0.03696844
Vanadium	0.10243	0.09202901	0.207105	0.050878	0.222926	0.09233901	0.075984	0.134951	6.178225
Zinc	0.99373	1.06736	1.50285	0.87608	1.43332	1.02233	0.9952601	1.42065	19.39205



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

Particulate Matter - Metals

2014  
Indicated Sites and Dates

Total Samples (#)

Station #	AMS 1	AMS 6	AMS 7	AMS 14	Lab Blank Filters	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		
Sample Date						
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5	pm2.5	pm2.5

Unit

Particulate Matter	54	54	51	55	56	61
Aluminum	54	54	51	55	56	61
Arsenic	54	54	51	55	56	61
Barium	54	54	51	55	56	61
Beryllium	54	54	51	55	56	61
Boron	54	54	51	55	56	61
Cadmium	54	54	51	55	56	61
Chromium	54	54	51	55	56	61
Cobalt	54	54	51	55	56	61
Copper	54	54	51	55	56	61
Iron	54	54	51	55	56	61
Lead	54	54	51	55	56	61
Manganese	54	54	51	55	56	61
Molybdenum	54	54	51	55	56	61
Nickel	54	54	51	55	56	61
Phosphorus	54	54	51	55	56	61
Silver	54	54	51	55	56	61
Strontium	54	54	51	55	56	61
Titanium	54	54	51	55	56	61
Uranium	54	54	51	55	56	61
Vanadium	54	54	51	55	56	61
Zinc	54	54	51	55	56	61

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	
Sample Date									
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10

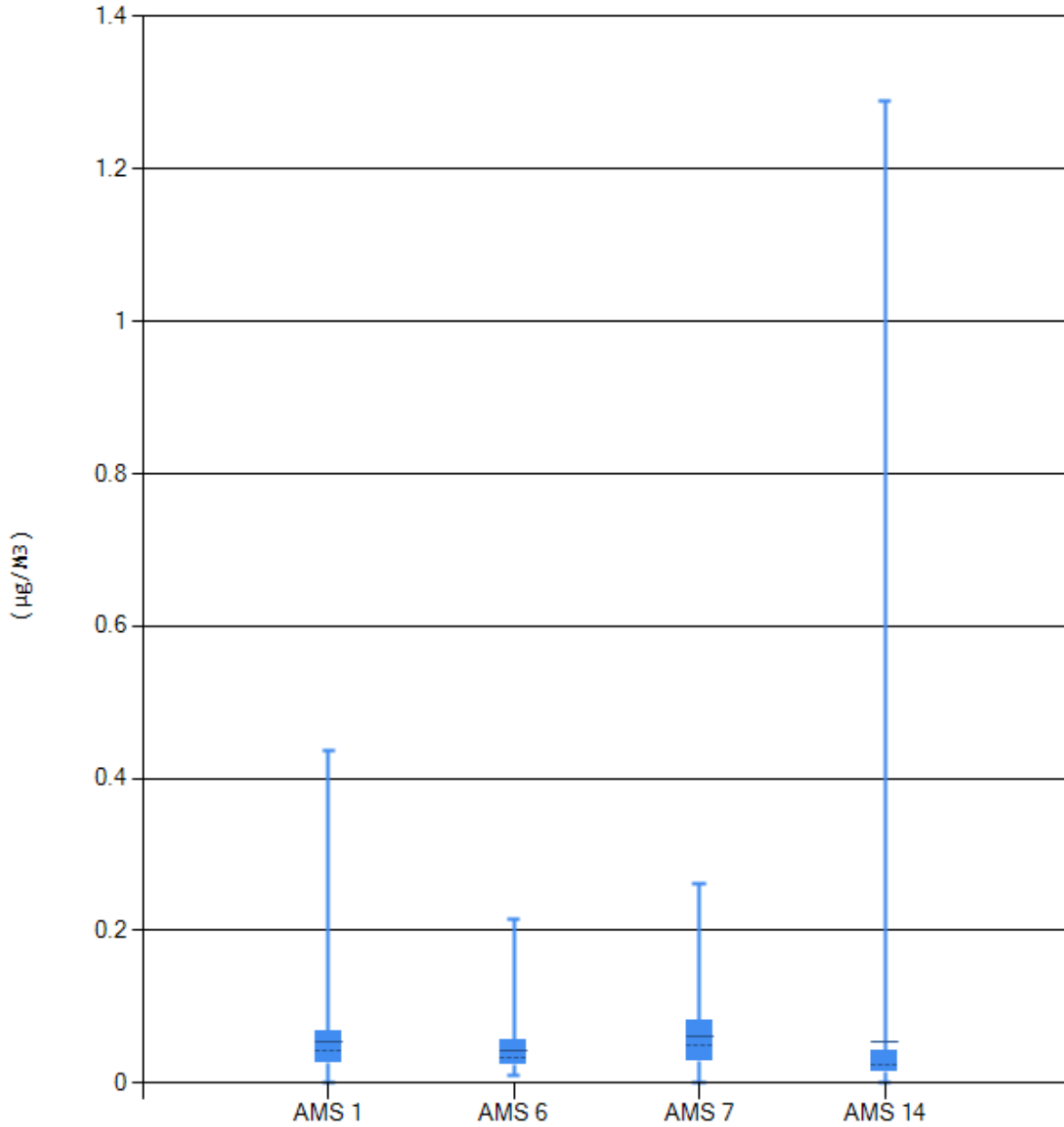
Unit

Particulate Matter	54	53	53	54	58	56	57	58	60
Aluminum	54	53	53	54	58	56	57	58	60
Arsenic	54	53	53	54	58	56	57	58	60
Barium	54	53	53	54	58	56	57	58	60
Beryllium	54	53	53	54	58	56	57	58	60
Boron	54	53	53	54	58	56	57	58	60
Cadmium	54	53	53	54	58	56	57	58	60
Chromium	54	53	53	54	58	56	57	58	60
Cobalt	54	53	53	54	58	56	57	58	60
Copper	54	53	53	54	58	56	57	58	60
Iron	54	53	53	54	58	56	57	58	60
Lead	54	53	53	54	58	56	57	58	60
Manganese	54	53	53	54	58	56	57	58	60
Molybdenum	54	53	53	54	58	56	57	58	60
Nickel	54	53	53	54	58	56	57	58	60
Phosphorus	54	53	53	54	58	56	57	58	60
Silver	54	53	53	54	58	56	57	58	60
Strontium	54	53	53	54	58	56	57	58	60
Titanium	54	53	53	54	58	56	57	58	60
Uranium	54	53	53	54	58	56	57	58	60
Vanadium	54	53	53	54	58	56	57	58	60
Zinc	54	53	53	54	58	56	57	58	60



PM\_METAL - Aluminum - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

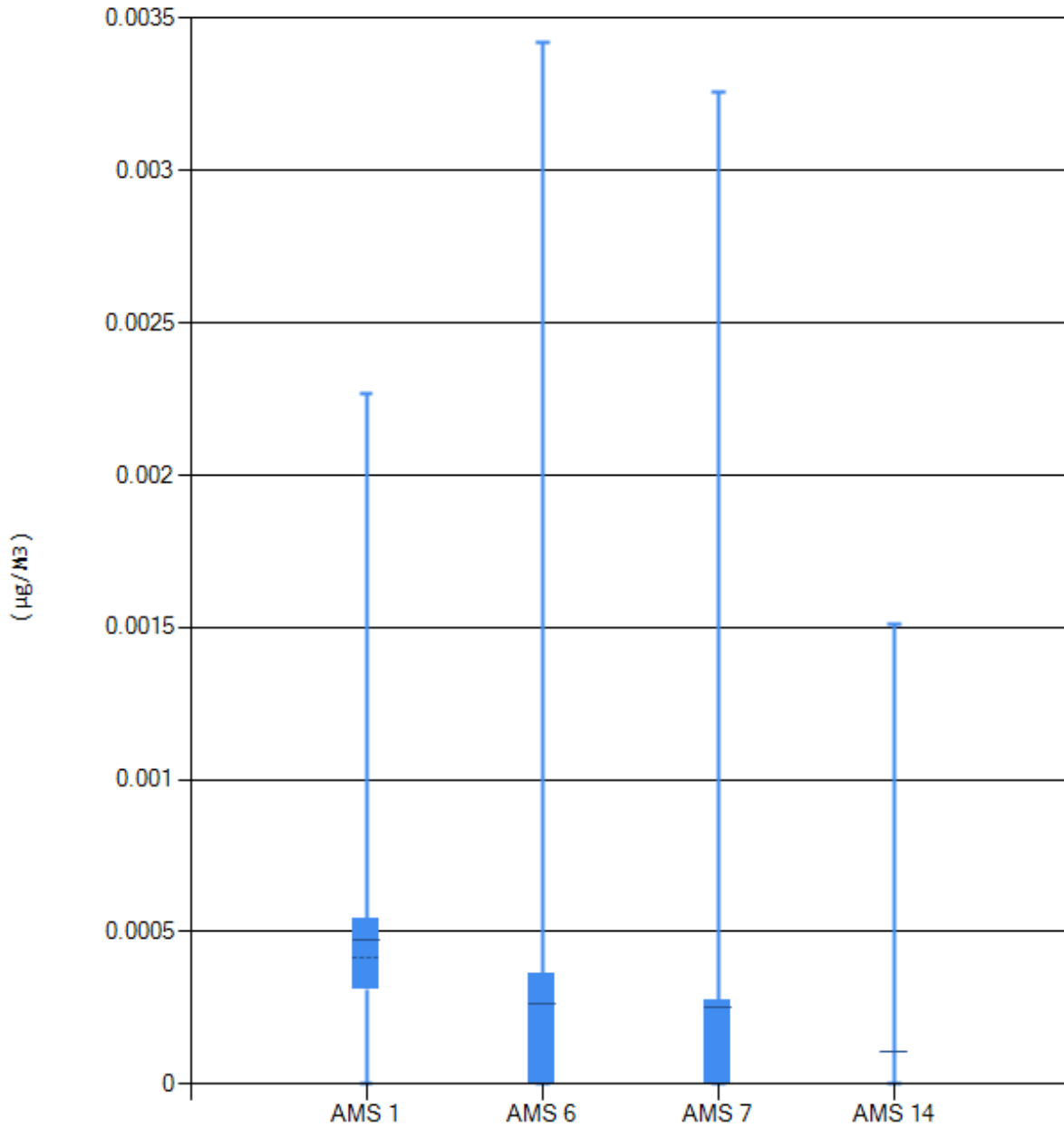
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0.03	0.04	0.07	0.44	0.06
AMS 6 Patricia McInnes	0.01	0.02	0.03	0.06	0.22	0.04
AMS 7 Athabasca Valley	0	0.03	0.05	0.08	0.26	0.06
AMS 14 Anzac	0	0.02	0.02	0.04	1.29	0.05





PM\_METAL - Arsenic - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

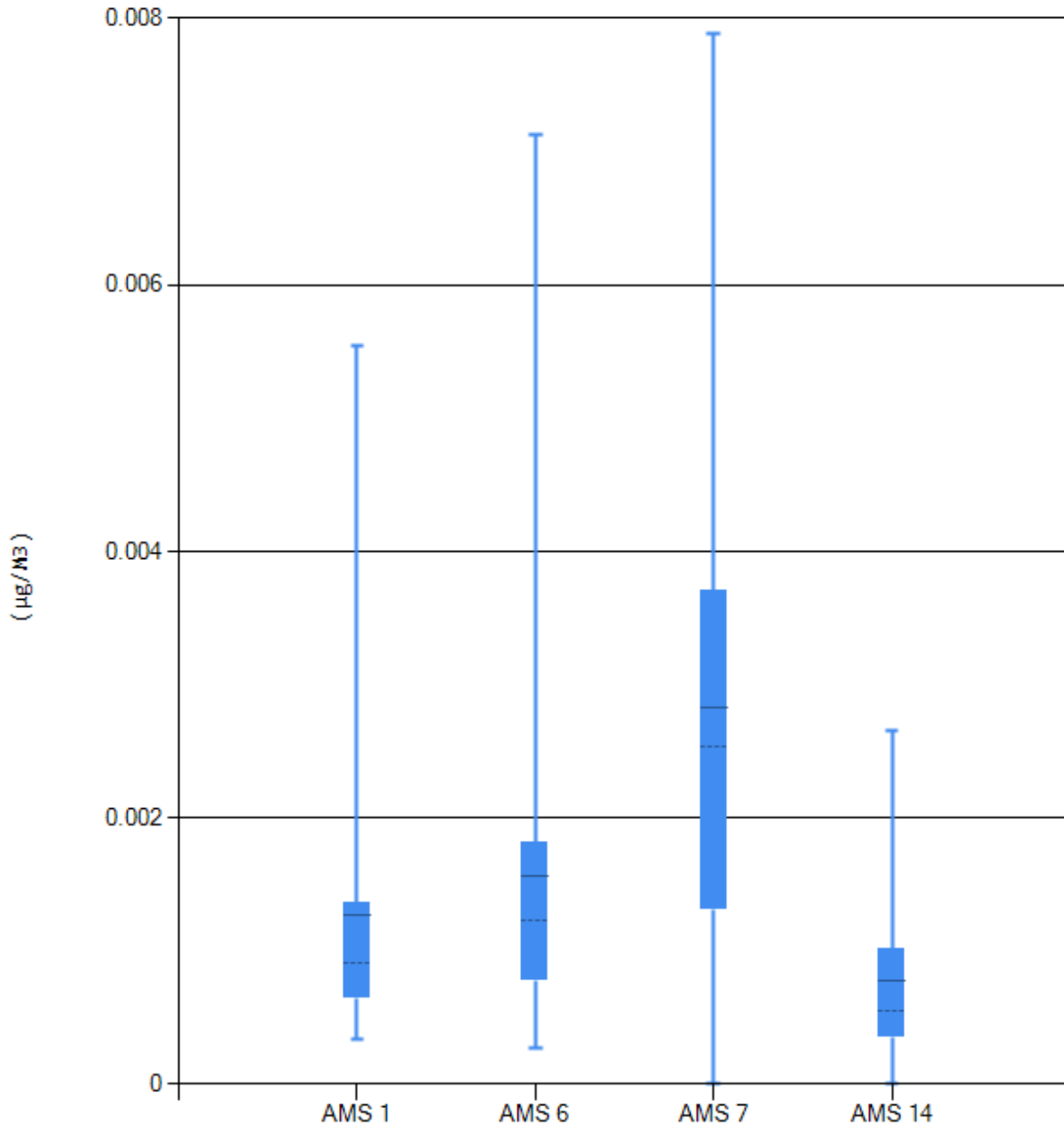
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





PM\_METAL - Barium - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

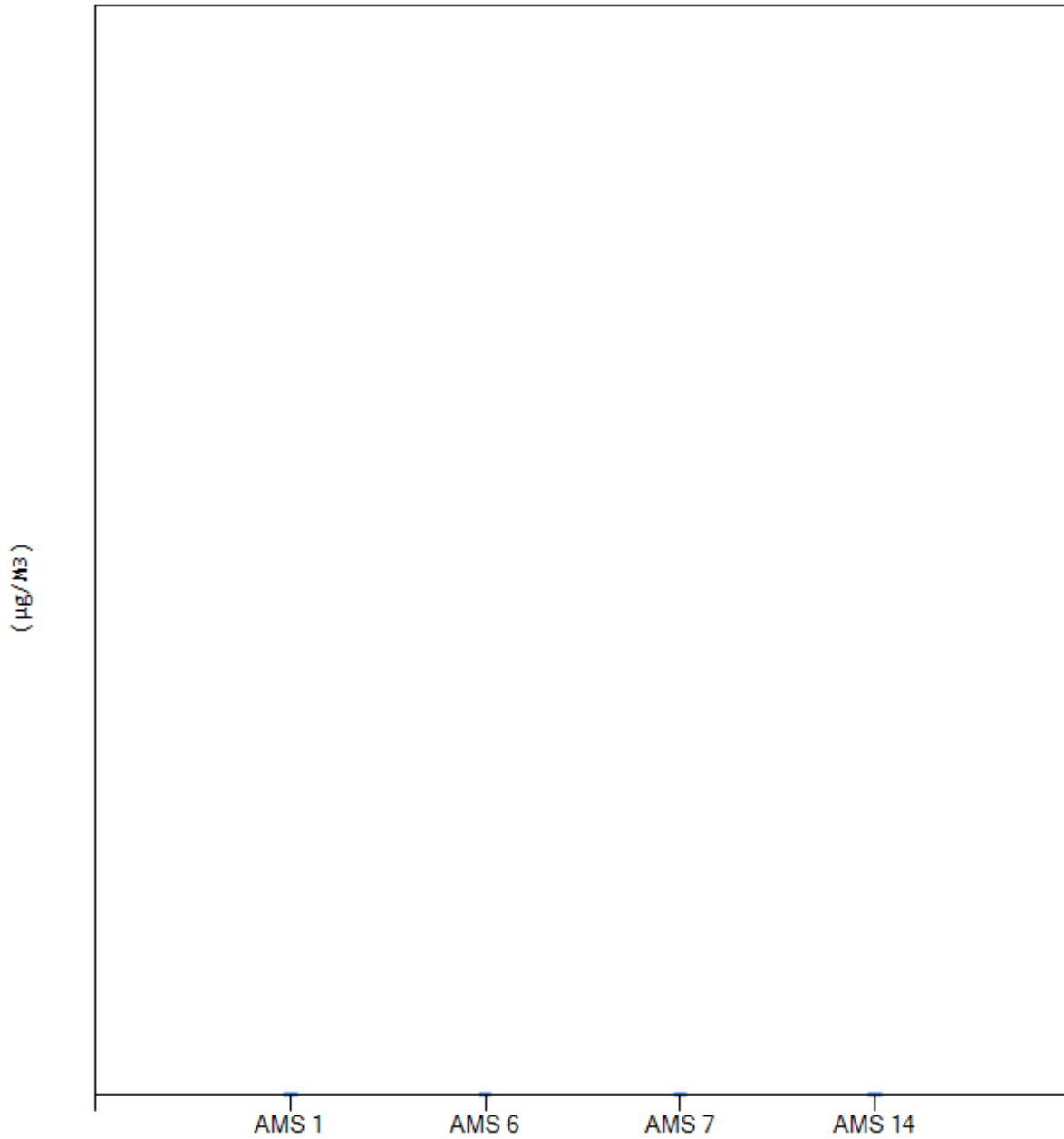
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.01	0
AMS 6 Patricia McInnes	0	0	0	0	0.01	0
AMS 7 Athabasca Valley	0	0	0	0	0.01	0
AMS 14 Anzac	0	0	0	0	0	0





PM\_METAL - Beryllium - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

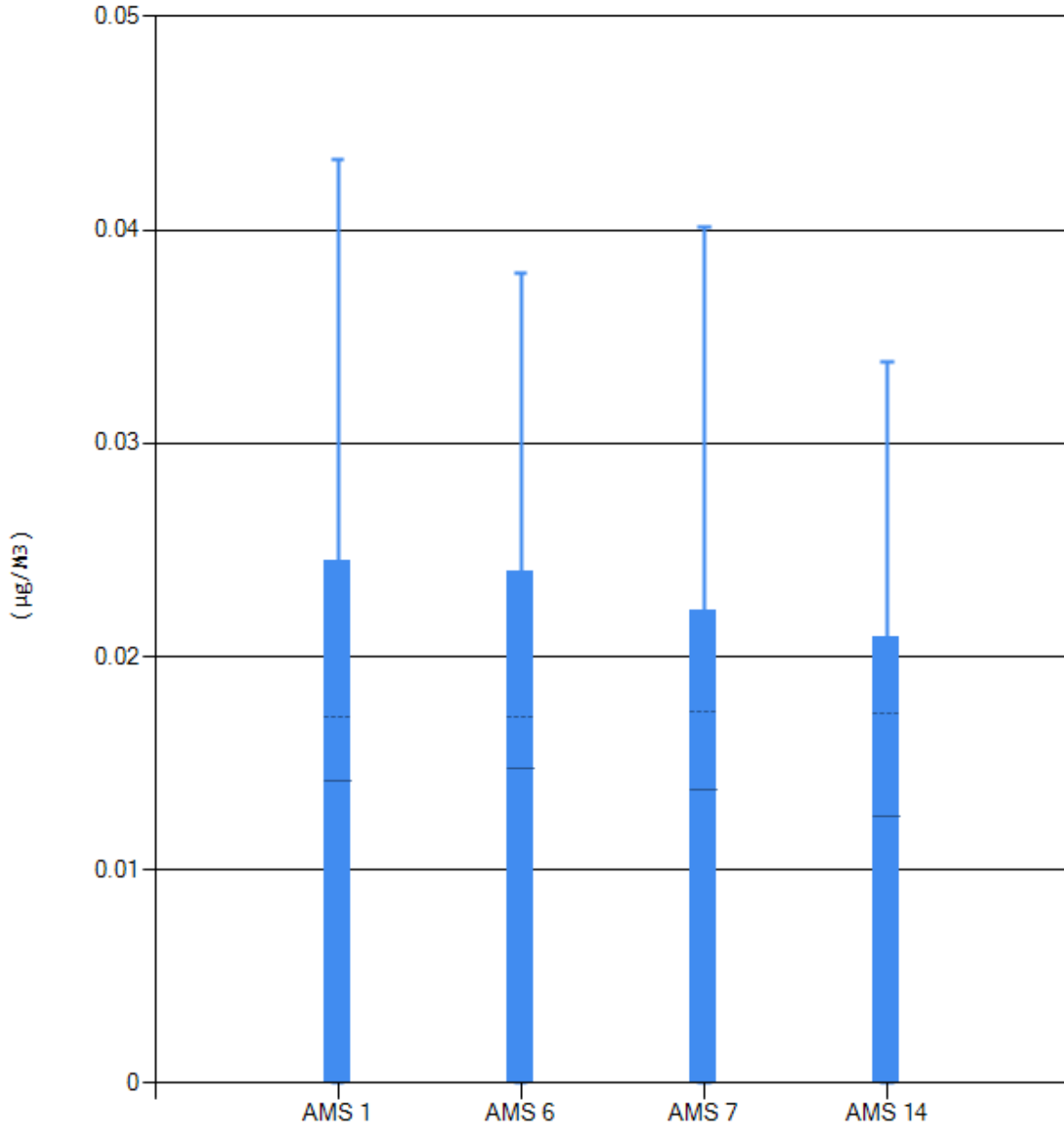
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





PM\_METAL - Boron - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0.02	0.02	0.04	0.01
AMS 6 Patricia McInnes	0	0	0.02	0.02	0.04	0.01
AMS 7 Athabasca Valley	0	0	0.02	0.02	0.04	0.01
AMS 14 Anzac	0	0	0.02	0.02	0.03	0.01

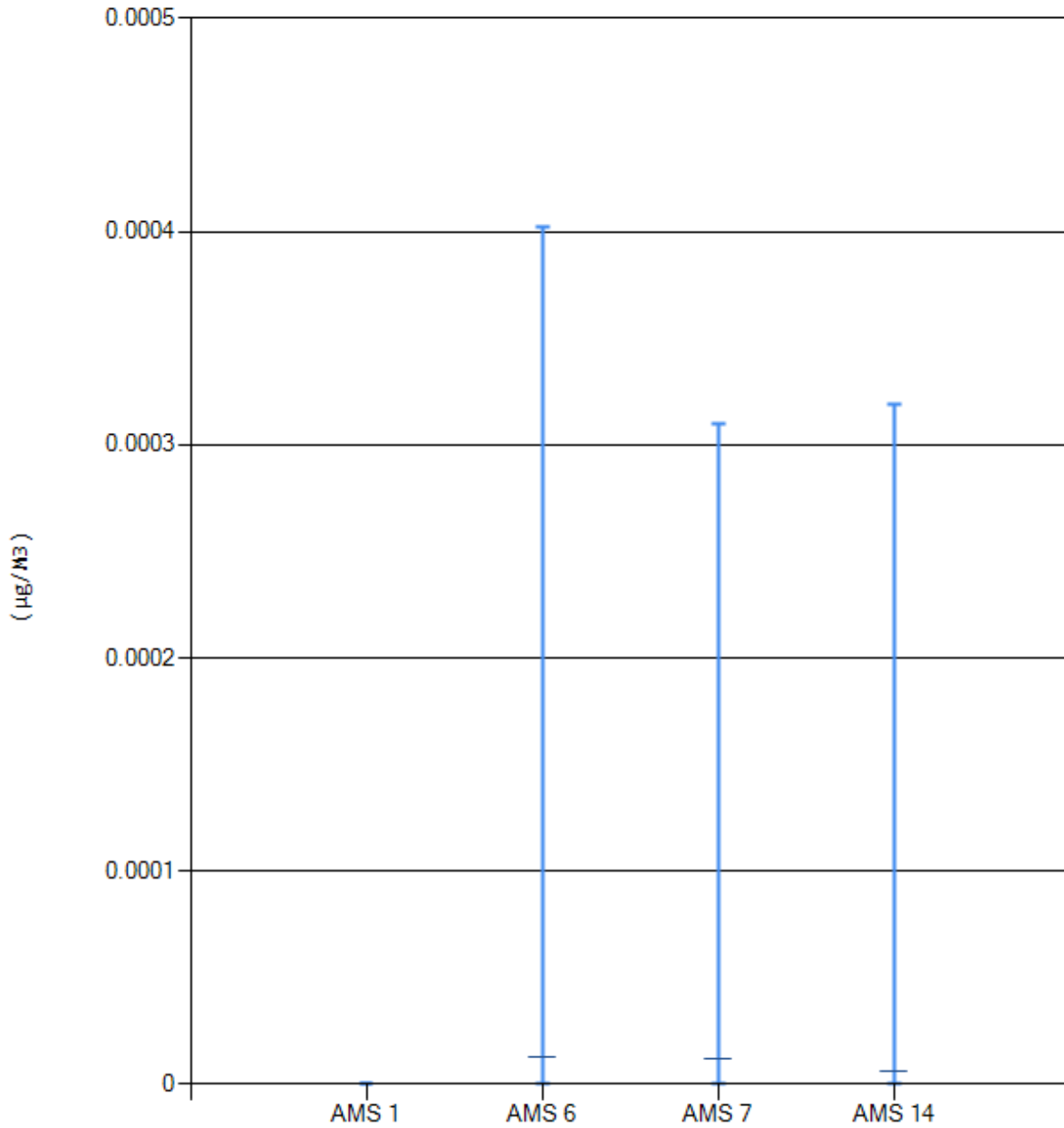






PM\_METAL - Cadmium - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

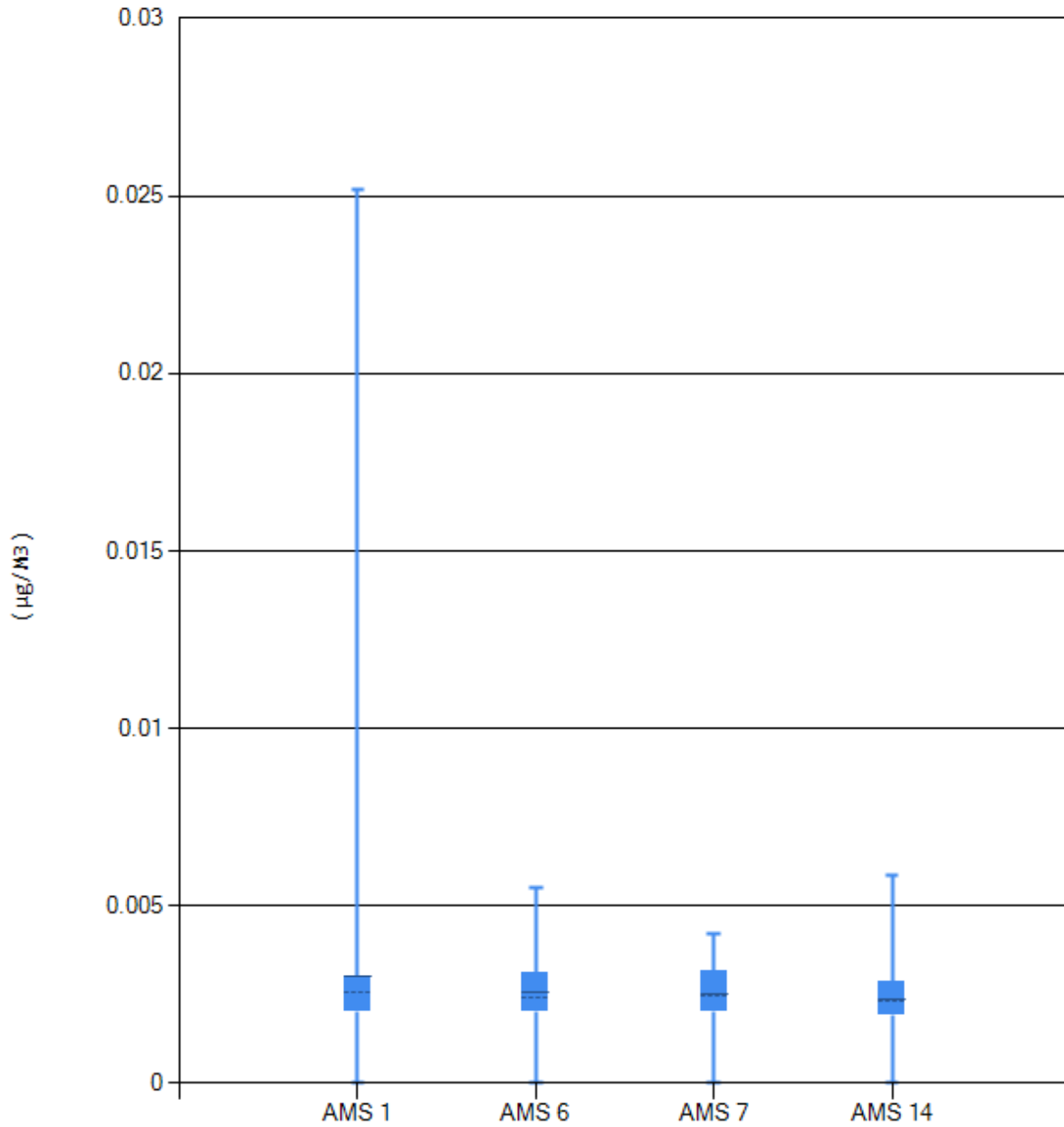
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





PM\_METAL - Chromium - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

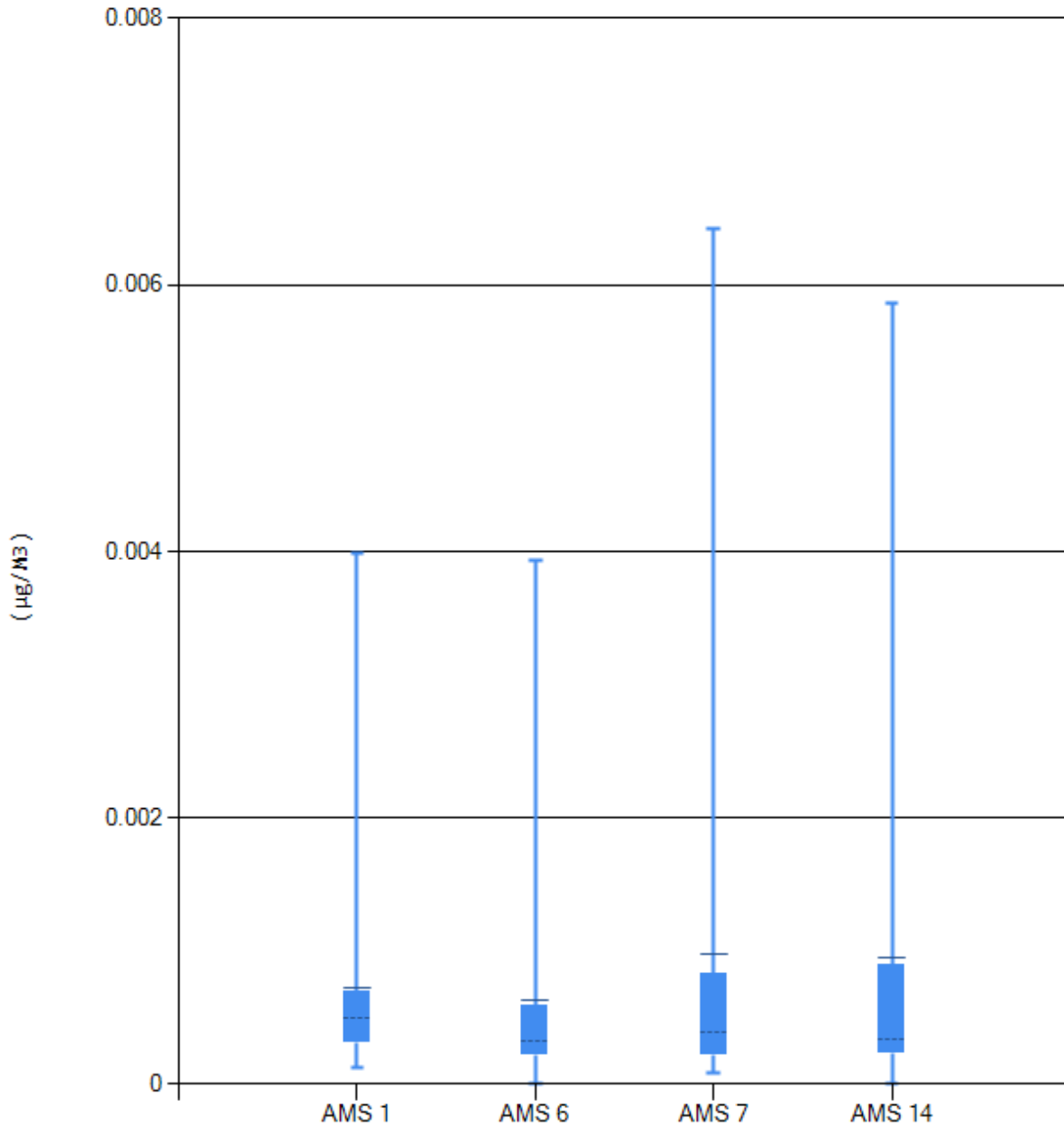
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.03	0
AMS 6 Patricia McInnes	0	0	0	0	0.01	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0.01	0





PM\_METAL - Cobalt - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

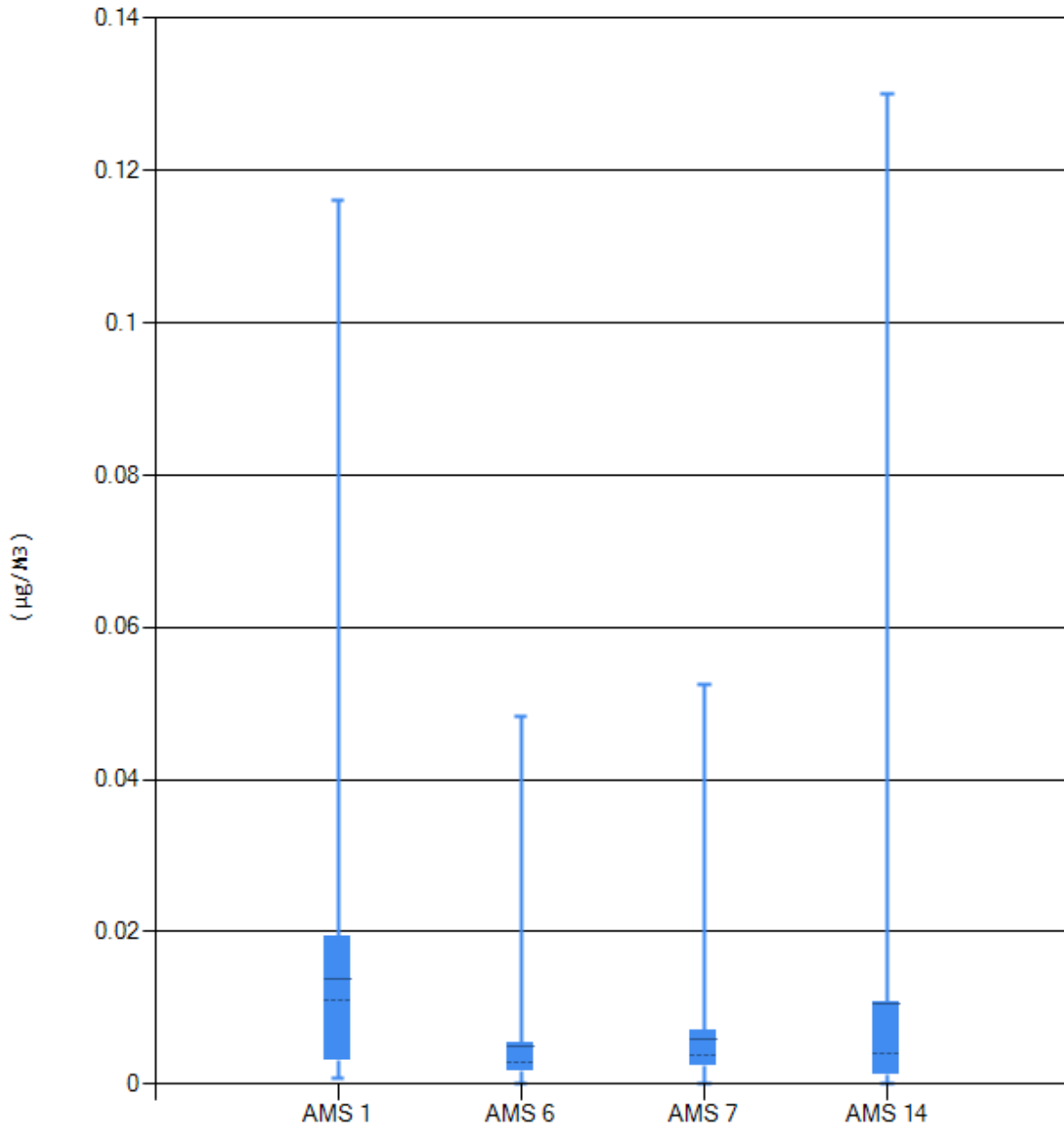
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0.01	0
AMS 14 Anzac	0	0	0	0	0.01	0





PM\_METAL - Copper - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

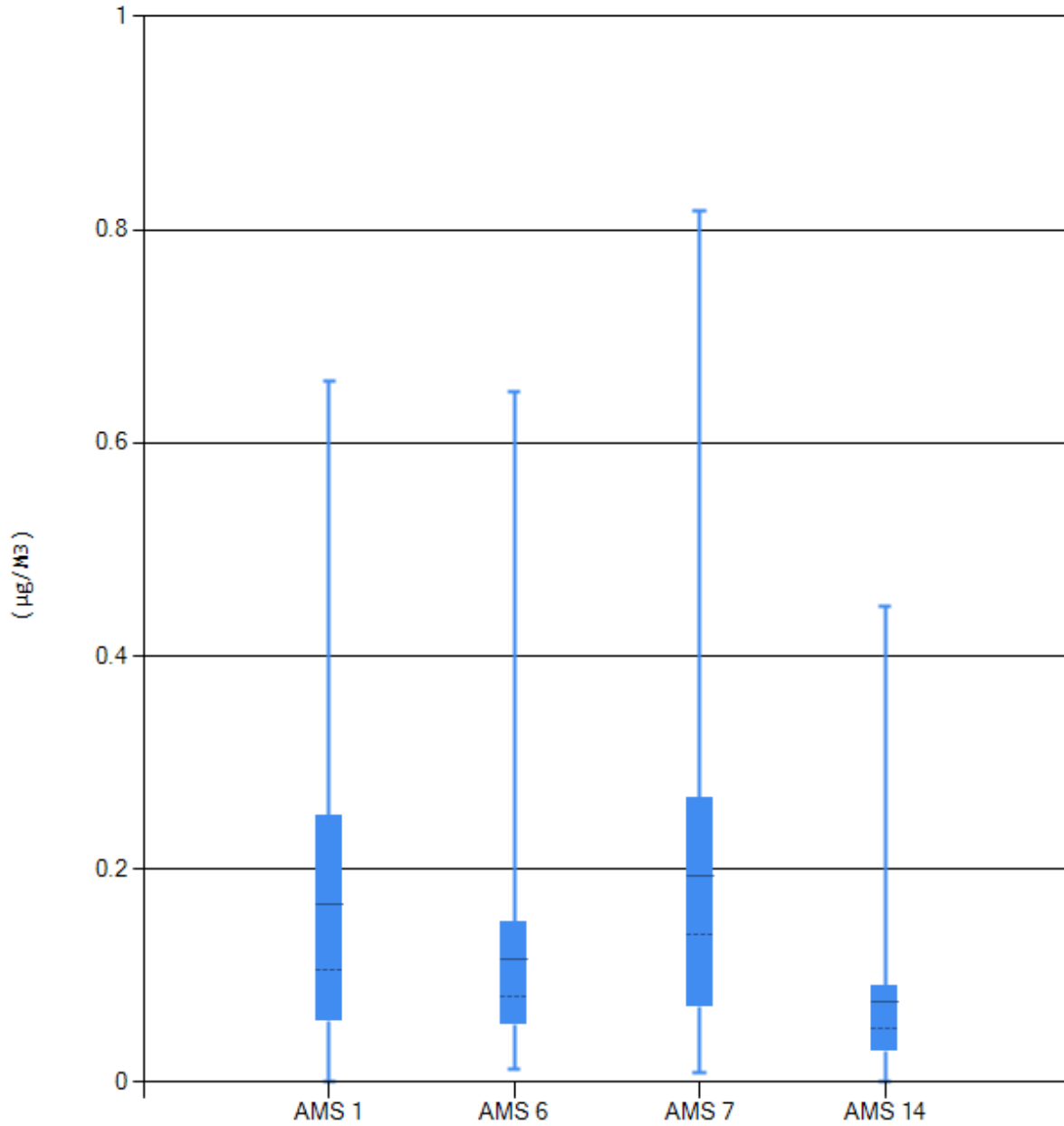
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0.01	0.02	0.12	0.01
AMS 6 Patricia McInnes	0	0	0	0.01	0.05	0
AMS 7 Athabasca Valley	0	0	0	0.01	0.05	0.01
AMS 14 Anzac	0	0	0	0.01	0.13	0.01





PM\_METAL - Iron - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

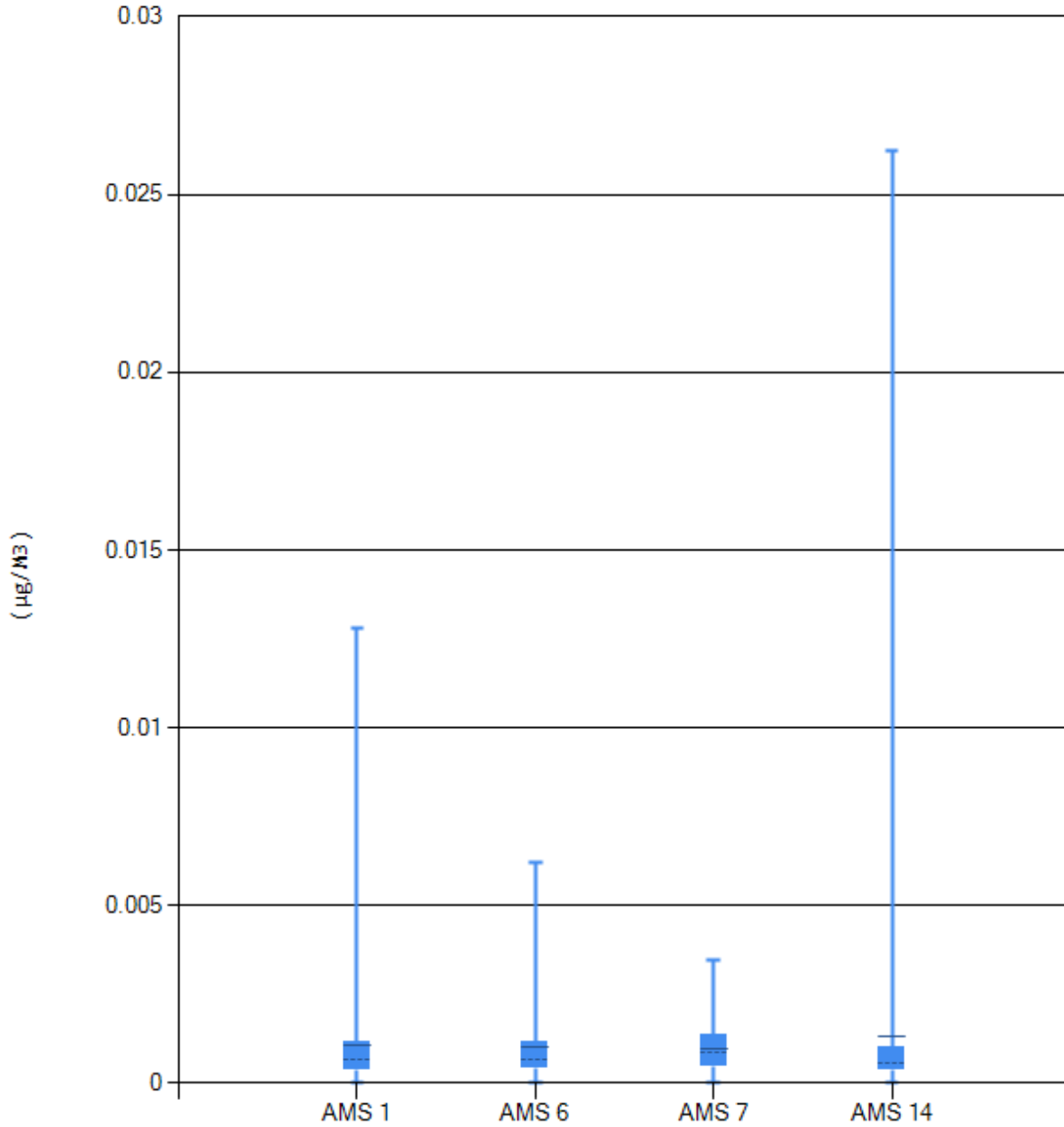
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0.06	0.11	0.25	0.66	0.17
AMS 6 Patricia McInnes	0.01	0.05	0.08	0.15	0.65	0.11
AMS 7 Athabasca Valley	0.01	0.07	0.14	0.27	0.82	0.19
AMS 14 Anzac	0	0.03	0.05	0.09	0.45	0.08





PM\_METAL - Lead - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

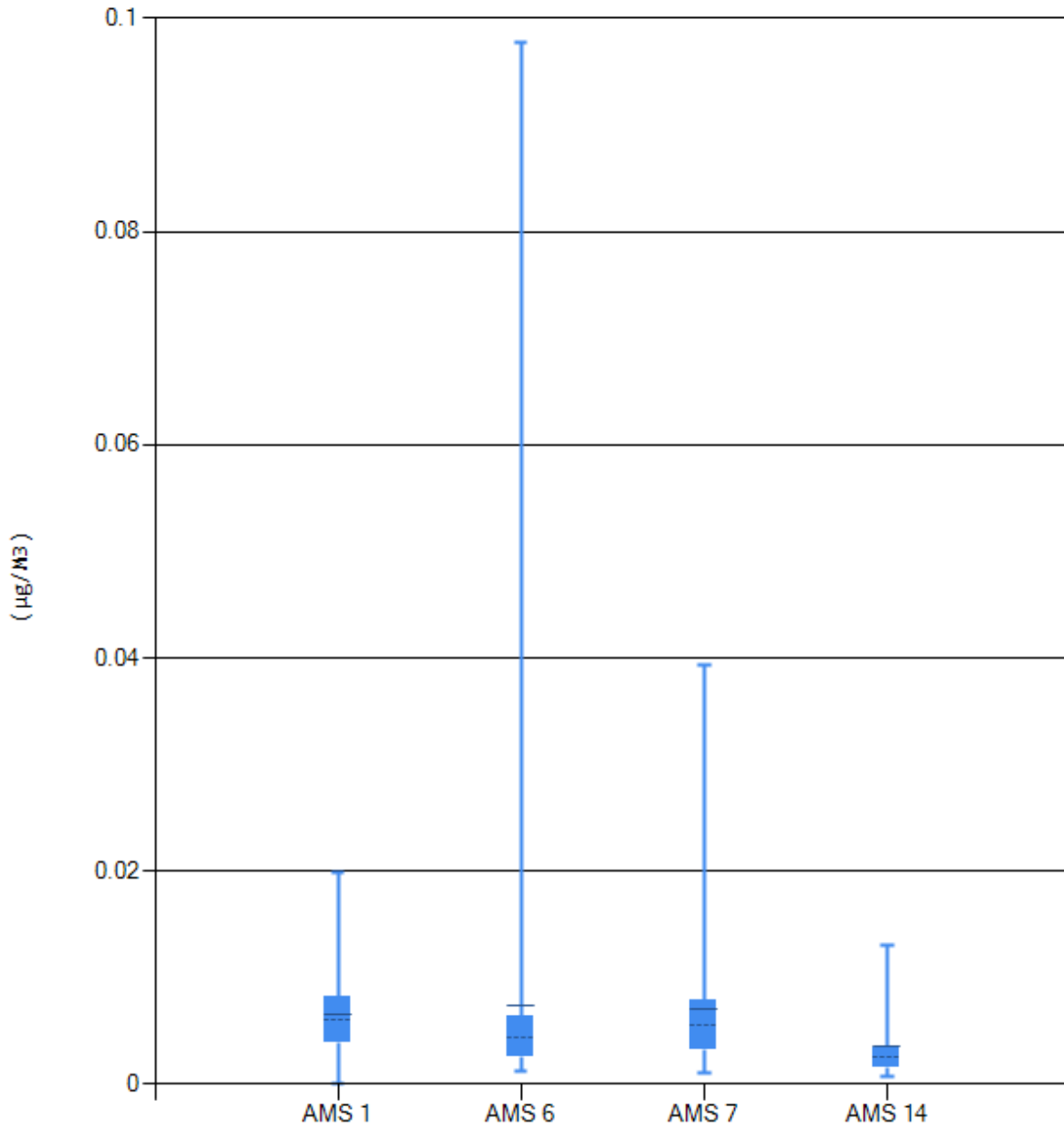
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.01	0
AMS 6 Patricia McInnes	0	0	0	0	0.01	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0.03	0





PM\_METAL - Manganese - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

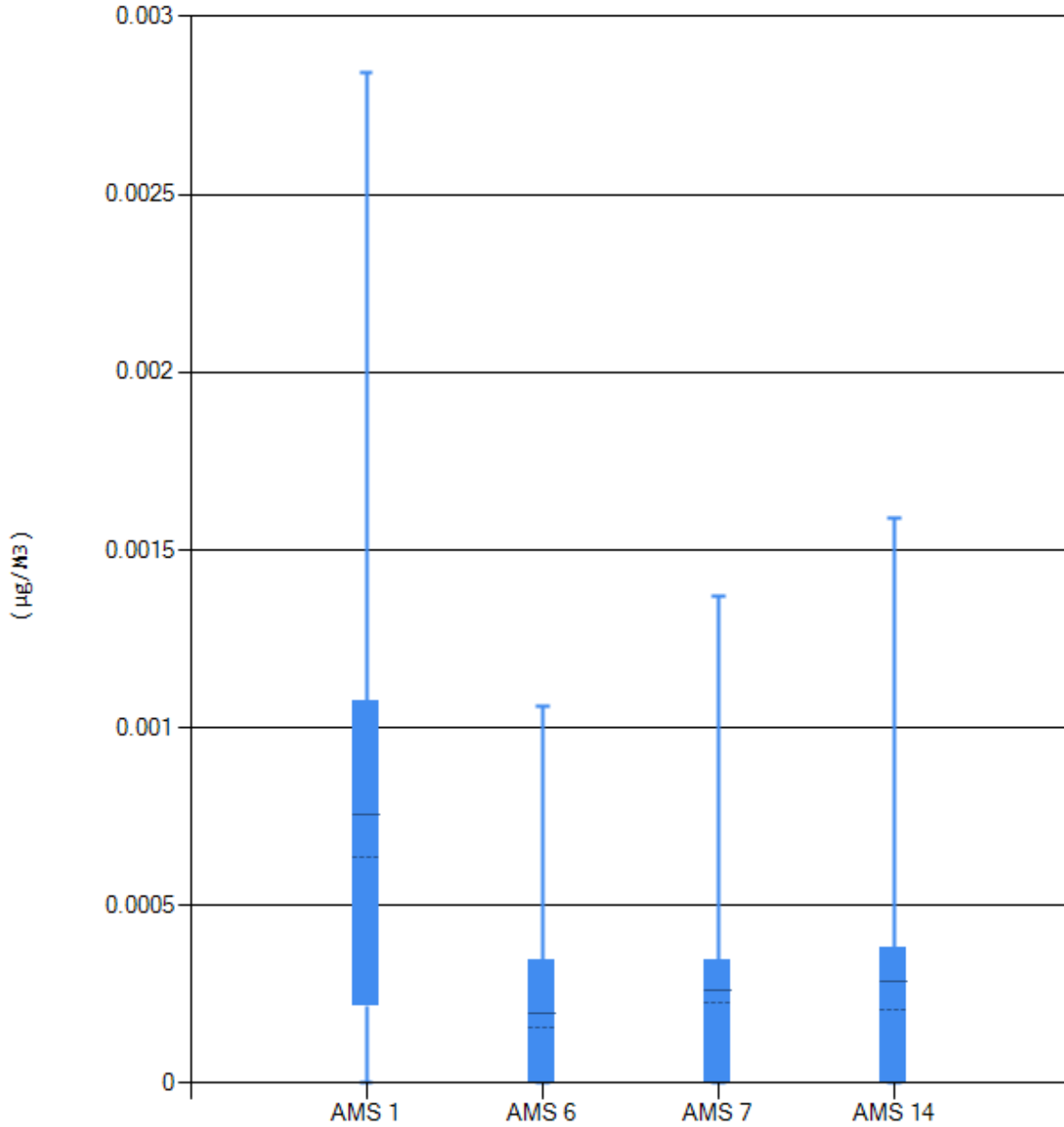
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0.01	0.01	0.02	0.01
AMS 6 Patricia McInnes	0	0	0	0.01	0.1	0.01
AMS 7 Athabasca Valley	0	0	0.01	0.01	0.04	0.01
AMS 14 Anzac	0	0	0	0	0.01	0





PM\_METAL - Molybdenum - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0

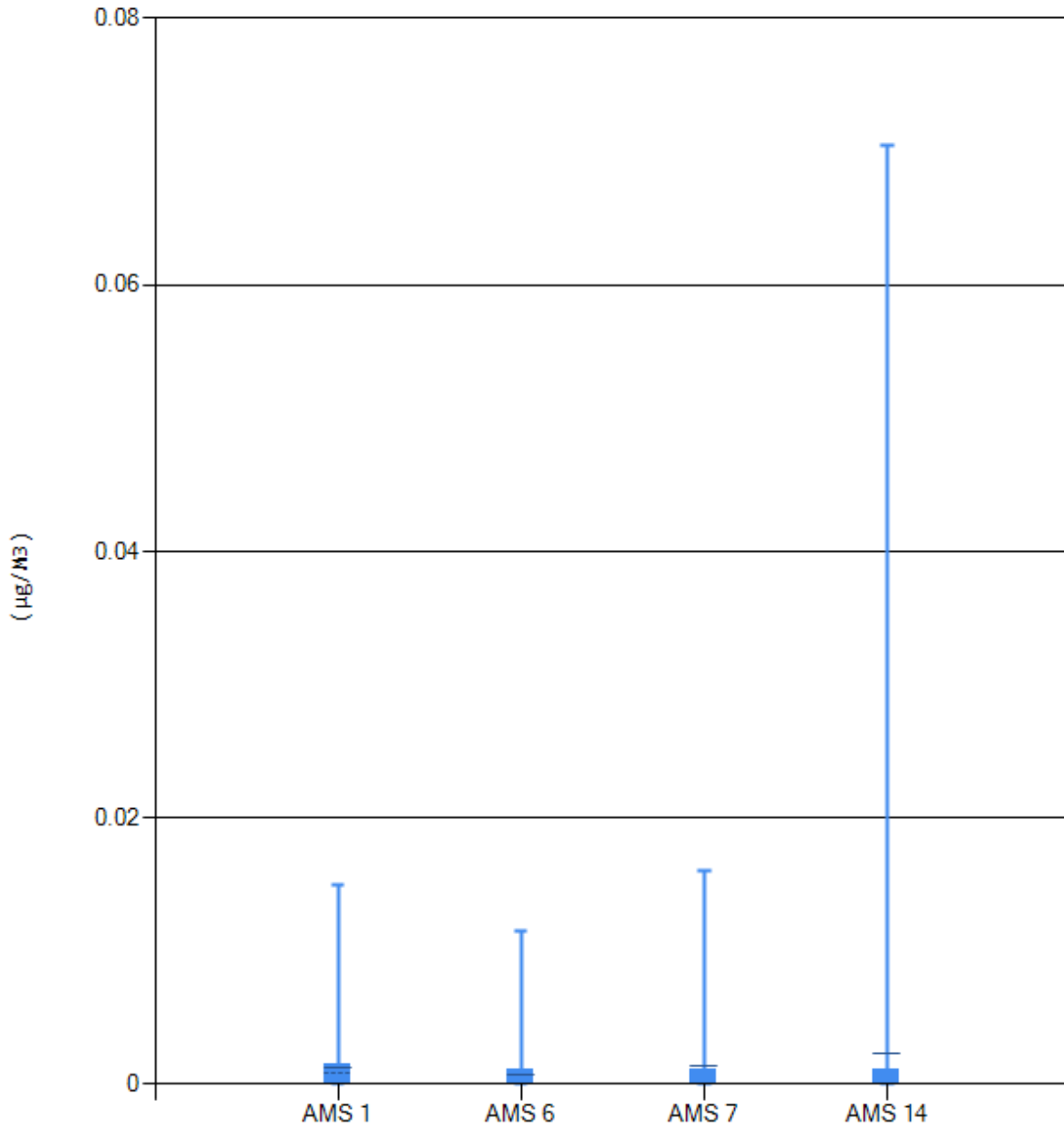






PM\_METAL - Nickel - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

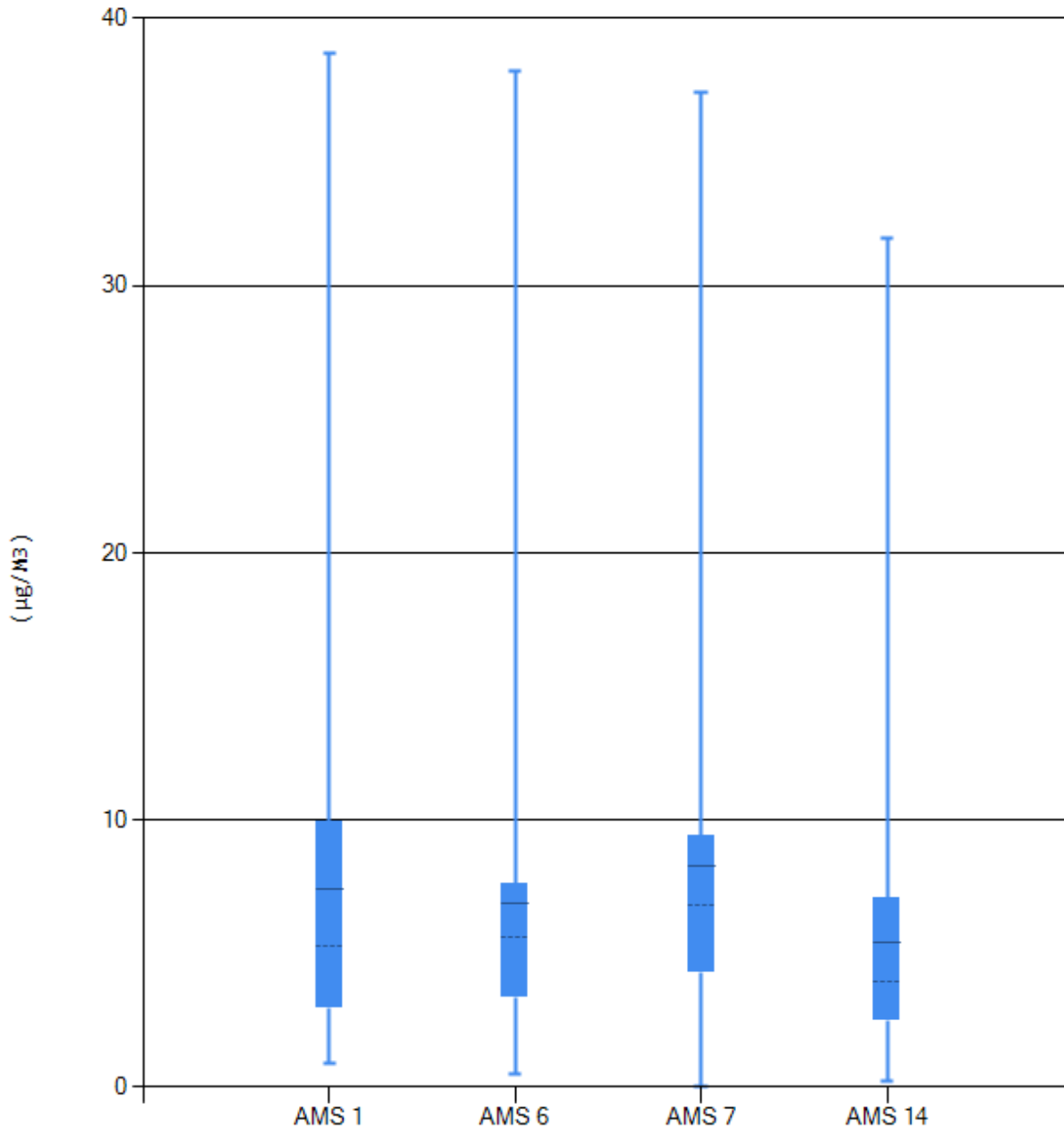
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.02	0
AMS 6 Patricia McInnes	0	0	0	0	0.01	0
AMS 7 Athabasca Valley	0	0	0	0	0.02	0
AMS 14 Anzac	0	0	0	0	0.07	0





PM\_METAL - Particulate Matter - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

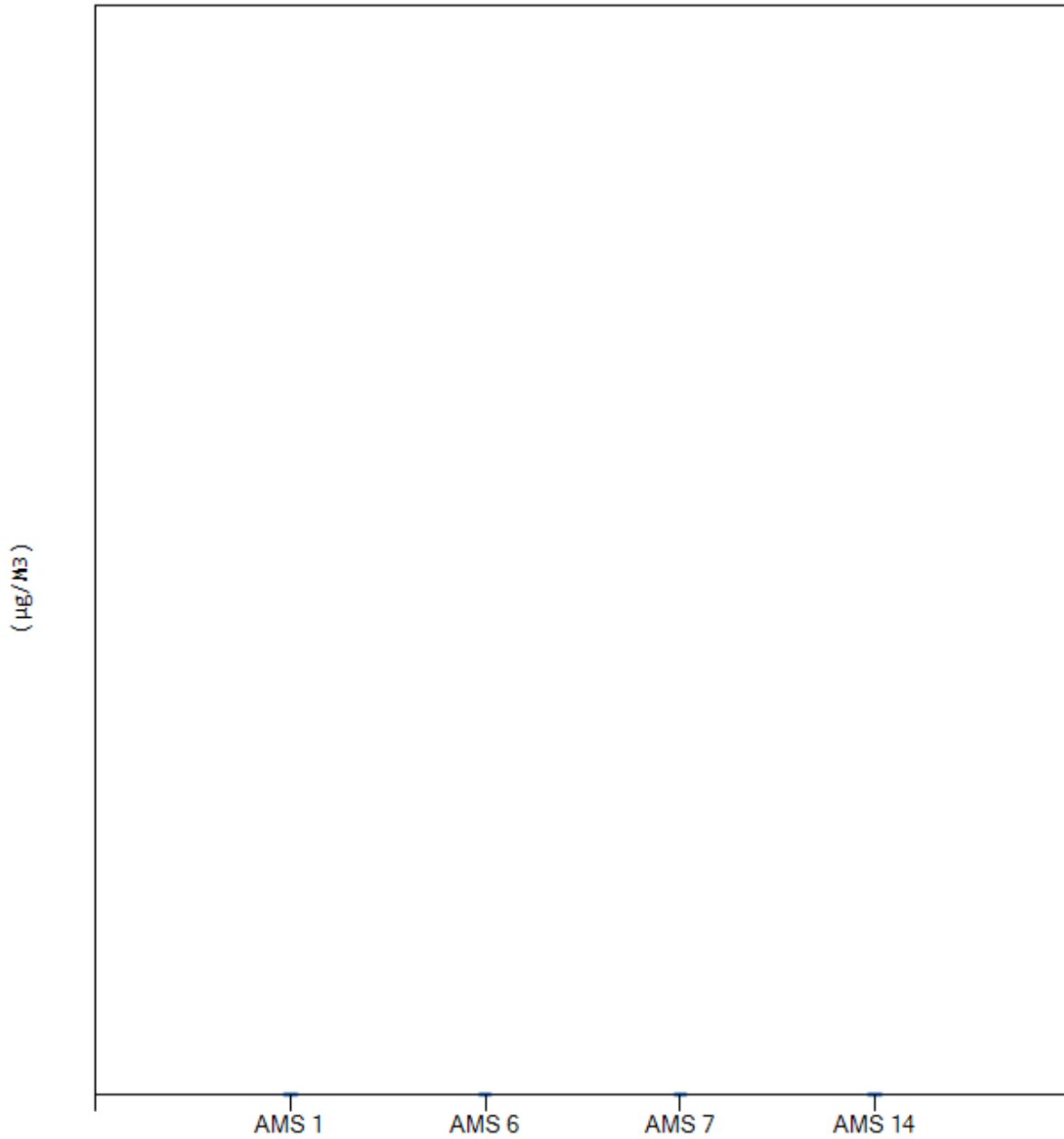
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0.87	2.86	5.27	10.2	38.7	7.41
AMS 6 Patricia McInnes	0.5	3.33	5.59	7.71	38	6.87
AMS 7 Athabasca Valley	0	4.25	6.83	9.5	37.2	8.29
AMS 14 Anzac	0.21	2.5	3.96	7.28	31.8	5.44





PM\_METAL - Phosphorus - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

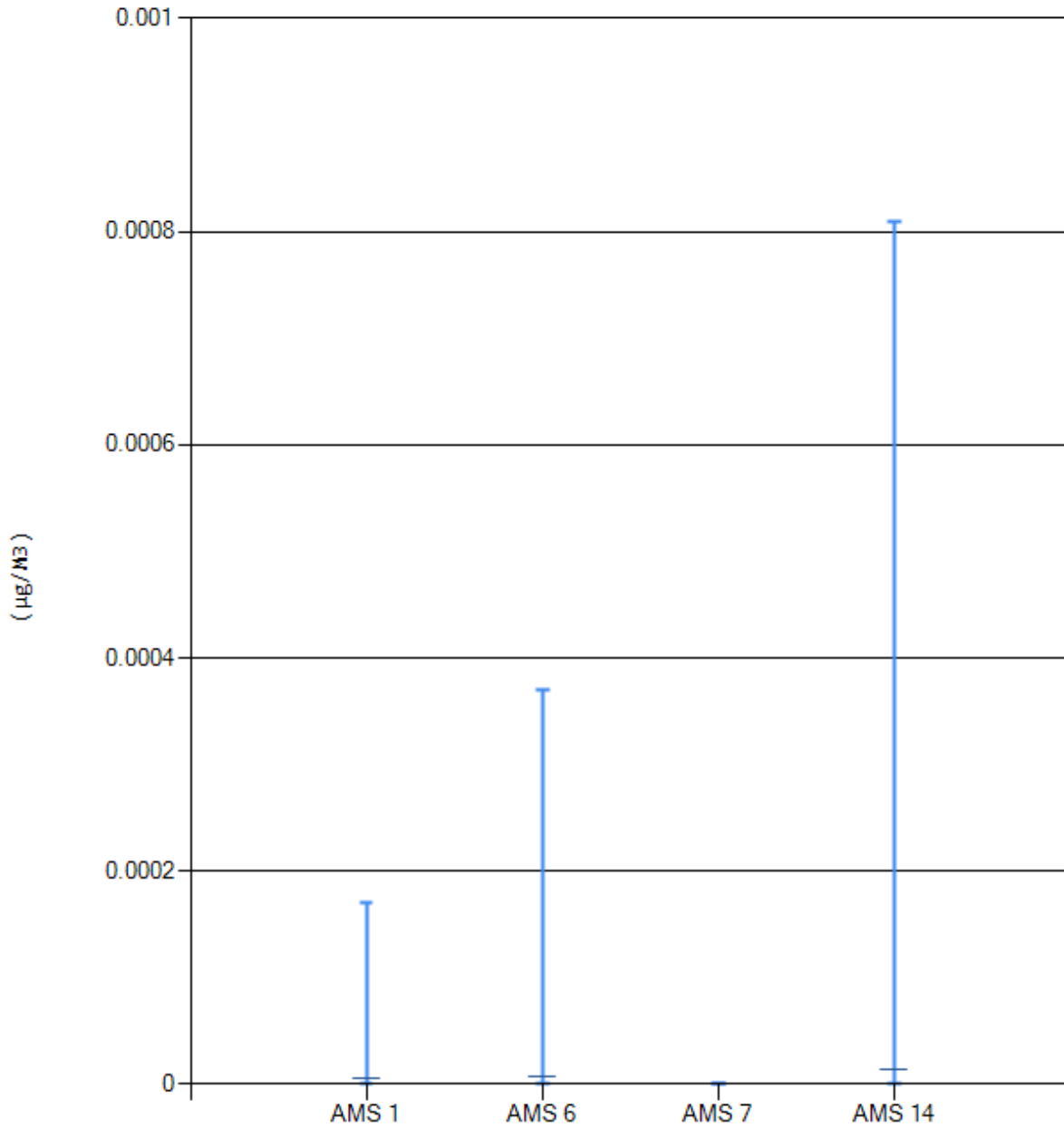
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





PM\_METAL - Silver - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

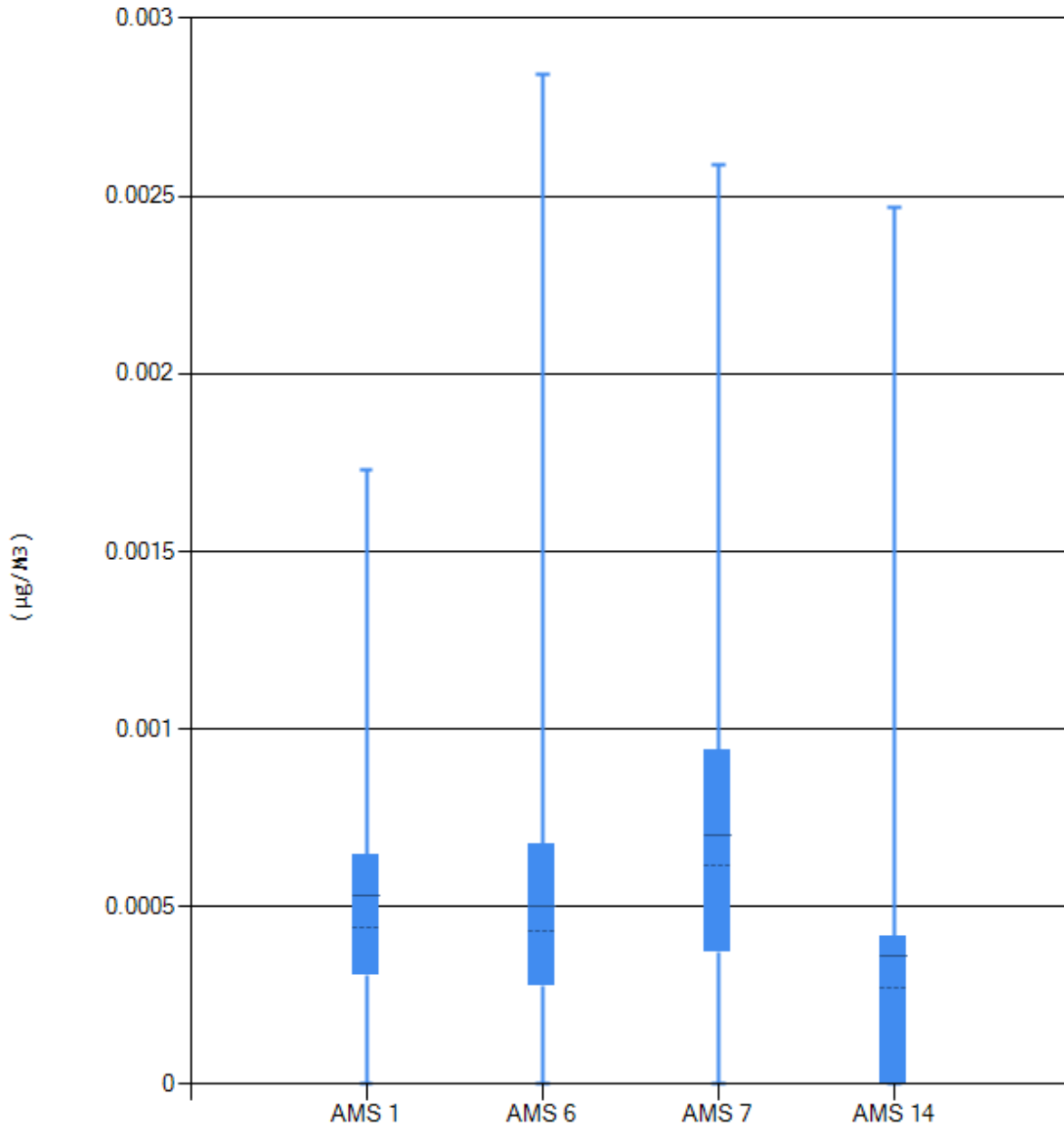
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





PM\_METAL - Strontium - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

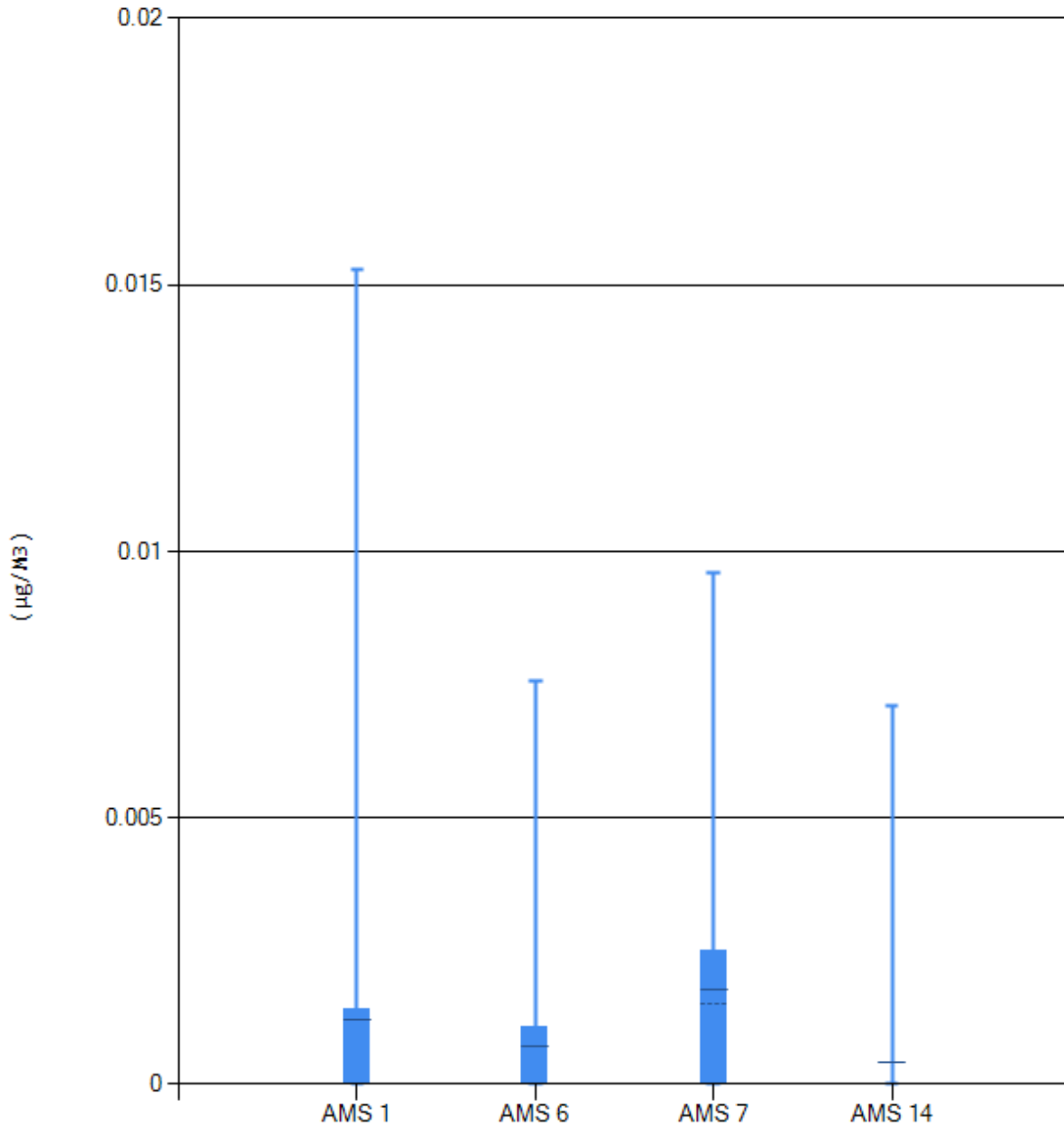
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





PM\_METAL - Titanium - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

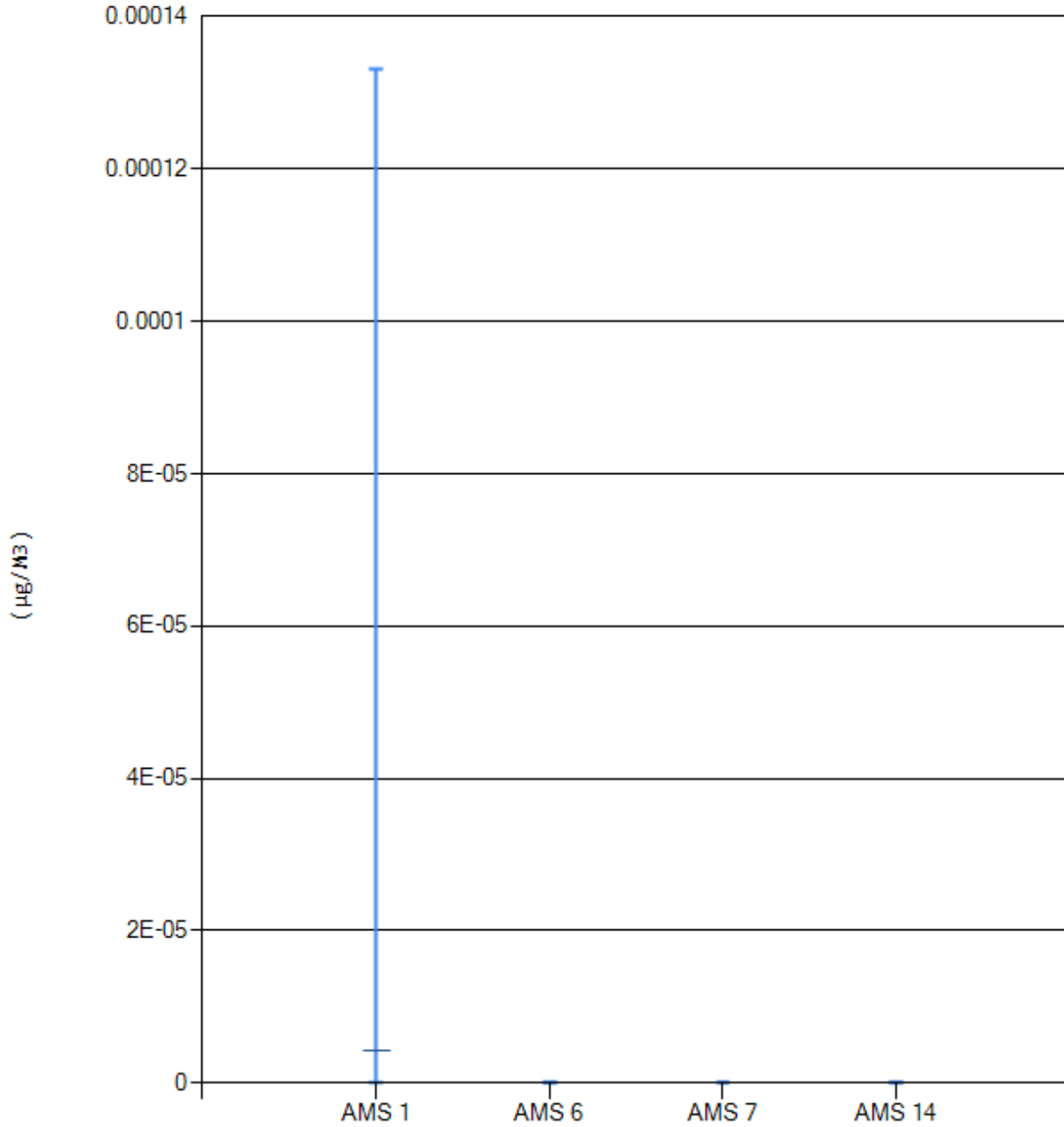
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.02	0
AMS 6 Patricia McInnes	0	0	0	0	0.01	0
AMS 7 Athabasca Valley	0	0	0	0	0.01	0
AMS 14 Anzac	0	0	0	0	0.01	0





PM\_METAL - Uranium - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

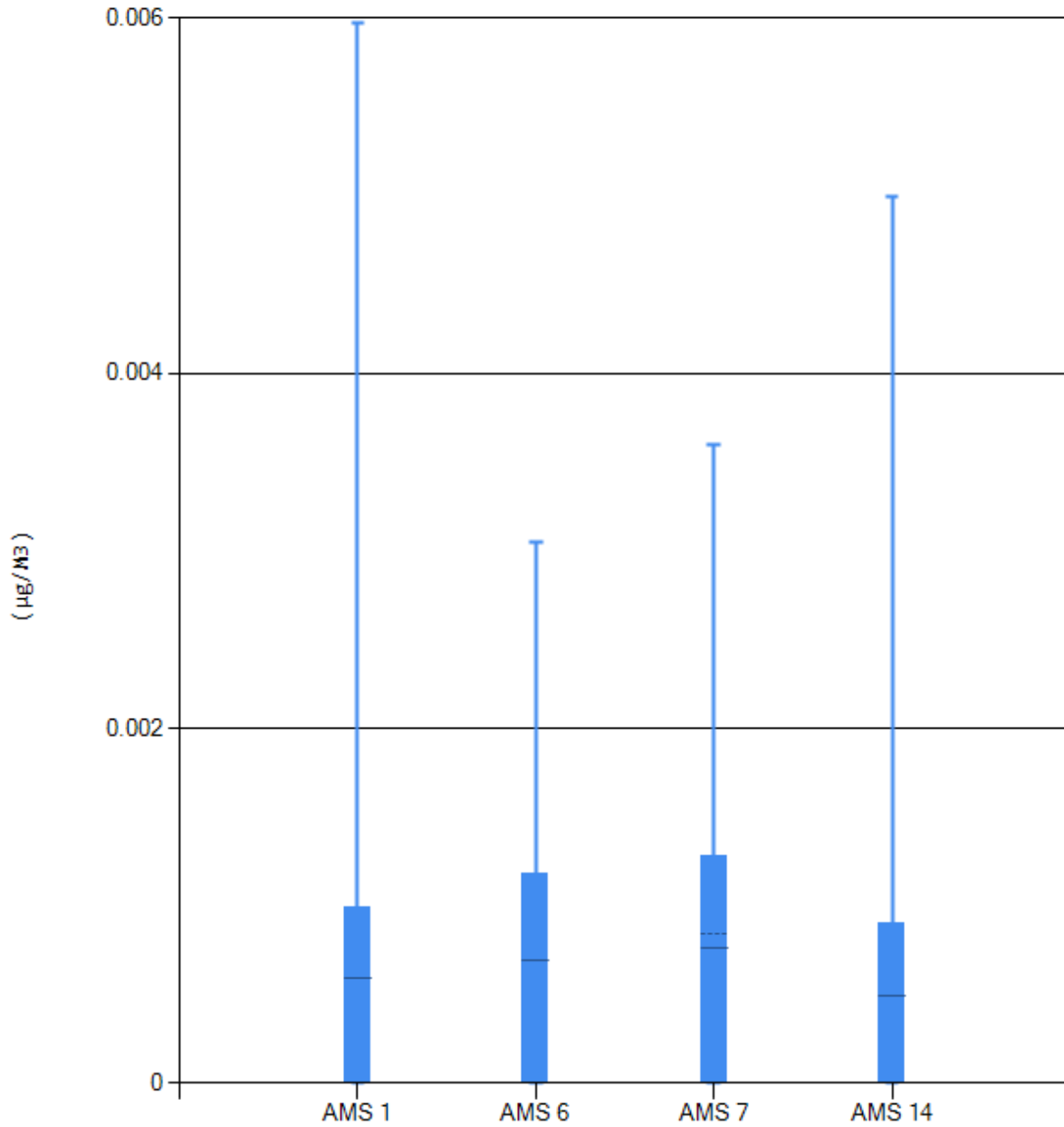
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0





PM\_METAL - Vanadium - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.01	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0.01	0

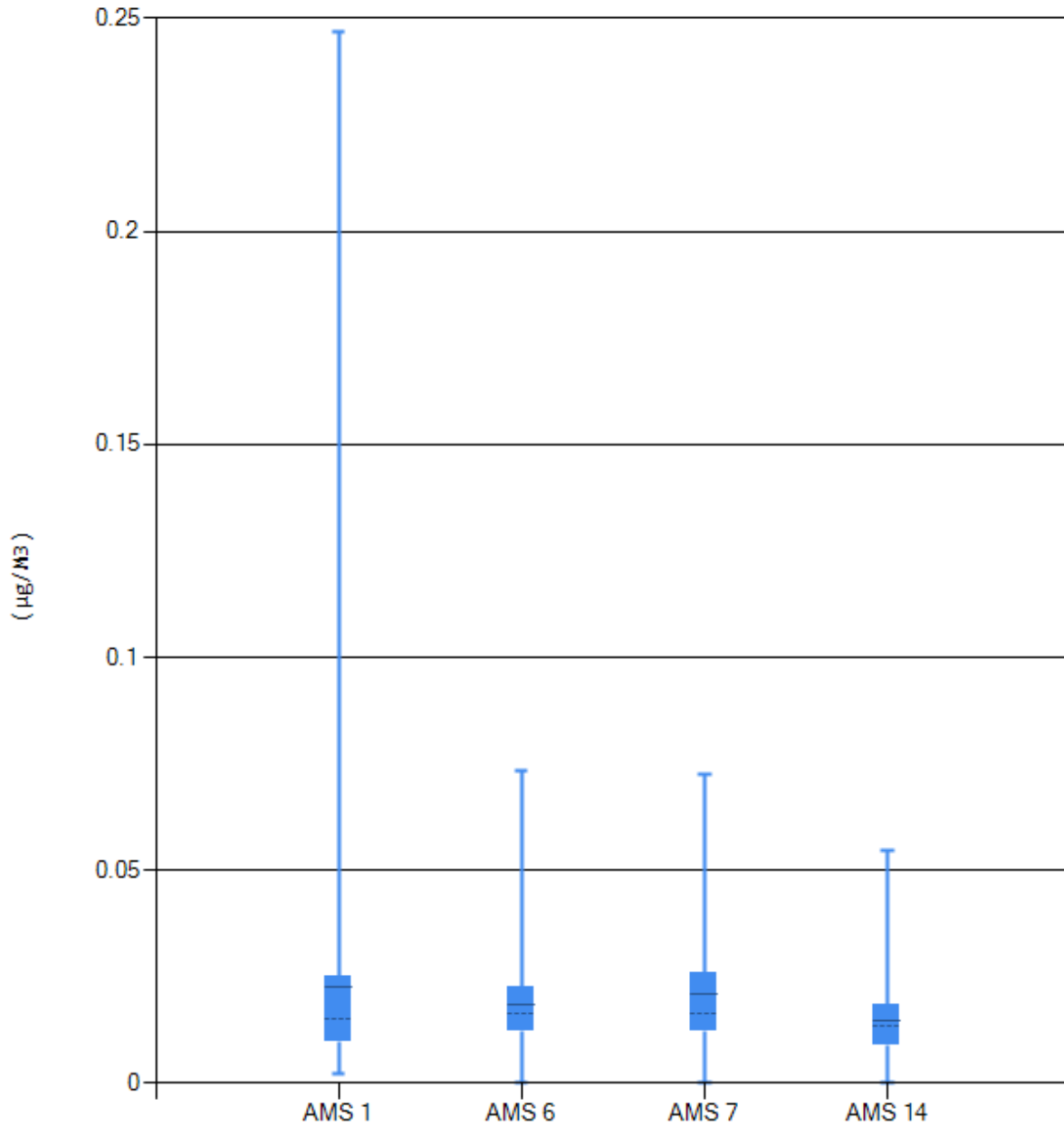






PM\_METAL - Zinc - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

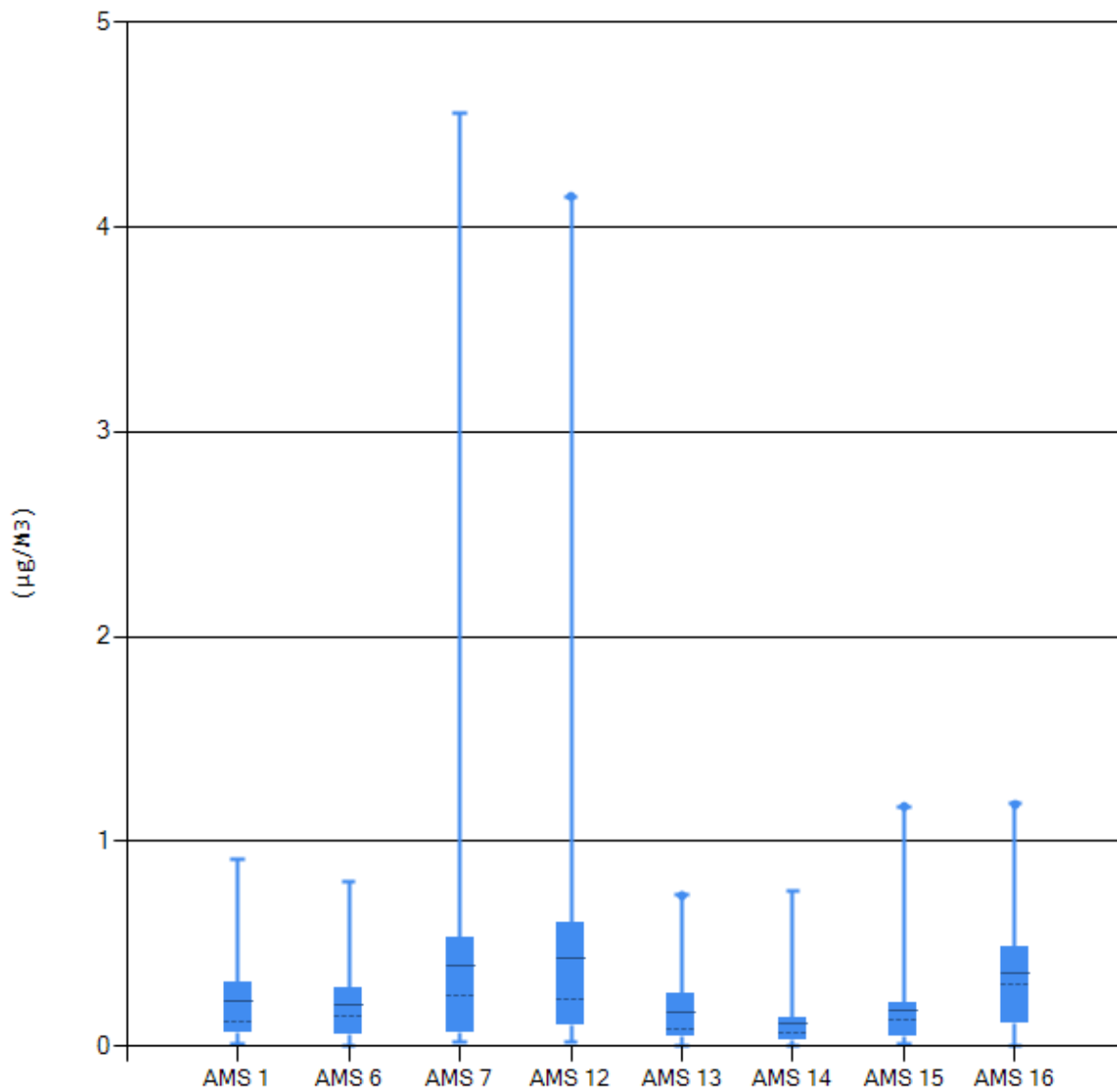
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0.01	0.02	0.03	0.25	0.02
AMS 6 Patricia McInnes	0	0.01	0.02	0.02	0.07	0.02
AMS 7 Athabasca Valley	0	0.01	0.02	0.03	0.07	0.02
AMS 14 Anzac	0	0.01	0.01	0.02	0.05	0.01





PM\_METAL - Aluminum - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

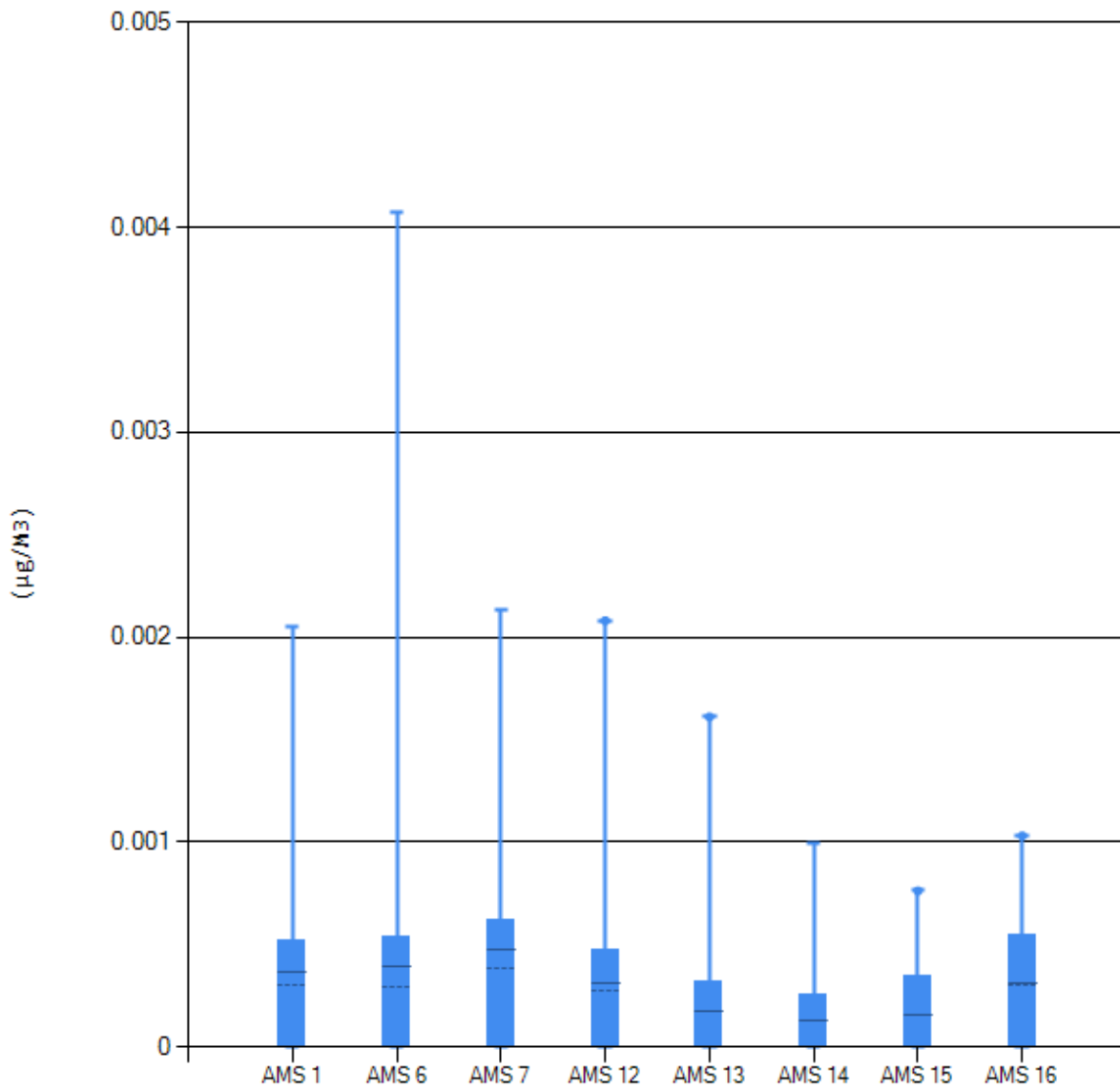
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0.01	0.06	0.11	0.31	0.91	0.22
AMS 6 Patricia McInnes	0	0.06	0.14	0.28	0.81	0.2
AMS 7 Athabasca Valley	0.02	0.07	0.25	0.53	4.56	0.39
AMS 12 Millennium	0.02	0.1	0.23	0.6	4.15	0.43
AMS 13 Fort McKay South	0	0.04	0.08	0.26	0.74	0.16
AMS 14 Anzac	0	0.03	0.06	0.14	0.76	0.11
AMS 15 Horizon	0.01	0.04	0.12	0.22	1.17	0.18
AMS 16 Muskeg River	0	0.1	0.3	0.49	1.18	0.35





PM\_METAL - Arsenic - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

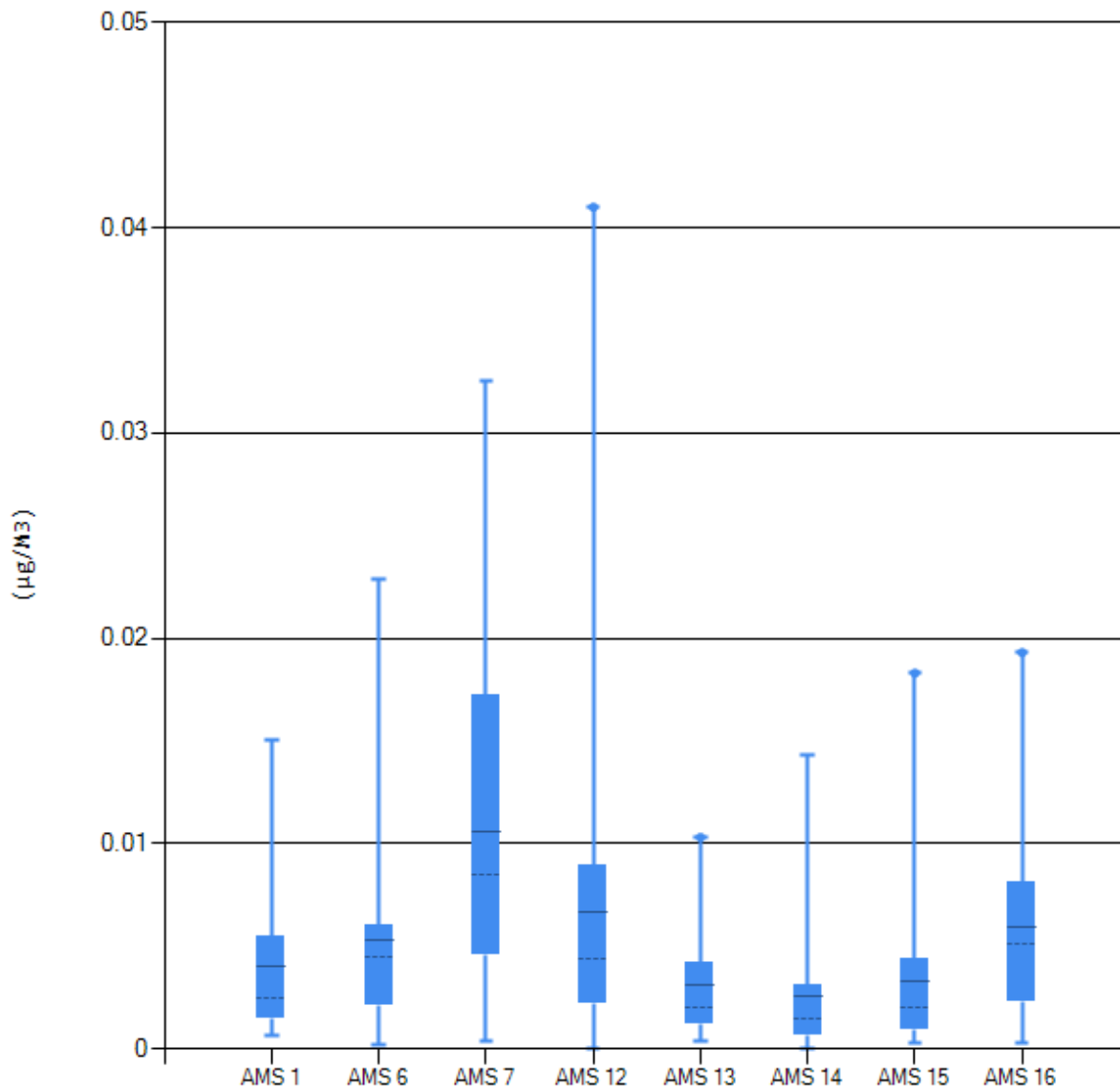
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0
AMS 16 Muskeg River	0	0	0	0	0	0





PM\_METAL - Barium - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

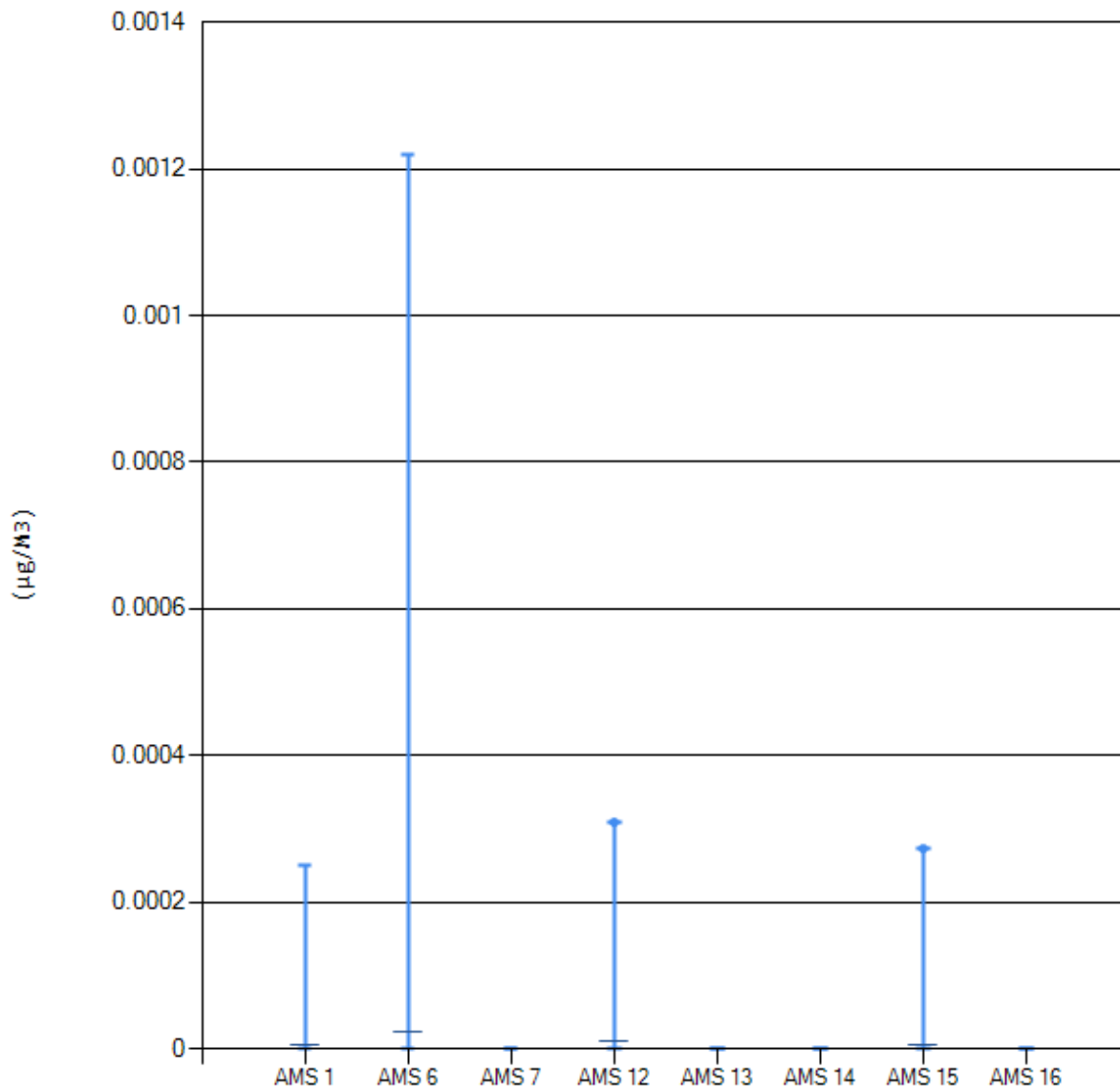
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0.01	0.02	0
AMS 6 Patricia McInnes	0	0	0	0.01	0.02	0.01
AMS 7 Athabasca Valley	0	0	0.01	0.02	0.03	0.01
AMS 12 Millennium	0	0	0	0.01	0.04	0.01
AMS 13 Fort McKay South	0	0	0	0	0.01	0
AMS 14 Anzac	0	0	0	0	0.01	0
AMS 15 Horizon	0	0	0	0	0.02	0
AMS 16 Muskeg River	0	0	0.01	0.01	0.02	0.01





PM\_METAL - Beryllium - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

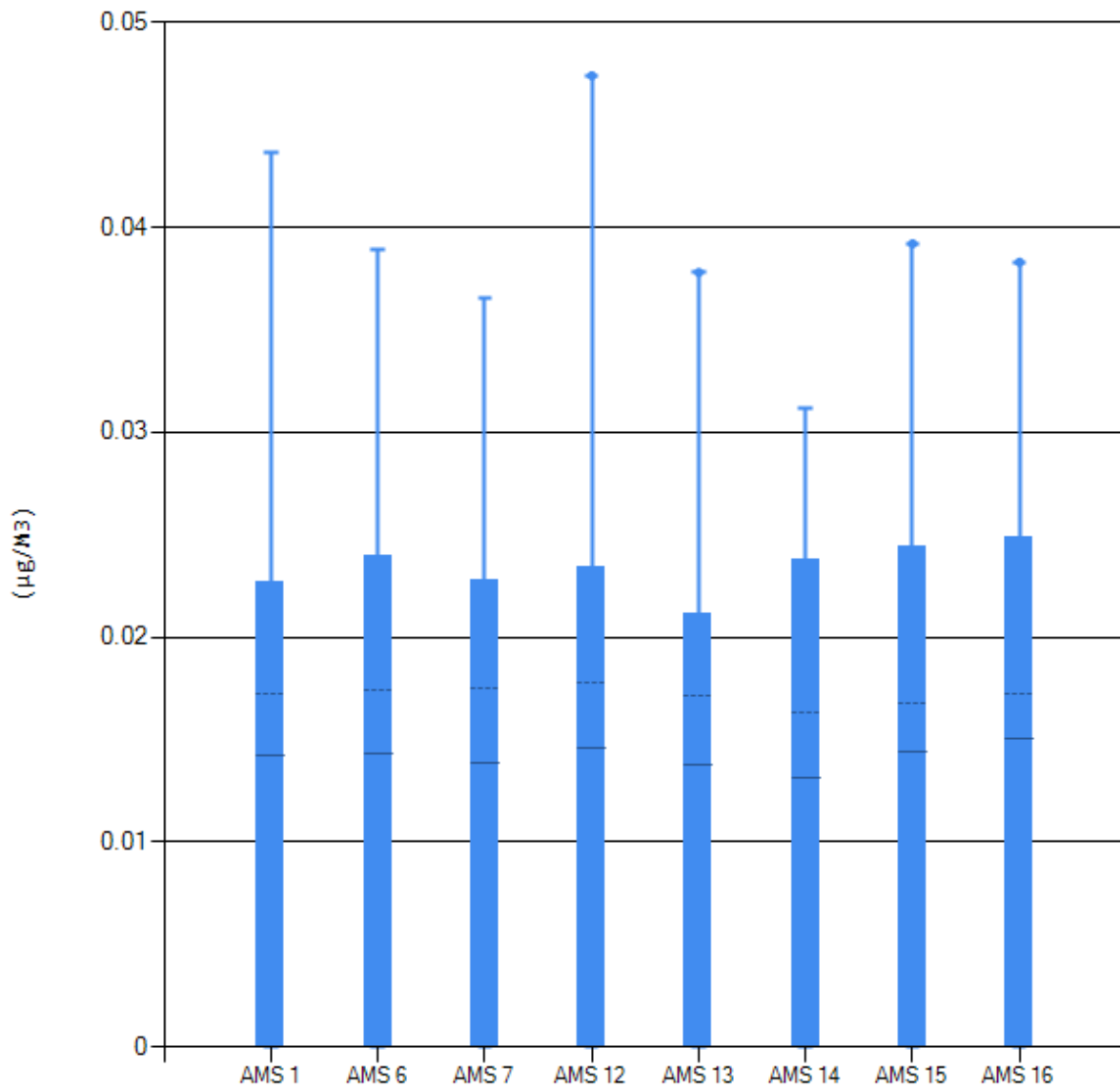
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0
AMS 16 Muskeg River	0	0	0	0	0	0





PM\_METAL - Boron - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

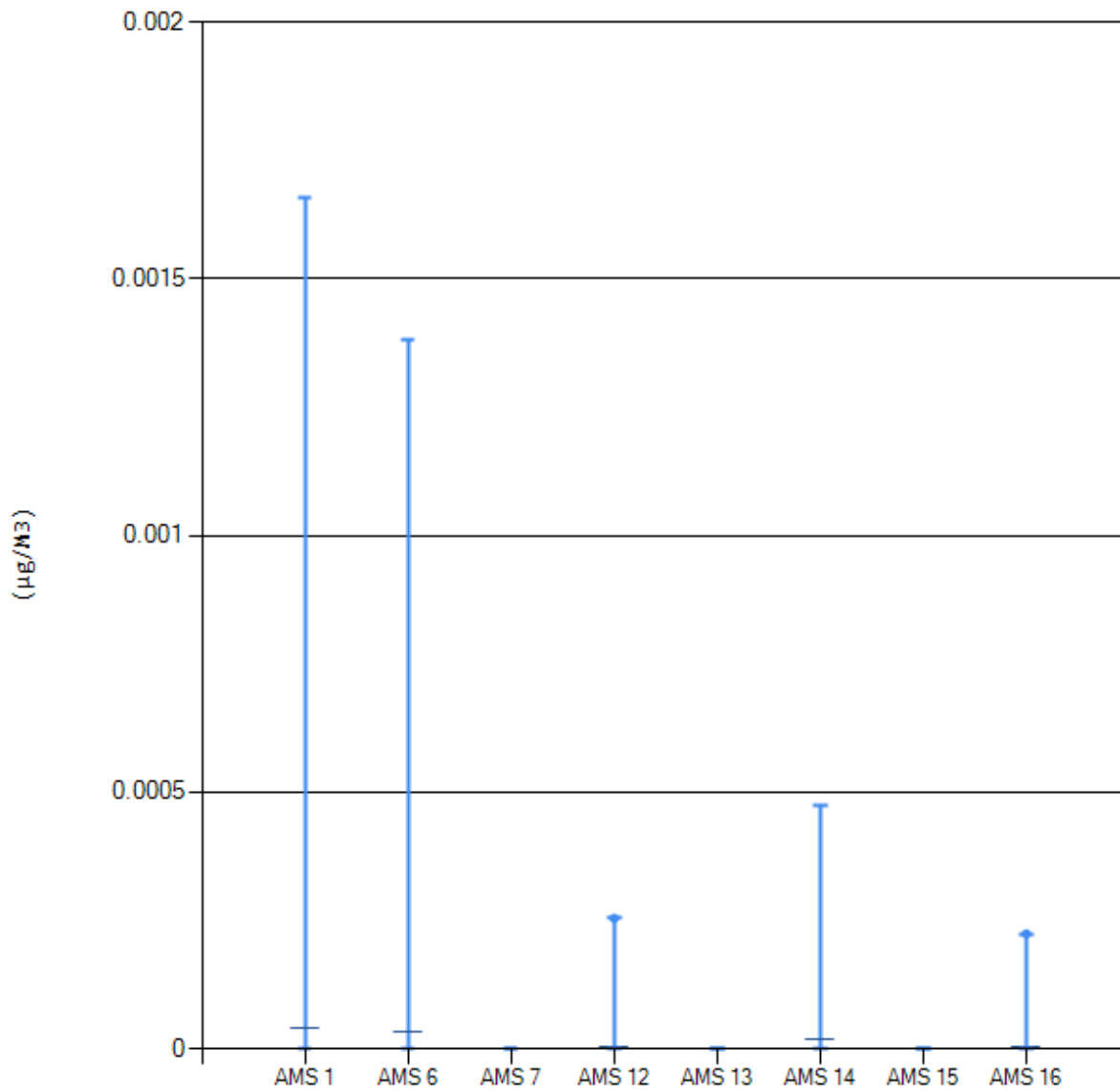
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0.02	0.02	0.04	0.01
AMS 6 Patricia McInnes	0	0	0.02	0.02	0.04	0.01
AMS 7 Athabasca Valley	0	0	0.02	0.02	0.04	0.01
AMS 12 Millennium	0	0	0.02	0.02	0.05	0.01
AMS 13 Fort McKay South	0	0	0.02	0.02	0.04	0.01
AMS 14 Anzac	0	0	0.02	0.02	0.03	0.01
AMS 15 Horizon	0	0	0.02	0.02	0.04	0.01
AMS 16 Muskeg River	0	0	0.02	0.03	0.04	0.02





PM\_METAL - Cadmium - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

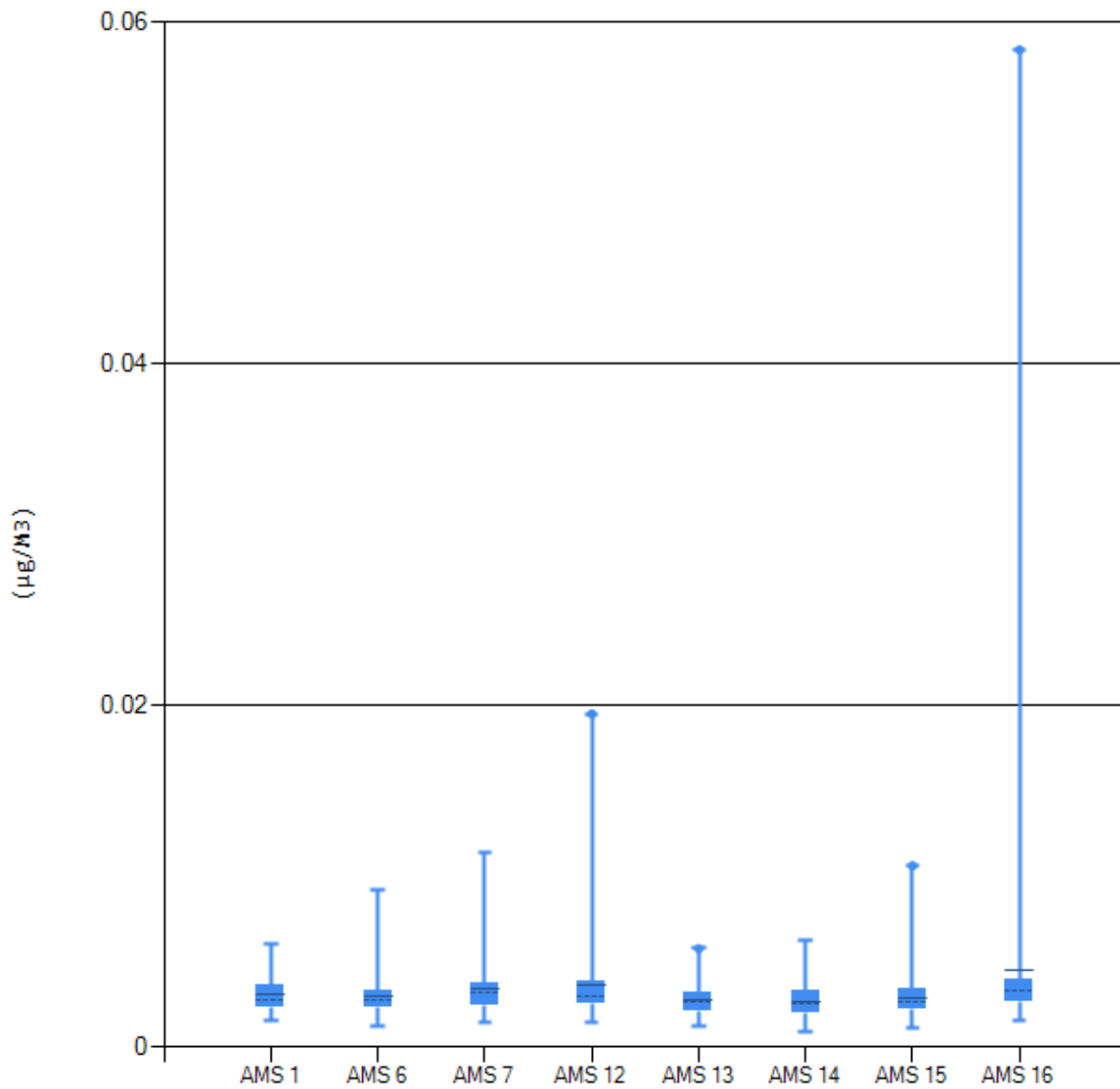
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0
AMS 16 Muskeg River	0	0	0	0	0	0





PM\_METAL - Chromium - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.01	0
AMS 6 Patricia McInnes	0	0	0	0	0.01	0
AMS 7 Athabasca Valley	0	0	0	0	0.01	0
AMS 12 Millennium	0	0	0	0	0.02	0
AMS 13 Fort McKay South	0	0	0	0	0.01	0
AMS 14 Anzac	0	0	0	0	0.01	0
AMS 15 Horizon	0	0	0	0	0.01	0
AMS 16 Muskeg River	0	0	0	0	0.06	0

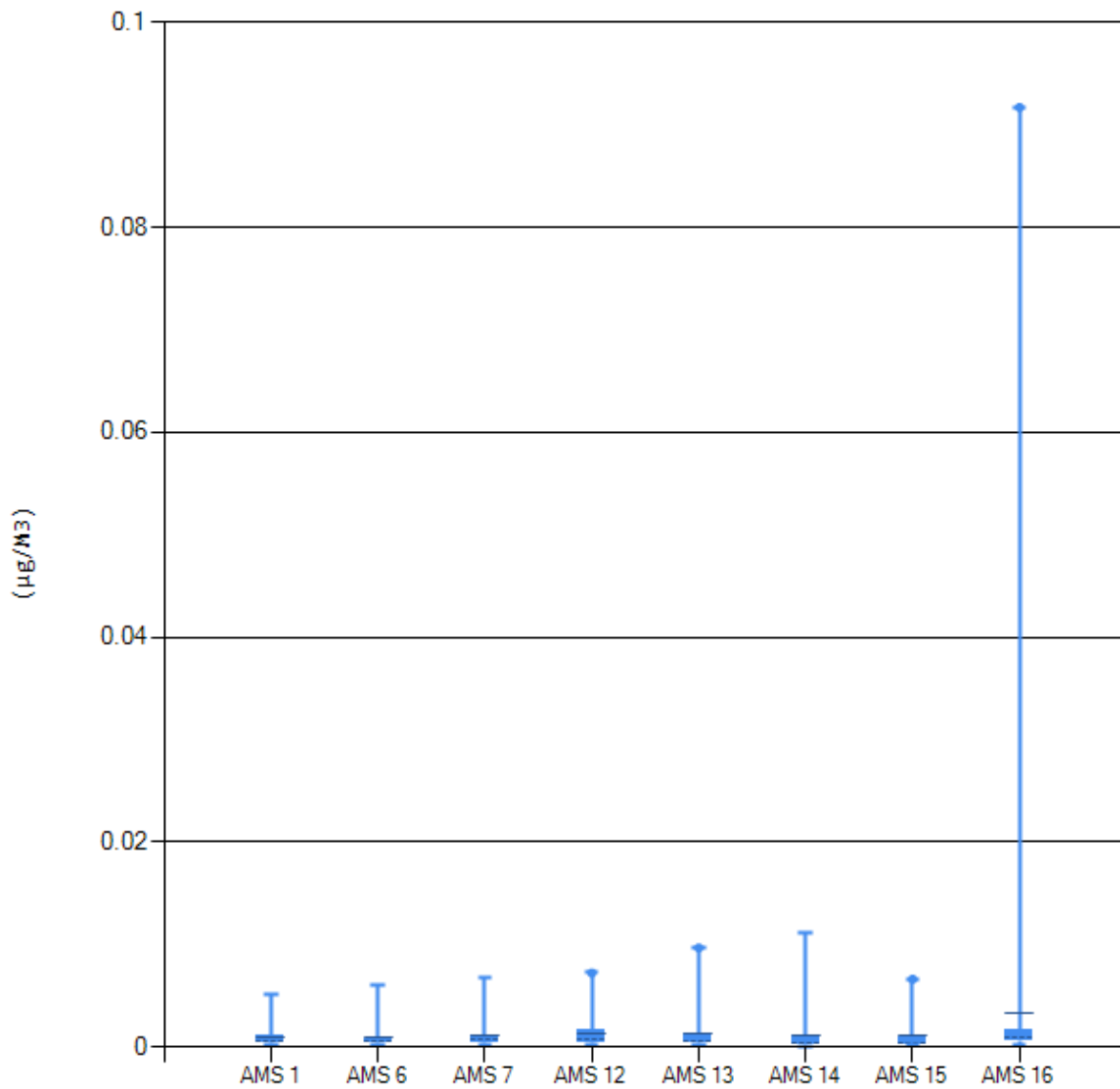






PM\_METAL - Cobalt - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

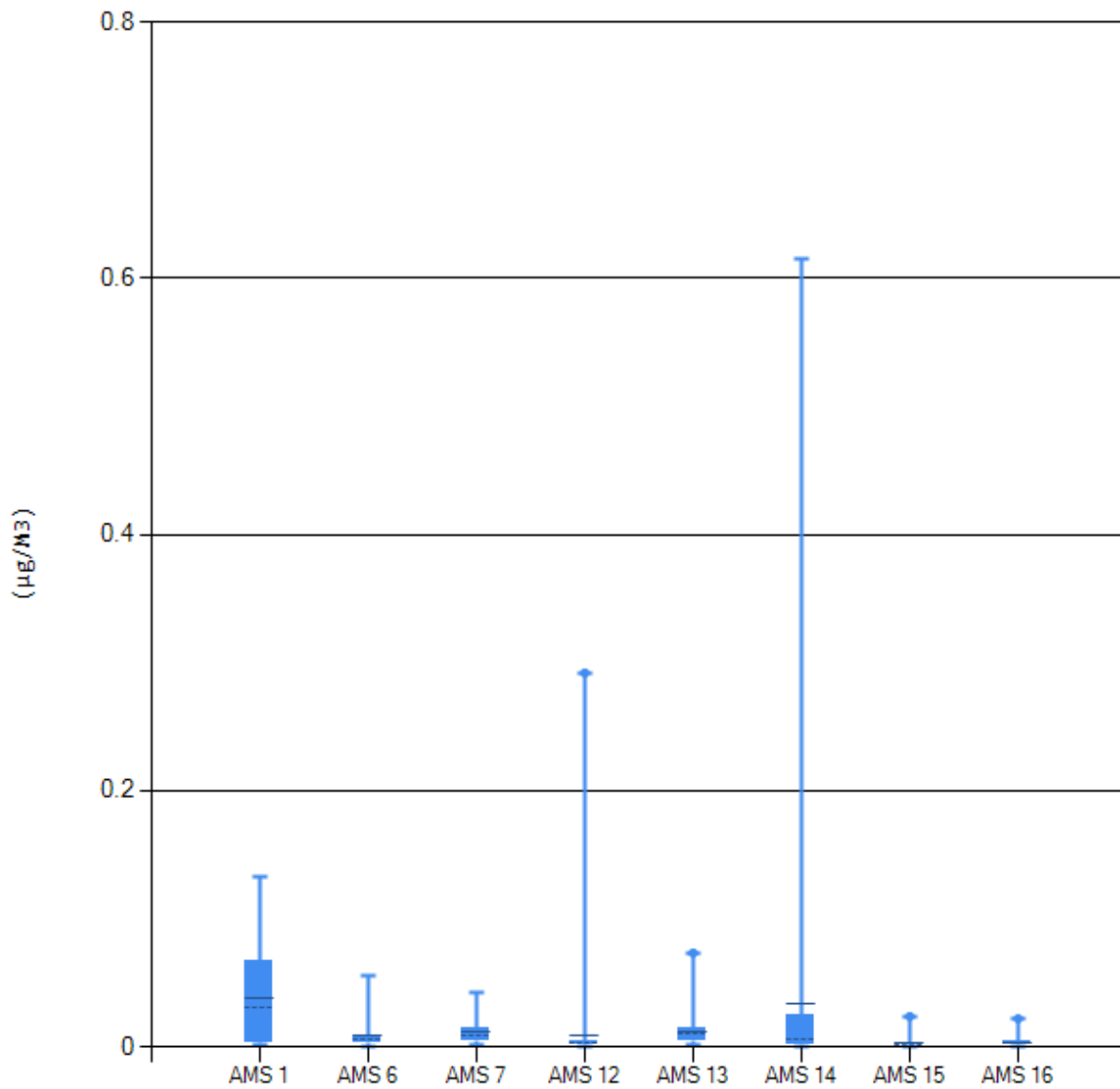
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.01	0
AMS 6 Patricia McInnes	0	0	0	0	0.01	0
AMS 7 Athabasca Valley	0	0	0	0	0.01	0
AMS 12 Millennium	0	0	0	0	0.01	0
AMS 13 Fort McKay South	0	0	0	0	0.01	0
AMS 14 Anzac	0	0	0	0	0.01	0
AMS 15 Horizon	0	0	0	0	0.01	0
AMS 16 Muskeg River	0	0	0	0	0.09	0





PM\_METAL - Copper - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

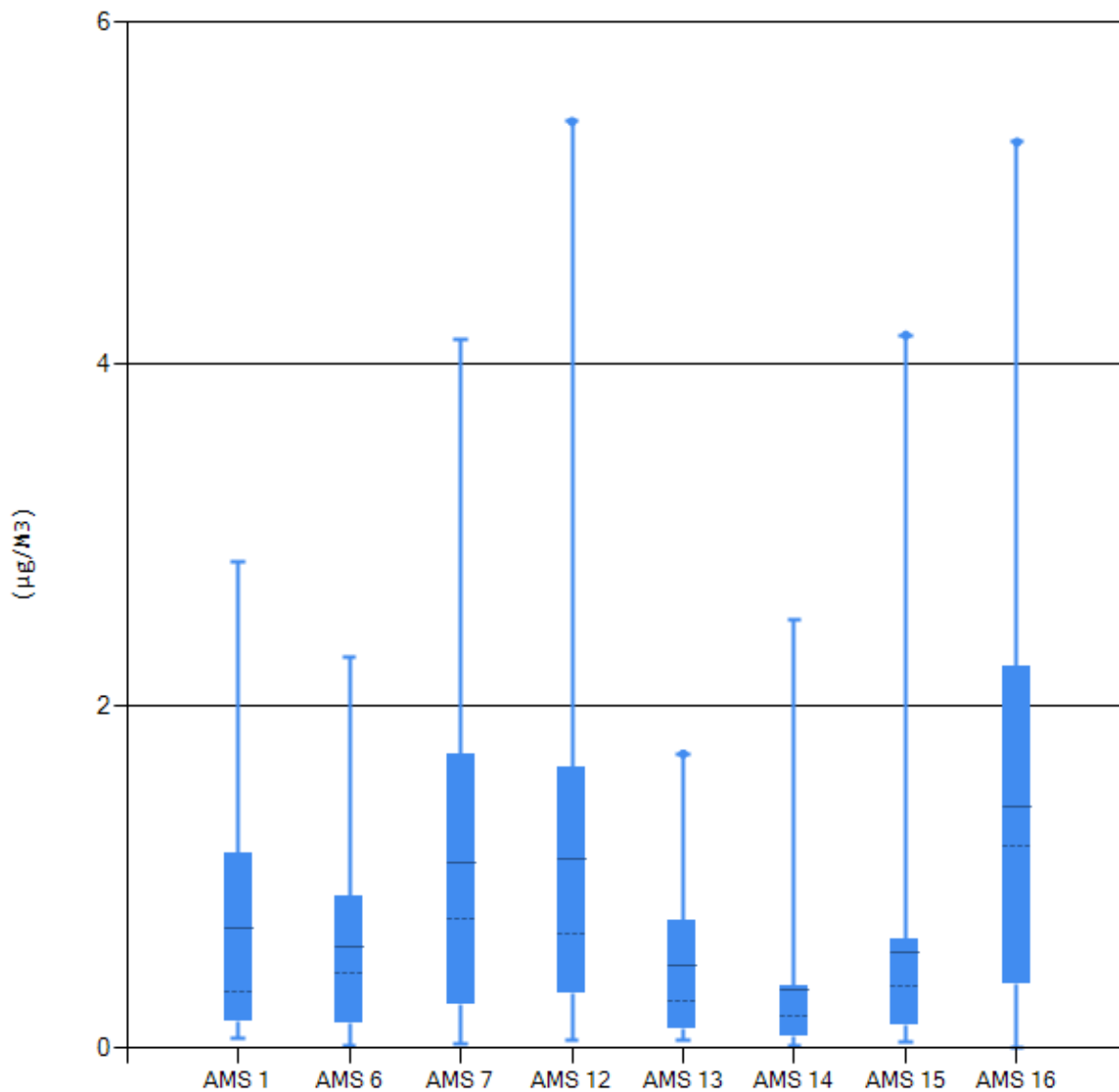
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0.03	0.07	0.13	0.04
AMS 6 Patricia McInnes	0	0	0.01	0.01	0.06	0.01
AMS 7 Athabasca Valley	0	0	0.01	0.01	0.04	0.01
AMS 12 Millennium	0	0	0	0	0.29	0.01
AMS 13 Fort McKay South	0	0	0.01	0.01	0.07	0.01
AMS 14 Anzac	0	0	0.01	0.03	0.62	0.03
AMS 15 Horizon	0	0	0	0	0.02	0
AMS 16 Muskeg River	0	0	0	0	0.02	0





PM\_METAL - Iron - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

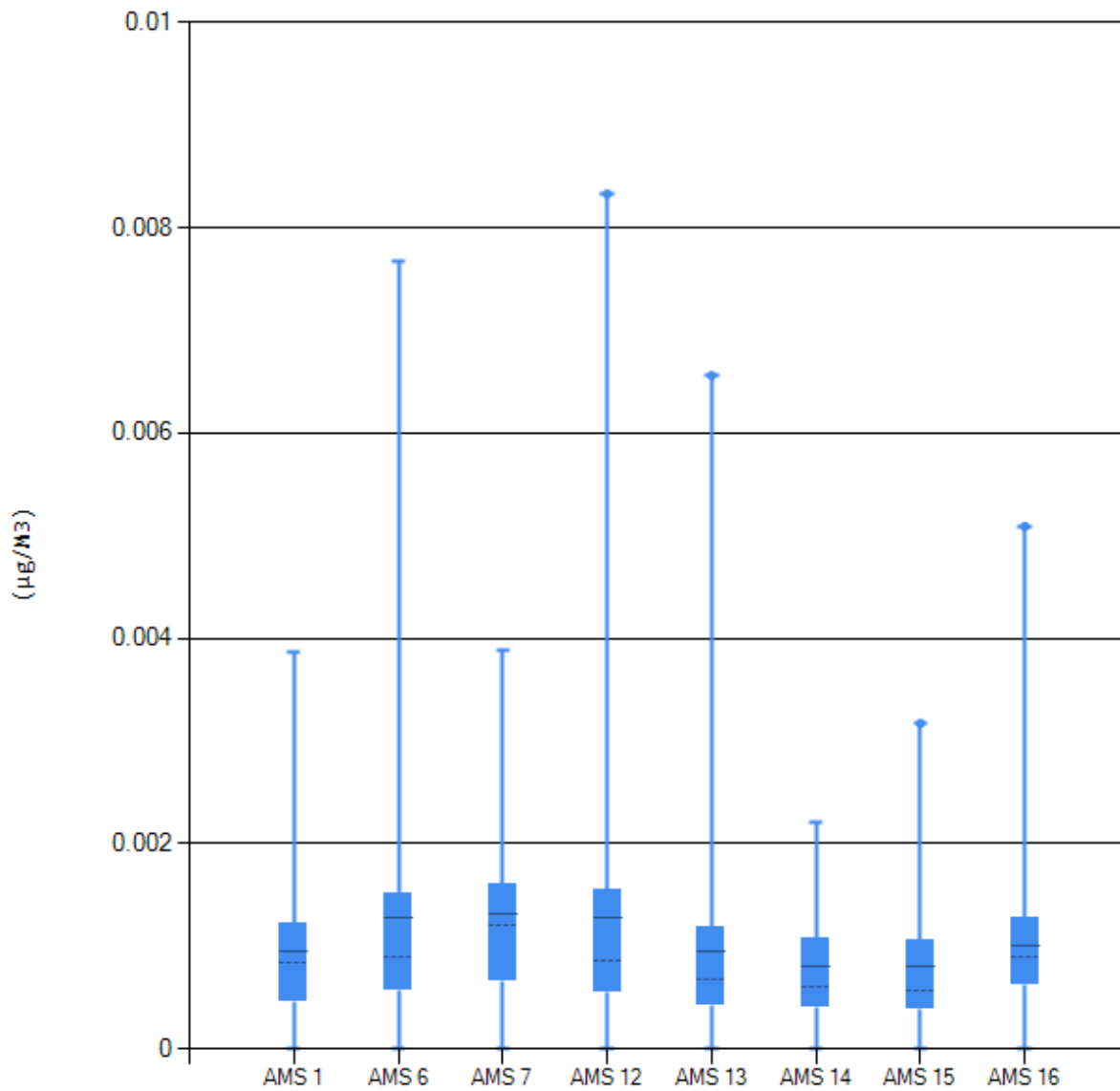
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0.06	0.15	0.33	1.17	2.84	0.7
AMS 6 Patricia McInnes	0.02	0.14	0.43	0.89	2.29	0.6
AMS 7 Athabasca Valley	0.02	0.24	0.75	1.73	4.14	1.08
AMS 12 Millennium	0.04	0.31	0.67	1.7	5.42	1.1
AMS 13 Fort McKay South	0.04	0.1	0.27	0.75	1.72	0.48
AMS 14 Anzac	0.01	0.06	0.19	0.36	2.5	0.34
AMS 15 Horizon	0.04	0.13	0.37	0.67	4.17	0.55
AMS 16 Muskeg River	0	0.37	1.19	2.28	5.3	1.41





PM\_METAL - Lead - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

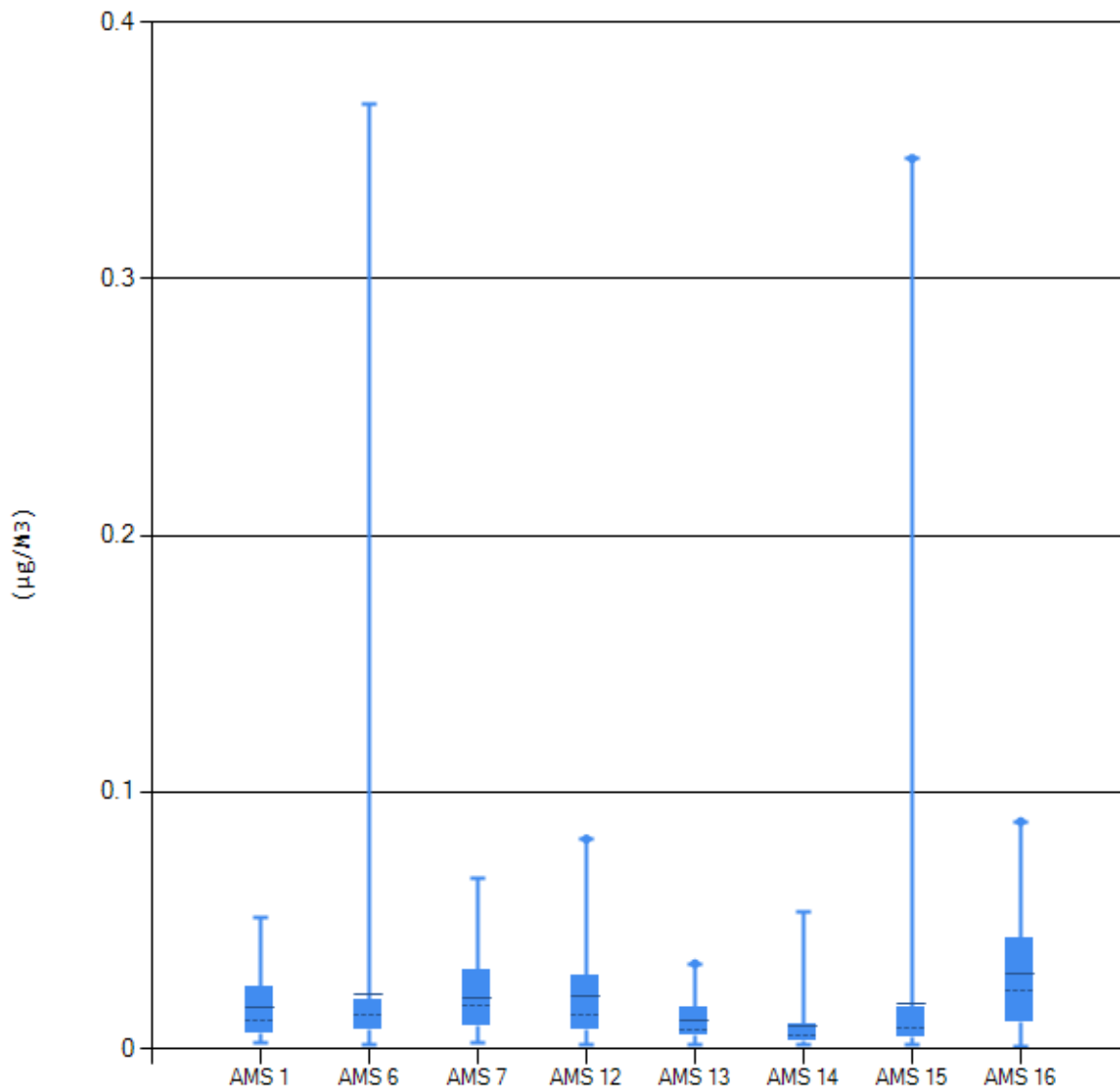
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0.01	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0.01	0
AMS 13 Fort McKay South	0	0	0	0	0.01	0
AMS 14 Anzac	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0
AMS 16 Muskeg River	0	0	0	0	0.01	0





PM\_METAL - Manganese - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

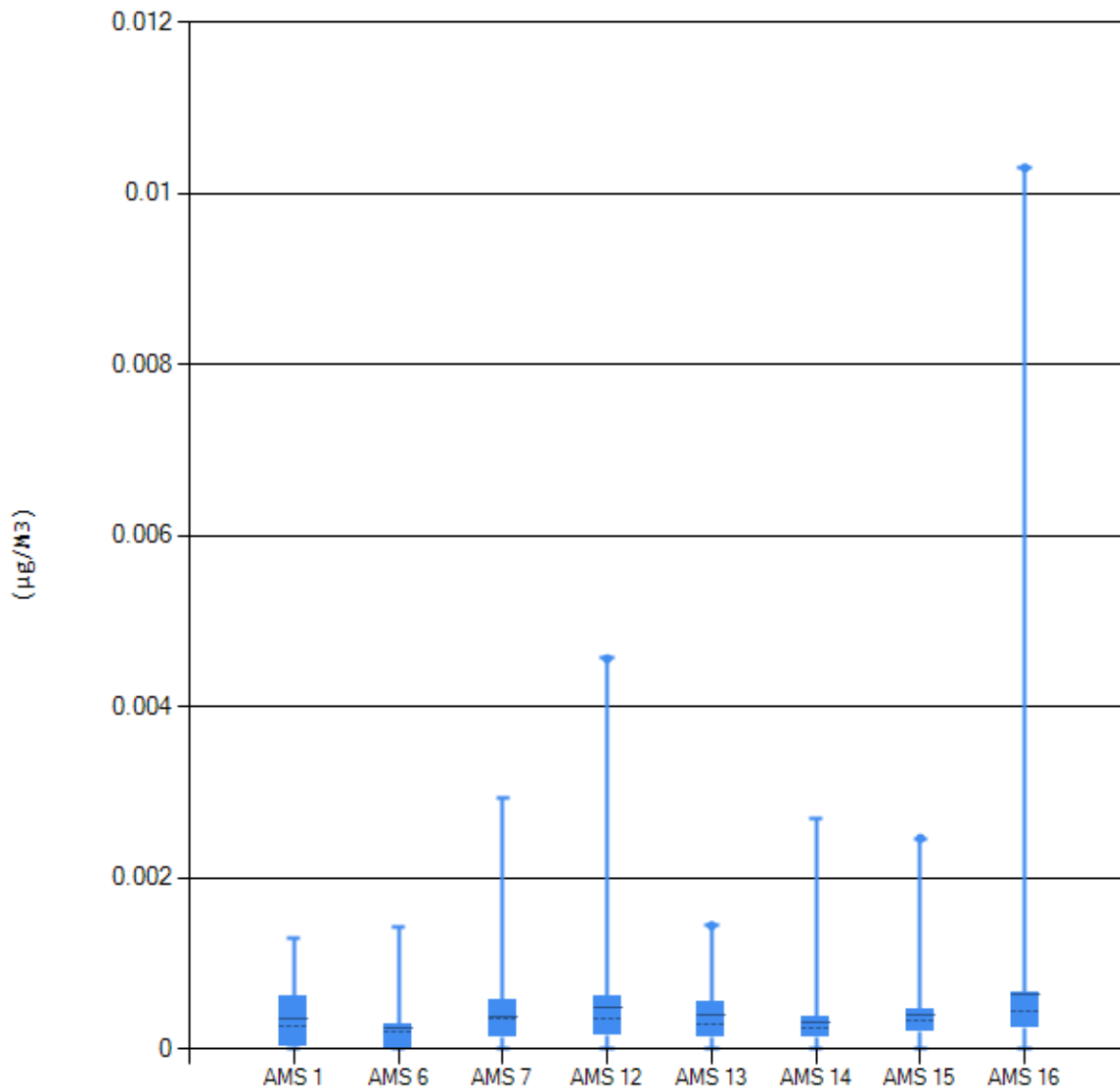
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0.01	0.01	0.02	0.05	0.02
AMS 6 Patricia McInnes	0	0.01	0.01	0.02	0.37	0.02
AMS 7 Athabasca Valley	0	0.01	0.02	0.03	0.07	0.02
AMS 12 Millennium	0	0.01	0.01	0.03	0.08	0.02
AMS 13 Fort McKay South	0	0	0.01	0.02	0.03	0.01
AMS 14 Anzac	0	0	0.01	0.01	0.05	0.01
AMS 15 Horizon	0	0	0.01	0.02	0.35	0.02
AMS 16 Muskeg River	0	0.01	0.02	0.04	0.09	0.03





PM\_METAL - Molybdenum - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

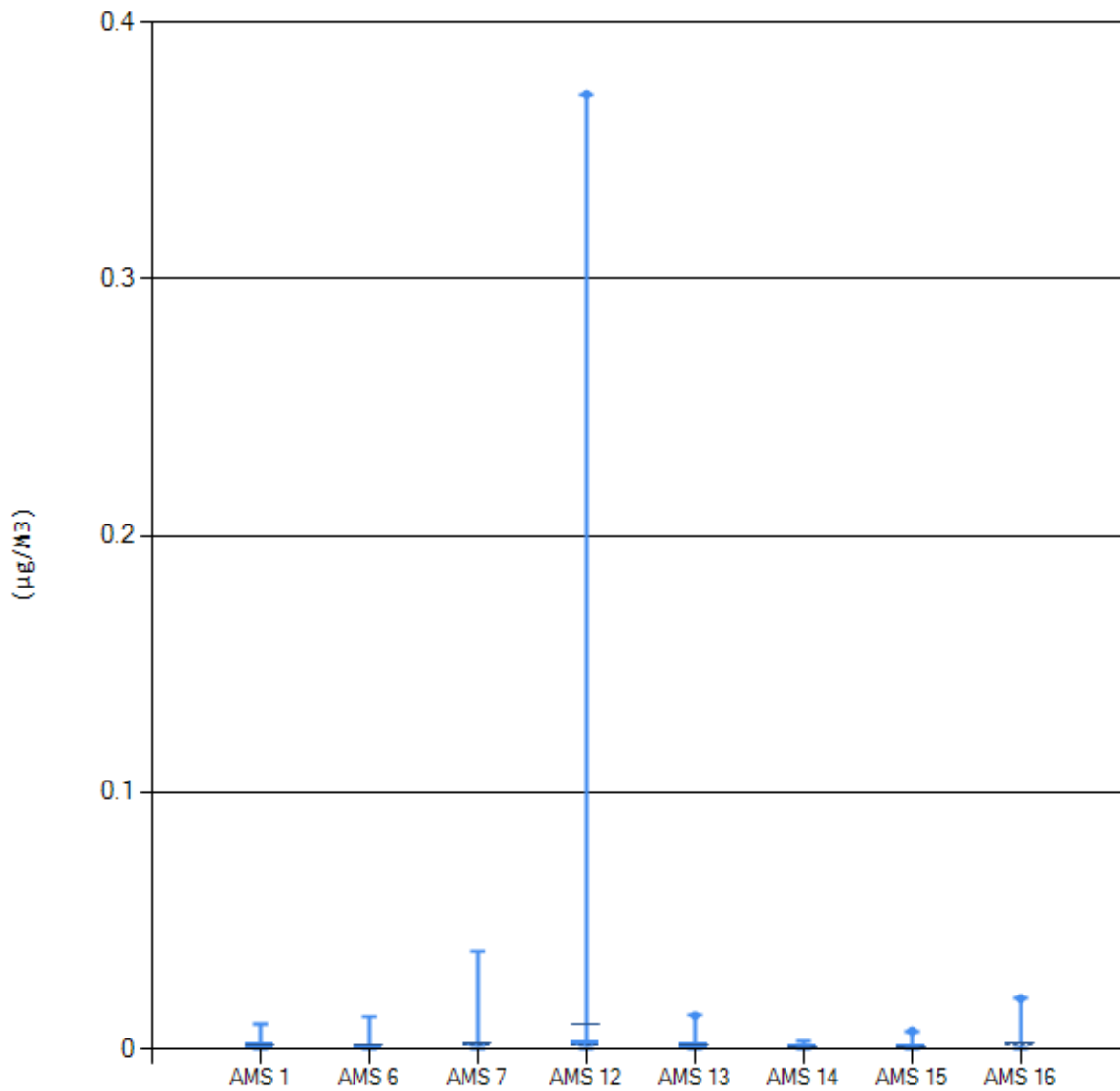
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0
AMS 16 Muskeg River	0	0	0	0	0.01	0





PM\_METAL - Nickel - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

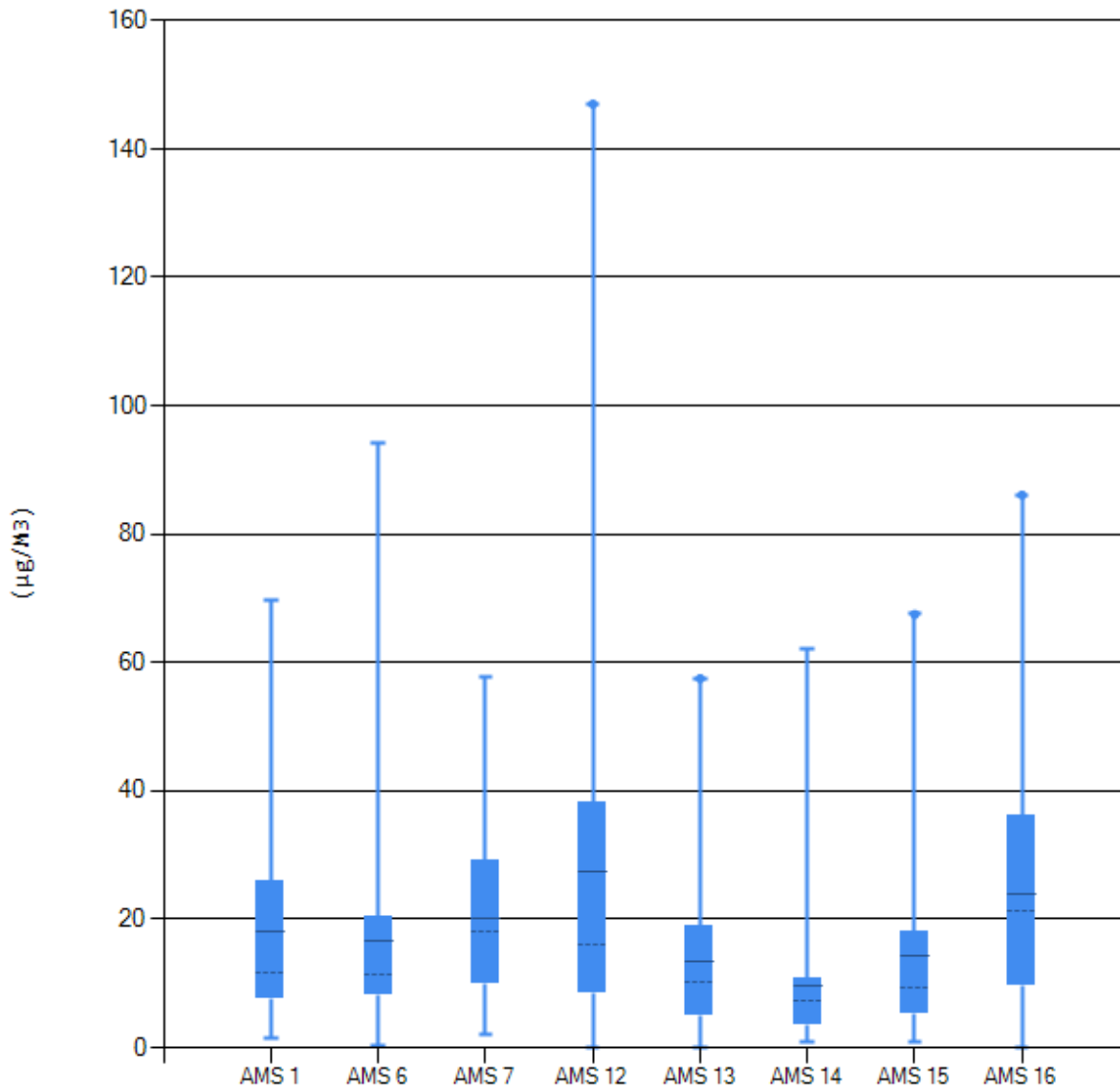
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.01	0
AMS 6 Patricia McInnes	0	0	0	0	0.01	0
AMS 7 Athabasca Valley	0	0	0	0	0.04	0
AMS 12 Millennium	0	0	0	0	0.37	0.01
AMS 13 Fort McKay South	0	0	0	0	0.01	0
AMS 14 Anzac	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0.01	0
AMS 16 Muskeg River	0	0	0	0	0.02	0





PM\_METAL - Particulate Matter - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	1.41	7.42	11.8	26.3	69.8	18.15
AMS 6 Patricia McInnes	0.25	8.14	11.3	20.43	94.3	16.74
AMS 7 Athabasca Valley	2.13	9.78	18	29.13	57.8	20.1
AMS 12 Millennium	0	8.46	16	39.02	147	27.49
AMS 13 Fort McKay South	0.08	4.84	10.07	19.7	57.5	13.39
AMS 14 Anzac	0.83	3.54	7.38	10.8	62.1	9.52
AMS 15 Horizon	0.96	5.24	9.21	18.13	67.5	14.41
AMS 16 Muskeg River	0	9.63	21.2	36.54	86.1	23.87

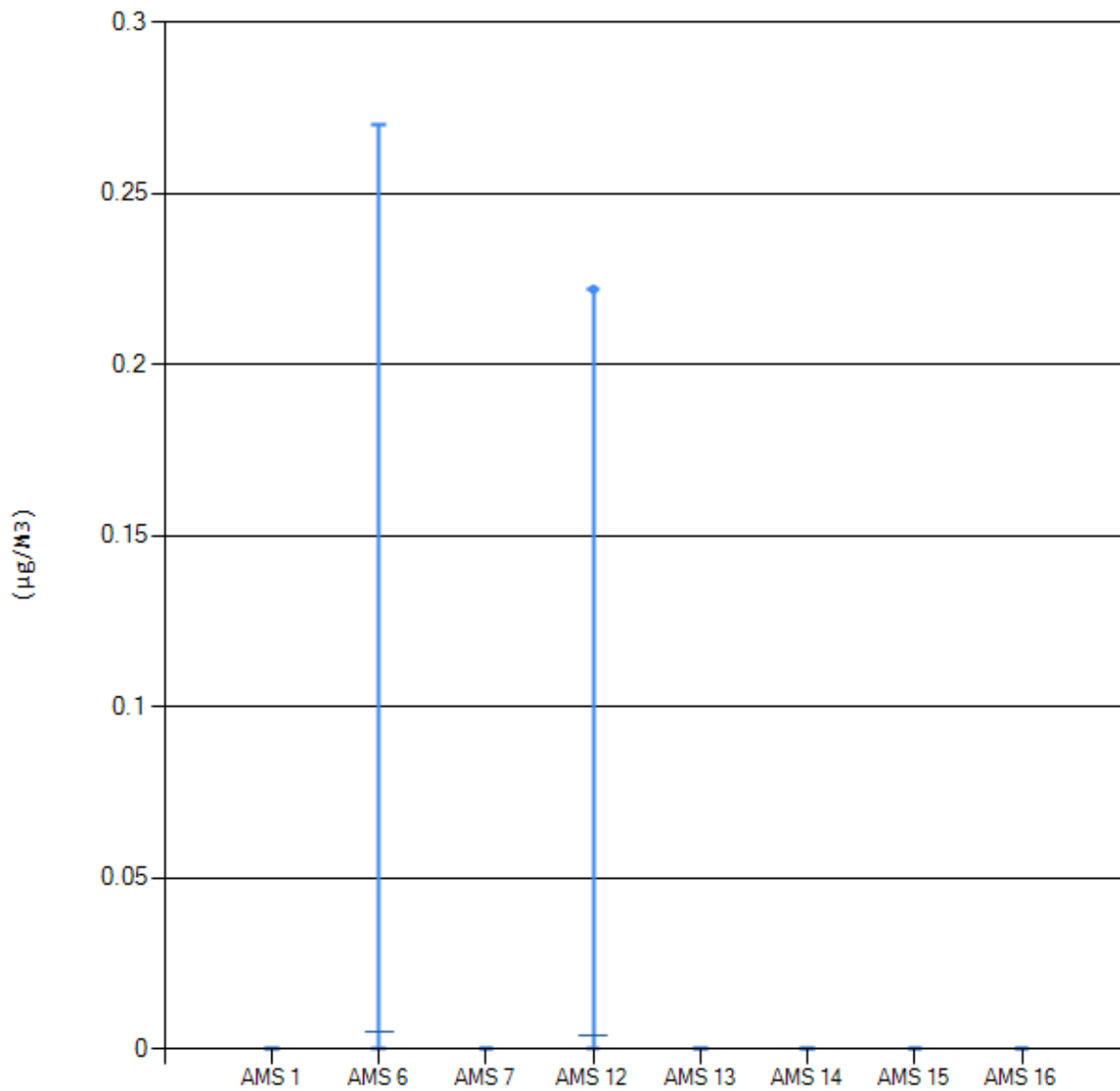






PM\_METAL - Phosphorus - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

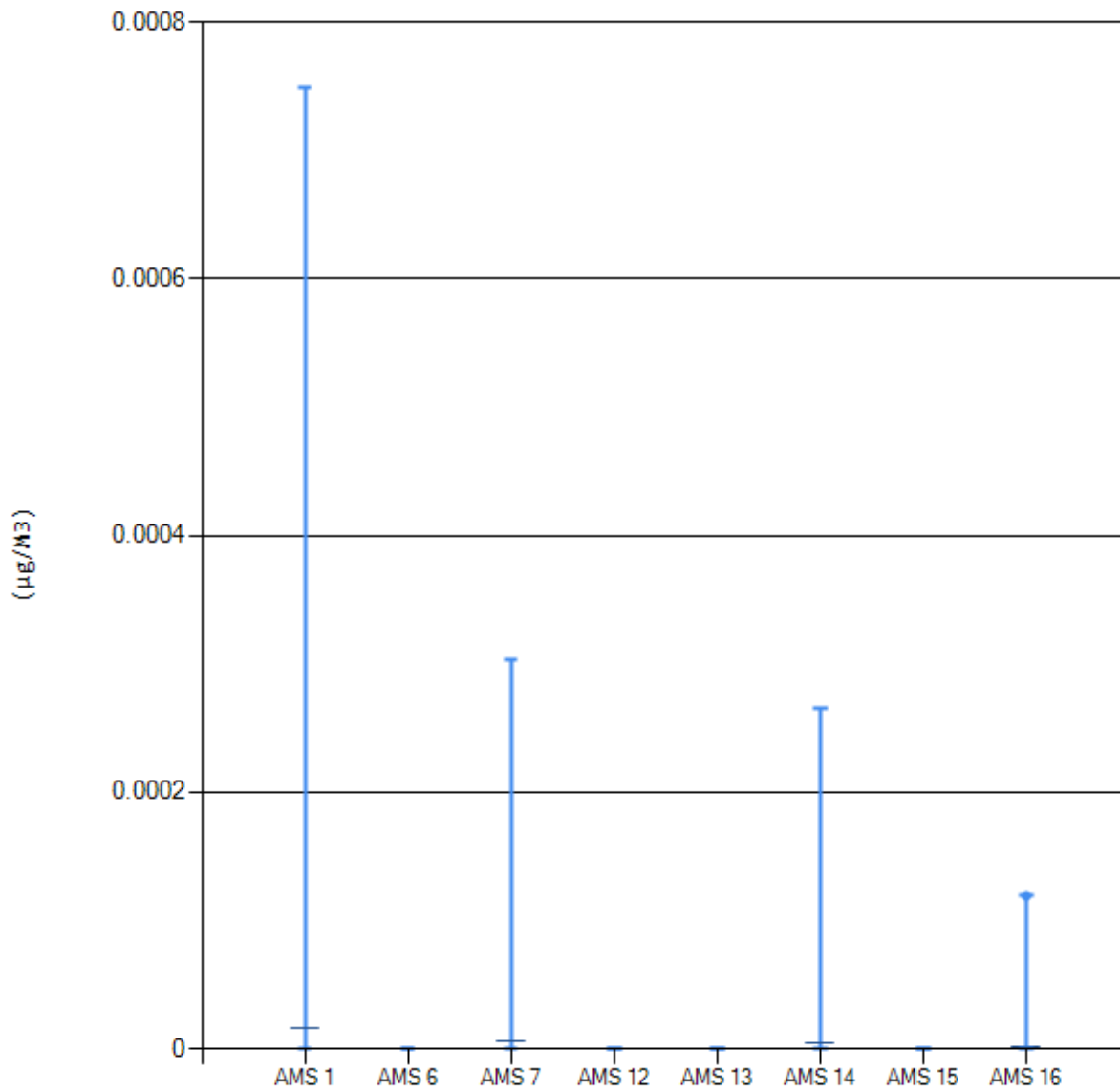
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0.27	0.01
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0.22	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0
AMS 16 Muskeg River	0	0	0	0	0	0





PM\_METAL - Silver - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

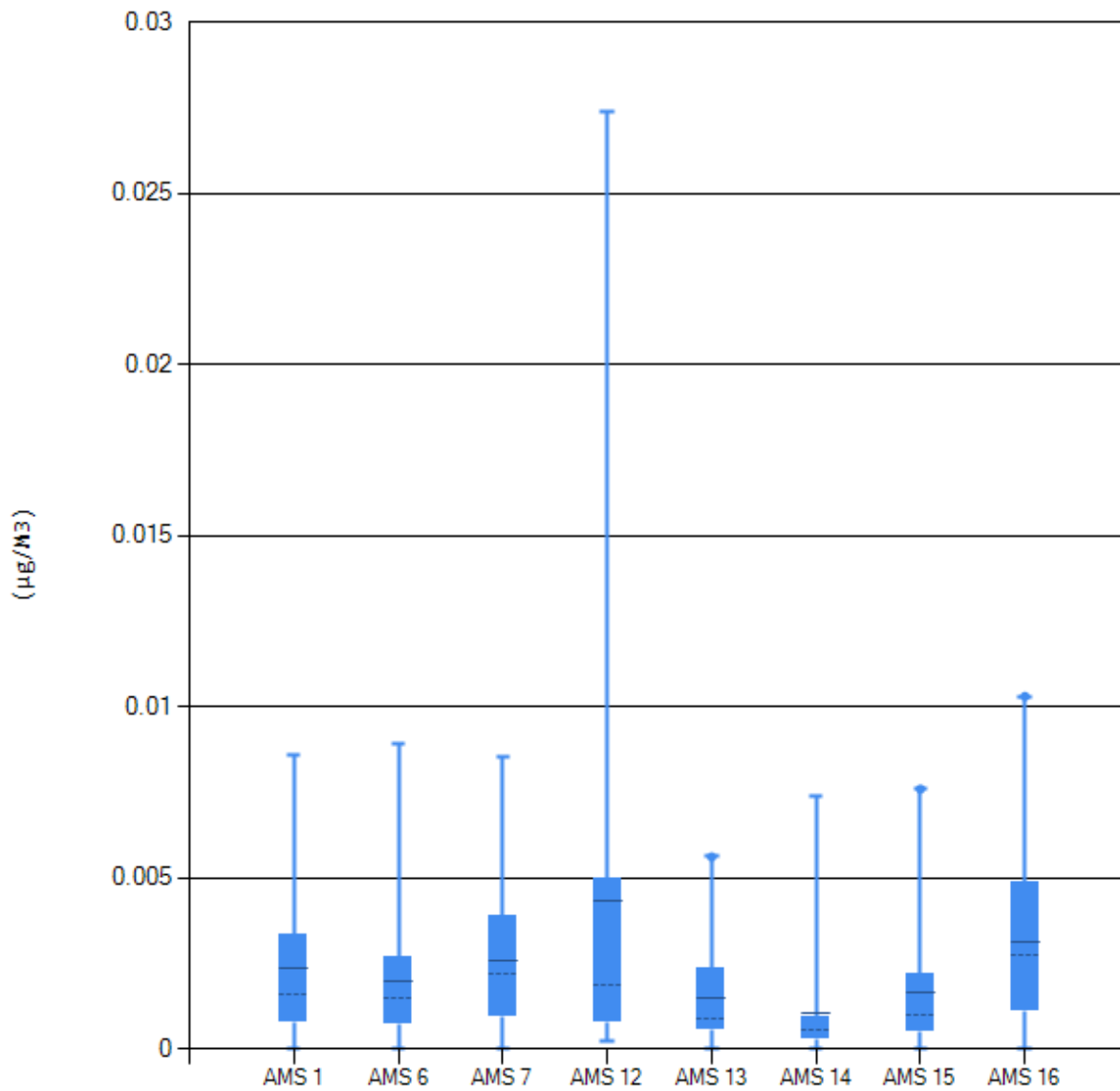
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0
AMS 16 Muskeg River	0	0	0	0	0	0





PM\_METAL - Strontium - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

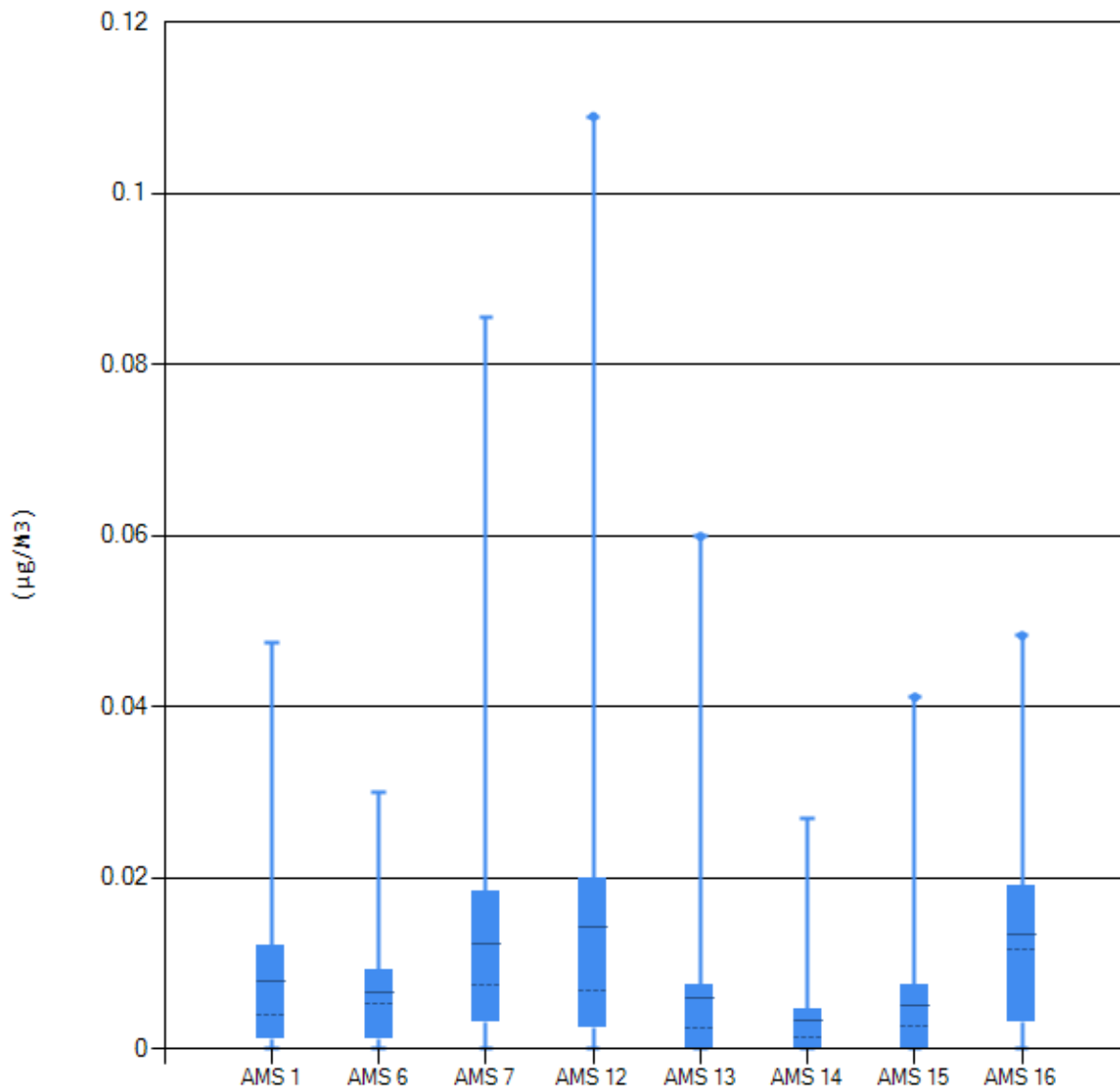
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.01	0
AMS 6 Patricia McInnes	0	0	0	0	0.01	0
AMS 7 Athabasca Valley	0	0	0	0	0.01	0
AMS 12 Millennium	0	0	0	0.01	0.03	0
AMS 13 Fort McKay South	0	0	0	0	0.01	0
AMS 14 Anzac	0	0	0	0	0.01	0
AMS 15 Horizon	0	0	0	0	0.01	0
AMS 16 Muskeg River	0	0	0	0	0.01	0





PM\_METAL - Titanium - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

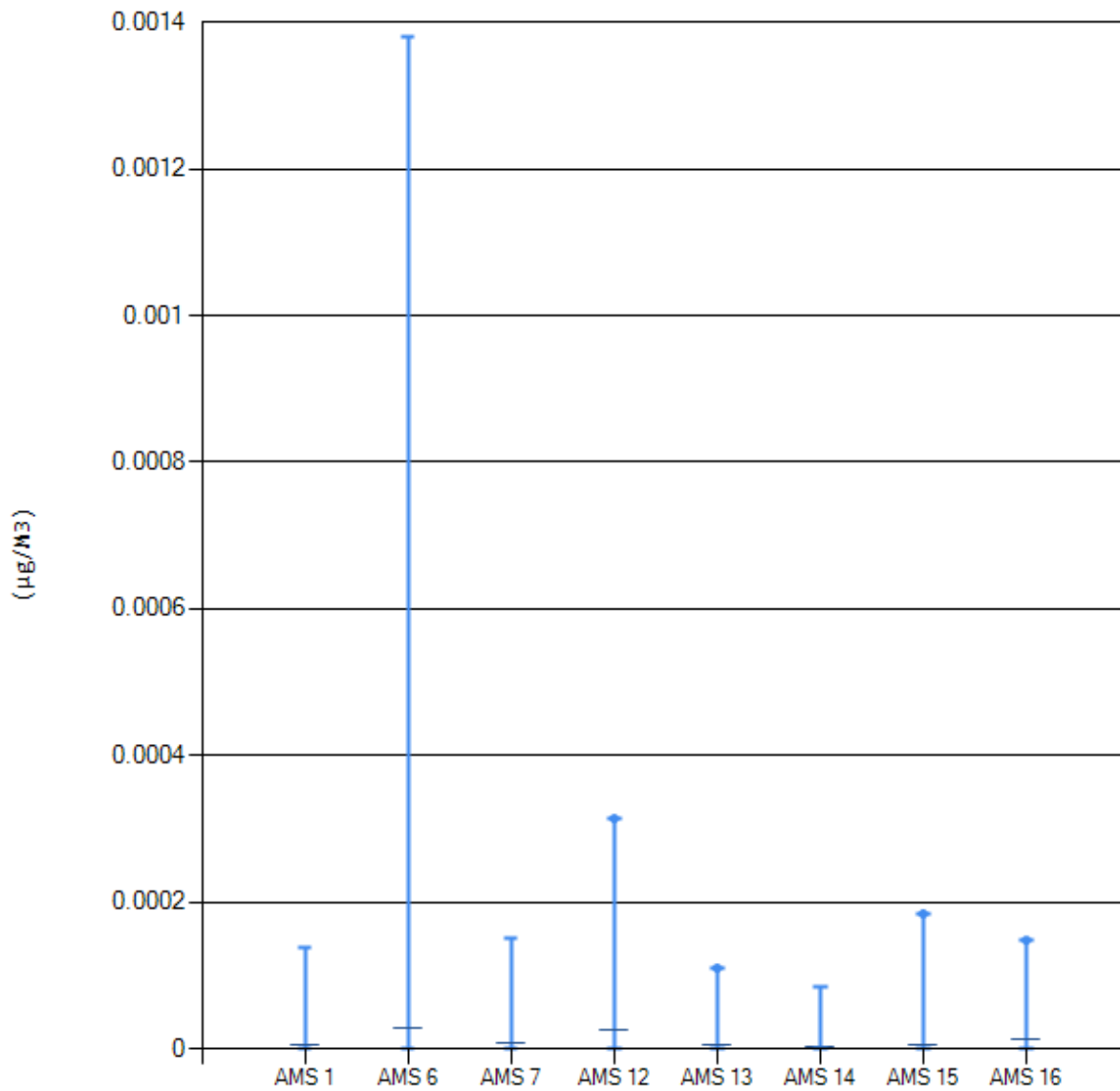
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0.01	0.05	0.01
AMS 6 Patricia McInnes	0	0	0.01	0.01	0.03	0.01
AMS 7 Athabasca Valley	0	0	0.01	0.02	0.09	0.01
AMS 12 Millennium	0	0	0.01	0.02	0.11	0.01
AMS 13 Fort McKay South	0	0	0	0.01	0.06	0.01
AMS 14 Anzac	0	0	0	0	0.03	0
AMS 15 Horizon	0	0	0	0.01	0.04	0
AMS 16 Muskeg River	0	0	0.01	0.02	0.05	0.01





PM\_METAL - Uranium - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

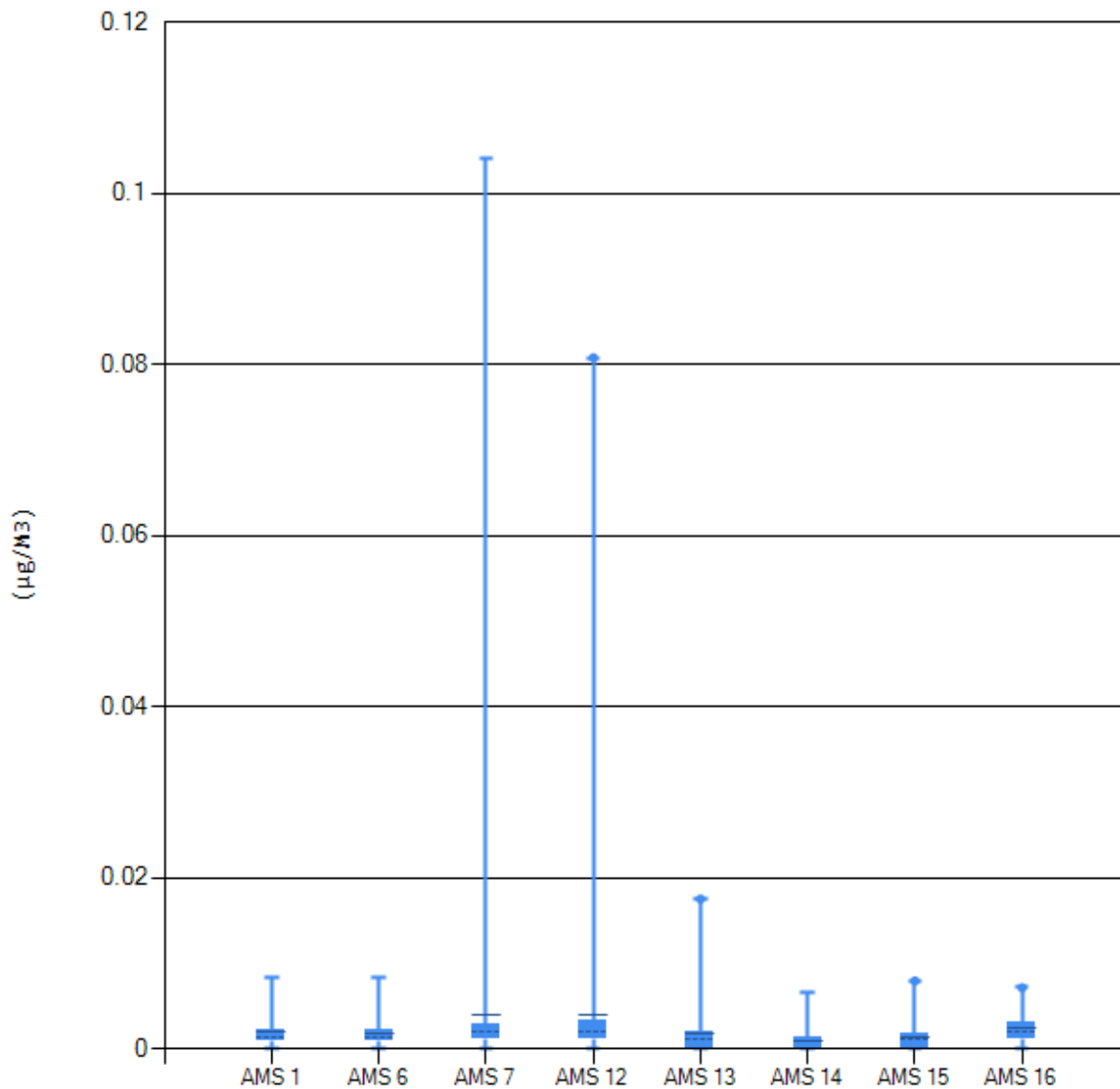
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0	0
AMS 6 Patricia McInnes	0	0	0	0	0	0
AMS 7 Athabasca Valley	0	0	0	0	0	0
AMS 12 Millennium	0	0	0	0	0	0
AMS 13 Fort McKay South	0	0	0	0	0	0
AMS 14 Anzac	0	0	0	0	0	0
AMS 15 Horizon	0	0	0	0	0	0
AMS 16 Muskeg River	0	0	0	0	0	0





PM\_METAL - Vanadium - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

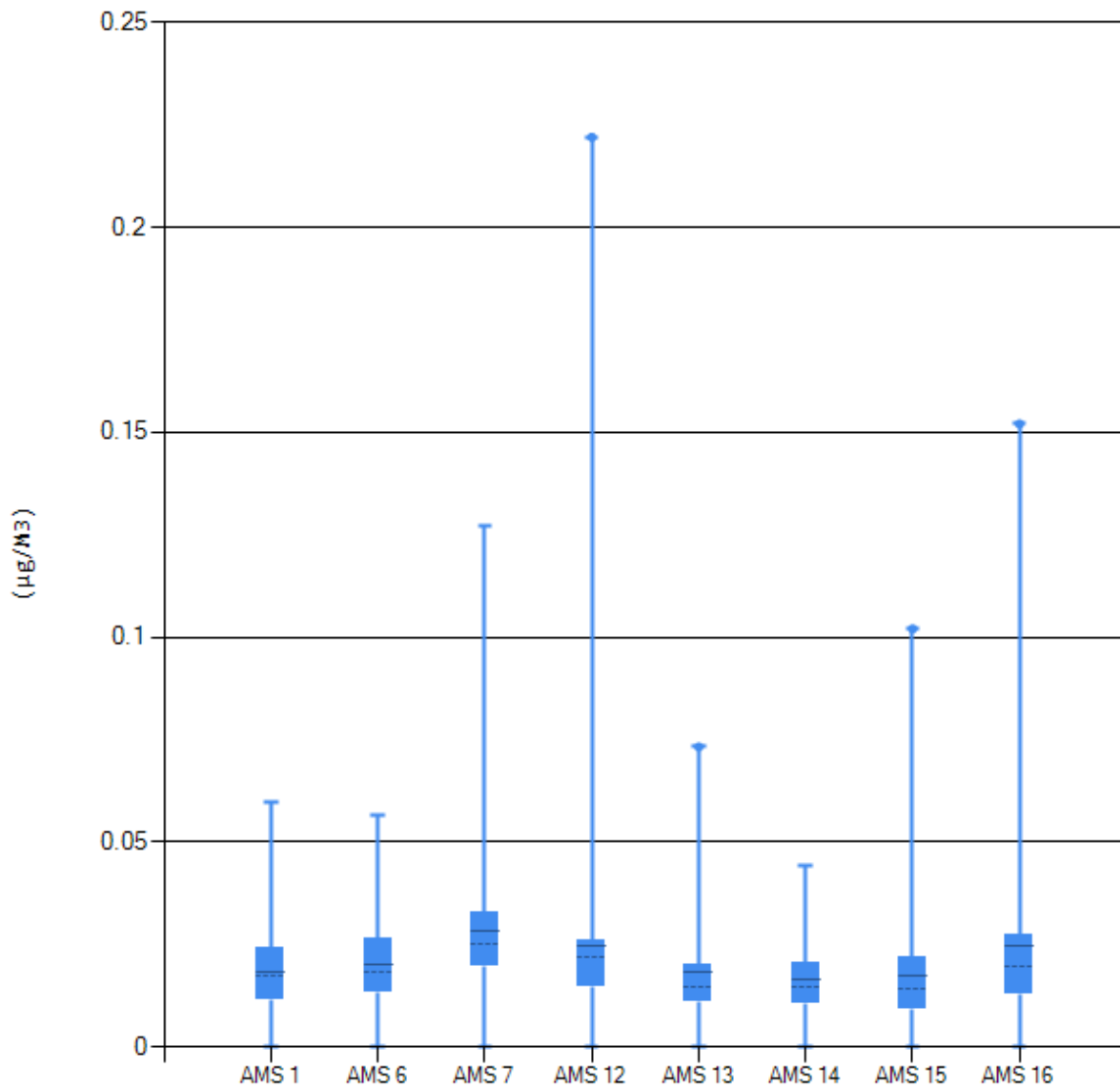
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.01	0
AMS 6 Patricia McInnes	0	0	0	0	0.01	0
AMS 7 Athabasca Valley	0	0	0	0	0.1	0
AMS 12 Millennium	0	0	0	0	0.08	0
AMS 13 Fort McKay South	0	0	0	0	0.02	0
AMS 14 Anzac	0	0	0	0	0.01	0
AMS 15 Horizon	0	0	0	0	0.01	0
AMS 16 Muskeg River	0	0	0	0	0.01	0





PM\_METAL - Zinc - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0.01	0.02	0.02	0.06	0.02
AMS 6 Patricia McInnes	0	0.01	0.02	0.03	0.06	0.02
AMS 7 Athabasca Valley	0	0.02	0.03	0.03	0.13	0.03
AMS 12 Millennium	0	0.01	0.02	0.03	0.22	0.02
AMS 13 Fort McKay South	0	0.01	0.01	0.02	0.07	0.02
AMS 14 Anzac	0	0.01	0.01	0.02	0.04	0.02
AMS 15 Horizon	0	0.01	0.01	0.02	0.1	0.02
AMS 16 Muskeg River	0	0.01	0.02	0.03	0.15	0.02





## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

### **INTEGRATED MONITORING PROGRAM ANNUAL REPORT**

### **PARTICULATE MATTER - IONS DATA SUMMARY 2014**

Prepared  
March 12, 2015

**SAMPLE COLLECTION BY:**

**Wood Buffalo Environmental Association**  
Fort McMurray, Alberta

**LABORATORY ANALYSIS BY:**

PM ions: ALS Canada Ltd  
Burlington, Ontario

**DATA COMPILATION BY:**

Aurora Atmospherics Inc.  
Calgary, Alberta



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WOOD BUFFALO ENVIRONMENTAL ASSOCIATION  
Particulate Matter - Ions

2014  
Indicated Sites and Dates

Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		05-Jan	05-Jan
Sample Date	05-Jan	05-Jan	05-Jan	05-Jan		05-Jan	05-Jan
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	22.1	7.54	37.7	14.7	1	531	30.8
Ammonium (as N)	0.254	0.189	0.196	0.194	0.5	6.097833736	<
Calcium	<0.0833	<0.0833	<0.0833	<0.0833	2	<	<
Chloride	0.0416	0.018	0.0331	0.039	0.4	0.998638	0.722191
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.259	0.0743	0.0972	0.0976	0.2	6.222280528	0.758814699
Potassium	0.0603	<0.00833	<0.00833	0.0134	0.2	1.446525	<
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.783	0.638	0.6	0.685	1	18.783395	1.881554

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	05-Jan	05-Jan	05-Jan	05-Jan	05-Jan	05-Jan	05-Jan	05-Jan
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	11.4	2.5	3.53	17.5	11.4	8.46	67.5	17.5
Ammonium (as N)	0.252	0.165	0.189	0.222	0.227	0.216	0.204	0.215
Calcium	<0.0833	<0.0833	<0.0833	0.098	<0.0833	0.088	<0.0833	<0.0833
Chloride	0.134	0.0338	0.0602	0.0778	0.0349	0.0707	0.214	0.0279
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.384	0.0842	0.104	0.166	0.221	0.303	0.268	0.177
Potassium	0.0677	<0.00833	<0.00833	0.00866	0.0139	0.0463	0.0235	0.0163
Sodium	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	0.221	<0.167
Sulphate	0.801	0.596	0.574	0.669	0.722	0.65	0.676	0.707



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	11-Jan	11-Jan	11-Jan	11-Jan		11-Jan	11-Jan
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	3.97	6.21	5.67	2.03	1	95.2	8.17
Ammonium (as N)	0.194	0.487	0.361	0.29	0.5	4.647394287	<
Calcium	<0.0833	<0.0833	<0.0833	<0.0833	2	<	<
Chloride	0.0371	0.0319	0.0298	0.0242	0.4	0.889345	0.638614
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.346	0.166	0.312	0.0739	0.2	8.299535766	1.308955355
Potassium	0.165	0.0649	0.139	0.0211	0.2	3.970979	<
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.866	1.64	1.13	0.905	1	20.774242	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	11-Jan	11-Jan	11-Jan	11-Jan	11-Jan	11-Jan	11-Jan	11-Jan
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24.1	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	38.6	1.72	9.29	2.05	7.63	6.13	2.88	4.03
Ammonium (as N)	0.214	0.342	0.35	0.306	0.264	0.223	0.224	0.127
Calcium	<0.0833	<0.0833	0.0945	<0.0833	0.11	0.113	<0.0833	<0.0833
Chloride	0.0444	0.0311	0.0863	0.0362	0.0306	0.0288	0.0518	0.0582
Magnesium	<0.0417	<0.0417	<0.0415	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.25	0.139	0.483	0.104	0.141	0.219	0.18	0.166
Potassium	0.0288	0.0306	0.171	0.0172	0.0145	0.0274	0.0118	<0.00833
Sodium	<0.167	<0.167	<0.166	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.902	1.03	1.19	0.929	0.93	0.874	0.922	0.594



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		17-Jan	17-Jan
Sample Date	17-Jan	17-Jan	17-Jan	17-Jan		17-Jan	17-Jan
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	1.5	1.84	2.48	1.18	1	36.1	1.75
Ammonium (as N)	0.0495	0.0269	0.0509	0.0697	0.5	1.187630466	<
Calcium	<0.0833	<0.0833	<0.0833	<0.0833	2	<	<
Chloride	0.0461	0.0292	0.0598	0.0246	0.4	1.105788	0.445744
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.134	0.0822	0.0696	0.0755	0.2	3.224962469	0.4078629
Potassium	0.0284	<0.00833	<0.00833	<0.00833	0.2	0.681474	<
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.218	0.111	0.186	0.182	1	5.239635	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	17-Jan	17-Jan	17-Jan	17-Jan	17-Jan	17-Jan	17-Jan	17-Jan
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24.1	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	5.54	63.3	3.46	2.63	5.46	0.963	5.83	4.5
Ammonium (as N)	0.0489	0.0295	0.0529	0.0667	0.041	<0.0208	0.0212	0.0331
Calcium	<0.0833	<0.0833	<0.0830	<0.0833	<0.0833	<0.0833	<0.0833	<0.0833
Chloride	0.0523	0.0908	0.711	0.0459	0.0755	0.0267	0.0846	0.0422
Magnesium	<0.0417	<0.0417	<0.0415	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.14	0.131	0.125	0.0822	0.0952	0.0451	0.132	0.0925
Potassium	0.0263	0.00866	0.0226	<0.00833	<0.00833	<0.00833	0.0518	<0.00833
Sodium	<0.167	<0.167	0.47	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.222	0.133	0.222	0.231	0.179	0.0585	0.169	0.178



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	23-Jan	23-Jan	23-Jan	23-Jan		23-Jan	23-Jan
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	9.17	5.5	8.04	3.36	1	220	50
Ammonium (as N)	0.139	0.144	0.166	0.0906	0.5	3.33667607	<
Calcium	<0.0833	<0.0833	0.0882	<0.0833	2	<	<
Chloride	0.0319	0.0275	0.0888	0.0221	0.4	0.765051	<
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.184	0.213	0.582	0.0968	0.2	4.410610435	1.233073885
Potassium	0.0709	0.0504	0.068	0.0411	0.2	1.701542	0.23573
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.462	0.336	0.365	0.255	1	11.090025	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	23-Jan	23-Jan	23-Jan	23-Jan	23-Jan	23-Jan	23-Jan	23-Jan
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24.1	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	9.79	8.04	19.5	3.85	9.17	3.65	5.21	10.1
Ammonium (as N)	0.176	0.139	0.19	0.0768	0.273	0.143	0.114	0.0789
Calcium	<0.0833	0.0875	0.13	<0.0833	0.107	0.0868	<0.0833	<0.0833
Chloride	0.0663	0.348	1.76	0.0271	0.0316	0.105	0.0355	0.0567
Magnesium	<0.0417	<0.0417	<0.0415	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.246	0.274	0.82	0.114	0.374	0.273	0.132	0.162
Potassium	0.0838	0.055	0.122	0.0406	0.0579	0.0242	0.0614	0.105
Sodium	<0.167	0.289	1.19	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.493	0.601	0.422	0.287	0.685	0.332	0.316	0.273



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL		
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		Lab Blank Filter	Travel Blank Filters
Sample Date	29-Jan	29-Jan	29-Jan	29-Jan		29-Jan	29-Jan
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24.1	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	1.71	2.71	4.73	0.417	1	41	-39
Ammonium (as N)	0.0484	0.113	0.107	0.106	0.5	1.162680246	<
Calcium	<0.0833	<0.0833	<0.0830	0.0939	2	<	4.791748
Chloride	0.0841	0.0535	0.114	0.0331	0.4	2.018706	0.602183
Magnesium	<0.0417	<0.0417	<0.0415	<0.0417	1	<	<
Nitrate	0.212	0.276	0.295	0.278	0.2	5.093543664	0.967488741
Potassium	0.0247	0.0255	0.0333	0.0195	0.2	0.593611	<
Sodium	<0.167	<0.167	<0.166	<0.167	4	<	<
Sulphate	0.199	0.383	0.316	0.309	1	4.776747	1.067214

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	29-Jan	29-Jan	29-Jan	29-Jan	29-Jan	29-Jan	29-Jan	29-Jan
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24.01	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	3.71	5.67	14	2.87	10.6	4.21	6.04	20.8
Ammonium (as N)	0.0718	0.114	0.107	0.108	0.0626	0.0509	0.0694	0.0338
Calcium	0.122	<0.0833	0.106	<0.0833	0.213	0.179	<0.0833	0.333
Chloride	0.195	0.129	0.353	0.0968	0.151	0.465	0.142	0.0661
Magnesium	0.0428	<0.0417	<0.0417	<0.0416	0.0436	<0.0417	<0.0417	0.0449
Nitrate	0.266	0.332	0.374	0.354	0.285	0.219	0.254	0.187
Potassium	0.024	0.0291	0.052	0.0281	0.0265	0.0272	0.0233	0.0317
Sodium	0.174	<0.167	0.302	<0.167	<0.167	0.359	<0.167	<0.167
Sulphate	0.207	0.406	0.316	0.371	0.256	0.229	0.228	0.171



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		04-Feb	04-Feb
Sample Date	04-Feb	04-Feb	04-Feb	04-Feb		04-Feb	04-Feb
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	16.2	3.33	5.08	3.79	1	388	63
Ammonium (as N)	<0.0208	0.058	0.0721	0.0941	0.5	<	<
Calcium	<0.0833	<0.0833	<0.0833	<0.0833	2	<	<
Chloride	0.076	0.0393	0.322	0.0251	0.4	1.823693	0.6429
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.128	0.147	0.243	0.138	0.2	3.073199529	0.853666536
Potassium	<0.00833	0.0184	0.0198	0.00902	0.2	<	<
Sodium	<0.167	<0.167	0.322	<0.167	4	<	<
Sulphate	0.118	0.201	0.314	0.297	1	2.837332	1.075786

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	04-Feb	04-Feb	04-Feb	04-Feb	04-Feb	04-Feb	04-Feb	04-Feb
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	3.69	3.58	10.4	3.21	5.75	2.08	5.63	7.71
Ammonium (as N)	<0.0207	0.0448	0.0817	0.0647	0.0893	<0.0208	0.0266	<0.0208
Calcium	<0.0830	<0.0833	<0.0833	<0.0833	<0.0833	<0.0833	<0.0833	0.0891
Chloride	0.114	0.0726	0.118	0.049	0.0912	0.0964	0.115	0.151
Magnesium	<0.0415	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.142	0.137	0.24	0.0905	0.186	0.186	0.252	0.177
Potassium	0.00845	<0.00833	0.0257	<0.00833	0.00848	<0.00833	<0.00833	0.0228
Sodium	<0.166	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.109	0.244	0.282	0.307	0.282	0.0966	0.11	0.135



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL		
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		Lab Blank Filter	Travel Blank Filters
Sample Date	10-Feb	10-Feb	10-Feb	10-Feb		10-Feb	10-Feb
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	11.5	39.5	8.46	5.5	1	276	-3
Ammonium (as N)	0.333	0.866	0.262	0.279	0.5	8.002367186	<
Calcium	<0.0833	0.565	<0.0833	0.119	2	<	2.927338
Chloride	0.0588	1.22	0.0387	0.0385	0.4	1.412237	0.724334
Magnesium	<0.0417	0.244	0.0598	<0.0417	1	<	<
Nitrate	0.5	3.61	0.655	0.234	0.2	11.99875742	0.55962584
Potassium	0.0318	0.239	0.0855	0.0267	0.2	0.762908	<
Sodium	0.236	1.84	0.212	<0.167	4	5.659663	<
Sulphate	1.1	3.79	0.817	0.91	1	26.288181	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	10-Feb	10-Feb	10-Feb	10-Feb	10-Feb	10-Feb	10-Feb	10-Feb
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24.1	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	15.8	23.3	15.4	8.83	32.3	25.2	43.1	22.3
Ammonium (as N)	0.314	1.03	0.234	0.272	0.261	0.196	0.315	0.149
Calcium	0.141	0.247	0.214	<0.0833	0.403	0.241	0.131	0.335
Chloride	0.186	0.0991	0.762	0.058	0.135	0.0975	0.0775	0.203
Magnesium	0.0469	0.152	0.0606	<0.0417	0.0675	<0.0417	0.0421	0.0549
Nitrate	1.29	2.73	1.18	0.52	1.42	0.779	0.669	0.739
Potassium	0.047	0.196	0.149	0.682	0.0768	0.0347	0.0421	0.0418
Sodium	0.437	0.863	0.872	0.196	0.385	0.306	0.285	0.33
Sulphate	1.16	3.88	0.86	0.944	1	0.725	1.2	0.686





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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	16-Feb	16-Feb	16-Feb	16-Feb		16-Feb	16-Feb
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	12	8.83	11.3	7.67	1	287	-0.014
Ammonium (as N)	0.799	0.803	0.683	0.696	0.5	19.16509555	<
Calcium	<0.0833	<0.0833	<0.0833	<0.0833	2	<	<
Chloride	0.0529	0.03	0.0503	0.0399	0.4	1.270799	0.912918
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.832	1.16	1	0.758	0.2	19.97579694	1.147707232
Potassium	0.131	0.235	0.0887	0.242	0.2	3.133066	<
Sodium	<0.167	0.171	<0.167	0.248	4	<	<
Sulphate	2.19	1.93	1.76	1.78	1	52.456354	1.410094

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Horizon	Muskeg River
Sample Date	16-Feb	16-Feb	16-Feb	16-Feb	16-Feb	16-Feb	16-Feb
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24.1	24.004	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	14.8	9.79	12	8.12	16	18	22.2
Ammonium (as N)	0.782	0.804	0.644	0.685	0.682	0.804	0.696
Calcium	<0.0833	<0.0833	<0.0830	<0.0833	0.122	<0.0833	0.291
Chloride	0.0483	0.0652	0.0602	0.0231	0.0414	0.0436	0.0475
Magnesium	<0.0417	<0.0417	<0.0415	<0.0417	<0.0417	<0.0417	0.0438
Nitrate	1.03	1.43	1.11	0.754	1.28	0.9	1.41
Potassium	0.173	0.227	0.0665	0.0803	0.145	0.0911	0.103
Sodium	<0.167	0.368	0.212	<0.167	<0.167	<0.167	<0.167
Sulphate	2.13	2.09	1.75	1.91	1.87	2.45	2



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Station #	AMS 1	AMS 6	AMS 7	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley			
Sample Date	22-Feb	22-Feb	22-Feb		22-Feb	22-Feb
PM Size(µm)	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	5.79	6.71	2.71	1	139	-0.004
Ammonium (as N)	0.135	0.371	<0.0208	0.5	3.235211843	<
Calcium	<0.0833	<0.0833	<0.0833	2	<	<
Chloride	0.148	0.0417	0.0413	0.4	3.542379	1.223653
Magnesium	0.0422	<0.0417	<0.0417	1	1.013639	<
Nitrate	0.396	0.417	0.0545	0.2	9.513639283	0.464774003
Potassium	0.0451	0.142	0.0127	0.2	1.082215	<
Sodium	0.264	0.318	<0.167	4	6.338994	<
Sulphate	0.61	1.41	0.0596	1	14.643119	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Horizon	Muskeg River
Sample Date	22-Feb	22-Feb	22-Feb	22-Feb	22-Feb	22-Feb	22-Feb
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	10.6	10.2	2.13	7.25	14.3	5.96	28.1
Ammonium (as N)	0.13	0.344	<0.0208	0.227	0.138	0.134	0.147
Calcium	<0.0833	<0.0833	<0.0833	<0.0833	0.102	<0.0833	0.332
Chloride	0.217	0.124	0.0358	0.0901	0.2	0.193	0.255
Magnesium	0.0428	<0.0417	<0.0417	<0.0417	0.0588	0.0428	0.0853
Nitrate	0.531	0.493	0.0581	0.534	0.574	0.453	0.513
Potassium	0.068	0.169	0.00929	0.0629	0.0321	0.0928	0.0449
Sodium	0.304	0.374	<0.167	0.271	0.311	0.312	0.392
Sulphate	0.672	1.33	0.0623	0.949	0.711	0.656	0.671



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL		
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		Lab Blank Filter	Travel Blank Filters
Sample Date	28-Feb	28-Feb	28-Feb	28-Feb		28-Feb	28-Feb
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	3.75	7.42	18.1	3.291666667	1	90	-1
Ammonium (as N)	0.239	0.394	0.618	0.234	0.5	5.733560526	<
Calcium	<0.0833	<0.0833	0.0888	0.162	2	<	<
Chloride	0.215	0.115	0.146	0.128	0.4	5.160344	0.906489
Magnesium	0.051	<0.0417	<0.0417	<0.0417	1	1.223653	<
Nitrate	0.271	0.265	0.299	0.258	0.2	6.50683604	0.322496247
Potassium	0.0441	0.077	0.0789	0.0284	0.2	1.058642	<
Sodium	0.246	0.294	0.304	0.199	4	5.903965	<
Sulphate	0.909	1.49	2.36	0.855	1	21.826455	1.517244

Station #	AMS 1	AMS 6	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	28-Feb	28-Feb	28-Feb	28-Feb	28-Feb	28-Feb	28-Feb
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	9.585062241	13.6	8.291666667	23.3	9.13	10.5	48.1
Ammonium (as N)	0.248	0.358	0.236	0.255	0.236	0.255	0.307
Calcium	0.0914	0.0881	0.108	0.275	0.123	0.139	0.816
Chloride	0.522	0.372	0.364	0.439	0.443	0.459	0.557
Magnesium	0.0622	0.0615	0.0492	0.101	0.0652	0.0579	0.127
Nitrate	0.331	0.325	0.307	0.339	0.284	0.317	0.369
Potassium	0.059	0.0588	0.0377	0.0419	0.0333	0.0356	0.0623
Sodium	0.428	0.343	0.321	0.348	0.371	0.383	0.489
Sulphate	0.982	1.45	0.934	1.06	0.945	1.08	1.52



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Station #	AMS 1	AMS 7	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Athabasca Valley			
Sample Date	06-Mar	06-Mar		06-Mar	06-Mar
PM Size(µm)	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	27.147	24			24
Unit	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	4.05	7.4375	1	54	8.5
Ammonium (as N)	0.434	0.677	0.5	11.77484043	<
Calcium	<0.0737	0.175	2	<	3.165211
Chloride	0.0313	0.1	0.4	0.848628	1.161506
Magnesium	<0.0368	<0.0417	1	<	<
Nitrate	0.169	0.743	0.2	4.60031411	1.602996051
Potassium	0.0352	0.0487	0.2	0.955778	0.315021
Sodium	<0.147	0.213	4	<	<
Sulphate	1.33	2.47	1	36.148124	2.910194

Station #	AMS 1	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	06-Mar	06-Mar	06-Mar	06-Mar	06-Mar
PM Size(µm)	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	18.2	39.02083333	4.854166667	9.104166667	11.16666667
Ammonium (as N)	0.463	0.298	0.35	0.213	0.181
Calcium	<0.0833	0.41	0.29	0.0976	0.158
Chloride	0.3	0.0974	0.284	0.0911	0.0573
Magnesium	<0.0417	0.0734	<0.0417	<0.0417	<0.0417
Nitrate	0.343	0.509	0.263	0.344	0.37
Potassium	0.0449	0.0376	0.0233	0.0244	0.0223
Sodium	0.297	<0.167	0.235	<0.167	<0.167
Sulphate	1.56	1.12	1.21	0.86	0.694



Station #	MDL	Lab Blank Filter	Travel Blank Filters
Station Name		12-Mar	12-Mar
Sample Date		N/A	pm2.5
PM Size(µm)			24
Total Air Volume (M3)			

Unit		µg	µg/sample
Particulate Matter	1	19.5	1
Ammonium (as N)	0.5	1.47372632	<
Calcium	2	<	<
Chloride	0.4	1.667254	0.437172
Magnesium	1	<	<
Nitrate	0.2	2.874010671	1.337410906
Potassium	0.2	0.345023	<
Sodium	4	<	<
Sulphate	1	6.026116	1.600821

Station #	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	12-Mar	12-Mar	12-Mar	12-Mar
PM Size(µm)	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	0.8125	0.083333333	1.104166667	1.645833333
Ammonium (as N)	0.0614	0.0536	0.0548	0.0632
Calcium	<0.0833	<0.0833	<0.0833	<0.0833
Chloride	0.0695	0.0493	0.0541	0.0521
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.12	0.154	0.111	0.114
Potassium	0.0144	0.0235	0.0138	0.0195
Sodium	<0.167	<0.167	<0.167	<0.167
Sulphate	0.251	0.269	0.284	0.251



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	18-Mar	18-Mar	18-Mar	18-Mar		18-Mar	18-Mar
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	25.3	24	24	24			24

Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	3.326745718	1.986111111	4.263888889	1.243055556	1	84.16666667	-22.25
Ammonium (as N)	0.157	0.159	0.14	0.156	0.5	3.972075003	<
Calcium	<0.0791	0.1	<0.0833	0.0933	2	<	2.194432
Chloride	0.0403	0.0195	0.0721	0.0306	0.4	1.020068	1.197937
Magnesium	<0.0395	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.12	0.129	0.109	0.109	0.2	3.044743978	1.394322009
Potassium	0.0152	0.0138	0.0132	0.0131	0.2	0.38574	<
Sodium	<0.158	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.577	0.518	0.538	0.578	1	14.604545	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	18-Mar	18-Mar	18-Mar	18-Mar	18-Mar	18-Mar	18-Mar	18-Mar
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	7.527777778	4.625	9.9375	1.097222222	5.673611111	3.708333333	3.173611111	1.090277778
Ammonium (as N)	0.165	0.139	0.161	0.152	0.133	0.153	0.156	0.177
Calcium	<0.0833	<0.0833	0.0982	<0.0833	0.112	0.113	<0.0833	0.133
Chloride	0.0782	0.196	1.04	0.0654	0.0738	0.1	0.118	0.0694
Magnesium	<0.0417	<0.0417	0.0455	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.186	0.177	0.192	0.149	0.111	0.123	0.141	0.19
Potassium	0.02	0.0191	0.0363	0.0125	0.0184	0.0144	0.0142	0.0201
Sodium	<0.167	0.17	0.757	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.612	0.529	0.58	0.59	0.552	0.621	0.598	0.722



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	24-Mar	24-Mar	24-Mar	24-Mar		24-Mar	24-Mar
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	2.840277778	1.222222222	4.256944444	1.104166667	1	68.16666667	-29.33333333
Ammonium (as N)	0.161	0.17	0.167	0.158	0.5	3.872274123	<
Calcium	<0.0833	0.137	0.0963	0.164	2	<	6.484718
Chloride	0.209	0.186	0.387	0.126	0.4	5.01462	1.043641
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.176	0.157	0.165	0.182	0.2	4.230391944	1.024399843
Potassium	0.0157	0.0145	0.0188	0.0204	0.2	0.377168	0.237873
Sodium	<0.167	0.169	0.3	<0.167	4	<	<
Sulphate	0.698	0.67	0.709	0.691	1	16.741116	1.013639

Station #  
Station Name  
Sample Date  
PM Size(µm)  
Total Air Volume (M3)

Unit  
Particulate Matter  
Ammonium (as N)  
Calcium  
Chloride  
Magnesium  
Nitrate  
Potassium  
Sodium  
Sulphate



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL		
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		Lab Blank Filter	Travel Blank Filters
Sample Date	30-Mar	30-Mar	30-Mar	30-Mar		30-Mar	30-Mar
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	13.02083333	6.347222222	9.166666667	2.798611111	1	312.5	-25.5
Ammonium (as N)	0.556	0.352	0.453	0.322	0.5	13.34005089	<
Calcium	0.0938	0.351	0.296	0.301	2	2.25015	6.182555
Chloride	0.234	0.149	0.196	0.106	0.4	5.61466	0.833627
Magnesium	0.0539	<0.0417	<0.0417	<0.0417	1	1.294372	<
Nitrate	0.239	0.341	0.268	0.242	0.2	5.738536158	0.644992494
Potassium	0.0197	0.0259	0.139	0.0154	0.2	0.473603	<
Sodium	0.238	0.184	0.28	0.205	4	5.723953	<
Sulphate	2.57	1.89	1.77	1.29	1	61.76126	<

Station #  
Station Name  
Sample Date  
PM Size(µm)  
Total Air Volume (M3)

Unit  
Particulate Matter  
Ammonium (as N)  
Calcium  
Chloride  
Magnesium  
Nitrate  
Potassium  
Sodium  
Sulphate





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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	05-Apr	05-Apr	05-Apr	05-Apr		05-Apr	05-Apr
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	5.42	3.88	8.79	4.25	1	130	-9
Ammonium (as N)	0.333	0.44	0.399	0.32	0.5	7.994050446	<
Calcium	<0.0833	0.201	0.109	0.124	2	<	2.194432
Chloride	0.0395	0.0341	0.112	0.028	0.4	0.947206	0.655758
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.113	0.161	0.155	0.0783	0.2	2.712762547	1.90652193
Potassium	0.0214	0.0221	0.0214	0.0401	0.2	0.51432	<
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.894	1.32	1.15	0.93	1	21.453573	<

Station #	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 16
Station Name	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Muskeg River
Sample Date	05-Apr	05-Apr	05-Apr	05-Apr	05-Apr	05-Apr
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	23.9	24.003	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	9.92	15.5	5.17	23.13	18.4	17.1
Ammonium (as N)	0.437	0.543	0.365	0.654	0.315	0.311
Calcium	0.217	0.168	0.104	0.182	0.299	0.18
Chloride	0.473	0.918	0.0407	0.0371	0.14	0.0516
Magnesium	<0.0417	0.056	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.225	0.327	0.135	0.134	0.249	0.198
Potassium	0.0289	0.0486	0.0195	0.0108	0.0197	0.0153
Sodium	0.371	0.678	<0.167	<0.167	<0.167	<0.167
Sulphate	1.27	1.7	1.03	2.08	0.93	0.921



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	11-Apr	11-Apr	11-Apr	11-Apr		11-Apr	11-Apr
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	26.016	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	1.77	2.58	3.54	1.458333333	1	46	23
Ammonium (as N)	0.218	0.265	0.21	0.26	0.5	5.681996738	<
Calcium	<0.0769	0.11	0.117	<0.0833	2	<	<
Chloride	0.0324	0.0281	0.0834	0.019912042	0.4	0.842199	0.745764
Magnesium	<0.0384	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.187	0.251	0.231	0.116983933	0.2	4.856414071	1.223588701
Potassium	0.0372	0.0989	0.0207	0.008929167	0.2	0.968636	<
Sodium	<0.154	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.804	0.846	0.764	0.797999625	1	20.911394	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Muskeg River
Sample Date	11-Apr	11-Apr	11-Apr	11-Apr	11-Apr	11-Apr	11-Apr
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24.005	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	16.5	8.63	13.3	3.457612997	10.21	14.5	27.9
Ammonium (as N)	0.336	0.263	0.232	0.28852157	0.263	0.279	0.134
Calcium	0.148	0.154	0.136	<0.0690	<0.0833	0.0982	0.294
Chloride	0.0683	0.122	0.54	0.031162792	0.0432	0.119	0.0794
Magnesium	0.0429	<0.0417	0.0491	<0.0345	<0.0417	<0.0417	<0.0417
Nitrate	0.366	0.268	0.355	0.130816492	0.162	0.181	0.242
Potassium	0.0481	0.0226	0.0379	0.014733125	0.0129	0.034	0.0694
Sodium	<0.167	<0.167	0.401	<0.138	<0.167	<0.167	<0.167
Sulphate	1.27	0.927	0.893	0.83201975	0.909	0.794	0.965



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Station #	AMS 6	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Patricia McInnes	Anzac			
Sample Date	17-Apr	17-Apr		17-Apr	17-Apr
PM Size(µm)	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24.1			24
Unit	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	5.71	6.72	1	60	12
Ammonium (as N)	0.491	0.496	0.5	<	<
Calcium	<0.0833	0.284	2	<	<
Chloride	0.132	0.0239	0.4	0.595754	<
Magnesium	<0.0417	<0.0415	1	<	<
Nitrate	0.23	0.21	0.2	2.153136707	1.185647967
Potassium	0.032	0.0187	0.2	0.432886	<
Sodium	<0.167	<0.166	4	<	<
Sulphate	1.47	1.54	1	4.755317	<

Station #	AMS 1	AMS 6	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	17-Apr	17-Apr	17-Apr	17-Apr	17-Apr	17-Apr	17-Apr
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	2.5	14.8	6.08	44.08	28	14.9	9.08
Ammonium (as N)	<0.0208	0.461	0.518	0.414	0.517	0.507	0.436
Calcium	<0.0833	<0.0833	0.146	1.27	0.461	0.175	0.169
Chloride	0.0248	0.248	0.0322	0.0519	0.0414	0.0327	0.0262
Magnesium	<0.0417	<0.0417	<0.0417	0.0424	<0.0417	<0.0417	<0.0417
Nitrate	0.0897	0.288	0.149	0.258	0.238	0.235	0.209
Potassium	0.018	0.501	0.0379	0.0612	0.0471	0.0303	0.036
Sodium	<0.167	0.221	<0.167	0.191	<0.167	<0.167	<0.167
Sulphate	0.198	1.43	1.55	1.47	1.52	1.48	1.29



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Station #	AMS 6	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Patricia McInnes	Anzac			
Sample Date	23-Apr	23-Apr		23-Apr	23-Apr
PM Size(µm)	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24.001			24
Unit	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	4.25	3.25	1	102	6
Ammonium (as N)	0.343	0.316	0.5	8.22192912	<
Calcium	<0.0833	0.135	2	<	2.215862
Chloride	0.0196	<0.0167	0.4	0.47146	<
Magnesium	<0.0417	<0.0417	1	<	<
Nitrate	0.113	0.064	0.2	2.712762547	0.967488741
Potassium	0.0346	0.0129	0.2	0.829341	<
Sodium	<0.167	<0.167	4	<	<
Sulphate	1.08	0.931	1	26.011734	<

Station #	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	23-Apr	23-Apr	23-Apr	23-Apr	23-Apr	23-Apr	23-Apr
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	22.2	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	16.1	20	4.46	41.54	21	18.5	27.6
Ammonium (as N)	0.327	0.292	0.331	0.317	0.338	0.313	0.333
Calcium	0.0874	0.159	0.191	0.53	0.427	0.151	0.514
Chloride	0.774	0.371	0.259	0.105	0.0377	0.0294	0.0436
Magnesium	<0.0417	0.0478	<0.0417	0.0472	<0.0417	<0.0417	0.0421
Nitrate	0.142	0.185	0.23	0.145	0.199	0.14	0.128
Potassium	0.0346	0.0542	0.0301	0.0342	0.0498	0.0245	0.0165
Sodium	0.517	0.262	0.186	0.39	<0.167	<0.167	<0.167
Sulphate	1.02	1.06	1.4	1.66	1.08	1.07	1.13



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	29-Apr	29-Apr	29-Apr	29-Apr		29-Apr	29-Apr
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	4.79	0.542	4.04	2.5	1	115	9
Ammonium (as N)	0.194	<0.0208	0.0907	0.111	0.5	4.645730939	<
Calcium	<0.0833	<0.0833	<0.0833	0.125	2	<	3.883116
Chloride	<0.0167	0.0486	0.0353	0.0234	0.4	<	0.482175
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.117	0.115	0.0664	0.0585	0.2	2.817099568	0.834696168
Potassium	0.0224	0.00946	0.0108	0.0122	0.2	0.537893	<
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.601	0.0897	0.26	0.349	1	14.42239	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	29-Apr	29-Apr	29-Apr	29-Apr	29-Apr	29-Apr	29-Apr	29-Apr
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	22.9	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	11.5	10.1	28.8	10.8	49.5	6.13	28.3	37.2
Ammonium (as N)	0.201	0.0903	0.157	0.0932	0.187	0.216	0.238	0.203
Calcium	<0.0833	0.109	0.52	0.122	1.14	0.275	0.132	0.815
Chloride	0.0563	0.0888	0.267	0.0482	0.0903	0.026	0.062	0.11
Magnesium	<0.0417	<0.0417	0.0903	<0.0417	0.0985	<0.0417	<0.0417	0.0767
Nitrate	0.138	0.147	0.23	0.107	0.145	0.109	0.184	0.175
Potassium	0.0489	0.0364	0.0684	0.0251	0.0421	0.0242	0.0289	0.0291
Sodium	<0.167	<0.167	0.193	<0.167	0.256	<0.167	<0.167	<0.167
Sulphate	0.637	0.355	0.566	0.423	1.09	0.617	0.847	0.811



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL		
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		Lab Blank Filter	Travel Blank Filters
Sample Date	05-May	05-May	05-May	05-May		05-May	05-May
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	25.037	24	24	24			24.001
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	4.27	3.08	9.58	2.5	1	107	8
Ammonium (as N)	0.285	0.178	0.123	0.132	0.5	7.124119446	<
Calcium	<0.0799	<0.0833	<0.0833	<0.0833	2	<	<
Chloride	<0.0160	<0.0167	0.0416	0.0179	0.4	<	<
Magnesium	<0.0399	<0.0417	0.0421	<0.0417	1	<	<
Nitrate	0.0421	0.0427	0.0972	0.0676	0.2	1.052855394	0.246614777
Potassium	0.0176	0.0137	0.0192	0.0223	0.2	0.441458	0.2143
Sodium	<0.160	<0.167	<0.167	<0.167	4	<	<
Sulphate	1.06	0.585	0.454	0.497	1	26.603202	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	05-May	05-May	05-May	05-May	05-May	05-May	05-May	05-May
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	22.6	23.5	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	11	8.92	24.2	2.34	8.29	10.5	9.21	11.4
Ammonium (as N)	0.283	0.184	0.139	0.166	0.199	0.341	0.217	0.281
Calcium	<0.0833	<0.0833	0.163	<0.0851	0.13	0.109	<0.0833	0.311
Chloride	<0.0167	0.0279	0.101	<0.0170	<0.0167	<0.0167	<0.0167	0.0246
Magnesium	<0.0417	<0.0417	<0.0442	<0.0426	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.106	0.117	0.0932	0.0283	0.0668	0.0901	0.0751	0.0925
Potassium	0.0165	0.0197	0.0211	0.0148	0.0148	0.014	0.0148	0.0154
Sodium	<0.167	<0.167	<0.177	<0.170	<0.167	<0.167	<0.167	<0.167
Sulphate	1.08	0.646	0.461	0.499	0.675	1.15	0.687	0.871



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	11-May	11-May	11-May	11-May		11-May	11-May
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	2.42	3.83	3.79	2.63	1	58	20
Ammonium (as N)	0.123	0.153	0.228	0.169	0.5	2.94745264	<
Calcium	<0.0833	<0.0833	<0.0833	<0.0833	2	<	<
Chloride	0.0243	<0.0167	<0.0167	<0.0167	0.4	0.582896	<
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.0632	0.0308	0.0336	0.0213	0.2	1.517629397	<
Potassium	0.0281	0.021	0.0148	0.0119	0.2	0.675045	0.205728
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.458	0.514	0.711	0.522	1	10.997876	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	11-May	11-May	11-May	11-May	11-May	11-May	11-May	11-May
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	8.88	13.1	10.5	4.71	11	5.33	3.42	13.7
Ammonium (as N)	0.264	0.155	0.174	0.174	0.222	0.114	0.114	0.12
Calcium	0.155	<0.0833	<0.0833	<0.0833	<0.0833	<0.0833	<0.0833	<0.0833
Chloride	0.153	0.0468	0.053	<0.0167	0.0266	<0.0167	0.0167	0.0293
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.466	0.0688	0.0557	0.0451	0.085	0.0407	0.053	0.0458
Potassium	0.104	0.0216	0.0193	0.0127	0.0216	0.0124	0.0136	0.0387
Sodium	0.326	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	1.65	0.503	0.587	0.613	0.652	0.375	0.408	0.457



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	17-May	17-May	17-May	17-May		17-May	17-May
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.42	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	7.17	7.71	8.13	4.71	1	175	47
Ammonium (as N)	0.29	0.282	0.297	0.267	0.5	7.080872398	<
Calcium	<0.0819	0.17	<0.0833	0.122	2	<	2.104426
Chloride	<0.0164	<0.0167	0.0184	0.023	0.4	<	0.563609
Magnesium	<0.0410	<0.0417	0.0418	<0.0417	1	<	<
Nitrate	0.0365	0.0348	0.0498	0.0249	0.2	0.891607271	0.986459108
Potassium	0.0144	0.0257	0.0226	0.013	0.2	0.351452	0.252874
Sodium	<0.164	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.955	0.954	1.07	0.923	1	23.309411	1.255798

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	17-May	17-May	17-May	17-May	17-May	17-May	17-May	17-May
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24.01	24	24	24	22.6
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	29	21.8	20.6	9.29	61.8	21.6	7.46	37.6
Ammonium (as N)	0.3	0.26	0.292	0.262	0.232	0.329	0.17	0.172
Calcium	0.345	0.198	0.0854	0.0968	0.284	0.187	0.0961	0.461
Chloride	0.0247	0.0451	0.0462	<0.0167	0.0799	0.0198	<0.0167	0.0549
Magnesium	0.0473	<0.0417	0.0453	<0.0416	<0.0417	0.0459	<0.0417	0.0549
Nitrate	0.158	0.118	0.0992	0.06	0.23	0.107	0.0466	0.134
Potassium	0.0197	0.0338	0.0232	0.0157	0.0311	0.0242	0.0133	0.0184
Sodium	<0.166	<0.167	<0.167	<0.167	0.195	<0.167	<0.167	<0.177
Sulphate	1.19	0.959	1.05	0.965	1.17	1.18	0.589	0.751





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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	23-May	23-May	23-May	23-May		23-May	23-May
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	10.8	6.54	6.83	5.92	1	258	8
Ammonium (as N)	0.325	0.103	0.101	0.149	0.5	7.789458643	<
Calcium	<0.0833	0.164	<0.0833	0.161	2	<	3.36451
Chloride	<0.0167	<0.0167	<0.0167	<0.0167	0.4	<	<
Magnesium	<0.0417	<0.0417	0.0439	<0.0417	1	<	<
Nitrate	0.195	0.047	0.142	0.0553	0.2	4.685680764	0.22764441
Potassium	0.0271	0.0149	0.0164	0.0163	0.2	0.651472	1.459383
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	1.17	0.398	0.411	0.479	1	28.006867	1.341518

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	23-May	23-May	23-May	23-May	23-May	23-May	23-May	23-May
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24.007	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	45.2	22.5	30.8	15.8	68	37.3	7.75	51
Ammonium (as N)	0.342	0.106	0.112	0.153	0.109	0.388	0.0405	0.209
Calcium	0.423	0.213	0.171	0.166	0.735	0.467	0.084	0.669
Chloride	0.0549	0.0623	0.0991	0.0207	0.063	0.035	<0.0167	0.0496
Magnesium	0.056	<0.0417	0.0514	<0.0417	0.0622	<0.0417	<0.0417	0.0626
Nitrate	0.156	0.134	0.134	0.143	0.108	0.196	0.066	0.242
Potassium	0.0281	0.0218	0.0268	0.0234	0.028	0.0408	0.0172	0.0265
Sodium	<0.167	<0.167	<0.167	<0.167	0.176	<0.167	<0.167	<0.167
Sulphate	1.29	0.409	0.442	0.62	0.725	1.49	0.223	1.19



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	29-May	29-May	29-May	29-May		29-May	29-May
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.665	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	3.31	4.4	3.53	2.36	1	81.66666667	13
Ammonium (as N)	0.113	0.136	0.205	0.0875	0.5	2.777791145	<
Calcium	<0.0811	<0.0833	<0.0833	<0.0833	2	<	3.053775
Chloride	<0.0162	<0.0167	<0.0167	<0.0167	0.4	<	<
Magnesium	<0.0405	<0.0417	0.0471	<0.0417	1	<	<
Nitrate	0.0277	0.066	0.0968	<0.00833	0.2	0.682933229	0.891607271
Potassium	0.0129	0.0263	0.02	0.0109	0.2	0.319307	0.308592
Sodium	<0.162	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.442	0.531	0.58	0.315	1	10.90787	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	29-May	29-May	29-May	29-May	29-May	29-May	29-May	29-May
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	6.08	7.58	6.25	2.86	6.93	6.75	6.72	12.3
Ammonium (as N)	0.0914	0.152	0.136	0.0722	0.118	0.0787	<0.0208	0.0748
Calcium	<0.0833	<0.0833	<0.0833	<0.0833	<0.0833	<0.0833	<0.0833	<0.0833
Chloride	<0.0167	0.0211	0.0217	<0.0167	0.0223	<0.0167	0.0246	0.0231
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.0162	0.0344	0.0522	0.0134	0.0269	0.0269	0.147	0.0873
Potassium	0.0149	0.018	0.0218	0.0146	0.0258	0.0187	0.541	0.443
Sodium	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.352	0.576	0.567	0.287	0.525	0.338	0.24	0.388



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	04-Jun	04-Jun	04-Jun	04-Jun		04-Jun	04-Jun
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.474	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	2.41	6.29	4.25	3.22	1	59	11.7
Ammonium (as N)	0.026	0.364	0.397	0.282	0.5	0.637062281	<
Calcium	<0.0817	0.0837	<0.0833	<0.0833	2	<	4.888183
Chloride	0.0232	0.0241	<0.0167	0.0171	0.4	0.567895	0.430743
Magnesium	<0.0409	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.0647	0.0759	0.0506	0.0526	0.2	1.584025683	1.697847888
Potassium	0.0138	0.019	0.012	0.00955	0.2	0.338594	0.216443
Sodium	<0.163	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.117	1.14	1.26	0.874	1	2.867334	1.133647

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Fort McKay South	Horizon	Muskeg River
Sample Date	04-Jun	04-Jun	04-Jun	04-Jun	04-Jun	04-Jun	04-Jun
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	5.33	9.88	9.08	6.25	4.17	4.63	18.3
Ammonium (as N)	0.03	0.388	0.407	0.297	0.0344	0.0857	0.0247
Calcium	<0.0833	<0.0833	<0.0833	<0.0833	<0.0833	<0.0833	0.26
Chloride	0.025	0.0229	0.0244	0.0233	0.0229	0.0223	0.039
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.101	0.106	0.117	0.0964	0.0881	0.0794	0.107
Potassium	0.0273	0.0345	0.0288	0.0371	0.0263	0.0162	0.0233
Sodium	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.166	1.24	1.37	0.934	0.146	0.311	0.162



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	10-Jun	10-Jun	10-Jun	10-Jun		10-Jun	10-Jun
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	23.975	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	4.5	6	5.21	4.29	1	108	12.7
Ammonium (as N)	0.122	0.194	0.177	0.137	0.5	2.935809204	<
Calcium	0.119	0.244	0.138	0.0995	2	2.85019	3.730963
Chloride	0.0231	0.0172	0.0179	0.0196	0.4	0.552894	0.940777
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.0768	0.0656	0.0672	0.0901	0.2	1.840125644	1.5745405
Potassium	0.0236	0.0364	0.0241	0.0243	0.2	0.565752	0.240016
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	1.51	0.681	0.588	0.458	1	36.090263	1.039355

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun	10-Jun
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	13.7	14.2	20.1	10.6	12.9	14.9	10.7	23.1
Ammonium (as N)	0.157	0.218	0.145	0.136	0.202	0.154	0.173	0.164
Calcium	0.774	0.585	0.664	0.233	0.711	0.428	0.578	1.31
Chloride	0.0307	0.0505	0.0348	0.0274	0.0278	0.0305	0.0309	0.042
Magnesium	<0.0417	0.0529	0.0457	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.133	0.226	0.17	0.176	0.197	0.132	0.135	0.154
Potassium	0.0386	0.0492	0.0368	0.0555	0.0358	0.0418	0.0324	0.0416
Sodium	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.595	0.745	0.603	0.495	0.818	0.565	0.652	0.759



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	16-Jun	16-Jun	16-Jun	16-Jun		16-Jun	16-Jun
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	8.75	6.5	8.46	3.96	1	210	8
Ammonium (as N)	0.134	0.0679	0.0755	0.0965	0.5	3.205271579	<
Calcium	0.344	0.152	0.263	0.121	2	8.252693	4.667454
Chloride	<0.0167	<0.0167	<0.0167	0.0531	0.4	<	0.417885
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.111	0.079	0.0636	0.0652	0.2	2.665336629	1.204618334
Potassium	0.036	0.0291	0.0217	0.0201	0.2	0.863629	0.36431
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.665	0.236	0.289	0.322	1	15.954635	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	16-Jun	16-Jun	16-Jun	16-Jun	16-Jun	16-Jun	16-Jun	16-Jun
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24.009	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	42.6	24.8	43	10.1	147	29.8	52.9	55
Ammonium (as N)	0.108	0.0925	0.0636	0.101	0.0852	0.155	0.12	0.0557
Calcium	2.73	1.3	1.71	0.334	2.47	1.38	2.36	3.12
Chloride	0.0563	0.114	0.134	0.0182	0.15	0.0413	0.0783	0.0755
Magnesium	0.0754	0.0491	0.0968	<0.0417	0.266	<0.0417	0.127	0.0912
Nitrate	0.277	0.125	0.155	0.0841	0.204	0.208	0.308	0.279
Potassium	0.0213	0.29	0.0426	0.0328	0.0922	0.0627	0.047	0.0246
Sodium	<0.167	0.206	<0.167	<0.167	0.696	<0.167	<0.167	<0.167
Sulphate	0.642	0.444	0.327	0.333	1.05	0.607	0.675	0.496



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Station #	AMS 1	AMS 6	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Anzac			
Sample Date	22-Jun	22-Jun	22-Jun		22-Jun	22-Jun
PM Size(µm)	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	23.835	24	24			24
Unit	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	6.08	11.6	8.33	1	145	6
Ammonium (as N)	0.129	0.857	0.557	0.5	3.08052048	<
Calcium	0.148	0.104	<0.0833	2	3.529521	2.374444
Chloride	<0.0168	<0.0167	0.0198	0.4	<	<
Magnesium	<0.0420	<0.0417	<0.0417	1	<	<
Nitrate	0.0848	0.0806	0.17	0.2	2.020344135	1.289984988
Potassium	0.0423	0.0212	0.0363	0.2	1.009353	<
Sodium	<0.168	<0.167	<0.167	4	<	<
Sulphate	0.397	2.86	1.78	1	9.452773	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	22-Jun	22-Jun	22-Jun	22-Jun	22-Jun	22-Jun	22-Jun	22-Jun
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	12.1	19.3	23.3	14.8	16	13.3	11.4	24
Ammonium (as N)	0.139	0.896	0.667	0.568	0.224	0.114	0.143	0.11
Calcium	0.267	0.363	0.416	0.0937	0.174	0.106	0.151	1.12
Chloride	0.0181	0.0286	0.0235	0.02	0.0196	0.0182	0.0299	0.0249
Magnesium	<0.0417	<0.0417	0.0449	<0.0417	<0.0417	<0.0417	<0.0417	0.0555
Nitrate	0.244	0.186	0.256	0.132	0.245	0.1	0.118	0.126
Potassium	0.165	0.0581	0.0937	0.111	0.172	0.122	0.0765	0.0588
Sodium	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.441	3.14	2.32	1.88	0.695	0.39	0.433	0.46



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Station #	AMS 1	AMS 6	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Anzac			
Sample Date	28-Jun	28-Jun	28-Jun		28-Jun	28-Jun
PM Size(µm)	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	6.21	12	11	1	149	3.67
Ammonium (as N)	0.176	0.702	0.582	0.5	4.218250506	<
Calcium	0.131	0.0943	0.0863	2	3.133066	2.755898
Chloride	<0.0167	0.0187	<0.0167	0.4	<	<
Magnesium	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.0783	0.113	0.137	0.2	1.878066379	1.897036746
Potassium	0.0304	0.044	0.0589	0.2	0.72862	<
Sodium	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.514	2.33	1.81	1	12.345823	1.024354

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	28-Jun	28-Jun	28-Jun	28-Jun	28-Jun	28-Jun	28-Jun	28-Jun
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	19.3	34.5	29.2	21.5	26.8	14.4	28.9	43.3
Ammonium (as N)	0.165	0.651	0.294	0.53	0.464	0.163	0.276	0.142
Calcium	1	0.944	0.511	0.49	1.12	0.32	0.611	1.92
Chloride	0.0185	0.0515	0.0177	0.0192	0.032	<0.0167	0.0302	0.0328
Magnesium	<0.0417	0.0709	<0.0417	0.0594	<0.0417	<0.0417	0.0845	0.0491
Nitrate	0.133	0.377	0.208	0.229	0.303	0.153	0.201	0.23
Potassium	0.143	0.0507	0.0384	0.0381	0.0436	0.0618	0.0657	0.0588
Sodium	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.566	2.3	1.04	1.77	1.61	0.653	1.02	0.672



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	03-Jul	03-Jul	03-Jul	03-Jul		03-Jul	03-Jul
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	23.283	24	20	24.01			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	5.11	2	4.55	2.79	1	119	<
Ammonium (as N)	0.315	0.103	0.138	0.179	0.5	7.333701293	<
Calcium	<0.0859	<0.0833	0.315	<0.0833		<	<
Chloride	<0.0172	<0.0167	<0.0200	0.0531	0.4	<	1.810835
Magnesium	<0.0429	<0.0417	<0.0500	<0.0416	1	<	<
Nitrate	0.194	0.174	0.258	0.171	0.2	4.52443264	3.575914267
Potassium	0.0517	0.0106	0.0251	0.01	0.2	1.204366	<
Sodium	<0.172	<0.167	<0.200	<0.167	4	<	<
Sulphate	0.502	0.184	<0.0500	<0.0416	1	11.683636	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	03-Jul	03-Jul	03-Jul	03-Jul	03-Jul	03-Jul	03-Jul	03-Jul
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	20	24	24.01	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	8.88	9	11	10.3	12.6	6.54	6.92	34.9
Ammonium (as N)	0.21	0.136	0.153	0.164	0.202	0.114	0.174	0.186
Calcium	0.252	0.499	0.716	0.762	0.895	0.149	0.292	2.23
Chloride	0.0227	0.0305	0.134	0.0182	0.15	0.0413	0.0783	<0.0167
Magnesium	<0.0417	<0.0500	<0.0417	<0.0416	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.196	0.253	0.21	0.211	0.234	0.234	0.21	<0.00833
Potassium	0.0631	0.0341	0.0327	0.0198	0.0466	0.0251	0.053	0.0256
Sodium	<0.167	<0.200	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.321	0.228	<0.0417	<0.0416	<0.0417	<0.0417	<0.0417	<0.0417





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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL		
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		Lab Blank Filter	Travel Blank Filters
Sample Date	09-Jul	09-Jul	09-Jul	09-Jul		09-Jul	09-Jul
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	7.21	16.2	17.2	9.25	1	173	<
Ammonium (as N)	0.155	0.272	0.288	0.0988	0.5	3.720909456	<
Calcium	<0.0833	<0.0833	<0.0833	<0.0833		<	<
Chloride	<0.0167	<0.0167	<0.0167	0.0198	0.4	<	<
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.72	0.126	0.0806	0.0601	0.2	17.28200476	0.958003557
Potassium	0.0118	0.0229	0.0201	<0.00833	0.2	0.282876	<
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.159	0.359	0.386	0.209	1	3.805968	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	09-Jul	09-Jul	09-Jul	09-Jul	09-Jul	09-Jul	09-Jul	09-Jul
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	18.5	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	34.9	31.6	16.8	12.5	30.3	13.5	22.8	30
Ammonium (as N)	0.12	0.293	0.165	0.137	0.535	0.154	0.107	0.166
Calcium	1.96	1.43	0.657	0.158	1.25	<0.0833	0.726	1.72
Chloride	0.0235	0.0286	0.0235	0.02	0.0196	0.0182	0.0299	0.0249
Magnesium	<0.0541	0.0856	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.256	0.11	0.128	0.101	0.138	0.108	0.0866	0.117
Potassium	0.0299	0.0587	0.0265	0.0195	0.0127	0.0241	0.0146	0.0243
Sodium	<0.216	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.326	0.435	0.303	0.22	1.38	0.247	0.289	0.402



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	15-Jul	15-Jul	15-Jul	15-Jul		15-Jul	15-Jul
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	23.8	21	21.9	19.8	1	572	9
Ammonium (as N)	0.415	0.596	0.49	0.533	0.5	9.955137727	<
Calcium	0.383	0.191	0.236	0.093		9.197756	<
Chloride	<0.0167	0.0187	0.0222	<0.0167	0.4	<	<
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.0605	0.0968	0.11	0.096	0.2	1.451233111	1.204618334
Potassium	0.0538	0.0327	0.0589	0.052	0.2	1.290086	<
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.72	1.23	0.991	0.89	1	17.268294	1.397236

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	15-Jul	15-Jul	15-Jul	15-Jul	15-Jul	15-Jul	15-Jul	15-Jul
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	21.4	24	24	24.01	22.8	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	41.9	50.4	48	30.6	61.4	31.2	32.3	53.2
Ammonium (as N)	0.401	0.566	0.625	0.432	0.355	0.308	0.268	0.229
Calcium	3.41	3.13	3.03	1.13	5.07	1.05	1.42	3.74
Chloride	0.0207	0.0515	0.0177	0.0192	0.0336	<0.0167	0.0302	0.0328
Magnesium	0.0472	0.165	<0.0417	<0.0416	<0.0439	<0.0417	<0.0417	<0.0417
Nitrate	0.168	0.312	0.355	0.157	0.361	0.155	0.136	0.268
Potassium	0.0616	0.0259	0.124	0.0349	0.0683	0.0652	0.0507	0.0728
Sodium	<0.187	<0.167	<0.167	<0.167	<0.175	<0.167	<0.167	<0.167
Sulphate	0.79	1.54	1.23	0.971	1.12	0.651	0.591	0.661



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL		
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		Lab Blank Filter	Travel Blank Filters
Sample Date	21-Jul	21-Jul	21-Jul	21-Jul		21-Jul	21-Jul
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	23.021	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	38.7	17.1	30.6	31.8	1	892	32
Ammonium (as N)	1.76	0.681	<0.0208	0.793	0.5	40.45594984	<
Calcium	0.546	0.186	<0.0833	0.736		12.577267	<
Chloride	<0.0174	0.0187	0.0222	<0.0167	0.4	<	<
Magnesium	<0.0434	<0.0417	<0.0417	0.0577	1	<	<
Nitrate	0.133	0.0838	0.079	0.28	0.2	3.054229162	0.730359147
Potassium	0.126	0.0931	<0.00833	0.133	0.2	2.905908	<
Sodium	<0.174	<0.167	<	<0.167	4	<	<
Sulphate	3.29	0.994	1.04	1.17	1	75.688617	1.287943

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	21-Jul	21-Jul	21-Jul	21-Jul	21-Jul	21-Jul	21-Jul	21-Jul
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	69.8	94.3	57.8	62.1	99.8	57.5	55	59.5
Ammonium (as N)	1.46	0.7	0.715	0.736	0.792	1.15	1.13	1.18
Calcium	4.69	2.12	3.18	3.74	6.68	3.53	3.12	4.11
Chloride	0.0185	0.0515	0.0177	0.0192	0.032	<0.0167	0.0302	0.0328
Magnesium	0.137	0.149	0.19	0.185	0.15	0.131	0.0913	0.132
Nitrate	0.33	0.35	0.208	0.181	0.264	0.262	0.225	0.253
Potassium	0.161	0.129	0.152	0.131	0.155	0.141	0.127	0.145
Sodium	<0.167	<0.167	<0.167	<0.167	0.286	<0.167	<0.167	<0.167
Sulphate	3.15	1.26	1.24	1.04	1.95	2.68	2.23	2.42



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	28-Jul	28-Jul	28-Jul	28-Jul		28-Jul	28-Jul
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	11.6	7.75	7.25	6.04	1	279	6
Ammonium (as N)	0.731	0.248	0.272	0.271	0.5	17.53335118	<
Calcium	0.251	<0.0833	0.736	0.736		6.013258	17.664749
Chloride	<0.0167	0.0187	0.0222	<0.0167	0.4	<	<
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.0407	0.0648	0.0454	0.0786	0.2	0.976973924	0.948518373
Potassium	0.0479	0.0332	0.0336	0.0178	0.2	1.148648	0.233587
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	1.28	0.365	0.416	0.411	1	30.647043	1.320088

Station #	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	28-Jul	28-Jul	28-Jul	28-Jul	28-Jul	28-Jul	28-Jul
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	17.5	21.8	13.9	29.7	24	13.6	40.3
Ammonium (as N)	0.257	0.263	0.258	0.314	0.608	0.271	1.08
Calcium	1.2	0.736	0.736	0.736	0.736	0.736	0.736
Chloride	0.0515	0.0177	0.0192	0.032	<0.0167	0.0302	0.0328
Magnesium	0.0751	0.0816	<0.0417	0.0643	0.0519	<0.0417	0.105
Nitrate	0.0826	0.116	0.0703	0.209	0.118	0.0743	0.21
Potassium	0.0436	0.0653	0.049	0.0563	0.0825	0.0471	0.089
Sodium	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.396	0.506	0.415	0.62	1.15	0.411	2.3



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL		
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		Lab Blank Filter	Travel Blank Filters
Sample Date	03-Aug	03-Aug	03-Aug	03-Aug		03-Aug	03-Aug
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	45.2	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	68.6	12.6	10.8	12.3	1	3102	6
Ammonium (as N)	0.928	0.352	0.369	0.357	0.5	41.9413196	<
Calcium	0.055	<0.0833	<0.0833	<0.0833	2	2.488023	<
Chloride	0.026	0.0229	0.0444	0.0329	0.4	1.174364	0.752193
Magnesium	<0.0221	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.975	0.204	0.235	0.205	0.2	44.0776488	4.581343743
Potassium	0.229	0.0305	0.0507	0.0638	0.2	10.348547	<
Sodium	<0.0885	<0.167	<0.167	<0.167	4	<	<
Sulphate	2.11	0.91	0.99	0.88	1	95.511367	2.537312

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon
Sample Date	03-Aug	03-Aug	03-Aug	03-Aug	03-Aug	03-Aug	03-Aug
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	41.2	23.8	23.8	19.5	71.2	24.8	33.8
Ammonium (as N)	0.789	0.344	0.308	0.36	0.495	0.722	0.479
Calcium	1.56	0.587	0.181	<0.0833	3.28	0.241	0.508
Chloride	0.0374	0.0569	0.0454	0.0465	0.171	0.0447	0.0404
Magnesium	0.0705	0.103	0.0618	<0.0417	0.137	<0.0417	0.063
Nitrate	0.304	0.221	0.219	0.216	0.34	0.287	0.239
Potassium	0.0966	0.0493	0.0576	0.0738	0.103	0.117	0.0838
Sodium	<0.167	<0.167	<0.167	<0.167	0.241	<0.167	<0.167
Sulphate	2.42	1	0.857	0.947	1.98	2.11	1.39



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	09-Aug	09-Aug	09-Aug	09-Aug		09-Aug	09-Aug
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.1	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	5.98	5.75	9.25	5	1	144	<
Ammonium (as N)	0.236	0.347	0.494	0.261	0.5	5.69696687	<
Calcium	<0.0830	<0.0833	<0.0833	<0.0833	2	<	<
Chloride	0.0203	<0.0167	0.0202	0.0189	0.4	0.488604	0.465031
Magnesium	<0.0415	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.187735794	0.184	0.203	0.194	0.2	4.52443264	4.733106682
Potassium	0.0308	0.0363	0.0528	0.0338	0.2	0.741478	1.131504
Sodium	<0.166	<0.167	<0.167	<0.167	4	<	6.083977
Sulphate	0.616	0.876	1.34	0.686	1	14.833846	2.717324

Station #	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	09-Aug	09-Aug	09-Aug	09-Aug	09-Aug	09-Aug	09-Aug
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	8.42	27.5	7.75	15.1	9.54	10.6	21.8
Ammonium (as N)	0.313	0.447	0.25	0.731	0.187	0.155	0.36
Calcium	<0.0833	0.538	<0.0833	<0.0833	<0.0833	<0.0833	0.643
Chloride	0.0228	0.0624	0.0252	0.025	0.0279	0.0214	0.0288
Magnesium	<0.0417	0.0928	<0.0417	<0.0417	<0.0417	<0.0417	0.0633
Nitrate	0.205	0.235	0.214	0.238	0.212	0.211	0.253
Potassium	0.0526	0.0915	0.0551	0.112	0.0666	0.0334	0.0683
Sodium	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.885	1.36	0.714	2.12	0.568	0.464	1.02



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	15-Aug	15-Aug	15-Aug	15-Aug		15-Aug	15-Aug
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	14.3	13.2	17.9	12.7	1	342	4
Ammonium (as N)	0.296	0.403	0.642	0.403	0.5	7.114139358	<
Calcium	<0.0833	<0.0833	<0.0833	<0.0833	2	<	<
Chloride	0.0547	0.0612	0.0563	0.0654	0.4	1.313659	1.352233
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.187332379	0.211	0.201	0.187	0.2	4.495977089	4.012232719
Potassium	0.0536	0.0655	0.0817	0.107	0.2	1.2858	<
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.71	0.993	1.72	0.935	1	17.043279	1.915842

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	15-Aug	15-Aug	15-Aug	15-Aug	15-Aug	15-Aug	15-Aug	15-Aug
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	39.1	43.6	51.3	22	106	35.4	22.2	86.1
Ammonium (as N)	0.315	0.463	0.628	0.335	0.501	0.331	0.141	0.665
Calcium	1.21	1.23	1.48	0.138	5.16	0.619	0.476	2.55
Chloride	0.0763	0.11	0.0958	0.0629	0.139	0.0713	0.0663	0.0917
Magnesium	0.0878	0.205	0.139	0.0643	0.218	0.0879	0.055	0.129
Nitrate	0.277	0.251	0.315	0.197	0.374	0.259	0.187	0.366
Potassium	0.0707	0.0862	0.11	0.106	0.0971	0.0548	0.0575	0.123
Sodium	<0.167	<0.167	<0.167	<0.167	0.273	<0.167	<0.167	<0.167
Sulphate	1.03	1.34	1.94	0.812	2.36	0.966	0.39	2.25



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	21-Aug	21-Aug	21-Aug	21-Aug		21-Aug	21-Aug
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	2.38	6.58	8.83	6.13	1	57	<
Ammonium (as N)	0.0437	0.388	0.45	0.395	0.5	1.047909234	<
Calcium	<0.0833	<0.0833	<0.0833	<0.0833	2	<	<
Chloride	<0.0167	<0.0167	<0.0167	<0.0167	0.4	<	<
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.167083333	0.179	0.168	0.168	0.2	4.01	3.670766104
Potassium	<0.00833	0.0459	0.0598	0.0292	0.2	<	<
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.234	0.985	1.17	0.995	1	5.627518	1.834408

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	21-Aug	21-Aug	21-Aug	21-Aug	21-Aug	21-Aug	21-Aug	21-Aug
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	21.6
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	9.71	20.4	30.9	11	29.9	7.17	13.5	23.6
Ammonium (as N)	0.0371	0.367	0.384	0.41	0.11	0.0418	0.0394	0.0484
Calcium	0.644	0.414	0.68	<0.0833	2.03	<0.0833	0.844	0.801
Chloride	0.0202	0.0612	0.0392	0.023	0.0669	0.0197	0.0305	0.0519
Magnesium	<0.0417	0.078	0.0976	<0.0417	0.101	<0.0417	0.0714	0.0741
Nitrate	0.183	0.237	0.247	0.223	0.266	0.182	0.182	0.208
Potassium	<0.00833	0.0634	0.0518	0.0669	0.0338	0.0162	<0.00833	0.0185
Sodium	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.185
Sulphate	0.302	1.06	1.13	1.1	0.553	0.219	0.265	0.4





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Station #	AMS 6	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Patricia McInnes	Anzac			
Sample Date	27-Aug	27-Aug		27-Aug	27-Aug
PM Size(µm)	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	1			24
Unit	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	4.42	<	1	327	<
Ammonium (as N)	0.0461	<0.500	0.5	3.782453332	<
Calcium	<0.0833	<2.00	2	<	<
Chloride	<0.0167	<0.400	0.4	0.441458	1.152934
Magnesium	<0.0417	<1.00	1	<	<
Nitrate	0.175	3.66	0.2	4.363184517	5.31170289
Potassium	<0.00833	<0.200	0.2	1.146505	<
Sodium	<0.167	<4.00	4	<	<
Sulphate	0.279	1.77	1	10.965731	2.350871

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	27-Aug	27-Aug	27-Aug	27-Aug	27-Aug	27-Aug	27-Aug	27-Aug
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	23.996	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	13.6	20.4	33.1	6.67	<	12.5	18.6	12.3
Ammonium (as N)	0.157	0.0769	0.11	0.0643	<0.0208	0.0934	0.117	0.202
Calcium	<0.0830	0.526	0.775	<0.0833	<0.0833	<0.0833	<0.0833	0.499
Chloride	0.0183	0.08	0.0625	<0.0167	<0.0167	<0.0167	0.0379	0.0304
Magnesium	<0.0415	0.112	0.105	<0.0417	<0.0417	<0.0417	<0.0417	0.0638
Nitrate	0.181	0.189	0.201	0.172	0.154	0.174	0.194	0.197
Potassium	0.0476	0.00946	0.0424	0.015	0.0316	0.0379	0.0445	0.0378
Sodium	<0.166	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.455	0.378	0.368	0.243	0.0793	0.294	0.382	0.666



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Station #	AMS 1	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Athabasca Valley	Anzac			
Sample Date	02-Sep	02-Sep	02-Sep		02-Sep	02-Sep
PM Size(µm)	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.1	24	24.003			24.1

Unit	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	2.86	7.75	4.42	1	69	8
Ammonium (as N)	0.113	0.499	0.473	0.5	2.726227358	<
Calcium	0.104	0.124	<0.0833	2	2.494452	<
Chloride	<0.0166	0.0192	<0.0167	0.4	<	<
Magnesium	<0.0415	<0.0417	<0.0417	1	<	<
Nitrate	0.0571	0.0711	0.062	0.2	1.375351641	1.631451602
Potassium	0.0124	0.0555	0.0336	0.2	0.30002	<
Sodium	<0.166	<0.167	<0.167	4	<	<
Sulphate	0.186	1.28	1.11	1	4.483156	<

Station #	AMS 1	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	02-Sep	02-Sep	02-Sep	02-Sep	02-Sep	02-Sep	02-Sep
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24

Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	8.17	17	10.5	15.2	5.88	7.5	12.7
Ammonium (as N)	0.097	0.46	0.478	1.13	0.0931	0.103	0.14
Calcium	0.564	0.978	0.17	0.457	0.151	0.11	0.753
Chloride	<0.0166	0.029	0.0175	<0.0168	0.0178	<0.0167	0.0172
Magnesium	<0.0415	0.0671	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.0775	0.123	0.102	0.13	0.0735	0.0743	0.11
Potassium	0.0213	0.0874	0.0743	0.169	0.0371	0.0325	0.02
Sodium	<0.166	<0.167	0.254	<0.167	<0.167	<0.167	<0.167
Sulphate	0.242	1.27	1.09	3.51	0.187	0.205	0.307



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL		
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		Lab Blank Filter	Travel Blank Filters
Sample Date	08-Sep	08-Sep	08-Sep	08-Sep		08-Sep	08-Sep
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	1.46	4.33	4.96	2	1	35	<
Ammonium (as N)	0.0285	0.505	0.159	0.117	0.5	0.683636024	<
Calcium	0.126	<0.0833	0.211	<0.0833	2	3.025916	2.320869
Chloride	0.0265	0.0277	0.0474	0.0287	0.4	0.636471	0.662187
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.0696	0.0854	0.121	0.0822	0.2	1.669392337	1.659907153
Potassium	<0.00833	0.0271	0.0264	<0.00833	0.2	<	<
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.0984	1.16	0.368	0.253	1	2.361586	20.307068

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	08-Sep	08-Sep	08-Sep	08-Sep	08-Sep	08-Sep	08-Sep	08-Sep
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	5.96	8.17	29.1	3.13	8.79	4.5	3.63	23.9
Ammonium (as N)	0.0516	0.223	0.145	0.0435	0.0483	0.0299	0.0852	0.0412
Calcium	0.742	0.403	1.43	0.114	0.557	0.315	0.132	1.2
Chloride	0.0476	0.0428	0.0671	0.0441	0.0589	0.0471	0.0385	0.0663
Magnesium	<0.0417	<0.0417	0.154	<0.0417	<0.0417	<0.0417	<0.0417	0.0984
Nitrate	0.0858	0.1	0.166	0.0826	0.0976	0.0909	0.0806	0.0949
Potassium	0.0131	0.0188	0.0294	0.0165	<0.00833	0.00875	<0.00833	0.0132
Sodium	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.275	0.516	0.434	0.153	0.746	0.116	0.202	0.223



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Station #	AMS 1	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Athabasca Valley	Anzac			
Sample Date	14-Sep	14-Sep	14-Sep		14-Sep	14-Sep
PM Size(µm)	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.1	24	24			24
Unit	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	9.09	15.6	7.63	1	219	0
Ammonium (as N)	0.447	0.26	0.234	0.5	10.7651882	<
Calcium	0.22	0.493	0.0905	2	5.303925	<
Chloride	0.0251	0.034	0.0292	0.4	0.604326	0.612898
Magnesium	<0.0415	0.0647	<0.0417	1	<	<
Nitrate	0.0925	0.114	0.0751	0.2	2.229018177	1.536599765
Potassium	0.0534	0.0647	0.0402	0.2	1.2858	<
Sodium	<0.166	<0.167	<0.167	4	<	<
Sulphate	0.982	0.494	0.394	1	23.665149	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	14-Sep	14-Sep	14-Sep	14-Sep	14-Sep	14-Sep	14-Sep	14-Sep
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	22.5	11	29.6	10	1.17	15.2	17.7	39.2
Ammonium (as N)	0.42	0.217	0.246	0.333	<0.0208	0.368	0.34	0.439
Calcium	1.02	0.404	1.17	0.208	0.135	0.542	0.336	2.32
Chloride	0.0369	0.0391	0.0604	0.0291	0.0259	0.0366	0.0304	0.0531
Magnesium	0.0438	0.053	0.137	<0.0417	<0.0417	<0.0417	0.0456	0.111
Nitrate	0.176	0.104	0.161	0.0933	0.0636	0.124	0.102	0.169
Potassium	0.0729	0.038	0.0687	0.0805	<0.00833	0.0614	0.064	0.0576
Sodium	<0.166	<0.167	<0.167	0.603	<0.167	<0.167	<0.167	<0.167
Sulphate	1.08	0.358	0.591	0.411	0.0487	0.867	0.684	1.44



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL		
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		Lab Blank Filter	Travel Blank Filters
Sample Date	20-Sep	20-Sep	20-Sep	20-Sep		20-Sep	20-Sep
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.1	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	2.82	2.25	5	1.42	1	68	<
Ammonium (as N)	0.0745	0.0737	0.0789	0.0498	0.5	1.79641583	0.603795321
Calcium	0.129	0.119	0.136	<0.0833	2	3.118065	<
Chloride	0.0168	<0.0167	<0.0167	<0.0167	0.4	0.405027	0.527178
Magnesium	<0.0415	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.0669	0.0581	0.0862	0.0569	0.2	1.612481234	2.172107075
Potassium	<0.00830	0.0232	0.0191	<0.00833	0.2	<	<
Sodium	<0.166	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.2	0.233	0.158	0.143	1	4.815321	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	20-Sep	20-Sep	20-Sep	20-Sep	20-Sep	20-Sep	20-Sep	20-Sep
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24.002	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	11.1	4.5	12.7	4.87	16.3	7.92	5.88	14.5
Ammonium (as N)	0.0825	0.0572	0.0726	0.0642	0.0954	0.0696	0.0852	0.0762
Calcium	0.395	0.134	0.489	0.117	0.873	0.134	0.132	0.687
Chloride	0.0205	0.0184	0.0335	0.0213	0.0739	0.0169	0.0237	0.0446
Magnesium	<0.0415	<0.0417	0.059	<0.0417	0.0608	<0.0417	<0.0417	0.0448
Nitrate	0.0618	0.0648	0.0814	0.106	0.085	0.0786	0.0794	0.101
Potassium	0.0192	0.00839	0.0348	0.0178	0.0185	0.032	0.0217	0.0287
Sodium	<0.166	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.204	0.171	0.203	0.188	0.373	0.166	0.235	0.255



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	26-Sep	26-Sep	26-Sep	26-Sep		26-Sep	26-Sep
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.1	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	0.871	1.08	0.542	0.208	1	21	4
Ammonium (as N)	<0.0207	<0.0208	<0.0208	<0.0208	0.5	<	<
Calcium	<0.0830	<0.0833	<0.0833	<0.0833	2	<	<
Chloride	<0.0166	<0.0167	<0.0167	<0.0167	0.4	<	<
Magnesium	<0.0415	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.072	0.0743	0.0668	0.0668	0.2	1.735788623	1.612481234
Potassium	<0.00830	<0.00833	<0.00833	0.239	0.2	<	<
Sodium	<0.166	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.0544	0.115	0.0498	0.61	1	1.311516	<

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	26-Sep	26-Sep	26-Sep	26-Sep	26-Sep	26-Sep	26-Sep	26-Sep
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	23.99	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	3.15	0.75	2.17	1.54	2.04	2.04	0.958	2.04
Ammonium (as N)	<0.0207	0.0307	<0.0208	<0.0208	<0.0208	<0.0208	<0.0208	<0.0208
Calcium	0.174	0.131	0.0889	<0.0834	0.0949	0.108	<0.0833	0.17
Chloride	<0.0166	0.0418	0.0187	0.0186	0.0228	<0.0167	<0.0167	0.0219
Magnesium	<0.0415	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.0724	0.0929	0.0834	0.0664	0.0794	0.07	0.0617	0.0822
Potassium	0.0136	0.0233	0.0196	0.0124	0.0174	0.0285	<0.00833	0.0138
Sodium	<0.166	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.0776	0.147	1.08	0.352	0.0692	0.0444	<0.0417	0.247



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	02-Oct	02-Oct	02-Oct	02-Oct		02-Oct	02-Oct
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.1	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	1.2	1.333333333	<	0.291666667	1	29	22
Ammonium (as N)	0.082	0.1	<0.0208	0.0987	0.5	1.976057414	<
Calcium	<0.0830	<0.0833	<0.0833	<0.0833	2	<	<
Chloride	0.0236	<0.0167	<0.0167	0.0337	0.4	0.567895	0.400741
Magnesium	<0.0415	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.0799	0.0656	0.0534	0.0779	0.2	1.925492298	1.489173846
Potassium	0.0122	0.0117	0.0112	0.0346	0.2	0.293591	0.325736
Sodium	<0.166	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.275	0.343	0.0772	0.319	1	6.639014	1.746545

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	02-Oct	02-Oct	02-Oct	02-Oct	02-Oct	02-Oct	02-Oct	02-Oct
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	1.41	1.17	3.708333333	0.833333333	5.125	3.416666667	2.416666667	6.916666667
Ammonium (as N)	0.135	0.0751	0.136	0.183	0.516	0.0861	0.0894	0.0995
Calcium	0.092	<0.0833	0.151	<0.0833	0.141	<0.0833	<0.0833	0.539
Chloride	0.0166	<0.0167	0.0216	<0.0167	<0.0167	0.0171	<0.0167	0.0191
Magnesium	<0.0415	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	0.0492
Nitrate	0.0736	0.0617	0.0723	0.0601	0.0771	0.0834	0.0609	0.0692
Potassium	0.0294	0.0105	0.0149	0.0359	0.0109	0.0131	0.0163	0.0172
Sodium	0.193	<0.167	<0.167	0.391	<0.167	<0.167	<0.167	<0.167
Sulphate	0.281	0.234	0.428	0.33	1.43	0.258	0.279	0.29



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	08-Oct	08-Oct	08-Oct	08-Oct		08-Oct	08-Oct
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.1	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	10.7	3.416666667	3.875	1.67	1	257	56
Ammonium (as N)	0.209	0.202	0.185	0.208	0.5	5.026637629	<
Calcium	0.242	<0.0833	0.159	<0.0833	2	5.837532	<
Chloride	0.018	<0.0167	0.0333	0.0187	0.4	0.432886	<
Magnesium	<0.0415	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.102	0.0696	0.131	0.0806	0.2	2.46614777	1.318440539
Potassium	0.0228	0.0178	0.0154	0.0212	0.2	0.548608	0.338594
Sodium	<0.166	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.566	0.513	0.515	0.507	1	13.640195	2.689465

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	08-Oct	08-Oct	08-Oct	08-Oct	08-Oct	08-Oct	08-Oct	08-Oct
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	25.47717842	11.3	30.08333333	3.541666667	29.8	17.8	18	36.54166667
Ammonium (as N)	0.17	0.226	0.191	0.217	0.195	0.724	0.202	0.119
Calcium	2.64	0.59	1.36	0.0889	1.73	1.19	1.09	2.67
Chloride	0.0385	0.0313	0.0521	<0.0167	0.0786	0.0352	0.0225	0.0496
Magnesium	0.0709	0.0742	0.135	<0.0417	0.0768	0.0733	0.0568	0.146
Nitrate	0.174	0.124	0.14	0.0628	0.147	0.204	0.131	0.125
Potassium	0.0261	0.0335	0.0447	0.0181	0.0327	0.0738	0.025	0.0267
Sodium	<0.166	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.675	0.524	0.561	0.514	0.607	2.14	0.602	0.582





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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		14-Oct	14-Oct
Sample Date	14-Oct	14-Oct	14-Oct	14-Oct		14-Oct	14-Oct
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	3.875	6.416666667	8.08	3.67	1	93	132
Ammonium (as N)	0.0753	0.105	0.106	0.108	0.5	1.808059266	<
Calcium	0.299	0.0883	0.215	0.0871	2	7.164049	<
Chloride	0.0265	<0.0167	0.0333	<0.0167	0.4	0.636471	0.752193
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	1.13579
Nitrate	0.0885	0.0909	0.121	0.0854	0.2	2.124681156	2.181592258
Potassium	0.0237	0.0316	0.0364	0.0258	0.2	0.567895	1.354376
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.276	0.277	0.293	0.358	1	6.613298	2.22872

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	14-Oct	14-Oct	14-Oct	14-Oct	14-Oct	14-Oct	14-Oct	14-Oct
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	19.5	10.5	26.8	8.58	30.29166667	9.83	9.5	17
Ammonium (as N)	0.085	0.099	0.106	0.131	0.13	0.15	0.0838	0.166
Calcium	2.54	0.486	1.27	0.526	1.6	0.706	0.258	1.09
Chloride	0.0283	0.0261	0.0531	0.0211	0.067	0.0381	<0.0167	0.0275
Magnesium	0.0654	0.0713	0.133	0.0486	0.0796	0.0437	<0.0417	0.0855
Nitrate	0.108	0.148	0.201	0.118	0.138	0.107	0.0743	0.112
Potassium	0.0244	0.0375	0.0647	0.0405	0.0423	0.066	0.0206	0.0361
Sodium	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.337	0.319	0.448	0.315	0.462	0.322	0.276	0.441



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	20-Oct	20-Oct	20-Oct	20-Oct		20-Oct	20-Oct
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	10.2	7.17	14.5	9.71	1	245	82
Ammonium (as N)	0.664	0.146	0.166	0.17	0.5	15.92988371	<
Calcium	0.426	0.149	0.244	0.0991	2	10.22211	<
Chloride	<0.0167	<0.0167	0.0212	<0.0167	0.4	<	0.411456
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.136	0.142	0.179	0.0941	0.2	3.25341802	1.83064046
Potassium	0.072	0.0298	0.054	0.0371	0.2	1.727258	0.212157
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	1.78	0.369	0.411	0.378	1	42.787138	2.104426

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	20-Oct	20-Oct	20-Oct	20-Oct	20-Oct	20-Oct	20-Oct	20-Oct
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	39.8	22.2	32.5	9.46	50.2	22.9	26.4	21.6
Ammonium (as N)	0.562	0.114	0.12	0.174	0.14	0.518	0.405	0.689
Calcium	3.68	1.04	1.4	0.536	1.39	1.01	1.61	1.23
Chloride	0.0319	0.0575	0.0688	<0.0167	0.0428	0.0433	0.025	0.023
Magnesium	0.126	0.13	0.142	0.0747	0.0732	0.0784	0.0934	0.069
Nitrate	0.351	0.239	0.24	0.198	0.215	0.34	0.33	0.205
Potassium	0.0812	0.0352	0.0452	0.0422	0.0357	0.0616	0.0577	0.0621
Sodium	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	2.07	0.388	0.422	0.477	0.476	1.53	1.26	2.07



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	26-Oct	26-Oct	26-Oct	26-Oct		26-Oct	26-Oct
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	3.88	4.21	8.13	4.58	1	93	21
Ammonium (as N)	0.318	0.242	0.175	0.0484	0.5	7.641420671	<
Calcium	0.0938	0.148	<0.0833	<0.0833	2	2.252293	<
Chloride	0.0181	0.0435	<0.0167	<0.0167	0.4	0.435029	0.456459
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.0624	0.192	0.15	0.0767	0.2	1.49865903	1.593510867
Potassium	0.0459	0.0512	0.0878	0.0173	0.2	1.101502	0.439315
Sodium	0.522	0.184	<0.167	<0.167	4	12.523692	<
Sulphate	0.702	0.393	0.448	0.171	1	16.852552	1.504386

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	26-Oct	26-Oct	26-Oct	26-Oct	26-Oct	26-Oct	26-Oct	26-Oct
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	4.96	4.25	8.79	2.458333333	3.67	4.75	3.92	5.71
Ammonium (as N)	0.385	0.177	0.224	0.0272	0.161	0.3	0.26	0.186
Calcium	0.15	0.141	0.245	<0.0833	<0.0833	0.127	<0.0833	0.266
Chloride	<0.0167	0.0217	0.0198	0.0265	<0.0167	0.0818	<0.0167	0.0211
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.0715	0.13	0.197	0.0711	0.0644	0.0711	0.07	0.109
Potassium	0.0585	0.032	0.103	0.0197	0.0179	0.0576	0.0299	0.0353
Sodium	<0.167	<0.167	0.181	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.801	0.385	0.497	0.184	0.358	0.623	0.588	0.517



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL		
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		Lab Blank Filter	Travel Blank Filters
Sample Date	01-Nov	01-Nov	01-Nov	01-Nov		01-Nov	01-Nov
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	7.25	5.38	10.5	5.04	1	174	5
Ammonium (as N)	0.331	0.285	0.343	0.343	0.5	7.935833266	<
Calcium	0.159	<0.0833	0.14	<0.0833	2	3.823112	<
Chloride	0.0184	0.0196	0.0254	0.0177	0.4	0.441458	0.537893
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.0909	0.0945	0.158	0.0798	0.2	2.181592258	1.517629397
Potassium	0.058	0.0553	0.0696	0.0529	0.2	1.39295	0.540036
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.843	0.978	1.02	0.908	1	20.232063	2.220148

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	01-Nov	01-Nov	01-Nov	01-Nov	01-Nov	01-Nov	01-Nov	01-Nov
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24.1	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	26.3	12.6	39.7	6.46	8.46	5	8.05	11.2
Ammonium (as N)	0.257	0.277	0.295	0.278	0.361	0.288	0.317	0.291
Calcium	1.76	0.412	1.6	<0.0833	0.218	0.11	0.0968	0.776
Chloride	0.0351	0.0369	0.17	0.0193	0.0418	0.018	0.0173	0.0254
Magnesium	0.0638	0.0591	0.136	<0.0417	<0.0417	<0.0417	<0.0415	<0.0417
Nitrate	0.158	0.171	0.268	0.117	0.245	0.0814	0.0767	0.155
Potassium	0.0621	0.0698	0.0896	0.0688	0.0855	0.062	0.0569	0.0457
Sodium	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	<0.166	<0.167
Sulphate	0.903	0.828	1.1	0.707	0.974	0.677	0.779	0.819



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL		
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		Lab Blank Filter	Travel Blank Filters
Sample Date	07-Nov	07-Nov	07-Nov	07-Nov		07-Nov	07-Nov
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	2.21	3.83	2.96	3.46	1	53	7
Ammonium (as N)	0.174	0.198	0.268	0.302	0.5	4.176666806	<
Calcium	<0.0833	<0.0833	<0.0833	<0.0833	2	<	<
Chloride	0.0228	0.0245	0.0215	<0.0167	0.4	0.546465	<
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.085	0.143	0.0956	0.0624	0.2	2.039314502	1.109766497
Potassium	0.023	0.0297	0.0347	0.0522	0.2	0.552894	0.480032
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.519	0.546	0.801	0.718	1	12.463688	1.52153

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	07-Nov	07-Nov	07-Nov	07-Nov	07-Nov	07-Nov	07-Nov	07-Nov
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	8.42	11.5	18	9.83	13.3	4.25	7.83	57.1
Ammonium (as N)	0.203	0.184	0.212	0.232	0.154	0.174	1.1	0.121
Calcium	0.277	0.319	0.618	0.289	1.22	0.238	1.37	2.84
Chloride	0.0378	0.0313	0.0871	0.0355	0.106	0.12	0.0407	0.0933
Magnesium	<0.0417	<0.0417	0.0603	<0.0417	0.0447	<0.0417	0.0673	0.192
Nitrate	0.102	0.115	0.149	0.101	0.104	0.0996	0.0711	0.0941
Potassium	0.0313	0.0357	0.0427	0.058	0.0357	0.027	2.07	0.0403
Sodium	<0.167	<0.167	<0.167	<0.167	<0.167	<0.167	0.401	<0.167
Sulphate	0.519	0.587	0.717	0.63	0.571	0.534	0.505	0.678



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	13-Nov	13-Nov	13-Nov	13-Nov		13-Nov	13-Nov
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	12.3	14	11.8	7.46	1	294	6
Ammonium (as N)	0.304	0.568	0.387	0.353	0.5	7.287127549	<
Calcium	0.189	<0.0833	0.131	<0.0833	2	4.530302	<
Chloride	0.0199	<0.0167	0.0552	0.0217	0.4	0.477889	<
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.554	0.536	0.716	0.466	0.2	13.29822759	1.365866457
Potassium	0.0892	0.105	0.0734	0.0798	0.2	2.140857	0.462888
Sodium	<0.167	<0.167	0.182	<0.167	4	<	<
Sulphate	0.712	1.16	0.759	0.671	1	17.090425	1.823693

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	13-Nov	13-Nov	13-Nov	13-Nov	13-Nov	13-Nov	13-Nov	13-Nov
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	41.5	20.5	35.1	7.5	51.5	27	28.5	65.5
Ammonium (as N)	0.328	0.443	0.338	0.328	0.567	0.298	0.179	0.431
Calcium	1.84	0.983	1.28	0.218	3.1	1.25	1.86	3.46
Chloride	0.157	0.0512	3.91	0.0205	0.0594	0.0977	0.0821	0.0946
Magnesium	0.154	0.0695	0.123	<0.0417	0.119	0.103	0.162	0.201
Nitrate	0.916	0.873	0.976	0.419	1.04	0.75	0.398	0.927
Potassium	0.146	0.101	0.151	0.0946	0.128	0.113	0.0731	0.113
Sodium	0.187	<0.167	2.83	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	1.14	1.19	0.911	0.619	2.03	0.912	0.606	1.81



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	19-Nov	19-Nov	19-Nov	19-Nov		19-Nov	19-Nov
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	4.88	5.04	10.3	7.5	1	117	8
Ammonium (as N)	0.168	0.162	0.146	0.106	0.5	4.038608923	<
Calcium	0.198	0.0846	0.128	<0.0833	2	4.748888	<
Chloride	0.0291	0.0203	0.215	0.0176	0.4	0.698618	<
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.154	0.11	0.155	0.0636	0.2	3.689736472	1.157192415
Potassium	0.0499	0.0513	0.0511	0.0347	0.2	1.197937	0.405027
Sodium	<0.167	<0.167	0.199	<0.167	4	<	<
Sulphate	0.476	0.423	0.405	0.343	1	11.424333	1.866553

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	19-Nov	19-Nov	19-Nov	19-Nov	19-Nov	19-Nov	19-Nov	19-Nov
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	27	12.7	21.2	4.04	35.6	12.3	11.7	39.9
Ammonium (as N)	0.12	0.191	0.181	0.121	0.103	0.133	0.135	0.098
Calcium	2.44	0.565	0.606	0.0844	2.73	0.608	0.989	2.65
Chloride	0.186	1.17	3.12	0.0221	0.0825	0.0622	0.0531	0.0798
Magnesium	0.0997	0.0614	0.0614	<0.0417	0.0912	0.0666	<0.0417	0.122
Nitrate	0.236	0.17	0.148	0.0648	0.197	0.139	0.127	0.153
Potassium	0.0553	0.0836	0.119	0.0343	0.0536	0.0416	0.0401	0.0429
Sodium	0.184	0.847	2.19	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.551	0.428	0.405	0.312	0.492	0.445	0.489	0.504



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	25-Nov	25-Nov	25-Nov	25-Nov		25-Nov	25-Nov
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	3.25	0.5	3.58	3.5	1	78	8
Ammonium (as N)	0.272	<0.0208	0.448	0.322	0.5	6.535294257	<
Calcium	<0.0833	<0.0833	0.0867	<0.0833	2	<	<
Chloride	0.0248	<0.0167	0.0274	0.0209	0.4	0.595754	<
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.194	0.0454	0.163	0.106	0.2	4.657225212	0.910577638
Potassium	0.042	0.0239	0.0499	0.0274	0.2	1.00721	0.430743
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.741	0.0795	1.22	0.837	1	17.791186	1.20008

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	25-Nov	25-Nov	25-Nov	25-Nov	25-Nov	25-Nov	25-Nov	25-Nov
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	7.42	0.25	8.33	4.21	20.9	11.4	4.54	9.58
Ammonium (as N)	0.252	<0.0208	0.461	0.292	0.192	0.229	0.226	0.243
Calcium	0.169	<0.0833	0.256	0.0946	1.72	0.151	0.161	0.398
Chloride	0.108	<0.0167	0.213	0.0248	0.078	0.0252	0.0805	0.0962
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	0.0555	<0.0417	<0.0417	0.0438
Nitrate	0.252	0.0458	0.299	0.143	0.182	0.176	0.133	0.143
Potassium	0.0325	0.0233	0.0563	0.0458	0.0313	0.0489	0.0338	0.0372
Sodium	0.177	<0.167	0.252	<0.167	<0.167	<0.167	<0.167	<0.167
Sulphate	0.668	0.102	1.22	0.781	0.718	0.66	0.604	0.676






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Station #	MDL
Station Name	
Sample Date	
PM Size(µm)	
Total Air Volume (M3)	

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Unit	
Particulate Matter	1
Ammonium (as N)	0.5
Calcium	2
Chloride	0.4
Magnesium	1
Nitrate	0.2
Potassium	0.2
Sodium	4
Sulphate	1

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Station #	AMS 12
Station Name	Millennium
Sample Date	30-Nov
PM Size(µm)	pm10
Total Air Volume (M3)	24

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Unit	µg/M3
Particulate Matter	19.5
Ammonium (as N)	0.267
Calcium	0.859
Chloride	1.27
Magnesium	0.156
Nitrate	0.335
Potassium	0.0847
Sodium	0.807
Sulphate	1.31



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	01-Dec	01-Dec	01-Dec	01-Dec		01-Dec	01-Dec
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	19.7	8.71	6.67	2.21	1	473	<
Ammonium (as N)	0.295	0.596	0.22	0.222	0.5	7.085862442	<
Calcium	0.415	<0.0833	<0.0833	<0.0833	2	9.956378	<
Chloride	0.22	<0.0167	0.0244	<0.0167	0.4	5.288924	<
Magnesium	0.0598	<0.0417	<0.0417	<0.0417	1	1.43581	<
Nitrate	0.977	0.285	0.391	0.104	0.2	23.44737419	1.9824034
Potassium	0.133	0.106	0.0572	0.149	0.2	3.184498	0.368596
Sodium	0.255	<0.167	<0.167	<0.167	4	6.116122	<
Sulphate	1.09	1.85	0.767	0.903	1	26.20889	2.183717

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Fort McKay South	Horizon	Muskeg River
Sample Date	01-Dec	01-Dec	01-Dec	01-Dec	01-Dec	01-Dec	01-Dec
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	10	11.1	9.29	3.46	10.3	5.25	<0.0417
Ammonium (as N)	0.399	0.55	0.215	0.238	0.16	0.232	<0.0208
Calcium	<0.0830	0.0972	0.138	<0.0833	0.143	<0.0833	<0.0833
Chloride	<0.0166	<0.0167	0.192	<0.0167	0.0639	0.0266	<0.0167
Magnesium	<0.0415	<0.0417	0.0513	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.608	0.428	0.568	0.133	0.427	0.217	0.0763
Potassium	0.135	0.102	0.101	0.058	0.0688	0.0842	0.0155
Sodium	<0.166	<0.167	0.333	<0.167	<0.167	<0.167	<0.167
Sulphate	1.07	1.74	0.906	0.707	0.558	0.728	0.0875



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	07-Dec	07-Dec	07-Dec	07-Dec		07-Dec	07-Dec
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.1	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	4.15	5.67	5.5	4.25	1	100	4
Ammonium (as N)	0.308	0.409	0.407	0.476	0.5	7.423522085	<
Calcium	<0.0830	0.0875	<0.0833	<0.0833	2	<	<
Chloride	<0.0166	<0.0167	<0.0167	<0.0167	0.4	<	<
Magnesium	<0.0415	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.144	0.239	0.206	0.0921	0.2	3.48106243	1.735788623
Potassium	0.043	0.0554	0.0538	0.0571	0.2	1.037212	0.34288
Sodium	<0.166	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.899	1.16	1.15	1.32	1	21.676445	2.196575

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	07-Dec	07-Dec	07-Dec	07-Dec	07-Dec	07-Dec	07-Dec	07-Dec
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24.1	1
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	5.93	5.79	5.83	3.88	5.63	4.83	4.81	<1.00
Ammonium (as N)	0.307	0.417	0.43	0.453	0.379	0.334	0.298	<0.500
Calcium	<0.0830	0.117	0.0839	<0.0833	0.123	<0.0833	<0.0830	<2.00
Chloride	<0.0166	<0.0167	0.0215	0.025	<0.0167	<0.0167	<0.0166	<0.400
Magnesium	<0.0415	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0415	<1.00
Nitrate	0.218	0.31	0.355	0.107	0.189	0.218	0.174	1.71
Potassium	0.0363	0.0577	0.0711	0.0521	0.0525	0.0473	0.0418	0.343
Sodium	<0.166	<0.167	<0.167	<0.167	<0.167	<0.167	<0.166	<4.00
Sulphate	0.929	1.23	1.23	1.2	1.08	1	0.872	2.03



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL		
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		Lab Blank Filter	Travel Blank Filters
Sample Date	13-Dec	13-Dec	13-Dec	13-Dec		13-Dec	13-Dec
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	23.2	38	37.2	11.5	1	557	22
Ammonium (as N)	0.995	1.93	1.74	1.11	0.5	23.87902376	<
Calcium	<0.0833	<0.0833	<0.0833	<0.0833	2	<	<
Chloride	0.0174	0.0216	0.0231	<0.0167	0.4	0.417885	<
Magnesium	<0.0417	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.645	1.19	1.25	0.0913	0.2	15.47981985	1.593510867
Potassium	0.0999	0.269	0.251	0.126	0.2	2.398017	0.336451
Sodium	<0.167	<0.167	<0.167	<0.167	4	<	<
Sulphate	2.67	5.56	4.71	3.36	1	64.167849	2.132285

Station #	AMS 1	AMS 6	AMS 14	AMS 12	AMS 13	AMS 15
Station Name	Bertha Ganter	Patricia McInnes	Anzac	Millennium	Fort McKay South	Horizon
Sample Date	13-Dec	13-Dec	13-Dec	13-Dec	13-Dec	13-Dec
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	24.3	40	15	47.9	24.4	10.6
Ammonium (as N)	1.14	1.94	1.32	2.06	1.13	0.695
Calcium	<0.0833	<0.0833	<0.0833	0.301	0.118	0.0837
Chloride	<0.0167	0.0236	<0.0167	0.032	<0.0167	<0.0167
Magnesium	0.0469	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417
Nitrate	0.626	1.07	0.0984	1.99	0.763	0.193
Potassium	0.253	0.274	0.139	0.351	0.121	0.0709
Sodium	0.172	<0.167	<0.167	<0.167	0.199	<0.167
Sulphate	3.06	5.76	4.14	6.33	3.36	2.14



Station #	MDL
Station Name	
Sample Date	
PM Size(µm)	
Total Air Volume (M3)	

Unit	
Particulate Matter	1
Ammonium (as N)	0.5
Calcium	2
Chloride	0.4
Magnesium	1
Nitrate	0.2
Potassium	0.2
Sodium	4
Sulphate	1

Station #	AMS 16
Station Name	Muskeg River
Sample Date	15-Dec
PM Size(µm)	pm10
Total Air Volume (M3)	24.1

Unit	µg/M3
Particulate Matter	9.63
Ammonium (as N)	0.483
Calcium	0.178
Chloride	0.0213
Magnesium	<0.0415
Nitrate	0.237
Potassium	0.0502
Sodium	<0.166
Sulphate	1.34



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Station #	AMS 1	AMS 6	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Anzac			
Sample Date	19-Dec	19-Dec	19-Dec		19-Dec	19-Dec
PM Size(µm)	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.1	24	24			24
Unit	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	17.6	14	11.3	1	425	16
Ammonium (as N)	1.35	1.09	0.894	0.5	32.56502697	<
Calcium	<0.0830	<0.0833	<0.0833	2	<	<
Chloride	<0.0166	<0.0167	<0.0167	0.4	<	<
Magnesium	<0.0415	<0.0417	<0.0417	1	<	<
Nitrate	1.85	1.32	0.754	0.2	44.63727464	1.849610828
Potassium	0.214	0.17	0.123	0.2	5.151772	0.357881
Sodium	<0.166	<0.167	<0.167	4	<	<
Sulphate	2.94	2.36	2.04	1	70.787576	2.415161

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	19-Dec	19-Dec	19-Dec	19-Dec	19-Dec	19-Dec	19-Dec	19-Dec
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24.1	24	24	24	24
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	22.5	14.8	14.5	13.3	48.7	14.8	16.4	26.4
Ammonium (as N)	1.26	1.01	0.985	0.947	0.406	0.868	1.12	1.22
Calcium	0.143	<0.0833	<0.0833	<0.0830	1.38	0.0942	<0.0833	0.291
Chloride	0.0371	<0.0167	0.0287	<0.0166	0.112	0.0171	0.0563	0.0479
Magnesium	<0.0417	<0.0417	<0.0417	<0.0415	0.092	<0.0417	<0.0417	<0.0417
Nitrate	1.83	1.21	1.08	0.876	1.7	1.1	1.11	1.81
Potassium	0.216	0.142	0.154	0.122	0.207	0.133	0.176	0.213
Sodium	<0.167	<0.167	<0.167	<0.166	<0.167	<0.167	<0.167	<0.167
Sulphate	2.97	2.14	2.29	2.12	2.18	1.9	2.68	3.03



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	25-Dec	25-Dec	25-Dec	25-Dec		25-Dec	25-Dec
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24.1	24	24	24			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	5.73	5.5	5.25	2.79	1	138	14
Ammonium (as N)	0.28	0.398	0.302	0.336	0.5	6.746539452	<
Calcium	0.115	<0.0833	<0.0833	<0.0833	2	2.76447	<
Chloride	0.0187	0.0238	<0.0167	0.0205	0.4	0.45003	<
Magnesium	<0.0415	<0.0417	<0.0417	<0.0417	1	<	<
Nitrate	0.153	0.515	0.251	0.134	0.2	3.699221655	1.49865903
Potassium	0.0356	0.0608	0.0372	0.0275	0.2	0.8572	0.529321
Sodium	<0.166	<0.167	<0.167	<0.167	4	<	<
Sulphate	0.817	0.777	0.76	1.01	1	19.69417	1.675826

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River
Sample Date	25-Dec	25-Dec	25-Dec	25-Dec	25-Dec	25-Dec	25-Dec	25-Dec
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24.1	24	24	24	24	24	24.1	24.1
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	6.22	6.17	4.92	4.04	9.92	4.58	5.06	7.55
Ammonium (as N)	0.274	0.383	0.321	0.496	0.221	0.256	0.309	0.22
Calcium	0.091	<0.0833	0.0879	<0.0833	0.269	<0.0833	<0.0830	0.0839
Chloride	0.0237	<0.0167	0.0903	<0.0167	0.0307	0.0249	<0.0166	0.0192
Magnesium	<0.0415	<0.0417	<0.0417	<0.0417	<0.0417	<0.0417	<0.0415	<0.0415
Nitrate	0.183	0.496	0.418	0.117	0.445	0.229	0.162	0.164
Potassium	0.033	0.0471	0.045	0.032	0.0521	0.0296	0.0255	0.0292
Sodium	<0.166	<0.167	0.199	<0.167	<0.167	<0.167	<0.166	<0.166
Sulphate	0.782	0.797	0.816	1.34	0.623	0.712	0.855	0.625



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Station #	AMS 1	AMS 6	AMS 7	AMS 14	MDL	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac			
Sample Date	31-Dec	31-Dec	31-Dec	31-Dec		31-Dec	31-Dec
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5		N/A	pm2.5
Total Air Volume (M3)	24	24	24	24.1			24
Unit	µg/M3	µg/M3	µg/M3	µg/M3		µg	µg/sample
Particulate Matter	1.54	2.58	1.42	1.24	1	37	<
Ammonium (as N)	0.0435	0.0395	0.039	0.0291	0.5	1.04291919	<
Calcium	<0.0833	<0.0833	<0.0833	<0.0830	2	<	<
Chloride	<0.0167	<0.0167	<0.0167	<0.0166	0.4	<	<
Magnesium	<0.0417	<0.0417	<0.0417	<0.0415	1	<	<
Nitrate	0.124	0.128	0.145	0.0705	0.2	2.987832876	2.257473728
Potassium	0.0195	0.07	0.0263	0.0157	0.2	0.467174	0.327879
Sodium	<0.167	<0.167	<0.167	<0.166	4	<	<
Sulphate	0.237	0.246	0.195	0.186	1	5.685379	1.615822

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 15	AMS 16
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Horizon	Muskeg River
Sample Date	31-Dec	31-Dec	31-Dec	31-Dec	31-Dec	31-Dec	31-Dec
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Total Air Volume (M3)	24	24	24	24.1	24	24	24.1
Unit	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3	µg/M3
Particulate Matter	4.42	3.42	3.25	2.45	5.63	4.33	3.94
Ammonium (as N)	0.0584	0.0454	0.0399	0.0317	0.0452	<0.0208	0.0516
Calcium	<0.0833	<0.0833	<0.0833	<0.0830	<0.0833	<0.0833	<0.0830
Chloride	0.0345	0.0497	0.0658	0.0216	<0.0167	0.0335	0.0294
Magnesium	<0.0417	<0.0417	<0.0417	<0.0415	<0.0417	<0.0417	<0.0415
Nitrate	0.13	0.146	0.142	0.0929	0.145	0.0996	0.131
Potassium	0.0243	0.0804	0.0226	0.0202	0.0296	0.0202	0.0174
Sodium	<0.167	<0.167	<0.167	<0.166	<0.167	<0.167	<0.166
Sulphate	0.226	0.281	0.205	0.214	0.244	0.206	0.264





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Period Average

Station #	AMS 1	AMS 6	AMS 7	AMS 14		
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Lab Blank Filter	Travel Blank Filters
Sample Date						
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5	pm2.5	pm2.5
Unit	ug/m3	ug/m3	ug/m3	ug/m3	ug	ug/sample
Particulate Matter	8.864455	7.439898	9.026702	5.44556	229.9557	11.38014
Ammonium (as N)	0.3048842	0.3367386	0.2838537	0.2748655	7.393336	0.009898284
Calcium	0.08397544	0.0619193	0.08751851	0.06952931	1.89399	1.32729
Chloride	0.03640877	0.0456877	0.05102592	0.02209676	0.8814052	0.4200631
Magnesium	0.003629825	0.004280702	0.005544445	0.000994828	0.081434	0.01861951
Nitrate	0.239057	0.2706158	0.2212889	0.2006152	5.920117	1.539243
Potassium	0.04681403	0.05112737	0.04456852	0.04150343	1.176437	0.2076602
Sodium	0.03089474	0.0554386	0.03725925	0.01124138	0.6928917	0.09973733
Sulphate	0.8579263	0.9782317	0.8308444	0.7887931	20.84513	1.394496

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	Lab Blank Filter
Sample Date									
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Unit	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/sample
Particulate Matter	17.74185	16.33116	19.7935	9.110874	27.48662	13.38921	14.40555	23.8695	229.9557
Ammonium (as N)	0.2843834	0.3279536	0.2711056	0.2807898	0.3048518	0.2692053	0.2479685	0.2449845	7.393336
Calcium	0.7155444	0.3848429	0.566126	0.1981123	0.9413602	0.3412714	0.3694071	0.9010518	1.89399
Chloride	0.06602222	0.1057857	0.3051166	0.03638356	0.0877207	0.05864643	0.05195965	0.06080171	0.8814052
Magnesium	0.02646852	0.03352857	0.04926481	0.008442105	0.0410293	0.0133375	0.01859825	0.04341207	0.081434
Nitrate	0.2949722	0.3057893	0.2819537	0.173781	0.314	0.2175429	0.2019579	0.2718241	5.920117
Potassium	0.06035834	0.06821803	0.06174982	0.05450338	0.05664449	0.04671874	0.08559649	0.05633621	1.176437
Sodium	0.05331481	0.08158929	0.2096667	0.03898245	0.07853448	0.02625	0.02810526	0.02087931	0.6928917
Sulphate	0.8811408	0.9803572	0.8131908	0.789439	1.061055	0.7810982	0.6910701	0.8324053	20.84513



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

Particulate Matter - Ions

2014  
Indicated Sites and Dates

Station #	AMS 1	AMS 6	AMS 7	AMS 14	Lab Blank Filter	Travel Blank Filters
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac		
Sample Date						
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5	pm2.5	pm2.5
Unit	ug/m3	ug/m3	ug/m3	ug/m3	ug	ug/sample
Particulate Matter	505.2739	424.0742	487.4419	315.8425	14027.3	694.1887
Ammonium (as N)	17.3784	19.1941	15.3281	15.9422	450.9935	0.6037953
Calcium	4.7866	3.5294	4.726	4.0327	115.5334	80.96468
Chloride	2.0753	2.604199	2.7554	1.281612	53.76572	25.62385
Magnesium	0.2069	0.244	0.2994	0.0577	4.967474	1.13579
Nitrate	13.62625	15.4251	11.9496	11.63568	361.1271	93.89384
Potassium	2.6684	2.91426	2.4067	2.407199	71.76263	12.66727
Sodium	1.761	3.16	2.012	0.652	42.26639	6.083977
Sulphate	48.9018	55.7592	44.8656	45.75	1271.553	85.06424

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	Lab Blank Filter
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	
Sample Date									
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
Unit	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/sample
Particulate Matter	958.0599	914.5449	1068.849	519.3198	1594.224	749.7956	821.1166	1384.431	14027.3
Ammonium (as N)	15.3567	18.3654	14.6397	16.00502	17.6814	15.0755	14.1342	14.2091	450.9935
Calcium	38.6394	21.5512	30.5708	11.2924	54.59889	19.1112	21.0562	52.261	115.5334
Chloride	3.5652	5.924	16.4763	2.073863	5.087801	3.2842	2.9617	3.526499	53.76572
Magnesium	1.4293	1.8776	2.6603	0.4812	2.3797	0.7469	1.0601	2.5179	4.967474
Nitrate	15.9285	17.1242	15.2255	9.905519	18.212	12.1824	11.5116	15.7658	361.1271
Potassium	3.25935	3.82021	3.33449	3.106693	3.285381	2.61625	4.879	3.2675	71.76263
Sodium	2.879	4.569	11.322	2.222	4.555	1.47	1.602	1.211	42.26639
Sulphate	47.5816	54.90001	43.9123	44.99802	61.5412	43.7415	39.391	48.27951	1271.553



WOOD BUFFALO ENVIRONMENTAL ASSOCIATION

Particulate Matter - Ions

2014  
Indicated Sites and Dates

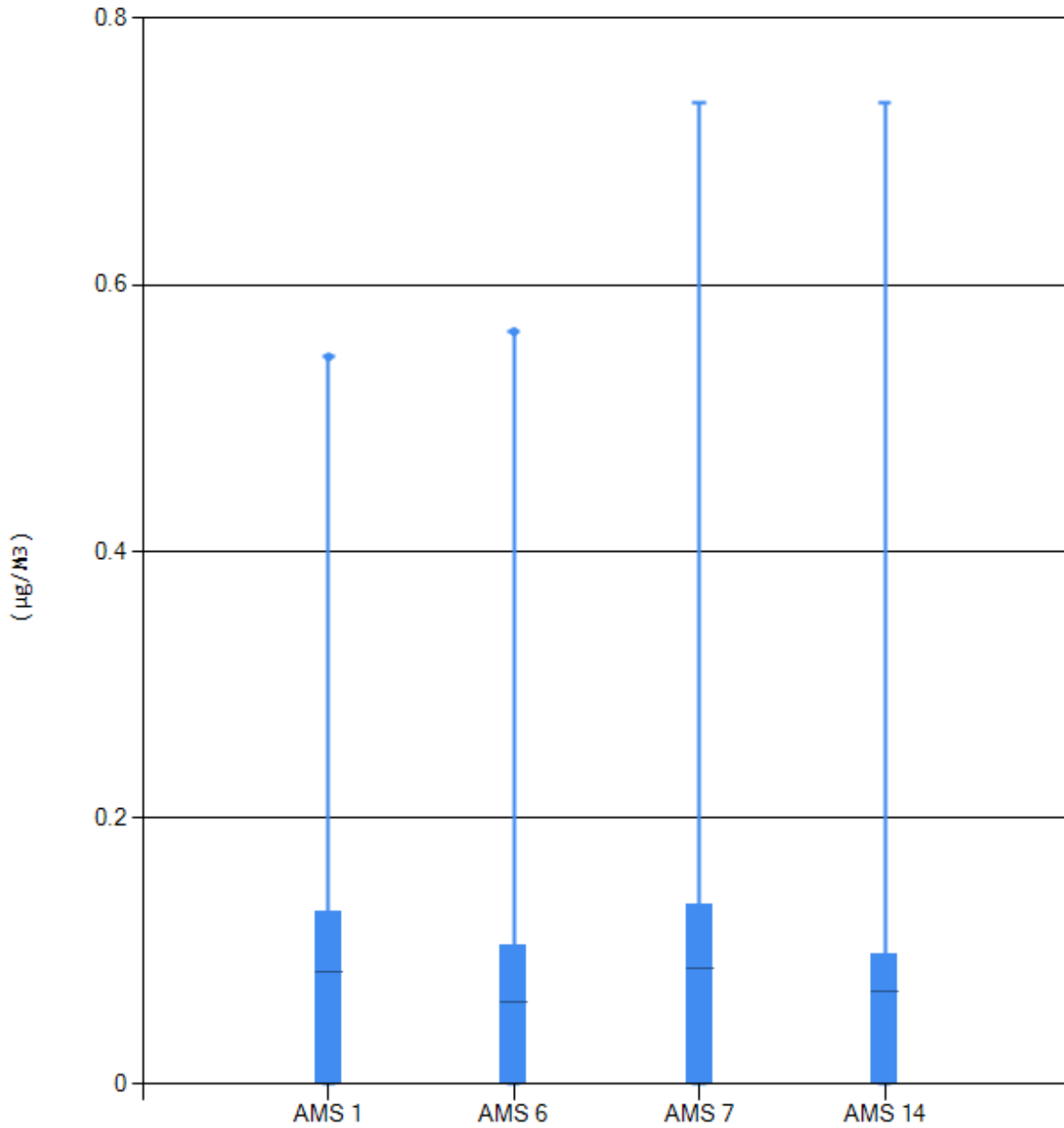
Station #	AMS 1	AMS 6	AMS 7	AMS 14	Total Samples (#)	
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Lab Blank Filter	Travel Blank Filters
Sample Date						
PM Size(µm)	pm2.5	pm2.5	pm2.5	pm2.5	pm2.5	pm2.5
<b>Unit</b>						
Particulate Matter	57	57	54	58	61	61
Ammonium (as N)	57	57	54	58	61	61
Calcium	57	57	54	58	61	61
Chloride	57	57	54	58	61	61
Magnesium	57	57	54	58	61	61
Nitrate	57	57	54	58	61	61
Potassium	57	57	54	58	61	61
Sodium	57	57	54	58	61	61
Sulphate	57	57	54	58	61	61

Station #	AMS 1	AMS 6	AMS 7	AMS 14	AMS 12	AMS 13	AMS 15	AMS 16	
Station Name	Bertha Ganter	Patricia McInnes	Athabasca Valley	Anzac	Millennium	Fort McKay South	Horizon	Muskeg River	Lab Blank Filter
Sample Date									
PM Size(µm)	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10	pm10
<b>Unit</b>									
Particulate Matter	54	56	54	57	58	56	57	58	61
Ammonium (as N)	54	56	54	57	58	56	57	58	61
Calcium	54	56	54	57	58	56	57	58	61
Chloride	54	56	54	57	58	56	57	58	61
Magnesium	54	56	54	57	58	56	57	58	61
Nitrate	54	56	54	57	58	56	57	58	61
Potassium	54	56	54	57	58	56	57	58	61
Sodium	54	56	54	57	58	56	57	58	61
Sulphate	54	56	54	57	58	56	57	58	61



PM\_ION - Calcium - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

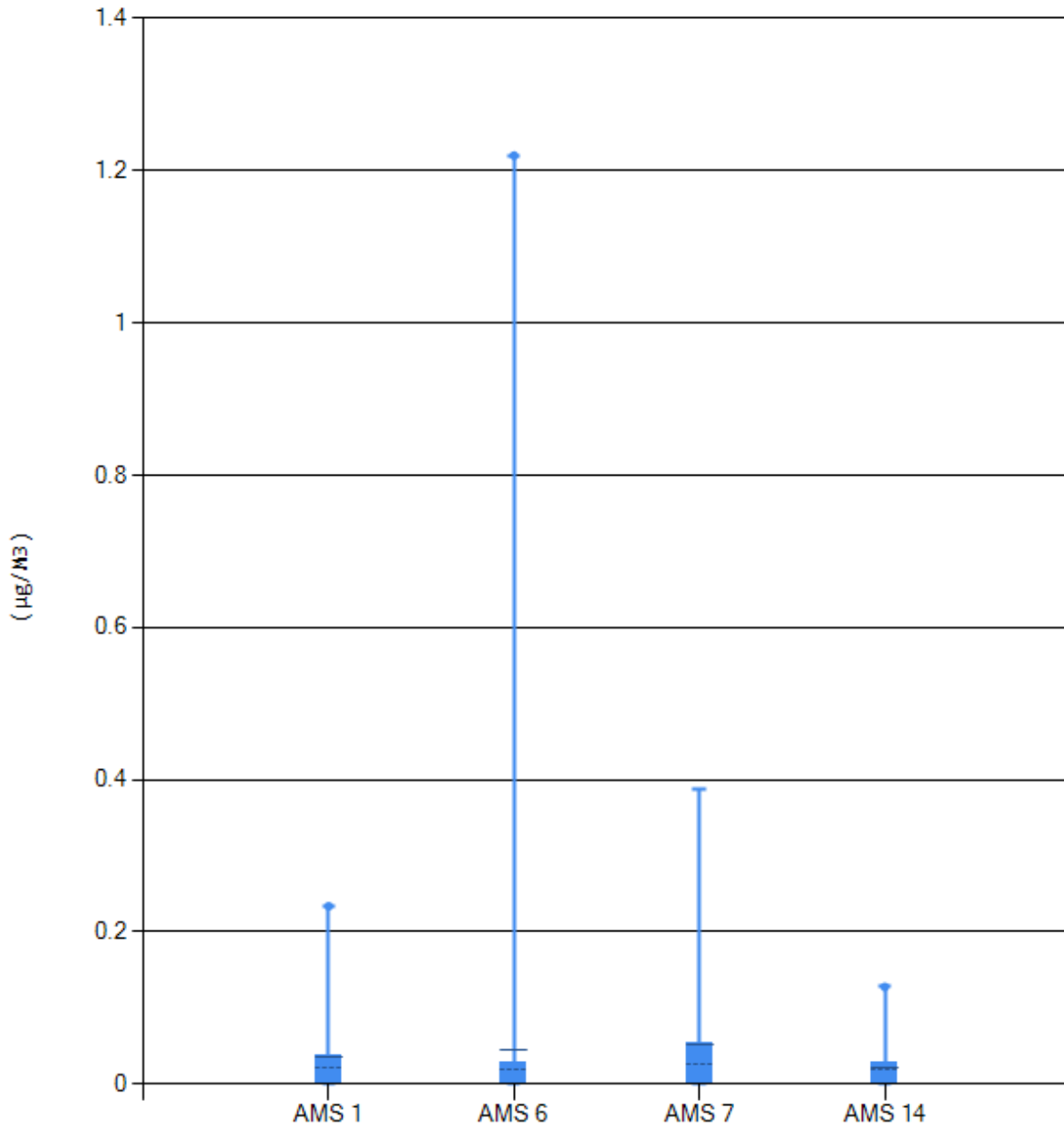
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0.13	0.55	0.08
AMS 6 Patricia McInnes	0	0	0	0.11	0.57	0.06
AMS 7 Athabasca Valley	0	0	0	0.14	0.74	0.09
AMS 14 Anzac	0	0	0	0.1	0.74	0.07





PM\_ION - Chloride - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

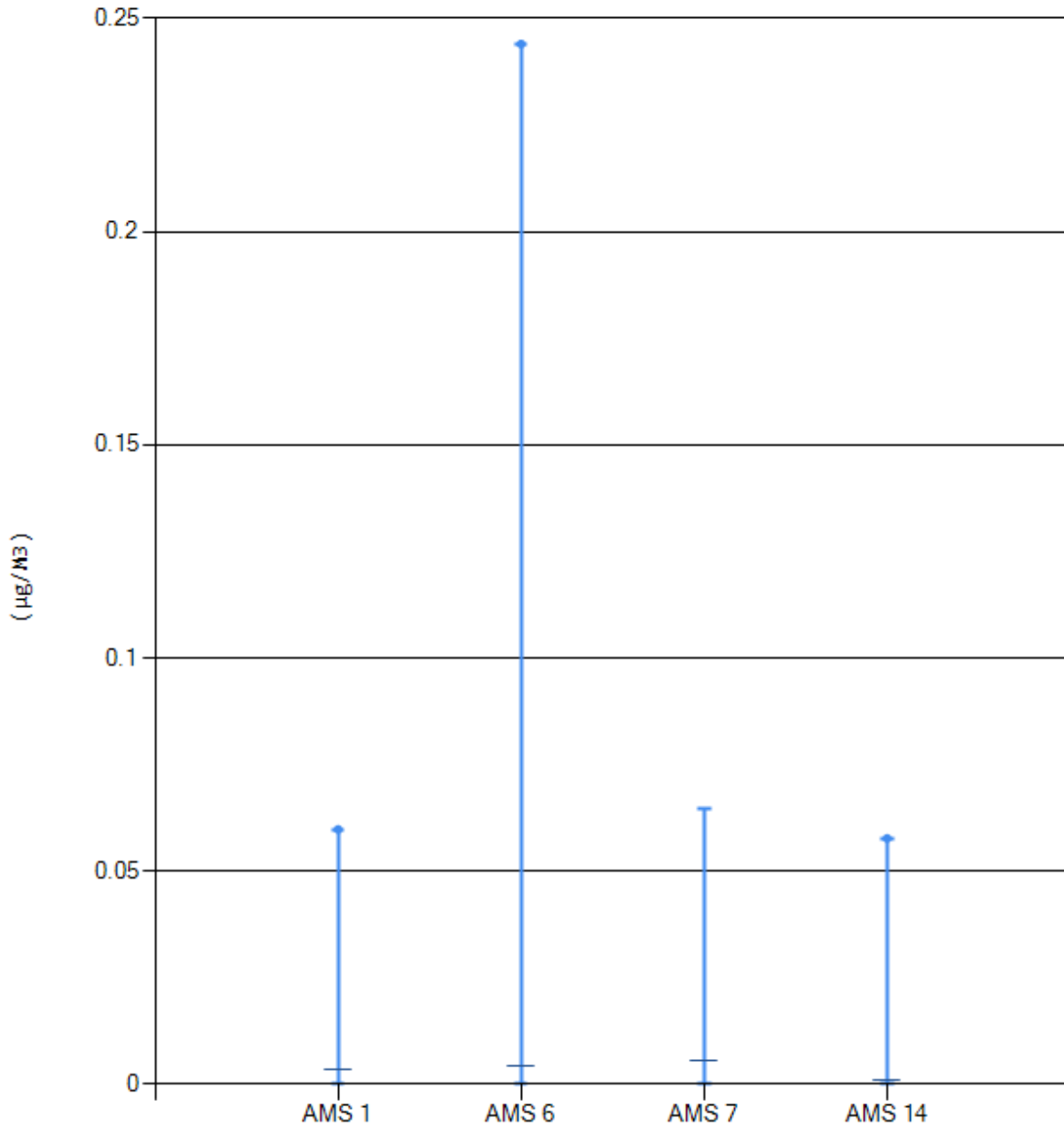
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0.02	0.04	0.23	0.04
AMS 6 Patricia McInnes	0	0	0.02	0.03	1.22	0.05
AMS 7 Athabasca Valley	0	0	0.03	0.06	0.39	0.05
AMS 14 Anzac	0	0	0.02	0.03	0.13	0.02





PM\_ION - Magnesium - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

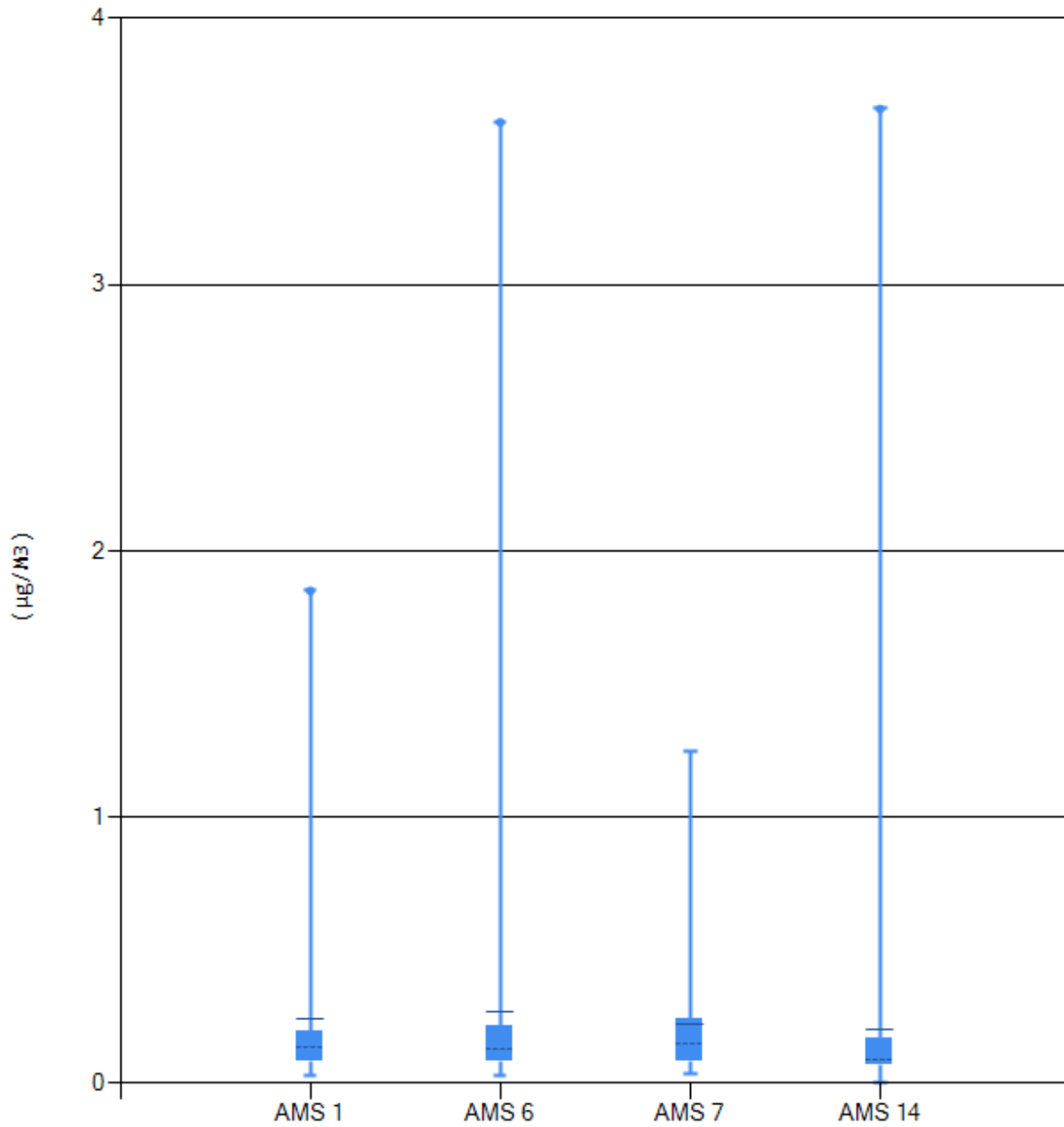
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.06	0
AMS 6 Patricia McInnes	0	0	0	0	0.24	0
AMS 7 Athabasca Valley	0	0	0	0	0.06	0.01
AMS 14 Anzac	0	0	0	0	0.06	0





PM\_ION - Nitrate - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

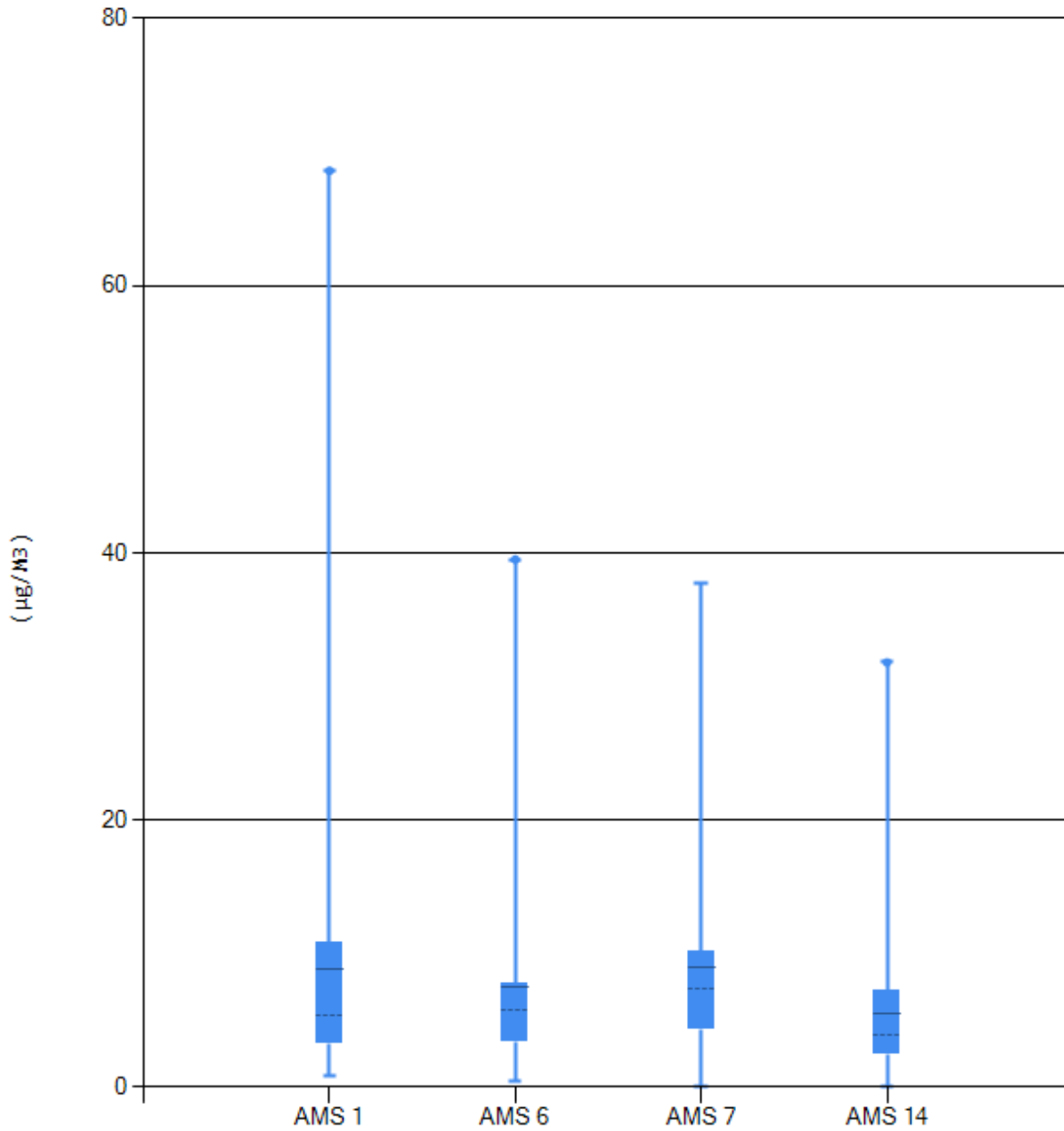
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0.03	0.08	0.13	0.2	1.85	0.24
AMS 6 Patricia McInnes	0.03	0.08	0.13	0.22	3.61	0.27
AMS 7 Athabasca Valley	0.03	0.08	0.15	0.24	1.25	0.22
AMS 14 Anzac	0	0.07	0.09	0.17	3.66	0.2





PM\_I0N - Particulate Matter - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0.87	3.15	5.42	10.98	68.6	8.86
AMS 6 Patricia McInnes	0.5	3.4	5.71	7.72	39.5	7.44
AMS 7 Athabasca Valley	0	4.26	7.34	10.3	37.7	9.03
AMS 14 Anzac	0	2.36	3.88	7.46	31.8	5.45

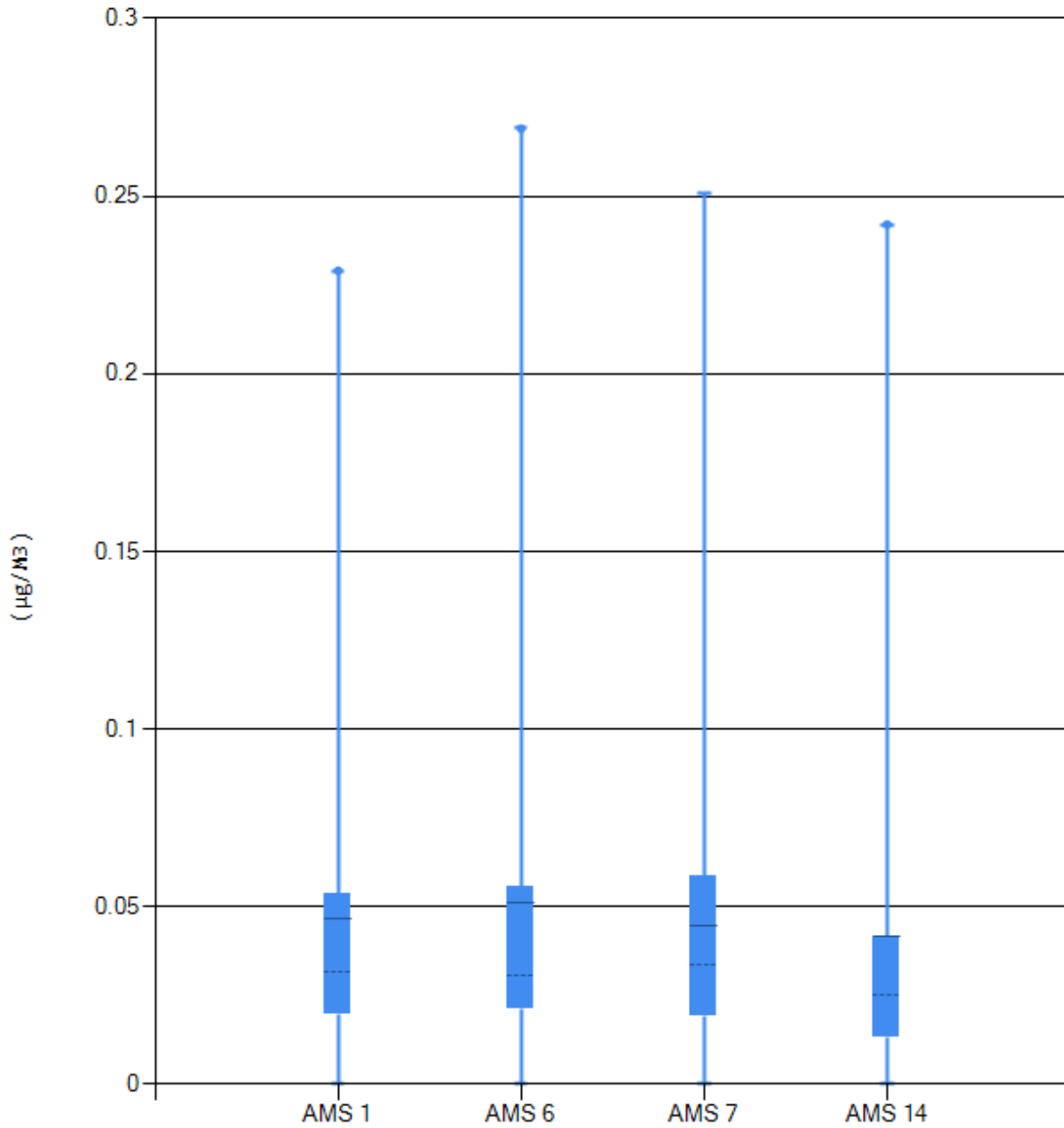






PM\_ION - Potassium - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

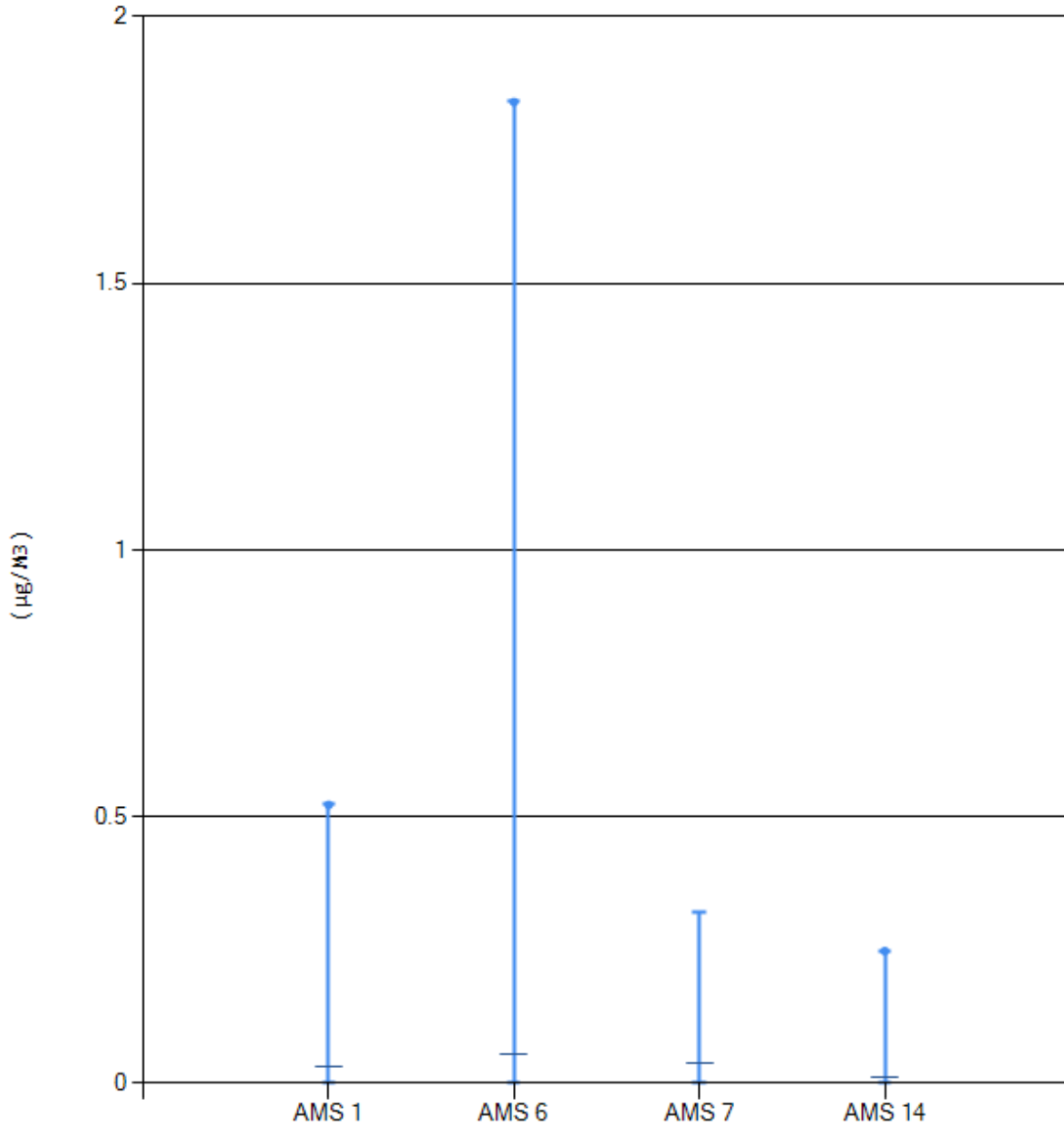
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0.02	0.03	0.05	0.23	0.05
AMS 6 Patricia McInnes	0	0.02	0.03	0.06	0.27	0.05
AMS 7 Athabasca Valley	0	0.02	0.03	0.06	0.25	0.04
AMS 14 Anzac	0	0.01	0.03	0.04	0.24	0.04





PM\_ION - Sodium - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

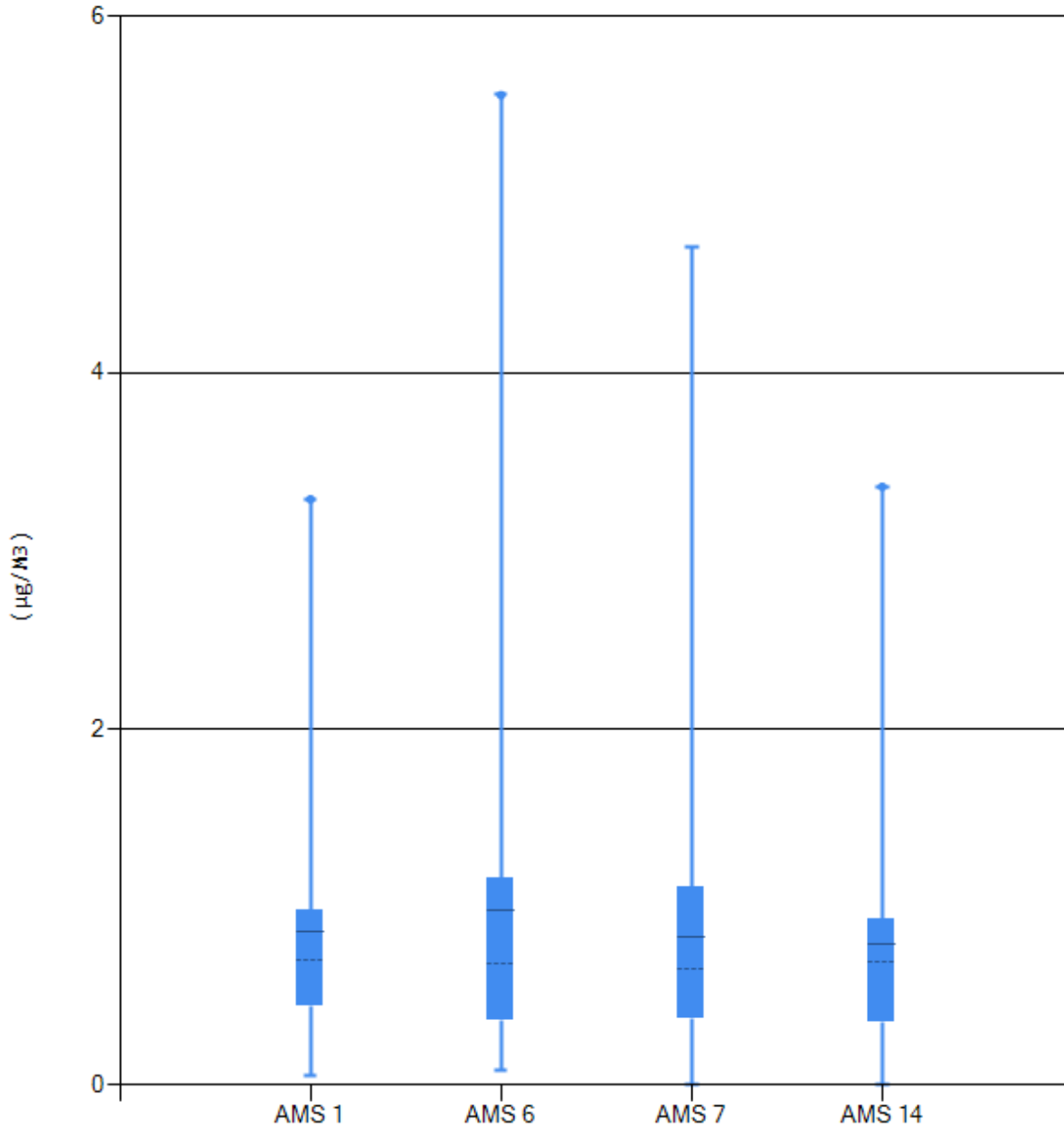
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.52	0.03
AMS 6 Patricia McInnes	0	0	0	0	1.84	0.06
AMS 7 Athabasca Valley	0	0	0	0	0.32	0.04
AMS 14 Anzac	0	0	0	0	0.25	0.01





PM\_ION - Sulphate - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

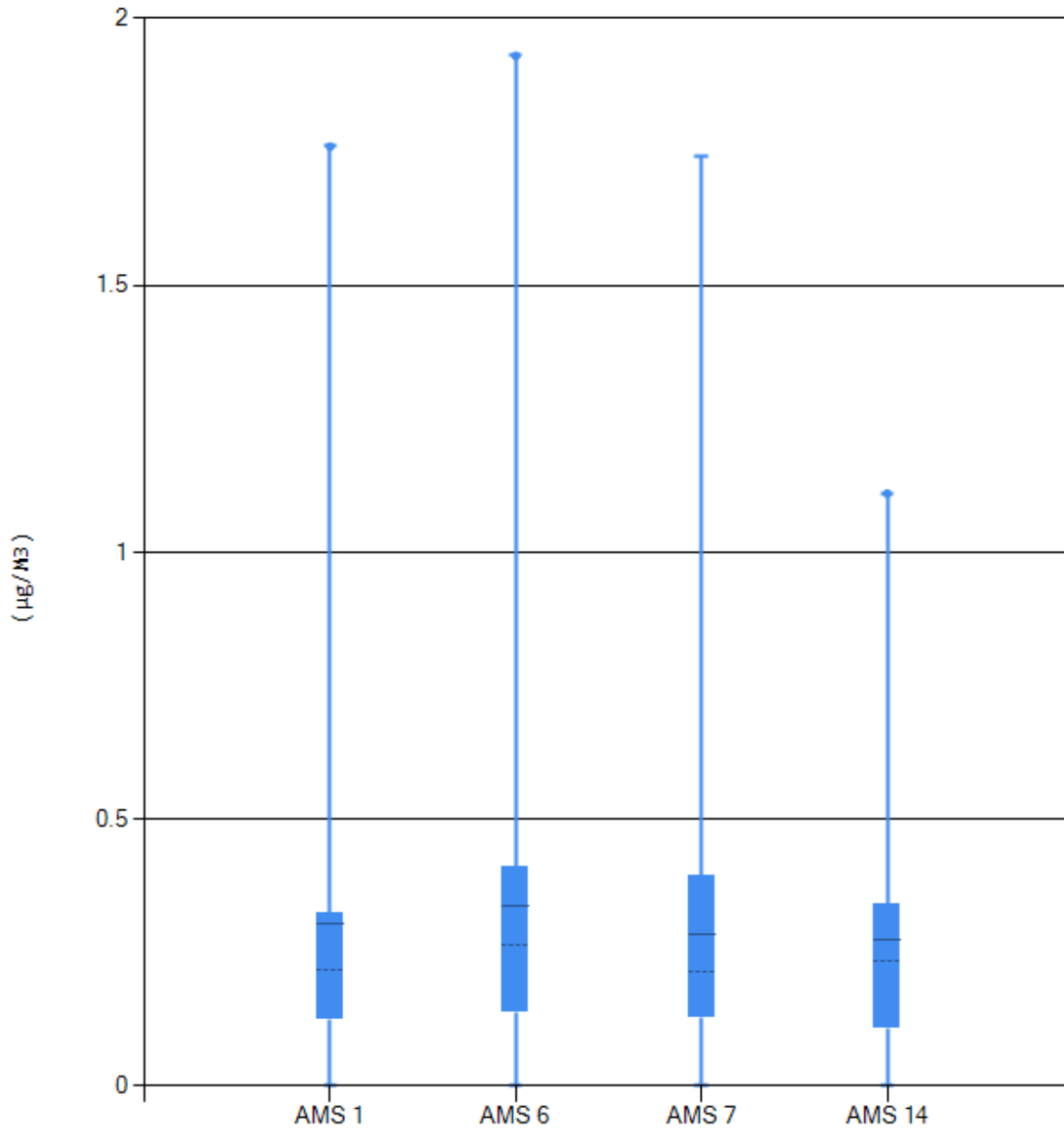
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0.05	0.43	0.7	1	3.29	0.86
AMS 6 Patricia McInnes	0.08	0.36	0.68	1.18	5.56	0.98
AMS 7 Athabasca Valley	0	0.37	0.65	1.13	4.71	0.83
AMS 14 Anzac	0	0.35	0.69	0.93	3.36	0.79





PM\_ION - Ammonium (as N) - pm2.5 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

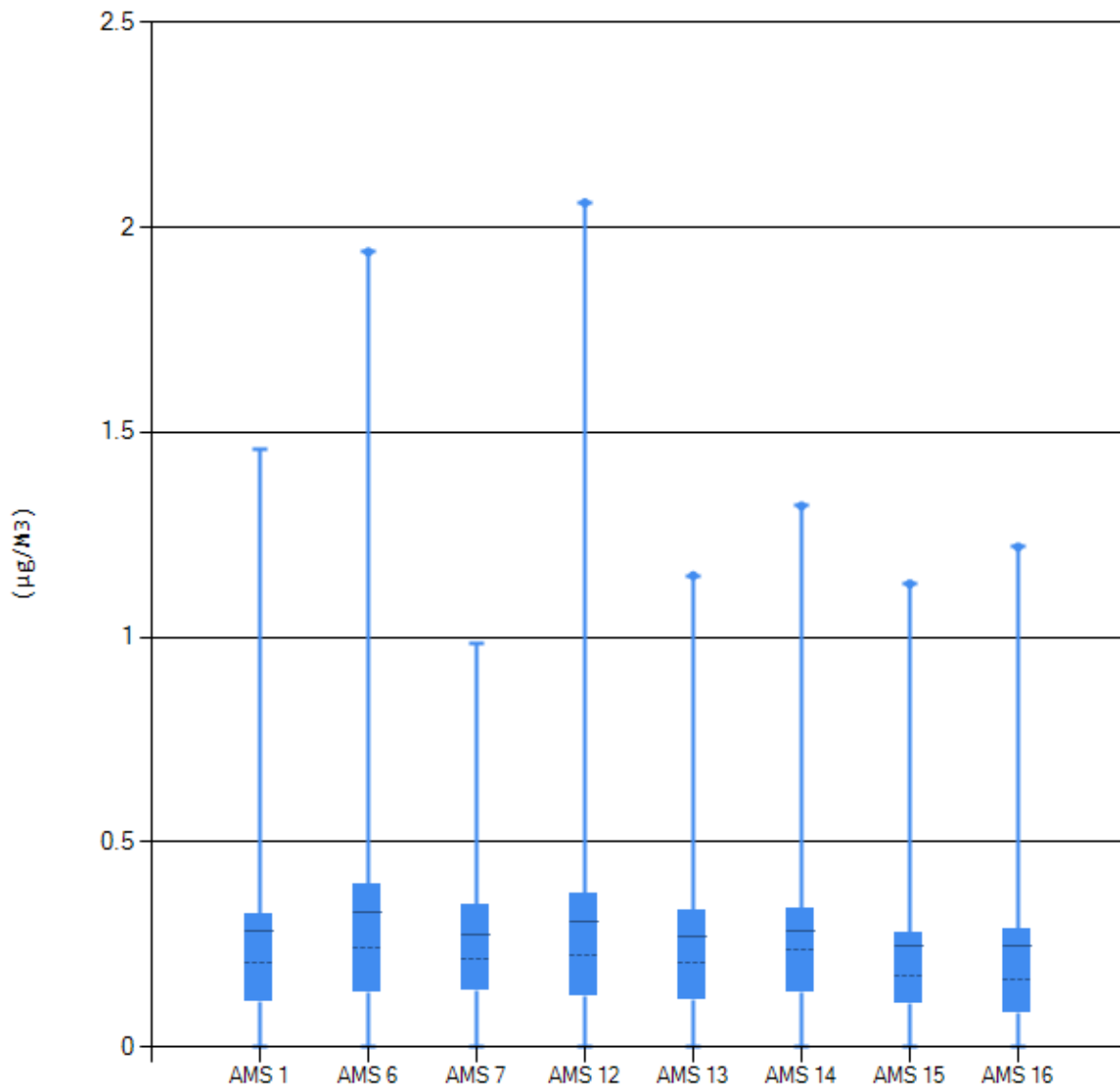
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0.12	0.22	0.33	1.76	0.3
AMS 6 Patricia McInnes	0	0.13	0.27	0.42	1.93	0.34
AMS 7 Athabasca Valley	0	0.12	0.22	0.4	1.74	0.28
AMS 14 Anzac	0	0.11	0.23	0.34	1.11	0.27





PM\_ION - Ammonium (as N) - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

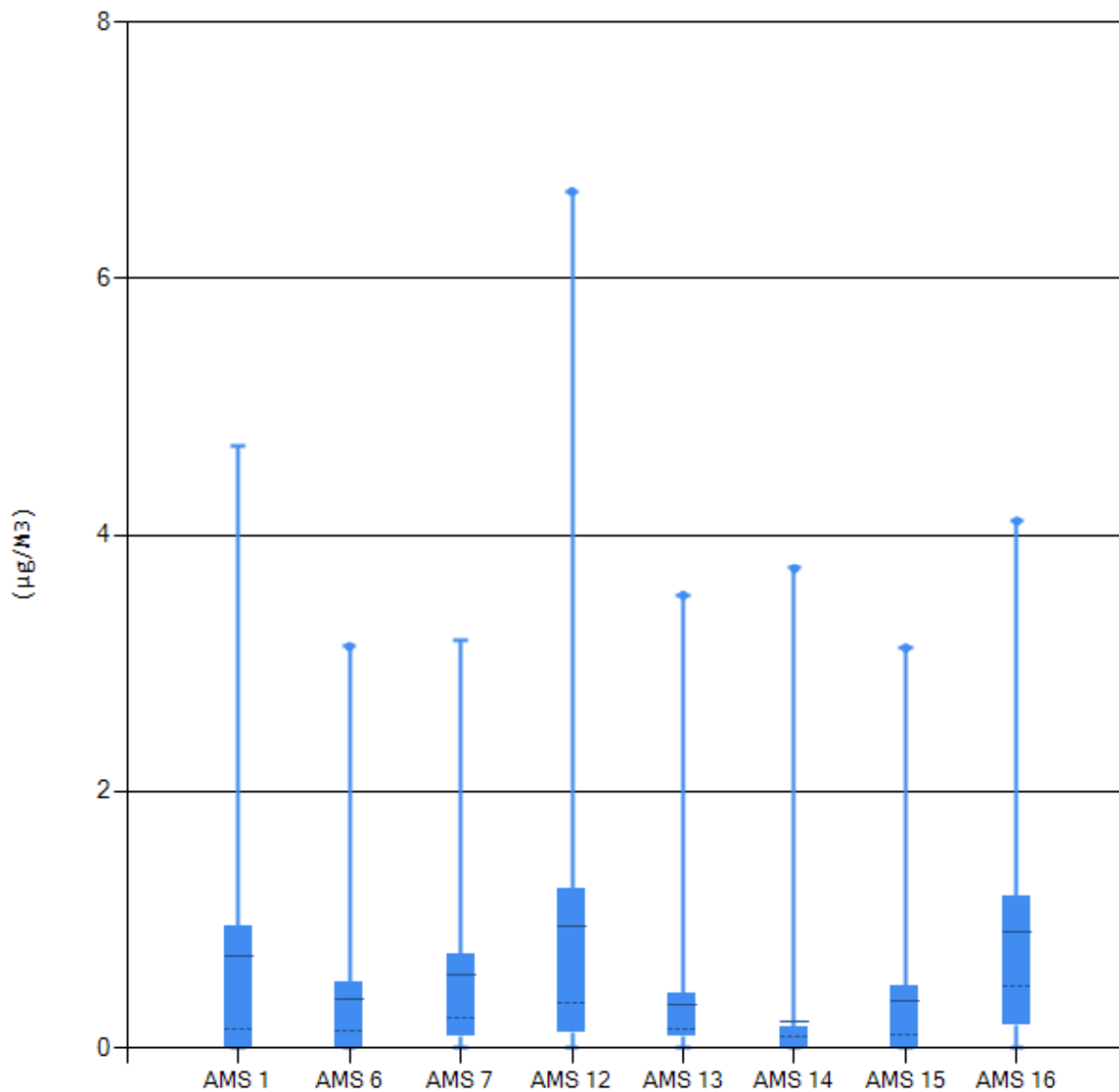
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0.11	0.21	0.33	1.46	0.28
AMS 6 Patricia McInnes	0	0.13	0.24	0.4	1.94	0.33
AMS 7 Athabasca Valley	0	0.14	0.21	0.35	0.99	0.27
AMS 12 Millennium	0	0.12	0.22	0.38	2.06	0.3
AMS 13 Fort McKay South	0	0.11	0.21	0.33	1.15	0.27
AMS 14 Anzac	0	0.13	0.24	0.34	1.32	0.28
AMS 15 Horizon	0	0.1	0.17	0.28	1.13	0.25
AMS 16 Muskeg River	0	0.08	0.17	0.29	1.22	0.24





PM\_ION - Calcium - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

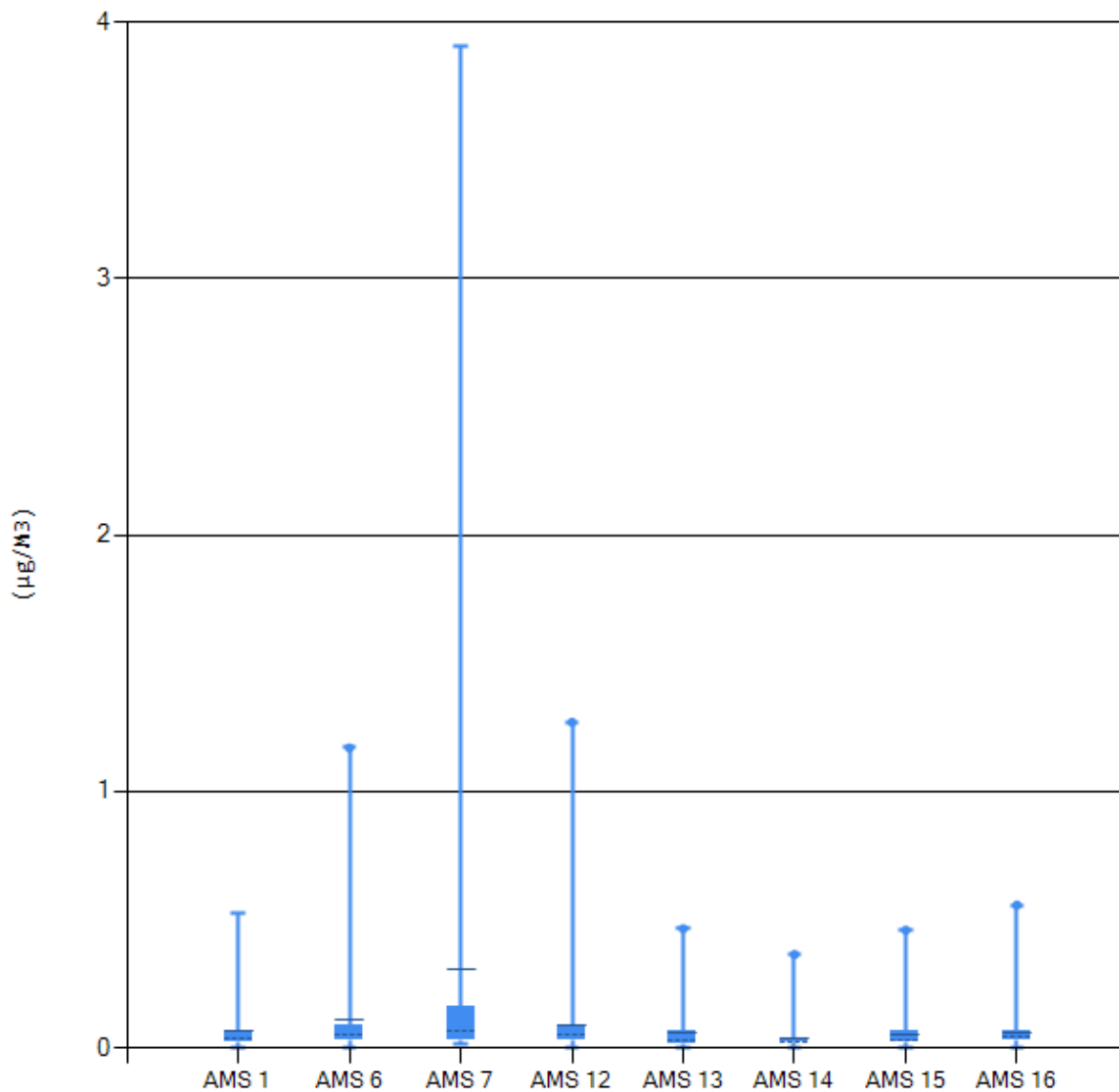
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0.15	1	4.69	0.72
AMS 6 Patricia McInnes	0	0	0.14	0.51	3.13	0.38
AMS 7 Athabasca Valley	0	0.09	0.23	0.74	3.18	0.57
AMS 12 Millennium	0	0.11	0.35	1.25	6.68	0.94
AMS 13 Fort McKay South	0	0.09	0.15	0.43	3.53	0.34
AMS 14 Anzac	0	0	0.08	0.17	3.74	0.2
AMS 15 Horizon	0	0	0.1	0.48	3.12	0.37
AMS 16 Muskeg River	0	0.17	0.48	1.2	4.11	0.9





PM\_ION - Chloride - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

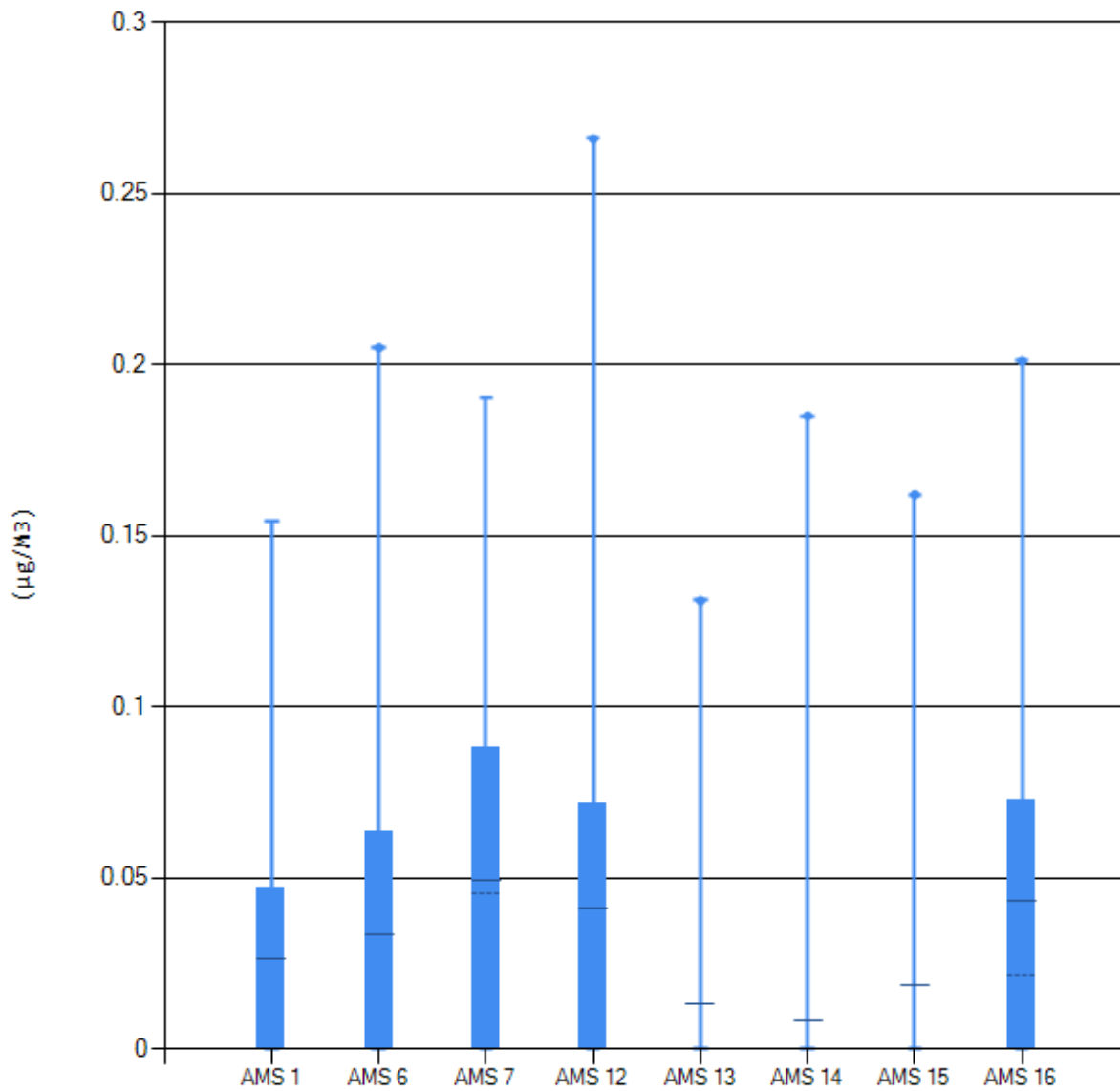
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0.02	0.04	0.07	0.52	0.07
AMS 6 Patricia McInnes	0	0.03	0.05	0.09	1.17	0.11
AMS 7 Athabasca Valley	0.02	0.03	0.06	0.17	3.91	0.31
AMS 12 Millennium	0	0.03	0.05	0.09	1.27	0.09
AMS 13 Fort McKay South	0	0.02	0.03	0.07	0.47	0.06
AMS 14 Anzac	0	0.02	0.02	0.04	0.36	0.04
AMS 15 Horizon	0	0.02	0.03	0.06	0.46	0.05
AMS 16 Muskeg River	0	0.03	0.04	0.07	0.56	0.06





PM\_ION - Magnesium - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0.05	0.15	0.03
AMS 6 Patricia McInnes	0	0	0	0.07	0.21	0.03
AMS 7 Athabasca Valley	0	0	0.05	0.09	0.19	0.05
AMS 12 Millennium	0	0	0	0.07	0.27	0.04
AMS 13 Fort McKay South	0	0	0	0	0.13	0.01
AMS 14 Anzac	0	0	0	0	0.19	0.01
AMS 15 Horizon	0	0	0	0.01	0.16	0.02
AMS 16 Muskeg River	0	0	0.02	0.07	0.2	0.04

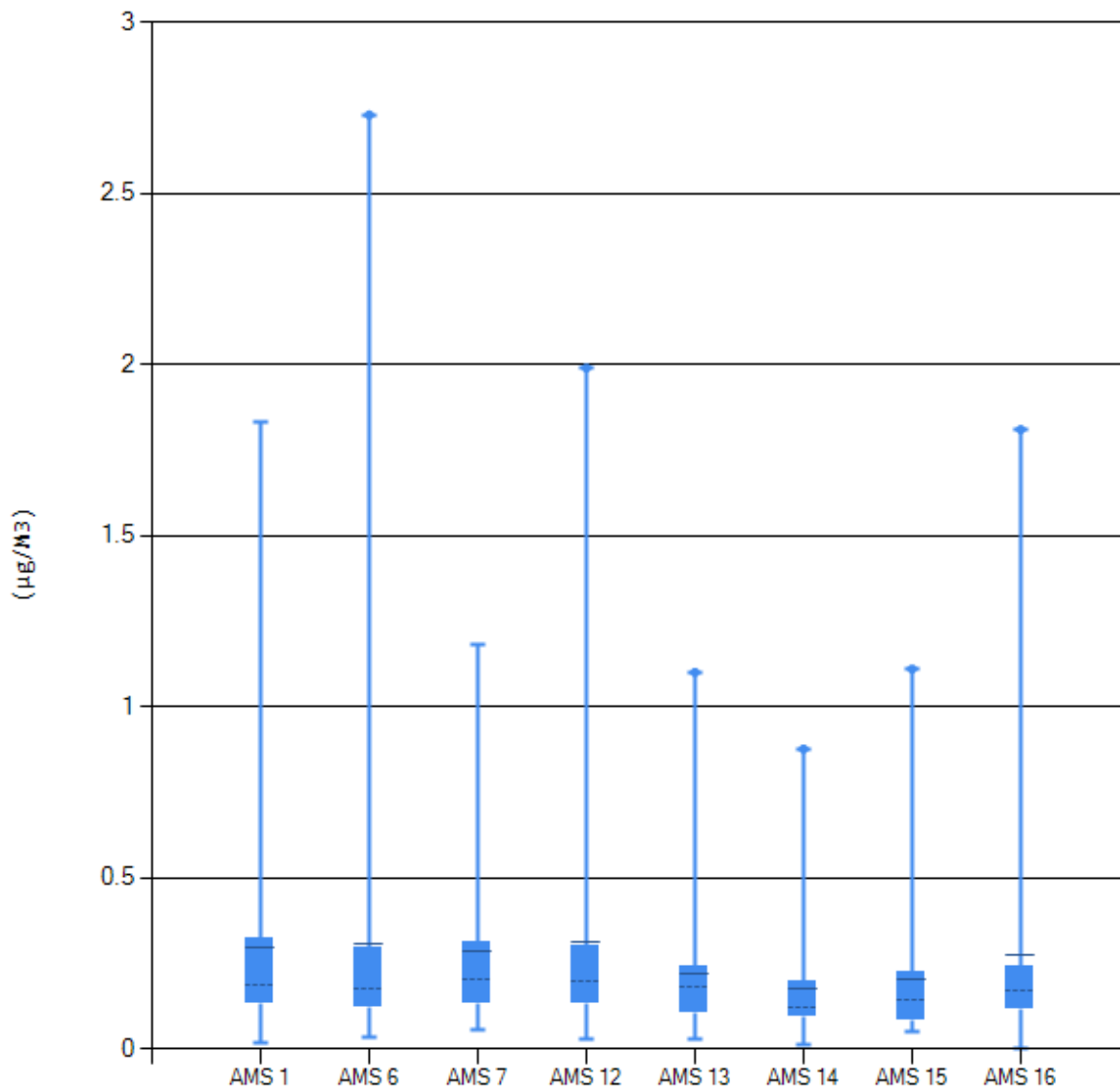






PM\_ION - Nitrate - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

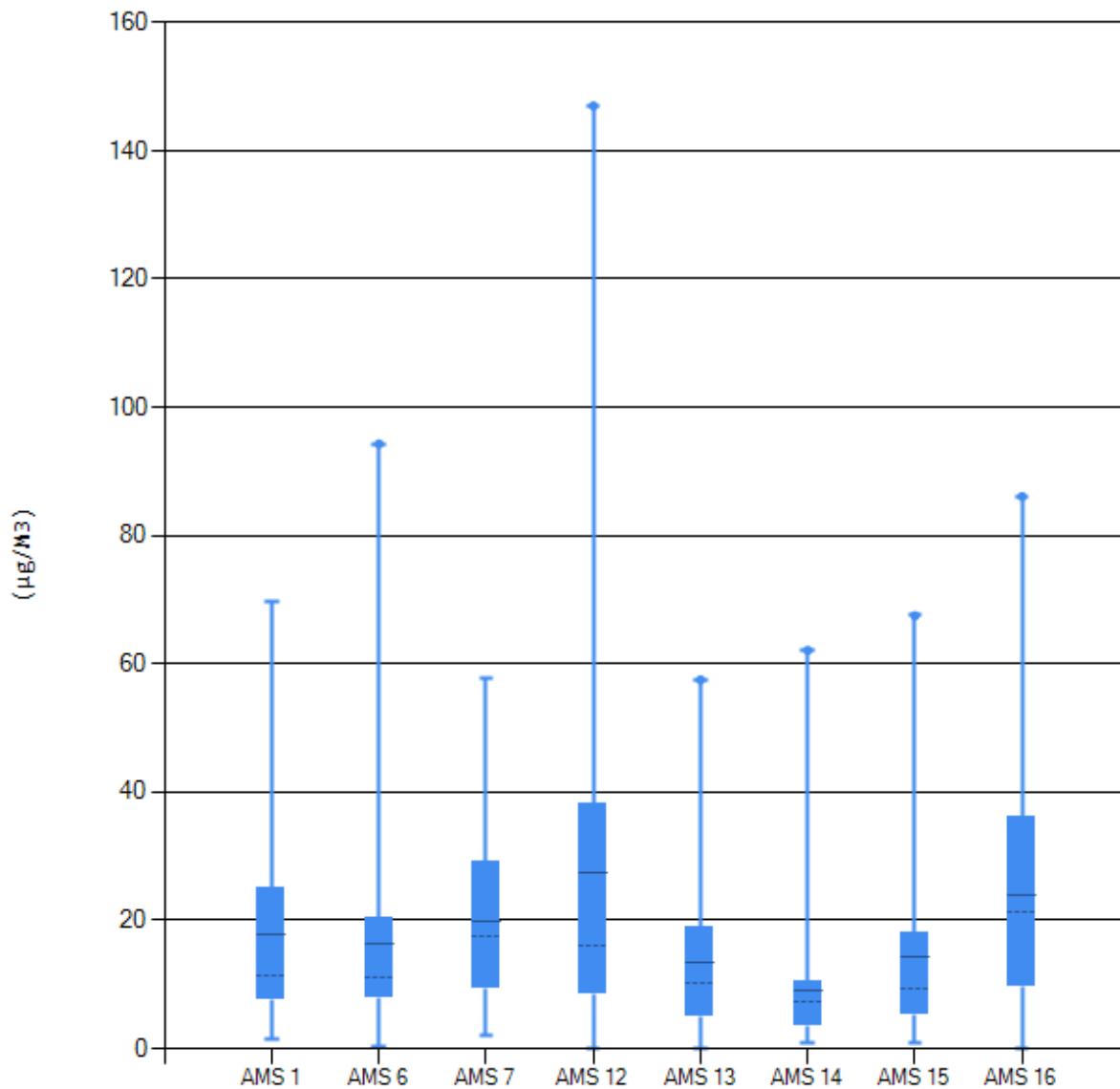
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0.02	0.13	0.18	0.33	1.83	0.29
AMS 6 Patricia McInnes	0.03	0.12	0.17	0.3	2.73	0.31
AMS 7 Athabasca Valley	0.05	0.13	0.2	0.32	1.18	0.28
AMS 12 Millennium	0.03	0.13	0.2	0.3	1.99	0.31
AMS 13 Fort McKay South	0.03	0.1	0.18	0.24	1.1	0.22
AMS 14 Anzac	0.01	0.09	0.12	0.2	0.88	0.17
AMS 15 Horizon	0.05	0.08	0.14	0.23	1.11	0.2
AMS 16 Muskeg River	0	0.11	0.17	0.24	1.81	0.27





PM\_ION - Particulate Matter - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

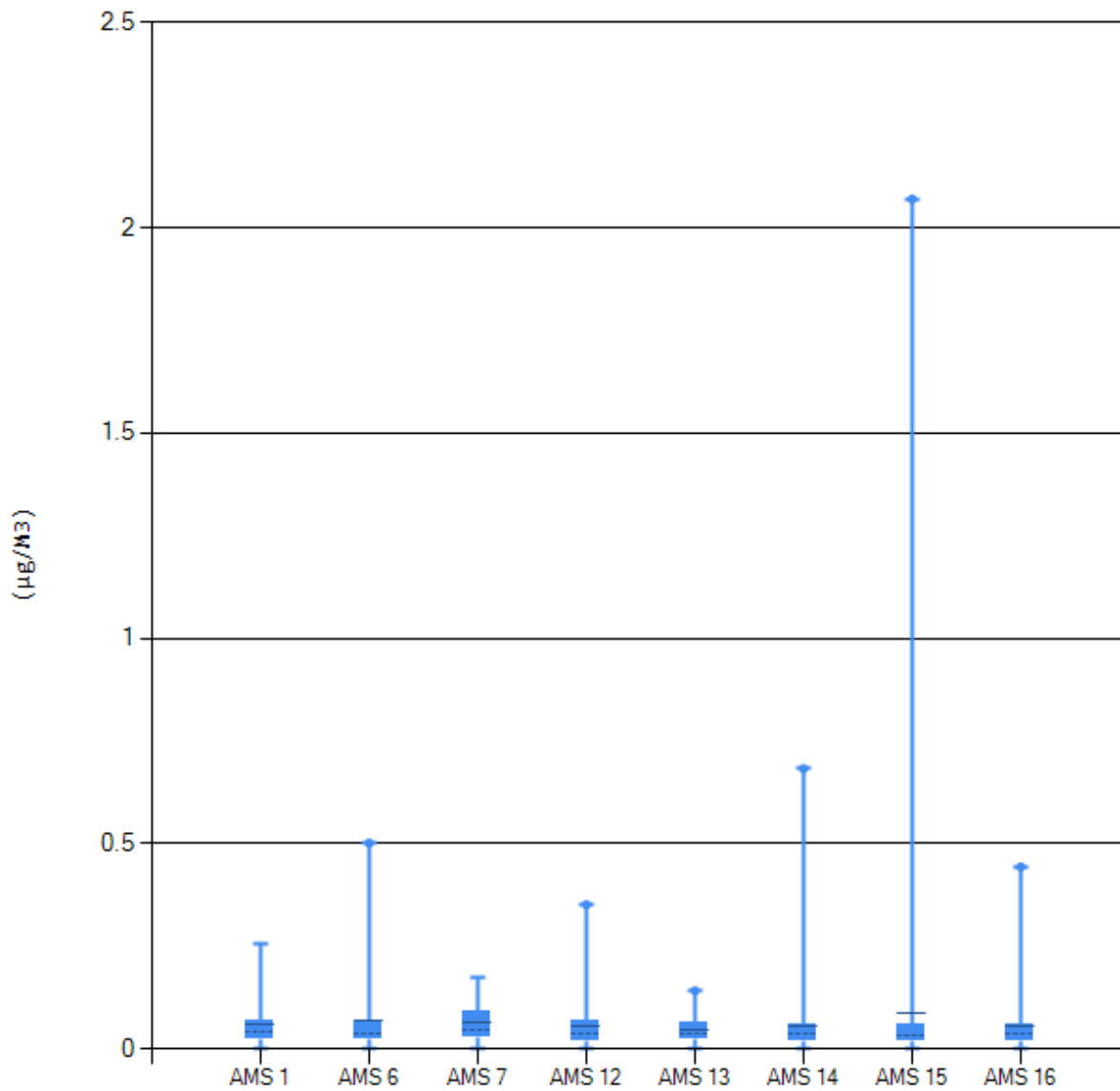
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	1.41	7.42	11.45	25.48	69.8	17.74
AMS 6 Patricia McInnes	0.25	7.81	11.2	20.45	94.3	16.33
AMS 7 Athabasca Valley	2.13	9.29	17.5	29.1	57.8	19.79
AMS 12 Millennium	0	8.46	16	39.02	147	27.49
AMS 13 Fort McKay South	0.08	4.84	10.07	19.7	57.5	13.39
AMS 14 Anzac	0.83	3.52	7.25	10.65	62.1	9.11
AMS 15 Horizon	0.96	5.24	9.21	18.13	67.5	14.41
AMS 16 Muskeg River	0	9.63	21.2	36.54	86.1	23.87





PM\_ION - Potassium - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

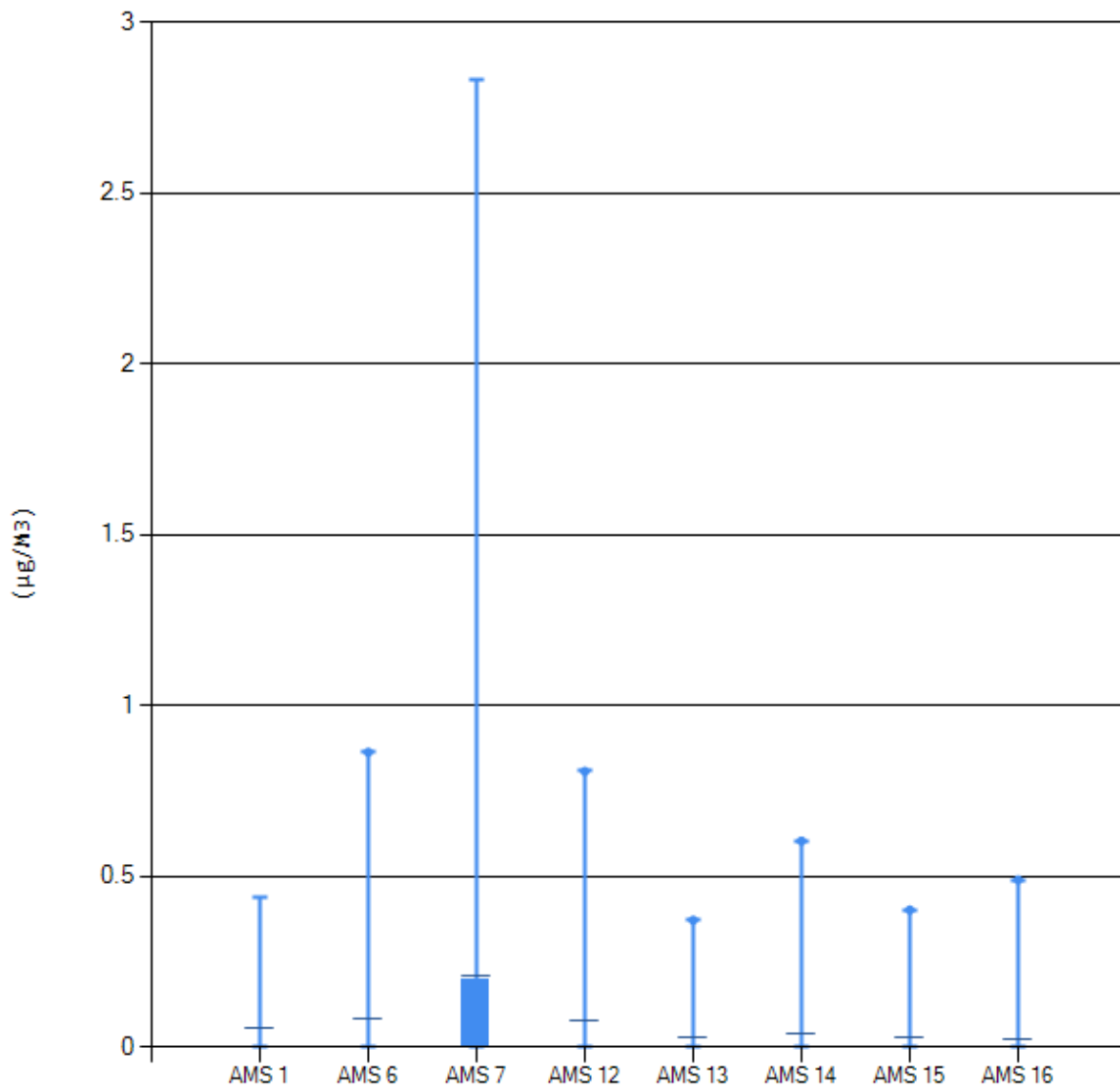
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0.02	0.04	0.07	0.25	0.06
AMS 6 Patricia McInnes	0	0.02	0.04	0.07	0.5	0.07
AMS 7 Athabasca Valley	0	0.03	0.05	0.09	0.17	0.06
AMS 12 Millennium	0	0.02	0.04	0.07	0.35	0.06
AMS 13 Fort McKay South	0	0.02	0.04	0.06	0.68	0.05
AMS 14 Anzac	0	0.02	0.04	0.06	0.68	0.05
AMS 15 Horizon	0	0.02	0.03	0.06	2.07	0.09
AMS 16 Muskeg River	0	0.02	0.04	0.06	0.44	0.06





PM\_ION - Sodium - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

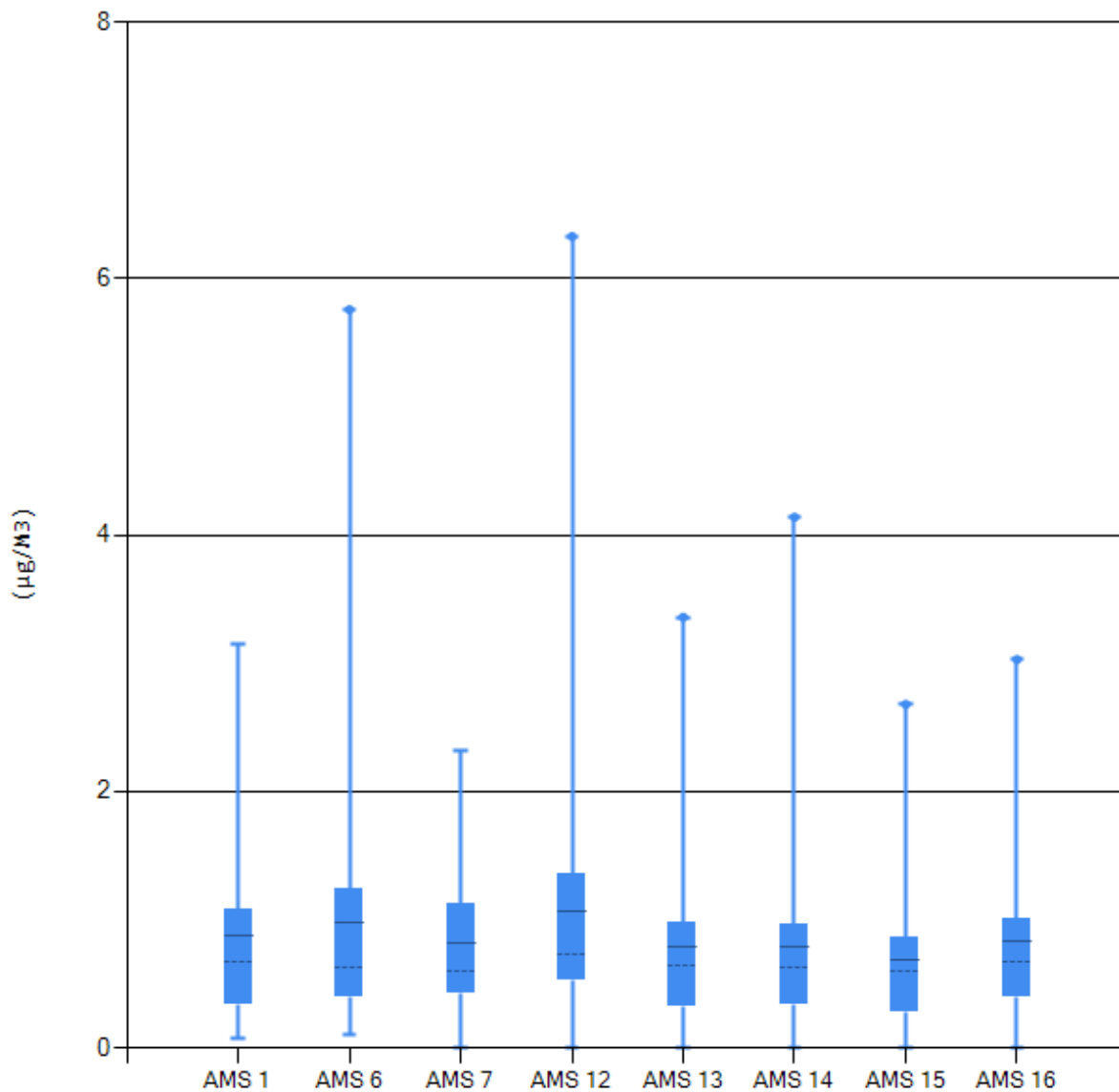
Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0	0	0	0	0.44	0.05
AMS 6 Patricia McInnes	0	0	0	0	0.86	0.08
AMS 7 Athabasca Valley	0	0	0	0.2	2.83	0.21
AMS 12 Millennium	0	0	0	0	0.81	0.08
AMS 13 Fort McKay South	0	0	0	0	0.37	0.03
AMS 14 Anzac	0	0	0	0	0.6	0.04
AMS 15 Horizon	0	0	0	0	0.4	0.03
AMS 16 Muskeg River	0	0	0	0	0.49	0.02





PM\_ION - Sulphate - pm10 - ( $\mu\text{g}/\text{M}^3$ ) - 2014

Station Name	Min	Q1	Med	Q3	Max	Ave
AMS 1 Bertha Ganter	0.08	0.33	0.67	1.08	3.15	0.88
AMS 6 Patricia McInnes	0.1	0.39	0.62	1.25	5.76	0.98
AMS 7 Athabasca Valley	0	0.43	0.6	1.13	2.32	0.81
AMS 12 Millennium	0	0.53	0.74	1.38	6.33	1.06
AMS 13 Fort McKay South	0	0.31	0.64	0.98	3.36	0.78
AMS 14 Anzac	0	0.33	0.63	0.97	4.14	0.79
AMS 15 Horizon	0	0.28	0.59	0.86	2.68	0.69
AMS 16 Muskeg River	0	0.39	0.67	1.02	3.03	0.83





## **WOOD BUFFALO ENVIRONMENTAL ASSOCIATION**

### **INTEGRATED MONITORING PROGRAM ANNUAL REPORT**

### **PRECIPITATION SAMPLES DATA SUMMARY 2014**

Prepared  
March 12, 2015

#### **SAMPLE COLLECTION BY:**

**Wood Buffalo Environmental Association**  
Fort McMurray, Alberta

#### **LABORATORY ANALYSIS BY:**

Precipitation: Alberta Innovates - Technology Futures  
Vegreville, Alberta

#### **DATA COMPILATION BY:**

Aurora Atmospherics Inc.  
Calgary, Alberta

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Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity				
							Mass	Charge			Molar Ion	Sample	Ratio	Difference	
PR-2014030	Bertha Ganter	01-Jan-2014	AQ Acidity	Acidity	18	ueq/L									
			AQ Conductivity (µS/cm)	Conductivity (µS/cm)	8	uS/cm									
			AQ IC-Ammonium	Ammonium	0.011	mg/L	18.04	1	0.61		73.5	0.04	0.88	13.9%	
			AQ IC-Calcium	Calcium	1.037	mg/L	40.08	2	51.75		119	3.08			
			AQ IC-Chloride	Chloride	0.161	mg/L	35.45	1	4.54		76.3	0.35			
			AQ IC-Magnesium	Magnesium	0.259	mg/L	24.30	2	21.32		106	1.13			
			AQ IC-Nitrate	Nitrate	0.749	mg/L	62.00	1	12.08		71.4	0.86			
			AQ IC-Phosphate	Phosphate	<0.015	mg/L	94.97	3			207				
			AQ IC-Potassium	Potassium	0.066	mg/L	39.10	1	1.69		73.5	0.12			
			AQ IC-Sodium	Sodium	0.095	mg/L	22.99	1	4.13		50.1	0.21			
			AQ IC-Sulfate	Sulfate	0.596	mg/L	96.07	2	12.41		160	0.99			
			AQ pH	pH	7.01	pH units									
									Total Ions		160.71				
									Bicarbonate		52.2		44.5	2.32	
						Cations		79.5	0.98		9.11				
						Anions		81.2							



Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molar Ion	Sample	Ratio	Difference
PR-2014064	Bertha Ganter	08-Jan-2014	AQ Acidity	Acidity	17	ueq/L								
			AQ Conductivity (µEq/L)	Conductivity (µEq/L)	7	uS/cm								
			AQ IC-Ammonium	Ammonium	0.070	mg/L	18.04	1	3.88		73.5	0.29	1.17	-14.3%
			AQ IC-Calcium	Calcium	0.359	mg/L	40.08	2	17.91		119	1.07		
			AQ IC-Chloride	Chloride	0.577	mg/L	35.45	1	16.28		76.3	1.24		
			AQ IC-Magnesium	Magnesium	0.087	mg/L	24.30	2	7.16		106	0.38		
			AQ IC-Nitrate	Nitrate	1.081	mg/L	62.00	1	17.44		71.4	1.24		
			AQ IC-Phosphate	Phosphate	<0.015	mg/L	94.97	3			207			
			AQ IC-Potassium	Potassium	0.112	mg/L	39.10	1	2.86		73.5	0.21		
			AQ IC-Sodium	Sodium	0.345	mg/L	22.99	1	15.01		50.1	0.75		
			AQ IC-Sulfate	Sulfate	0.371	mg/L	96.07	2	7.72		160	0.62		
			AQ pH	pH	5.95	pH units								
									Total Ions	92.81				
									Bicarbonate	4.5		44.5	0.20	
						Cations	46.8	1.02		6.00				
						Anions	46.0							

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molar Ion	Sample	Ratio	Difference
PR-2014197	Bertha Ganter	12-Mar-2014	AQ Acidity	Acidity	1	ueq/L								
			AQ Conductivity (µEq/L)	Conductivity (µEq/L)	11	uS/cm								
			AQ IC-Ammonium	Ammonium	0.155	mg/L	18.04	1	8.59		73.5	0.63	1.01	-1.2%
			AQ IC-Calcium	Calcium	0.912	mg/L	40.08	2	45.51		119	2.71		
			AQ IC-Chloride	Chloride	0.552	mg/L	35.45	1	15.57		76.3	1.19		
			AQ IC-Magnesium	Magnesium	0.129	mg/L	24.30	2	10.62		106	0.56		
			AQ IC-Nitrate	Nitrate	2.380	mg/L	62.00	1	38.39		71.4	2.74		
			AQ IC-Phosphate	Phosphate	<0.015	mg/L	94.97	3			207			
			AQ IC-Potassium	Potassium	0.243	mg/L	39.10	1	6.21		73.5	0.46		
			AQ IC-Sodium	Sodium	0.376	mg/L	22.99	1	16.35		50.1	0.82		
			AQ IC-Sulfate	Sulfate	0.597	mg/L	96.07	2	12.43		160	0.99		
			AQ pH	pH	6.53	pH units								
							Total Ions		170.96					
							Bicarbonate		17.3		44.5	0.77		
							Cations		87.3	1.04		10.87		
							Anions		83.7					

Sample Number	Customer Sample ID	Test	Parameter	Reported Result	Reporting Units	Molecular		μEq/L	Ion ratio (C/A)	Conductivity				
						Mass	Charge			Molecular Ion	Sample	Ratio	Difference	
14050011-004	AMS01 Bertha April 23, 2014 (sp)	AQ Acidity	Acidity	14.30	ueq/L									
		AQ Conductivity	Conductivity	20	uS/cm									
		AQ IC-Ammonium	Ammonium	0.30	mg/L	18.04	1	16.63		73.5	1.22	0.95	5.4%	
		AQ IC-Calcium	Calcium	2.0	mg/L	40.08	2	99.80		119	5.94			
		AQ IC-Chloride	Chloride	1.3	mg/L	35.45	1	36.67		76.3	2.80			
		AQ IC-Magnesium	Magnesium	0.27	mg/L	24.30	2	22.22		106	1.18			
		AQ IC-Nitrate	Nitrate	0.77	mg/L	62.00	1	12.42		71.4	0.89			
		AQ IC-Phosphate	Phosphate	< 0.020	mg/L	94.97	3			207				
		AQ IC-Potassium	Potassium	0.26	mg/L	39.10	1	6.65		73.5	0.49			
		AQ IC-Sodium	Sodium	0.86	mg/L	22.99	1	37.41		50.1	1.87			
		AQ IC-Sulfate	Sulfate	1.3	mg/L	96.07	2	27.06		160	2.17			
		AQ pH	pH	7.3	pH units									
								Bicarbonate	101.8		44.5	4.53		
								Cations	182.7	1.03		21.08		
						Anions	177.9							

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molecular Ion	Sample	Ratio	Difference
15030006-001	Fort McMurray	28-May-2014	AQ Acidity	Acidity	15.8	ueq/L								
			AQ Conductivity (µS/cm)	Conductivity (µS/cm)	3.2	uS/cm								
			AQ IC-Ammonium	Ammonium	0.07	mg/L	18.04	1	3.60		73.5	0.26	1.06	-5.4%
			AQ IC-Calcium	Calcium	0.28	mg/L	40.08	2	13.77		119	0.82		
			AQ IC-Chloride	Chloride	0.09	mg/L	35.45	1	2.48		76.3	0.19		
			AQ IC-Magnesium	Magnesium	0.06	mg/L	24.30	2	4.77		106	0.25		
			AQ IC-Nitrate	Nitrate	0.19	mg/L	62.00	1	3.05		71.4	0.22		
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207			
			AQ IC-Potassium	Potassium	0.07	mg/L	39.10	1	1.66		73.5	0.12		
			AQ IC-Sodium	Sodium	0.07	mg/L	22.99	1	3.18		50.1	0.16		
			AQ IC-Sulfate	Sulfate	0.33	mg/L	96.07	2	6.87		160	0.55		
			AQ pH	pH	6.3	pH units								
							Total Ions		49.56					
							Bicarbonate		10.2		44.5	0.45		
							Cations		27.0	1.20		3.03		
							Anions		22.6					

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molecular Ion	Sample	Ratio	Difference
14060110-001	AMS01 Fort McKay	05-Jun-2014	AQ Acidity	Acidity	14.3	ueq/L								
			AQ Conductivity	Conductivity	12.0	uS/cm								
			AQ IC-Ammonium	Ammonium	0.04	mg/L	18.04	1	2.05		73.5	0.15	0.87	14.6%
			AQ IC-Calcium	Calcium	1.50	mg/L	40.08	2	74.85		119	4.45		
			AQ IC-Chloride	Chloride	0.22	mg/L	35.45	1	6.23		76.3	0.48		
			AQ IC-Magnesium	Magnesium	0.28	mg/L	24.30	2	23.13		106	1.23		
			AQ IC-Nitrate	Nitrate	0.49	mg/L	62.00	1	7.85		71.4	0.56		
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207			
			AQ IC-Potassium	Potassium	0.15	mg/L	39.10	1	3.81		73.5	0.28		
			AQ IC-Sodium	Sodium	0.16	mg/L	22.99	1	6.79		50.1	0.34		
			AQ IC-Sulfate	Sulfate	1.60	mg/L	96.07	2	33.31		160	2.66		
			AQ pH	pH	7.2	pH units								
									Total Ions	238.85				
									Bicarbonate	80.8		44.5	3.60	
						Cations	110.6	0.86		13.75				
						Anions	128.2							

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molecular Ion	Sample	Ratio	Difference
14070009-001	AMS01	18-Jun-2014	AQ Acidity	Acidity	20.3	ueq/L								
			AQ Conductivity	Conductivity	7.6	uS/cm								
			AQ IC-Ammonium	Ammonium	0.02	mg/L	18.04	1	0.94		73.5	0.07	1.09	-8.0%
			AQ IC-Calcium	Calcium	0.75	mg/L	40.08	2	37.28		119	2.22		
			AQ IC-Chloride	Chloride	0.06	mg/L	35.45	1	1.61		76.3	0.12		
			AQ IC-Magnesium	Magnesium	0.23	mg/L	24.30	2	19.09		106	1.01		
			AQ IC-Nitrate	Nitrate	0.61	mg/L	62.00	1	9.84		71.4	0.70		
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207			
			AQ IC-Potassium	Potassium	0.05	mg/L	39.10	1	1.38		73.5	0.10		
			AQ IC-Sodium	Sodium	0.04	mg/L	22.99	1	1.52		50.1	0.08		
			AQ IC-Sulfate	Sulfate	1.36	mg/L	96.07	2	28.31		160	2.27		
			AQ pH	pH	6.3	pH units								
									Total Ions	109.47				
									Bicarbonate	9.5		44.5	0.42	
						Cations	60.2	1.22		6.99				
						Anions	49.3							

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity					
							Mass	Charge			Molecular Ion	Sample	Ratio	Difference		
14070201-001	AMS01	25-Jun-2014	AQ Acidity	Acidity	13.1	ueq/L										
			AQ Conductivity	Conductivity	8.1	uS/cm										
			AQ IC-Ammonium	Ammonium	0.18	mg/L	18.04	1	9.70		73.5	0.71	0.95	5.3%		
			AQ IC-Calcium	Calcium	0.70	mg/L	40.08	2	35.13		119	2.09				
			AQ IC-Chloride	Chloride	0.08	mg/L	35.45	1	2.34		76.3	0.18				
			AQ IC-Magnesium	Magnesium	0.18	mg/L	24.30	2	14.57		106	0.77				
			AQ IC-Nitrate	Nitrate	0.36	mg/L	62.00	1	5.85		71.4	0.42				
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207					
			AQ IC-Potassium	Potassium	0.09	mg/L	39.10	1	2.38		73.5	0.17				
			AQ IC-Sodium	Sodium	0.05	mg/L	22.99	1	2.26		50.1	0.11				
			AQ IC-Sulfate	Sulfate	2.17	mg/L	96.07	2	45.18		160	3.61				
			AQ pH	pH	6.3	pH units										
									Total Ions		127.59					
									Bicarbonate		10.2		44.5	0.45		
						Cations		64.0	1.01		8.53					
						Anions		63.5								

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity				
							Mass	Charge			Molecular Ion	Sample	Ratio	Difference	
14070201-002	AMS01	03-Jul-2014	AQ Acidity	Acidity	20.8	ueq/L									
			AQ Conductivity	Conductivity	4.1	uS/cm									
			AQ IC-Ammonium	Ammonium	0.20	mg/L	18.04	1	10.98		73.5	0.81	1.17	-14.5%	
			AQ IC-Calcium	Calcium	0.29	mg/L	40.08	2	14.42		119	0.86			
			AQ IC-Chloride	Chloride	0.09	mg/L	35.45	1	2.48		76.3	0.19			
			AQ IC-Magnesium	Magnesium	0.05	mg/L	24.30	2	4.36		106	0.23			
			AQ IC-Nitrate	Nitrate	0.30	mg/L	62.00	1	4.76		71.4	0.34			
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207				
			AQ IC-Potassium	Potassium	0.10	mg/L	39.10	1	2.53		73.5	0.19			
			AQ IC-Sodium	Sodium	0.04	mg/L	22.99	1	1.57		50.1	0.08			
			AQ IC-Sulfate	Sulfate	0.28	mg/L	96.07	2	5.72		160	0.46			
			AQ pH	pH	6.2	pH units									
									Total Ions		54.91				
									Bicarbonate		8.1		44.5	0.36	
						Cations		33.9	1.61		3.51				
						Anions		21.0							



Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molecular Ion	Sample	Ratio	Difference
15030007-001	Fort McKay	09-Jul-2014	AQ Acidity	Acidity	15.5	ueq/L								
			AQ Conductivity (µS/cm)	Conductivity (µS/cm)	6.4	uS/cm								
			AQ IC-Ammonium	Ammonium	0.39	mg/L	18.04	1	21.45		73.5	1.58	1.09	-8.2%
			AQ IC-Calcium	Calcium	0.22	mg/L	40.08	2	11.03		119	0.66		
			AQ IC-Chloride	Chloride	0.19	mg/L	35.45	1	5.22		76.3	0.40		
			AQ IC-Magnesium	Magnesium	0.06	mg/L	24.30	2	4.53		106	0.24		
			AQ IC-Nitrate	Nitrate	0.26	mg/L	62.00	1	4.13		71.4	0.29		
			AQ IC-Phosphate	Phosphate	0.17	mg/L	150.00	3	3.48		207	0.24		
			AQ IC-Potassium	Potassium	0.23	mg/L	39.10	1	5.91		73.5	0.43		
			AQ IC-Sodium	Sodium	0.13	mg/L	22.99	1	5.52		50.1	0.28		
			AQ IC-Sulfate	Sulfate	0.20	mg/L	96.07	2	4.08		160	0.33		
			AQ pH	pH	6.8	pH units								
							Total Ions		97.53					
							Bicarbonate		32.2		44.5	1.43		
							Cations		48.4	0.99		5.88		
							Anions		49.1					

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molar Ion	Sample	Ratio	Difference
14070401-001	AMS01	15-Jul-2014	AQ Acidity	Acidity	16.9	ueq/L								
			AQ Conductivity (µS/cm)	Conductivity (µS/cm)	7.7	uS/cm								
			AQ IC-Ammonium	Ammonium	0.24	mg/L	18.04	1	13.30		73.5	0.98	1.10	-9.3%
			AQ IC-Calcium	Calcium	0.34	mg/L	40.08	2	17.17		119	1.02		
			AQ IC-Chloride	Chloride	0.43	mg/L	35.45	1	12.21		76.3	0.93		
			AQ IC-Magnesium	Magnesium	0.07	mg/L	24.30	2	5.51		106	0.29		
			AQ IC-Nitrate	Nitrate	0.46	mg/L	62.00	1	7.42		71.4	0.53		
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207			
			AQ IC-Potassium	Potassium	0.34	mg/L	39.10	1	8.75		73.5	0.64		
			AQ IC-Sodium	Sodium	0.23	mg/L	22.99	1	9.96		50.1	0.50		
			AQ IC-Sulfate	Sulfate	1.12	mg/L	96.07	2	23.32		160	1.87		
			AQ pH	pH	6.0	pH units								
							Total Ions		102.74					
							Bicarbonate		5.1		44.5	0.23		
							Cations		54.7	1.14		6.99		
							Anions		48.1					

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity				
							Mass	Charge			Molar Ion	Sample	Ratio	Difference	
14080008-001	AMS01 Bertha	23-Jul-2014	AQ Acidity	Acidity	15.1	ueq/L									
			AQ Conductivity	Conductivity	6.3	uS/cm									
			AQ IC-Ammonium	Ammonium	0.12	mg/L	18.04	1	6.54		73.5	0.48	1.12	-11.1%	
			AQ IC-Calcium	Calcium	0.51	mg/L	40.08	2	25.30		119	1.51			
			AQ IC-Chloride	Chloride	0.24	mg/L	35.45	1	6.66		76.3	0.51			
			AQ IC-Magnesium	Magnesium	0.08	mg/L	24.30	2	6.83		106	0.36			
			AQ IC-Nitrate	Nitrate	0.63	mg/L	62.00	1	10.11		71.4	0.72			
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207				
			AQ IC-Potassium	Potassium	0.11	mg/L	39.10	1	2.69		73.5	0.20			
			AQ IC-Sodium	Sodium	0.12	mg/L	22.99	1	5.26		50.1	0.26			
			AQ IC-Sulfate	Sulfate	0.65	mg/L	96.07	2	13.59		160	1.09			
			AQ pH	pH	6.3	pH units									
									Total Ions		87.64				
									Bicarbonate		10.7		44.5	0.47	
						Cations		46.6	1.14		5.60				
						Anions		41.0							

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molar Ion	Sample	Ratio	Difference
14080120-001	AMS01	30-Jul-2014	AQ Acidity	Acidity	16.7	ueq/L								
			AQ Conductivity	Conductivity	7.2	uS/cm								
			AQ IC-Ammonium	Ammonium	0.14	mg/L	18.04	1	7.59		73.5	0.56	1.09	-8.2%
			AQ IC-Calcium	Calcium	0.48	mg/L	40.08	2	23.85		119	1.42		
			AQ IC-Chloride	Chloride	0.40	mg/L	35.45	1	11.20		76.3	0.85		
			AQ IC-Magnesium	Magnesium	0.09	mg/L	24.30	2	7.16		106	0.38		
			AQ IC-Nitrate	Nitrate	0.78	mg/L	62.00	1	12.55		71.4	0.90		
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207			
			AQ IC-Potassium	Potassium	0.20	mg/L	39.10	1	5.12		73.5	0.38		
			AQ IC-Sodium	Sodium	0.23	mg/L	22.99	1	10.05		50.1	0.50		
			AQ IC-Sulfate	Sulfate	0.84	mg/L	96.07	2	17.45		160	1.40		
			AQ pH	pH	6.0	pH units								
									Total Ions	100.06				
									Bicarbonate	5.1		44.5	0.23	
						Cations	53.8	1.16		6.61				
						Anions	46.3							

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molar Ion	Sample	Ratio	Difference
15030008-001	AMS01	06-Aug-2014	AQ Acidity	Acidity	15.7	ueq/L								
			AQ Conductivity (µS/cm)	Conductivity (µS/cm)	17.4	uS/cm								
			AQ IC-Ammonium	Ammonium	0.44	mg/L	18.04	1	24.17		73.5	1.78	1.00	0.3%
			AQ IC-Calcium	Calcium	1.73	mg/L	40.08	2	86.33		119	5.14		
			AQ IC-Chloride	Chloride	0.33	mg/L	35.45	1	9.42		76.3	0.72		
			AQ IC-Magnesium	Magnesium	0.50	mg/L	24.30	2	41.15		106	2.18		
			AQ IC-Nitrate	Nitrate	0.36	mg/L	62.00	1	5.85		71.4	0.42		
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207			
			AQ IC-Potassium	Potassium	0.24	mg/L	39.10	1	6.21		73.5	0.46		
			AQ IC-Sodium	Sodium	0.24	mg/L	22.99	1	10.40		50.1	0.52		
			AQ IC-Sulfate	Sulfate	1.59	mg/L	96.07	2	33.10		160	2.65		
			AQ pH	pH	7.2	pH units								
							Total Ions		297.47					
							Bicarbonate		80.8		44.5	3.60		
							Cations		168.3	1.30		17.45		
							Anions		129.2					

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity					
							Mass	Charge			Molar Ion	Sample	Ratio	Difference		
14080632-001	AMS01	13-Aug-2014	AQ Acidity	Acidity	15.1	ueq/L										
			AQ Conductivity	Conductivity		uS/cm										
			AQ IC-Ammonium	Ammonium	0.57	mg/L	18.04	1	31.76		73.5	2.33				
			AQ IC-Calcium	Calcium	1.14	mg/L	40.08	2	56.89		119	3.38				
			AQ IC-Chloride	Chloride	0.88	mg/L	35.45	1	24.74		76.3	1.89				
			AQ IC-Magnesium	Magnesium	0.14	mg/L	24.30	2	11.60		106	0.62				
			AQ IC-Nitrate	Nitrate	1.10	mg/L	62.00	1	17.74		71.4	1.27				
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207					
			AQ IC-Potassium	Potassium	0.56	mg/L	39.10	1	14.37		73.5	1.06				
			AQ IC-Sodium	Sodium	0.55	mg/L	22.99	1	23.75		50.1	1.19				
			AQ IC-Sulfate	Sulfate	1.74	mg/L	96.07	2	36.22		160	2.90				
			AQ pH	pH	6.8	pH units										
									Total Ions	249.26						
									Bicarbonate	32.2		44.5	1.43			
						Cations	138.4	1.25		16.06						
						Anions	110.9									

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molar Ion	Sample	Ratio	Difference
14090221-002	AMS01 Bertha Ganter	20-Aug-2014	AQ Acidity	Acidity	13.6	ueq/L								
			AQ Conductivity	Conductivity	5.5	uS/cm								
			AQ IC-Ammonium	Ammonium	0.29	mg/L	18.04	1	16.24		73.5	1.19	0.99	1.1%
			AQ IC-Calcium	Calcium	0.38	mg/L	40.08	2	19.11		119	1.14		
			AQ IC-Chloride	Chloride	0.13	mg/L	35.45	1	3.78		76.3	0.29		
			AQ IC-Magnesium	Magnesium	0.08	mg/L	24.30	2	6.42		106	0.34		
			AQ IC-Nitrate	Nitrate	0.39	mg/L	62.00	1	6.35		71.4	0.45		
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207			
			AQ IC-Potassium	Potassium	0.10	mg/L	39.10	1	2.63		73.5	0.19		
			AQ IC-Sodium	Sodium	0.08	mg/L	22.99	1	3.44		50.1	0.17		
			AQ IC-Sulfate	Sulfate	0.50	mg/L	96.07	2	10.41		160	0.83		
			AQ pH	pH	6.6	pH units								
									Total Ions	89.65				
									Bicarbonate	21.3		44.5	0.95	
						Cations	47.8	1.14		5.56				
						Anions	41.8							

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molar Ion	Sample	Ratio	Difference
14090221-003	AMS01 Bertha Ganter	28-Aug-2014	AQ Acidity	Acidity	15.8	ueq/L								
			AQ Conductivity	Conductivity	4.0	uS/cm								
			AQ IC-Ammonium	Ammonium	0.16	mg/L	18.04	1	8.76		73.5	0.64	1.22	-18.3%
			AQ IC-Calcium	Calcium	0.15	mg/L	40.08	2	7.29		119	0.43		
			AQ IC-Chloride	Chloride	0.10	mg/L	35.45	1	2.93		76.3	0.22		
			AQ IC-Magnesium	Magnesium	0.06	mg/L	24.30	2	4.94		106	0.26		
			AQ IC-Nitrate	Nitrate	0.24	mg/L	62.00	1	3.90		71.4	0.28		
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207			
			AQ IC-Potassium	Potassium	0.09	mg/L	39.10	1	2.23		73.5	0.16		
			AQ IC-Sodium	Sodium	0.07	mg/L	22.99	1	2.83		50.1	0.14		
			AQ IC-Sulfate	Sulfate	0.60	mg/L	96.07	2	12.45		160	1.00		
			AQ pH	pH	5.7	pH units								
									Total Ions		48.12			
									Bicarbonate		2.8		44.5	0.12
						Cations		26.0	1.18		3.27			
						Anions		22.1						



Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity					
							Mass	Charge			Molar Ion	Sample	Ratio	Difference		
14090221-001	AMS01 Bertha Ganter	03-Sep-2014	AQ Acidity	Acidity	13.7	ueq/L										
			AQ Conductivity	Conductivity	9.8	uS/cm										
			AQ IC-Ammonium	Ammonium	0.20	mg/L	18.04	1	11.20		73.5	0.82	0.91	9.6%		
			AQ IC-Calcium	Calcium	1.16	mg/L	40.08	2	57.88		119	3.44				
			AQ IC-Chloride	Chloride	0.19	mg/L	35.45	1	5.42		76.3	0.41				
			AQ IC-Magnesium	Magnesium	0.11	mg/L	24.30	2	8.81		106	0.47				
			AQ IC-Nitrate	Nitrate	0.44	mg/L	62.00	1	7.11		71.4	0.51				
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207					
			AQ IC-Potassium	Potassium	0.16	mg/L	39.10	1	4.02		73.5	0.30				
			AQ IC-Sodium	Sodium	0.12	mg/L	22.99	1	5.35		50.1	0.27				
			AQ IC-Sulfate	Sulfate	1.77	mg/L	96.07	2	36.85		160	2.95				
			AQ pH	pH	6.8	pH units										
									Total Ions		171.91					
									Bicarbonate		35.3		44.5	1.57		
						Cations		87.3	1.03		10.74					
						Anions		84.7								

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molar Ion	Sample	Ratio	Difference
14090469-001	Fort McKay	10-Sep-2014	AQ Acidity	Acidity	15.5	ueq/L								
			AQ Conductivity	Conductivity		uS/cm								
			AQ IC-Ammonium	Ammonium	0.31	mg/L	18.04	1	17.13		73.5	1.26		
			AQ IC-Calcium	Calcium	0.84	mg/L	40.08	2	41.87		119	2.49		
			AQ IC-Chloride	Chloride	0.85	mg/L	35.45	1	24.03		76.3	1.83		
			AQ IC-Magnesium	Magnesium	0.10	mg/L	24.30	2	8.40		106	0.44		
			AQ IC-Nitrate	Nitrate	0.25	mg/L	62.00	1	3.95		71.4	0.28		
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207			
			AQ IC-Potassium	Potassium	0.70	mg/L	39.10	1	18.01		73.5	1.32		
			AQ IC-Sodium	Sodium	0.52	mg/L	22.99	1	22.66		50.1	1.14		
			AQ IC-Sulfate	Sulfate	0.52	mg/L	96.07	2	10.83		160	0.87		
			AQ pH	pH	7.1	pH units								
							Total Ions		217.27					
							Bicarbonate		70.4		44.5	3.13		
							Cations		108.1	0.99		12.77		
							Anions		109.2					

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molar Ion	Sample	Ratio	Difference
14090469-002	Fort McKay	16-Sep-2014	AQ Acidity	Acidity	18.8	ueq/L								
			AQ Conductivity	Conductivity	7.0	uS/cm								
			AQ IC-Ammonium	Ammonium	0.23	mg/L	18.04	1	12.47		73.5	0.92	1.07	-6.5%
			AQ IC-Calcium	Calcium	0.38	mg/L	40.08	2	19.16		119	1.14		
			AQ IC-Chloride	Chloride	0.41	mg/L	35.45	1	11.59		76.3	0.88		
			AQ IC-Magnesium	Magnesium	0.08	mg/L	24.30	2	6.26		106	0.33		
			AQ IC-Nitrate	Nitrate	0.41	mg/L	62.00	1	6.55		71.4	0.47		
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207			
			AQ IC-Potassium	Potassium	0.32	mg/L	39.10	1	8.26		73.5	0.61		
			AQ IC-Sodium	Sodium	0.26	mg/L	22.99	1	11.27		50.1	0.56		
			AQ IC-Sulfate	Sulfate	0.46	mg/L	96.07	2	9.66		160	0.77		
			AQ pH	pH	6.6	pH units								
									Total Ions	104.61				
									Bicarbonate	19.4		44.5	0.86	
						Cations	57.4	1.22		6.55				
						Anions	47.2							

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity				
							Mass	Charge			Molar Ion	Sample	Ratio	Difference	
15030009-001	Ft. McMurray	23-Sep-2014	AQ Acidity	Acidity	14.3	ueq/L									
			AQ Conductivity (µEq/L)	Conductivity (µEq/L)	2.2	uS/cm									
			AQ IC-Ammonium	Ammonium	0.02	mg/L	18.04	1	1.11		73.5	0.08	1.18	-15.0%	
			AQ IC-Calcium	Calcium	0.14	mg/L	40.08	2	7.19		119	0.43			
			AQ IC-Chloride	Chloride	0.07	mg/L	35.45	1	1.83		76.3	0.14			
			AQ IC-Magnesium	Magnesium	0.06	mg/L	24.30	2	4.61		106	0.24			
			AQ IC-Nitrate	Nitrate	0.12	mg/L	62.00	1	1.89		71.4	0.13			
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207				
			AQ IC-Potassium	Potassium	0.06	mg/L	39.10	1	1.53		73.5	0.11			
			AQ IC-Sodium	Sodium	0.04	mg/L	22.99	1	1.83		50.1	0.09			
			AQ IC-Sulfate	Sulfate	0.15	mg/L	96.07	2	3.16		160	0.25			
			AQ pH	pH	6.2	pH units									
									Total Ions		31.81				
									Bicarbonate		8.7		44.5	0.39	
						Cations		16.3	1.05		1.87				
						Anions		15.5							

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molar Ion	Sample	Ratio	Difference
14100195-001	AMS01 Bertha Ganter	01-Oct-2014	AQ Acidity	Acidity	14.6	ueq/L								
			AQ Conductivity	Conductivity	5.0	uS/cm								
			AQ IC-Ammonium	Ammonium	0.23	mg/L	18.04	1	12.58		73.5	0.92	0.99	1.1%
			AQ IC-Calcium	Calcium	0.23	mg/L	40.08	2	11.63		119	0.69		
			AQ IC-Chloride	Chloride	0.23	mg/L	35.45	1	6.40		76.3	0.49		
			AQ IC-Magnesium	Magnesium	0.06	mg/L	24.30	2	5.27		106	0.28		
			AQ IC-Nitrate	Nitrate	0.23	mg/L	62.00	1	3.66		71.4	0.26		
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207			
			AQ IC-Potassium	Potassium	0.18	mg/L	39.10	1	4.63		73.5	0.34		
			AQ IC-Sodium	Sodium	0.18	mg/L	22.99	1	7.66		50.1	0.38		
			AQ IC-Sulfate	Sulfate	0.80	mg/L	96.07	2	16.68		160	1.33		
			AQ pH	pH	6.2	pH units								
									Total Ions	76.40				
									Bicarbonate	7.9		44.5	0.35	
						Cations	41.8	1.21		5.06				
						Anions	34.6							

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molar Ion	Sample	Ratio	Difference
14110121-002	AMS01 Fort McKay	21-Oct-2014	AQ Acidity	Acidity	15.0	ueq/L								
			AQ Conductivity	Conductivity	26.0	uS/cm								
			AQ IC-Ammonium	Ammonium	0.55	mg/L	18.04	1	30.54		73.5	2.24	0.95	5.1%
			AQ IC-Calcium	Calcium	1.37	mg/L	40.08	2	68.36		119	4.07		
			AQ IC-Chloride	Chloride	2.65	mg/L	35.45	1	74.75		76.3	5.70		
			AQ IC-Magnesium	Magnesium	0.10	mg/L	24.30	2	8.31		106	0.44		
			AQ IC-Nitrate	Nitrate	2.32	mg/L	62.00	1	37.42		71.4	2.67		
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207			
			AQ IC-Potassium	Potassium	2.01	mg/L	39.10	1	51.41		73.5	3.78		
			AQ IC-Sodium	Sodium	1.45	mg/L	22.99	1	63.07		50.1	3.16		
			AQ IC-Sulfate	Sulfate	1.41	mg/L	96.07	2	29.35		160	2.35		
			AQ pH	pH	7.1	pH units								
									Total Ions	428.92				
									Bicarbonate	65.7		44.5	2.92	
						Cations	221.7	1.07		27.34				
						Anions	207.2							

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molar Ion	Sample	Ratio	Difference
14120123-002	Ft. McKay	18-Nov-2014	AQ Acidity	Acidity	18.0	ueq/L								
			AQ Conductivity	Conductivity	14.0	uS/cm								
			AQ IC-Ammonium	Ammonium	0.24	mg/L	18.04	1	13.08		73.5	0.96	0.95	5.3%
			AQ IC-Calcium	Calcium	1.38	mg/L	40.08	2	68.86		119	4.10		
			AQ IC-Chloride	Chloride	0.98	mg/L	35.45	1	27.64		76.3	2.11		
			AQ IC-Magnesium	Magnesium	0.11	mg/L	24.30	2	9.38		106	0.50		
			AQ IC-Nitrate	Nitrate	1.22	mg/L	62.00	1	19.68		71.4	1.40		
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207			
			AQ IC-Potassium	Potassium	0.74	mg/L	39.10	1	18.87		73.5	1.39		
			AQ IC-Sodium	Sodium	0.57	mg/L	22.99	1	24.79		50.1	1.24		
			AQ IC-Sulfate	Sulfate	0.40	mg/L	96.07	2	8.37		160	0.67		
			AQ pH	pH	7.0	pH units								
									Total Ions	244.09				
									Bicarbonate	53.4		44.5	2.38	
						Cations	135.0	1.24		14.75				
						Anions	109.1							

Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity				
							Mass	Charge			Molar Ion	Sample	Ratio	Difference	
14120123-004	Ft. McKay	03-Dec-2014	AQ Acidity	Acidity	16.0	ueq/L									
			AQ Conductivity	Conductivity	5.0	uS/cm									
			AQ IC-Ammonium	Ammonium	0.08	mg/L	18.04	1	4.43		73.5	0.33	1.11	-9.9%	
			AQ IC-Calcium	Calcium	0.40	mg/L	40.08	2	20.16		119	1.20			
			AQ IC-Chloride	Chloride	0.20	mg/L	35.45	1	5.61		76.3	0.43			
			AQ IC-Magnesium	Magnesium	0.08	mg/L	24.30	2	6.26		106	0.33			
			AQ IC-Nitrate	Nitrate	0.56	mg/L	62.00	1	9.06		71.4	0.65			
			AQ IC-Phosphate	Phosphate	< 0.015	mg/L	94.97	3			207				
			AQ IC-Potassium	Potassium	0.05	mg/L	39.10	1	1.20		73.5	0.09			
			AQ IC-Sodium	Sodium	0.13	mg/L	22.99	1	5.48		50.1	0.27			
			AQ IC-Sulfate	Sulfate	0.28	mg/L	96.07	2	5.75		160	0.46			
			AQ pH	pH	6.5	pH units									
									Total Ions		74.84				
									Bicarbonate		16.9		44.5	0.75	
						Cations		37.5	1.01		4.51				
						Anions		37.3							



Sample Number	Customer Sample ID	Collection date	Test	Parameter	Reported Result	Reporting Units	Molecular		µEq/L	Ion ratio (C/A)	Conductivity			
							Mass	Charge			Molar Ion	Sample	Ratio	Difference
15010036-001	AMS01 Bertha Ganter	31-Dec-2014	AQ Acidity	Acidity	13.0	ueq/L								
			AQ Conductivity (25°C)	Conductivity (25°C)	6.0	uS/cm								
			AQ IC-Ammonium	Ammonium	0.09	mg/L	18.04	1	4.82		73.5	0.35	0.96	3.7%
			AQ IC-Calcium	Calcium	0.53	mg/L	40.08	2	26.35		119	1.57		
			AQ IC-Chloride	Chloride	0.27	mg/L	35.45	1	7.53		76.3	0.57		
			AQ IC-Magnesium	Magnesium	0.09	mg/L	24.30	2	7.08		106	0.38		
			AQ IC-Nitrate	Nitrate	0.89	mg/L	62.00	1	14.39		71.4	1.03		
			AQ IC-Phosphate	Phosphate	0.05	mg/L	94.97	3	1.42		207	0.10		
			AQ IC-Potassium	Potassium	0.15	mg/L	39.10	1	3.71		73.5	0.27		
			AQ IC-Sodium	Sodium	0.18	mg/L	22.99	1	7.83		50.1	0.39		
			AQ IC-Sulfate	Sulfate	0.49	mg/L	96.07	2	10.28		160	0.82		
			AQ pH	pH	6.5	pH units								
									Total Ions	99.91				
									Bicarbonate	16.5		44.5	0.73	
						Cations	49.8	0.99		6.22				
						Anions	50.1							